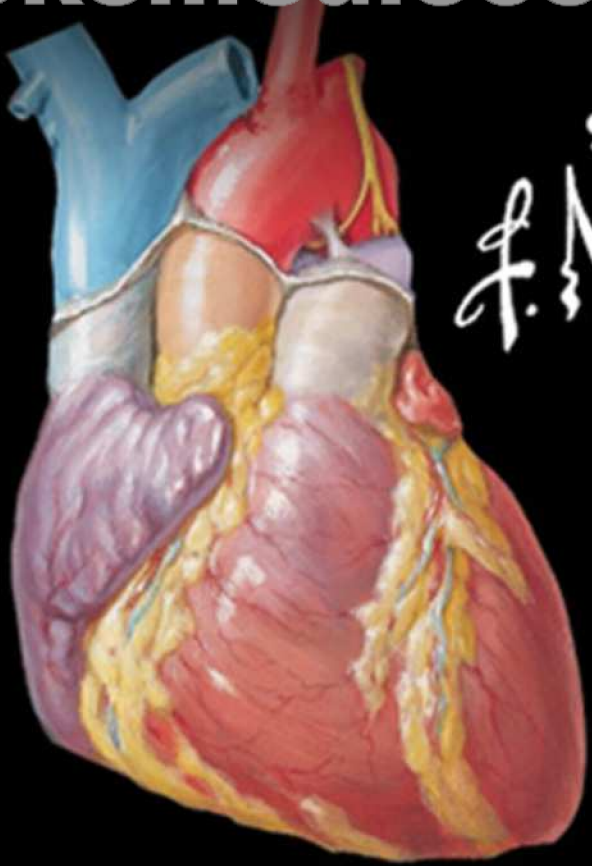
FRANK H. NETTER, MD

ATLAS OF HUMAN ANATOMY

Booksmedicos06.com



F. Netter M.D.

NETTER

7

SEVENTH EDITION

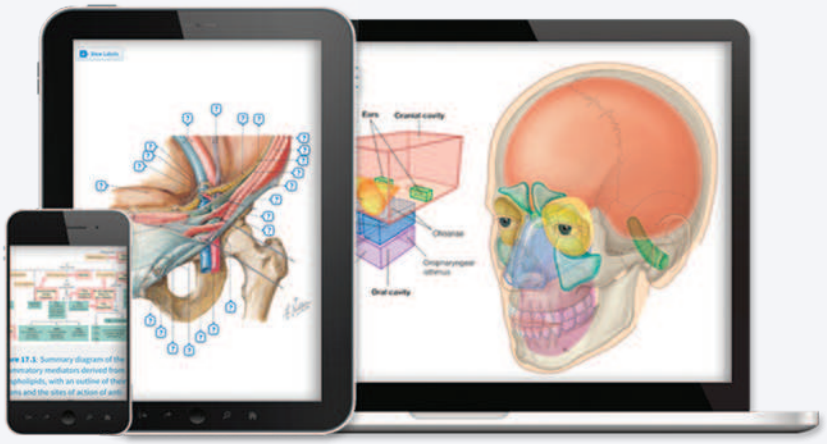
ELSEVIER

Booksmedicos06.com

Student CONSULT Built with inkling | E books

Any screen. Any time. Anywhere.

Activate the eBook version of this title at no additional charge.



Student Consult eBooks give you the power to browse and find content, view enhanced images, share notes and highlights—both online and offline.

Unlock your eBook today.

1. Visit **studentconsult.inkling.com/redeem**
2. Scratch off your code
3. Type code into "Enter Code" box
4. Click "Redeem"
5. Log in or Sign up
6. Go to "My Library"

It's that easy!

Scan this QR code to redeem your eBook through your mobile device:

Place Peel Off Sticker Here

For technical assistance:
email studentconsult.help@elsevier.com
call 1-800-401-9962 (inside the US)
call +1-314-447-8200 (outside the US)

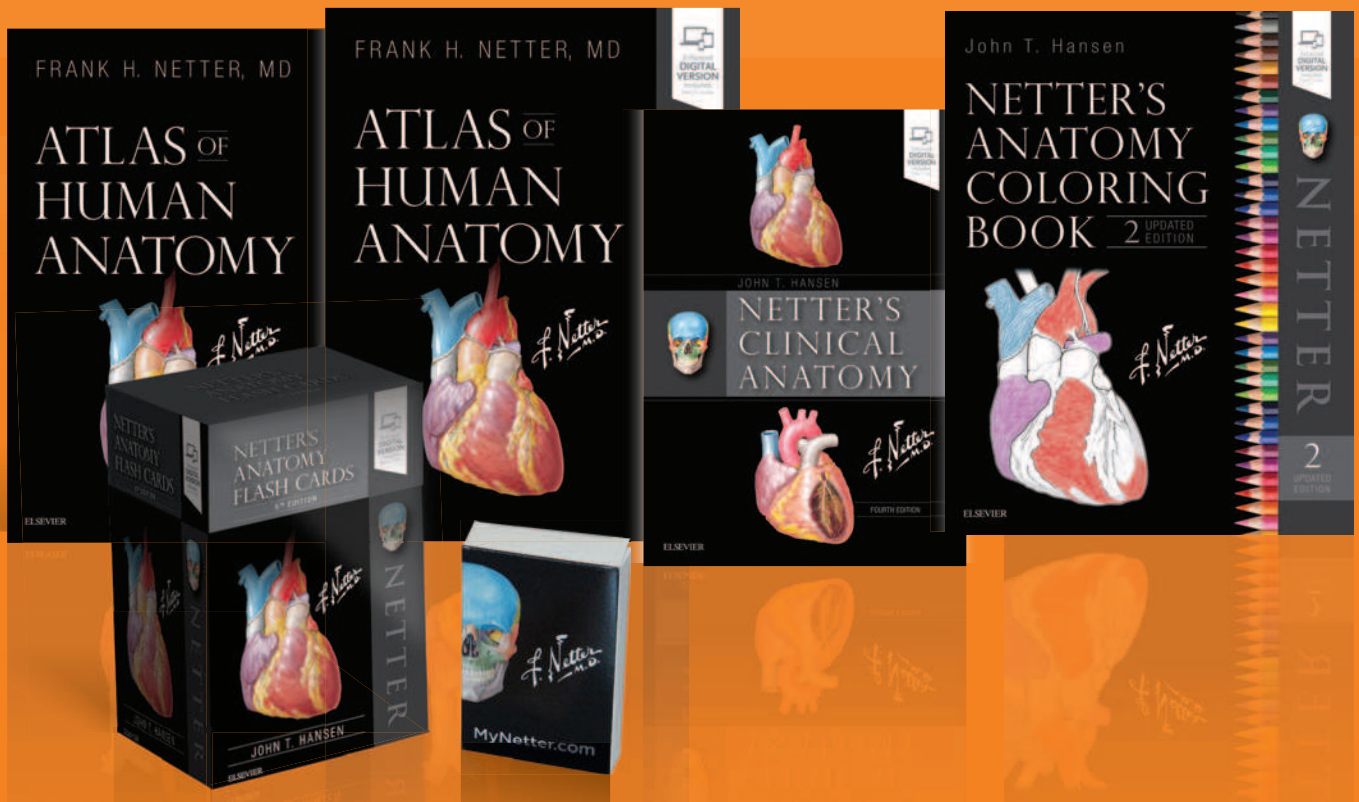
ELSEVIER

Use of the current edition of the electronic version of this book (eBook) is subject to the terms of the nontransferable, limited license granted on studentconsult.inkling.com. Access to the eBook is limited to the first individual who redeems the PIN, located on the inside cover of this book, at studentconsult.inkling.com and may not be transferred to another party by resale, lending, or other means.

2015v1.0

ELSEVIER

Brand New From NETTER



Atlas of Human Anatomy, 7th Edition
ISBN: 978-0-323-39322-5

Atlas of Human Anatomy, Professional Edition, 7th Edition
ISBN: 978-0-323-55428-2

Netter's Anatomy Coloring Book, 2nd Edition
ISBN: 978-0-323-54503-7

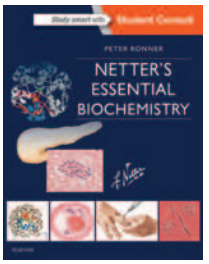
Netter's Clinical Anatomy, 4th Edition
ISBN: 978-0-323-53188-7

Netter's Anatomy Flash Cards, 5th Edition
ISBN: 978-0-323-53050-7

Netter Playing Cards
ISBN: 978-0-323-55379-7

Shop today at **elsevierhealth.com**!

Explore Netter's Newest Resources!



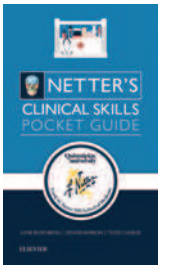
Netter's Essential Biochemistry

With **STUDENT CONSULT Online Access**

Peter Ronner, PhD

ISBN: 978-1-9290-0763-9

Concise writing, a focus on **clinical applications**, and **superb illustrations** make this debut title the perfect choice for a basic understanding of biochemistry. A single expert voice, informed by the insights of a team of reviewers, provides continuity throughout the text, presenting essentials of biochemical principles step by step. Summary diagrams help you grasp key concepts quickly, and end-of-chapter questions reinforce key concepts.

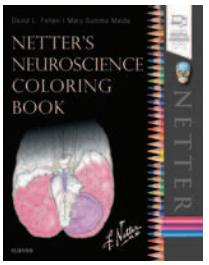


Netter's Clinical Skills Pocket Guide

Ilene L Rosenberg, Todd Cassese and Dennis Barbon

ISBN: 978-0-3235-5164-9

Make the most of every patient encounter — **from the clinical interview and history to the physical exam**, both in-office and bedside. This **discreet quick reference** helps you achieve consistent and comprehensive results when collecting data and determining your next steps. Carry this **thin, fully illustrated checklist** in your white coat pocket for the fastest, most efficient way to access essential information you need to know and remember every day.

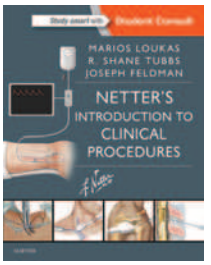


Netter's Neuroscience Coloring Book

David L. Felten and Mary E Maida

ISBN: 978-0-323-50959-6

Reinforce your knowledge of neuroanatomy, neuroscience, and common pathologies of the nervous system with this active and engaging learn and review tool! *Netter's Neuroscience Coloring Book* challenges you to **a better understanding of the brain, spinal cord, and peripheral nervous system** using visual and tactile learning. It's a fun and interactive way to trace pathways and tracts, as well as reinforce spatial, functional, and clinical concepts in this fascinating field.



Netter's Introduction to Clinical Procedures

With **STUDENT CONSULT Online Access**

Marios Loukas, MD, PhD, R. Shane Tubbs, MS, PA-C, PhD and Joseph Feldman, MD, FACEP

ISBN: 978-0-323-37055-4

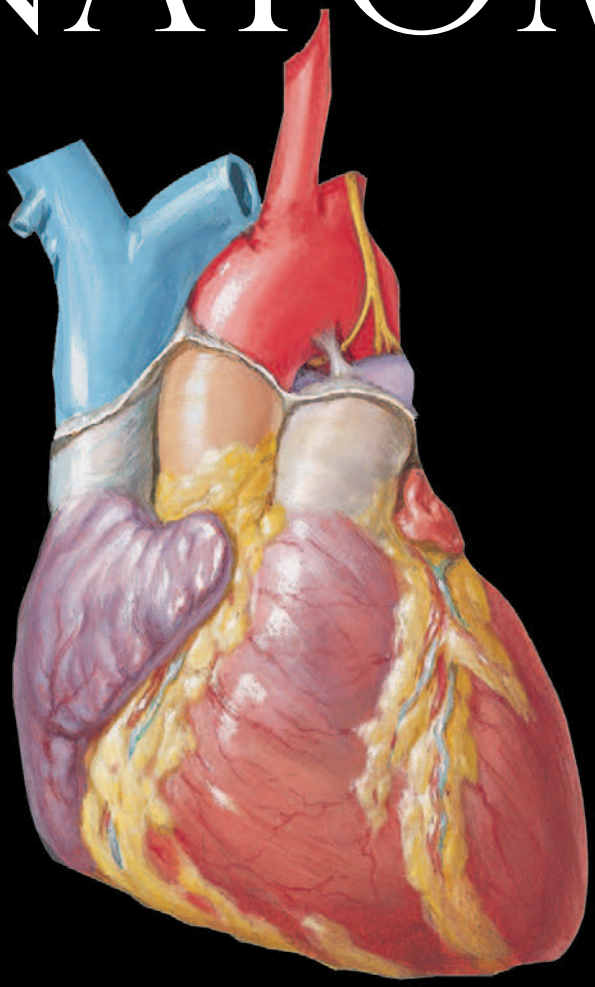
Written with the student in mind, ***Netter's Introduction to Clinical Procedures*** uses the well-known Netter anatomy art as a foundation for reinforcing the relevant **clinical anatomy** needed to successfully **understand and perform basic procedures**. Learn the practical application of this knowledge with **step-by-step guides** incorporating concise text, images, and animation.

Learn more at **elsevierhealth.com** today!

ELSEVIER

FRANK H. NETTER, MD

ATLAS OF HUMAN ANATOMY





NETTER

7

SEVENTH EDITION

ELSEVIER

ELSEVIER

1600 John F. Kennedy Blvd.
Ste. 1800
Philadelphia, PA 19103-2899

ATLAS OF HUMAN ANATOMY, SEVENTH EDITION

Standard Edition: 978-0-323-39322-5
Professional Edition: 978-0-323-55428-2
International Edition: 978-0-323-39321-8

Copyright © 2019 by Elsevier Inc.
Previous editions copyrighted 2014, 2011, 2006, 2003, 1997, 1989

All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or any information storage and retrieval system, without permission in writing from the publisher. Details on how to seek permission, further information about the Publisher's permissions policies and our arrangements with organizations such as the Copyright Clearance Center and the Copyright Licensing Agency can be found at our website: www.elsevier.com/permissions.

This book and the individual contributions contained in it are protected under copyright by the Publisher (other than as may be noted herein).

Permission to use Netter Art figures may be sought through the website *NetterImages.com* or by emailing Elsevier's Licensing Department at H.Licensing@elsevier.com.

Notices

Knowledge and best practice in this field are constantly changing. As new research and experience broaden our understanding, changes in research methods, professional practices, or medical treatment may become necessary.

Practitioners and researchers must always rely on their own experience and knowledge in evaluating and using any information, methods, compounds, or experiments described herein. In using such information or methods they should be mindful of their own safety and the safety of others, including parties for whom they have a professional responsibility.

With respect to any drug or pharmaceutical products identified, readers are advised to check the most current information provided (i) on procedures featured or (ii) by the manufacturer of each product to be administered, to verify the recommended dose or formula, the method and duration of administration, and contraindications. It is the responsibility of practitioners, relying on their own experience and knowledge of their patients, to make diagnoses, to determine dosages and the best treatment for each individual patient, and to take all appropriate safety precautions.

To the fullest extent of the law, neither the Publisher nor the authors, contributors, or editors, assume any liability for any injury and/or damage to persons or property as a matter of products liability, negligence or otherwise, or from any use or operation of any methods, products, instructions, or ideas contained in the material herein.

International Standard Book Number: 978-0-323-39322-5

Executive Content Strategist: Elyse O'Grady
Senior Content Development Specialist: Marybeth Thiel
Publishing Services Manager: Patricia Tannian
Senior Project Manager: John Casey
Book Design: Patrick Ferguson

Printed in China

9 8 7 6 5 4 3 2 1

Working together to grow libraries in developing countries
www.elsevier.com • www.bookaid.org

CONSULTING EDITORS

Carlos A. G. Machado, MD
Chief Contributing Medical Illustrator

John T. Hansen, PhD
Lead Editor
Professor of Neuroscience
Former Chair of Neurobiology and Anatomy and
Associate Dean for Admissions
University of Rochester Medical Center
Rochester, New York

Brion Benninger, MD, MSc
Professor of Medical Innovation, Technology, &
Research; Professor of Clinical Anatomy
Executive Director, Chair, Medical Anatomy Center
Department of Medical Anatomical Sciences
Faculty College of Dentistry
Western University of Health Sciences
Lebanon Oregon;
Faculty, Sports Medicine Fellows, Orthopaedic and
General Surgery Residencies
Samaritan Health Services, Corvallis, Oregon;
Faculty, Surgery, Orthopedics & Rehabilitation, and Oral
Maxillofacial Surgery
Oregon Health & Science University
Portland, Oregon

Jennifer Brueckner-Collins, PhD
Professor and Vice Chair of Educational Programs
Department of Anatomical Sciences and Neurobiology
University of Louisville School of Medicine
Louisville, Kentucky

Todd M. Hoagland, PhD
Professor
Department of Cell Biology, Neurobiology, and Anatomy
Medical College of Wisconsin
Milwaukee, Wisconsin

R. Shane Tubbs, MS, PA-C, PhD
Chief Scientific Officer, and Vice President
Seattle Science Foundation
Seattle, Washington;
Professor of Anatomy
Department of Anatomical Sciences
St. George's University
Grenada, West Indies;
Centre of Anatomy and Human Identification
Dundee University
United Kingdom

EDITORS OF PREVIOUS EDITIONS

First Edition
Sharon Colacino, PhD

Second Edition
Arthur F. Dalley II, PhD

Third Edition
John T. Hansen, PhD

Fourth Edition
John T. Hansen, PhD
Jennifer K. Brueckner, PhD
Stephen W. Carmichael, PhD, DSc
Thomas R. Gest, PhD
Noelle A. Granger, PhD
Anil H. Waljii, MD, PhD

Fifth Edition
John T. Hansen, PhD
Brion Benninger, MD, MS
Jennifer K. Brueckner, PhD
Stephen W. Carmichael, PhD, DSc
Noelle A. Granger, PhD
R. Shane Tubbs, MS, PA-C, PhD

Sixth Edition
John T. Hansen, PhD
Brion Benninger, MD, MS
Jennifer Brueckner-Collins, PhD
Todd M. Hoagland, PhD
R. Shane Tubbs, MS, PA-C, PhD

INTERNATIONAL ADVISORY BOARD

Hassan Amiralli, MBBS, MS (Surg)
Professor and Chair
Department of Anatomy
American University of Antigua
College of Medicine
Antigua, West Indies

Nihal Apaydın, MD, PhD
Professor, Department of Anatomy
Faculty of Medicine
Vice Director, Brain Research Center
Ankara University
Ankara, Turkey

Keith E. Baynes, MD
Section Chief, MSK and General Radiology
Associate Professor of Radiology
Medical College of Wisconsin
Milwaukee, Wisconsin

Francisco J. Caycedo, MD
Specialist in Foot and Ankle Surgery
Sports Medicine and Musculoskeletal Ultrasound
OrthoSports Associates–St. Vincent's Birmingham
Birmingham, Alabama

William E. Cullinan, PhD
Professor, Department of Biomedical Sciences
Director, Integrative Neuroscience Research Center
Dean, College of Health Sciences
Marquette University
Milwaukee, Wisconsin

Joe Iwanaga, DDS, PhD
Assistant Professor
Division of Gross and Clinical Anatomy
Department of Anatomy
Kurume University School of Medicine
Kurume, Japan

Christopher R. Kelly, MD
Clinical Fellow
Division of Cardiology
Columbia University Medical Center
New York, New York

Robert Louis, MD
Director, Skull Base and Pituitary Tumor Program
Minimally Invasive Brain and Spine Surgery
Hoag Neurosciences Institute
Newport Beach, California

Virginia T. Lyons, PhD
Associate Professor of Medical Education
Associate Dean of Preclinical Year 1
Geisel School of Medicine at Dartmouth
Hanover, New Hampshire

Thazhumpal Chacko Mathew, PhD
Professor and Vice Dean for Research, Training, and Consultation
Faculty of Allied Health Sciences
Health Sciences Centre
Kuwait University
Kuwait City, Kuwait

Paul E. Neumann, MD
Professor, Department of Anatomy and Neurobiology
Faculty of Medicine
Dalhousie University
Halifax, Nova Scotia, Canada

Eduardo Cotecchia Ribeiro, PhD
Associate Professor of Descriptive and Topographic Anatomy
Department of Morphology and Genetics
School of Medicine
Federal University of São Paulo
São Paulo, Brazil

Danielle F. Royer, PhD
Associate Professor
Cell and Developmental Biology
University of Colorado, Anschutz Medical Campus
Aurora, Colorado

Jonathan Spratt, MB, BChir
Clinical Director of Radiology
Sunderland City Hospitals
Sunderland, United Kingdom
Former Examiner in Anatomy
Royal College of Radiologists and Royal College of Surgeons of England
Visiting Professor of Anatomy
St. George's University
Grenada, West Indies

Susan Standring, MBE, PhD, DSc
Professor Emeritus of Anatomy
Department of Anatomy
King's College London
London, United Kingdom

Mark E. Sturgill, DO
Pediatric and Neuroradiologist
Radiology Partners
Hopkinsville, Kentucky

William J. Swartz, PhD
Professor of Cell Biology and Anatomy
Louisiana State University
Health Sciences Center
New Orleans, Louisiana

Kimberly Topp, PT, PhD
Professor and Chair
Department of Physical Therapy and Rehabilitation Science
Department of Anatomy
University of California, San Francisco
San Francisco, California

Ivan Varga, PhD
Professor of Anatomy, Histology, and Embryology
Faculty of Medicine
Comenius University
Bratislava, Slovak Republic

Peter J. Ward, PhD
Associate Professor of Anatomy
West Virginia School of Osteopathic Medicine
Lewisburg, West Virginia

Robert J. Ward, MD
Chief, Musculoskeletal Imaging and Intervention
Director, Bone Densitometry
Department of Radiology
Tufts Medical Center
Director, Undergraduate Radiology Education
Assistant Professor of Radiology and Orthopedics
Tufts University School of Medicine
Boston, Massachusetts

Kristy A. Weir, PhD
School of Biomedical Sciences
The University of Queensland
St Lucia, Queensland, Australia

NEW TO THIS EDITION

With your copy of the Frank H. Netter, MD, *Atlas of Human Anatomy*, you own a collection of some of the most well-known depictions of human anatomy in medicine and healthcare. In addition to the famous work of Dr. Netter, with your copy of this 7th edition, you also have access to nearly 100 painted pieces by Carlos A. G. Machado, MD, one of the foremost medical illustrators working today. Dr. Machado's contributions to the *Atlas* highlight important views of anatomy that have become more clinically relevant in recent years— anatomic views that have resulted from improved dissection techniques and modern imaging. In addition, you have access to more than 50 carefully selected radiologic images that help bridge the idealized illustrated anatomy with living anatomy viewed in the clinic.

While numerous updates have been made to the illustrated plates and tables to make them easier to learn from, the most significant changes to this edition include:

Introductory Section

To fulfill the requests from many students and fans of Netter's *Atlas*, we have added a new opening section containing several overview plates. These plates provide the very first head-to-toe views in the *Atlas of Human Anatomy!*

Clinical Tables

The *Atlas of Human Anatomy* is the only anatomy atlas illustrated by physicians. Dr. Netter was a surgeon and Dr. Machado is a cardiologist. The views of anatomy in this atlas have always reflected a clinical perspective. In line with this clinical focus, and in congruence with integrated curricula in health and medicine, tables at the end of each regional section highlight the most commonly injured structures, as well as other structures with high clinical significance and commonly covered in anatomy courses. The tables provide students with quick summaries, organized by body system, and note where to best view these key structures in the illustrated plates.

New Art Plates by Dr. Machado

For this edition alone, over 25 new illustrations have been painted by Dr. Machado. Suggestions for new plates of additional anatomic views and concepts are submitted by students, faculty, anatomists, physicians, and others. Sometimes suggestions are solicited at major anatomy conferences with a "What Should Carlos Paint Next?" idea box. Decisions around which new plates are prioritized and given space in a new edition come from discussions among consulting editors. The new plates for this edition are largely those that portray structures with clinical significance (Fascial Columns of the Neck, Deep Veins of the Leg, Hip Bursae, and Vasculature of the Prostate) or those that are difficult to visualize (Infratemporal Fossa)—and, of course, the new additions created for the introductory section.

Terminology Updates

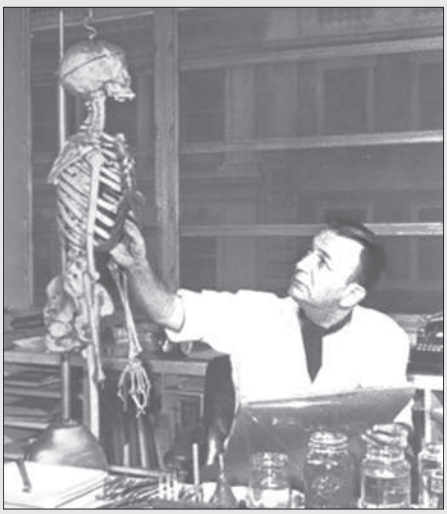
The *Atlas of Human Anatomy* uses terminology accepted (in Göttingen, Germany, on September 24, 2016) by the Federative International Programme on Anatomical Terminologies and published as updates to the 1998 *Terminologia Anatomica*. Numerous updates to terminology have been made, so in select cases, former terminology has been included within parentheses to assist with the transition.

New Radiologic Images

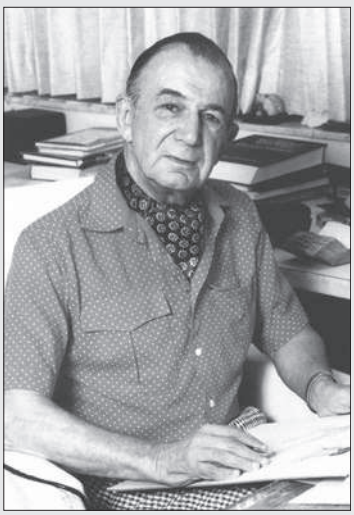
Over 50 radiologic images—some completely new views and others replacing existing views using newer imaging tools—are included in this edition. Images have been selected based on their utility to students studying gross anatomy.

Your *Atlas of Human Anatomy* content has been updated, created, and overseen by a team of dedicated and passionate consulting editors, with the help of a stellar international advisory board, and guided by the feedback of many students, educators, anatomists, and clinicians that love Netter's *Atlas*. Please feel free to comment on the Netter Images Facebook page or Twitter feeds or email us directly with your thoughts, suggestions, or questions at NetterAppFeedback@Elsevier.com.









To my dear wife, Vera

PREFACE TO THE FIRST EDITION

I have often said that my career as a medical artist for almost 50 years has been a sort of "command performance" in the sense that it has grown in response to the desires and requests of the medical profession. Over these many years, I have produced almost 4,000 illustrations, mostly for *The CIBA* (now *Netter*) *Collection of Medical Illustrations* but also for *Clinical Symposia*. These pictures have been concerned with the varied subdivisions of medical knowledge such as gross anatomy, histology, embryology, physiology, pathology, diagnostic modalities, surgical and therapeutic techniques, and clinical manifestations of a multitude of diseases. As the years went by, however, there were more and more requests from physicians and students for me to produce an atlas purely of gross anatomy. Thus, this atlas has come about, not through any inspiration on my part but rather, like most of my previous works, as a fulfillment of the desires of the medical profession.

It involved going back over all the illustrations I had made over so many years, selecting those pertinent to gross anatomy, classifying them and organizing them by system and region, adapting them to page size and space, and arranging them in logical sequence. Anatomy of course does not change, but our understanding of anatomy and its clinical significance does change, as do anatomical terminology and nomenclature. This therefore required much updating of many of the older pictures and even revision of a number of them in order to make them more pertinent to today's ever-expanding scope of medical and surgical practice. In addition, I found that there were gaps in the portrayal of medical knowledge as pictorialized in the illustrations I had previously done, and this necessitated my making a number of new pictures that are included in this volume.

In creating an atlas such as this, it is important to achieve a happy medium between complexity and simplification. If the pictures are too complex, they may be difficult and confusing to read; if oversimplified, they may not be adequately definitive or may even be misleading. I have therefore striven for a middle course of realism without the clutter of confusing minutiae. I hope that the students and members of the medical and allied professions will find the illustrations readily understandable, yet instructive and useful.

At one point, the publisher and I thought it might be nice to include a foreword by a truly outstanding and renowned anatomist, but there are so many in that category that we could not make a choice. We did think of men like Vesalius, Leonardo da Vinci, William Hunter, and Henry Gray, who of course are unfortunately unavailable, but I do wonder what their comments might have been about this atlas.

Frank H. Netter, MD
(1906–1991)

FRANK H. NETTER, MD

Frank H. Netter was born in New York City in 1906. He studied art at the Art Students League and the National Academy of Design before entering medical school at New York University, where he received his Doctor of Medicine degree in 1931. During his student years, Dr. Netter's notebook sketches attracted the attention of the medical faculty and other physicians, allowing him to augment his income by illustrating articles and textbooks. He continued illustrating as a sideline after establishing a surgical practice in 1933, but he ultimately opted to give up his practice in favor of a full-time commitment to art. After service in the United States Army during World War II, Dr. Netter began his long collaboration with the CIBA Pharmaceutical Company (now Novartis Pharmaceuticals). This 45-year partnership resulted in the production of the extraordinary collection of medical art so familiar to physicians and other medical professionals worldwide.

Icon Learning Systems acquired the Netter Collection in July 2000 and continued to update Dr. Netter's original paintings and to add newly commissioned paintings by artists trained in the style of Dr. Netter. In 2005, Elsevier Inc. purchased the Netter Collection and all publications from Icon Learning Systems. There are now over 50 publications featuring the art of Dr. Netter available through Elsevier Inc.

Dr. Netter's works are among the finest examples of the use of illustration in the teaching of medical concepts. The 13-book *Netter Collection of Medical Illustrations,* which includes the greater part of the more than 20,000 paintings created by Dr. Netter, became and remains one of the most famous medical works ever published. *The Netter Atlas of Human Anatomy,* first published in 1989, presents the anatomic paintings from the Netter Collection. Now translated into 16 languages, it is the anatomy atlas of choice among medical and health professions students the world over.

The Netter illustrations are appreciated not only for their aesthetic qualities, but, more importantly, for their intellectual content. As Dr. Netter wrote in 1949 "clarification of a subject is the aim and goal of illustration. No matter how beautifully painted, how delicately and subtly rendered a subject may be, it is of little value as a *medical illustration* if it does not serve to make clear some medical point." Dr. Netter's planning, conception, point of view, and approach are what inform his paintings and what make them so intellectually valuable.

Frank H. Netter, MD, physician and artist, died in 1991.

ACKNOWLEDGMENTS

Carlos A. G. Machado, MD

I struck luck when joining this golden team of consulting editors exceedingly knowledgeable in the fields of clinical anatomy and medical education. It has been a great honor to work with and be under their guidance, as well as under the highly competent coordination of Elyse O'Grady and Marybeth Thiel, Elsevier's Executive Content Strategist and Senior Content Development Specialist, respectively.

This unique book would not exist without the genius of its creator, Dr. Frank Netter, to whom I owe special thanks, also in the name of generations of students and health professionals who, like myself, have learned so much from his incommensurable body of work.

I dedicate my work and express my most sincere thanks to my beloved parents, Carlos and Neide, who provided me with the foundation of my education; to my patient wife, Adriana, and talented daughter, Beatriz, for their love and support; to the students, teachers, and health professionals who rely on my work to learn and teach; to all the body donors and living friends that have respectively been the subjects of my studies and models of most of the illustrations I have created for the *Atlas*; and to my teachers Eugênio Cavalcante, Mário Fortes, and Paulo Carneiro for taking my interest in human/clinical anatomy much further.

John T. Hansen, PhD

At Elsevier I would like to thank Marybeth Thiel, Senior Content Development Specialist, Elyse O'Grady, Executive Content Strategist, John Casey, Senior Project Manager, Patricia Tannian, Publishing Services Manager, Julia Dummitt, Design Manager, Karen Giacomucci, Illustration Buyer, and Madelene Hyde, Publishing Director, for their continuous support and meticulous attention to detail during the development of this seventh edition of the *Atlas of Human Anatomy*. They, along with the entire editorial, production, design, and marketing teams at Elsevier have been a delight to work with and to know. I also wish to thank my consulting editors for their insightful and constructive suggestions as we strive to make every new edition of the *Atlas* better. I am also indebted to Carlos Machado for his superb artistic skill in producing and updating a number of plates that appear in this latest edition of the *Atlas*. His renderings of human anatomy are the perfect complement to the Netter images. In addition to my fellow editors, I wish to express my thanks to my faculty colleagues at Rochester and to all my past and present students who have provided generous and constructive feedback and have enriched my life. Finally, I am indebted to my entire family for their continued support and especially to my wife, Paula. Their love and encouragement sustains me and is the source of all the happiness and joy I know.

Brion Benninger, MD, MSc

Every day I am thankful for my wife, Alison, and son, Jack, for the laughs we have as a family, often from my follies, which is such a tonic. I thank Elsevier, especially Marybeth Thiel, Elyse O'Grady, and Madelene Hyde for their professionalism and guidance, enabling John Hansen, Carlos Machado, and my fellow coeditors to work in a unique and dynamic environment. I thank those clinicians who trained me, especially my early gifted surgeon/anatomist/teacher mentors, Drs. Gerald Tressidor and Harold Ellis CBE (Cambridge & Guy's Hospital); Dr. S. Standring, who embodies professionalism and displays fortitude; Drs. P. Crone and J. Heatherington, and the University Board for their stellar support; my past and future students and patients; and clinical colleagues from all corners of the world who keep anatomy dynamic, fresh, and wanting more. Special thanks to Jim Diegel and Erik Szeto, friends, mentors and fellow visionaries who also see "outside the box," challenging status quo. A heartfelt tribute to my late mentors, friends, and sister, Jim McDaniel, Bill Bryan, and Gail Hendricks, all who represent what is good in teaching, caring, and healing. They made this world a wee bit better. Lastly, I thank my mother for her love of education and equality and my father for his inquisitive and creative mind.

Jennifer Brueckner-Collins, PhD

Many thanks to the Elsevier team, particularly Marybeth Thiel and Elyse O'Grady, for their guidance and expertise during our preparation of the seventh edition. It is always an honor to work with Carlos Machado, whose passion for and mastery of the art of clinical anatomy and medicine never cease to amaze me. I am forever indebted to Brian MacPherson, who has served as a teacher, mentor, and friend to me for more than 20 years….you showed me what it means to be a true educator and I have been so fortunate to have the opportunity to build a career based on those principles. To Kurt and Lincoln, you are my inspiration….my world…my life and I love you to the snow moon and back.

Todd M. Hoagland, PhD
It is a privilege to teach clinical human anatomy and I am eternally grateful to all the body donors and their families for enabling healthcare professionals to train in the dissection laboratory. It is my honor to work with outstanding medical students and colleagues at the Medical College of Wisconsin. I am grateful to John Hansen and the professionals of the Elsevier team for the opportunity to be a steward of the incomparable Netter's *Atlas*. Marybeth Thiel and Elyse O'Grady were especially helpful and a pleasure to work with. It was an honor to collaborate with the brilliant Carlos Machado and all the consulting editors. I thank Bill Swartz and Mark Moss for being outstanding mentors, and I thank all of the graduate students I've worked with, especially Rebecca Lufler. I am deeply appreciative of Stan Hillman and Jack O'Malley for inspiring me with masterful teaching and rigorous expectations. I am indebted to Gary Kolesari and Richard Hoyt Jr. for helping me become a competent clinical anatomist, and to Rob Bouchie for his camaraderie. I am most grateful to my brother, Bill, for his unwavering optimism and gregarious nature. I thank my mother, Liz, for her dedication and love and for instilling a strong work ethic. Finally, I am humbled by my two awesome children, Ella and Caleb, for helping me redefine love, wonder, and joy.

R. Shane Tubbs, MS, PA-C, PhD
Elsevier and the Netter team have once again been a joy to work with. I thank Elyse O'Grady, Marybeth Thiel, and John Casey for their tremendous work on this edition. In addition, Carlos Machado has again added his expertise to bringing his anatomical images to life. As always, my work is inspired by my beautiful wife, Susan, and son, Isaiah. Lastly, I am indebted to my parents, Richard and Karon Tubbs, who supported me in my career to better understand the human body.

CONTENTS

SECTION 1 INTRODUCTION • Plates 1-7

Introduction • Plates 1-7

1 Body Planes and Terms of Relationship
2 Surface Anatomy: Regions (Anterior View of Female)
3 Surface Anatomy: Regions (Posterior View of Male)
4 Major Arteries and Pulse Points
5 Major Systemic Veins of the Cardiovascular System
6 General Organization of the Nervous System
7 Overview of the Lymphatic System

Electronic Bonus Plates • Plates BP1-BP16

BP 1 Cross Section of Skin
BP 2 Pilosebaceous Unit
BP 3 Major Body Cavities
BP 4 Skeletal System: Axial and Appendicular Skeletons
BP 5 Types of Synovial Joints
BP 6 Joints: Connective Tissues and Articular Cartilage
BP 7 Architecture of Bone
BP 8 Muscular System
BP 9 Overview of the Gastrointestinal System
BP 10 Overview of the Endocrine System
BP 11 Neurons and Synapses
BP 12 Features of a Typical Peripheral Nerve
BP 13 Sites of Visceral Referred Pain
BP 14 General Organization of the Cardiovascular System
BP 15 Cardiovascular System: Composition of Blood
BP 16 Arterial Wall

SECTION 2 HEAD AND NECK • Plates 8-160

Surface Anatomy • Plate 8

8 Head and Neck: Surface Anatomy

Superficial Head and Neck • Plates 9-10

9 Cutaneous Nerves of Head and Neck
10 Superficial Arteries and Veins of Face and Scalp

www.Booksmedicos06.com ///////

Bones and Ligaments • Plates 11-30

11 Skull: Anterior View
12 Skull: Radiographs
13 Skull: Lateral View
14 Skull: Lateral Radiograph
15 Skull: Midsagittal Section
16 Calvaria
17 Cranial Base: Inferior View
18 Cranial Base: Superior View
19 Foramina and Canals of Cranial Base: Inferior View
20 Foramina and Canals of Cranial Base: Superior View
21 Skull of Newborn
22 Bony Framework of Head and Neck
23 Pterygoid Fossae
24 Mandible
25 Temporomandibular Joint
26 Cervical Vertebrae: Atlas and Axis
27 Cervical Vertebrae (continued)
28 Cervical Vertebrae: Uncovertebral Joints
29 External Craniocervical Ligaments
30 Internal Craniocervical Ligaments

Neck • Plates 31-41

31 Muscles of Facial Expression: Lateral View
32 Muscles of Neck: Anterior View
33 Fascial Layers of Neck
34 Cervical Fasciae
35 Infrahyoid and Suprahyoid Muscles
36 Muscles of Neck: Lateral View
37 Anterior and Lateral Cervical Muscles
38 Superficial Veins and Cutaneous Nerves of Neck
39 Nerves and Vessels of Neck
40 Nerves and Vessels of Neck (continued)
41 Carotid Arteries

Nasal Region • Plates 42-64

42 Nose
43 Lateral Wall of Nasal Cavity
44 Lateral Wall of Nasal Cavity (continued)
45 Medial Wall of Nasal Cavity (Nasal Septum)
46 Nerves of Nasal Cavity
47 Arteries of Nasal Cavity: Bony Nasal Septum Turned Up
48 Nerves of Nasal Cavity: Bony Nasal Septum Turned Up
49 Nose and Maxillary Sinus: Transverse Section
50 Paranasal Sinuses: Coronal and Transverse Sections
51 Paranasal Sinuses: Parasagittal Views
52 Paranasal Sinuses: Changes with Age

////// facebook : Booksmedicos06

53 Salivary Glands
54 Facial Nerve Branches and Parotid Gland
55 Muscles Involved in Mastication
56 Muscles Involved in Mastication (continued)
57 Maxillary Artery
58 Proximal Maxillary and Superficial Temporal Arteries
59 Mandibular Nerve (CN V_3)
60 Superior View of Infratemporal Fossa
61 Ophthalmic (CN V_1) and Maxillary (CN V_2) Nerves
62 Autonomic Innervation of Nasal Cavity
63 Nerves and Arteries of the Deep Face
64 Orientation of Nerves and Vessels of the Cranial Base

Oral Region • Plates 65-74

65 Inspection of Oral Cavity
66 Afferent Innervation of Oral Cavity and Tongue
67 Roof of Oral Cavity
68 Tongue and Salivary Glands: Sections
69 Floor of Oral Cavity
70 Tongue
71 Tongue (continued)
72 Fauces
73 Teeth
74 Teeth (continued)

Pharynx • Plates 75-86

75 Muscles of Pharynx: Partially Opened Posterior View
76 Posterior View of Pharynx: Nerves and Vessels
77 Pharynx: Medial View
78 Muscles of Pharynx: Medial View
79 Pharynx: Opened Posterior View
80 Pharyngoesophageal Junction
81 Muscles of Pharynx: Lateral View
82 Nerves of Oral, Head, and Neck Regions
83 Arteries of Oral and Pharyngeal Regions
84 Veins of Face and Neck Regions
85 Lymph Vessels and Nodes of Head and Neck
86 Lymph Vessels and Nodes of Pharynx and Tongue

Thyroid Gland and Larynx • Plates 87-93

87 Thyroid Gland: Anterior View
88 Thyroid Gland and Pharynx: Posterior View
89 Parathyroid Glands
90 Cartilages of Larynx
91 Intrinsic Muscles of Larynx
92 Nerves and Coronal Section of Larynx
93 Action of Intrinsic Muscles of Larynx

www.Booksmedicos06.com ///////

Orbit and Contents • Plates 94-104

94 Eyelids
95 Lacrimal Apparatus
96 Extrinsic Eye Muscles
97 Nerves of Orbit
98 Superior and Anterior Views of Orbit
99 Arteries and Veins of Orbit and Eyelids
100 Eyeball: Transverse Section
101 Anterior and Posterior Chambers of Eyeball
102 Lens and Supporting Structures
103 Intrinsic Arteries and Veins of Eye
104 Vascular Supply of Eye

Ear • Plates 105-110

105 Ear and Course of Sound in Cochlea
106 External Ear and Tympanic Cavity
107 Tympanic Cavity
108 Bony and Membranous Labyrinths
109 Bony and Membranous Labyrinths (continued)
110 Orientation of Labyrinths in Skull

Meninges and Brain • Plates 111-126

111 Meninges and Diploic Veins
112 Meningeal Arteries
113 Meninges and Superficial Cerebral Veins
114 Dural Venous Sinuses: Sagittal Section
115 Dural Venous Sinuses (continued)
116 Brain: Lateral Views
117 Brain: Medial Views
118 Brain: Inferior View
119 Ventricles of Brain
120 Circulation of Cerebrospinal Fluid
121 Basal Nuclei (Ganglia)
122 Thalamus and Related Structures
123 Hippocampus and Fornix
124 Brain Stem
125 Ventricles and Cerebellum
126 Cerebellum

Cranial and Cervical Nerves • Plates 127-146

127 Cranial Nerve Nuclei in Brain Stem: Schema
128 Cranial Nerve Nuclei in Brain Stem: Schema (continued)
129 Cranial Nerves (Motor and Sensory Distribution): Schema
130 Olfactory Nerve (CN I): Schema
131 Optic Nerve (CN II) (Visual Pathway): Schema

////// facebook : Booksmedicos06

132 Oculomotor (CN III), Trochlear (CN IV), and Abducens (CN VI) Nerves: Schema
133 Trigeminal Nerve (CN V): Schema
134 Facial Nerve (CN VII): Schema
135 Vestibulocochlear Nerve (CN VIII): Schema
136 Glossopharyngeal Nerve (CN IX): Schema
137 Vagus Nerve (CN X): Schema
138 Accessory Nerve (CN XI): Schema
139 Hypoglossal Nerve (CN XII): Schema
140 Cervical Plexus: Schema
141 Autonomic Nerves in Neck
142 Autonomic Nerves in Head
143 Ciliary Ganglion: Schema
144 Pterygopalatine and Submandibular Ganglia: Schema
145 Otic Ganglion: Schema
146 Taste Pathways: Schema

Cerebral Vasculature • Plates 147-158

147 Arteries to Brain and Meninges
148 Internal Carotid Artery in Petrous Part of Temporal Bone
149 Arteries to Brain: Schema
150 Arteries of Brain: Inferior Views
151 Cerebral Arterial Circle (of Willis)
152 Arteries of Brain: Frontal View and Section
153 Arteries of Brain: Lateral and Medial Views
154 Arteries of Posterior Cranial Fossa
155 Veins of Posterior Cranial Fossa
156 Deep Veins of Brain
157 Subependymal Veins of Brain
158 Hypothalamus and Hypophysis

Regional Imaging • Plates 159-160

159 Cranial Imaging (MRA and MRV)
160 Cranial Imaging (MRI)

Structures with High Clinical Significance • Tables 2.1-2.3

Muscle Tables • Tables 2.4-2.9

Electronic Bonus Plates • Plates BP17-BP32

BP17 3D Skull Reconstruction CTs
BP18 Degenerative Changes in Cervical Vertebrae
BP19 Atlantooccipital Junction
BP20 Muscles of Facial Expression: Anterior View
BP21 Musculature of Face
BP22 Paranasal Sinuses

www.Booksmedicos06.com ///////

BP23 Subclavian Artery
BP24 Opening of the Mandible
BP25 Afferent Innervation of Oral Cavity and Pharynx
BP26 Fasciae of Orbit and Eyeball
BP27 Tympanic Cavity
BP28 Anatomy of the Pediatric Ear
BP29 Auditory Tube (Eustachian)
BP30 Arteries and Veins of Hypothalamus and Hypophysis
BP31 Cranial Imaging (MRV and MRA)
BP32 Axial and Coronal MRIs of Brain

SECTION 3 BACK AND SPINAL CORD • Plates 161-186

Surface Anatomy • Plate 161

161 Back: Surface Anatomy

Bones and Ligaments • Plates 162-168

162 Vertebral Column
163 Thoracic Vertebrae
164 Lumbar Vertebrae
165 Vertebrae: Radiograph and MRI
166 Sacrum and Coccyx
167 Vertebral Ligaments: Lumbosacral Region
168 Vertebral Ligaments: Lumbar Region

Spinal Cord • Plates 169-179

169 Spinal Cord and Anterior Rami
170 Relation of Spinal Nerve Roots to Vertebrae
171 Dermatomes
172 Sympathetic Nervous System: Schema
173 Parasympathetic Nervous System: Schema
174 Spinal Meninges and Nerve Roots
175 Spinal Nerve Origin: Cross Sections
176 Arteries of Spinal Cord: Schema
177 Arteries of Spinal Cord: Intrinsic Distribution
178 Veins of Spinal Cord and Vertebral Column
179 Veins of Vertebral Column: Vertebral Veins

Muscles and Nerves • Plates 180-184

180 Muscles of Back: Superficial Layer
181 Muscles of Back: Intermediate Layer
182 Muscles of Back: Deep Layer
183 Nerves of Back
184 Suboccipital Triangle

////// facebook : Booksmedicos06

Cross-Sectional Anatomy • Plates 185-186

185 Lumbar Region of Back: Cross Section
186 Typical Thoracic Spinal Nerve: Cross Section

Structures with High Clinical Significance • Table 3.1

Muscle Tables • Tables 3.2-3.3

Electronic Bonus Plates • Plates BP33-BP43

BP33 Vertebral Ligaments
BP34 Cervical Spine: Radiographs
BP35 Cervical Spine: MRI and Radiograph
BP36 Thoracolumbar Spine: Lateral Radiograph
BP37 Lumbar Vertebrae: Radiographs
BP38 Lumbar Spine: MRIs
BP39 Sympathetic Nervous System: General Topography
BP40 Parasympathetic Nervous System: General Topography
BP41 Cholinergic and Adrenergic Synapses: Schema
BP42 Vertebral Veins: Detail Showing Venous Communications
BP43 Spinal Cord Cross Sections: Fiber Tracts

SECTION 4 THORAX • Plates 187-248

Surface Anatomy • Plate 187

187 Thorax: Surface Anatomy

Mammary Gland • Plates 188-191

188 Mammary Gland
189 Arteries of Mammary Gland
190 Lymph Vessels and Nodes of Mammary Gland
191 Lymphatic Drainage of Breast

Body Wall • Plates 192-201

192 Bony Framework of Thorax
193 Ribs and Associated Joints
194 Anterior Thoracic Wall
195 Anterior Thoracic Wall (continued)
196 Anterior Thoracic Wall: Internal View
197 Intercostal Nerves and Arteries
198 Veins of Internal Thoracic Wall
199 Phrenic Nerve
200 Respiratory Diaphragm: Thoracic Surface
201 Respiratory Diaphragm: Abdominal Surface

www.Booksmedicos06.com ////////

Lungs • Plates 202-214

202 Topography of Lungs: Anterior View
203 Topography of Lungs: Posterior View
204 Lungs in Situ: Anterior View
205 Lungs: Medial Views
206 Bronchopulmonary Segments
207 Bronchopulmonary Segments (continued)
208 Trachea and Major Bronchi
209 Bronchi and Intrapulmonary Airways
210 Great Vessels of Superior Mediastinum
211 Bronchial Arteries and Veins
212 Lymph Vessels and Nodes of Lung
213 Autonomic Nerves of Thorax
214 Innervation of Tracheobronchial Tree: Schema

Heart • Plates 215-233

215 Heart in Situ
216 Heart: Anterior Exposure
217 Heart: Radiographs and CT Angiogram; Auscultation of Heart
218 Heart: Base and Diaphragmatic Surface
219 Pericardial Sac
220 Mediastinum: Cross Section
221 Thorax: Coronal Section of Heart and Ascending Aorta
222 Coronary Arteries and Cardiac Veins
223 Coronary Arteries: Imaging
224 Right Atrium and Ventricle
225 Left Atrium and Ventricle
226 Valves and Fibrous Skeleton of Heart
227 Valves and Fibrous Skeleton of Heart (continued)
228 Atria, Ventricles, and Interventricular Septum
229 Conducting System of Heart
230 Nerves of Thorax
231 Innervation of Heart: Schema
232 Innervation of Blood Vessels: Schema
233 Prenatal and Postnatal Circulation

Mediastinum • Plates 234-243

234 Mediastinum: Right Lateral View
235 Mediastinum: Left Lateral View
236 Esophagus in Situ
237 Topography and Constrictions of Esophagus
238 Musculature of Esophagus
239 Esophagogastric Junction
240 Arteries of Esophagus
241 Veins of Esophagus
242 Lymph Vessels and Nodes of Esophagus
243 Nerves of Esophagus

////// facebook : Booksmedicos06

Regional Scans • Plate 244

244 Chest Scans: Axial CT Images

Cross-Sectional Anatomy • Plates 245-248

245 Cross Section of Thorax at T3 Level
246 Cross Section of Thorax at T3-4 Disc Level
247 Cross Section of Thorax at T4-5 Disc Level
248 Cross Section of Thorax at T7 Level

Structures with High Clinical Significance • Tables 4.1-4.2

Muscle Table • Table 4.3

Electronic Bonus Plates • Plates BP44-BP57

BP44 Respiratory System
BP45 Cervical Ribs and Related Anomalies
BP46 Muscle Attachments of Ribs
BP47 Muscles of Respiration
BP48 Intrapulmonary Airways: Schema
BP49 Intrapulmonary Blood Circulation: Schema
BP50 Gas Exchange
BP51 Anterior Aspect of Heart
BP52 Coronary Arteries: Right Anterior Oblique Views with Arteriograms
BP53 Coronary Arteries and Cardiac Veins: Variations
BP54 Intrinsic Nerves and Variations in Nerves of Esophagus
BP55 Arteries of Esophagus: Variations
BP56 Thorax: Coronal Section (Midaxillary Line, Tracheal Bifurcation, Left Atrium)
BP57 Thorax: Coronal CTs

SECTION 5 ABDOMEN • Plates 249-332

Surface Anatomy • Plate 249

249 Abdomen: Surface Anatomy

Body Wall • Plates 250-269

250 Bony Framework of Abdomen
251 Regions and Planes of Abdomen
252 Anterior Abdominal Wall: Superficial Dissection
253 Anterior Abdominal Wall: Intermediate Dissection
254 Anterior Abdominal Wall: Deep Dissection
255 Rectus Sheath: Cross Section
256 Anterior Abdominal Wall: Internal View

www.Booksmedicos06.com ////////

257 Posterolateral Abdominal Wall
258 Arteries of Anterior Abdominal Wall
259 Veins of Anterior Abdominal Wall
260 Nerves of Anterior Abdominal Wall
261 Thoracoabdominal Nerves
262 Inguinal Region: Dissections
263 Inguinal Canal and Spermatic Cord
264 Femoral Sheath and Inguinal Canal
265 Posterior Abdominal Wall: Internal View
266 Arteries of Posterior Abdominal Wall
267 Veins of Posterior Abdominal Wall
268 Lymph Vessels and Nodes of Posterior Abdominal Wall
269 Nerves of Posterior Abdominal Wall

Peritoneal Cavity • Plates 270-275

270 Greater Omentum and Abdominal Viscera
271 Mesenteric Relations of Intestines
272 Mesenteric Relations of Intestines (continued)
273 Omental Bursa: Stomach Reflected
274 Omental Bursa: Cross Section
275 Peritoneum of Posterior Abdominal Wall

Viscera (Gut) • Plates 276-283

276 Stomach in Situ
277 Mucosa of Stomach
278 Duodenum in Situ
279 Mucosa and Musculature of Small Intestine
280 Ileocecal Region
281 Ileocecal Region (continued)
282 (Vermiform) Appendix
283 Mucosa and Musculature of Large Intestine

Viscera (Accessory Organs) • Plates 284-289

284 Surfaces and Bed of Liver
285 Liver in Situ: Vascular and Duct Systems
286 Liver Structure: Schema
287 Gallbladder, Extrahepatic Bile Ducts, and Pancreatic Duct
288 Pancreas in Situ
289 Spleen

Visceral Vasculature • Plates 290-299

290 Arteries of Stomach, Liver, and Spleen
291 Arteries of Liver, Pancreas, Duodenum, and Spleen
292 Celiac Arteriogram and CT Angiogram
293 Arteries of Duodenum and Head of Pancreas
294 Arteries of Small Intestine
295 Arteries of Large Intestine

////// facebook : Booksmedicos06

296 Veins of Stomach, Duodenum, Pancreas, and Spleen
297 Veins of Small Intestine
298 Veins of Large Intestine
299 Hepatic Portal Vein Tributaries: Portacaval Anastomoses

Innervation • Plates 300-310

300 Autonomic Nerves and Ganglia
301 Autonomic Innervation of Stomach and Duodenum
302 Autonomic Innervation of Stomach and Duodenum (continued)
303 Autonomic Innervation of Esophagus, Stomach, and Duodenum: Schema
304 Autonomic Innervation of Small Intestine
305 Autonomic Innervation of Large Intestine
306 Autonomic Innervation of Intestines: Schema
307 Autonomic Reflex Pathways: Schema
308 Enteric Plexuses of Intestine
309 Autonomic Innervation of Liver: Schema
310 Autonomic Innervation of Pancreas: Schema

Kidneys and Suprarenal Glands • Plates 311-324

311 Kidneys in Situ: Anterior Views
312 Kidneys in Situ: Posterior Views
313 Renal Artery and Vein in Situ
314 Gross Structure of Kidney
315 Intrarenal Arteries and Renal Segments
316 Ureters in Abdomen and Pelvis
317 Arteries of Ureters and Urinary Bladder
318 Renal Fasciae
319 Lymph Vessels and Nodes of Kidneys and Urinary Bladder
320 Autonomic Nerves of Kidneys, Ureters, and Urinary Bladder
321 Autonomic Innervation of Kidneys and Upper Ureters: Schema
322 Autonomic Nerves of Suprarenal Glands: Dissection and Schema
323 Arteries and Veins of Suprarenal Glands in Situ
324 Abdominal Wall and Viscera: Paramedian (Parasagittal) Section

Lymphatics • Plate 325

325 Abdominal and Pelvic Lymphatics: Schema

Regional Scans • Plates 326-327

326 Abdominal Scans: Axial CT Images
327 Abdominal Scans: Axial CT Images (continued)

www.Booksmedicos06.com ///////

Cross-Sectional Anatomy • Plates 328-332

328 Cross Section at T10, Esophagogastric Junction
329 Cross Section at T12, Inferior to Xiphoid
330 Cross Section at T12–L1, Intervertebral Disc
331 Cross Section at L1–2, Intervertebral Disc
332 Cross Section at L3–4

Structures with High Clinical Significance • Tables 5.1-5.2

Muscle Table • Table 5.3

Electronic Bonus Plates • Plates BP58-BP87

BP58 Inguinal and Femoral Regions
BP59 Indirect Inguinal Hernia
BP60 Variations in Position and Contour of Stomach in Relation to Body Habitus
BP61 Layers of Duodenal Wall
BP62 CT and MRCP Showing Appendix, Gallbladder, and Ducts; Nerve Branches of Hepatic Artery
BP63 Topography of Liver
BP64 Variations in Form of Liver
BP65 Sigmoid Colon: Variations in Position
BP66 Variations in Arterial Supply to Cecum and Posterior Peritoneal Attachment of Cecum
BP67 Variations in Pancreatic Duct
BP68 Variations in Cystic, Hepatic, and Pancreatic Ducts
BP69 Variations in Cystic Arteries
BP70 Variations in Hepatic Arteries
BP71 Variations and Anomalies of Hepatic Portal Vein
BP72 Variations in Celiac Trunk
BP73 Variations in Colic Arteries
BP74 Variations in Colic Arteries (continued)
BP75 Variations in Renal Artery and Vein
BP76 Histology of Renal Corpuscle
BP77 Nephron and Collecting Tubule: Schema
BP78 Blood Vessels in Parenchyma of Kidney: Schema
BP79 Lymph Vessels and Nodes of Stomach
BP80 Lymph Vessels and Nodes of Pancreas
BP81 Lymph Vessels and Nodes of Small Intestine
BP82 Lymph Vessels and Nodes of Large Intestine
BP83 Lymph Vessels and Nodes of Liver
BP84 Schematic Cross Section of Abdomen at Middle T12
BP85 Transverse Section of Abdomen: Level of L5, Near Transtubercular Plane
BP86 Transverse Section of Abdomen: Level of S1, Anterior Superior Iliac Spine
BP87 Axial CT Image of Upper Abdomen

////// facebook : Booksmedicos06

SECTION 6 PELVIS AND PERINEUM • Plates 333-401

Surface Anatomy • Plate 333

333 Pelvis and Perineum: Surface Anatomy

Bones and Ligaments • Plates 334-338

334 Bony Framework of Pelvis
335 Male and Female Pelvis: Radiographs
336 Sex Differences of Pelvis: Measurements
337 Bones and Ligaments of Pelvis
338 Bones and Ligaments of Pelvis (continued)

Pelvic Floor and Contents • Plates 339-349

339 Pelvic Diaphragm: Female
340 Pelvic Diaphragm: Female (continued)
341 Pelvic Diaphragm: Female (continued)
342 Pelvic Diaphragm: Male
343 Pelvic Diaphragm: Male (continued)
344 Pelvic Contents: Female
345 Pelvic Viscera and Perineum: Female
346 Pelvic Viscera: Female
347 Endopelvic Fascia and Potential Spaces
348 Pelvic Contents: Male
349 Pelvic Viscera and Perineum: Male

Urinary Bladder • Plates 350-352

350 Urinary Bladder: Orientation and Supports
351 Female Sphincters
352 Urinary Bladder: Female and Male

Uterus, Vagina, and Supporting Structures • Plates 353-357

353 Uterus, Vagina, and Supporting Structures
354 Uterus: Fascial Ligaments
355 Uterus and Adnexa
356 Female Pelvic Relationships
357 Pelvic Ligaments

Perineum and External Genitalia: Female • Plates 358-361

358 Female Perineum and External Genitalia (Pudendum or Vulva)
359 Female Perineum (Superficial Dissection)
360 Female Perineum and Deep Perineum
361 Female Perineal Spaces

www.Booksmedicos06.com ///////

Perineum and External Genitalia: Male • Plates 362-369

362 Male Perineum and External Genitalia (Superficial Dissection)
363 Male Perineum and External Genitalia (Deeper Dissection)
364 Penis
365 Male Perineal Spaces
366 Prostate Gland and Seminal Vesicles
367 Urethra
368 Descent of Testis
369 Scrotum and Contents

Homologues of Genitalia • Plates 370-371

370 Homologues of External Genitalia
371 Homologues of Internal Genitalia

Testis, Epididymis, and Ductus Deferens • Plate 372

372 Testis, Epididymis, and Ductus Deferens

Rectum • Plates 373-378

373 Rectum in Situ: Female and Male
374 Ischioanal Fossae
375 Rectum and Anal Canal
376 Anorectal Musculature
377 External Anal Sphincter Muscle: Perineal Views
378 Actual and Potential Perineopelvic Spaces

Regional Scan • Plate 379

379 Pelvic Scans: Sagittal T2-Weighted MRIs

Vasculature • Plates 380-390

380 Arteries of Rectum and Anal Canal: Male Posterior View
381 Veins of Rectum and Anal Canal: Female Anterior View
382 Arteries and Veins of Pelvic Organs: Female Anterior View
383 Arteries and Veins of Testis: Anterior View
384 Arteries of Pelvis: Female
385 Arteries and Veins of Pelvis: Male
386 Arteries and Veins of Perineum and Uterus
387 Arteries and Veins of Perineum: Male
388 Lymph Vessels and Nodes of Pelvis and Genitalia: Female
389 Lymph Vessels and Nodes of Perineum: Female
390 Lymph Vessels and Nodes of Pelvis and Genitalia: Male

Innervation • Plates 391-399

391 Nerves of External Genitalia: Male
392 Nerves of Pelvic Viscera: Male
393 Nerves of Perineum: Male

////// facebook : Booksmedicos06

394 Nerves of Pelvic Viscera: Female
395 Nerves of Perineum and External Genitalia: Female
396 Neuropathways in Parturition
397 Innervation of Female Reproductive Organs: Schema
398 Innervation of Male Reproductive Organs: Schema
399 Innervation of Urinary Bladder and Lower Ureter: Schema

Cross-Sectional Anatomy • Plates 400-401

400 Male Pelvis: Cross Section of Bladder–Prostate Gland Junction
401 Female Pelvis: Cross Section of Vagina and Urethra

Structures with High Clinical Significance • Tables 6.1-6.2

Muscle Tables • Tables 6.3-6.4

Electronic Bonus Plates • Plates BP88-BP98

BP88 Fasciae of Male and Female Pelvis and Perineum
BP89 Male and Female Cystourethrograms
BP90 Female Urethra
BP91 Genetics of Reproduction
BP92 Menstrual Cycle
BP93 Testes
BP94 Uterine Development
BP95 Ovary, Ova, and Follicles
BP96 Variations in Hymen
BP97 Cross Section Through Prostate
BP98 Arteries and Veins of Pelvis: Male

SECTION 7 UPPER LIMB • Plates 402-470

Surface Anatomy • Plate 402

402 Upper Limb: Surface Anatomy

Cutaneous Anatomy • Plates 403-407

403 Dermatomes of Upper Limb and Segmental Nerve Function
404 Cutaneous Innervation of Upper Limb
405 Cutaneous Nerves and Superficial Veins of Proximal Upper Limb
406 Cutaneous Nerves and Superficial Veins of Forearm and Hand
407 Lymph Vessels and Nodes of Upper Limb

www.Booksmedicos06.com ///////

Shoulder and Axilla • Plate 408-420

408 Clavicle and Sternoclavicular Joint
409 Humerus and Scapula: Anterior Views
410 Humerus and Scapula: Posterior Views
411 Shoulder: Anteroposterior Radiograph
412 Shoulder with Details of Glenohumeral Joint
413 Muscles of Shoulder
414 Axilla: Posterior Wall
415 Muscles of Rotator (Compressor) Cuff
416 Pectoral, Clavipectoral, and Axillary Fasciae
417 Scapulothoracic and Shoulder Dissection
418 Axillary Artery and Anastomoses Around Scapula
419 Axilla: Anterior View
420 Brachial Plexus: Schema

Arm • Plates 421-425

421 Muscles of Arm: Anterior Views
422 Muscles of Arm: Posterior Views
423 Brachial Artery in Situ
424 Arteries of Arm and Proximal Forearm
425 Arm: Serial Cross Sections

Elbow and Forearm • Plates 426-441

426 Bones of Elbow
427 Elbow: Radiographs
428 Ligaments of Elbow
429 Bones of Forearm
430 Individual Muscles of Forearm: Rotators of Radius
431 Individual Muscles of Forearm: Extensors of Wrist and Digits
432 Individual Muscles of Forearm: Flexors of Wrist
433 Individual Muscles of Forearm: Flexors of Digits
434 Muscles of Forearm (Superficial Layer): Posterior View
435 Muscles of Forearm (Deeper Layer): Posterior View
436 Muscles of Forearm (Superficial Layer): Anterior View
437 Muscles of Forearm (Intermediate Layer): Anterior View
438 Muscles of Forearm (Deep Layer): Anterior View
439 Attachments of Muscles of Forearm: Anterior View
440 Attachments of Muscles of Forearm: Posterior View
441 Forearm: Serial Cross Sections, Anterior View

Wrist and Hand • Plates 442-461

442 Carpal Bones
443 Movements of Wrist
444 Ligaments of Wrist
445 Ligaments of Wrist (continued)
446 Bones of Wrist and Hand

////// facebook : Booksmedicos06

447 Wrist and Hand: Radiographs
448 Metacarpophalangeal and Interphalangeal Ligaments
449 Wrist and Hand: Superficial Palmar Dissections
450 Wrist and Hand: Deeper Palmar Dissections
451 Lumbrical Muscles and Bursae, Spaces, and Sheaths: Schema
452 Flexor Tendons, Arteries, and Nerves at Wrist
453 Bursae, Spaces, and Tendon Sheaths of Hand
454 Flexor and Extensor Tendons in Fingers
455 Intrinsic Muscles of Hand
456 Arteries and Nerves of Hand: Palmar Views
457 Wrist and Hand: Superficial Dissection
458 Wrist and Hand: Superficial Dorsal Dissection
459 Nerves and Arteries of Dorsal Hand and Wrist
460 Extensor Tendons at Wrist
461 Fingers

Neurovasculature • Plates 462-469

462 Cutaneous Innervation of Wrist and Hand
463 Arteries and Nerves of Upper Limb: Anterior View
464 Nerves of Upper Limb
465 Musculocutaneous Nerve: Anterior View
466 Median Nerve
467 Ulnar Nerve
468 Radial Nerve in Arm and Nerves of Posterior Shoulder: Posterior View
469 Radial Nerve in Forearm and Hand

Regional Imaging • Plate 470

470 Shoulder MRI and CT Scan

Structures with High Clinical Significance • Tables 7.1-7.2

Muscle Tables • Tables 7.3-7.6

Electronic Bonus Plates • Plates BP99-BP106

BP99 Veins of Upper Limb
BP100 Arteries of Arm and Proximal Forearm
BP101 Arteries of Forearm and Hand
BP102 Ligaments of Wrist
BP103 Flexor and Extensor Zones of Hand
BP104 Section Through Metacarpal and Distal Carpal Bones
BP105 Cross Section of Hand: Axial View
BP106 Cross Section of Hand: Axial View (continued)

www.Booksmedicos06.com ///////

SECTION 8 LOWER LIMB • Plates 471-535

Surface Anatomy • Plate 471

471 Lower Limb: Surface Anatomy

Cutaneous Anatomy • Plates 472-475

472 Dermatomes of Lower Limb and Segmental Nerve Function
473 Superficial Nerves and Veins of Lower Limb: Anterior View
474 Superficial Nerves and Veins of Lower Limb: Posterior View
475 Lymph Vessels and Nodes of Lower Limb

Hip and Thigh • Plates 476-496

476 Coxal Bone
477 Hip Joint
478 Hip Joint: Anteroposterior Radiograph
479 Femur
480 Bony Attachments of Muscles of Hip and Thigh: Anterior View
481 Bony Attachments of Muscles of Hip and Thigh: Posterior View
482 Muscles of Thigh: Anterior Views
483 Muscles of Thigh: Anterior Views (continued)
484 Muscles of Hip and Thigh: Lateral View
485 Muscles of Hip and Thigh: Posterior Views
486 Psoas and Iliacus Muscles
487 Lumbosacral and Coccygeal Plexuses
488 Lumbar Plexus
489 Sacral and Coccygeal Plexuses
490 Arteries and Nerves of Thigh: Anterior Views
491 Arteries and Nerves of Thigh: Anterior Views (continued)
492 Arteries and Nerves of Thigh: Posterior View
493 Nerves of Hip and Buttock
494 Hip Bursae: Posterior and Anterolateral Views
495 Arteries of Femoral Head and Neck
496 Thigh: Serial Cross Sections

Knee • Plates 497-503

497 Knee: Medial and Lateral Views
498 Knee: Anterior Views
499 Knee: Interior Views
500 Knee: Cruciate and Collateral Ligaments
501 Knee: Anteroposterior Radiograph and Posterior View
502 Knee: Posterior and Sagittal Views
503 Arteries of Lower Limb: Schema

////// facebook : Booksmedicos06

Leg • Plates 504-514

504 Tibia and Fibula
505 Tibia and Fibula (continued)
506 Attachments of Muscles of Leg
507 Muscles of Leg (Superficial Dissection): Posterior View
508 Muscles of Leg (Intermediate Dissection): Posterior View
509 Muscles of Leg (Deep Dissection): Posterior View
510 Muscles of Leg: Lateral View
511 Muscles of Leg (Superficial Dissection): Anterior View
512 Muscles of Leg (Deep Dissection): Anterior View
513 Venous Drainage of Leg
514 Leg: Cross Sections and Fascial Compartments

Ankle and Foot • Plates 515-528

515 Bones of Foot
516 Bones of Foot (continued)
517 Calcaneus
518 Ligaments and Tendons of Ankle
519 Ligaments and Tendons of Foot: Plantar View
520 Tendon Sheaths of Ankle
521 Muscles of Dorsum of Foot: Superficial Dissection
522 Dorsum of Foot: Deep Dissection
523 Plantar Region of Foot: Superficial Dissection
524 Muscles of Plantar Region of Foot: First Layer
525 Muscles of Plantar Region of Foot: Second Layer
526 Muscles of Plantar Region of Foot: Third Layer
527 Interosseous Muscles and Deep Arteries of Foot
528 Interosseous Muscles of Foot

Neurovasculature • Plates 529-533

529 Femoral Nerve and Lateral Femoral Cutaneous Nerve
530 Obturator Nerve
531 Sciatic Nerve and Posterior Femoral Cutaneous Nerve
532 Tibial Nerve
533 Common Fibular Nerve

Regional Imaging • Plates 534-535

534 Hip MRI and 3D CT
535 Ankle: Radiographs

Structures with High Clinical Significance • Tables 8.1-8.2

Muscle Tables • Tables 8.3-8.6

www.Booksmedicos06.com ///////

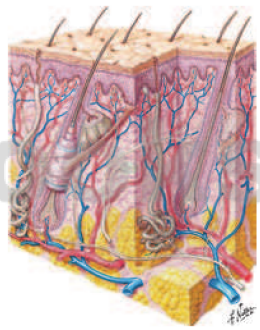
Electronic Bonus Plates • Plates BP107-BP117

BP107 Veins of Lower Limb
BP108 Arteries of Thigh and Knee
BP109 Cross-Sectional Anatomy of Hip: Axial View
BP110 Arteries of Knee and Foot
BP111 Leg: Serial Cross Sections
BP112 Osteology of Knee
BP113 Knee Radiograph: Lateral View
BP114 Anatomy of Foot: Nerves and Arteries
BP115 Cross-Sectional Anatomy of Ankle and Foot
BP116 Cross-Sectional Anatomy of Ankle and Foot (continued)
BP117 Anatomy of Toenail

////// facebook : Booksmedicos06

INTRODUCTION 1

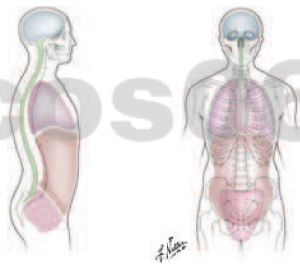
ELECTRONIC BONUS PLATES



BP 1 Cross Section of Skin



BP 2 Pilosebaceous Unit



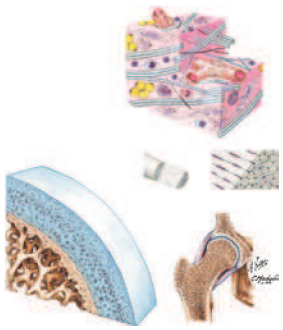
BP 3 Major Body Cavities



BP 4 Skeletal System: Axial and Appendicular Skeletons



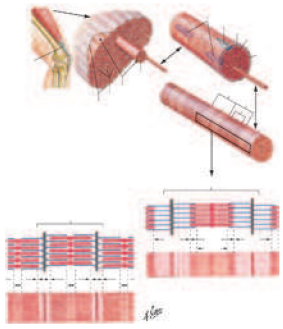
BP 5 Types of Synovial Joints



BP 6 Joints: Connective Tissues and Articular Cartilage



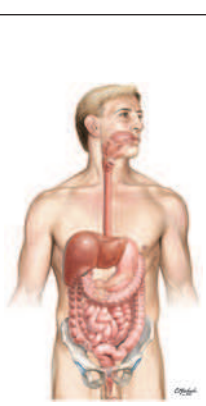
BP 7 Architecture of Bone



BP 8 Muscular System

www.Booksmedicos06.com

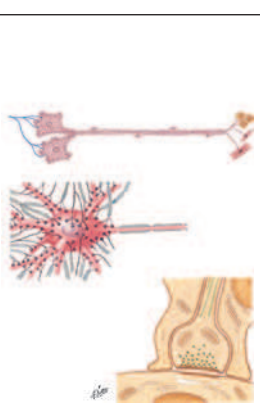
ELECTRONIC BONUS PLATES—*cont'd*



BP 9 Overview of the Gastrointestinal System



BP 10 Overview of the Endocrine System



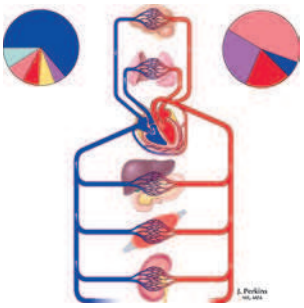
BP 11 Neurons and Synapses



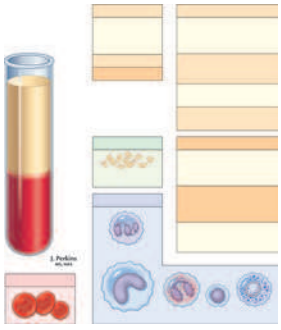
BP 12 Features of a Typical Peripheral Nerve



BP 13 Sites of Visceral Referred Pain



BP 14 General Organization of the Cardiovascular System

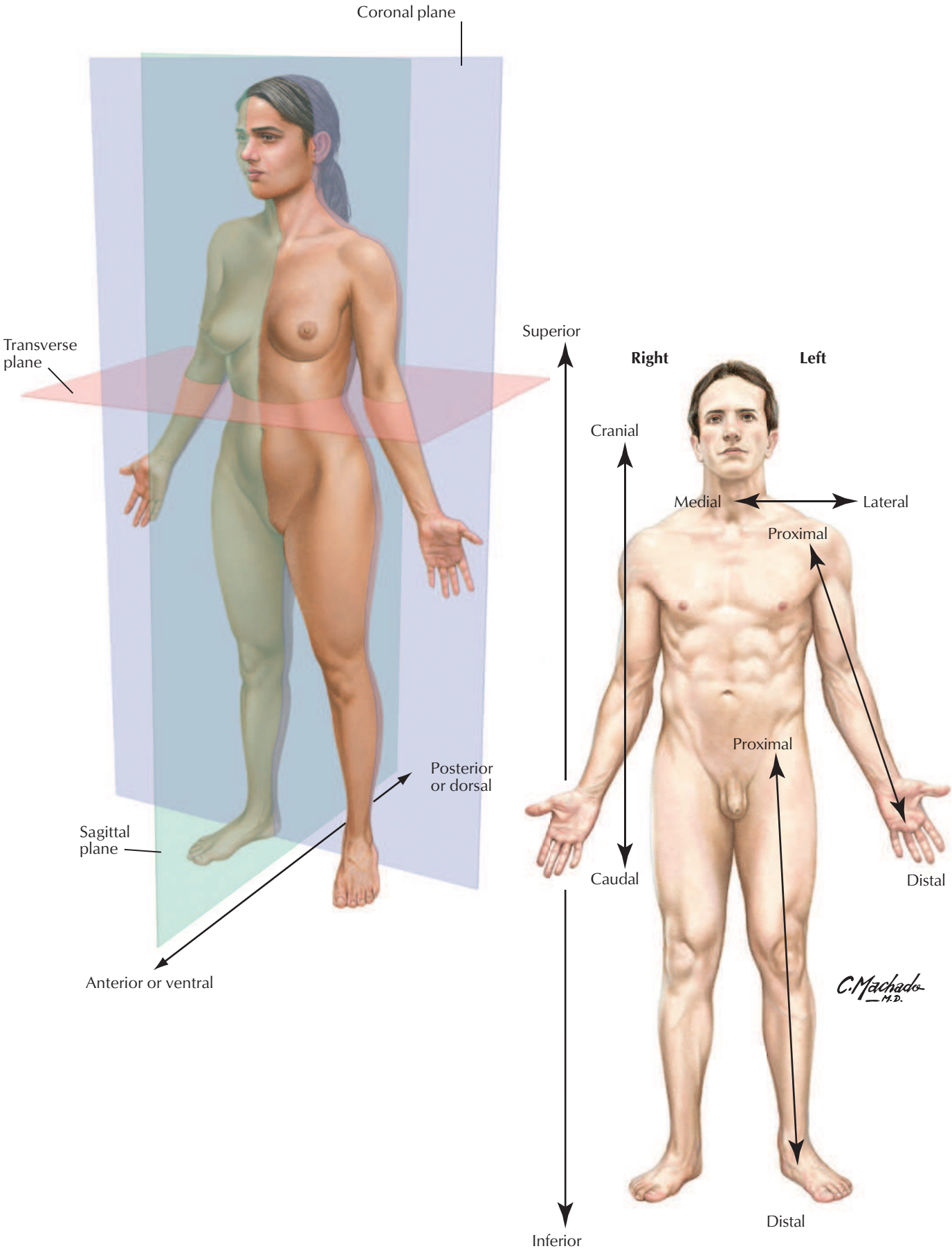


BP 15 Cardiovascular System: Composition of Blood

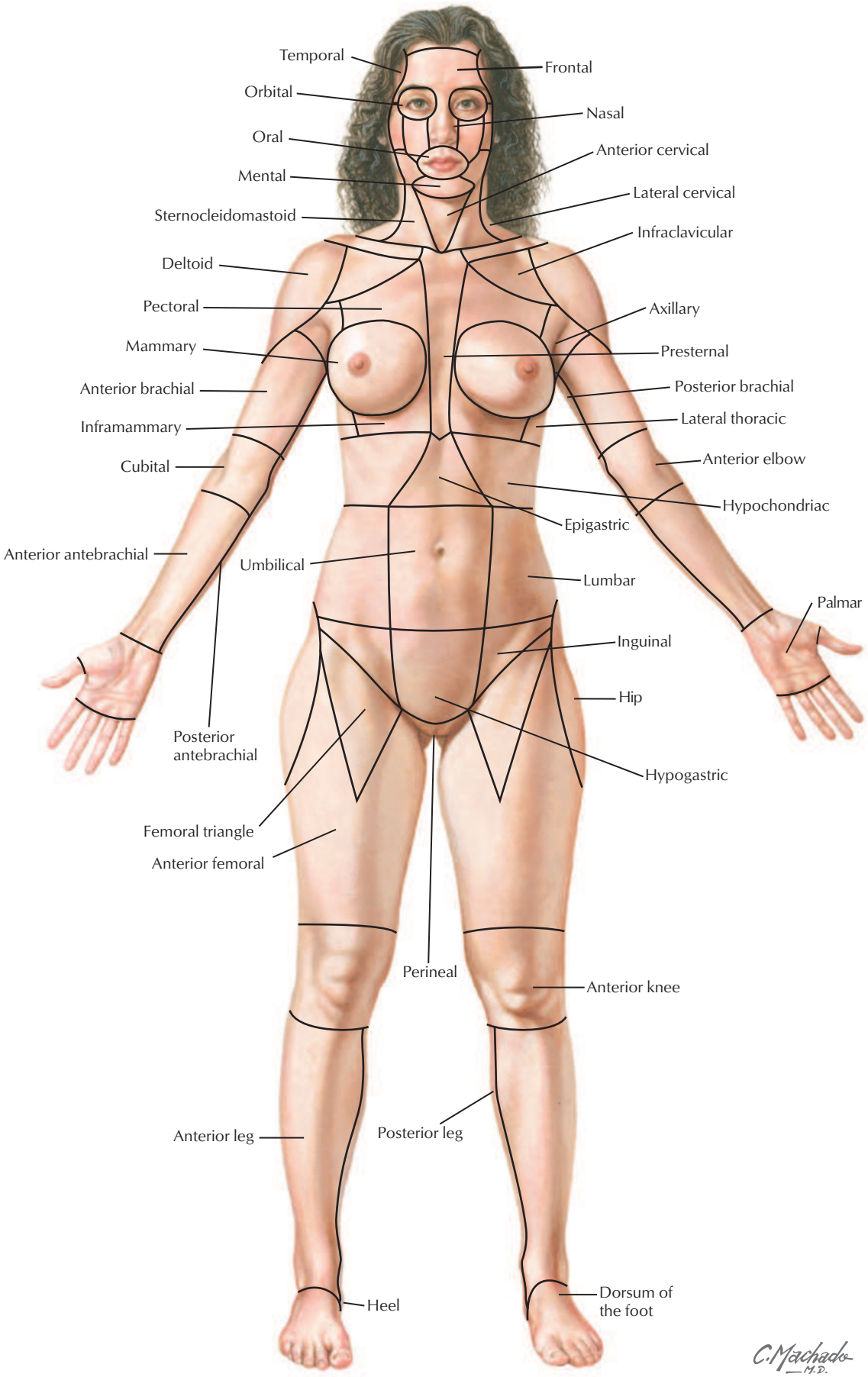


BP 16 Arterial Wall

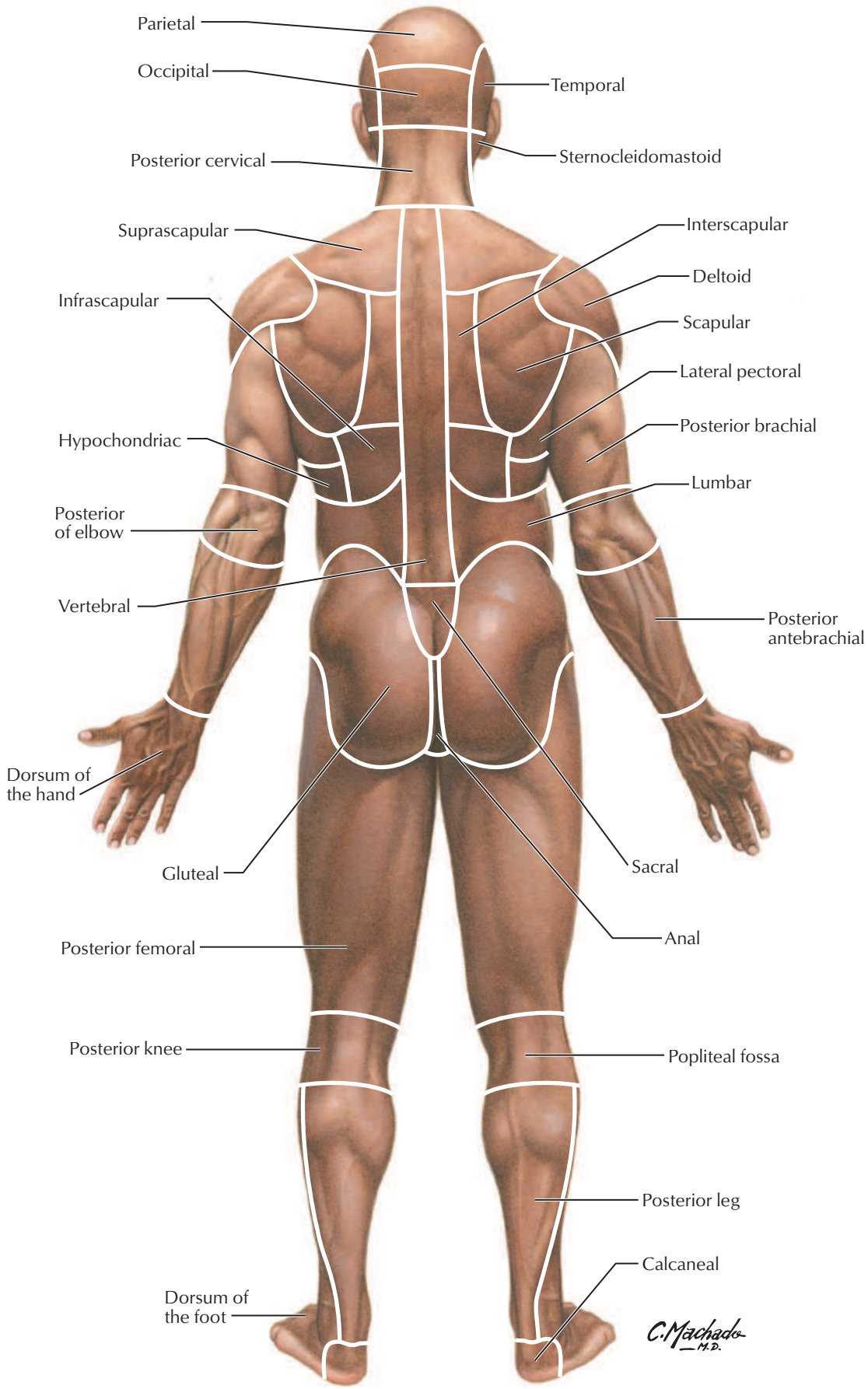
////// facebook : Booksmedicos06



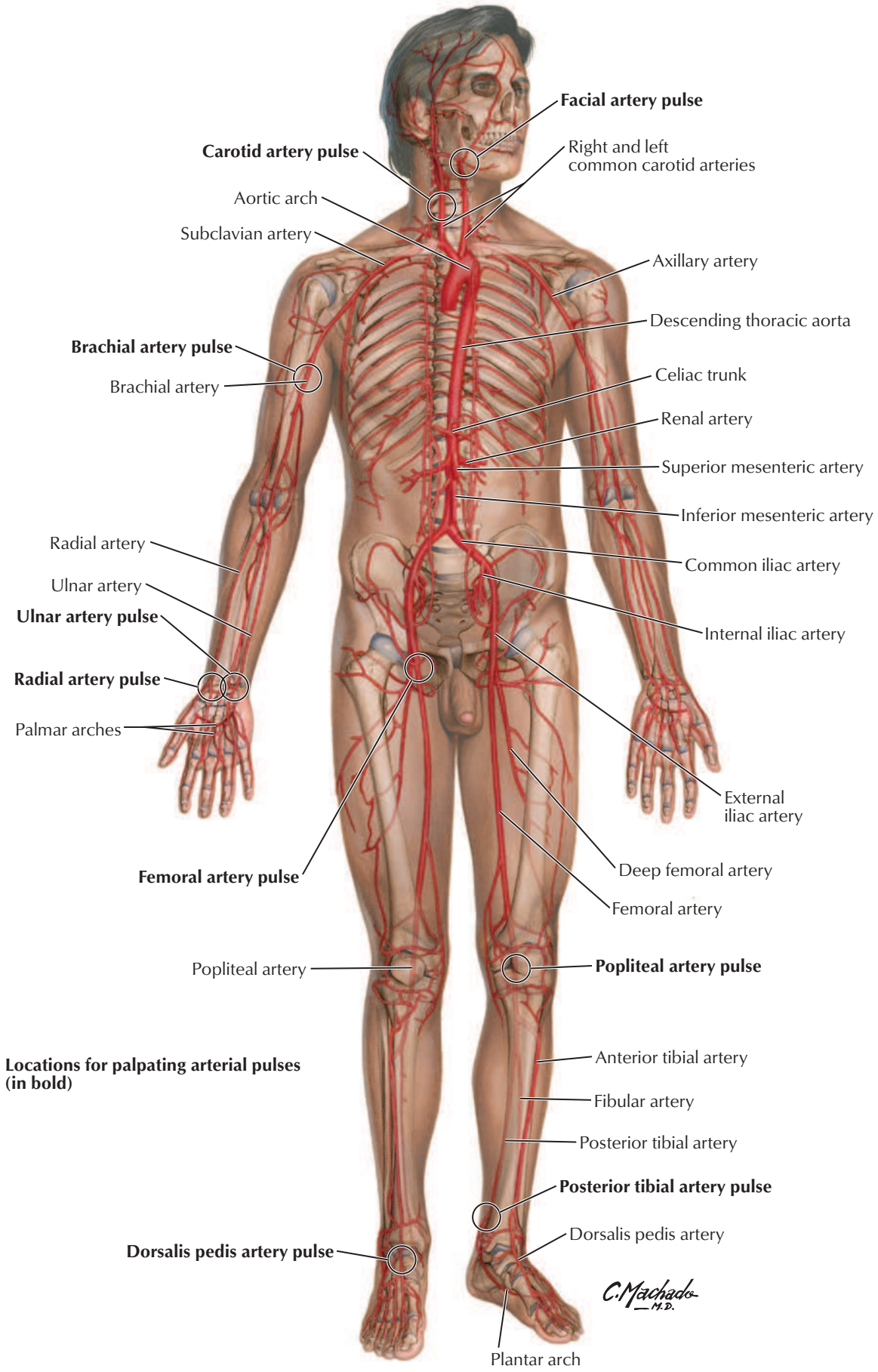
www.Booksmedicos06.com



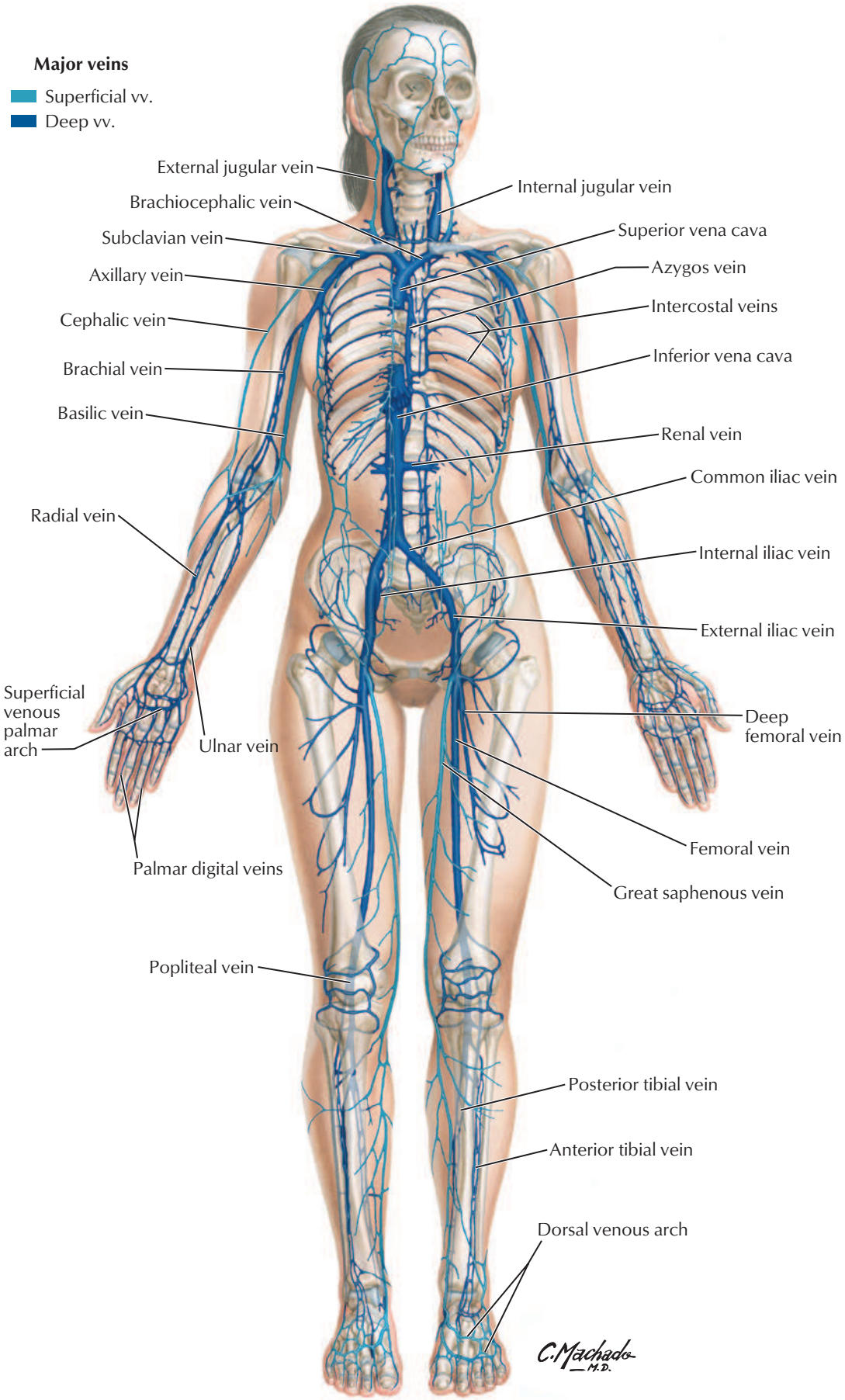
////// facebook : BooksMedicos



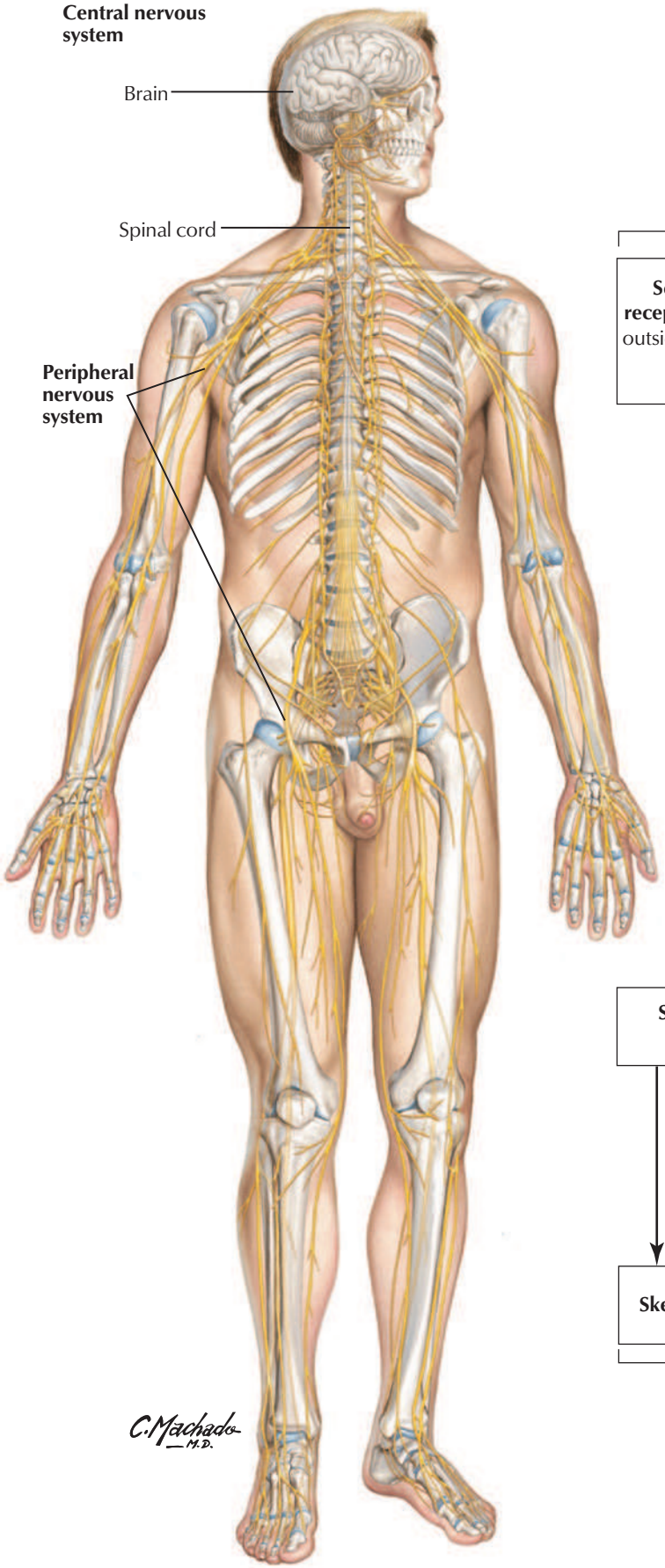
www.Booksmedicos06.com

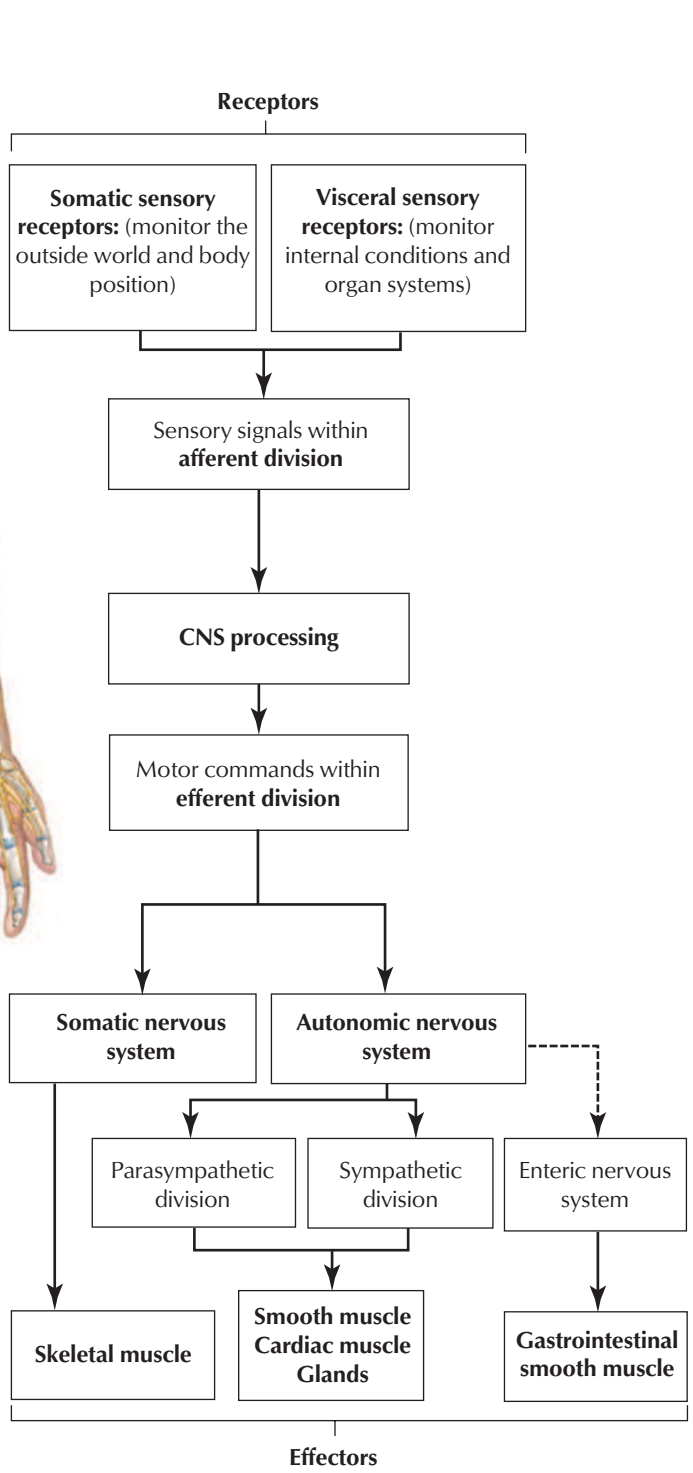


////// facebook : BooksMedicos

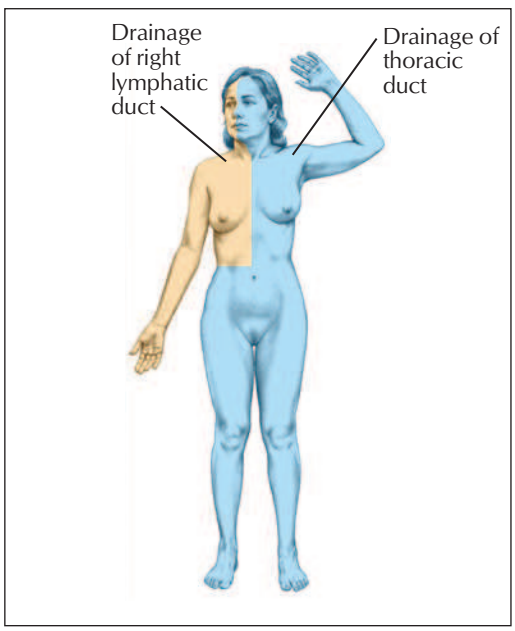


www.Booksmedicos06.com



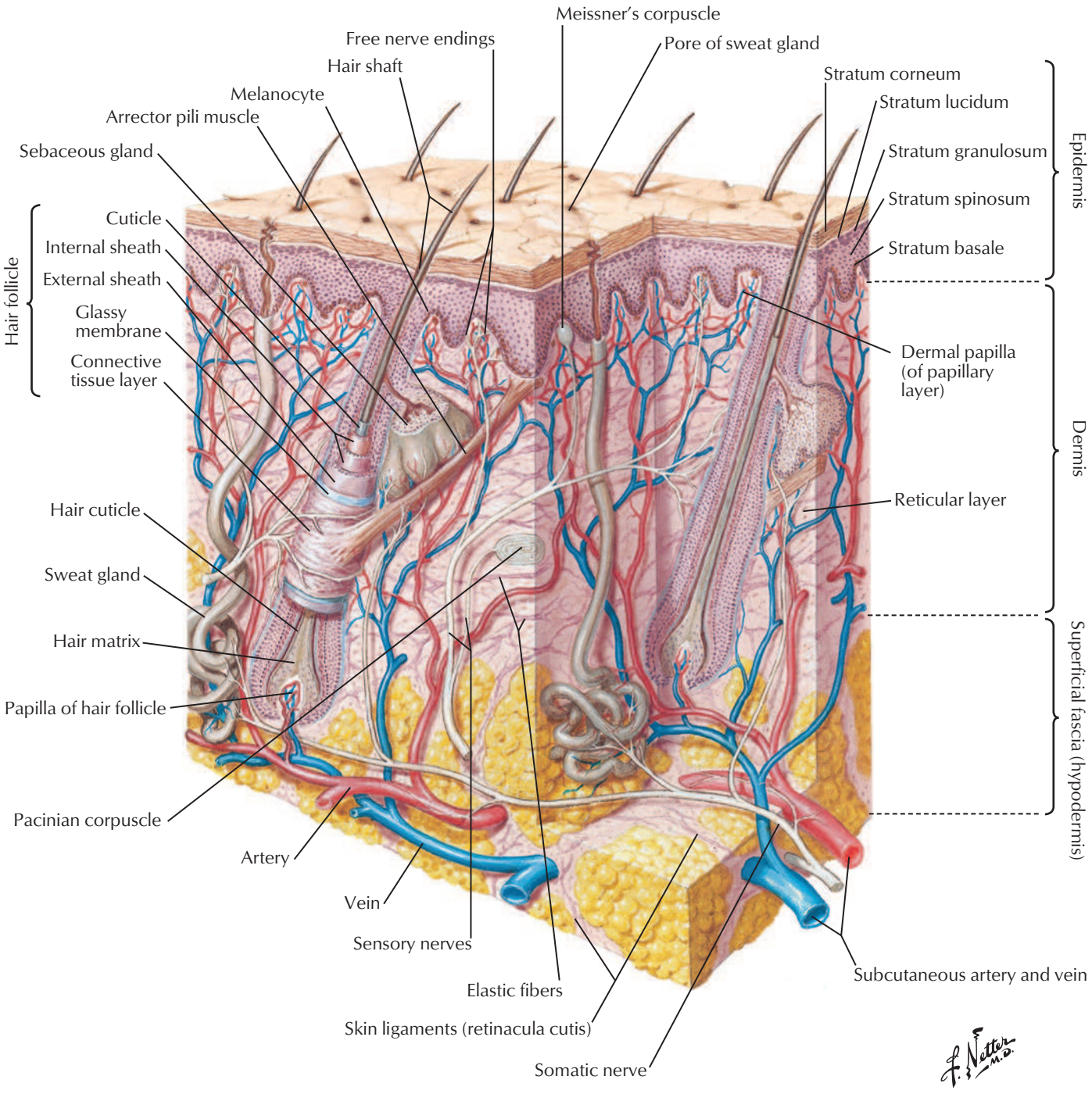


////// facebook : BooksMedicos

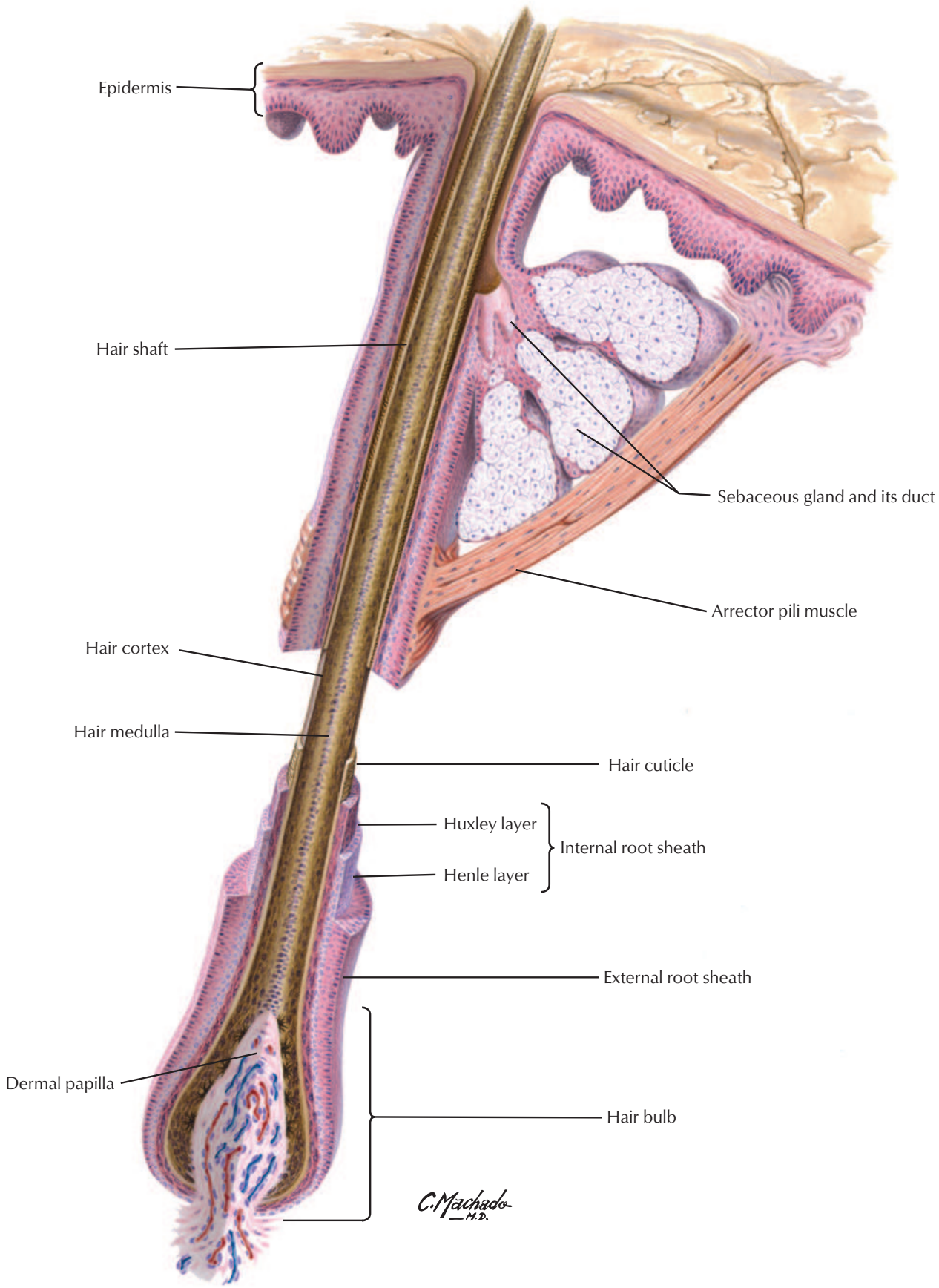


Lymphatics of upper limb
Tonsils
Thoracic duct
Cervical lymph nodes
Right lymphatic duct
Thymus gland
Mediastinal lymph nodes
Axillary lymph nodes
Thoracic duct
Lymph vessels of mammary gland
Cisterna chyli
Spleen
Lumbar lymph nodes
Lymphoid nodules of intestine
Iliac lymph nodes
Inguinal lymph nodes
Bone marrow
Lymphatics of lower limb
C. Machado M.D.

www.Booksmedicos06.com

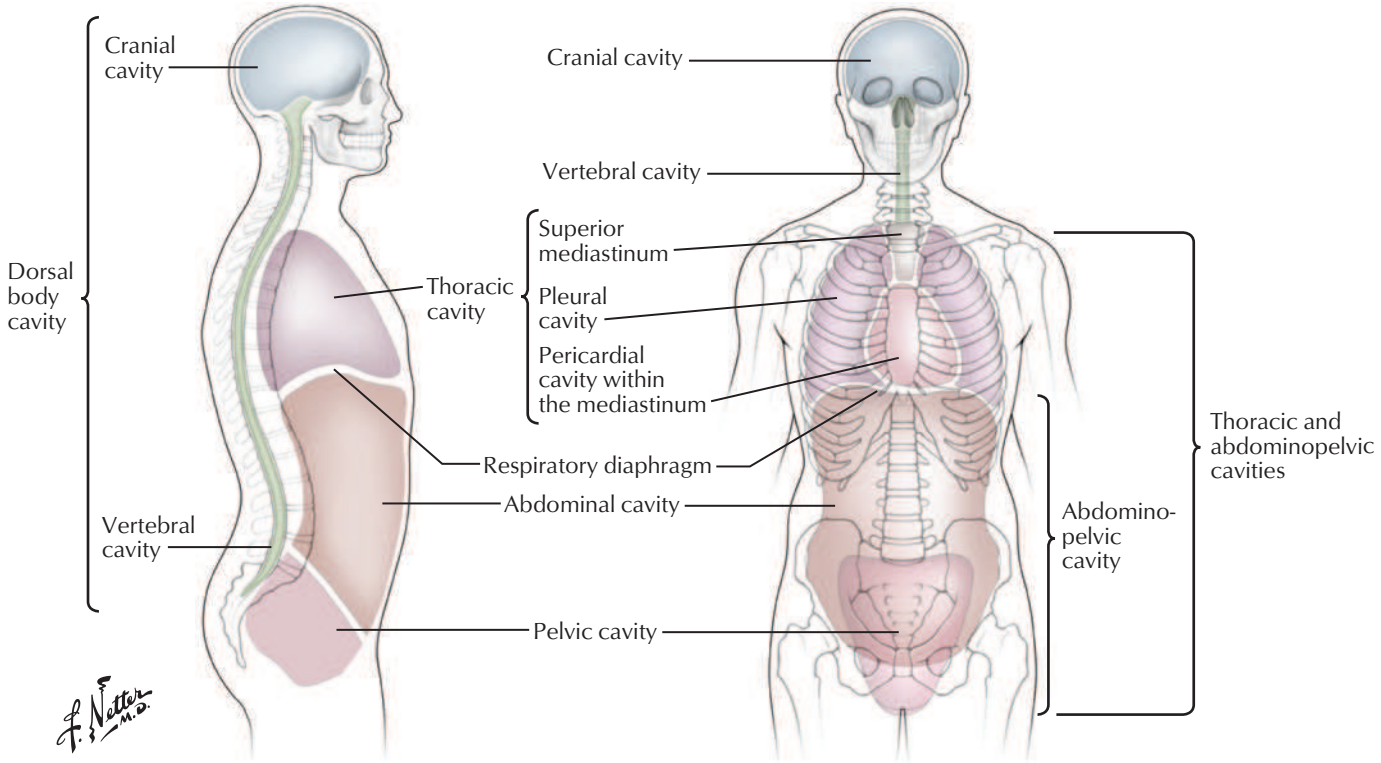


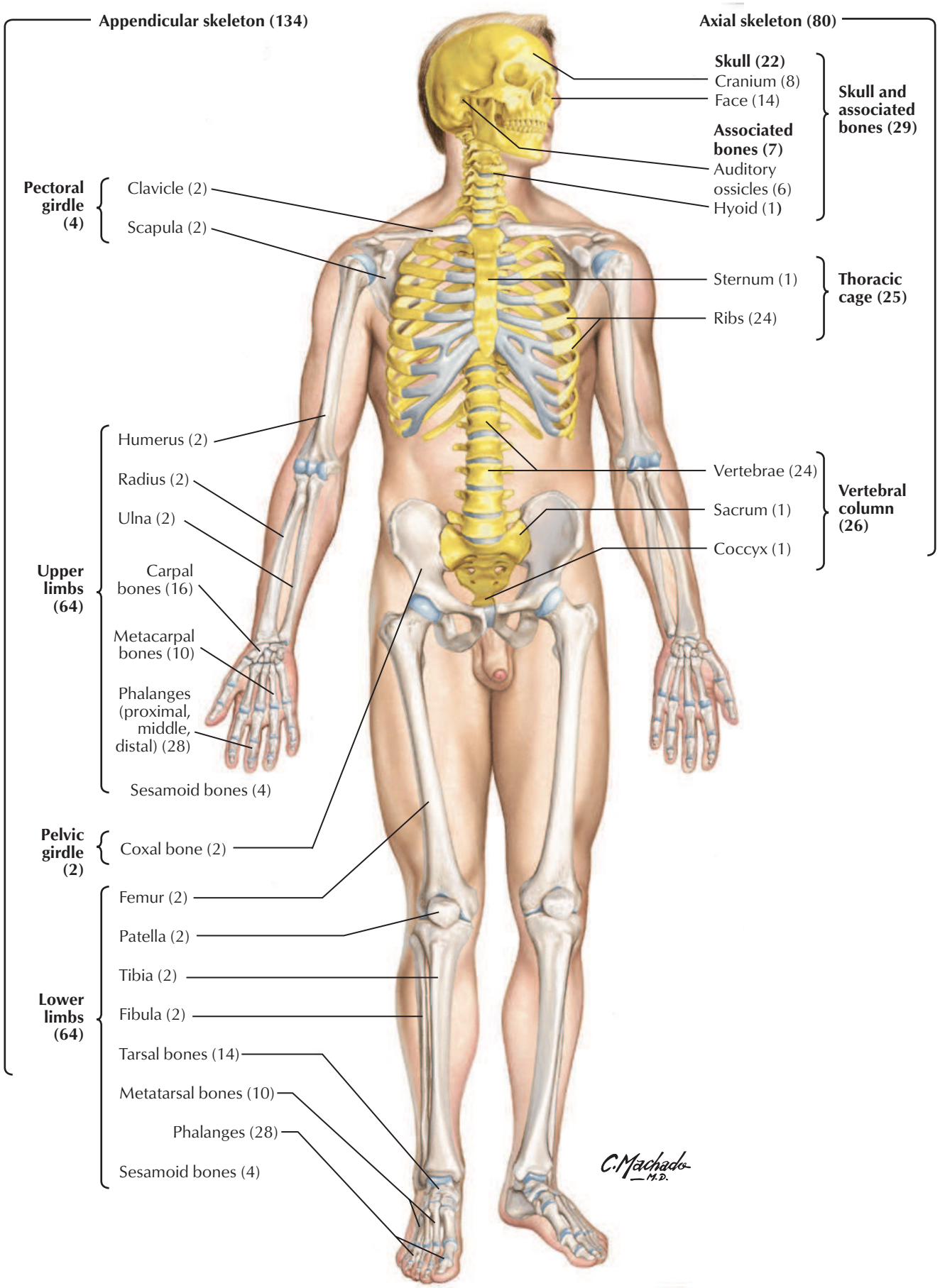
////// facebook : Booksmedicos06



www.Booksmedicos06.com

////// facebook : Booksmedicos06

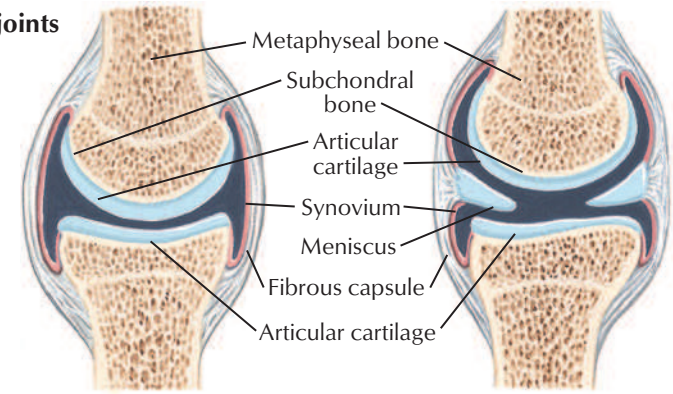


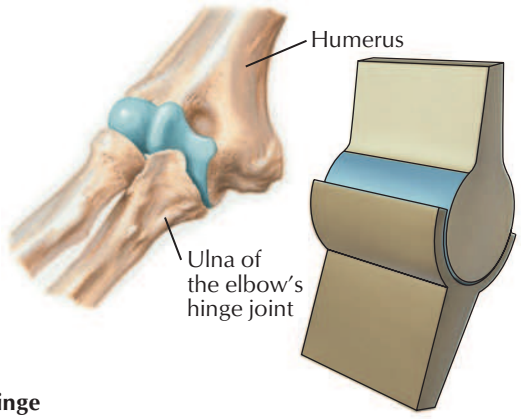


www.Booksmedicos06.com

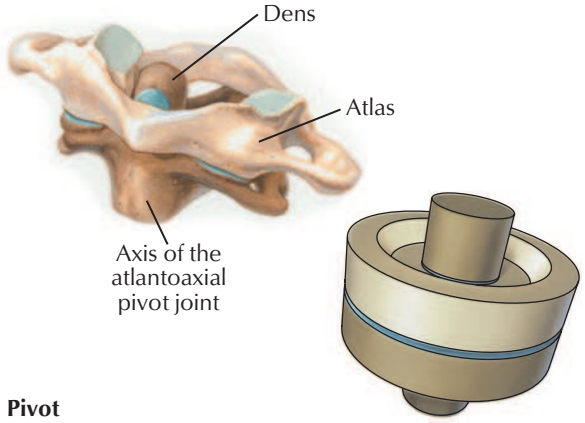
/////// facebook : Booksmedicos06

Structure of synovial joints

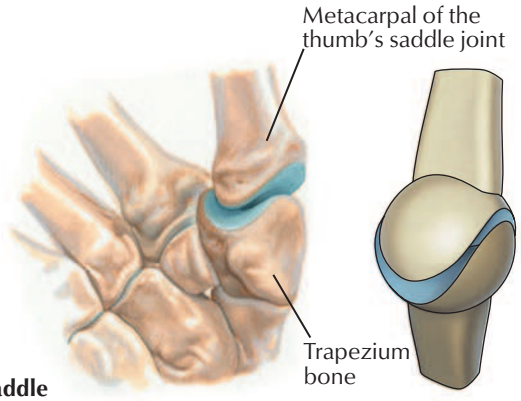




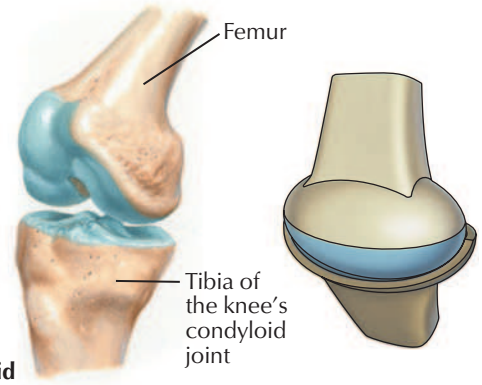
A. Hinge



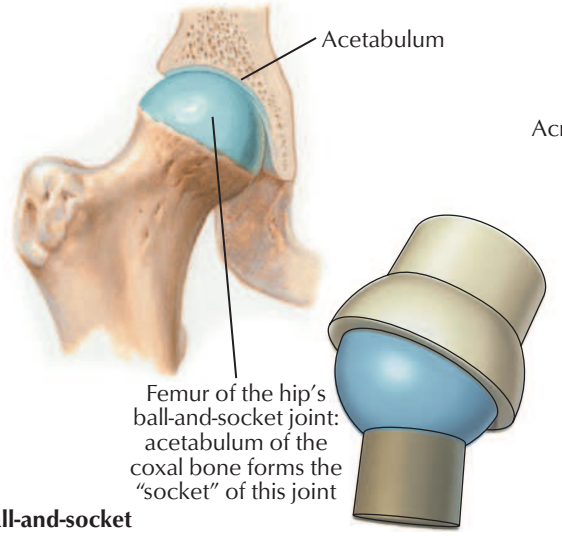
B. Pivot



C. Saddle

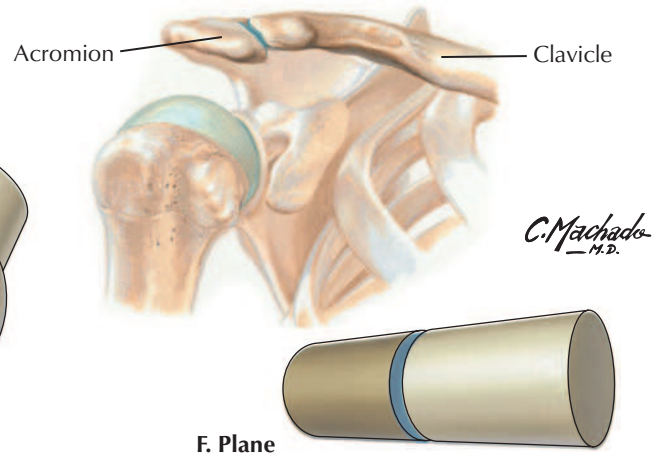


D. Condyloid

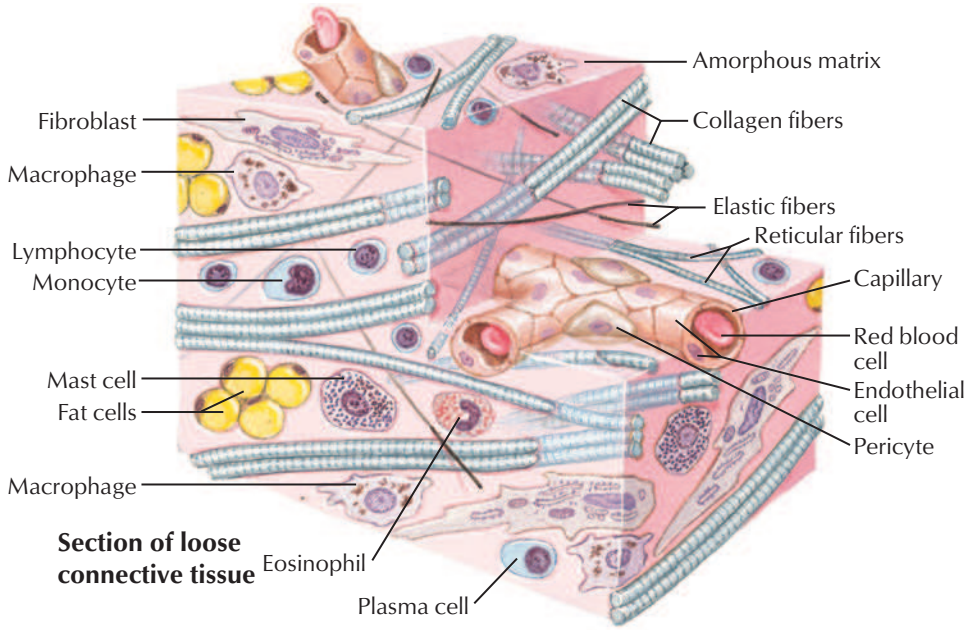


E. Ball-and-socket

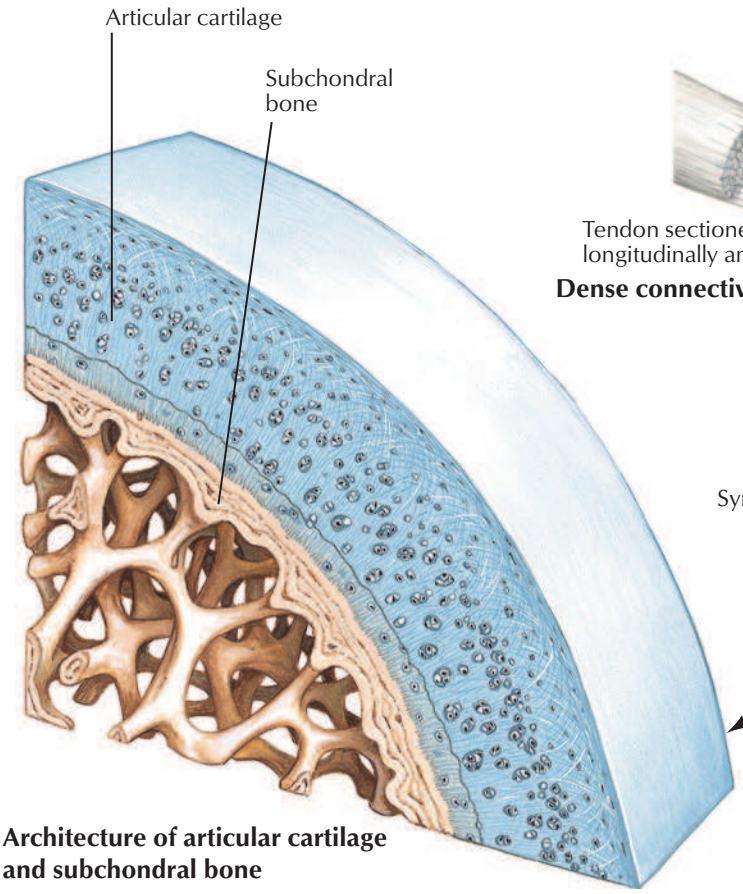
Acromioclavicular plane joint at the shoulder: plane joint between the acromion of the scapula and clavicle



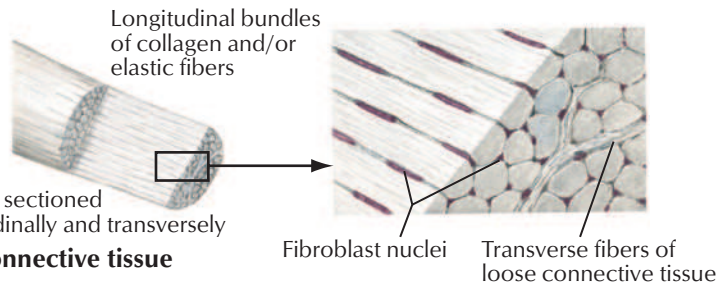
F. Plane



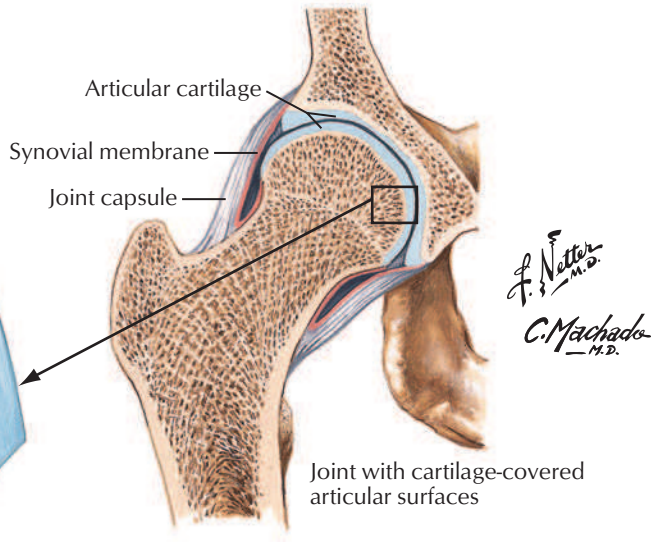
Section of loose connective tissue



Architecture of articular cartilage and subchondral bone

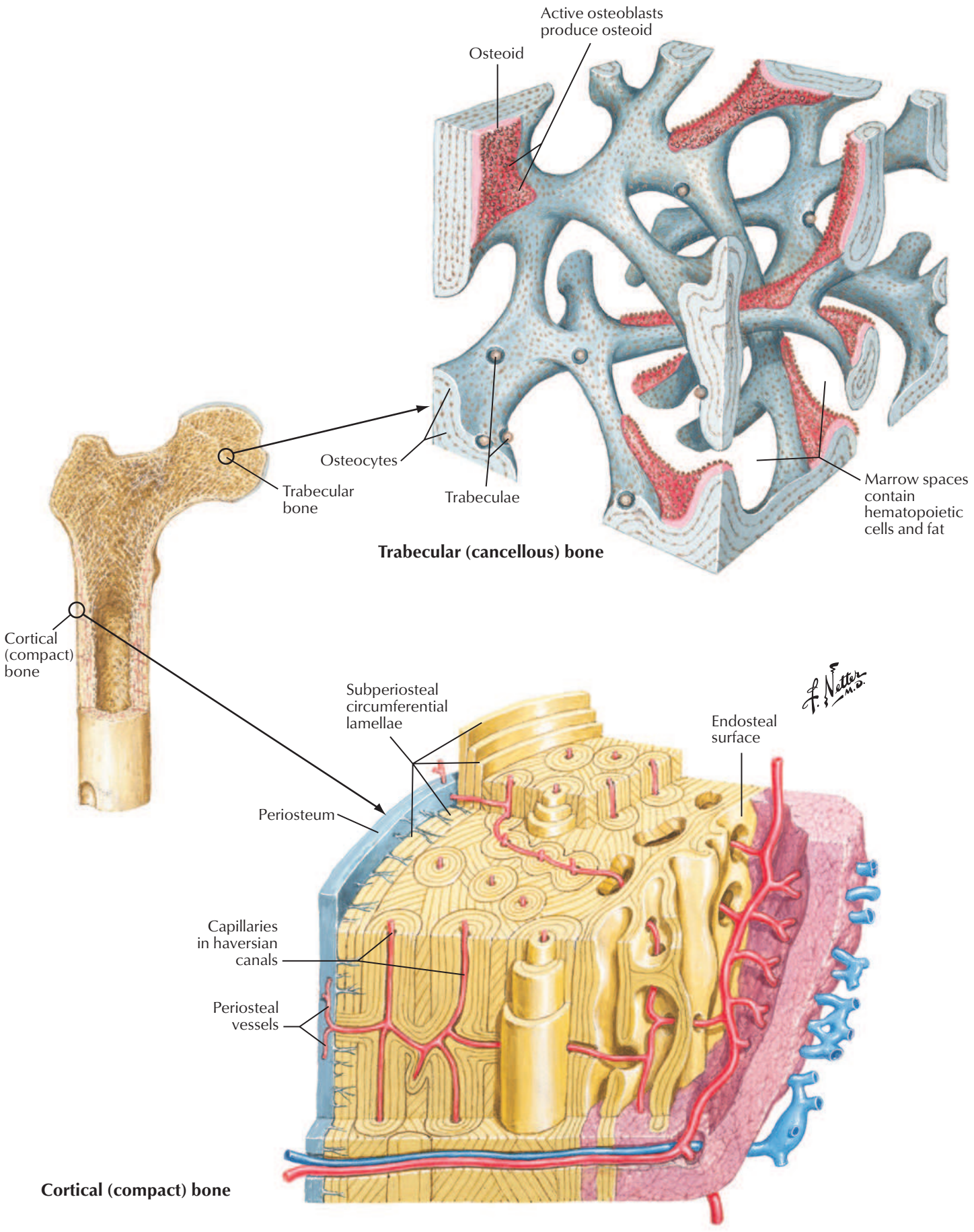


Dense connective tissue

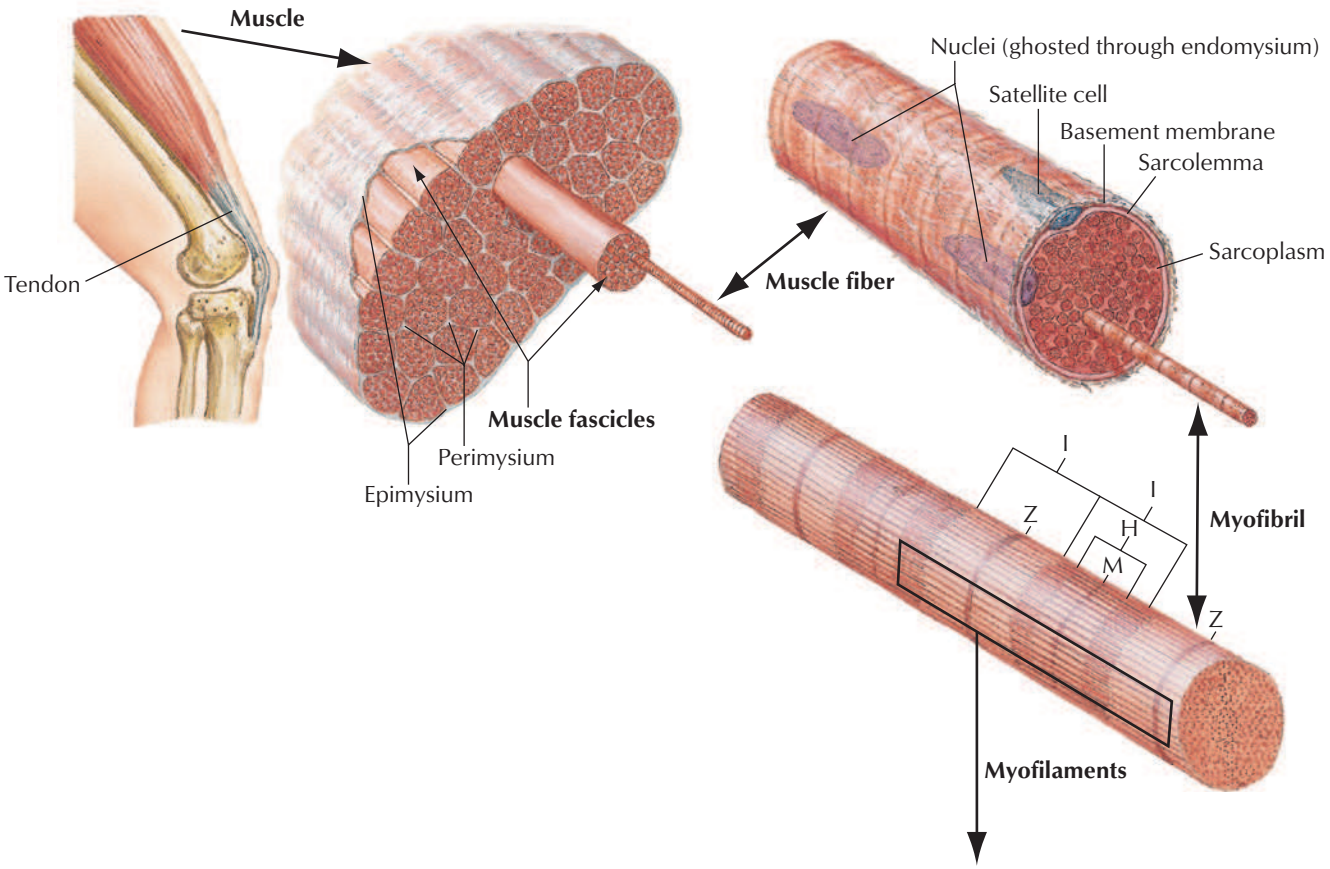


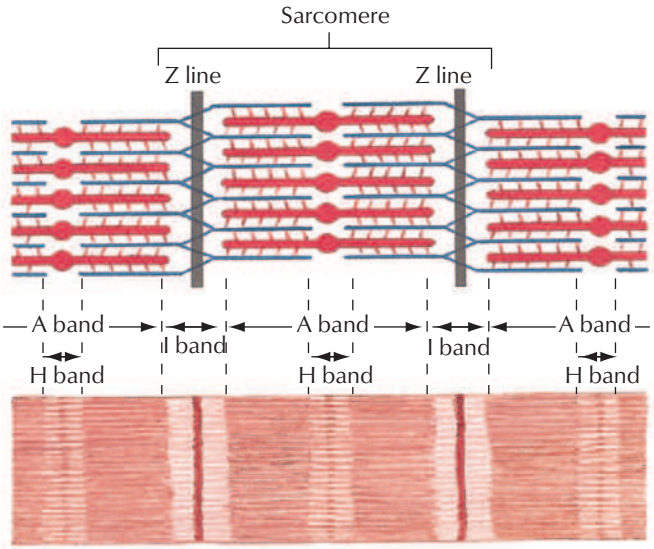
Hip joint and articular surface

www.Booksmedicos06.com

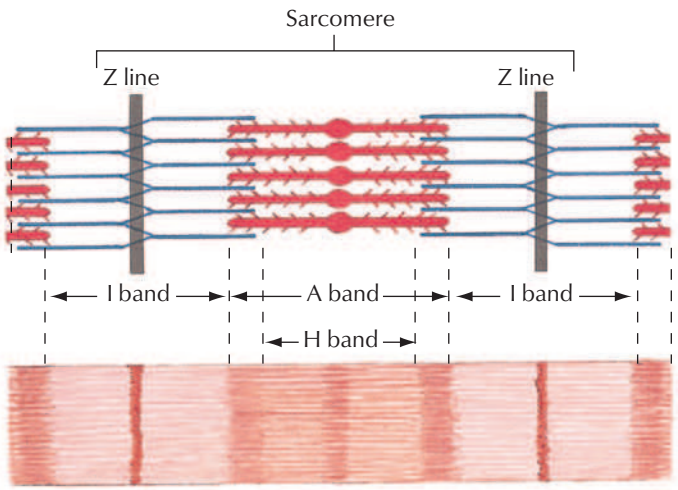


/////// facebook : Booksmedicos06





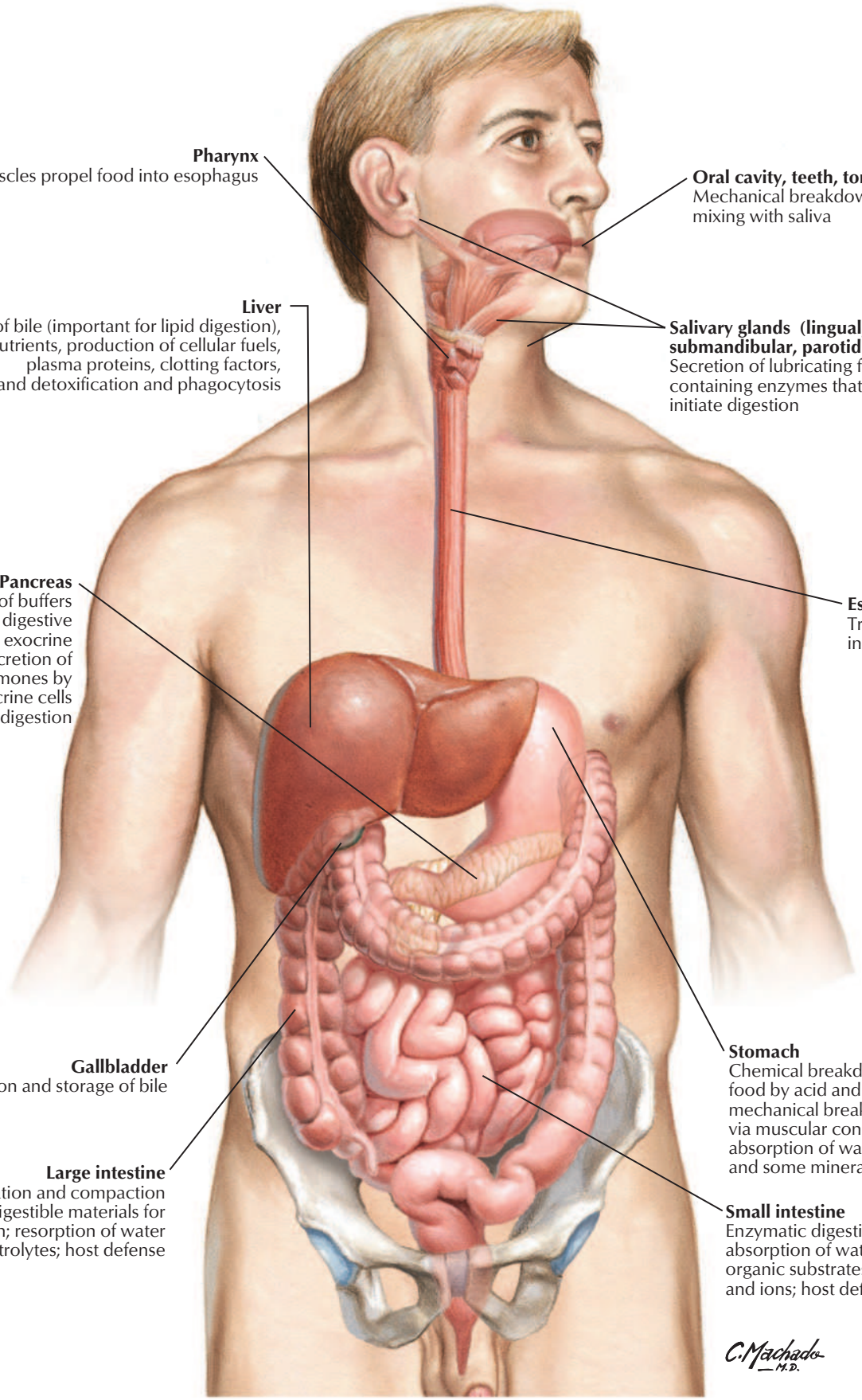
Muscle contracted

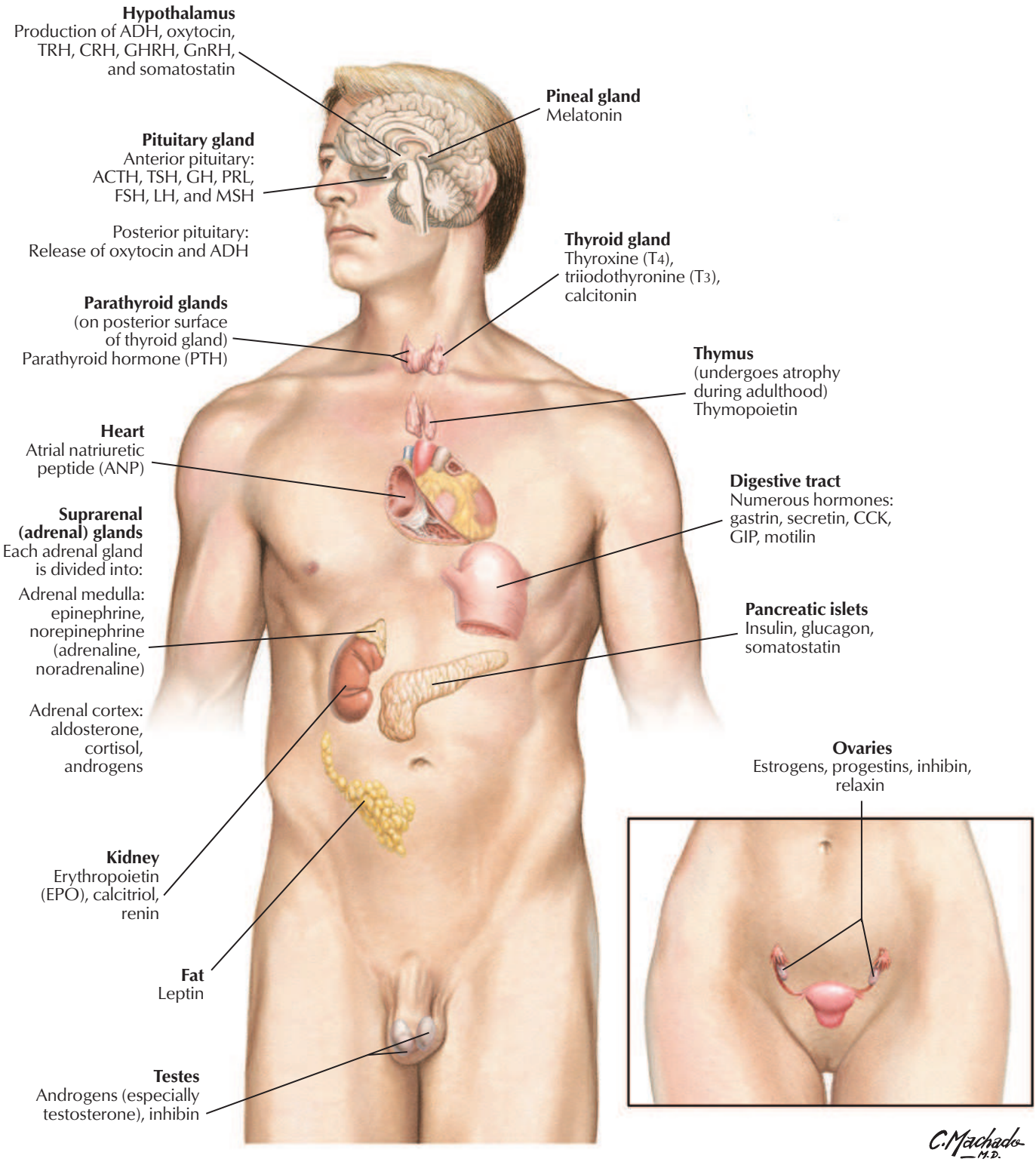


Muscle relaxed

www.Booksmedicos06.com

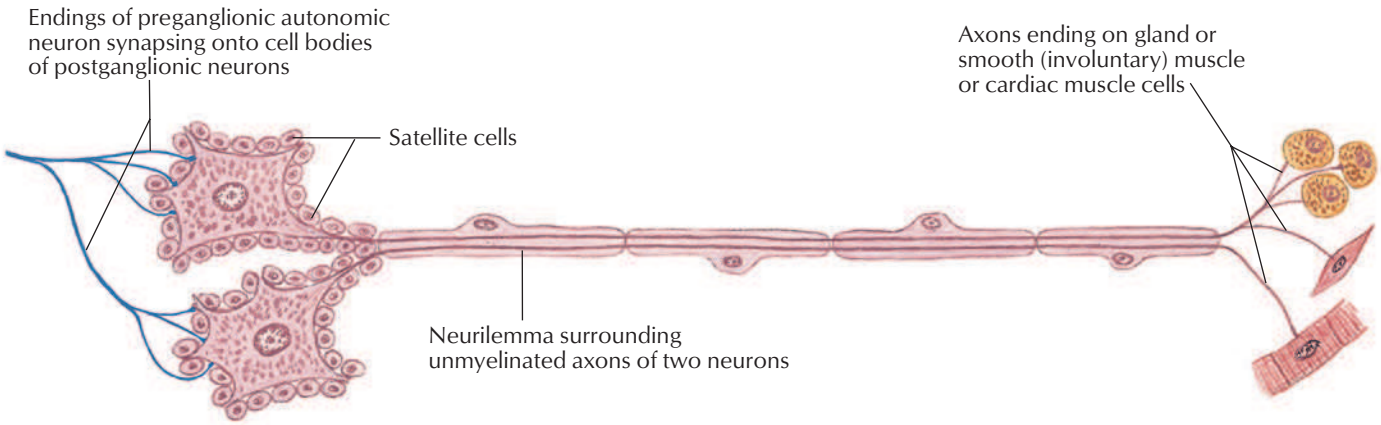
////// facebook : Booksmedicos06



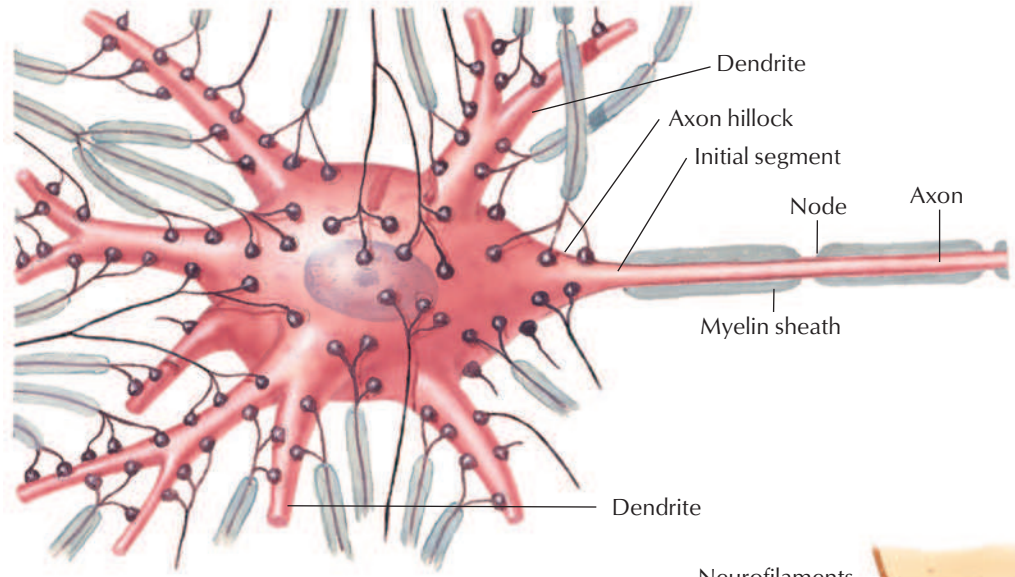


www.Booksmedicos06.com

////// facebook : Booksmedicos06

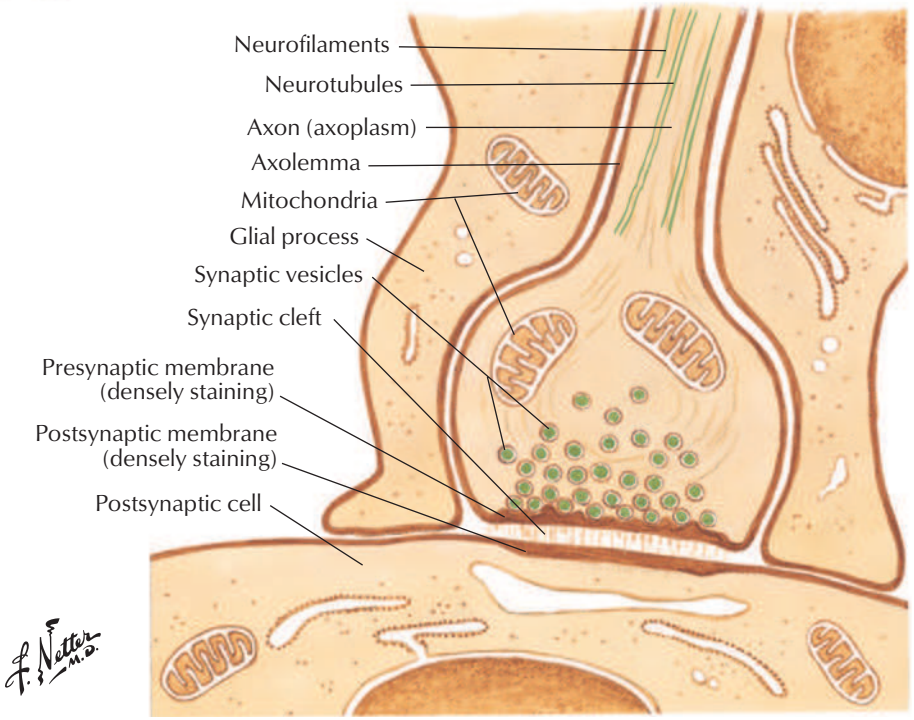


Two postganglionic autonomic neurons of a sympathetic or parasympathetic ganglion

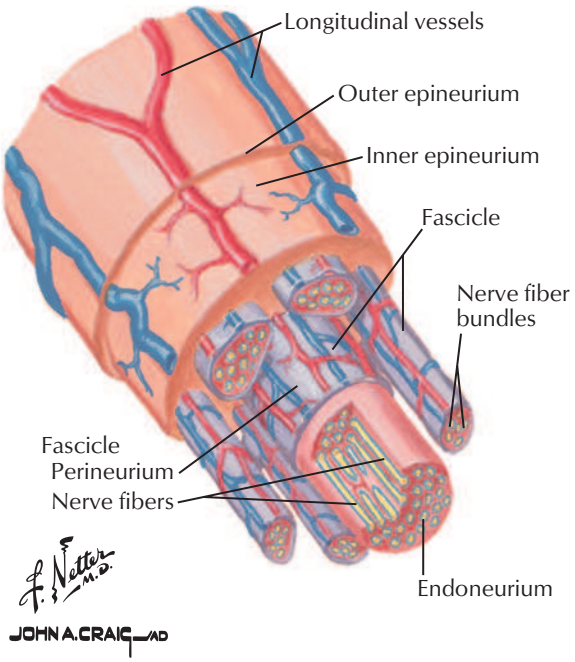


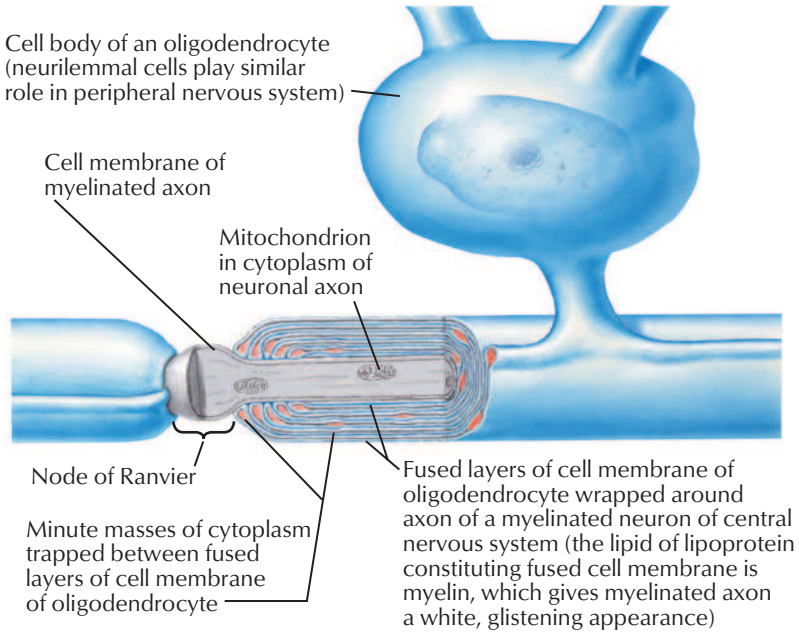
Schematic of synaptic endings

Numerous boutons (synaptic knobs) of presynaptic neurons terminating on a motor neuron and its dendrites

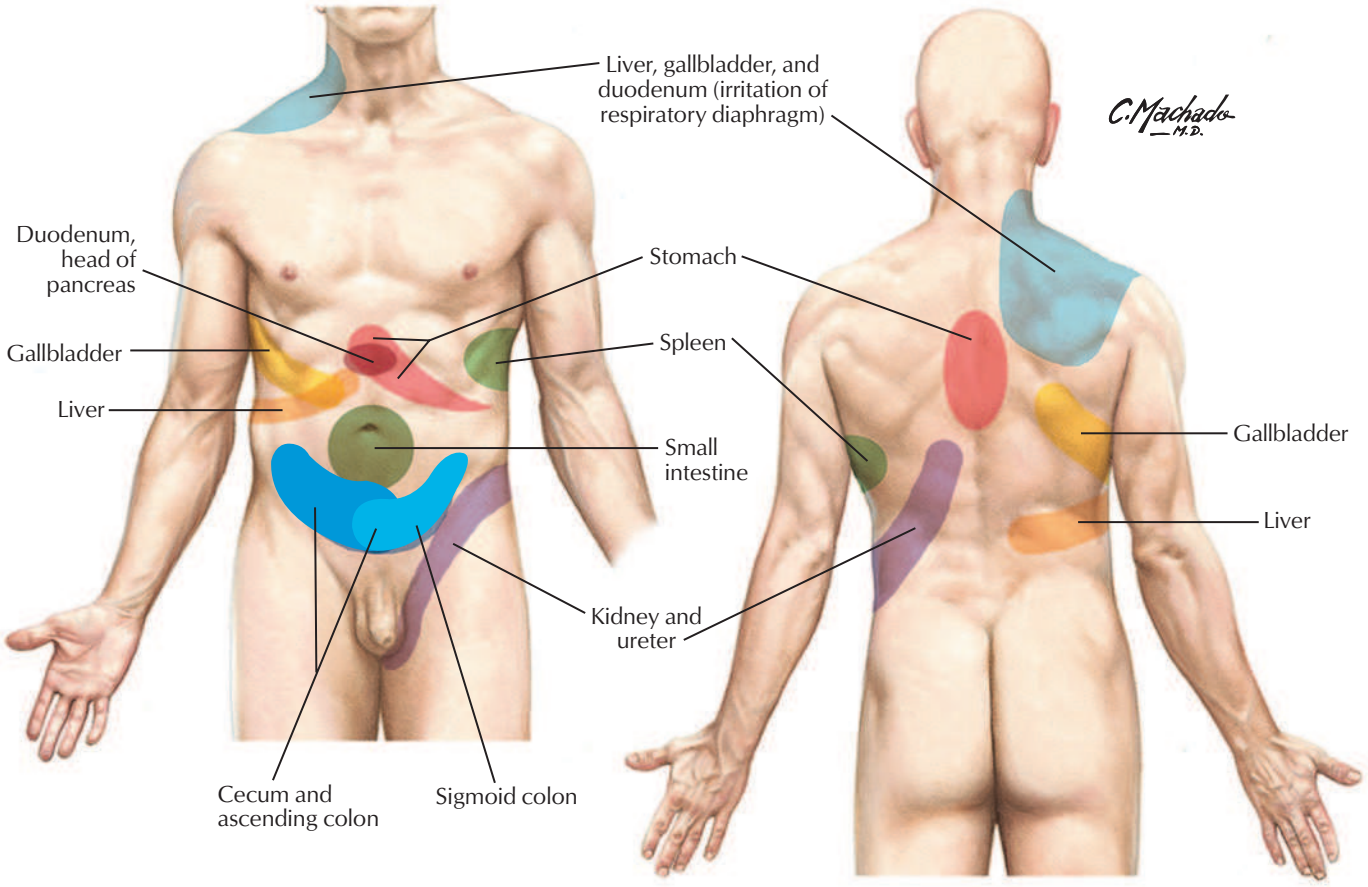


Enlarged section of bouton

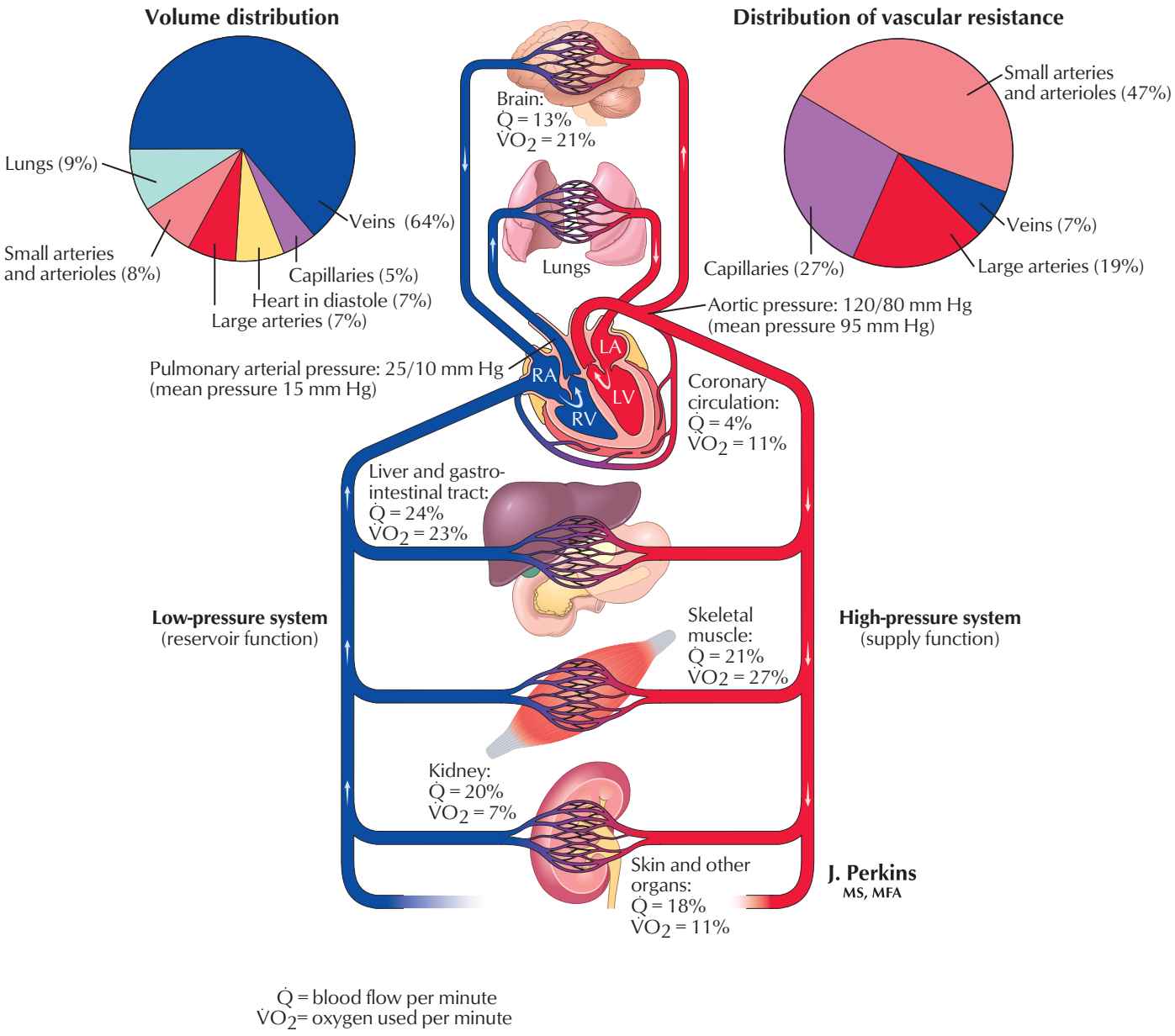




www.Booksmedicos06.com



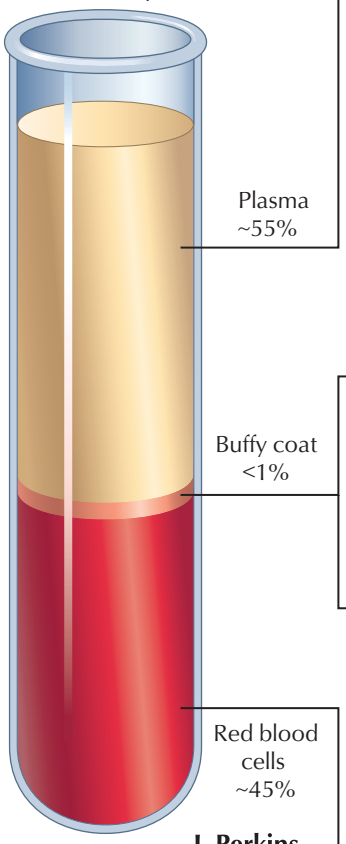
////// facebook : Booksmedicos06



Q̇ = blood flow per minute
V̇O2 = oxygen used per minute

www.Booksmedicos06.com ////////

////// facebook : Booksmedicos06



Plasma composition

Water	92%
Transports organic and inorganic molecules, cells, platelets, and heat	
Plasma proteins	7%
Other solutes	1%

Plasma proteins

Albumins	60%
Transport lipids, steroid hormones; major contributors to osmotic concentration of plasma	
Globulins	35%
Transport ions, hormones, lipids; immune function	
Fibrinogen	4%
Essential component of clotting system	
Regulatory proteins	<1%
Enzymes, hormones, clotting proteins	

Platelets



Blood clot formation and tissue repair

Other solutes

Electrolytes

Normal extracellular fluid ion composition essential for vital cellular activities (e.g., Na^+, K^+, Cl^-)

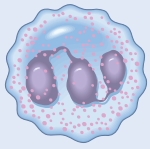
Organic nutrients

Used for ATP production, growth, and maintenance of cells (e.g., fatty acids, glucose, amino acids)

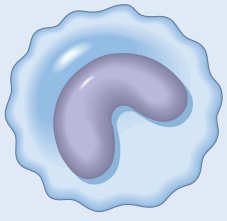
Organic wastes

Carried to sites of breakdown or excretion (e.g., urea, bilirubin)

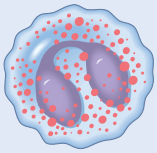
White blood cells



Neutrophils (50-70%)



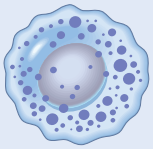
Monocytes (2-8%)



Eosinophils (2-4%)

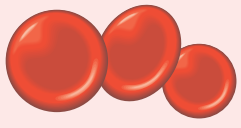


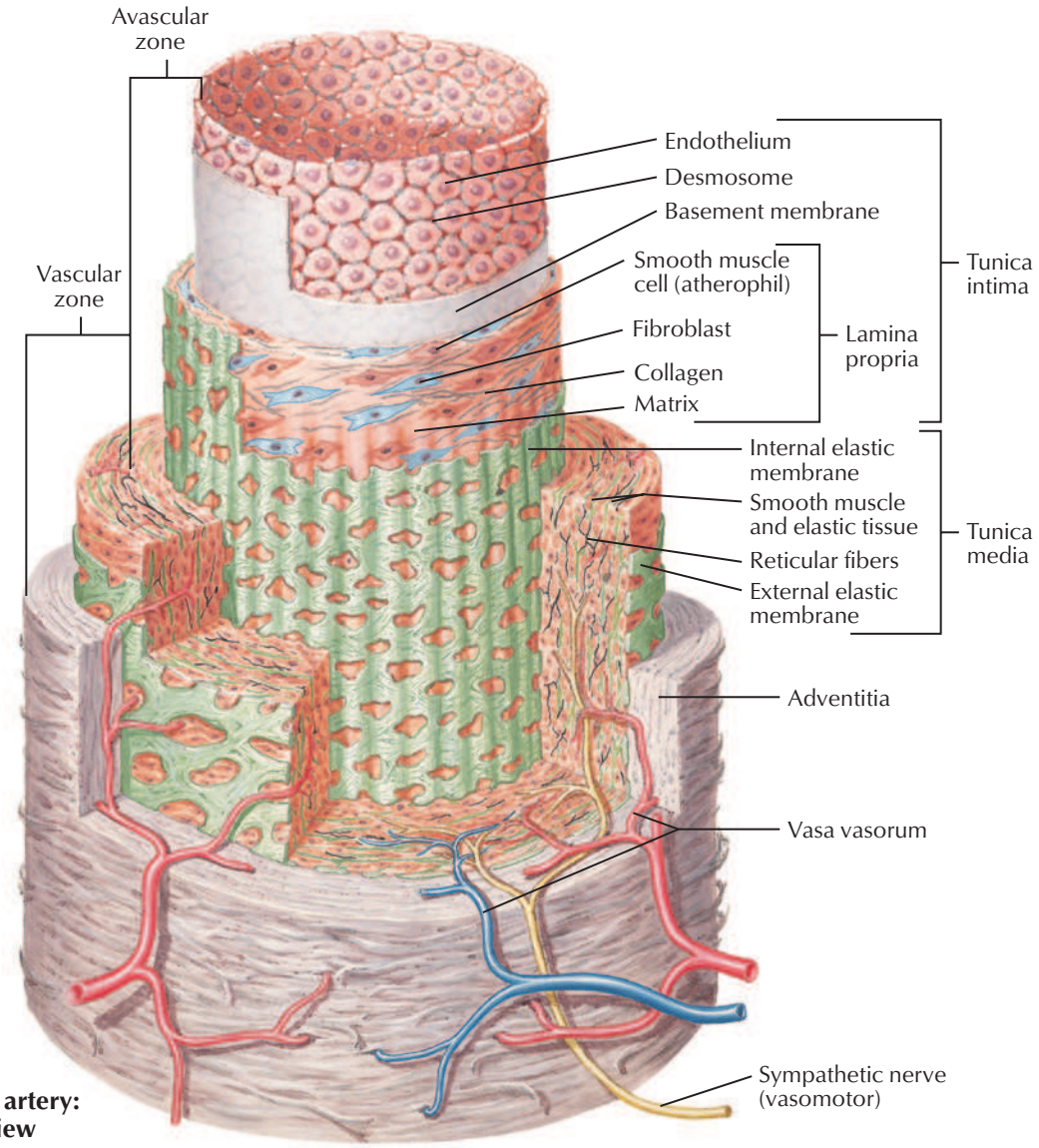
Lymphocytes (20-30%)



Basophils (<1%)

Red blood cells

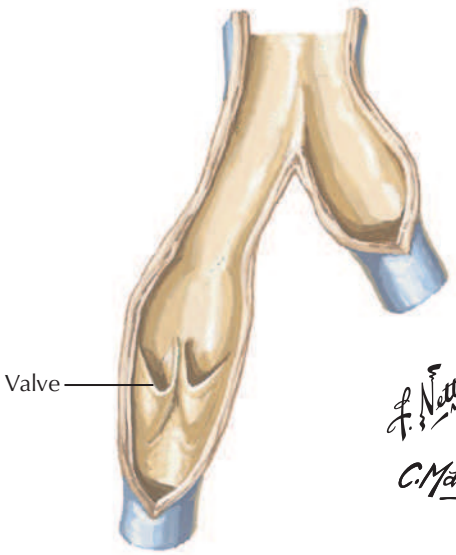




Wall of an artery: cutaway view



Healthy artery



Healthy vein

F. Netter M.D.
C. Machado M.D.

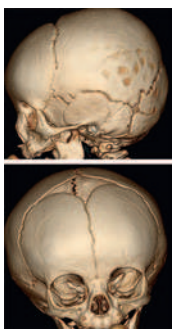
www.Booksmedicos06.com

/////// facebook : Booksmedicos06

HEAD AND NECK 2

Surface Anatomy	8	**Ear**	105-110
Superficial Head and Neck	9-10	**Meninges and Brain**	111-126
Bones and Ligaments	11-30	**Cranial and Cervical Nerves**	127-146
Neck	31-41	**Cerebral Vasculature**	147-158
Nasal Region	42-64	**Regional Imaging**	159-160
Oral Region	65-74	**Structures with High Clinical Significance**	Tables 2.1-2.3
Pharynx	75-86	**Muscle Tables**	Tables 2.4-2.9
Thyroid Gland and Larynx	87-93	**Electronic Bonus Plates**	BP17-BP32
Orbit and Contents	94-104		

ELECTRONIC BONUS PLATES



BP17 3D Skull Reconstruction CTs



BP18 Degenerative Changes in Cervical Vertebrae



BP19 Atlantooccipital Junction



BP20 Muscles of Facial Expression: Anterior View



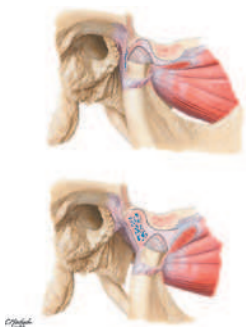
BP21 Musculature of Face



BP22 Paranasal Sinuses



BP23 Subclavian Artery



BP24 Opening of the Mandible

www.Booksmedicos06.com

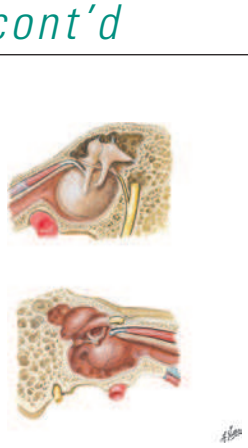
ELECTRONIC BONUS PLATES—*cont'd*



BP25 Afferent Innervation of Oral Cavity and Pharynx



BP26 Fasciae of Orbit and Eyeball



BP27 Tympanic Cavity



BP28 Anatomy of the Pediatric Ear



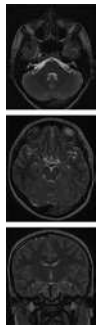
BP29 Auditory Tube (Eustachian)



BP30 Arteries and Veins of Hypothalamus and Hypophysis



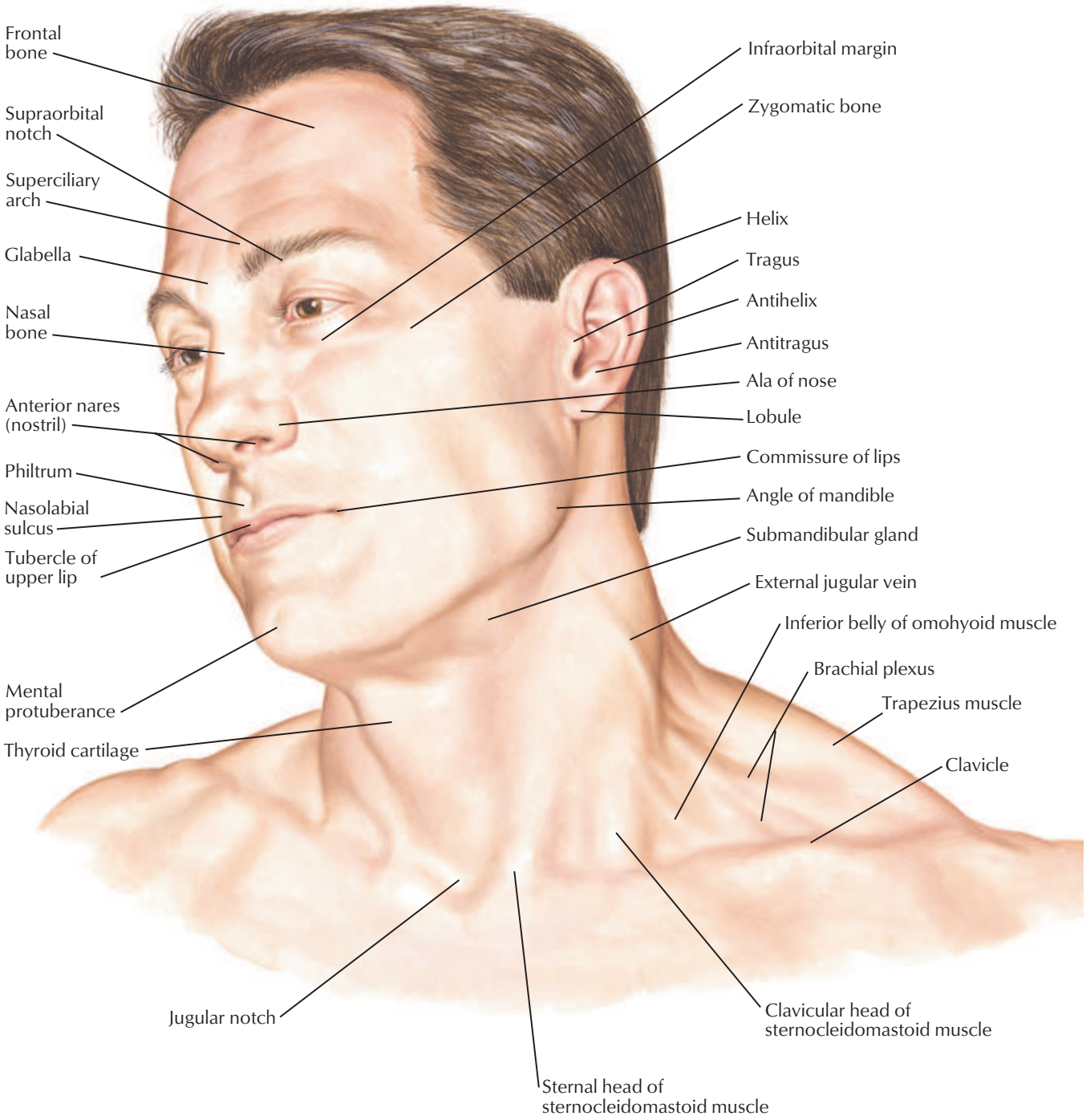
BP31 Cranial Imaging (MRV and MRA)



BP32 Axial and Coronal MRIs of Brain

/////// facebook : Booksmedicos06

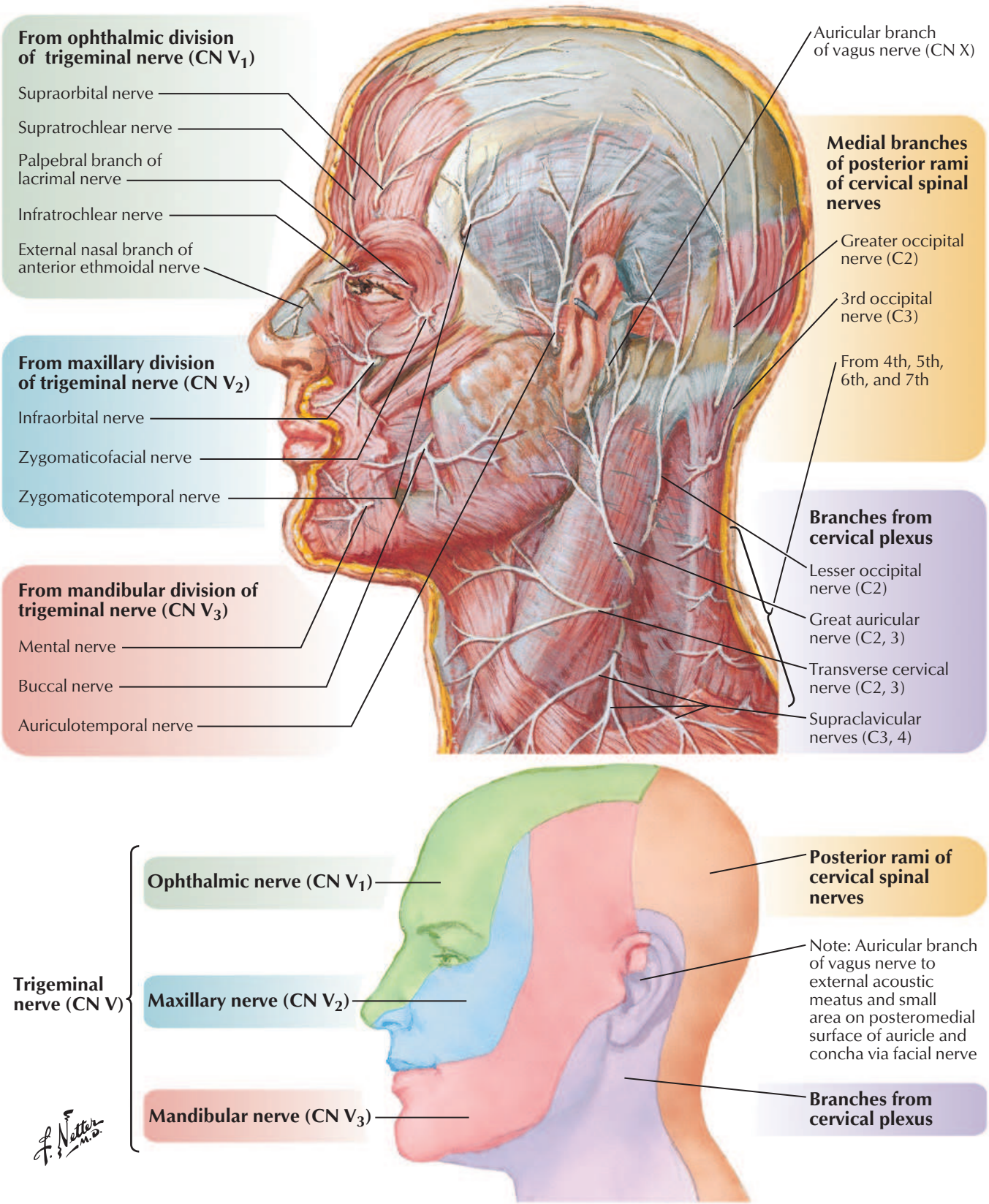
See also Plate 171



C. Machado M.D.

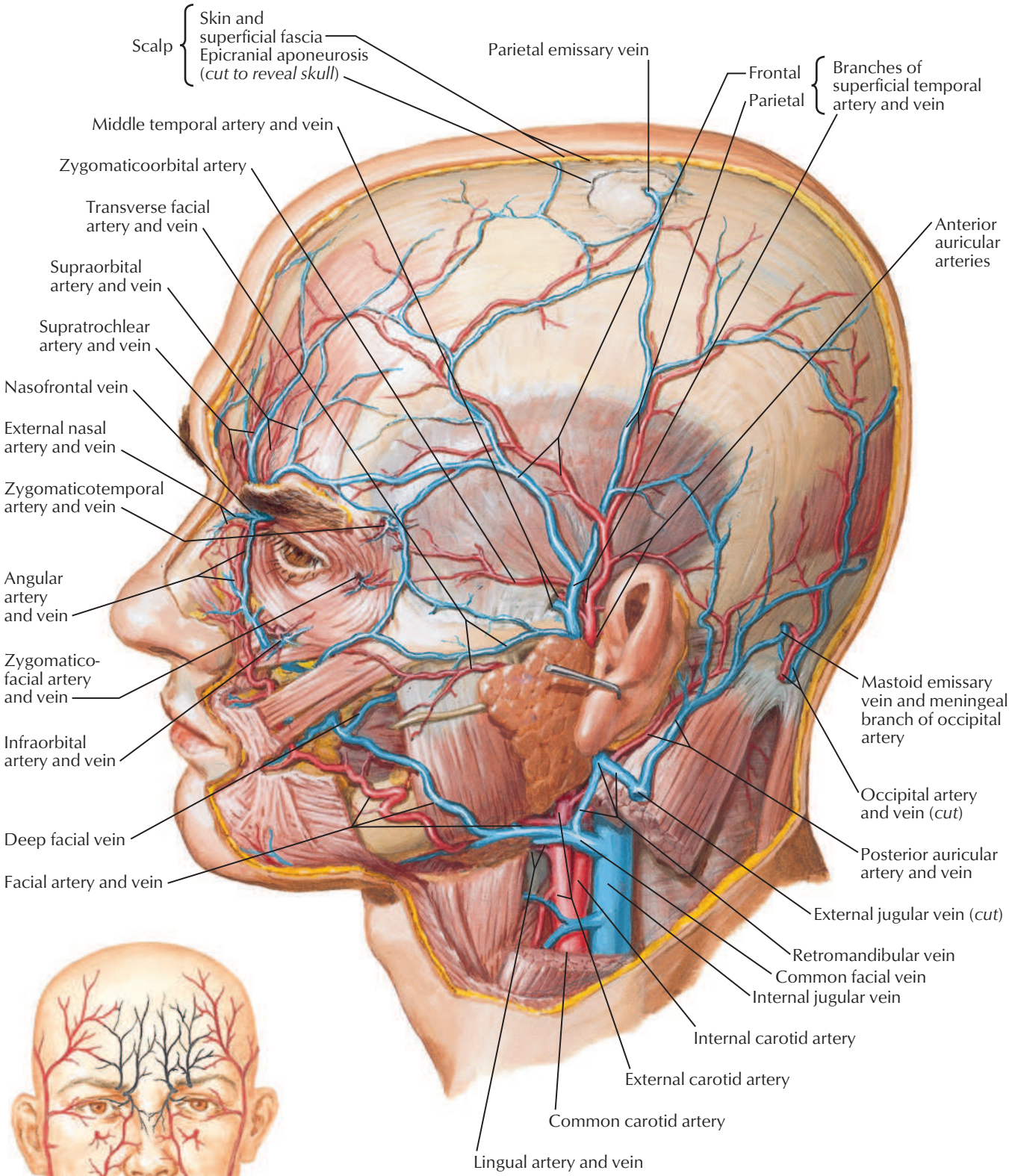
www.Booksmedicos06.com ///////

See also Plates 39, 42, 61



////// facebook : Booksmedicos06

See also Plates 57, 83, 84

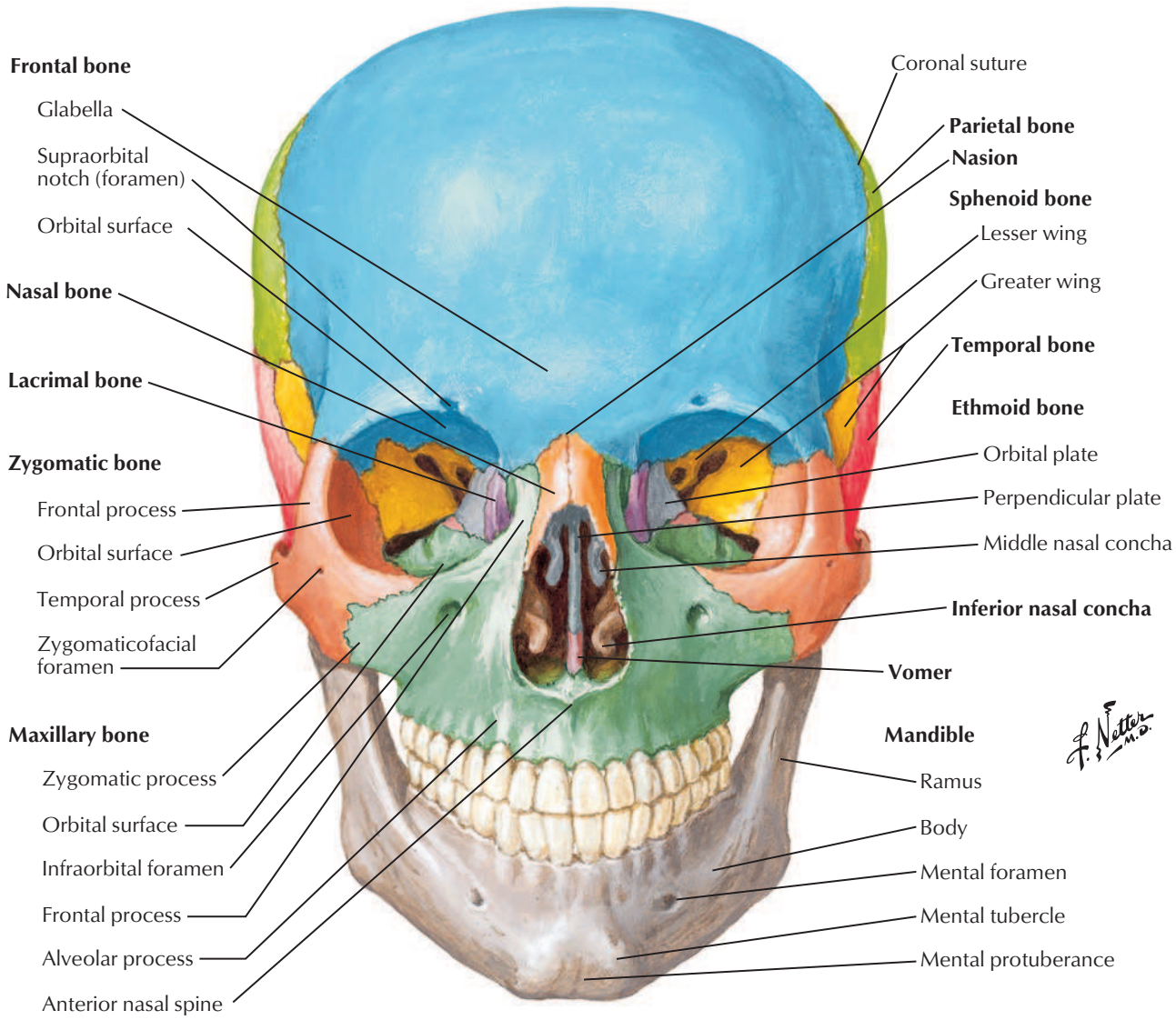


Sources of arterial supply of face

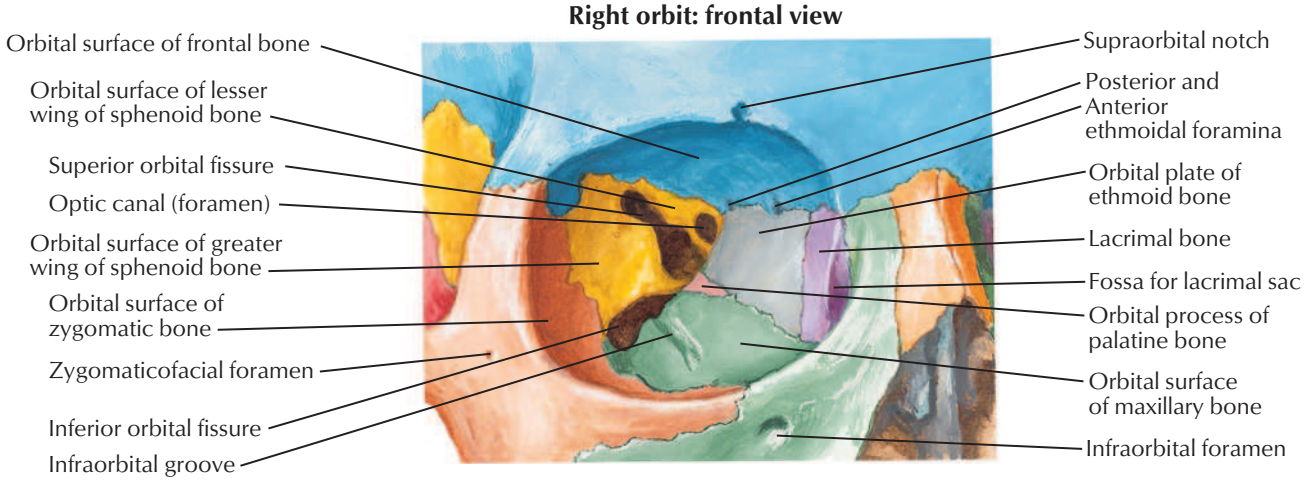
Black: from internal carotid artery (via ophthalmic artery)
Red: from external carotid artery

www.Booksmedicos06.com

See also Plate 13



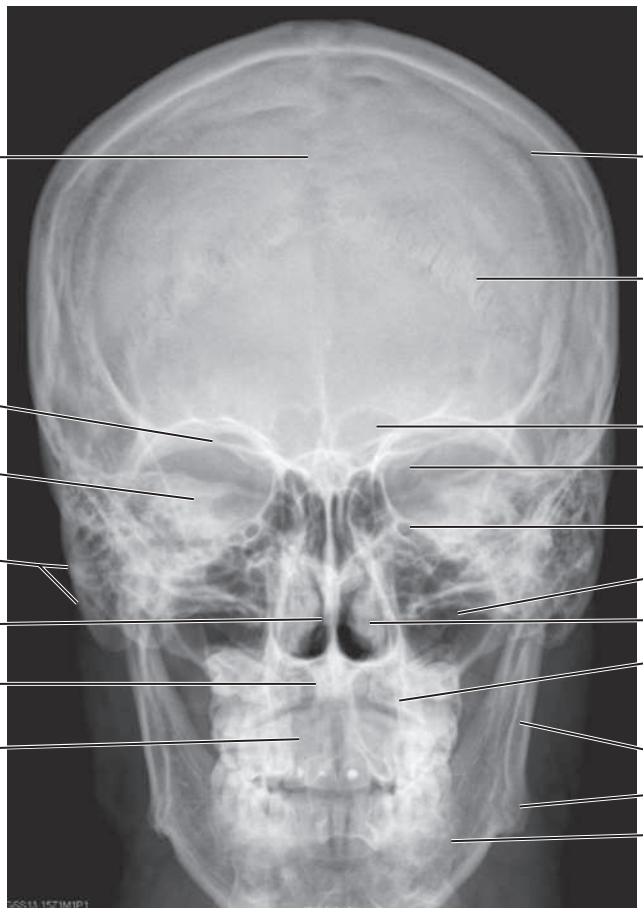
Right orbit: frontal view



////// facebook : Booksmedicos06

See also Plate 11

Posterior anterior view



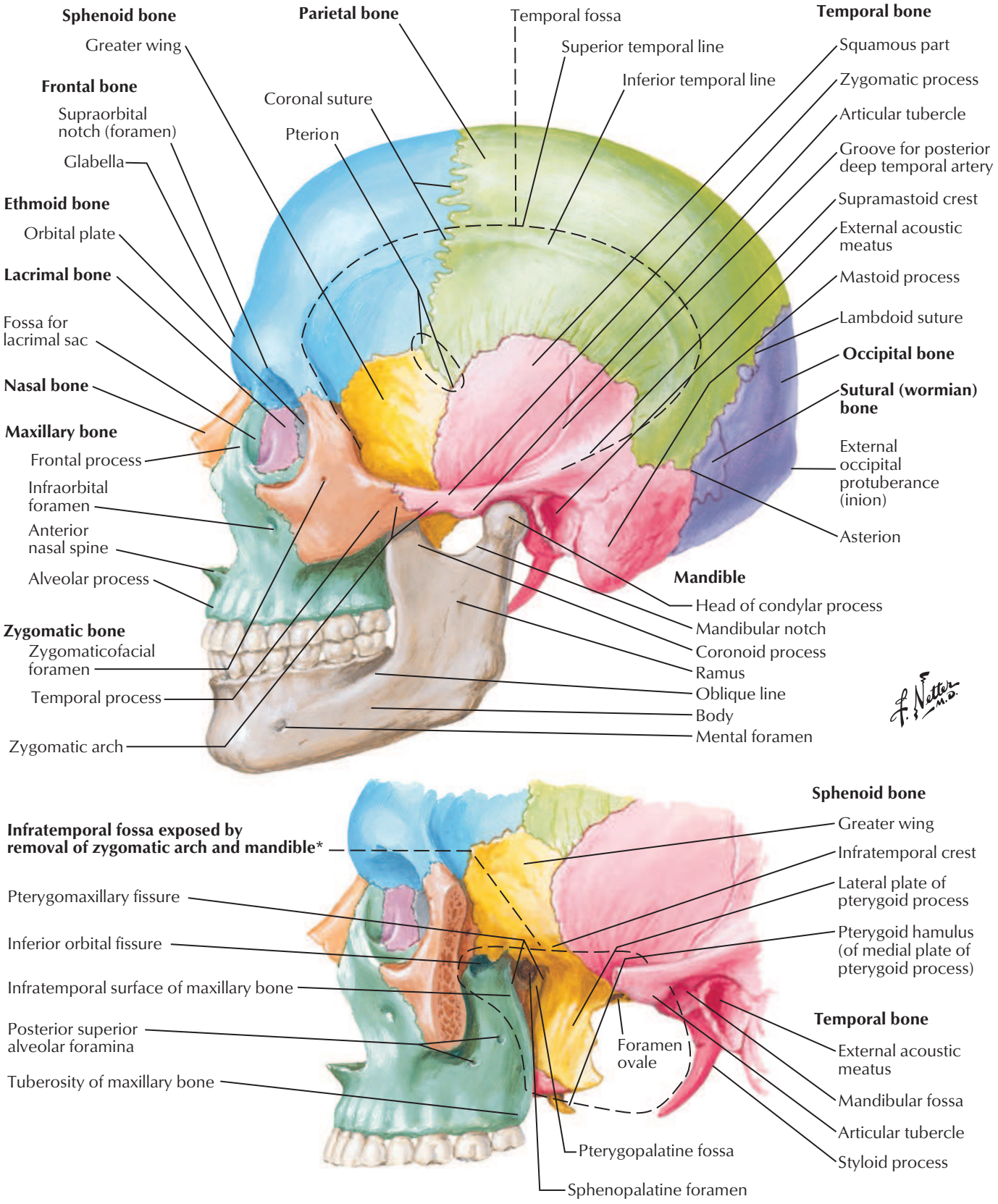
Waters' view



www.Booksmedicos06.com

Skull: Lateral View

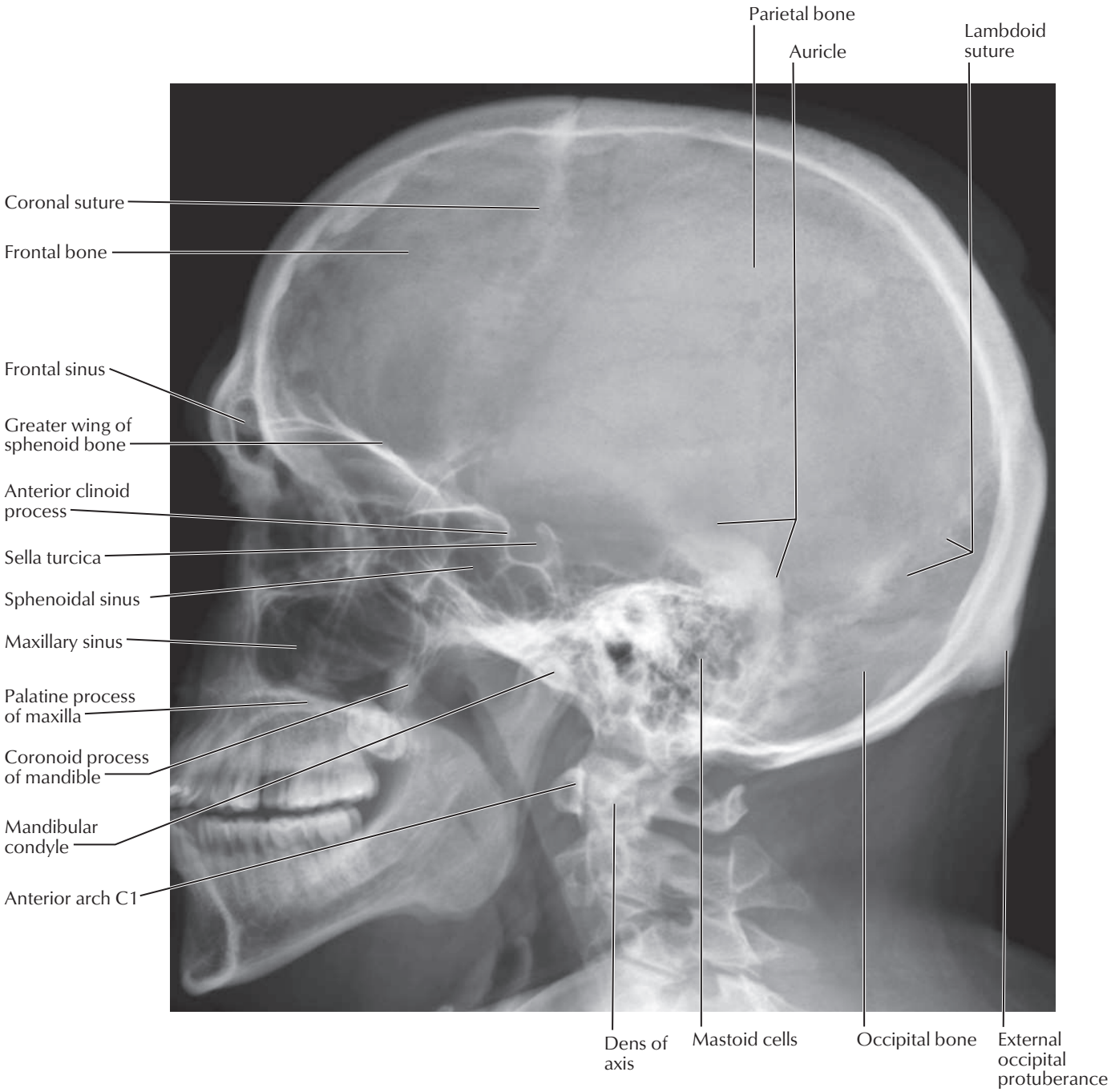
See also Plates 14, 15, 22



*Superficially, mastoid process forms posterior boundary.

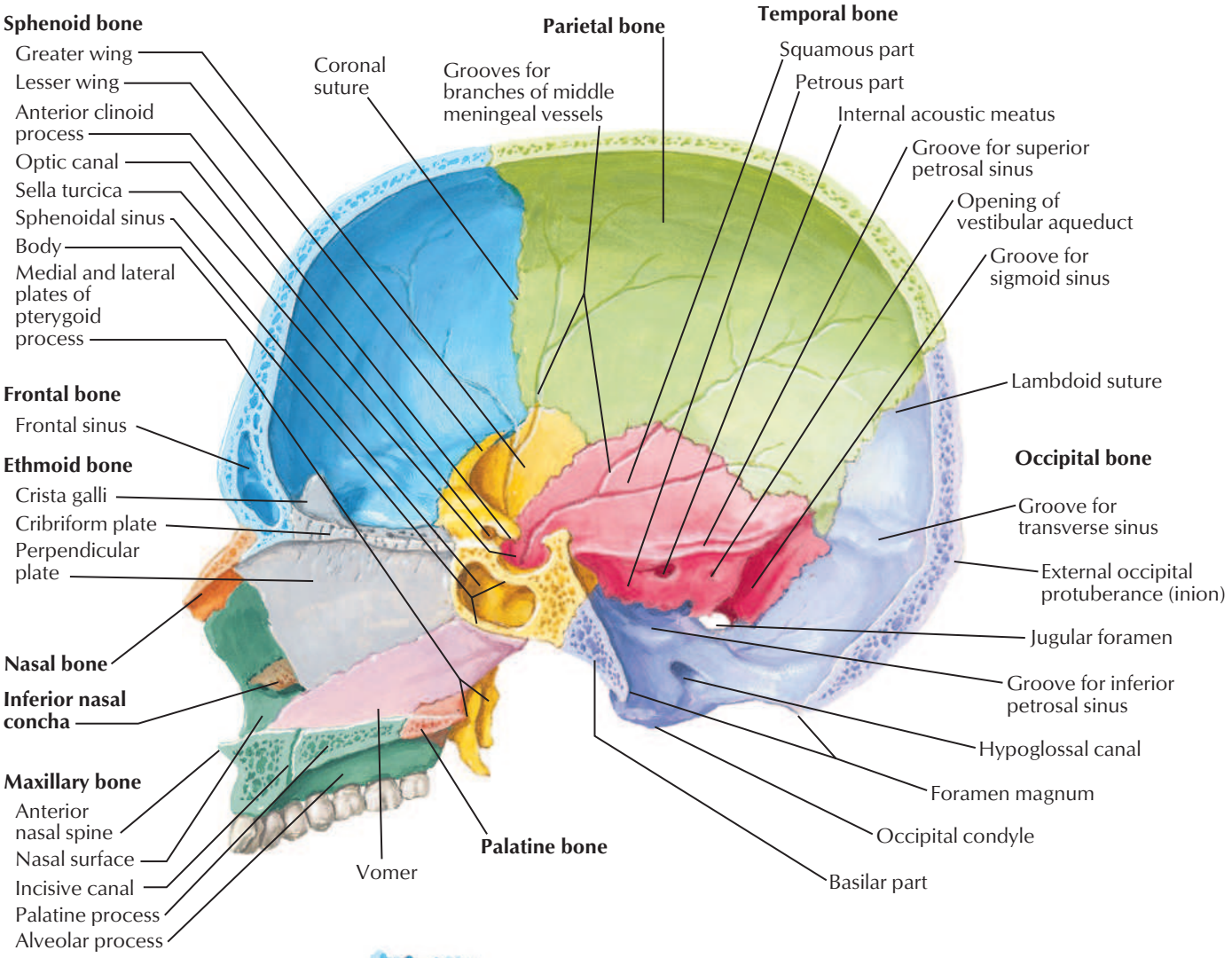
/////// facebook : Booksmedicos06

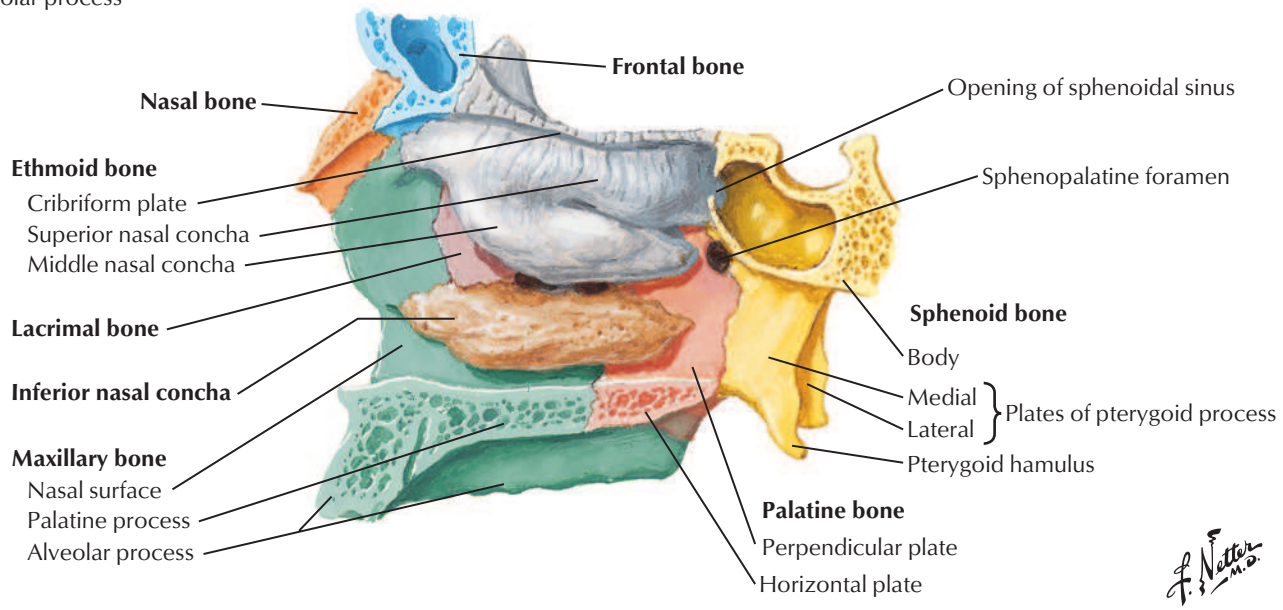
See also Plate 15



www.Booksmedicos06.com

See also Plates 44, 46

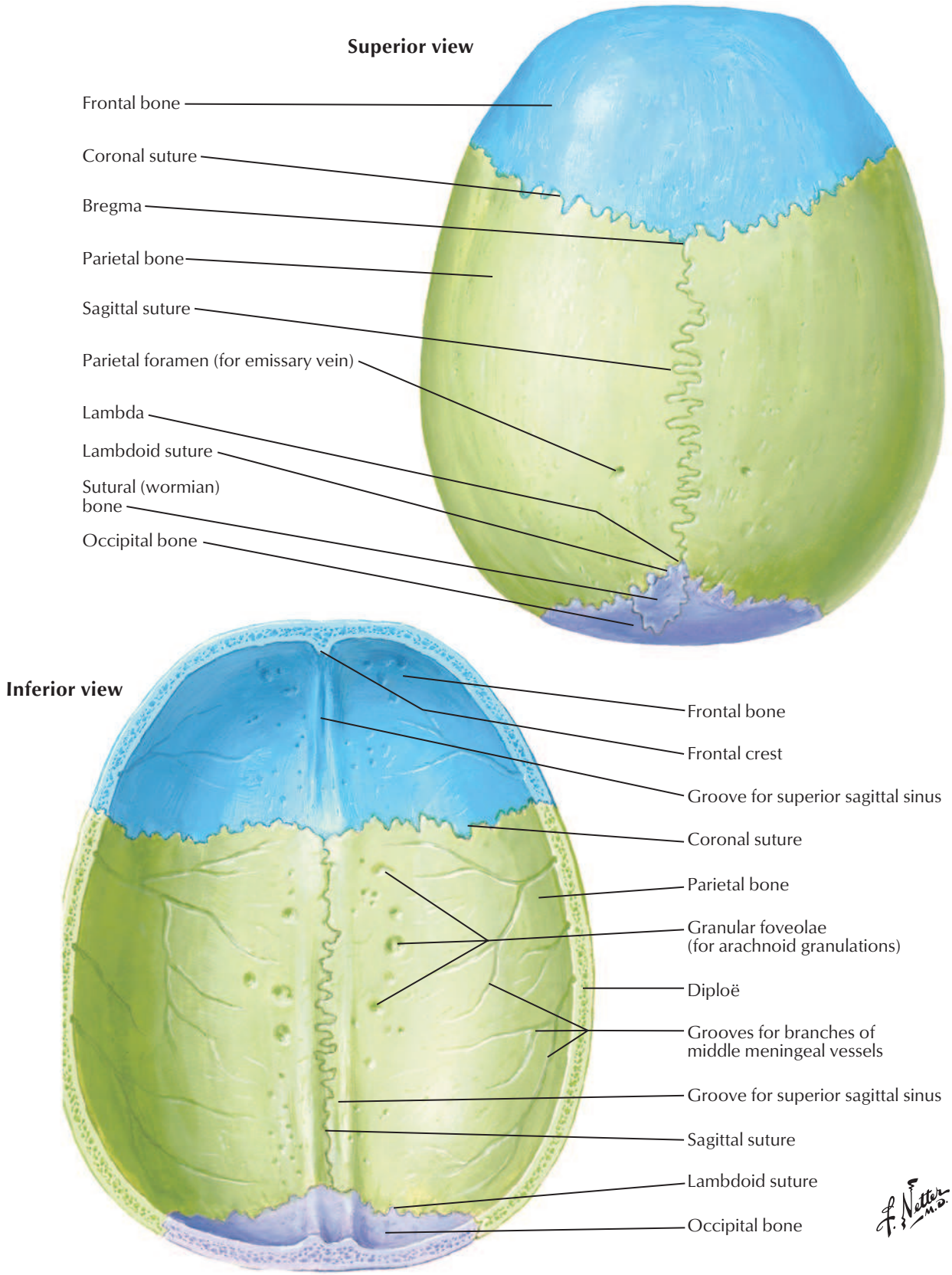




View of lateral nasal wall with nasal septum removed

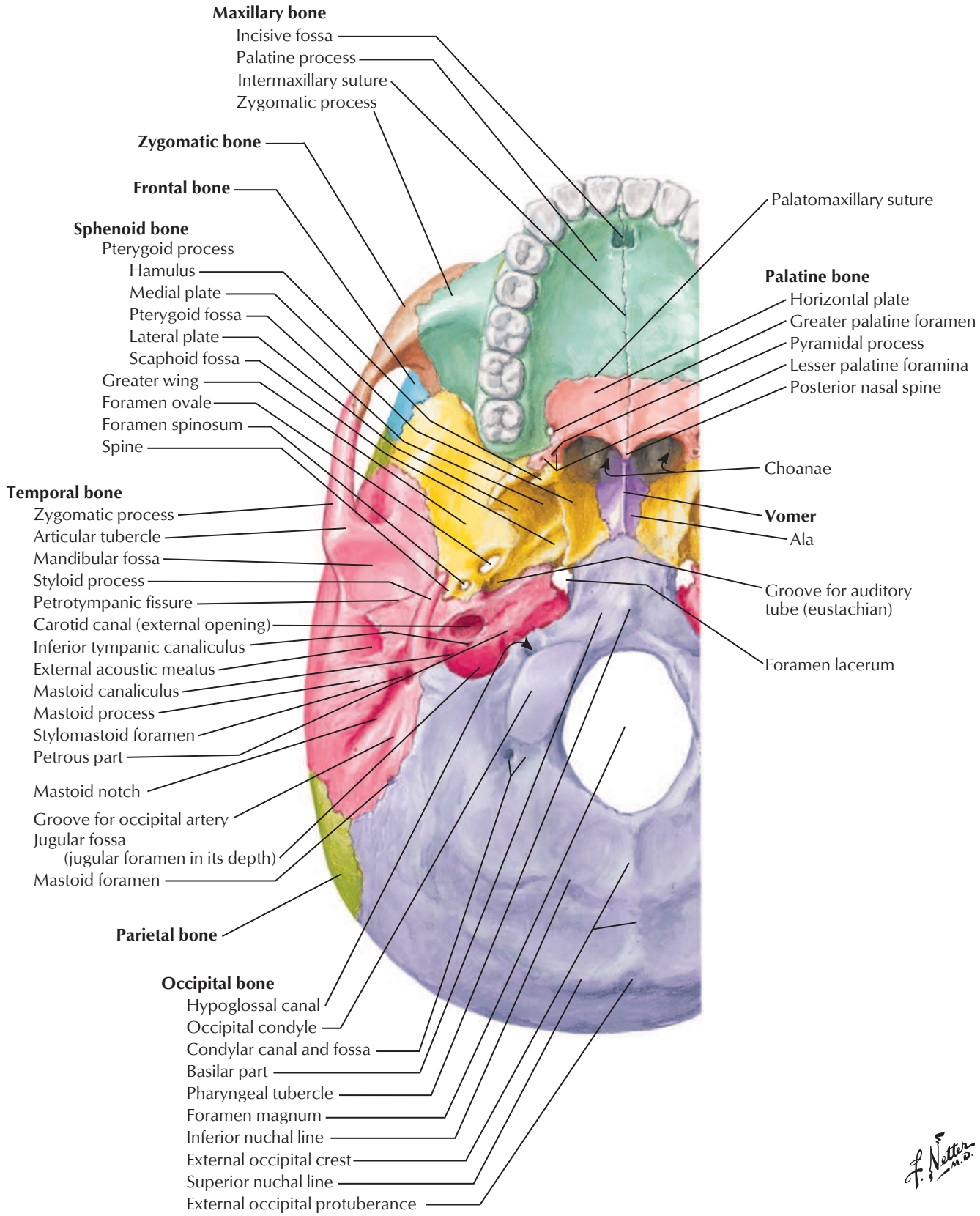
////// facebook : Booksmedicos06

See also Plates 111, 112



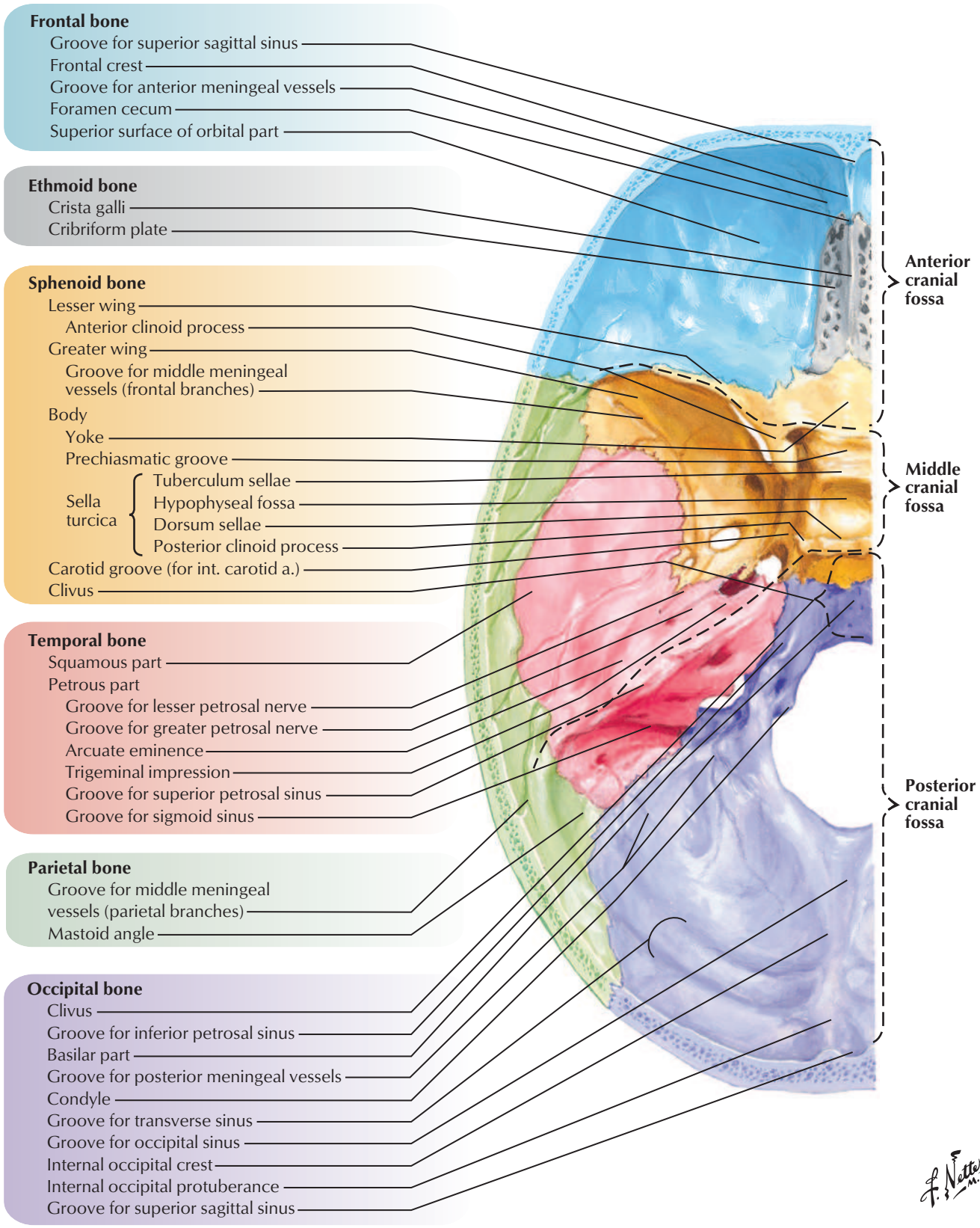
www.Booksmedicos06.com

See also Plate 19



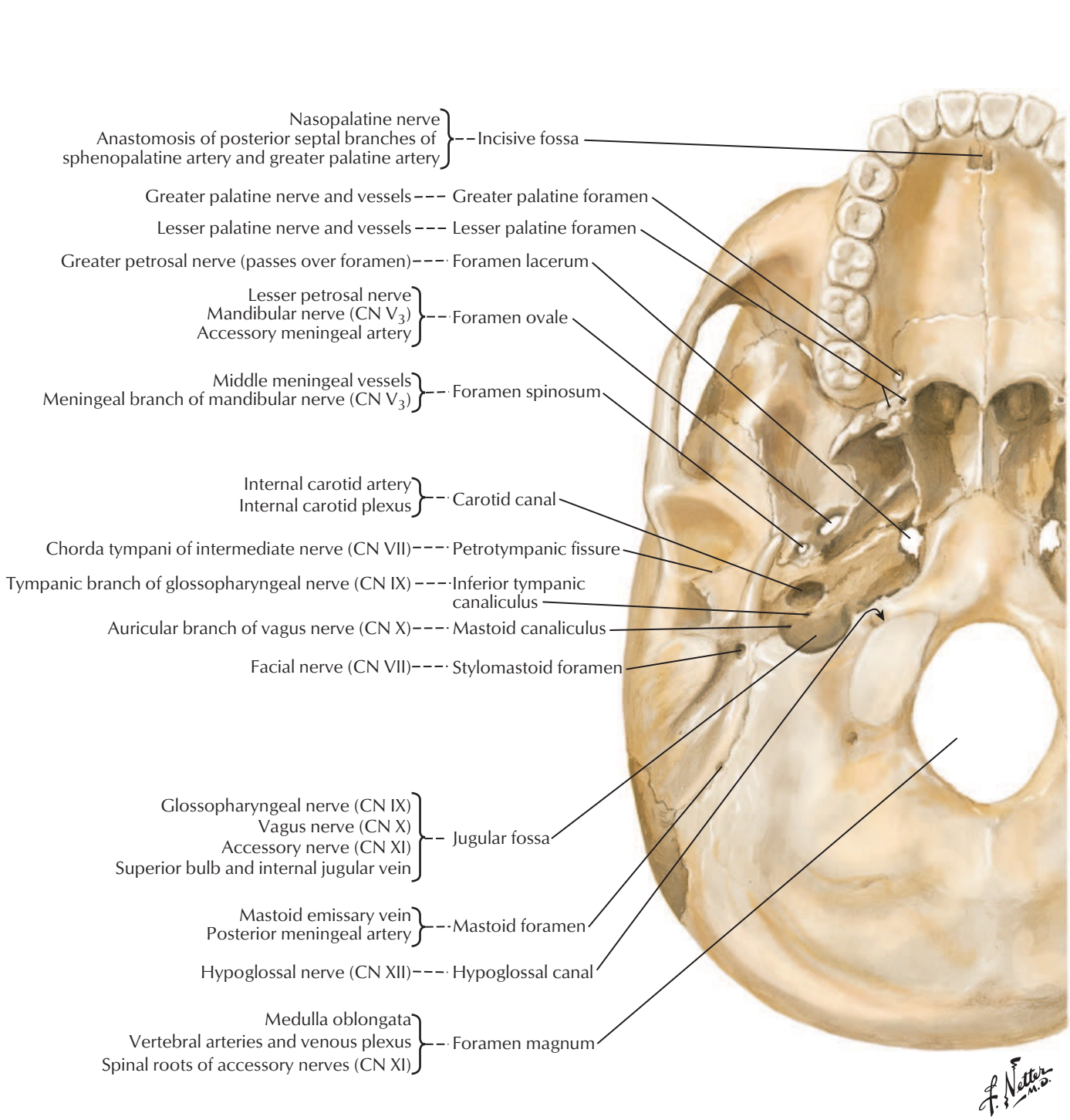
////// facebook : Booksmedicos06

See also Plates 20, 115



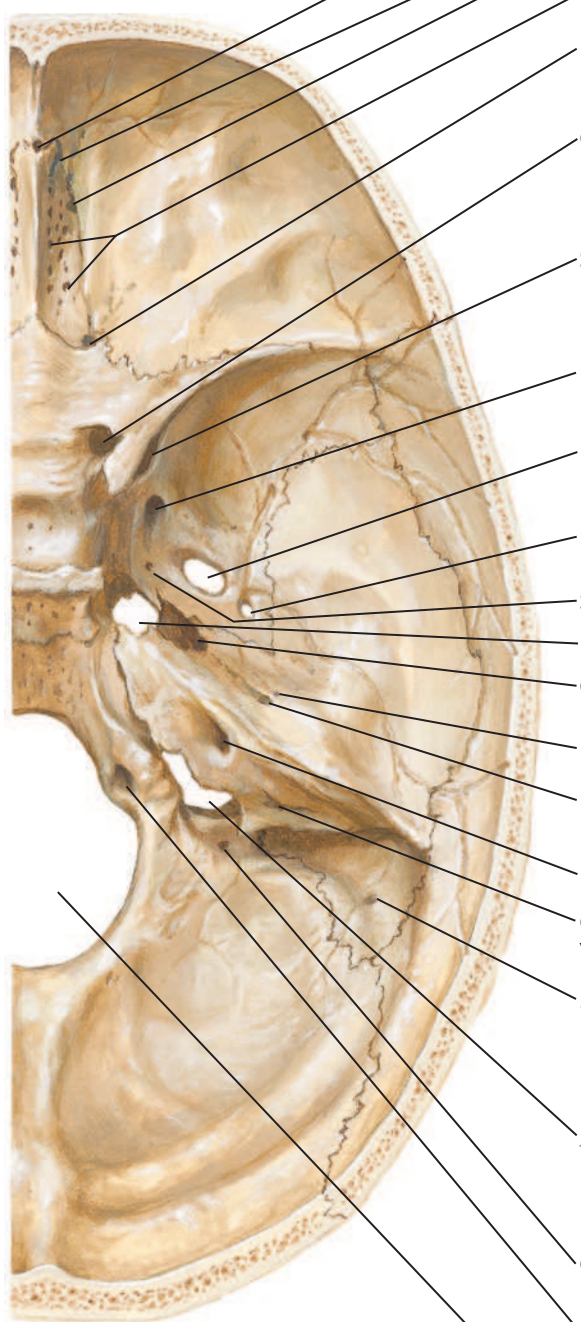
www.Booksmedicos06.com

See also Plate 17



////// facebook : Booksmedicos06

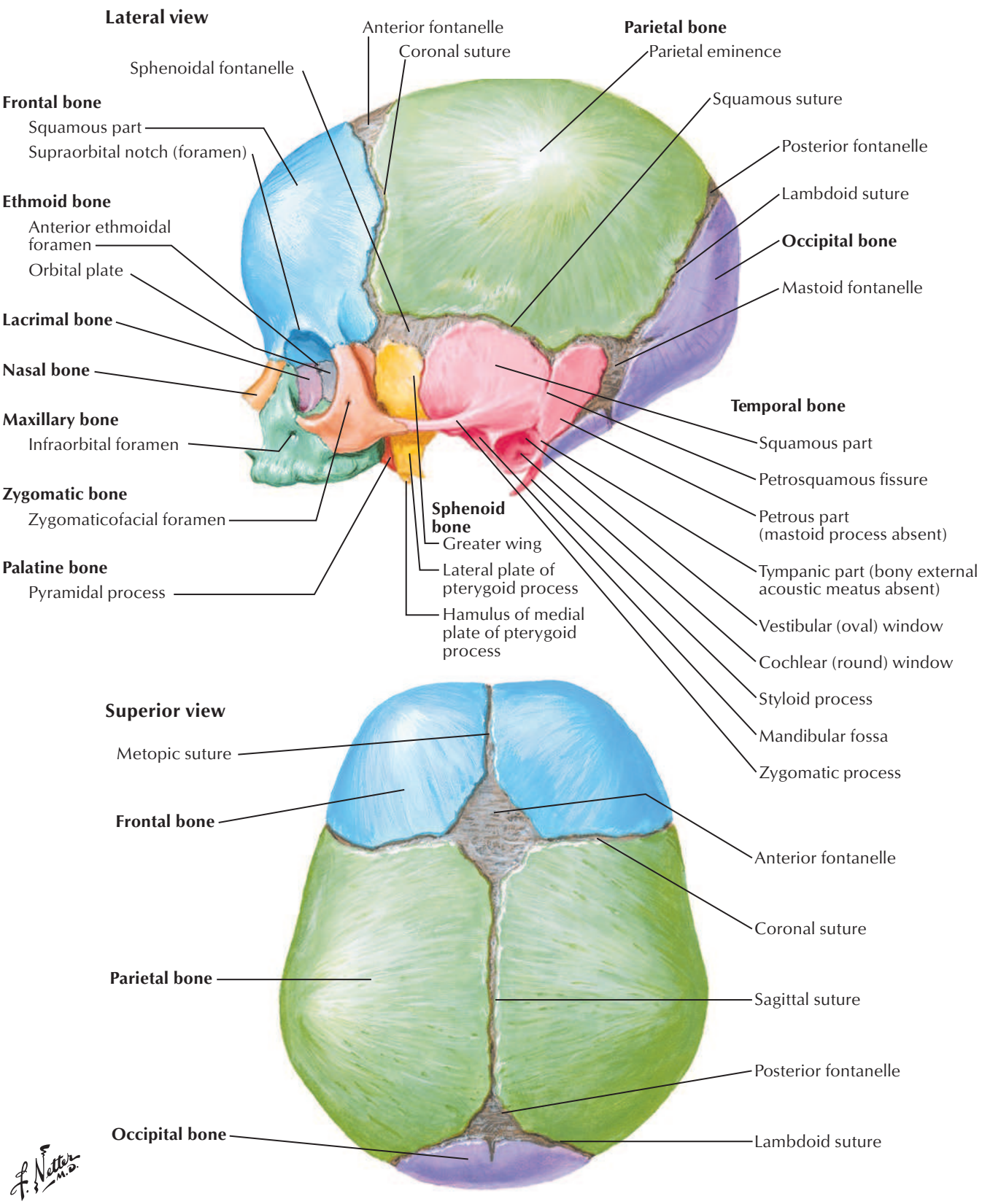
See also Plates 18, 115



- Foramen cecum — Emissary vein to superior sagittal sinus
- Nasal slit, Anterior ethmoidal foramen — Anterior ethmoidal artery, vein, and nerve
- Foramina of cribriform plate — Olfactory nerves (CN I)
- Posterior ethmoidal foramen — Posterior ethmoidal artery, vein, and nerve
- Optic canal — Optic nerve (CN II); Ophthalmic artery
- Superior orbital fissure — Oculomotor nerve (CN III); Trochlear nerve (CN IV); Lacrimal, frontal, and nasociliary branches of ophthalmic nerve (CN V_1); Abducens nerve (CN VI); Superior ophthalmic vein
- Foramen rotundum — Maxillary nerve (CN V_2)
- Foramen ovale — Mandibular nerve (CN V_3); Accessory meningeal artery; Lesser petrosal nerve
- Foramen spinosum — Middle meningeal artery and vein; Meningeal branch of mandibular nerve
- Sphenoidal emissary foramen (of Vesalius) (inconstant)
- Foramen lacerum — Greater petrosal nerve (passes over foramen)
- Carotid canal — Internal carotid artery; Internal carotid nerve plexus
- Hiatus for — Lesser petrosal nerve
- Hiatus for — Greater petrosal nerve
- Internal acoustic meatus — Facial nerve (CN VII); Vestibulocochlear nerve (CN VIII); Labyrinthine artery
- Opening of vestibular aqueduct — Endolymphatic duct
- Mastoid foramen (inconstant) — Emissary vein (and occasional branch of occipital artery)
- Jugular foramen — Inferior petrosal sinus; Glossopharyngeal nerve (CN IX); Vagus nerve (CN X); Accessory nerve (CN XI); Sigmoid sinus; Posterior meningeal artery
- Condylar canal (inconstant) — Emissary vein and meningeal branch of ascending pharyngeal artery
- Hypoglossal canal — Hypoglossal nerve (CN XII)
- Foramen magnum — Medulla oblongata; Meninges; Vertebral arteries and venous plexus; Meningeal branches of vertebral arteries; Spinal roots of accessory nerves

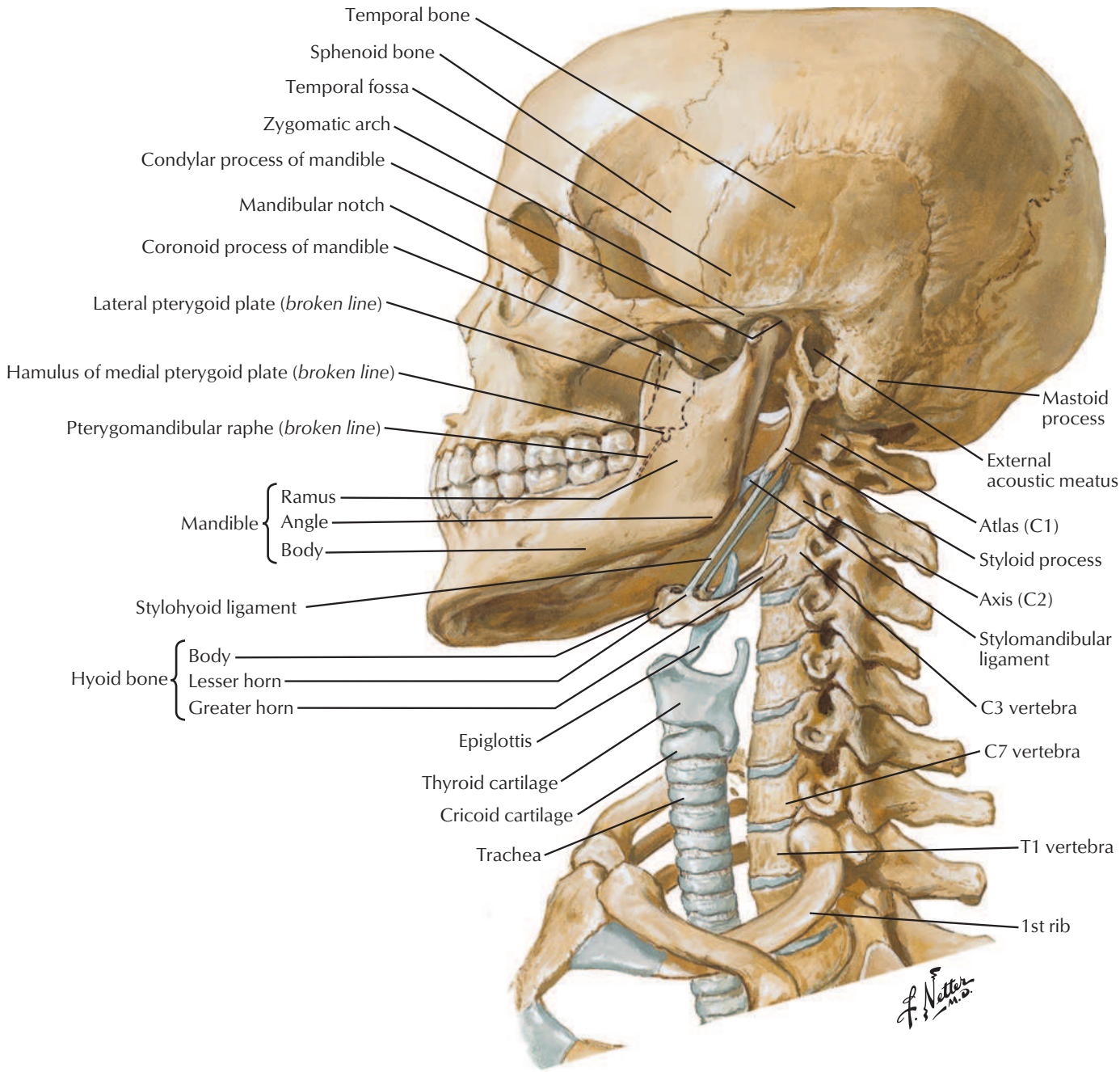
www.Booksmedicos06.com

See also Plates 13, 16



////// facebook : Booksmedicos06

See also Plates 13, 26

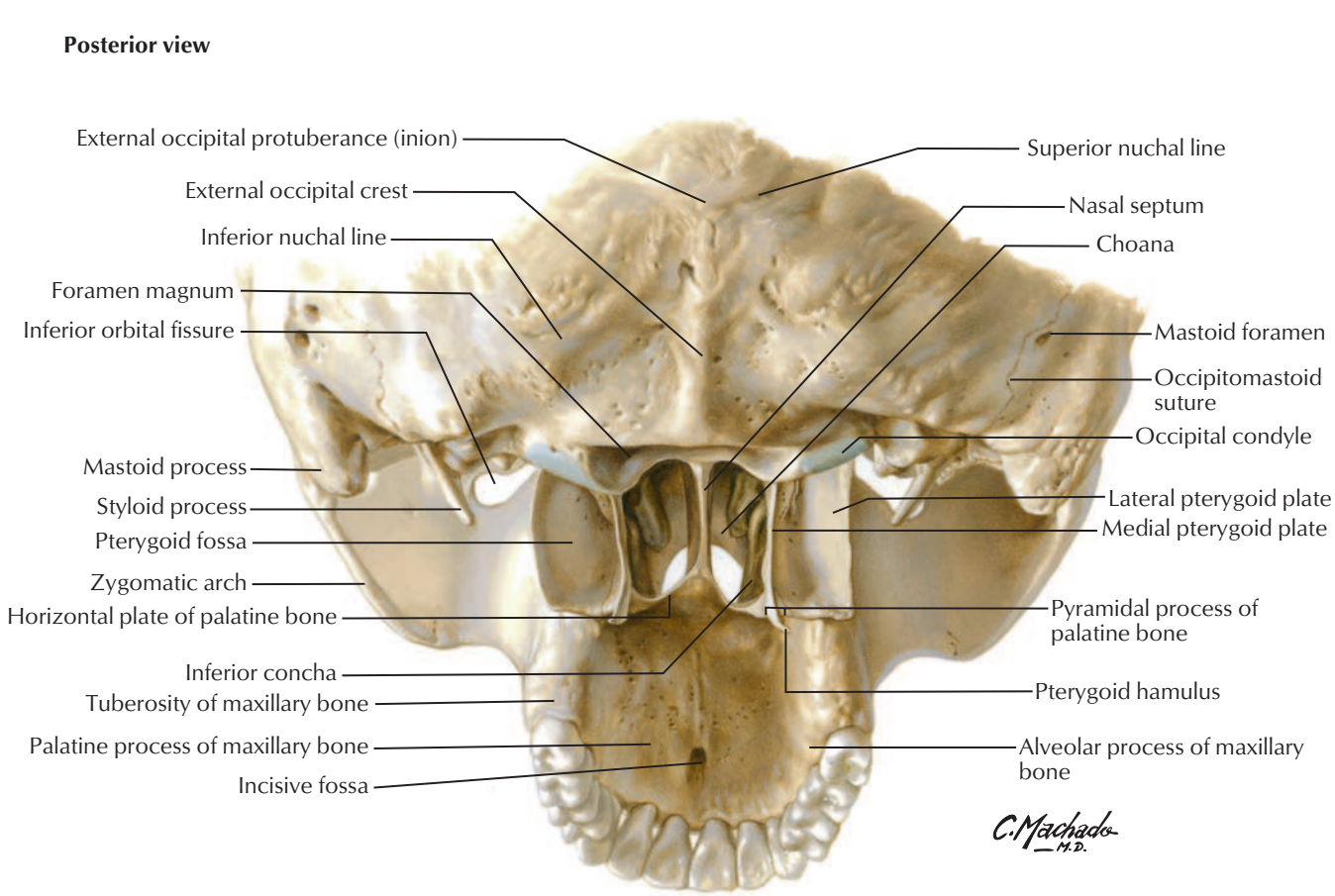


www.Booksmedicos06.com

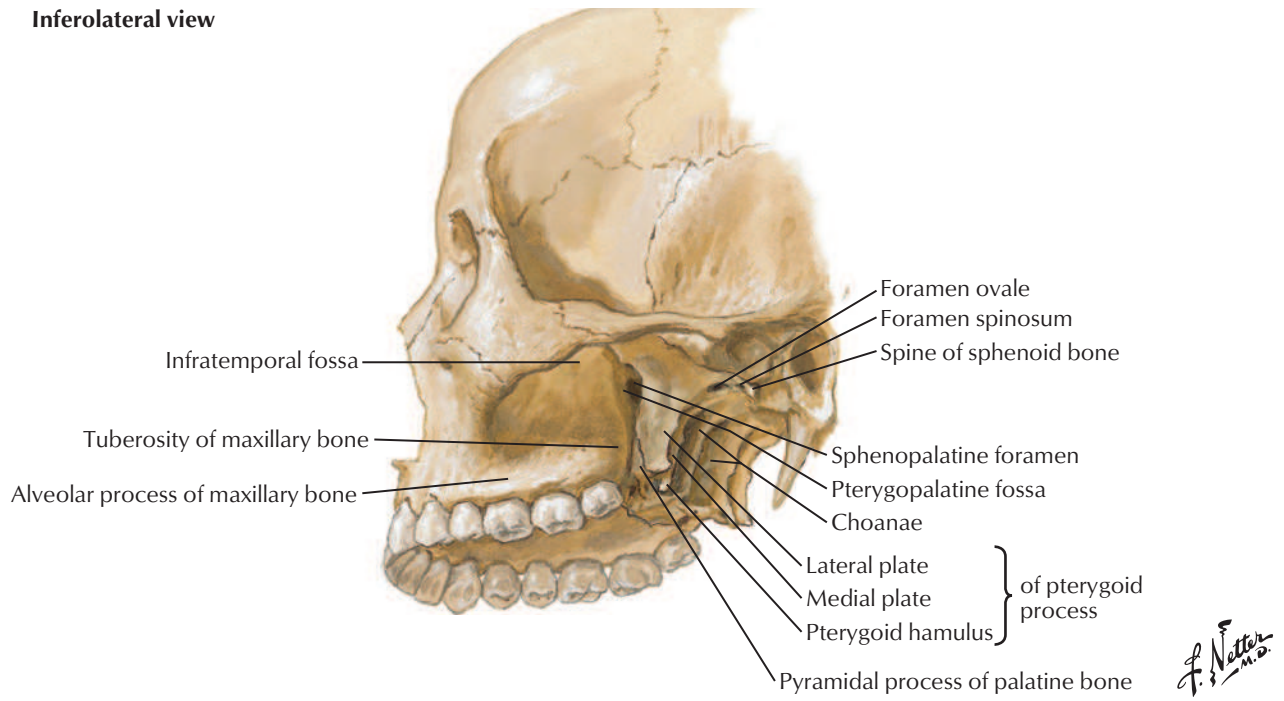
Pterygoid Fossae

See also Plates 46, 47, 48

Posterior view

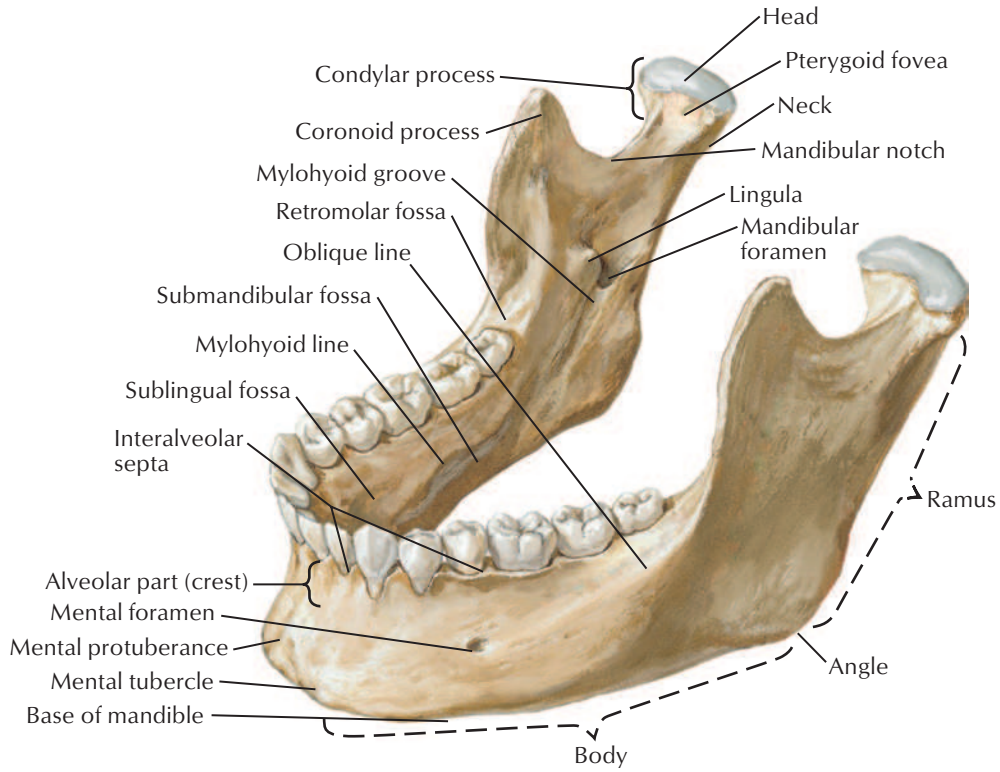


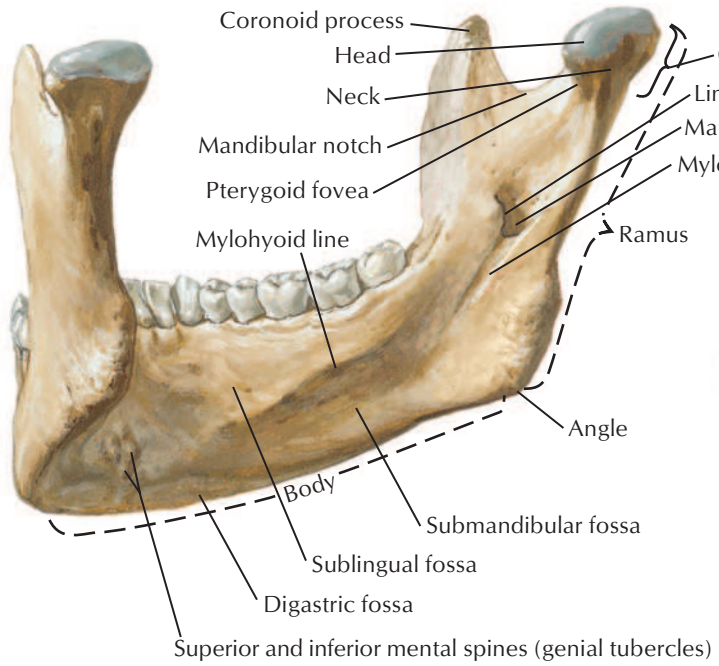
Inferolateral view



////// facebook : Booksmedicos06

See also Plates 55, 56



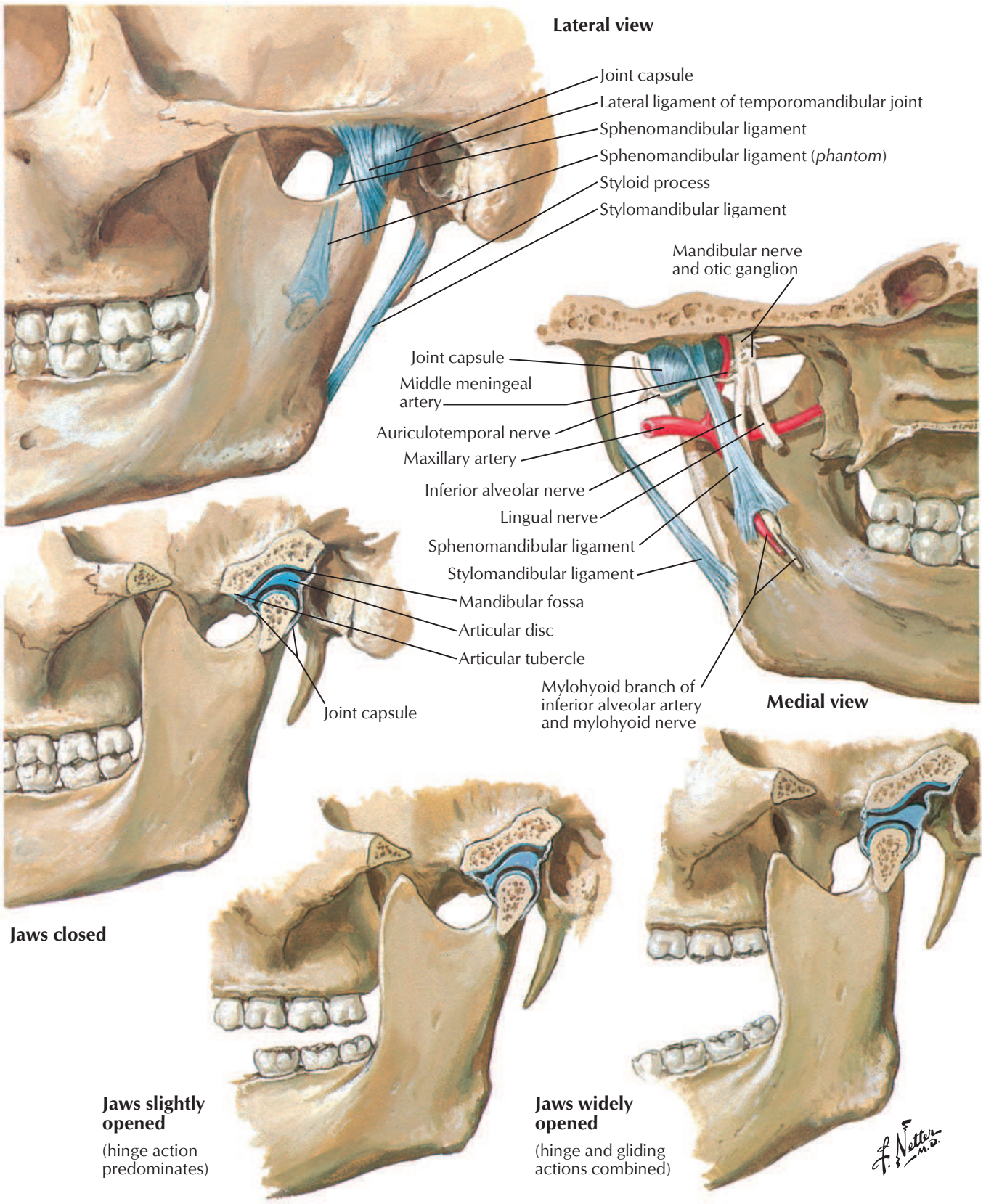




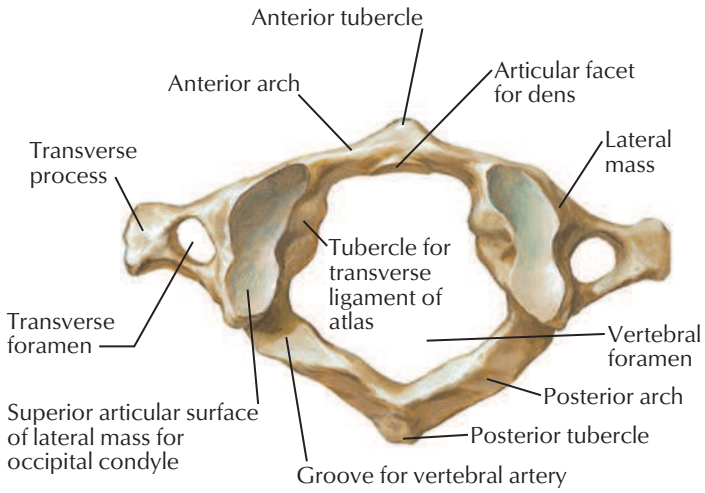
Mandible of aged person (edentulous)

www.Booksmedicos06.com

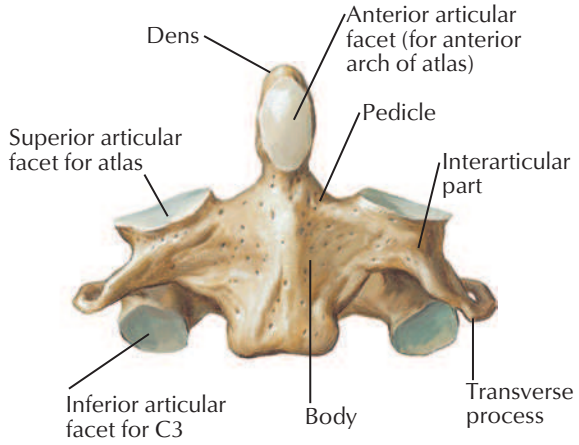
See also Plate 56



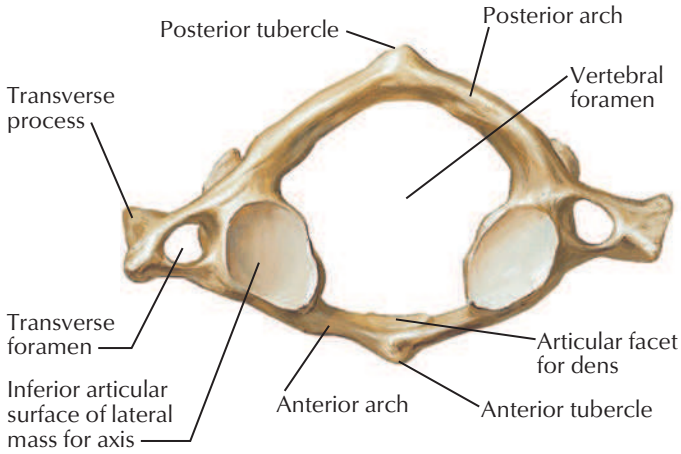
////// facebook : Booksmedicos06



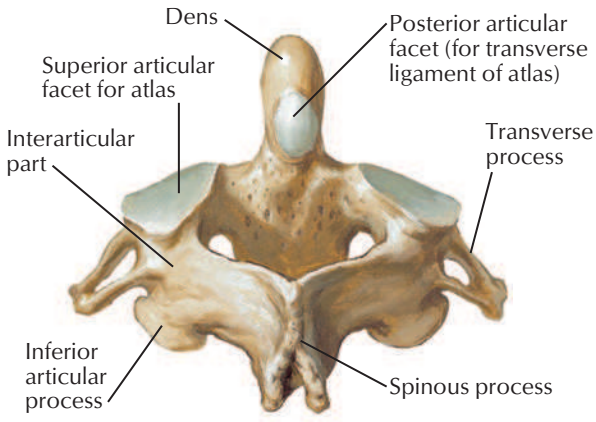
Atlas (C1): superior view



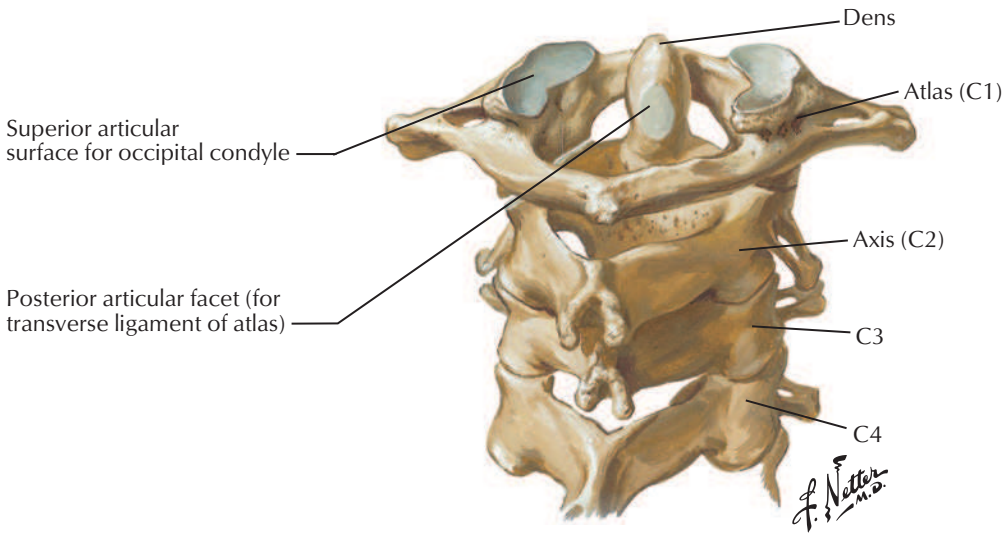
Axis (C2): anterior view



Atlas (C1): inferior view



Axis (C2): posterosuperior view



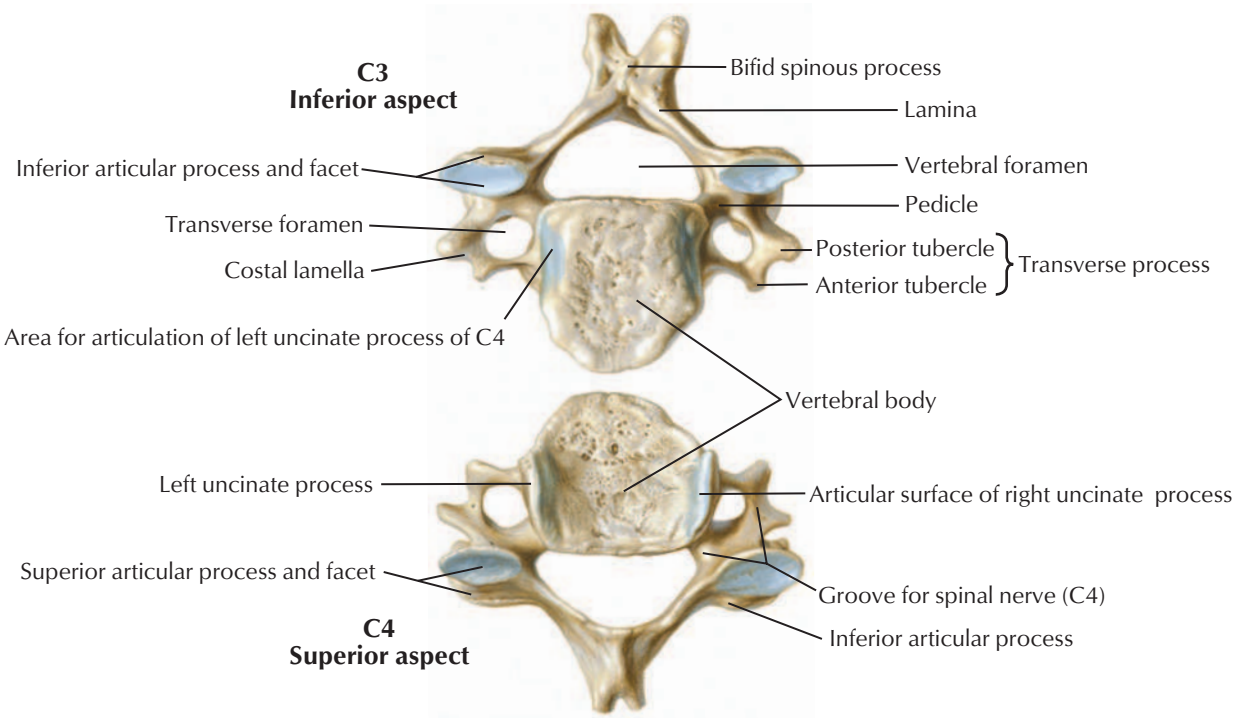
Upper cervical vertebrae, assembled: posterosuperior view

www.Booksmedicos06.com

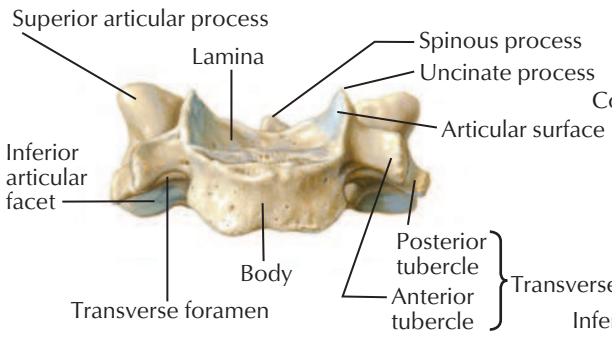
See also Plates 28, 29

////// facebook : Booksmedicos06

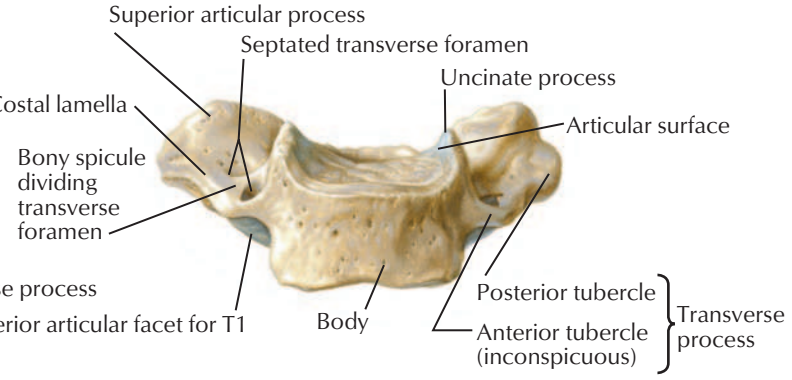
Inferior aspect of C3 and superior aspect of C4 showing the sites of the facet and uncovertebral articulations



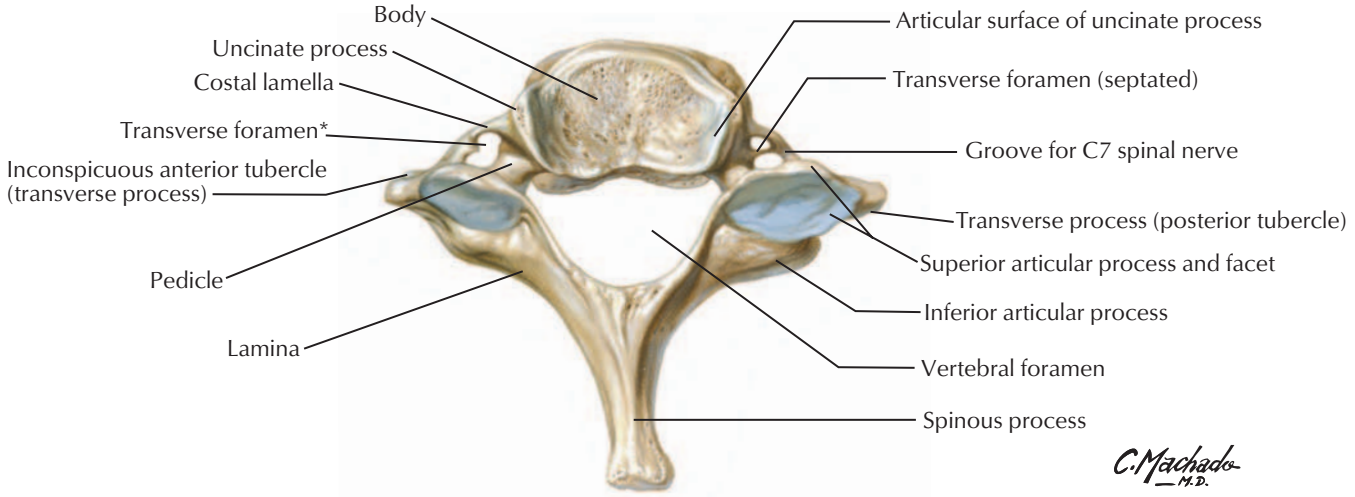
4th cervical vertebra: anterior view



7th cervical vertebra: anterior view



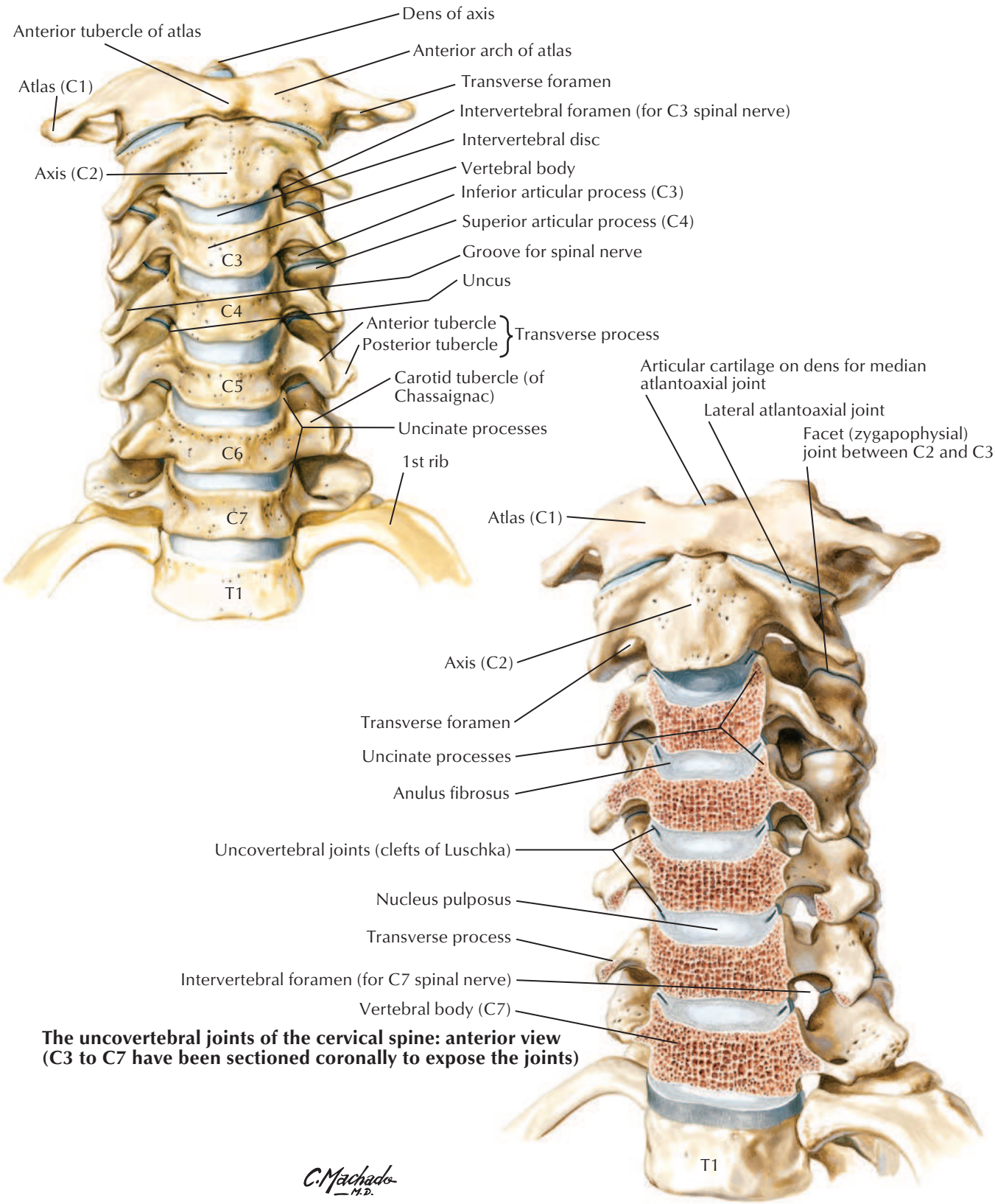
7th cervical vertebra (vertebra prominens): superior view



The foramina transversaria of C7 transmit vertebral veins, but usually not the vertebral artery, and are asymmetrical in this specimen.

See also Plate 29

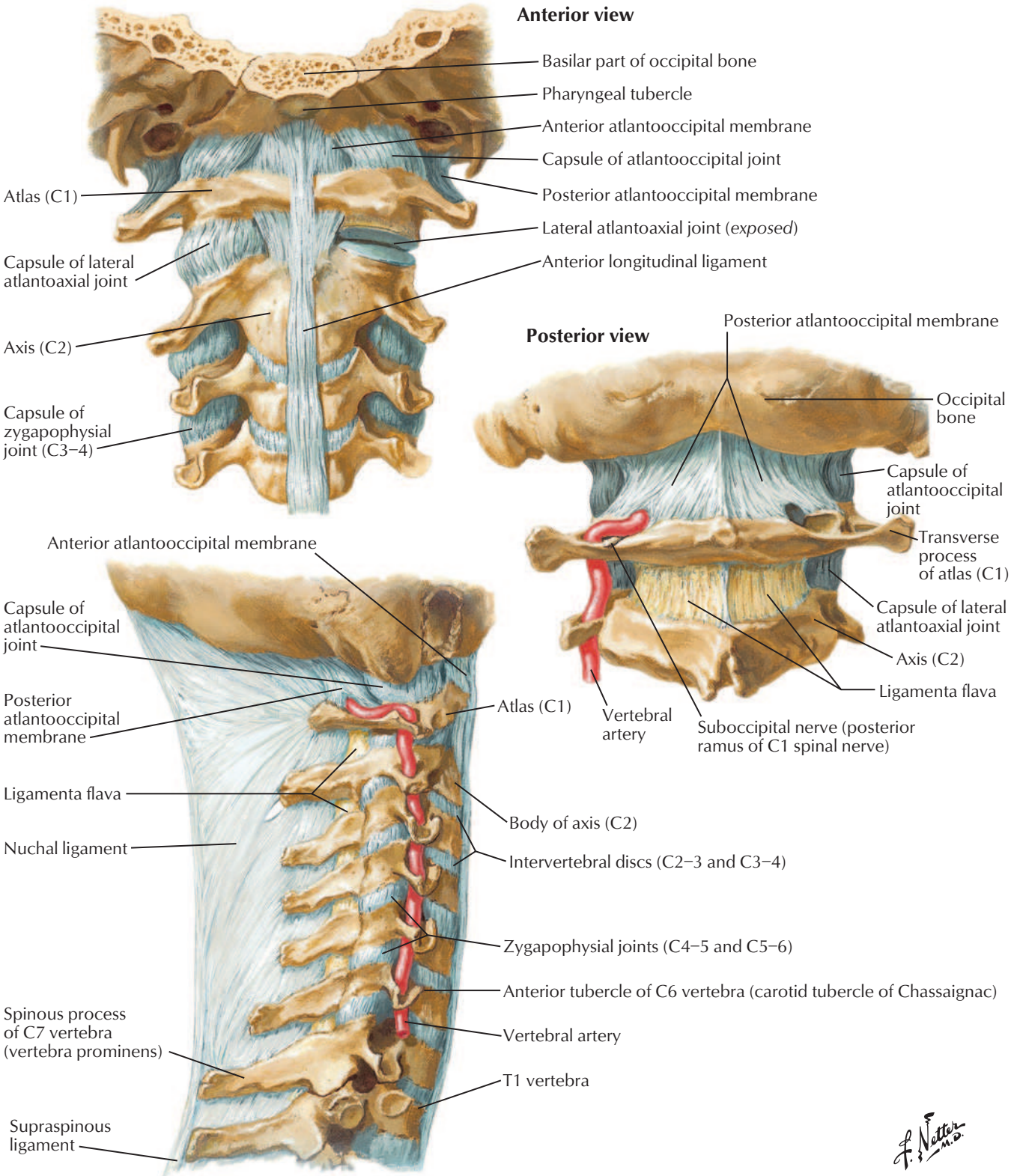
Cervical vertebrae: anterior view



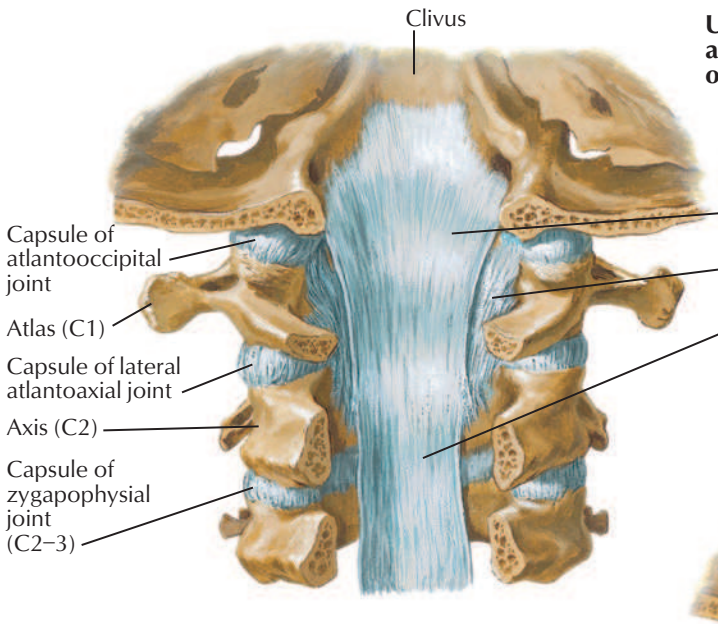
The uncovertebral joints of the cervical spine: anterior view (C3 to C7 have been sectioned coronally to expose the joints)

C. Machado M.D.

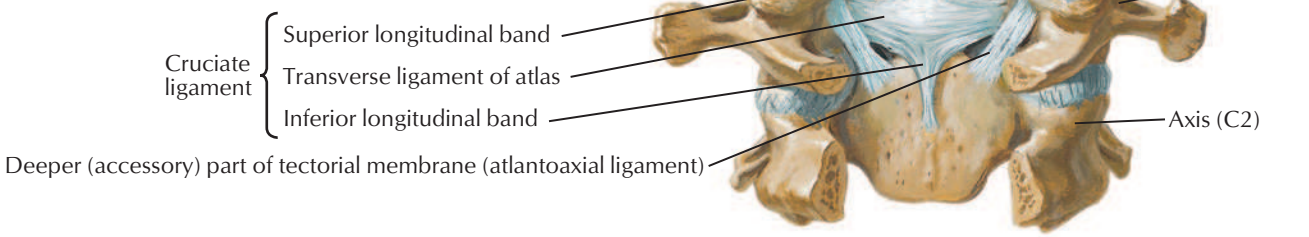
www.Booksmedicos06.com

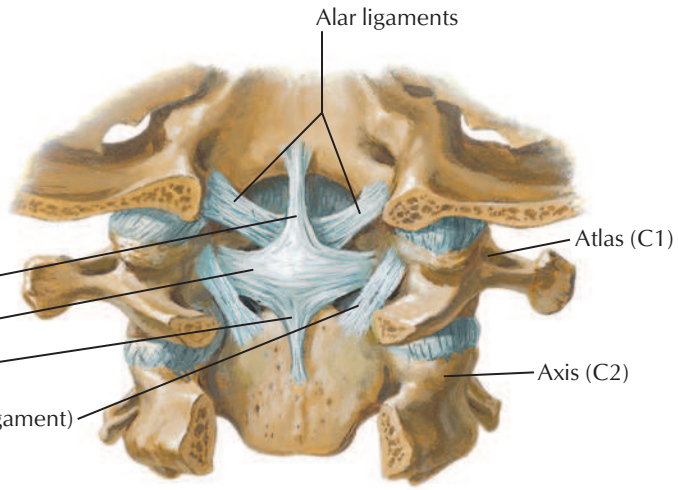


////// facebook : Booksmedicos06

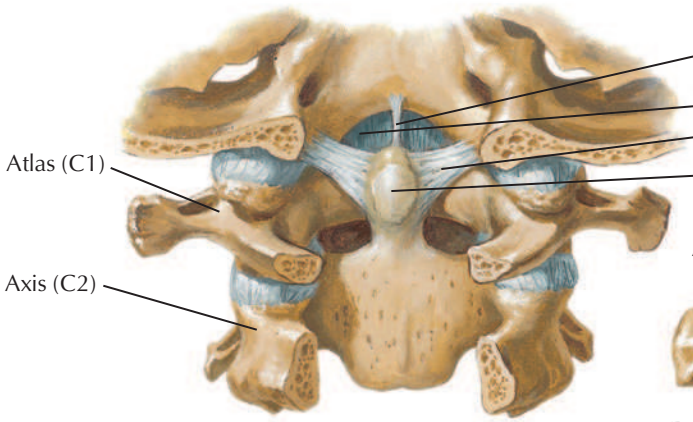


Upper part of vertebral canal with spinous processes and parts of vertebral arches removed to expose ligaments on posterior vertebral bodies: posterior view

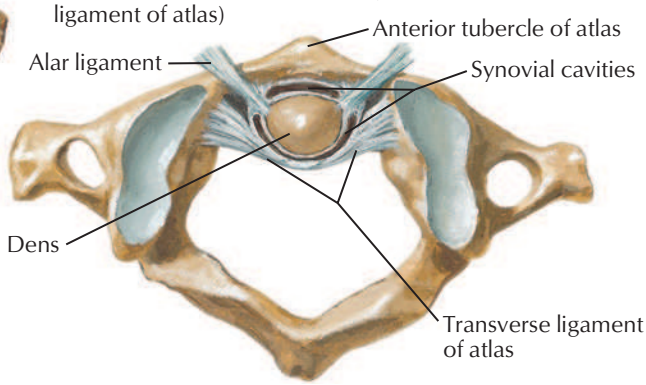




Principal part of tectorial membrane removed to expose deeper ligaments: posterior view



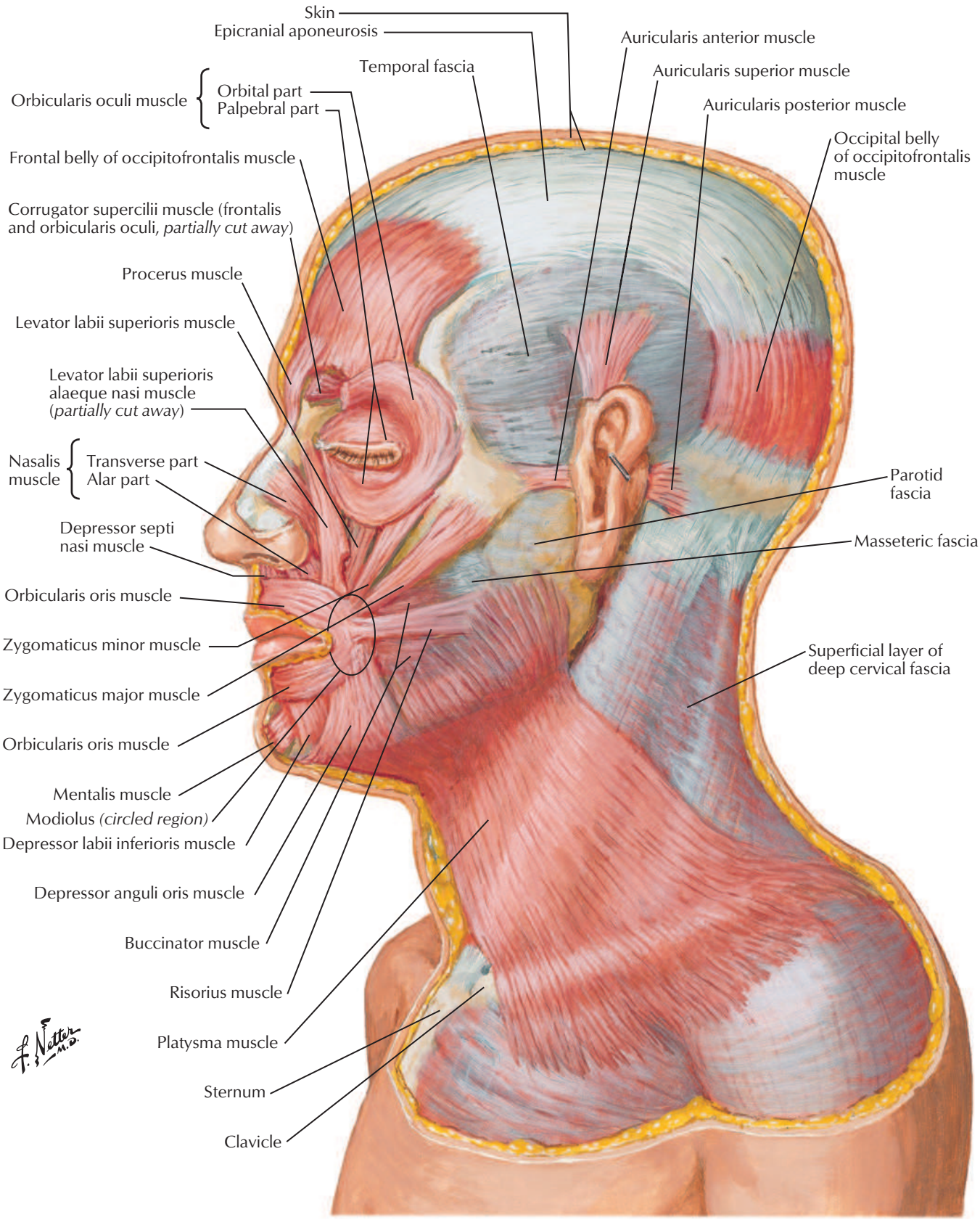
Cruciate ligament removed to show deeper ligaments: posterior view



Median atlantoaxial joint: superior view

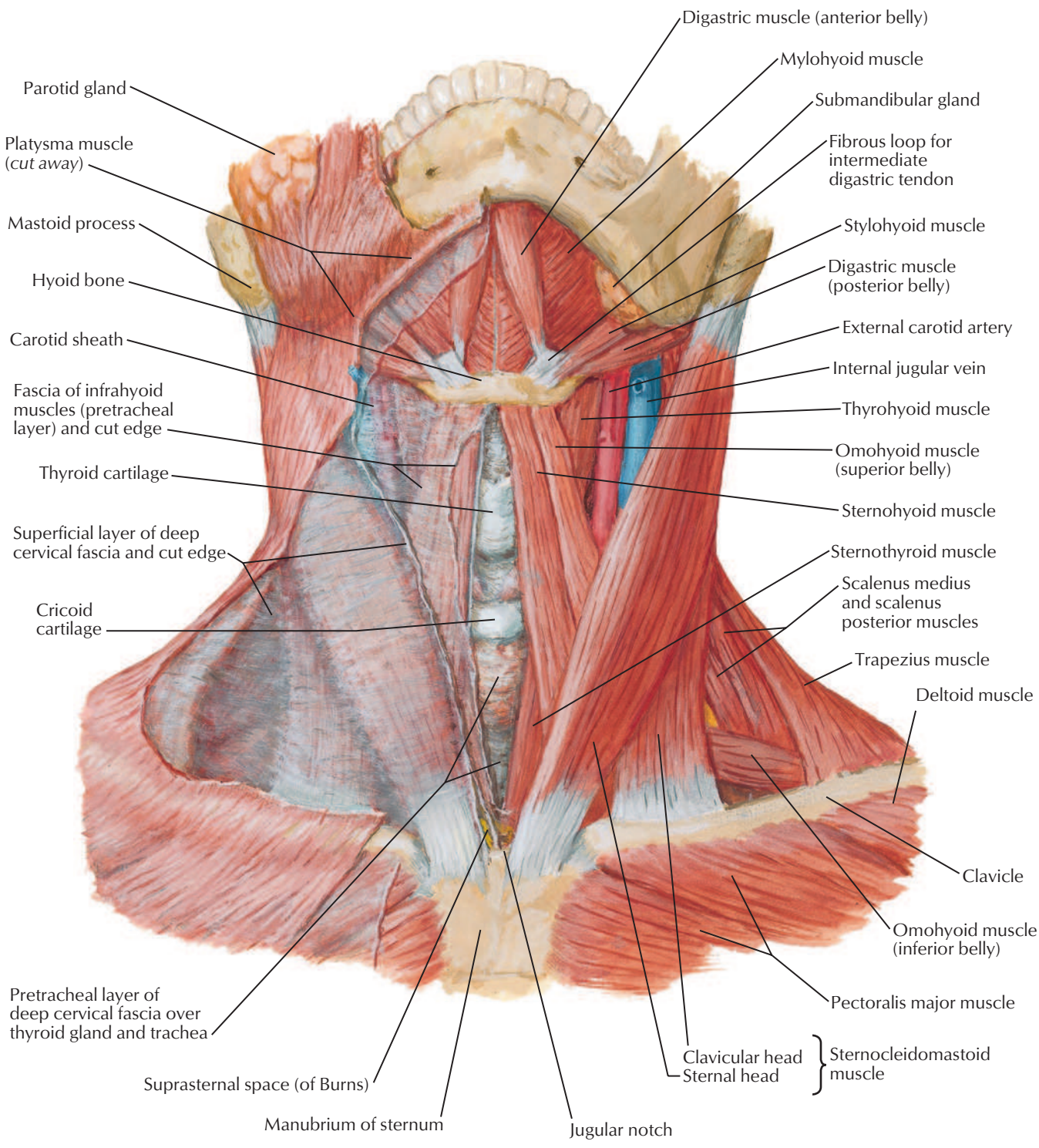
www.Booksmedicos06.com

See also Plates 34, 55, 56



////// facebook : Booksmedicos06

See also Plates 33, 35, 38

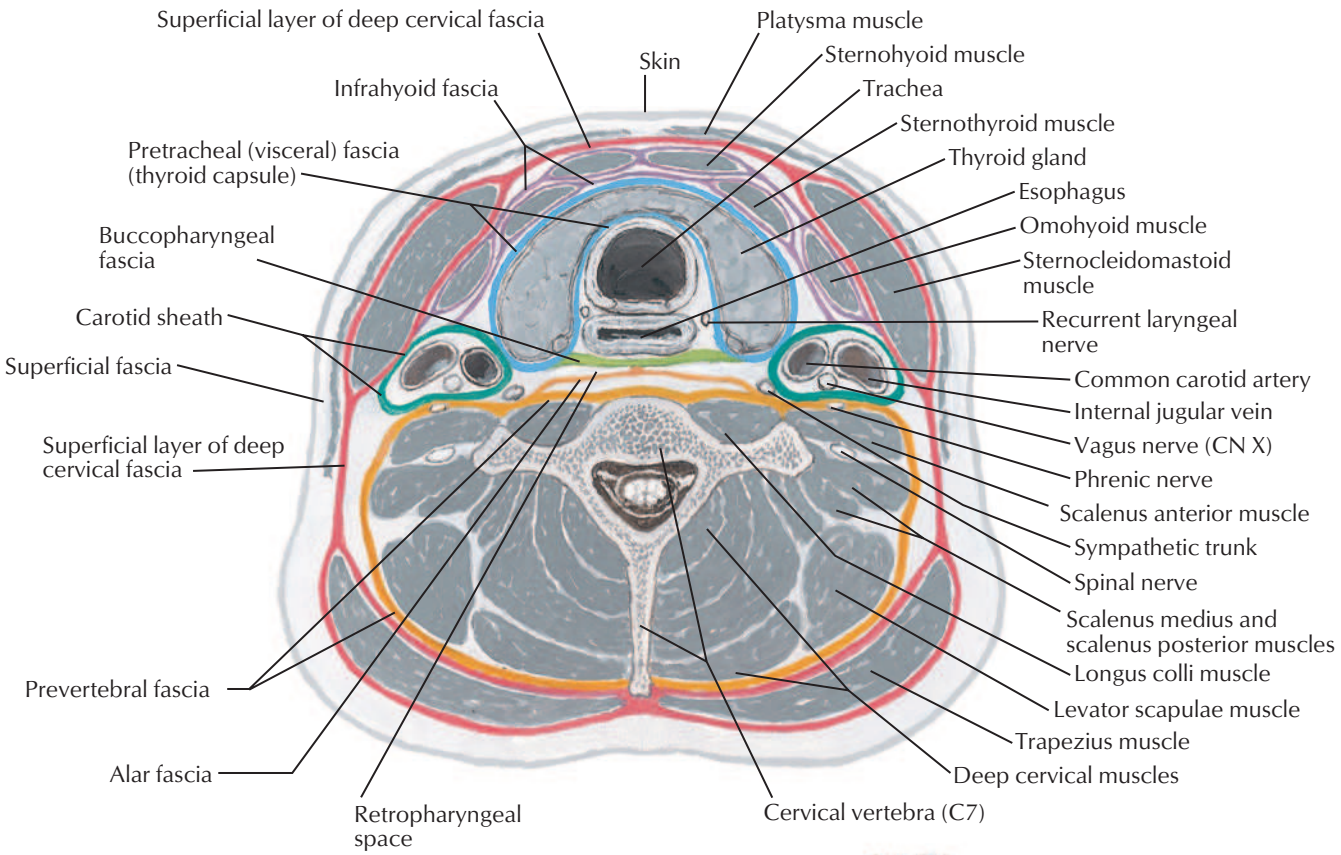


www.Booksmedicos06.com

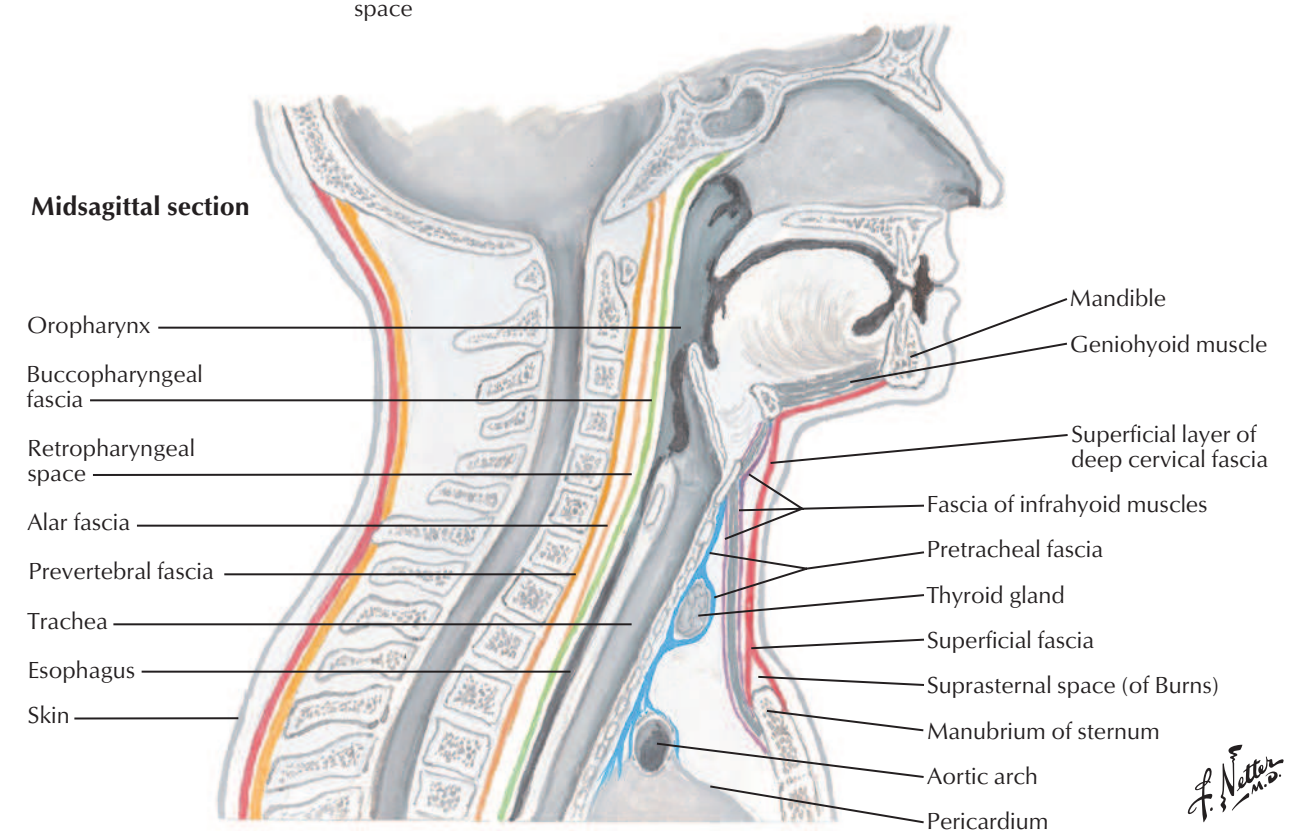
See also Plate 32

////// facebook : Booksmedicos06

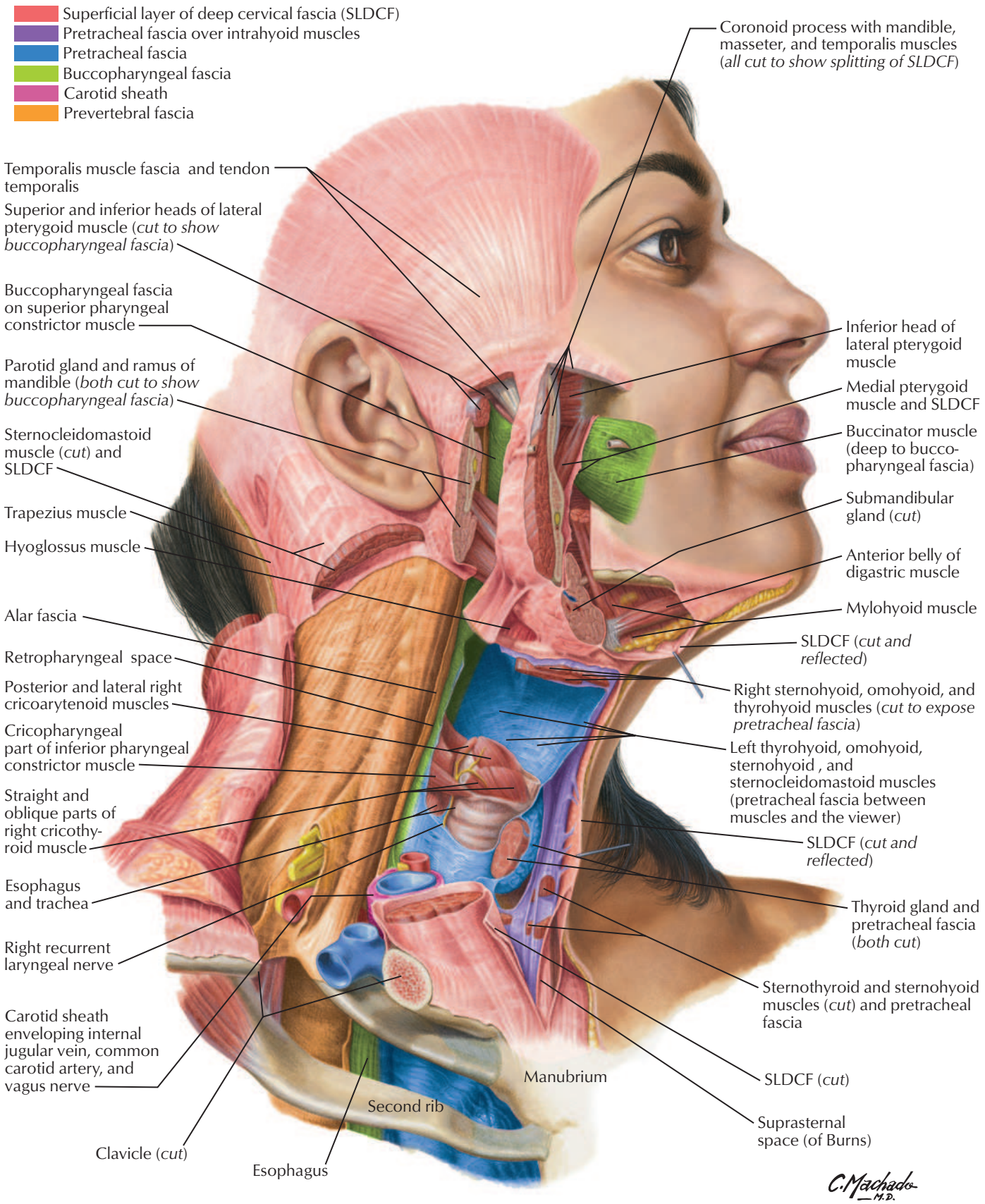
Cross section



Midsagittal section



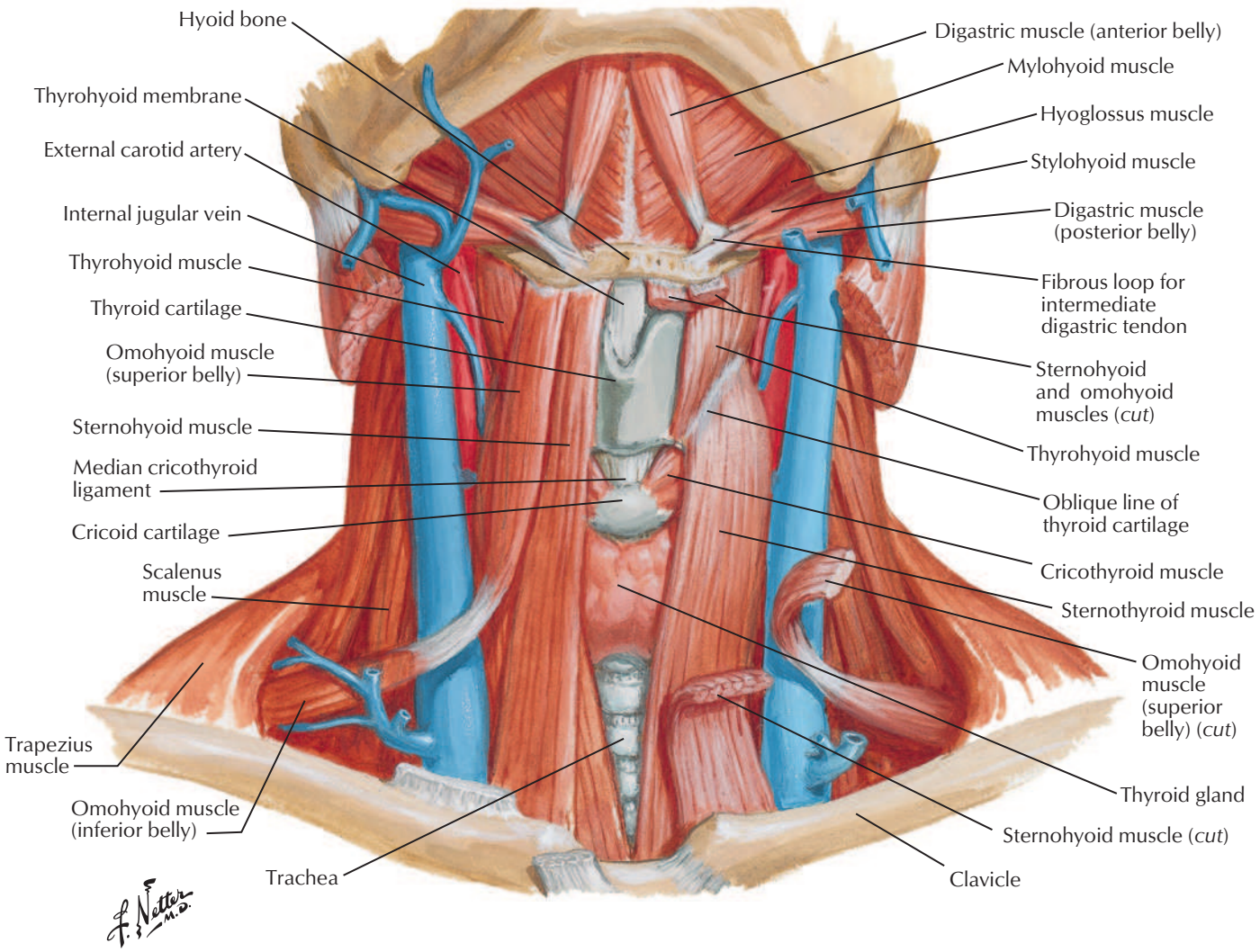
See also Plates 32, 33, 38



SLDCF: Superficial layer of deep cervical fascia

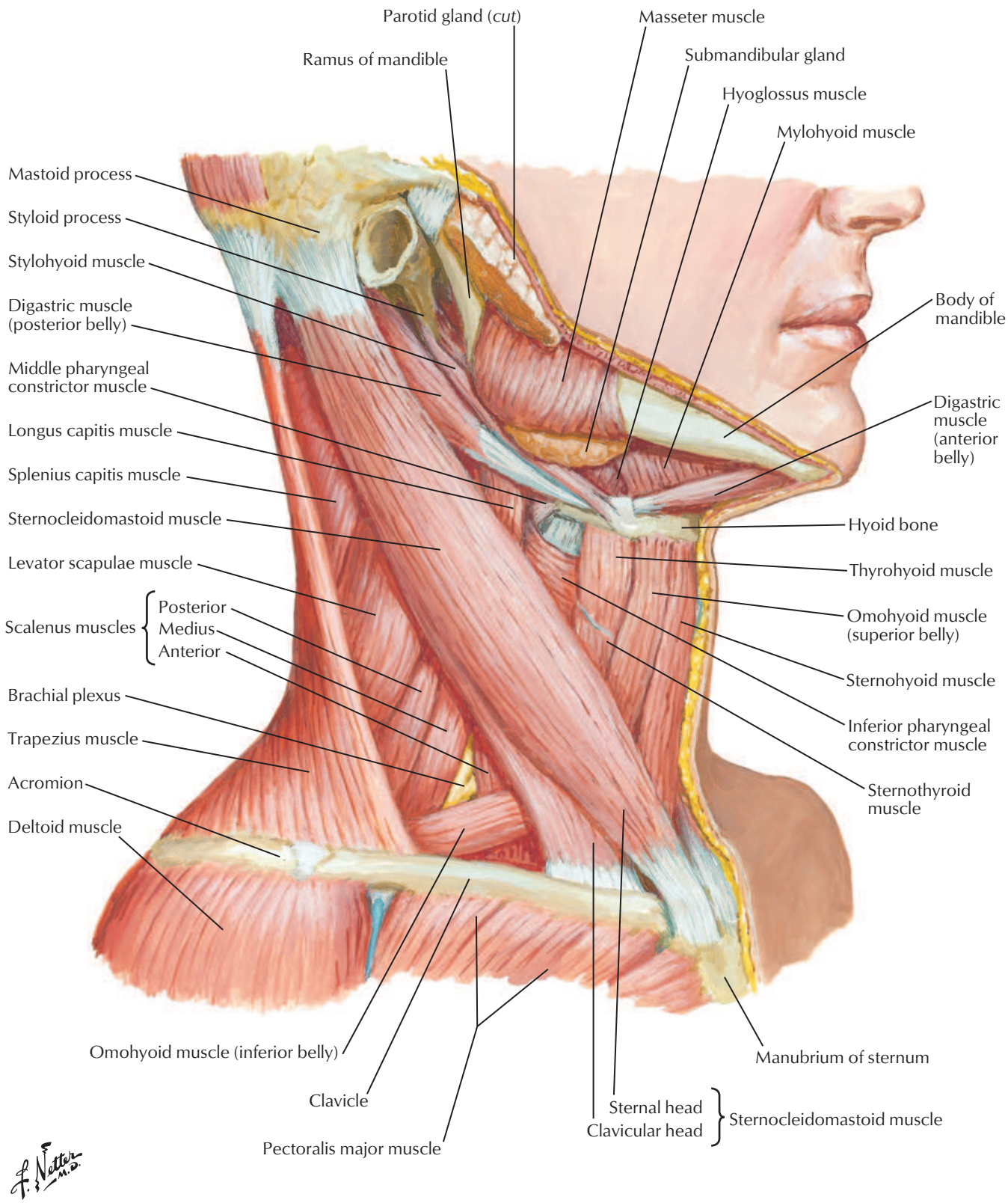
www.Booksmedicos06.com

See also Plates 32, 36, 69

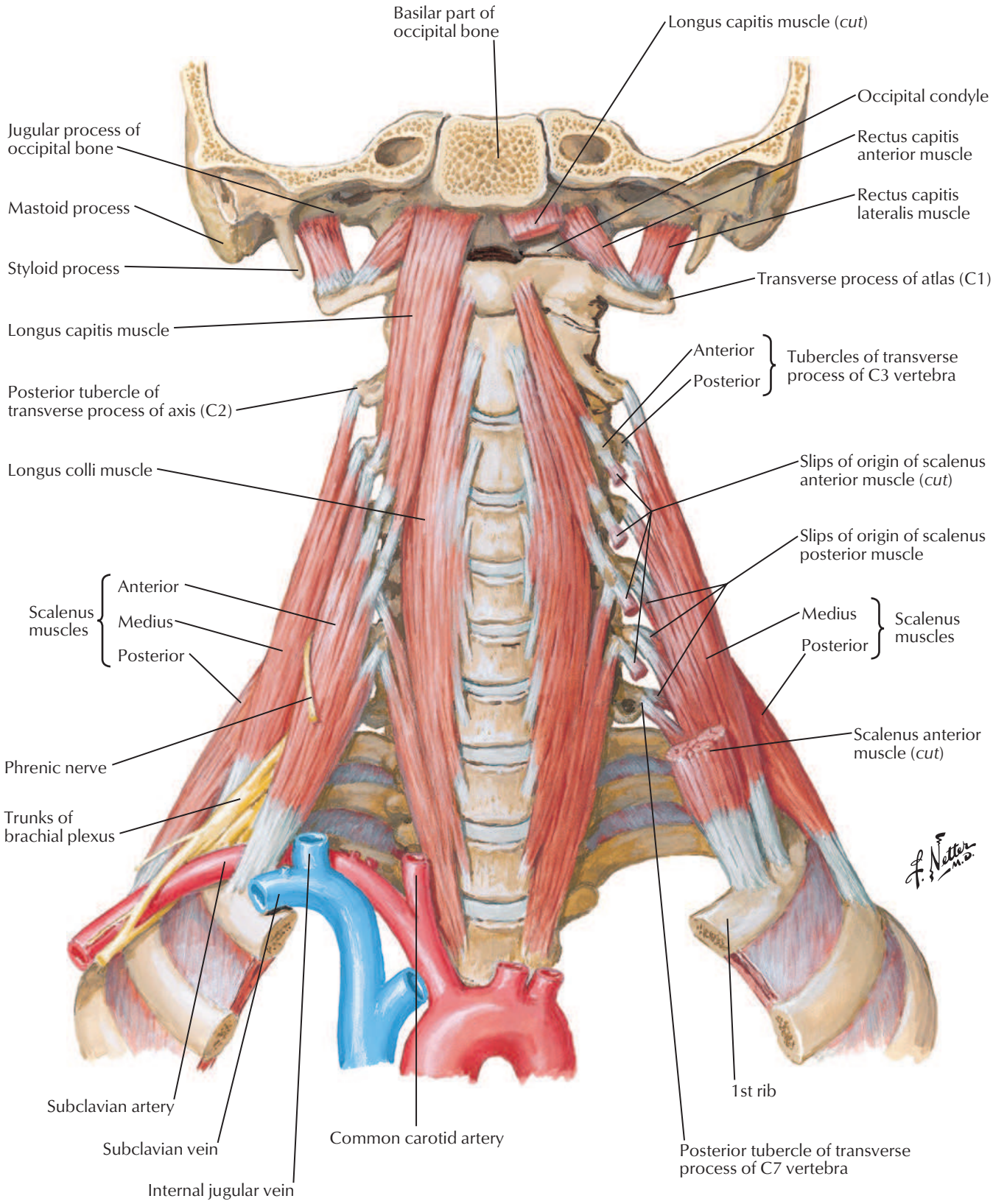


////// facebook : Booksmedicos06

See also Plates 32, 35, 38

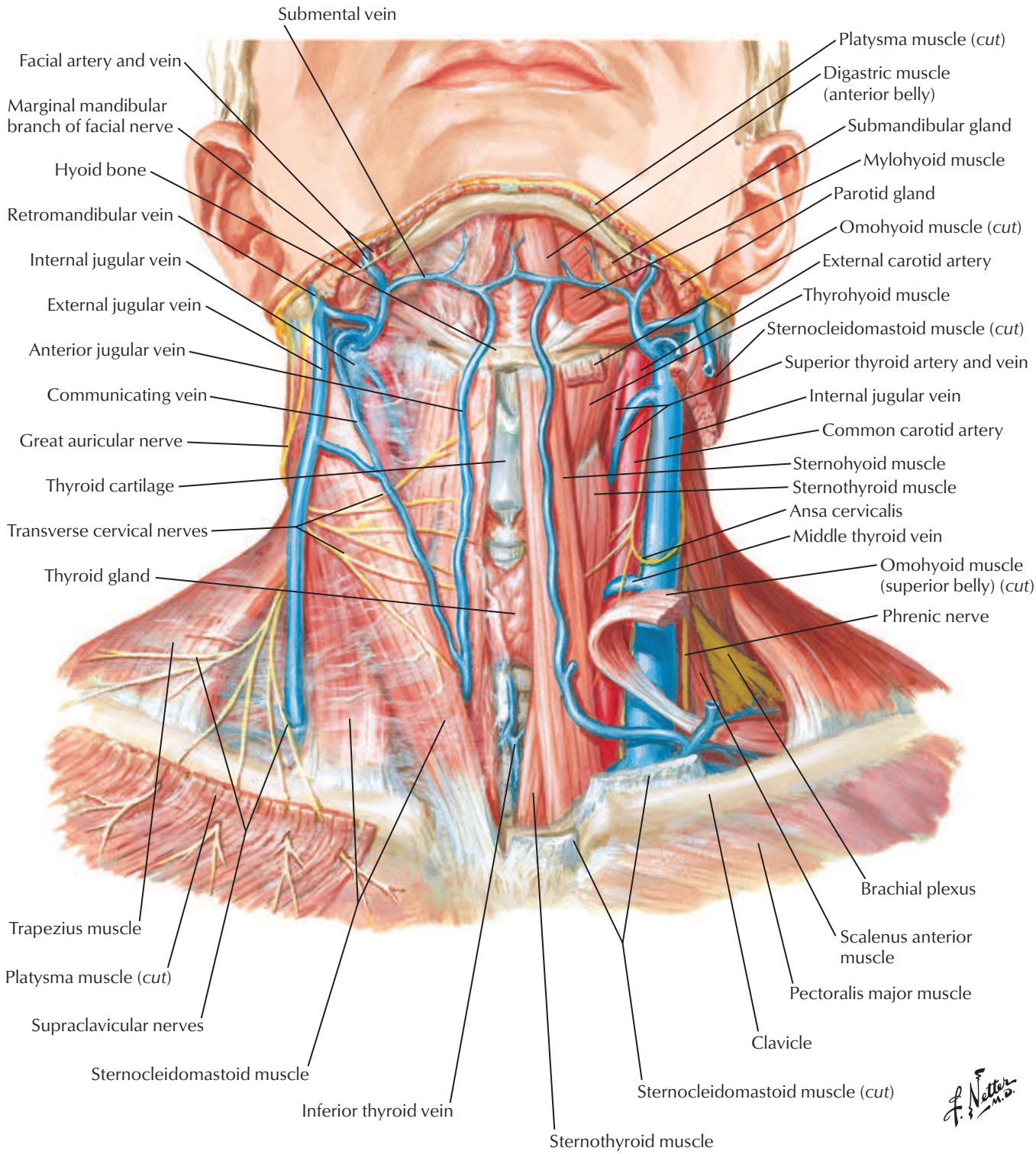


www.Booksmedicos06.com



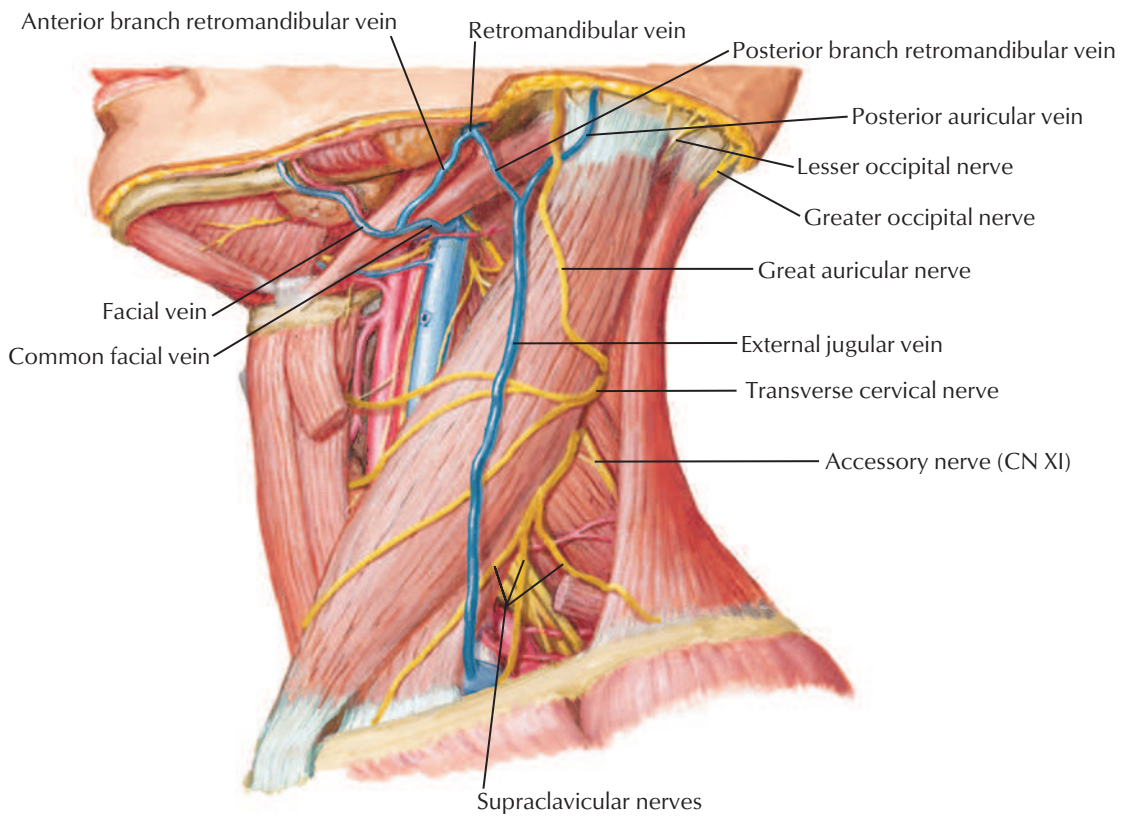
////// facebook : Booksmedicos06

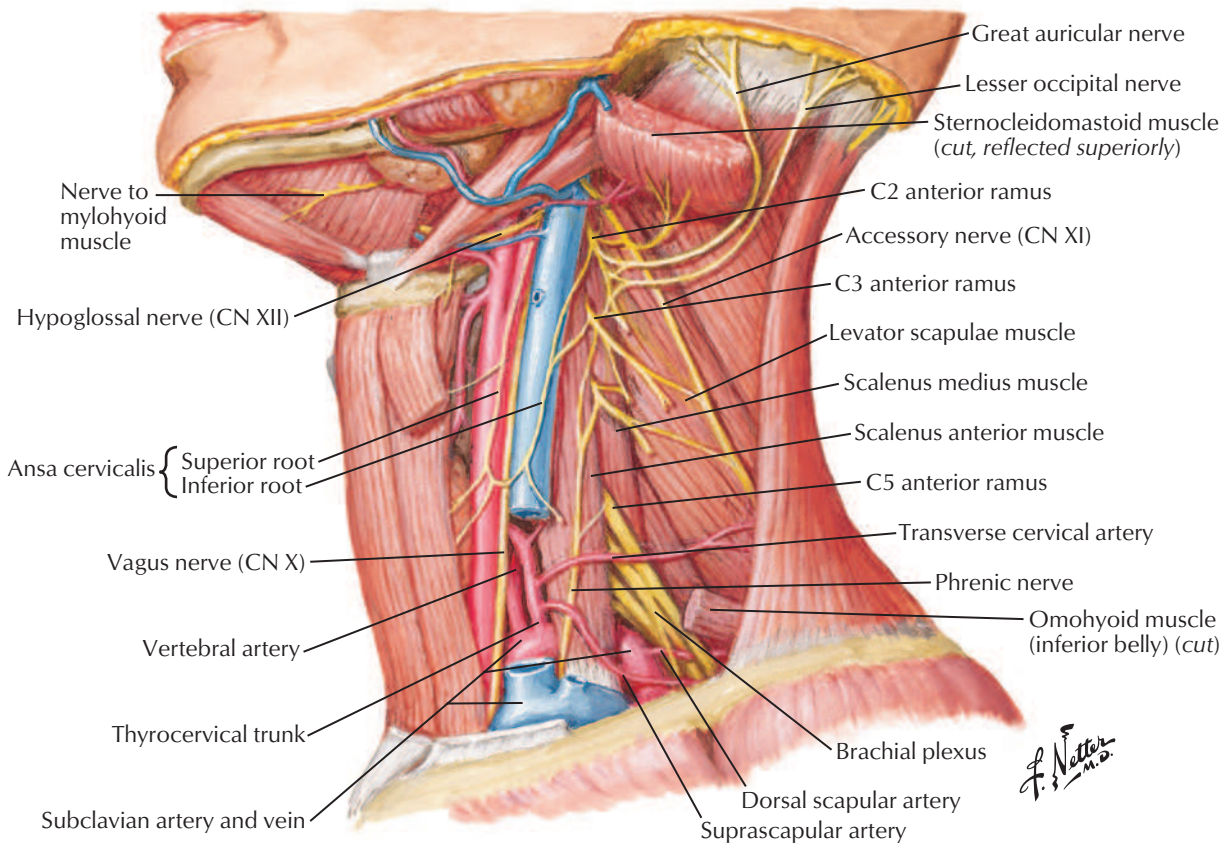
For deep veins of neck see Plate 84



www.Booksmedicos06.com

See also Plates 138, 139, 140

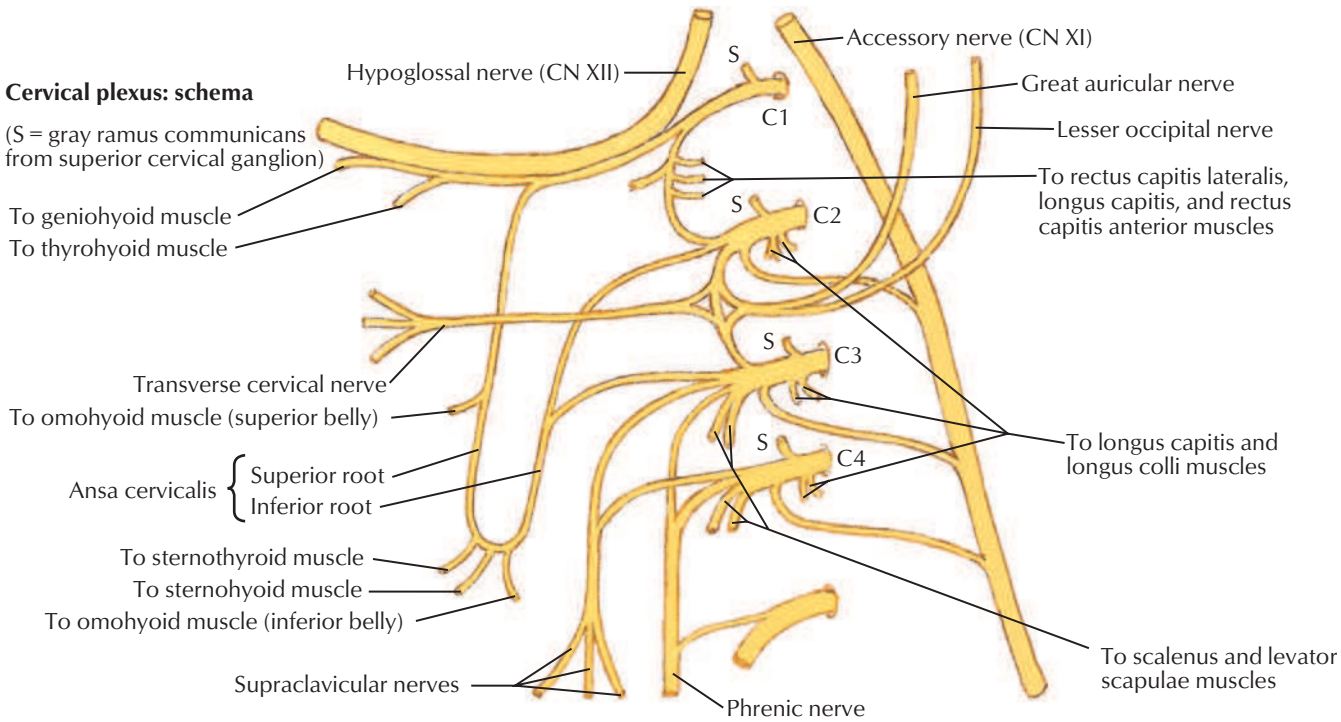




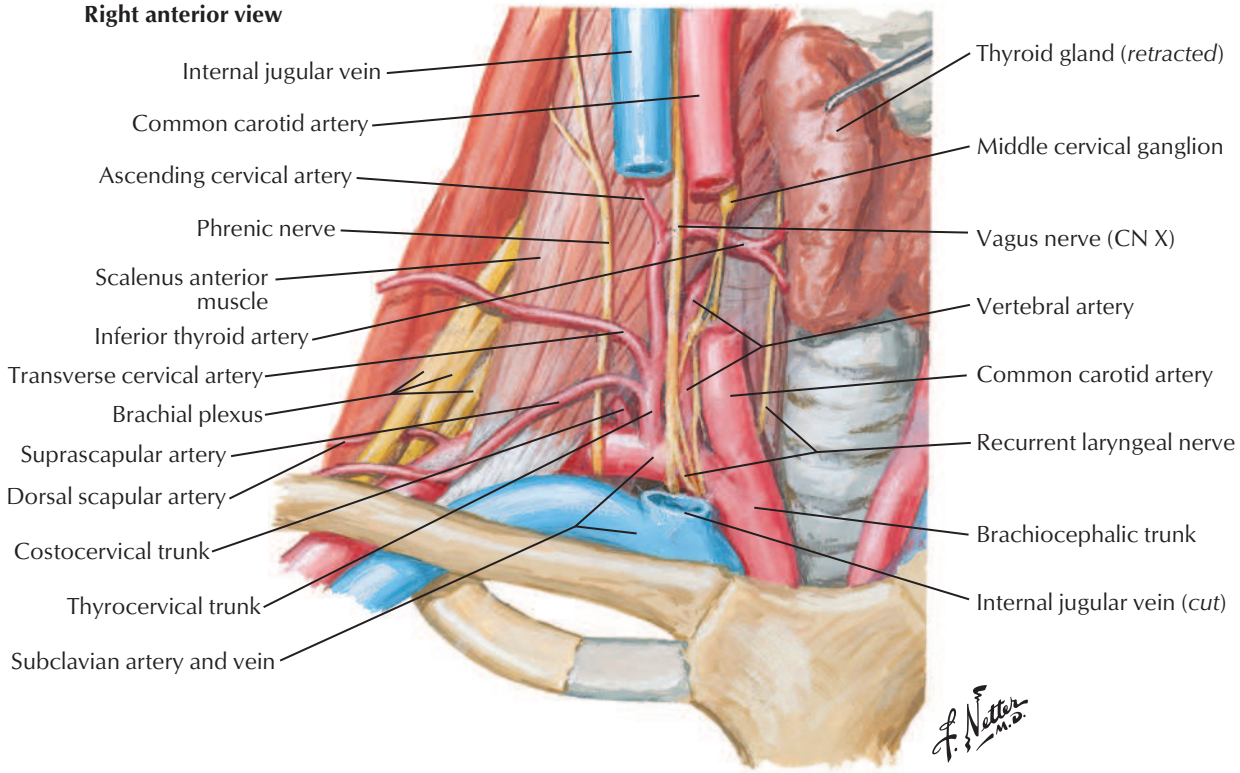
////// facebook : Booksmedicos06

See also Plate 140

Cervical plexus: schema



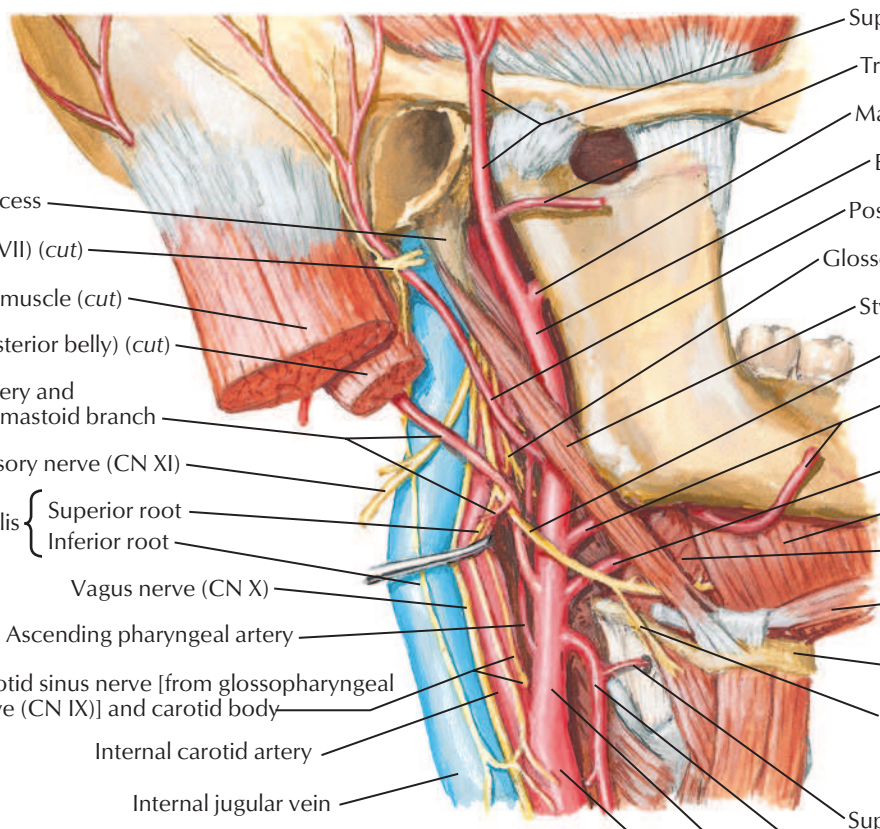
Right anterior view

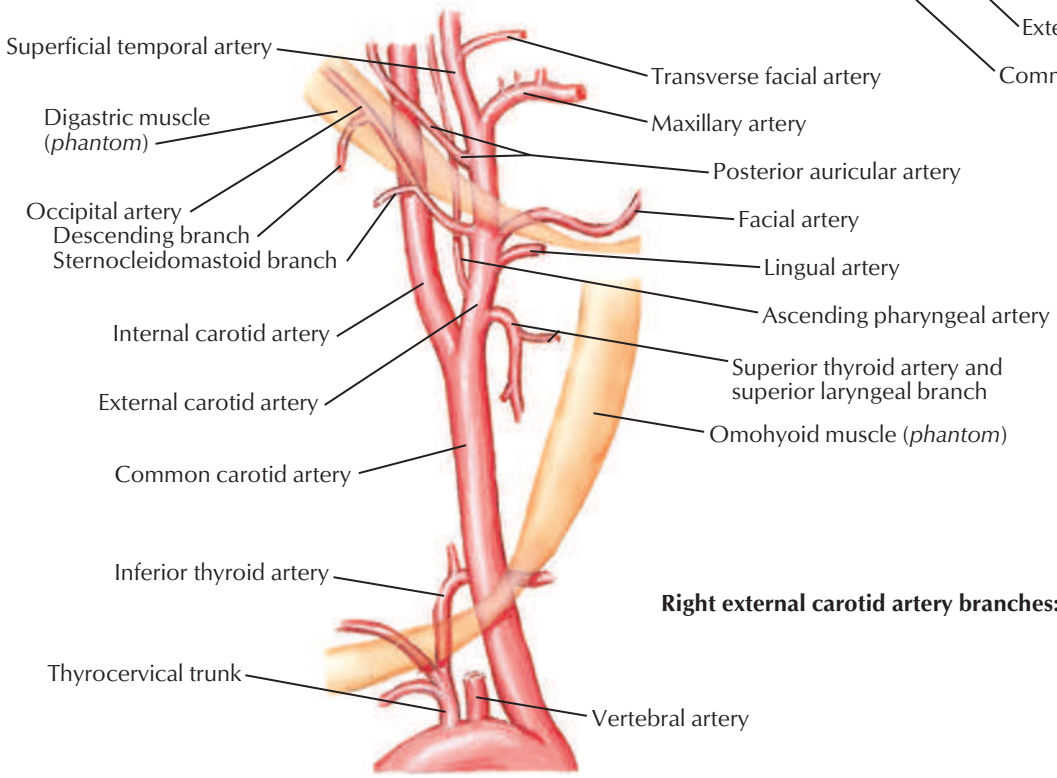


www.Booksmedicos06.com

See also Plates 147, 149

Parotid space (bed): right lateral view



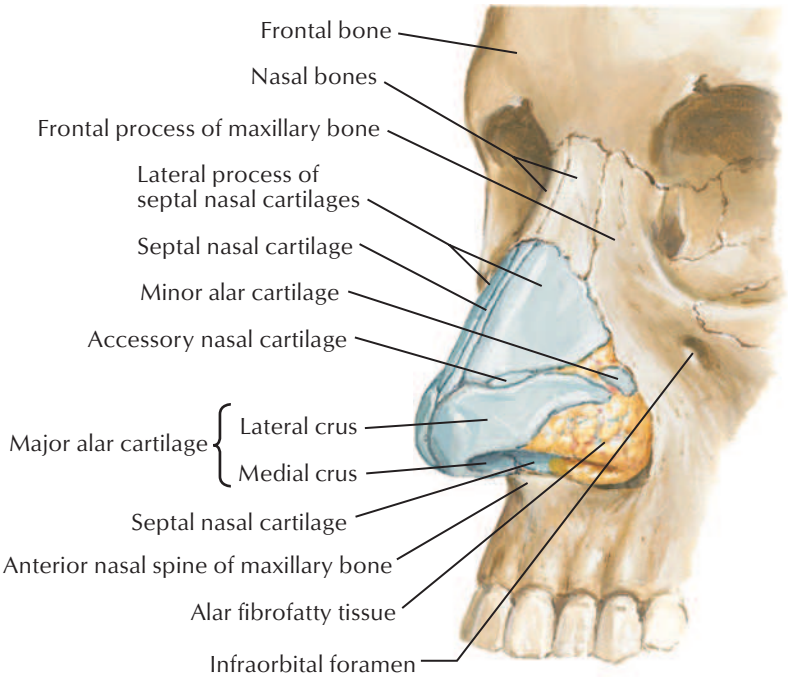


Right external carotid artery branches: schema

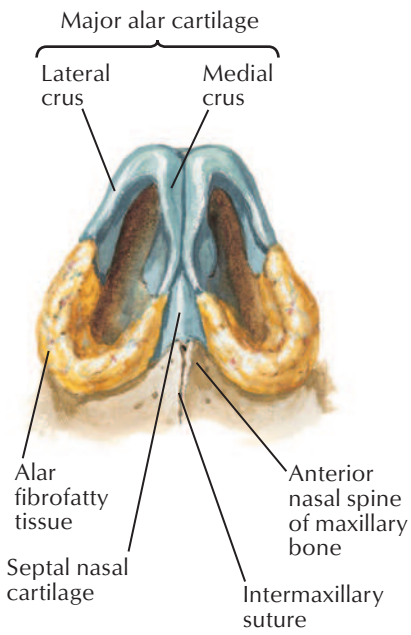
////// facebook : Booksmedicos06

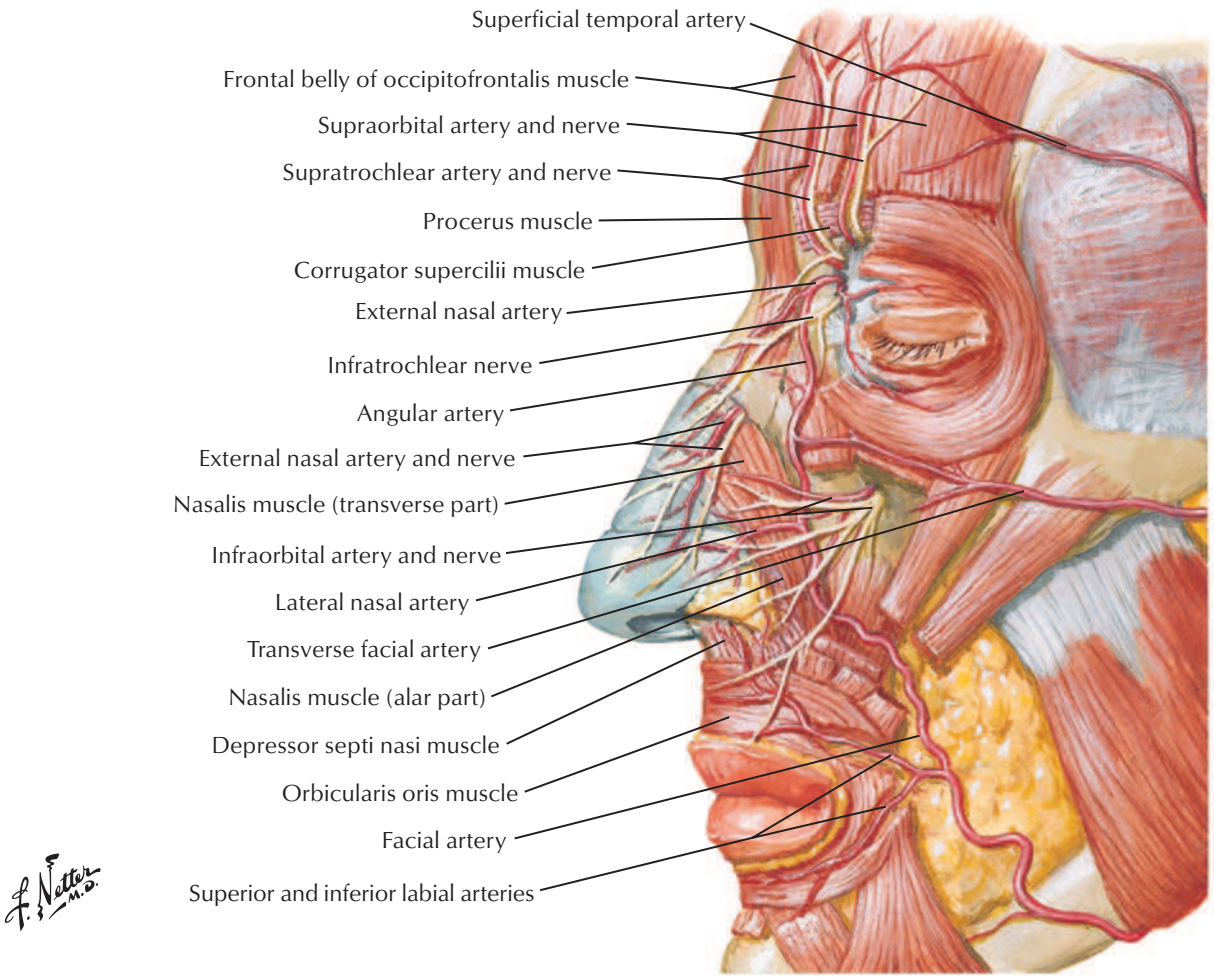
See also Plate 45

Anterolateral view

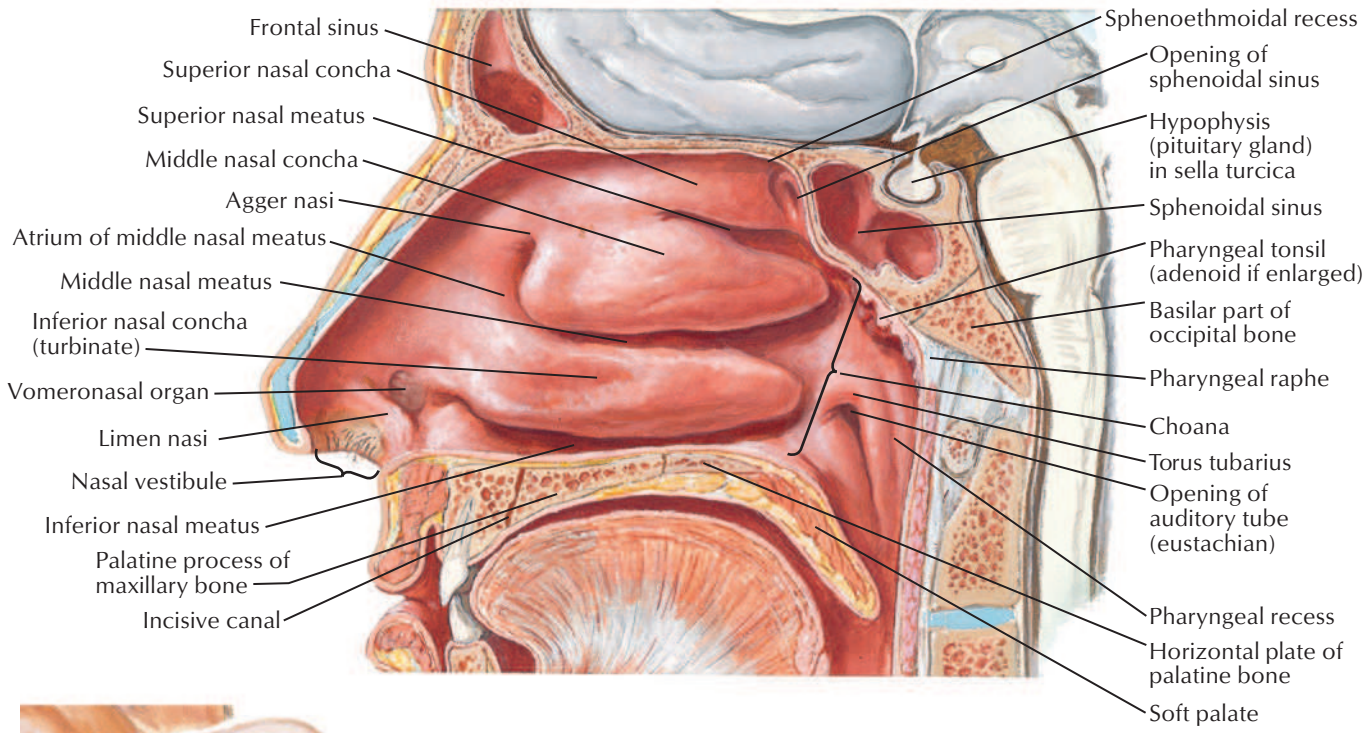


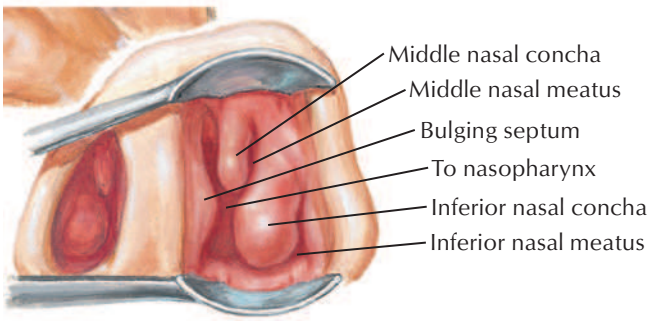
Inferior view



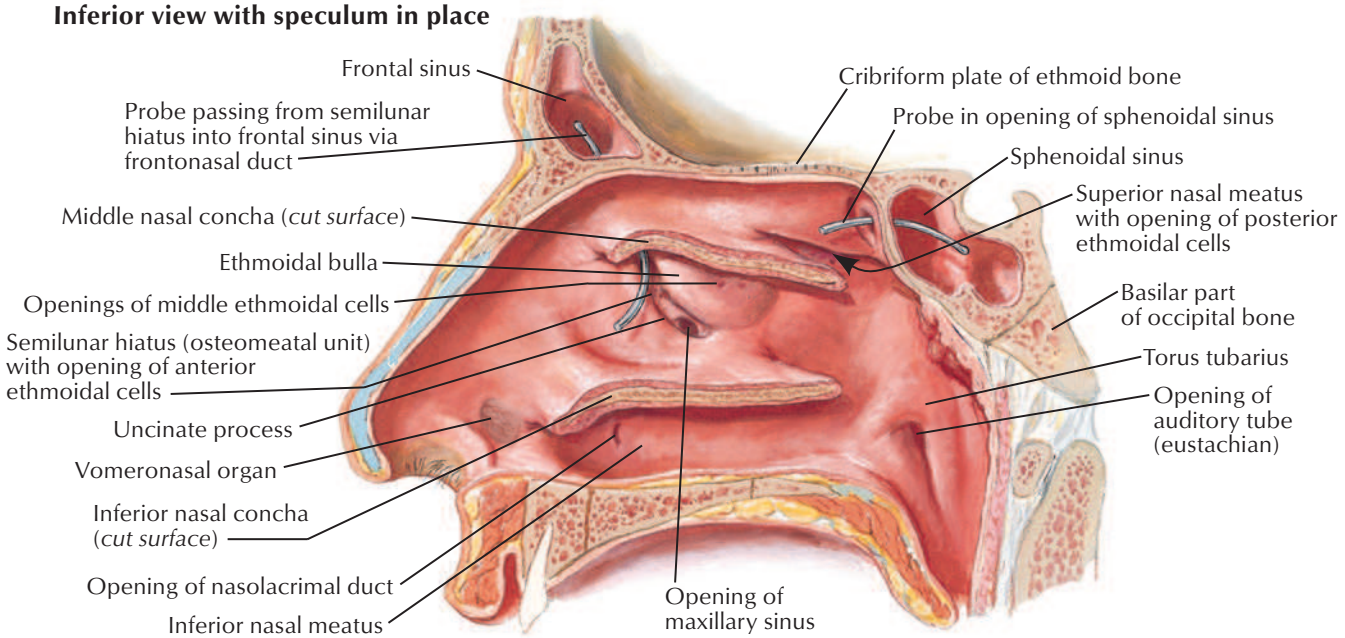


www.Booksmedicos06.com



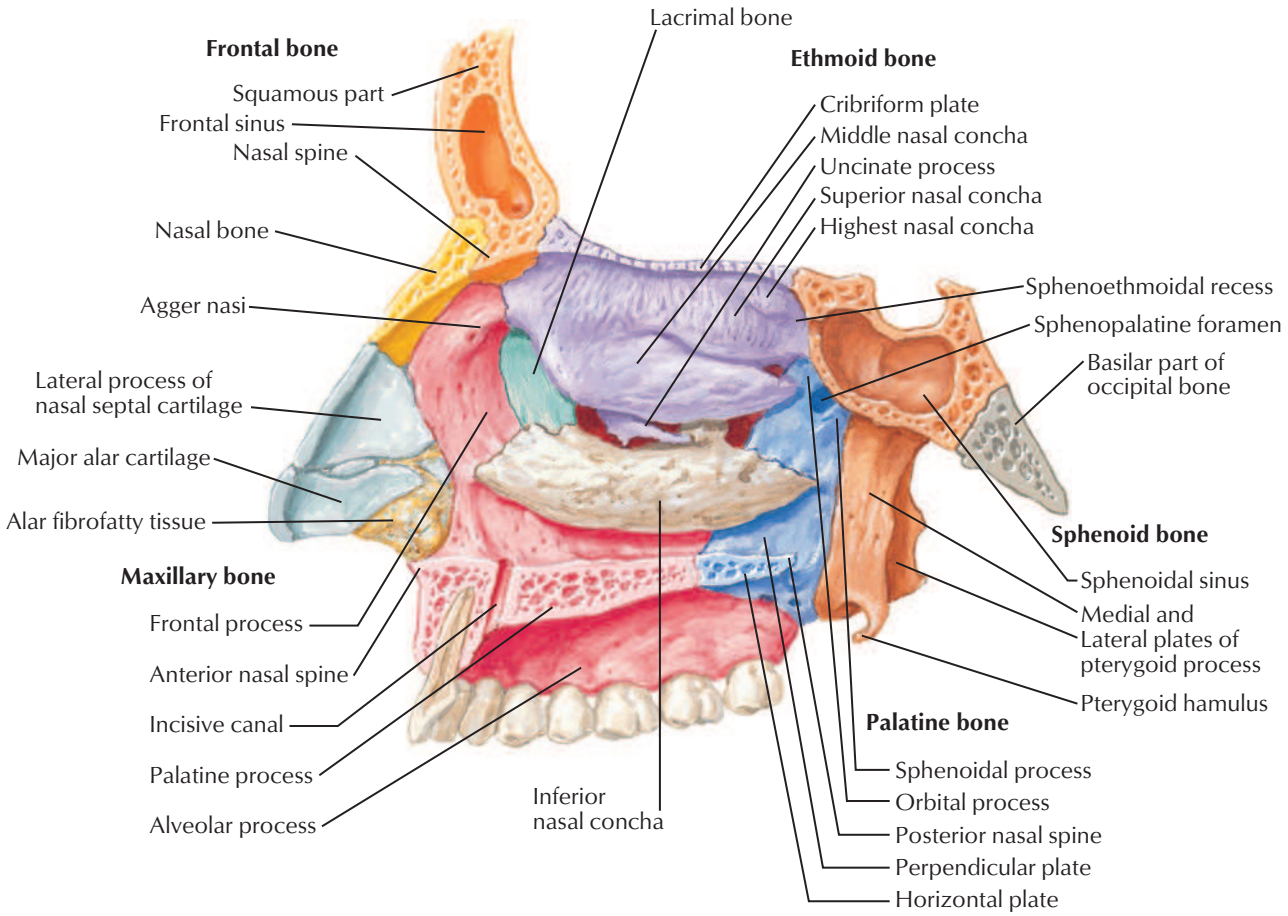


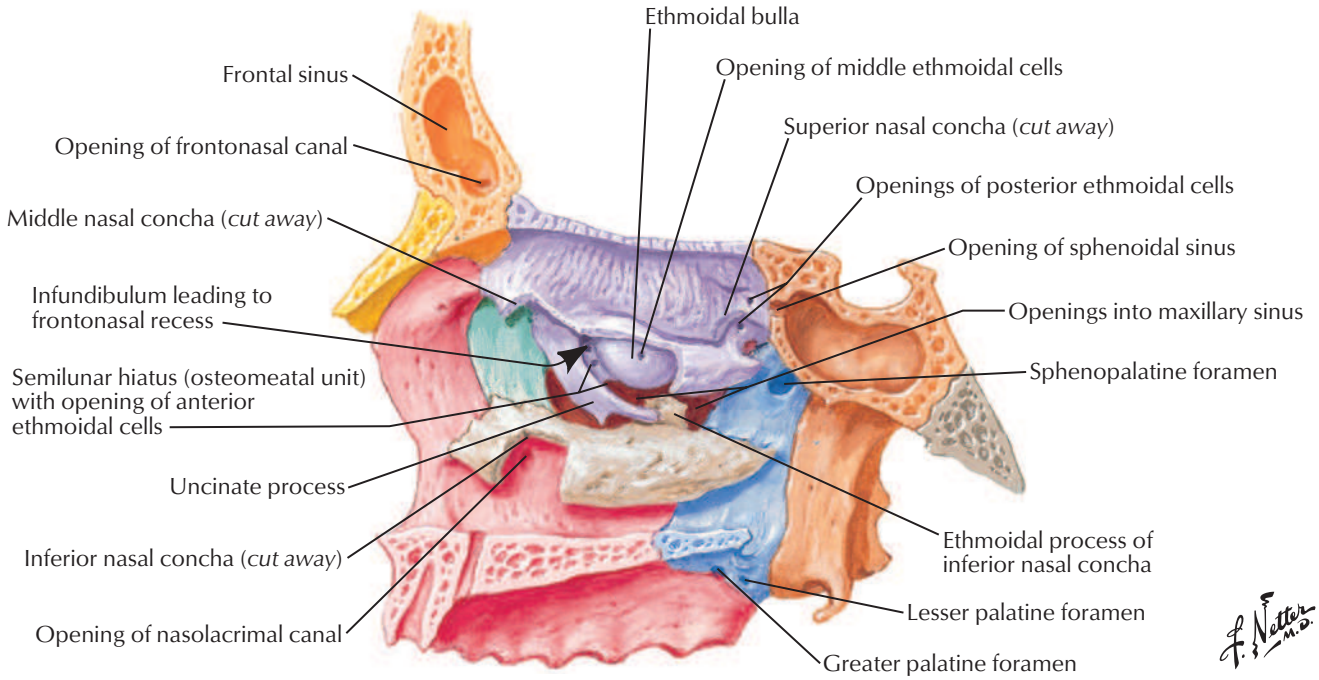
Inferior view with speculum in place



/////// facebook : Booksmedicos06

See also Plates 43, 45

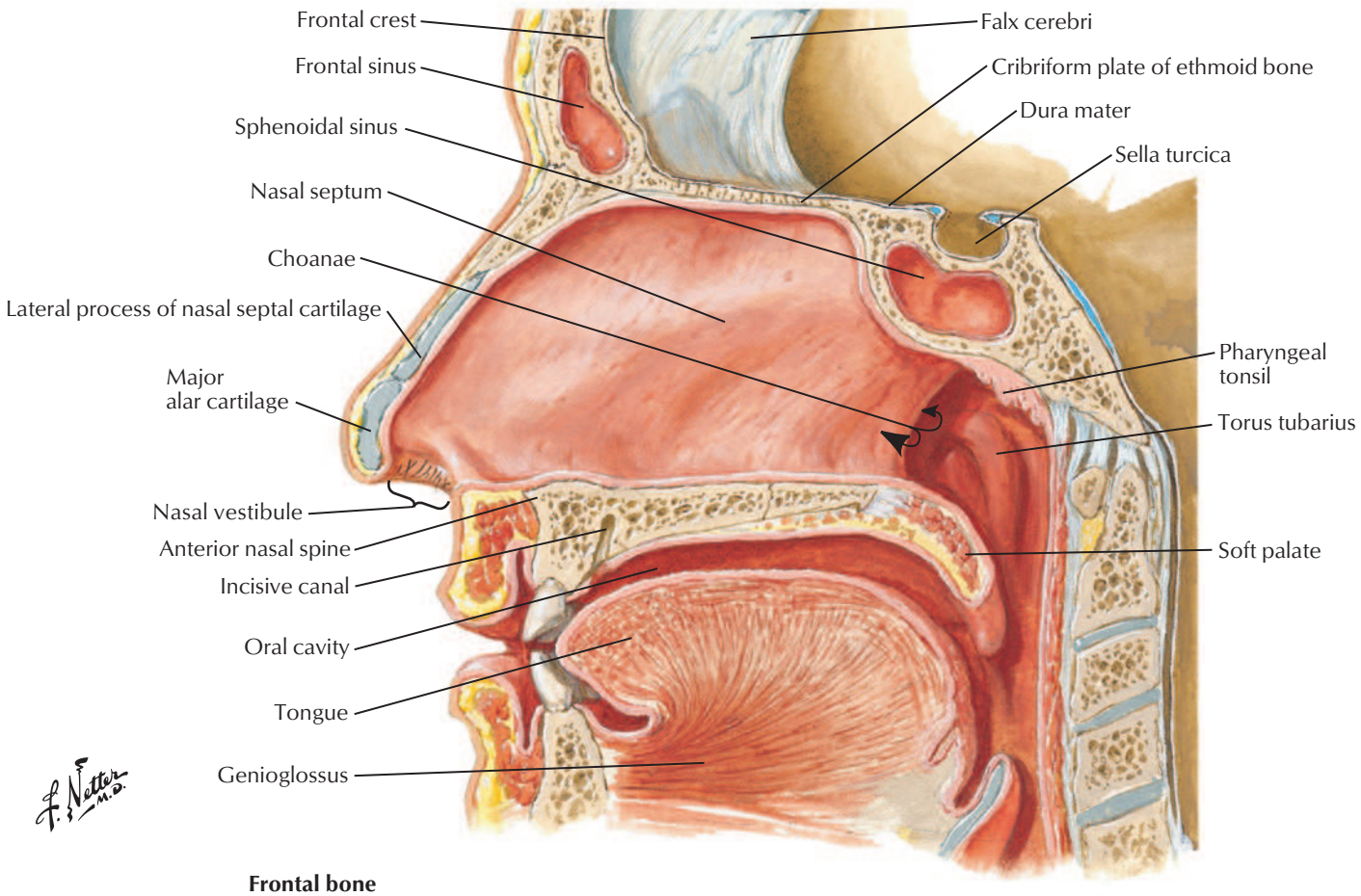


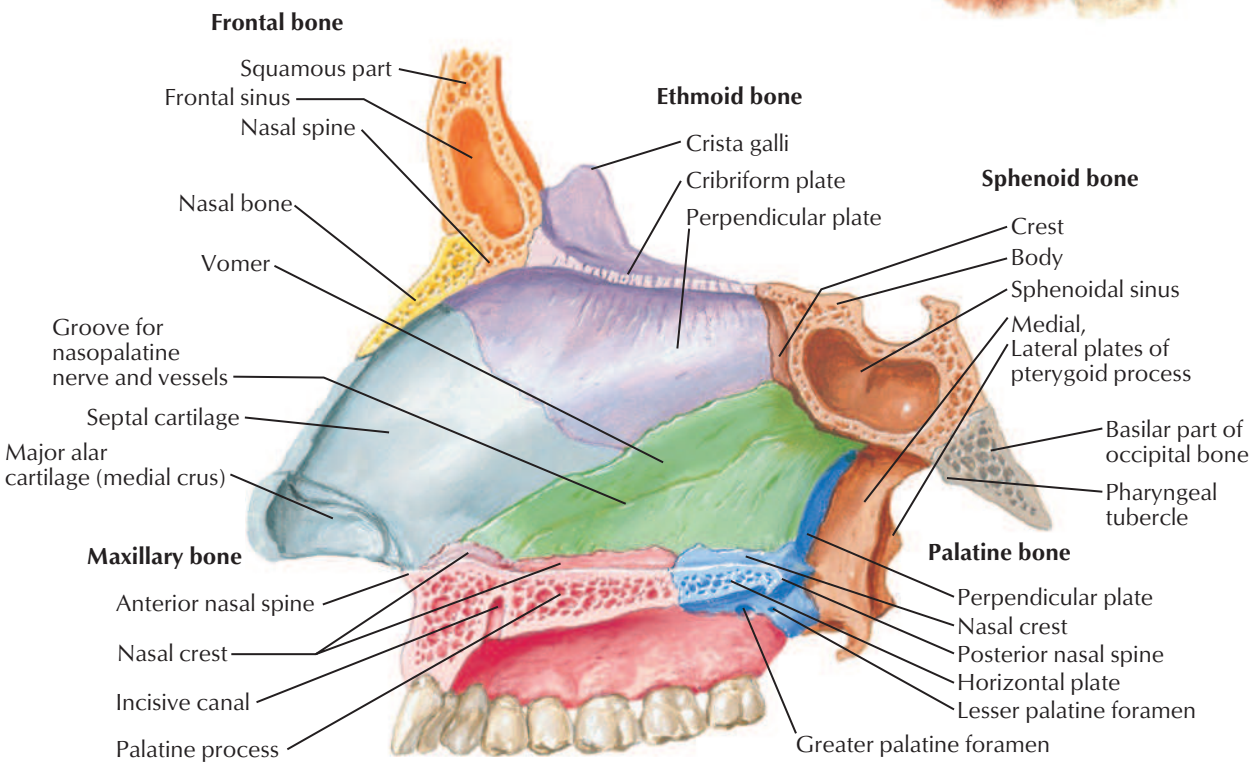


www.Booksmedicos06.com

Medial Wall of Nasal Cavity (Nasal Septum)

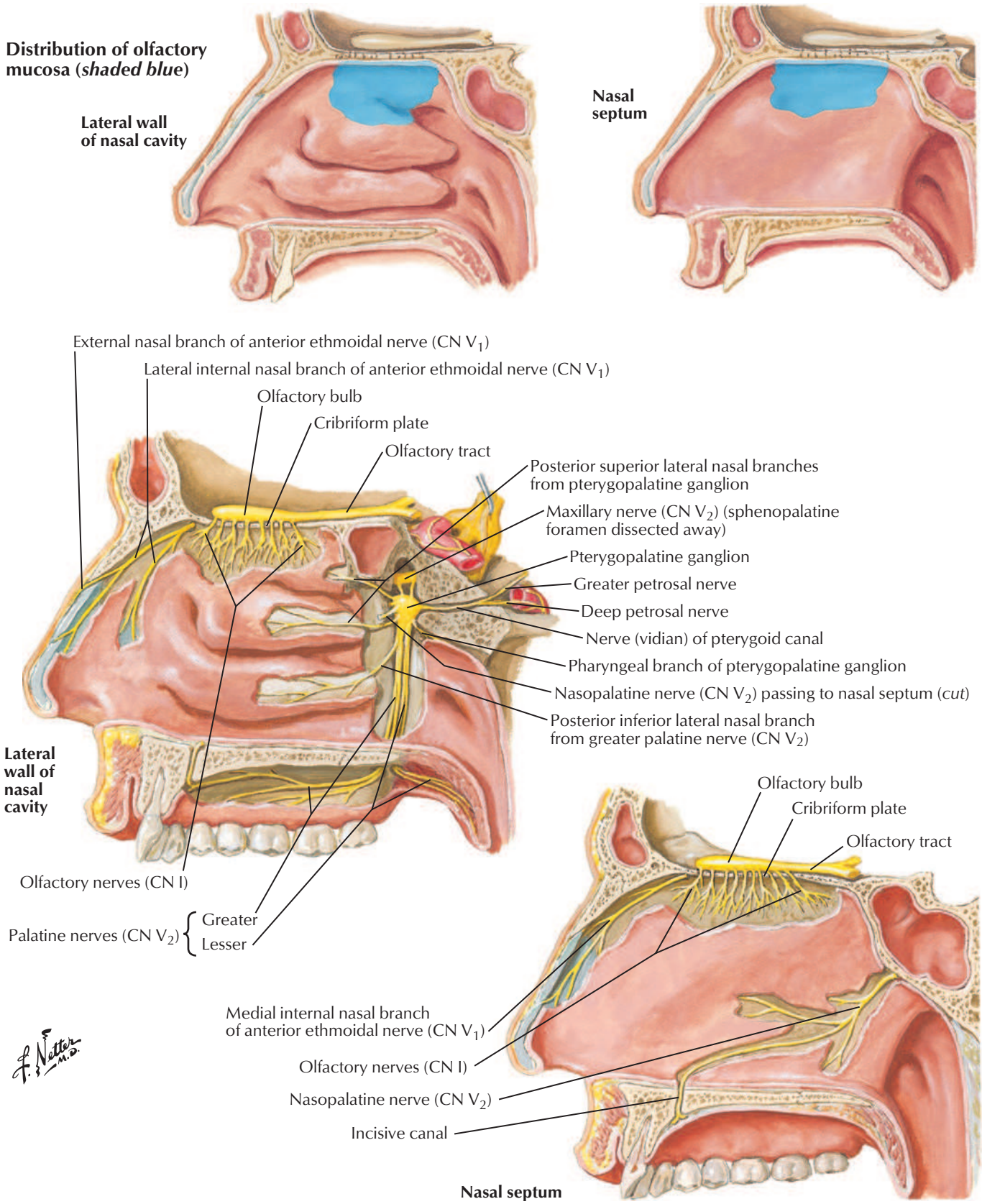
See also Plate 15





/////// facebook : Booksmedicos06

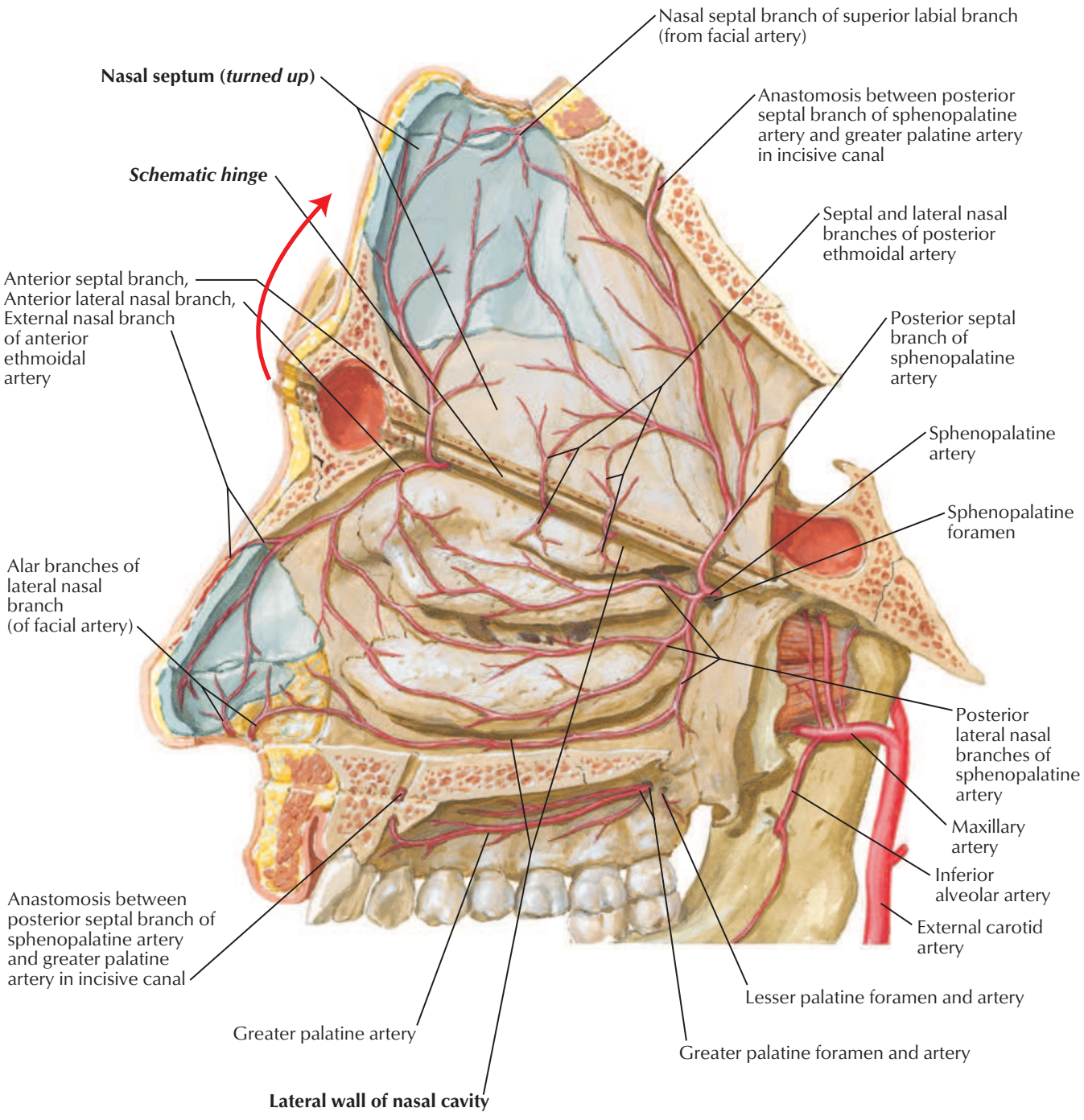
See also Plates 63, 73, 130



www.Booksmedicos06.com

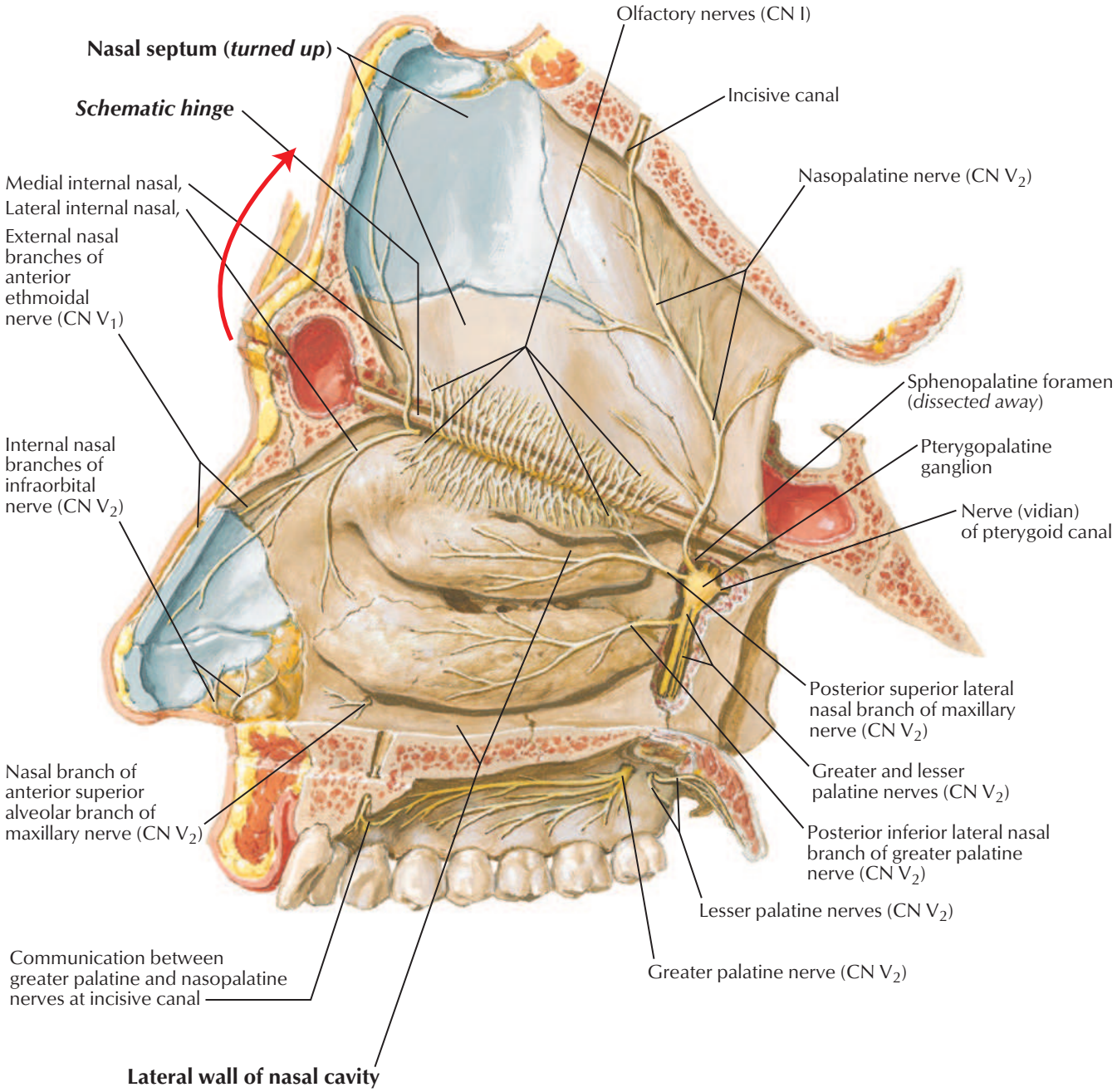
Arteries of Nasal Cavity: Bony Nasal Septum Turned Up

See also Plates 57, 63

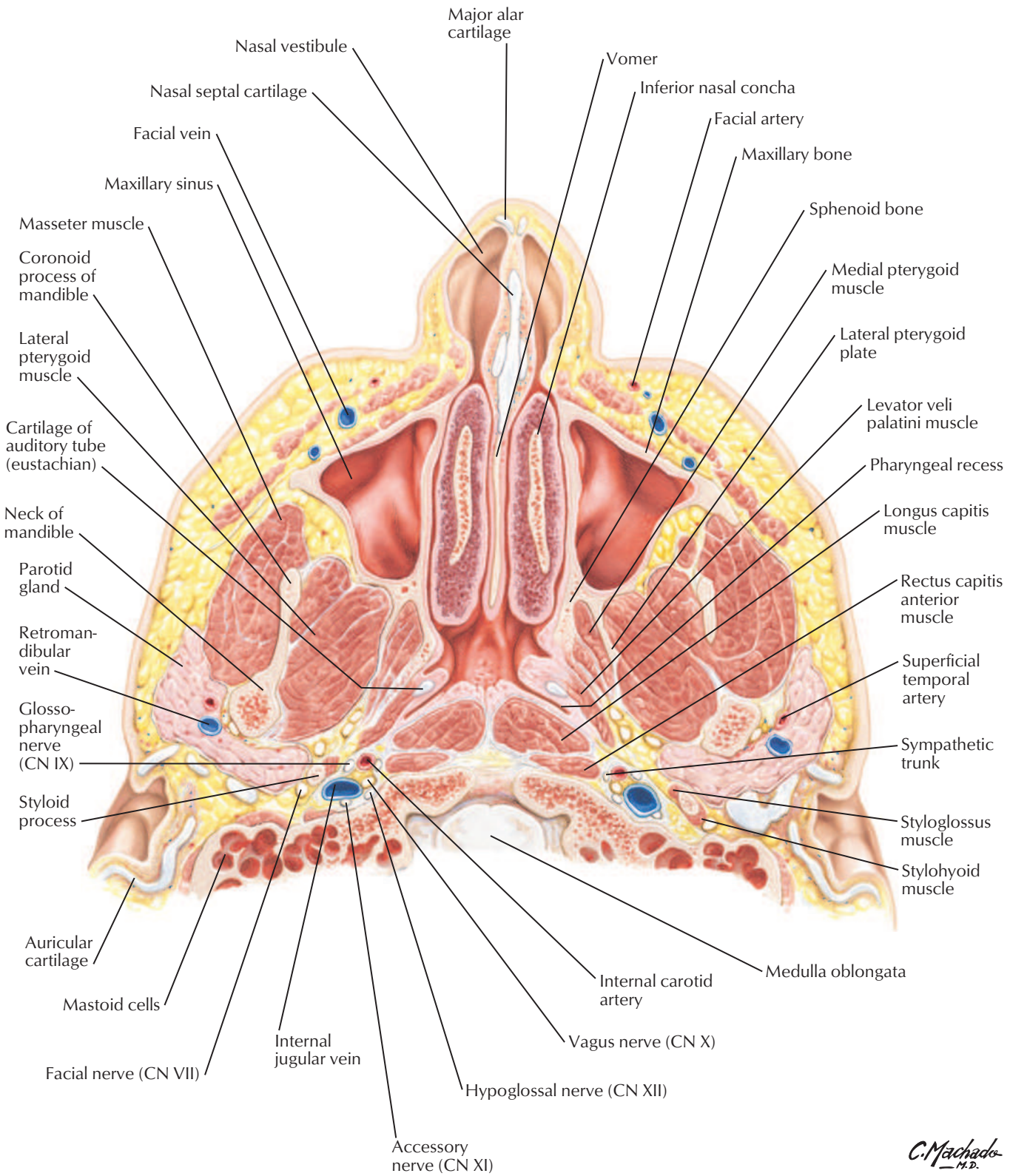


////// facebook : Booksmedicos06

See also Plate 62

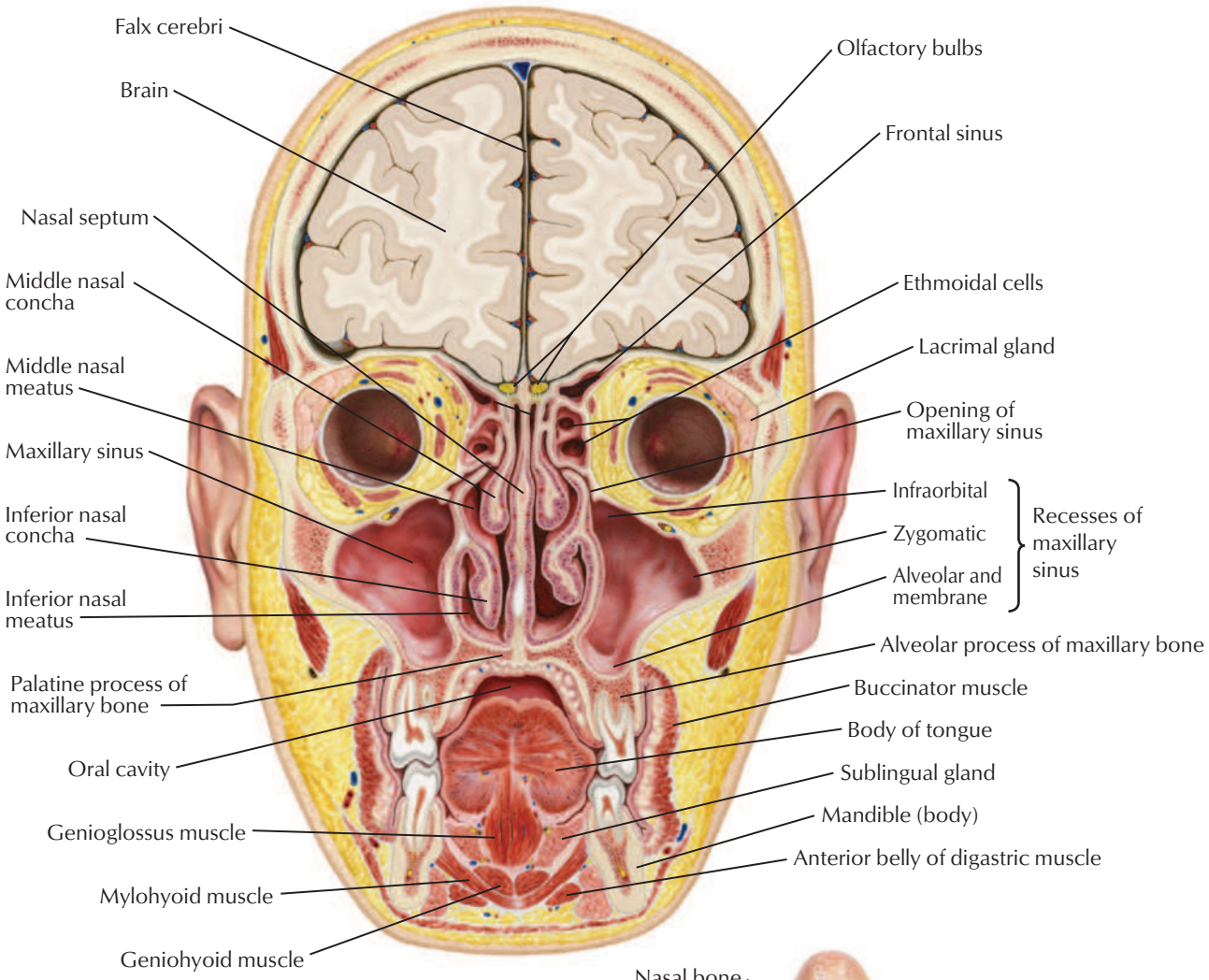


www.Booksmedicos06.com

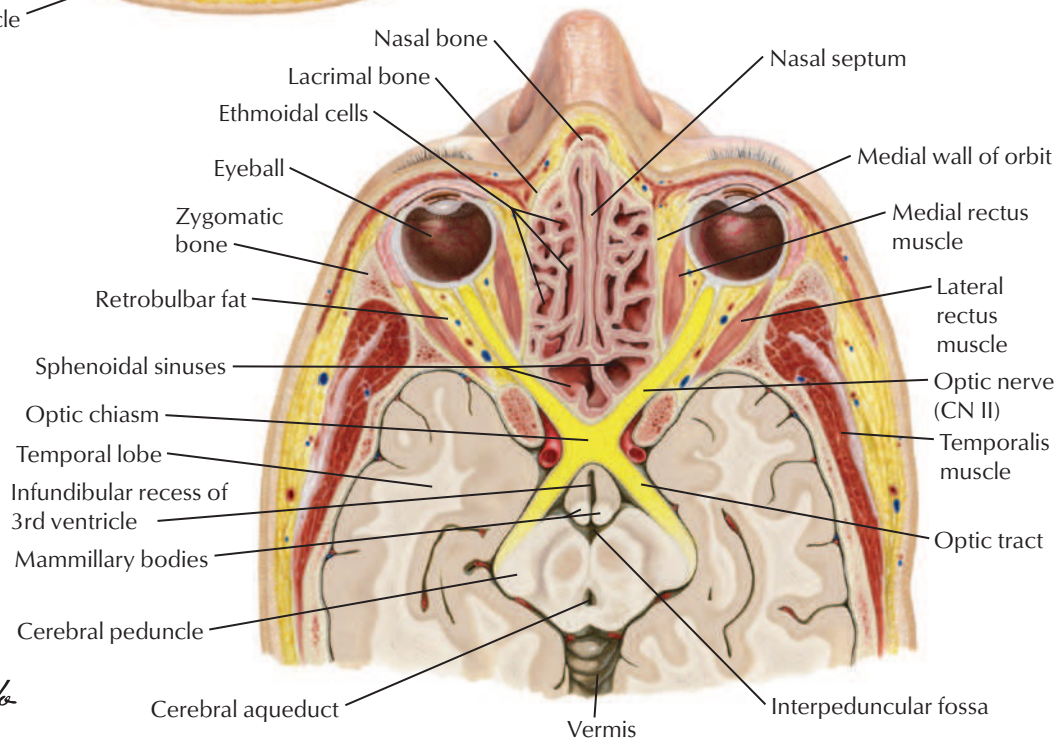


////// facebook : Booksmedicos06

Coronal section



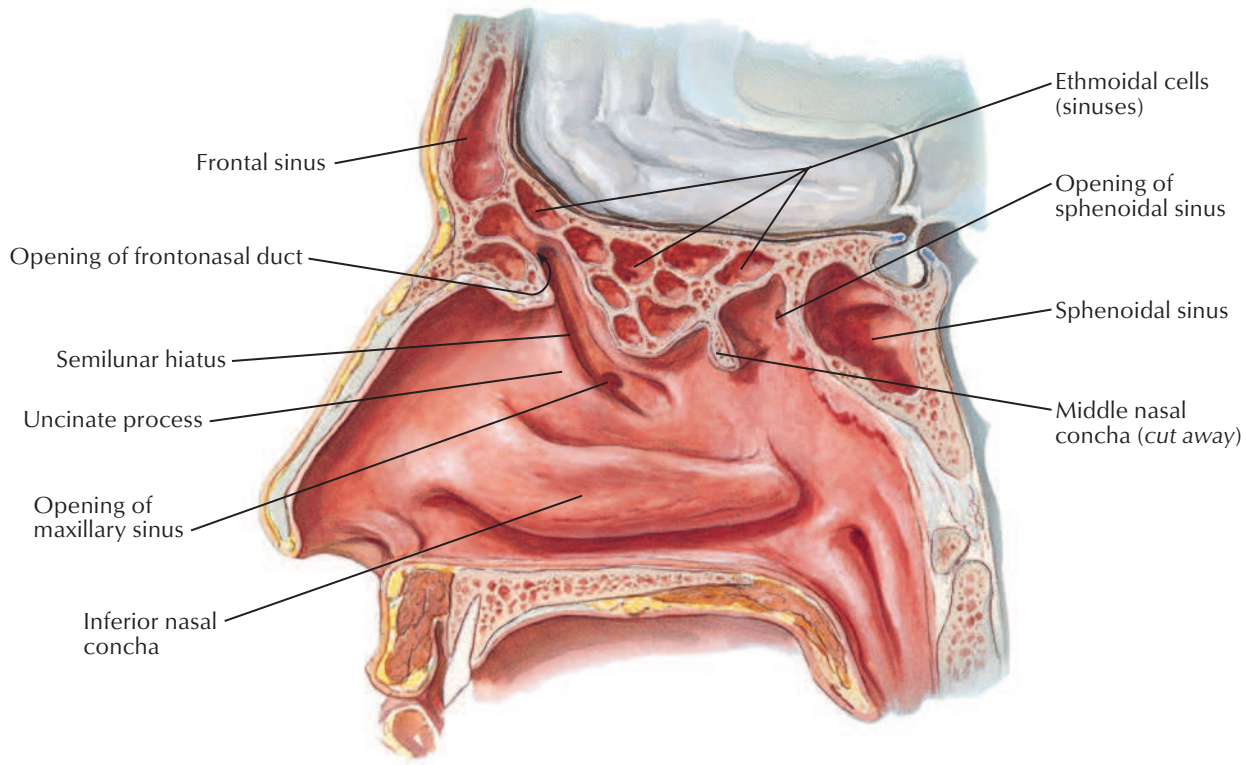
Transverse section

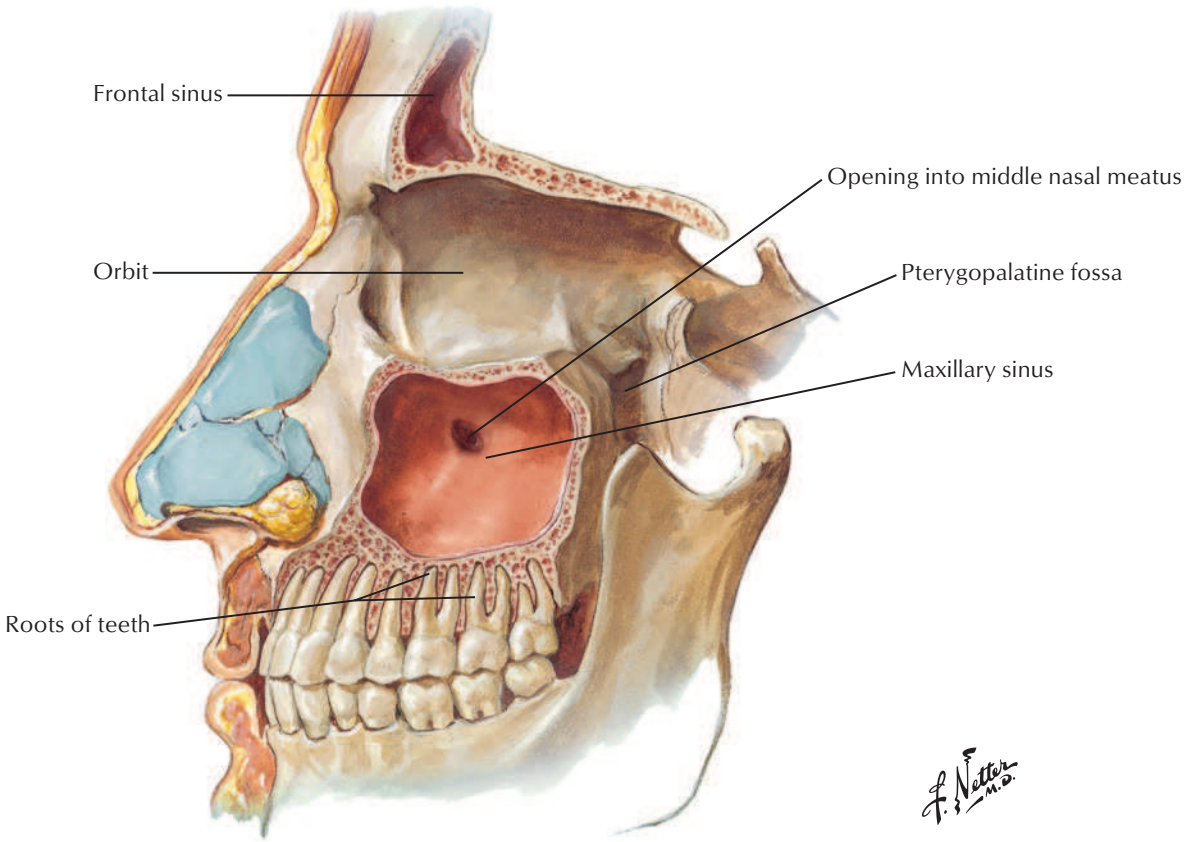


C. Machado M.D.

www.Booksmedicos06.com

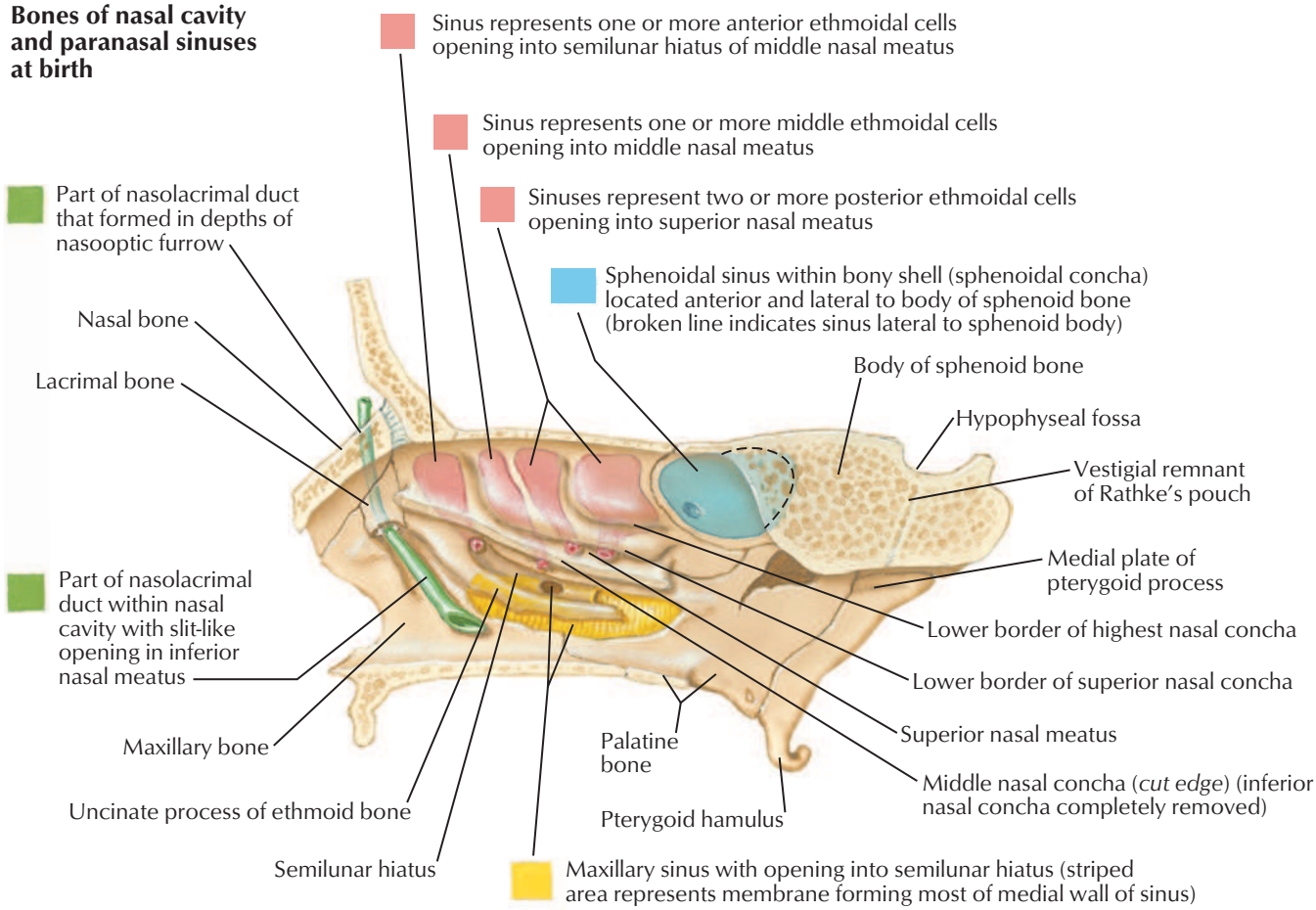
See also Plate 43



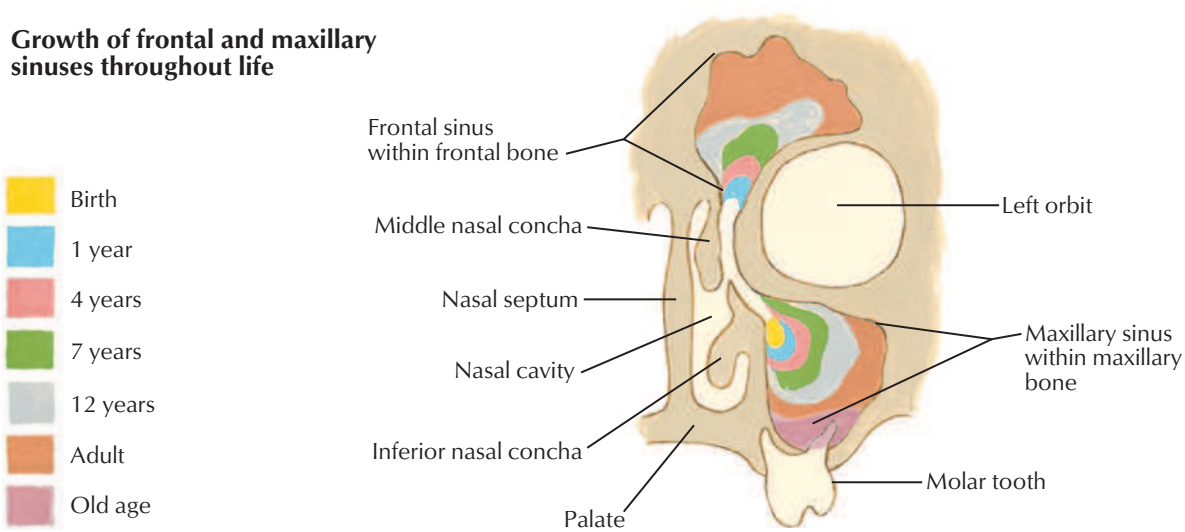


////// facebook : Booksmedicos06

Bones of nasal cavity and paranasal sinuses at birth

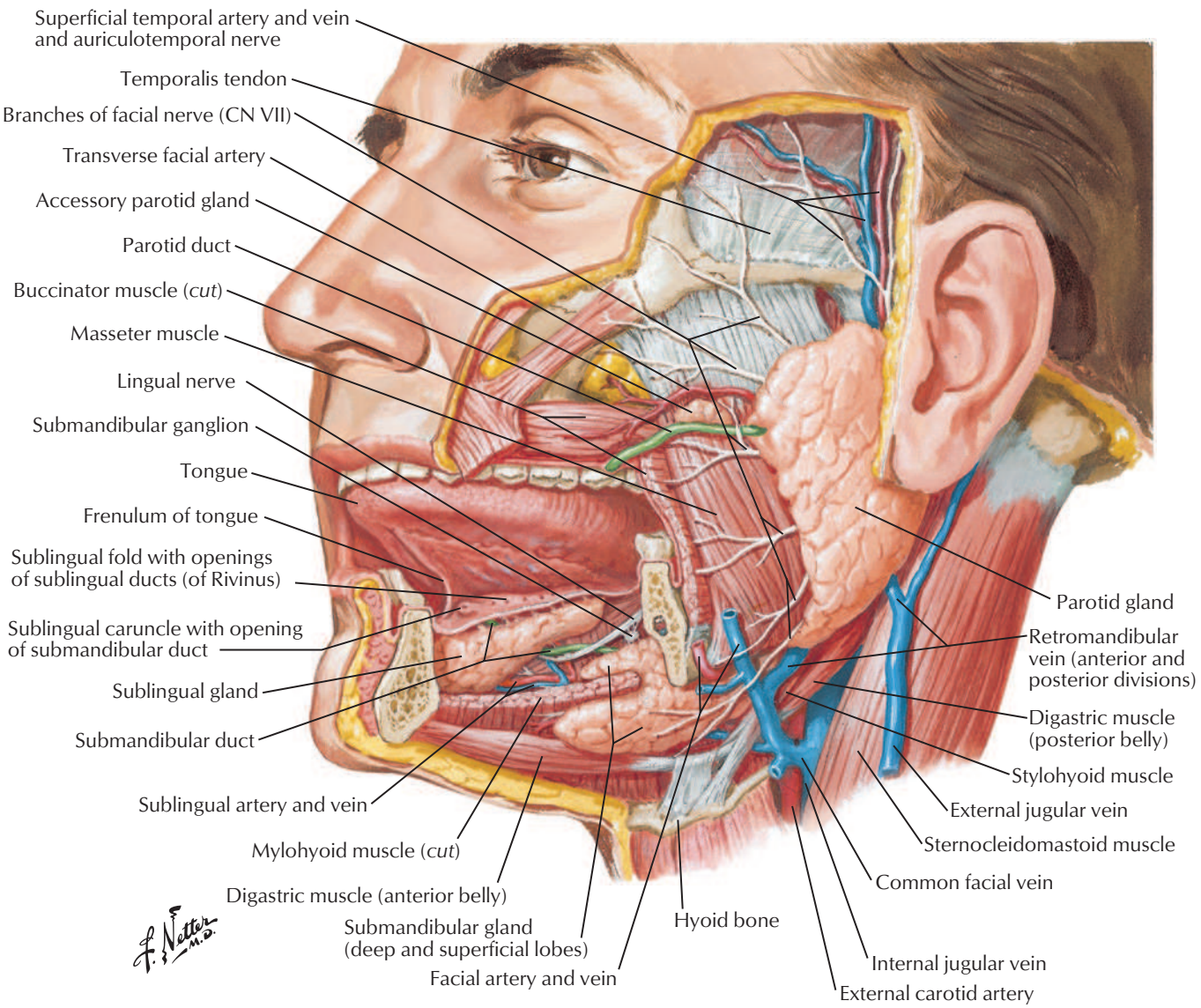


Growth of frontal and maxillary sinuses throughout life



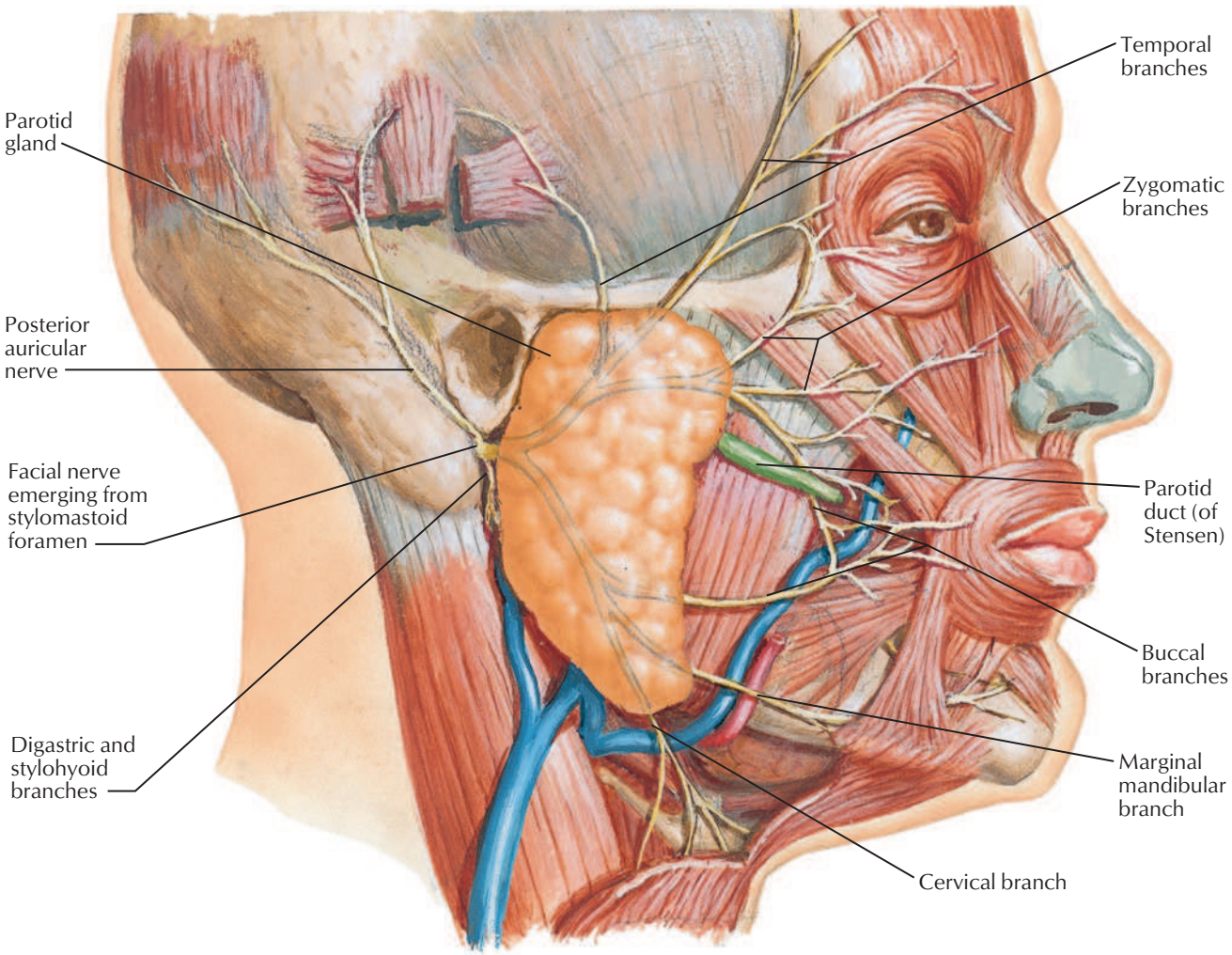
www.Booksmedicos06.com

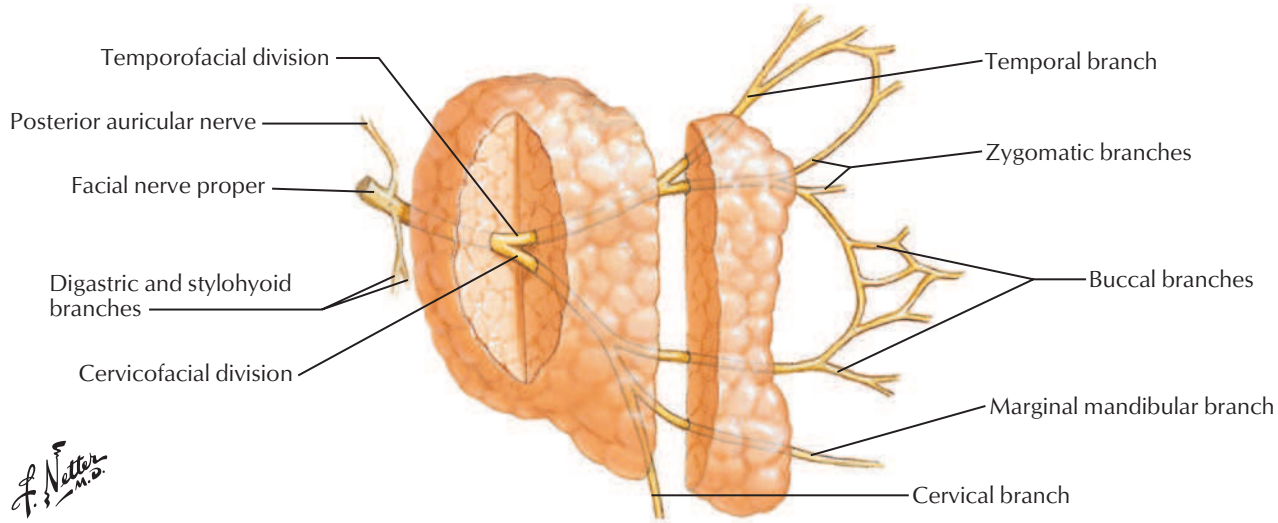
See also Plates 54, 144, 145



////// facebook : Booksmedicos06

See also Plates 53, 134

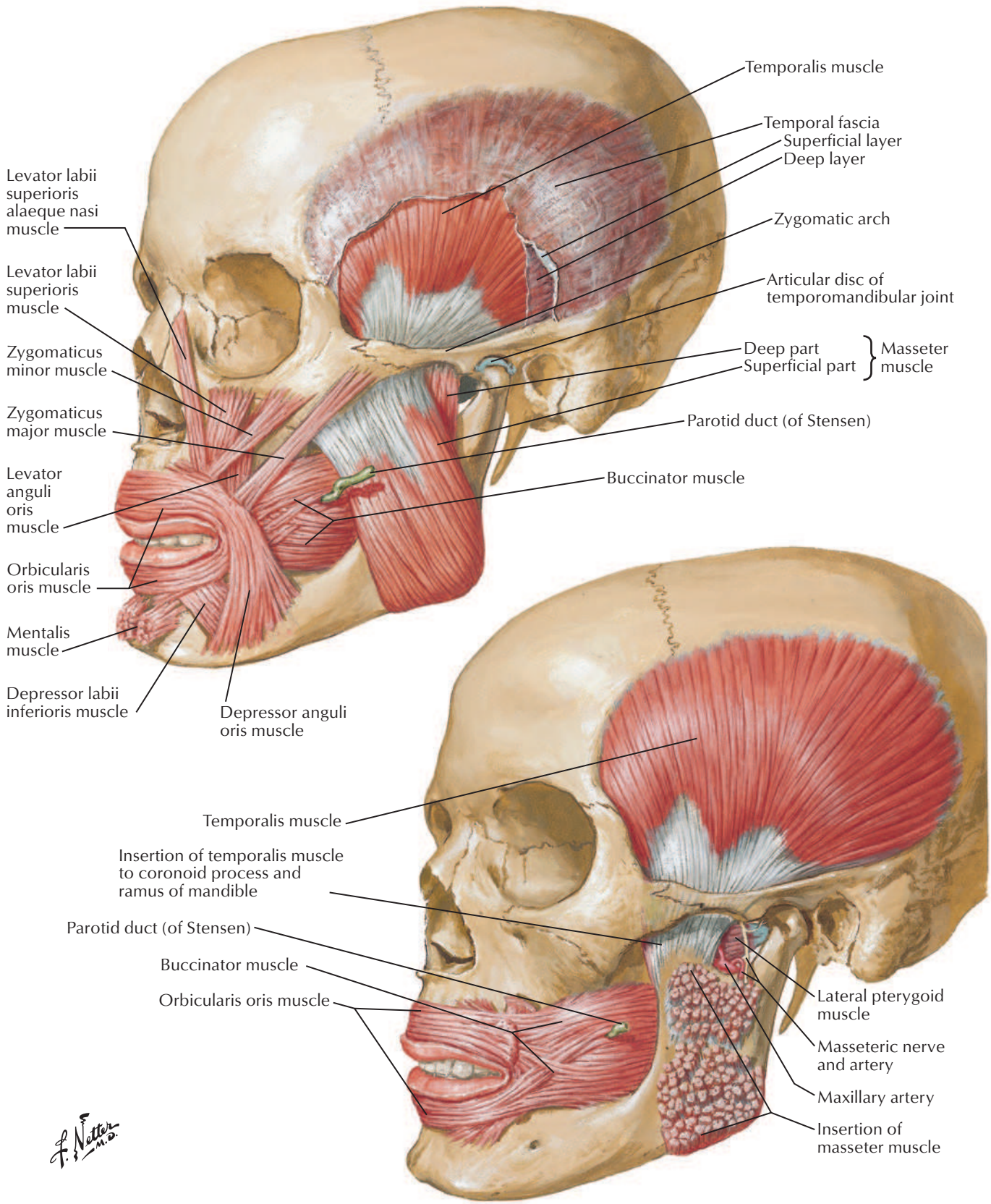




www.Booksmedicos06.com

Muscles Involved in Mastication

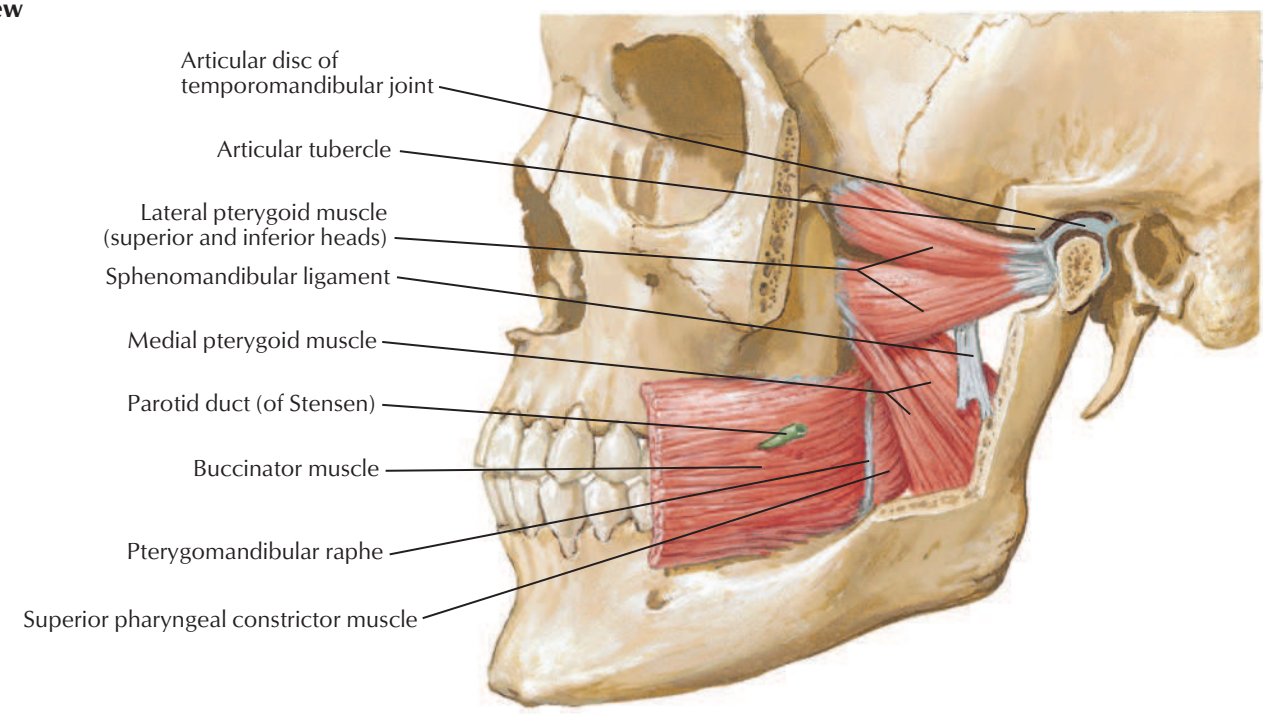
For facial muscles see Plate 31



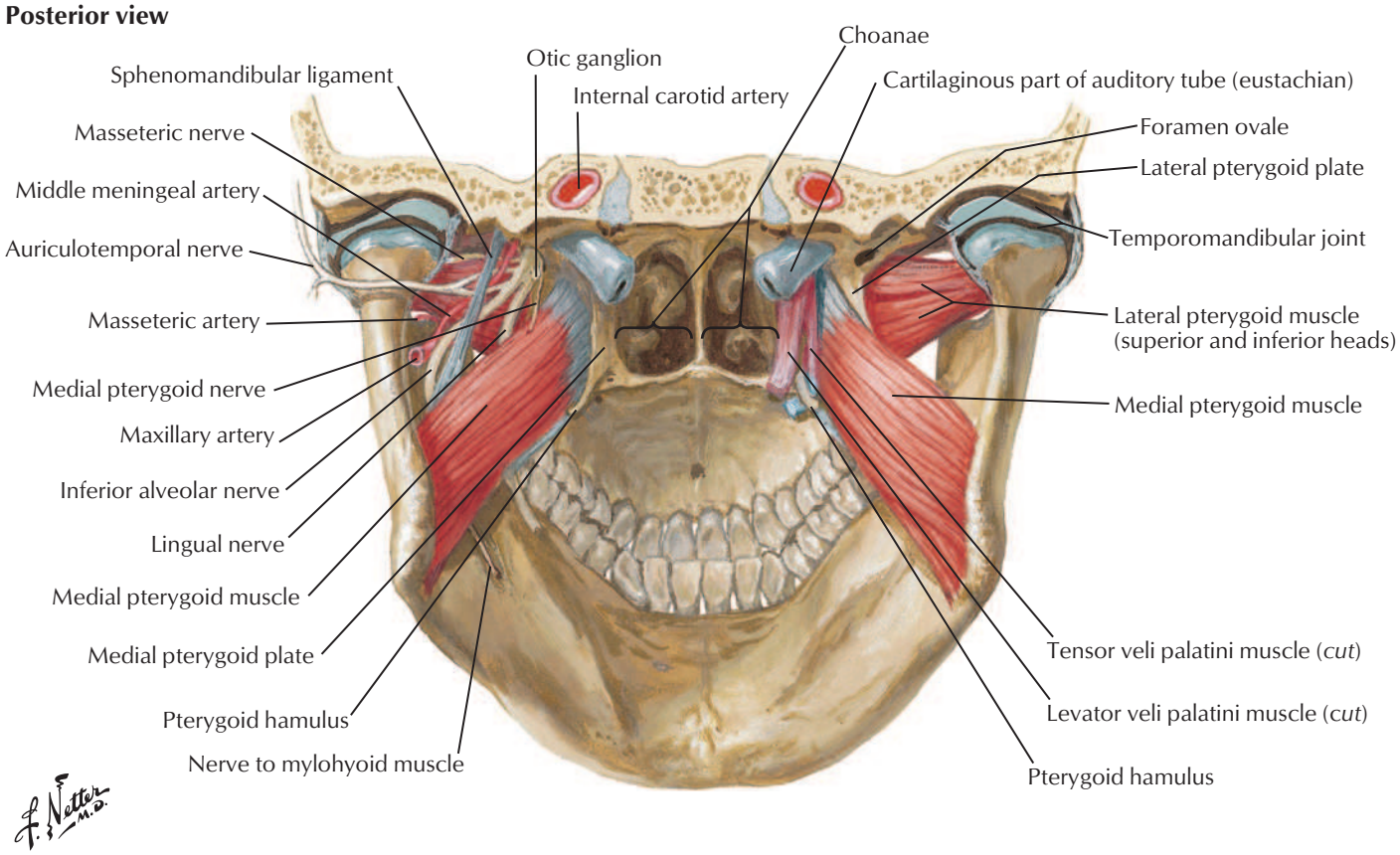
////// facebook : Booksmedicos06

See also Plates 55, 59

Lateral view

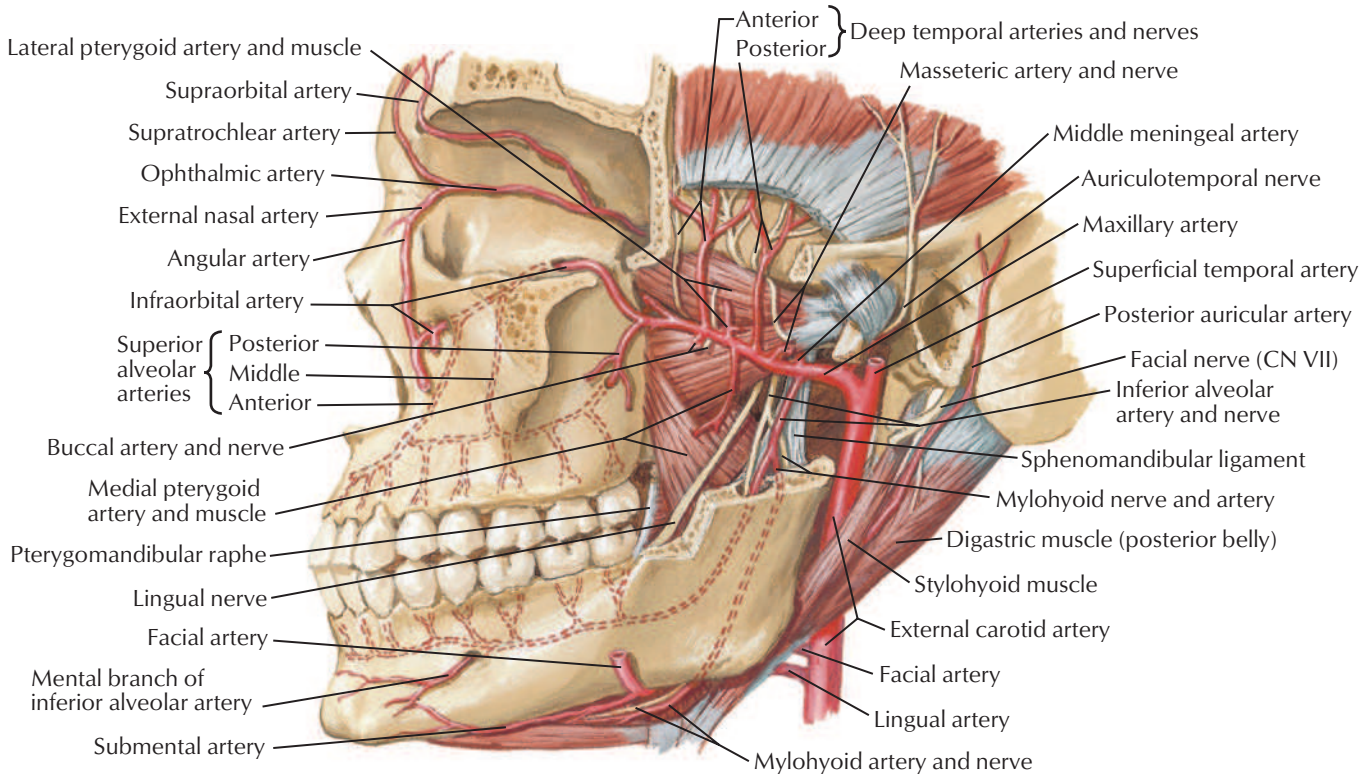


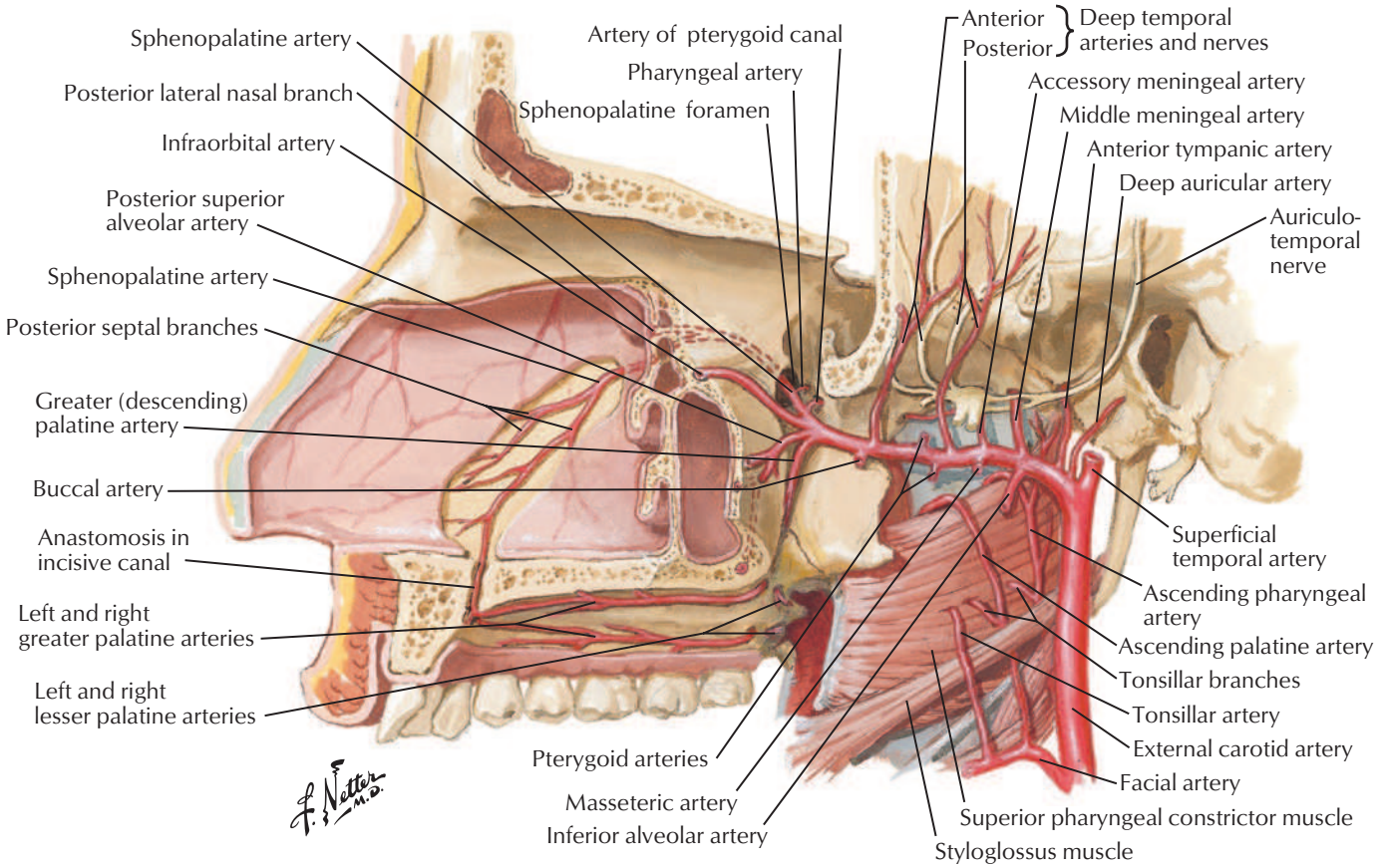
Posterior view



www.Booksmedicos06.com

See also Plates 63, 83

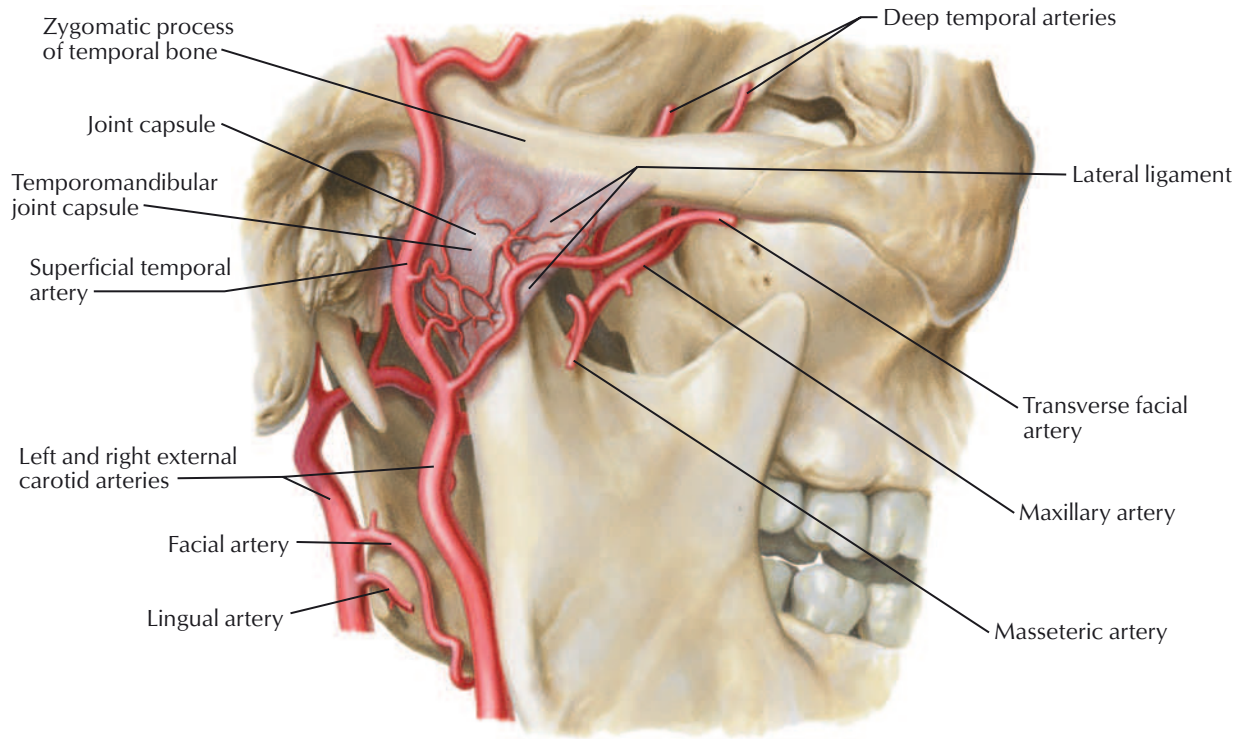




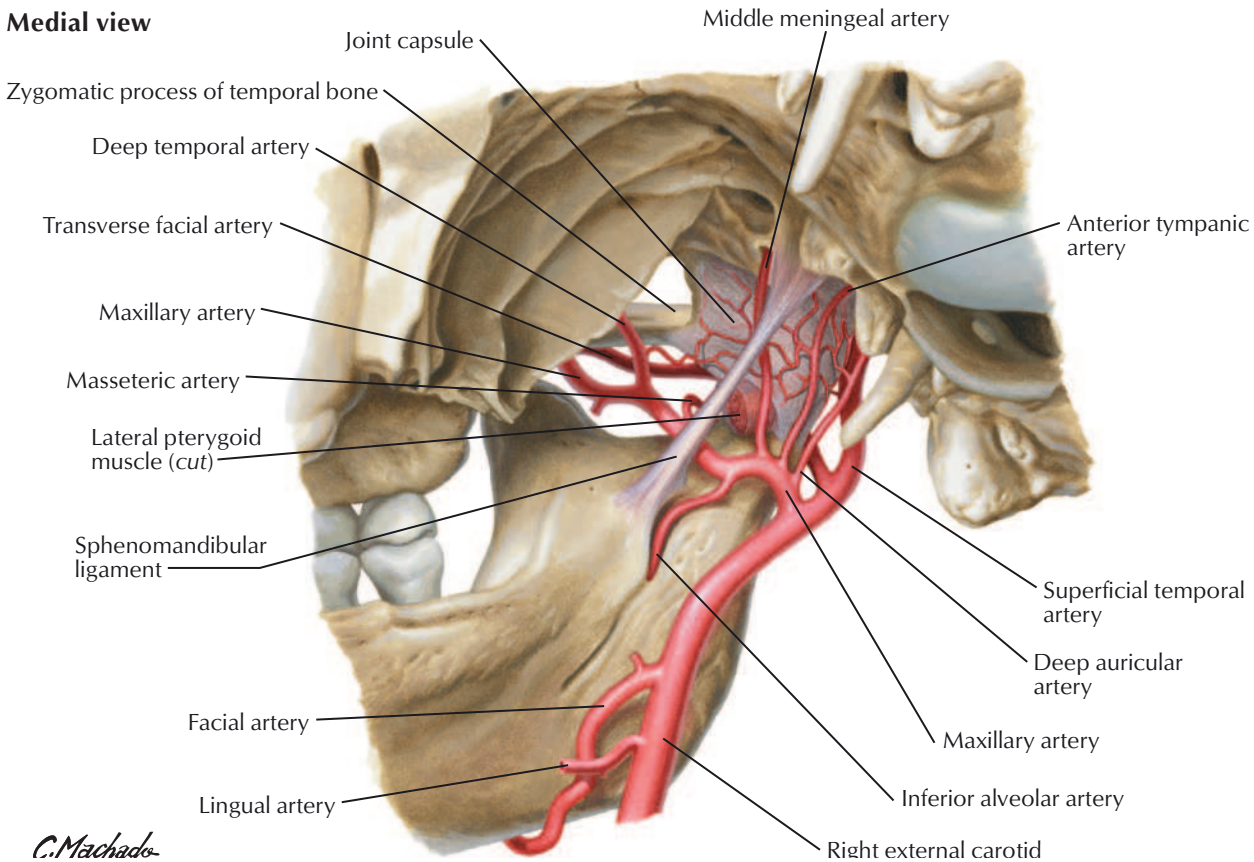
////// facebook : Booksmedicos06

See also Plates 57, 59, 63

Lateral view



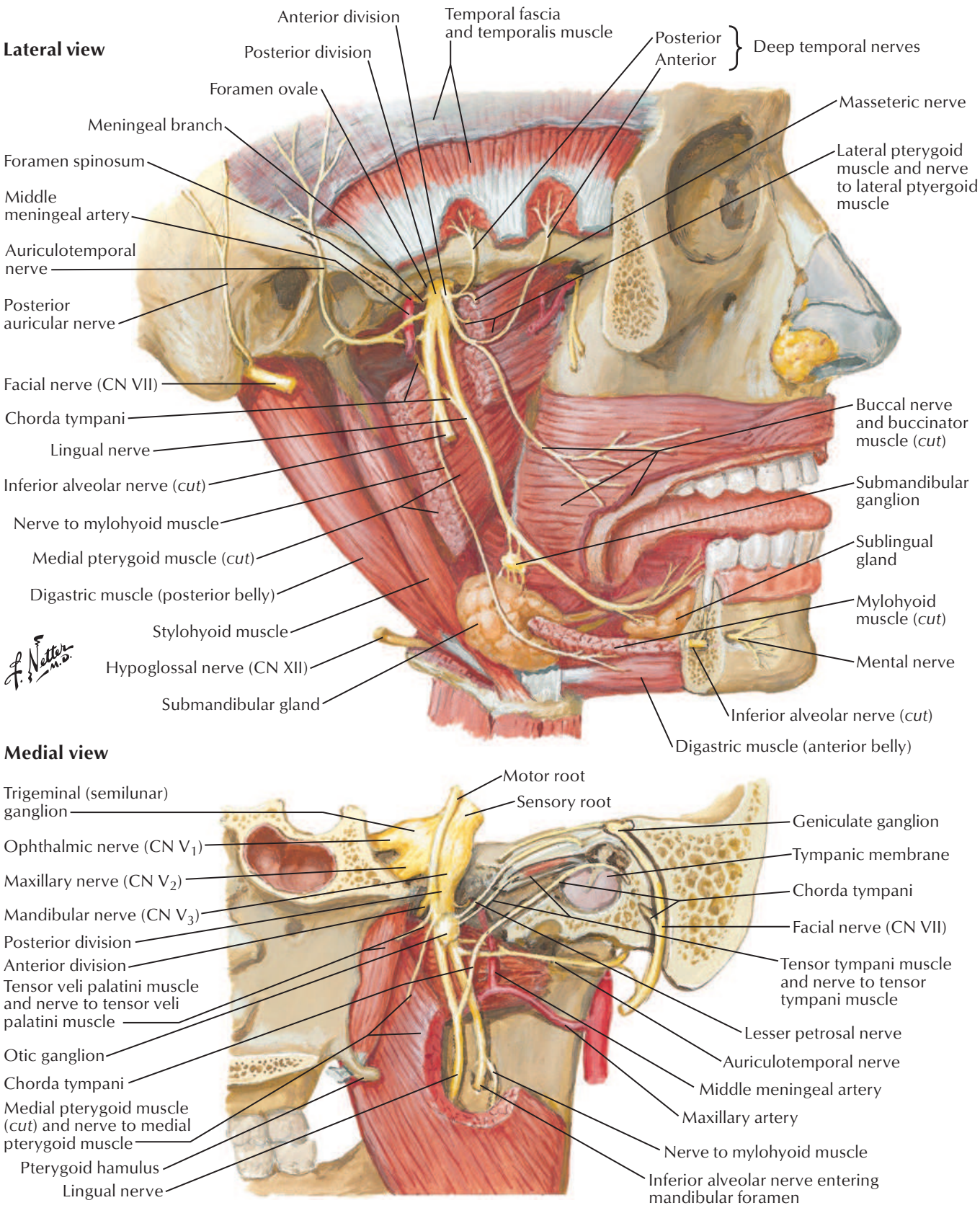
Medial view



C.Machado

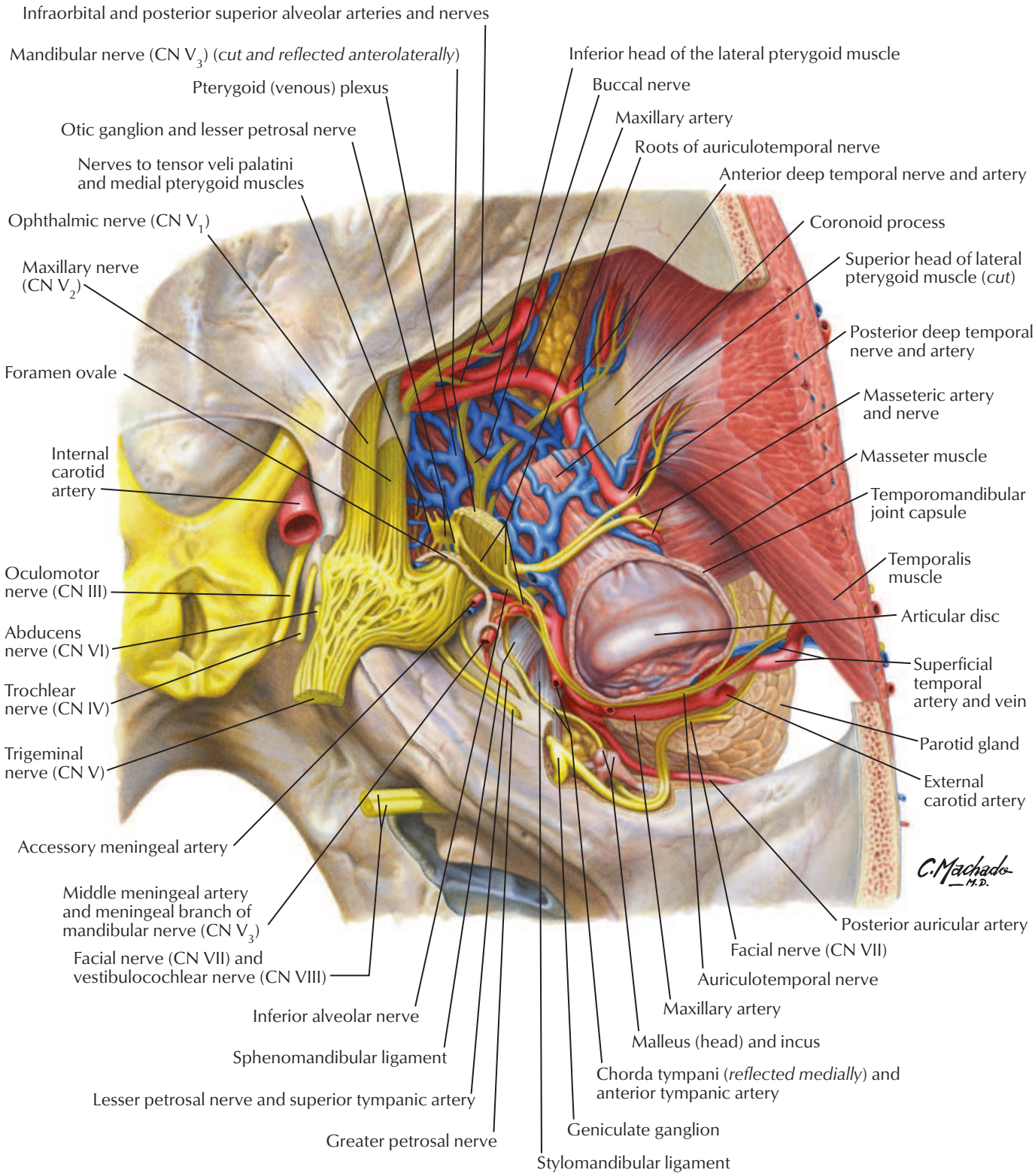
www.Booksmedicos06.com

See also Plates 82, 133



////// facebook : Booksmedicos06

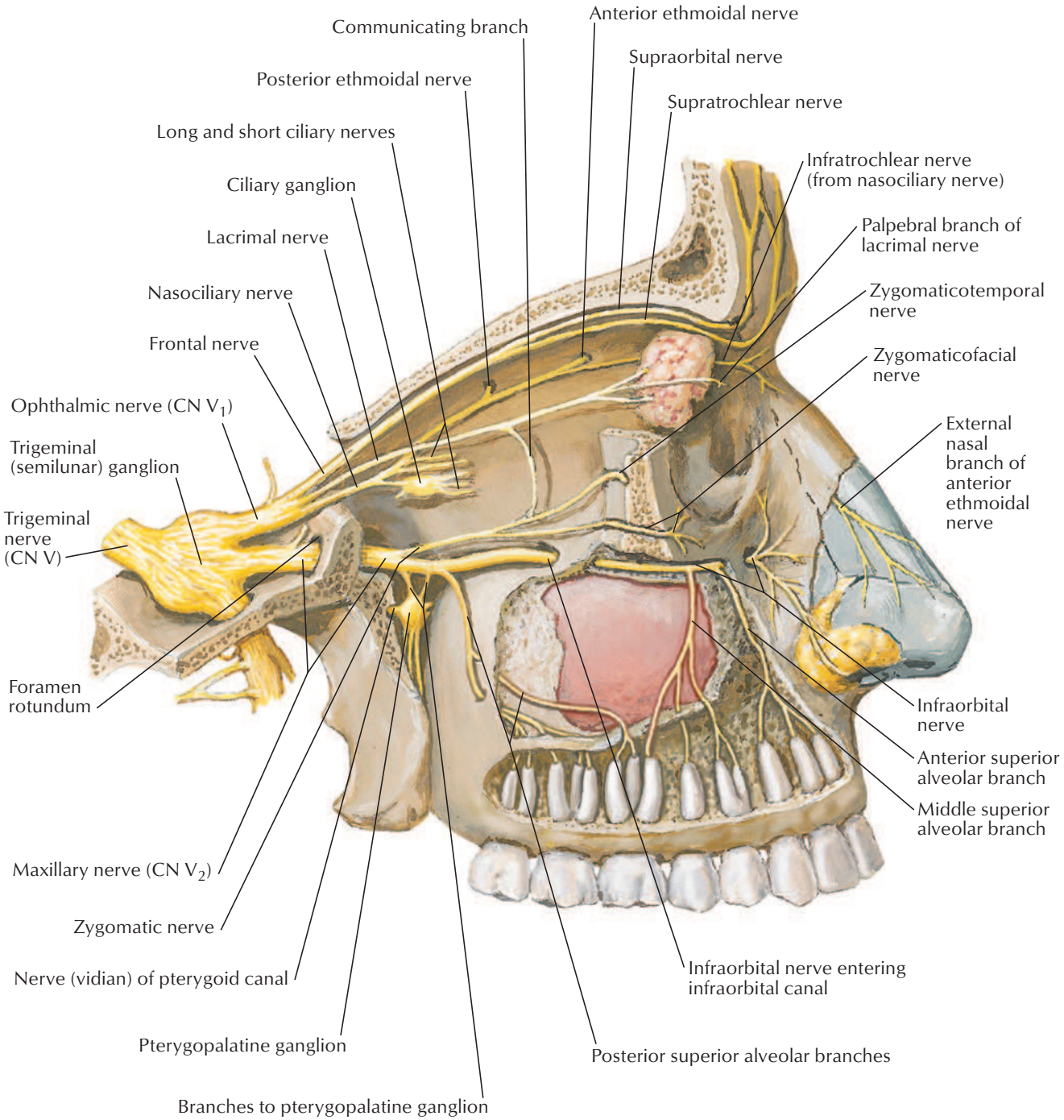
See also Plates 57-59, 63, 64, 115



www.Booksmedicos06.com

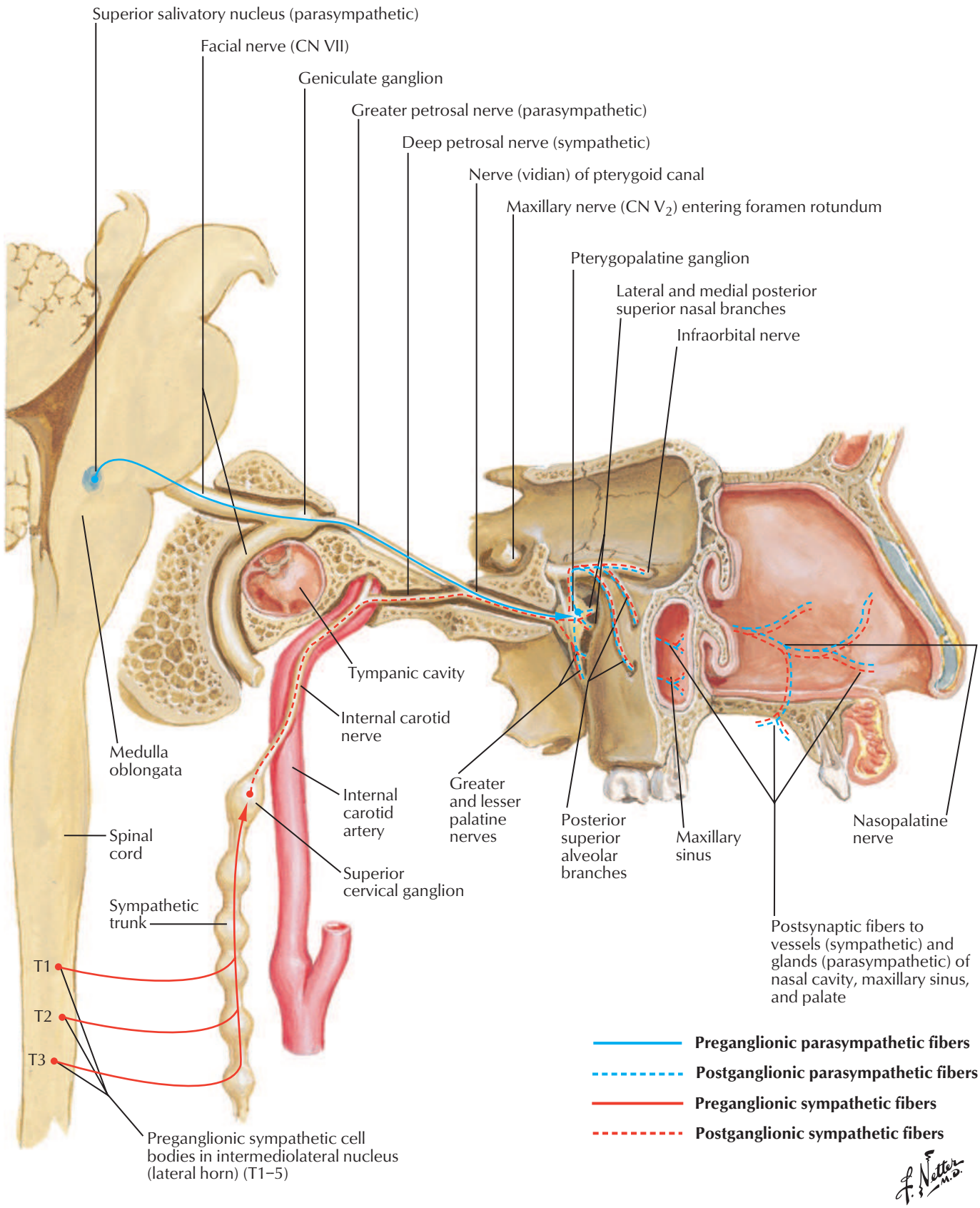
Ophthalmic (CN V_1) and Maxillary (CN V_2) Nerves

See also Plates 63, 66



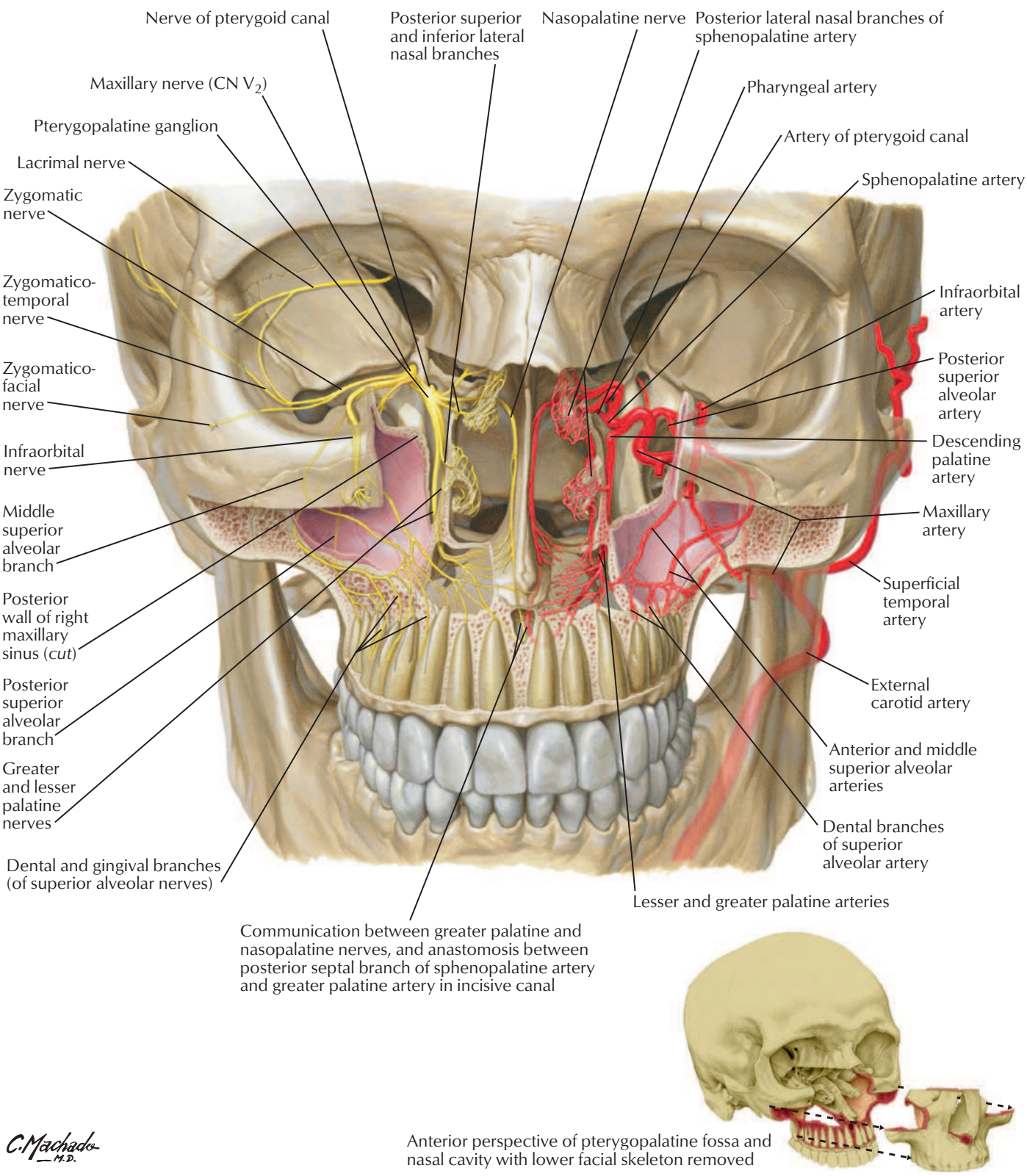
////// facebook : Booksmedicos06

See also Plates 133, 142, 144



www.Booksmedicos06.com

See also Plates 46, 48, 61

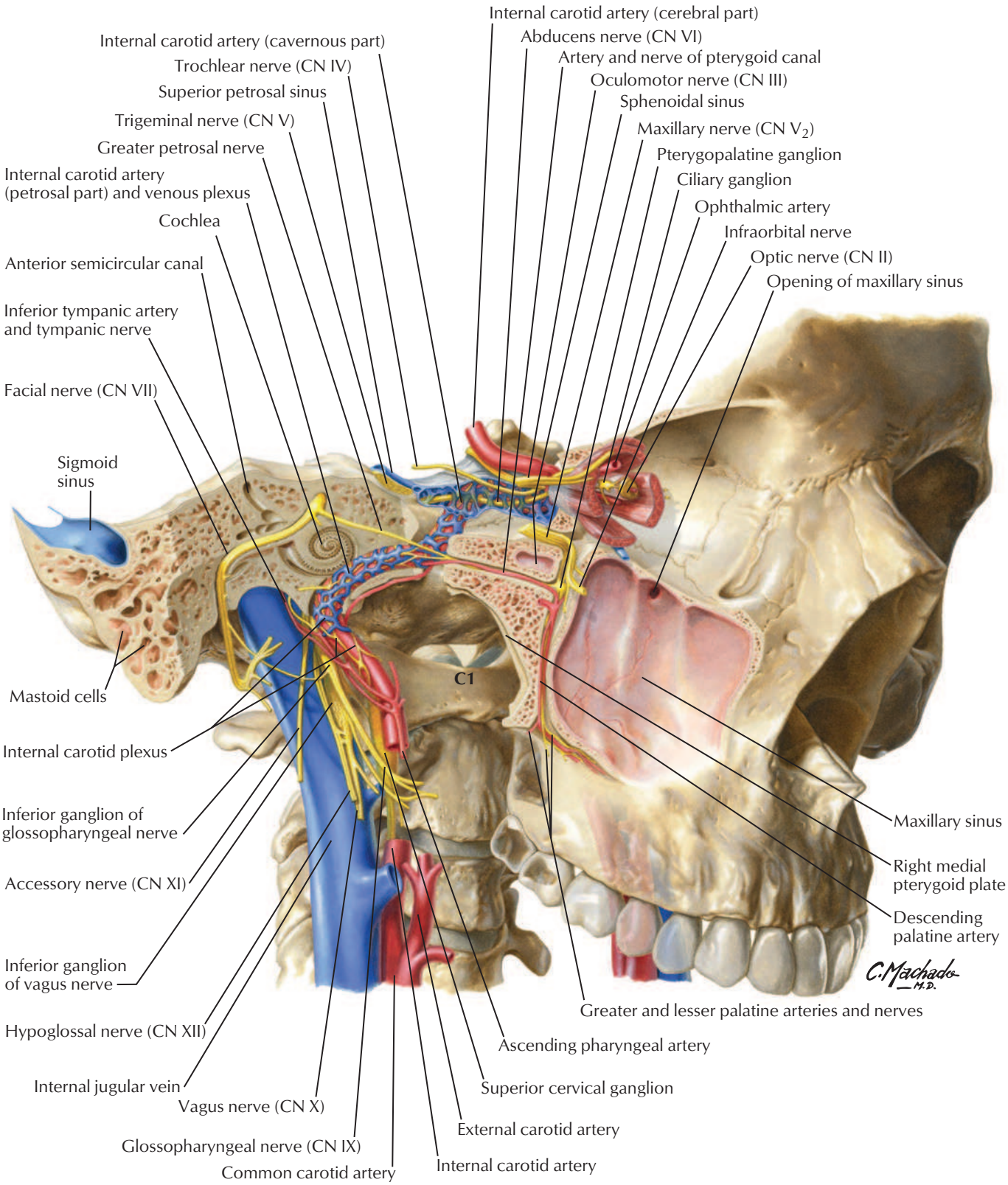


Anterior perspective of pterygopalatine fossa and nasal cavity with lower facial skeleton removed

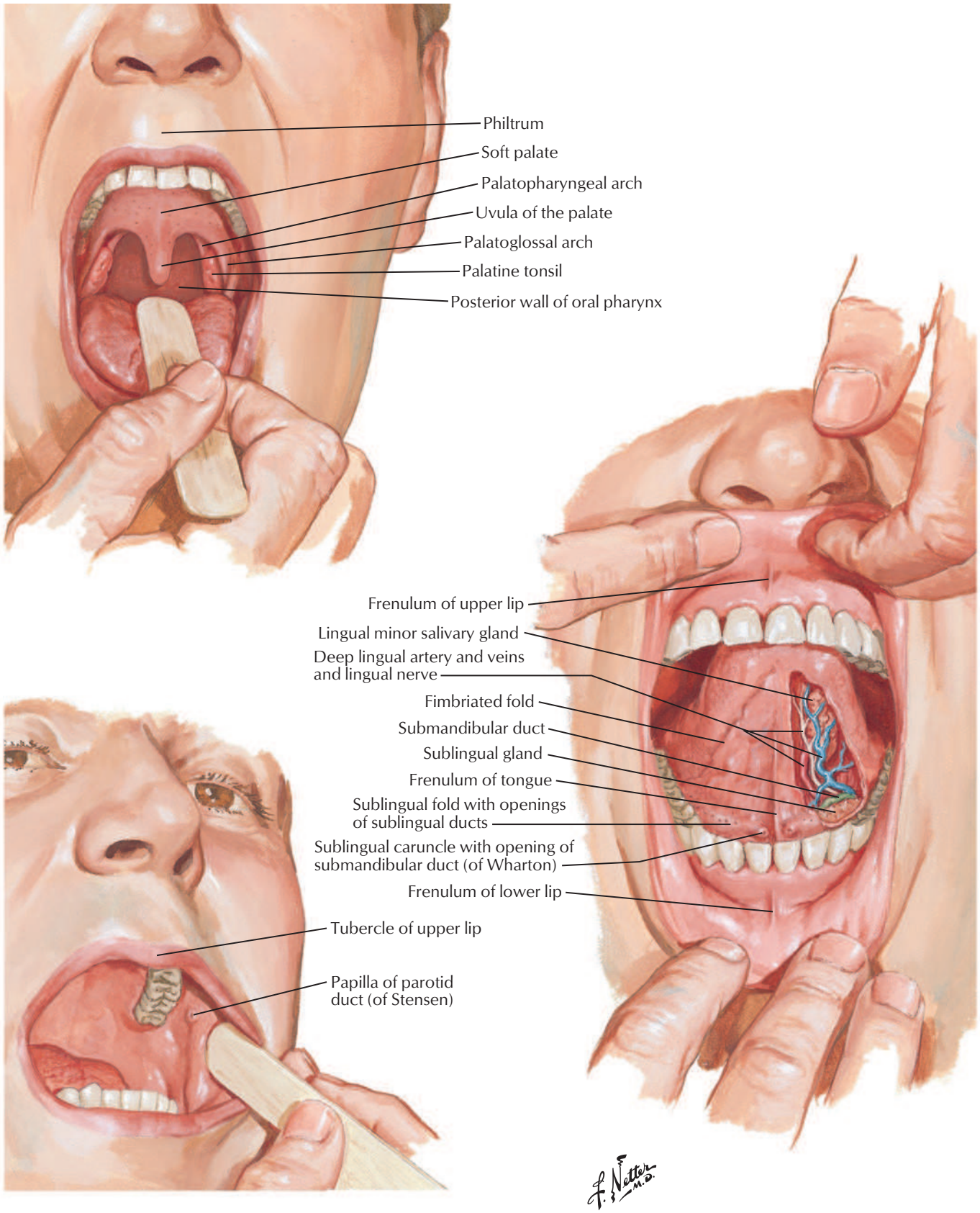
C. Machado, M.D.

////// facebook : Booksmedicos06

See also Plates 115, 142, 147

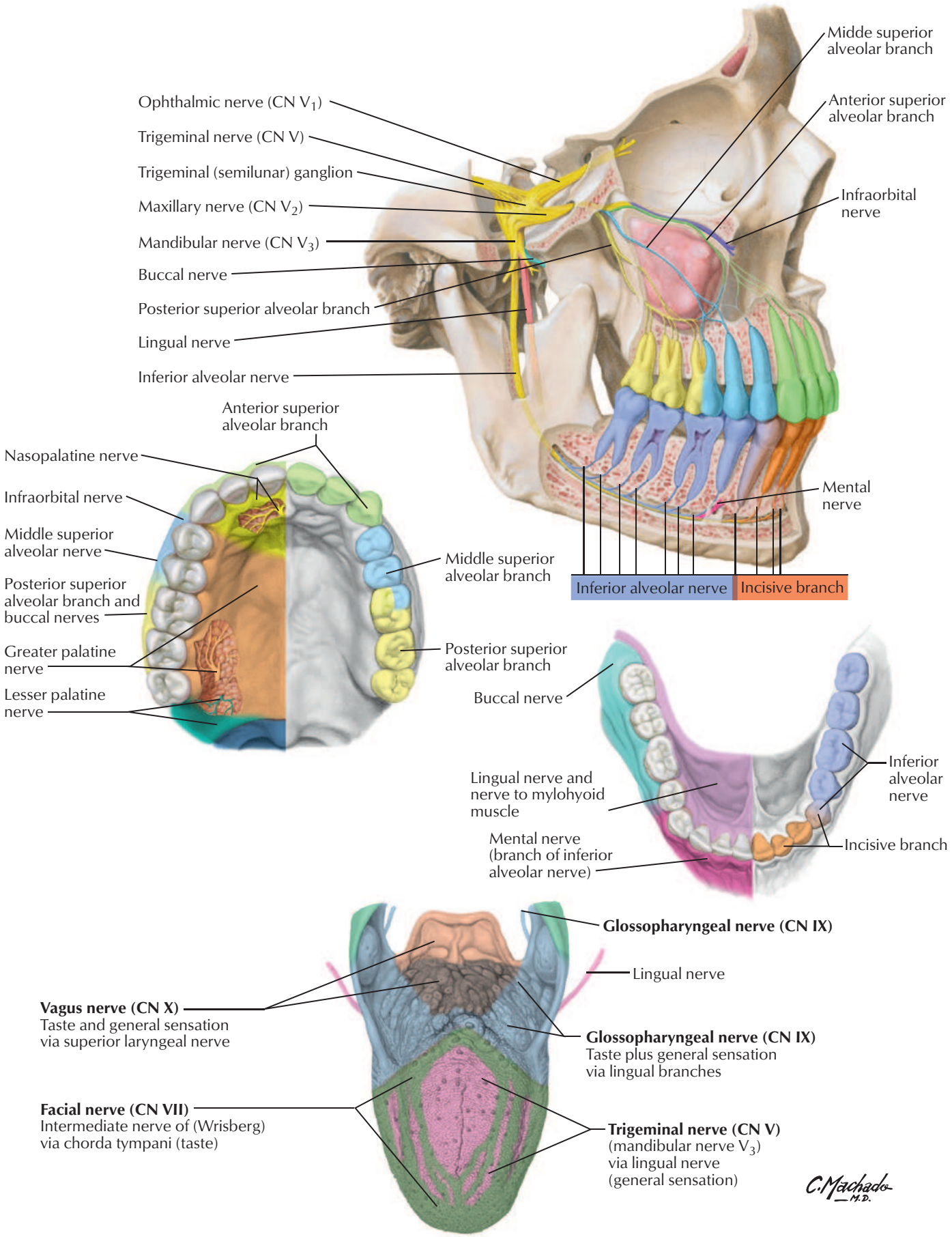


www.Booksmedicos06.com



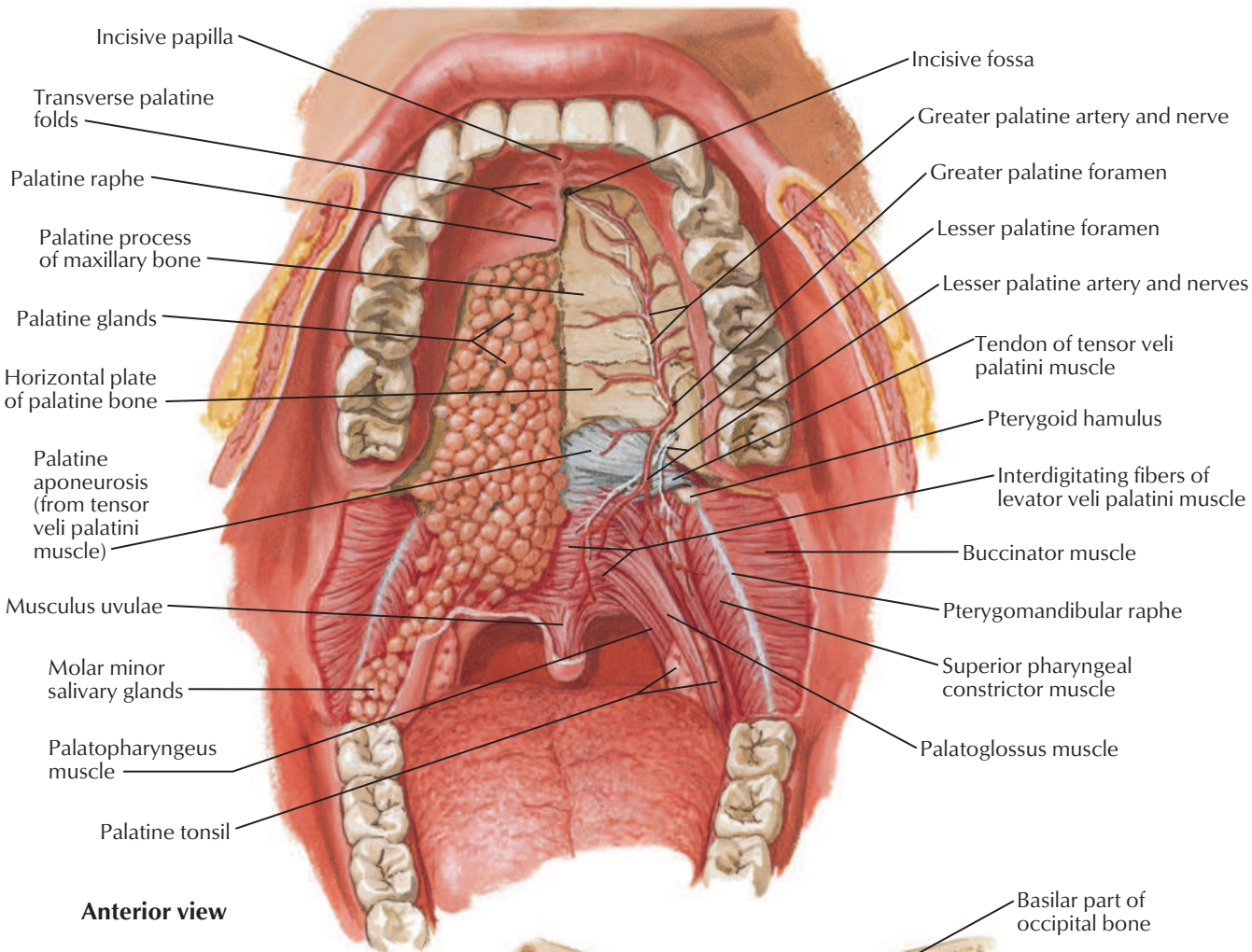
////// facebook : Booksmedicos06

See also Plates 144, 146

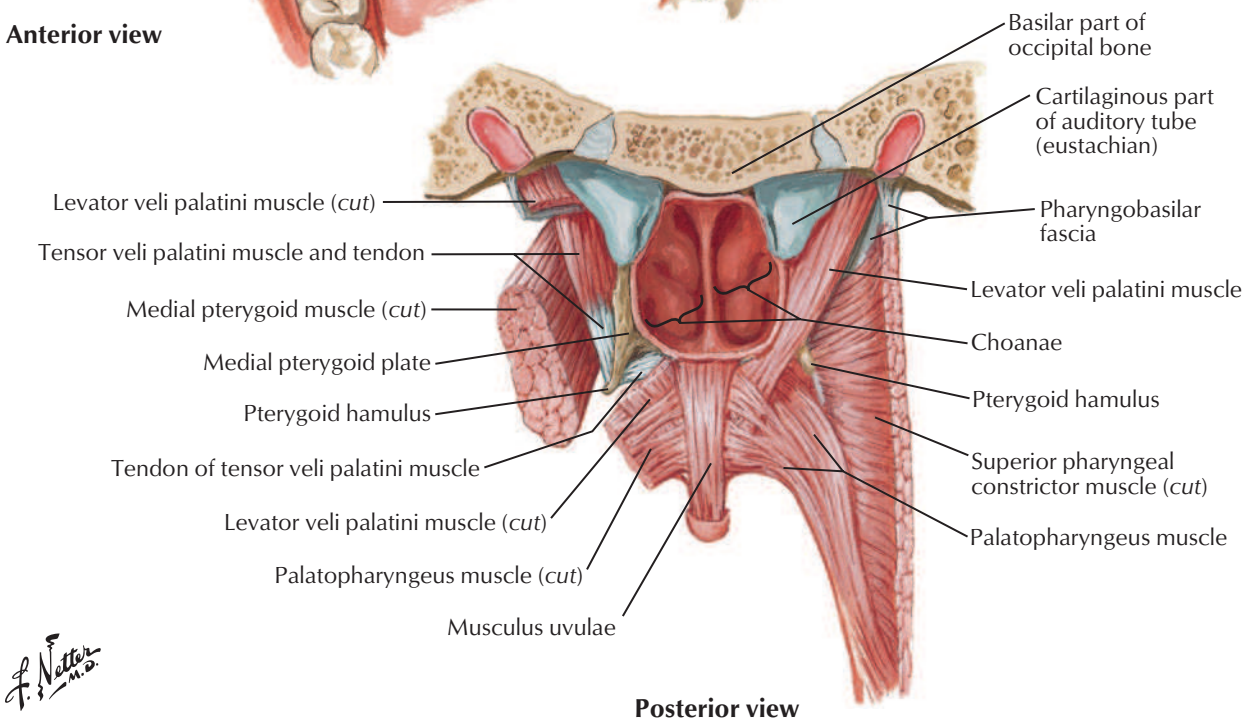


www.Booksmedicos06.com

See also Plate 48



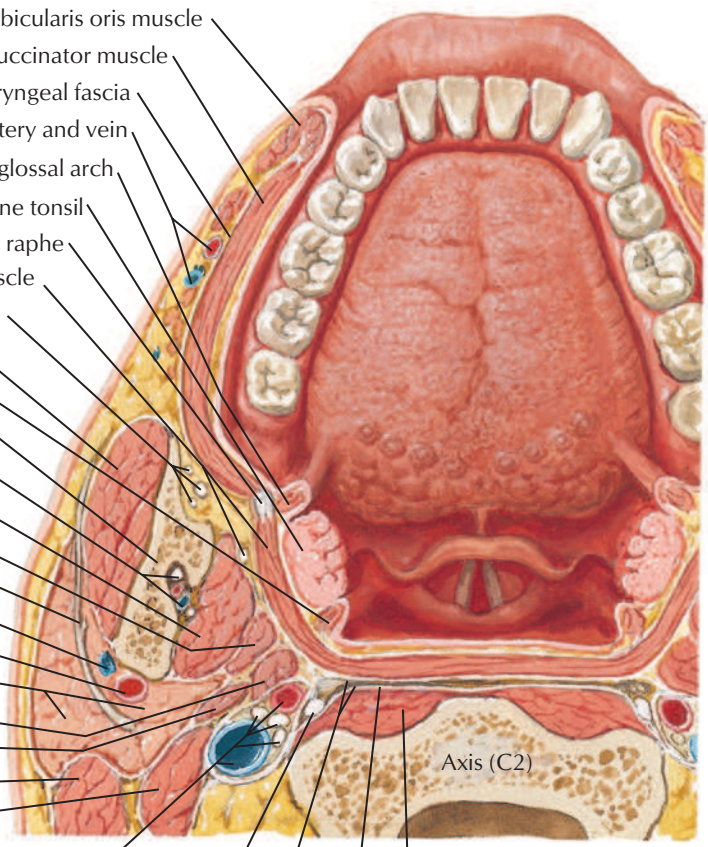
Anterior view

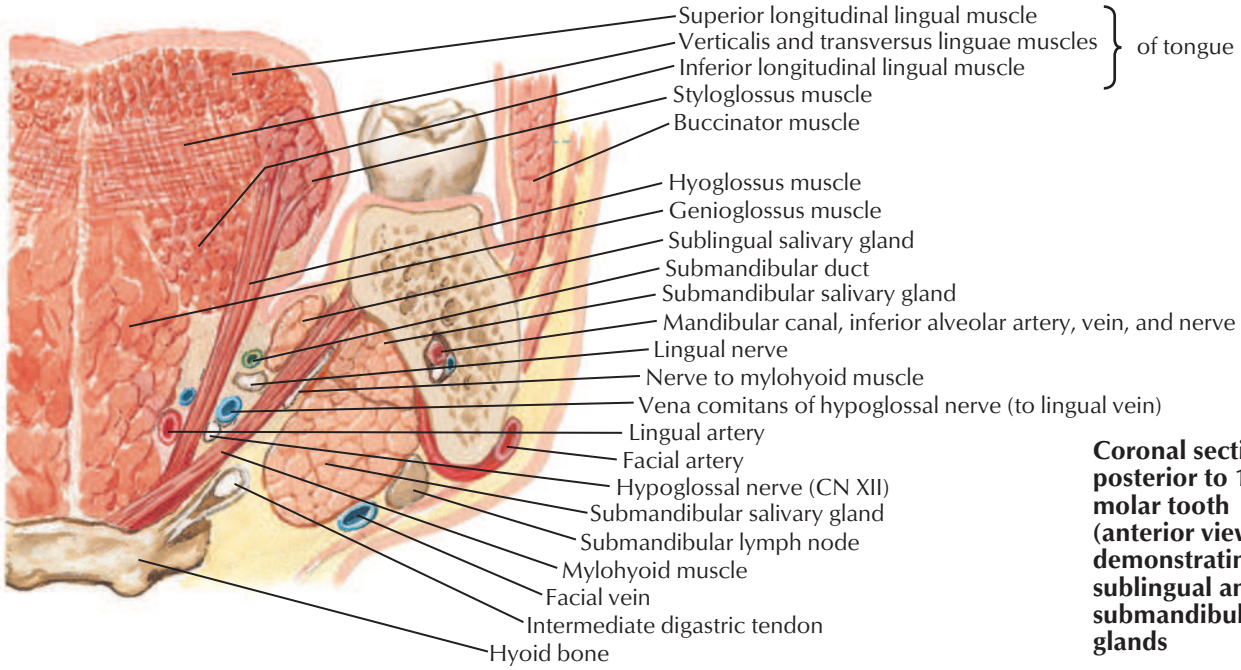


Posterior view

////// facebook : Booksmedicos06

Horizontal section below lingula of mandible (superior view) demonstrating bed of parotid gland

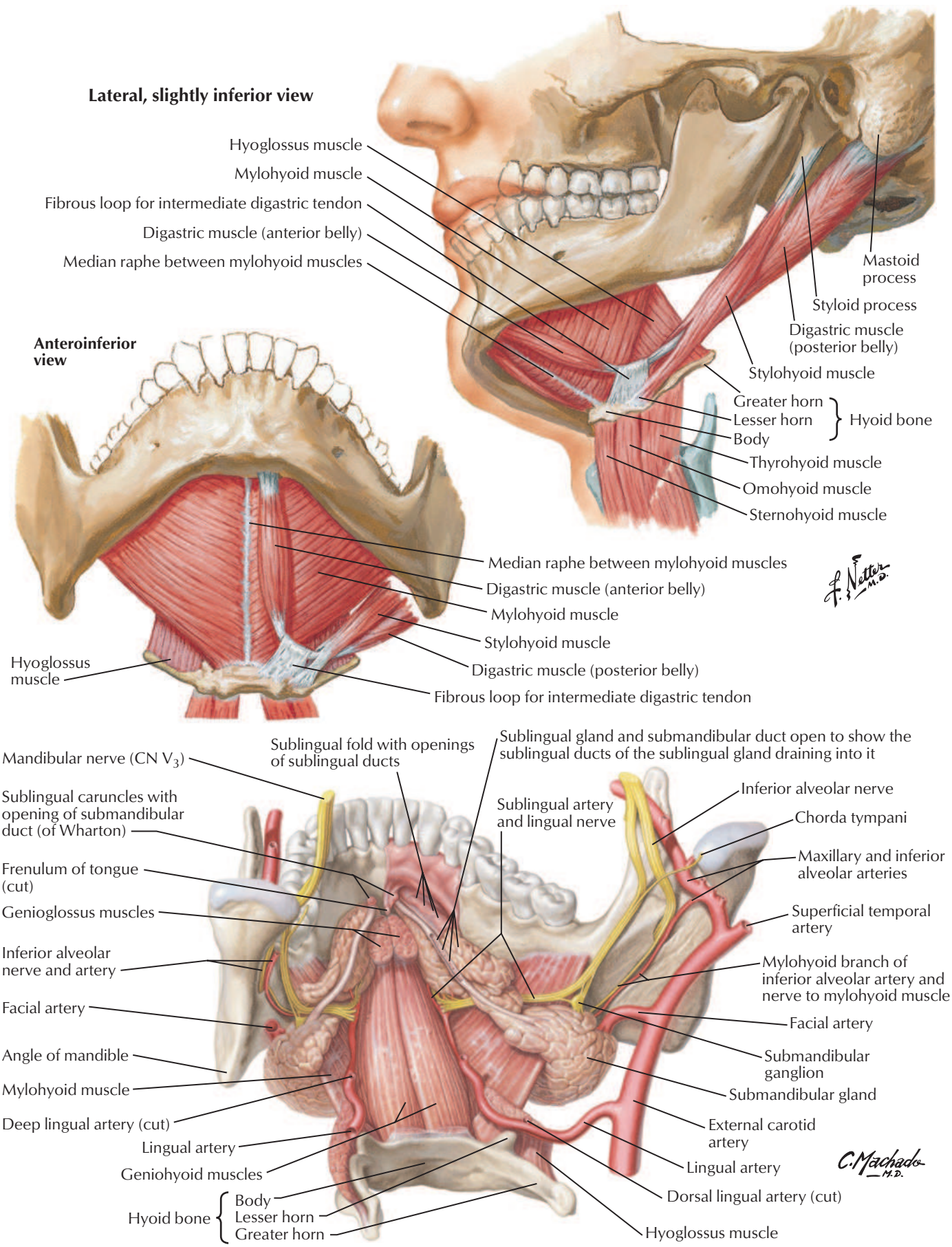




Coronal section posterior to 1st molar tooth (anterior view) demonstrating sublingual and submandibular glands

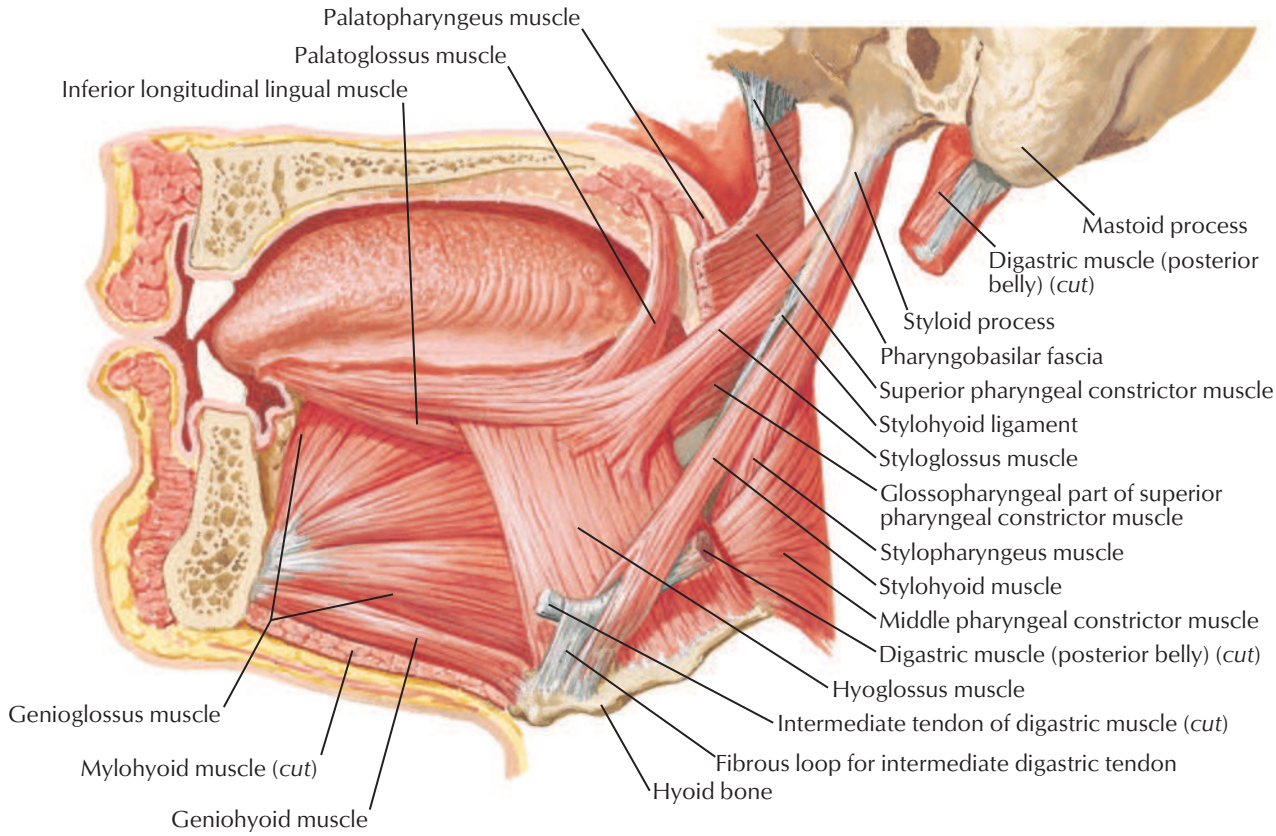
www.Booksmedicos06.com

See also Plate 35

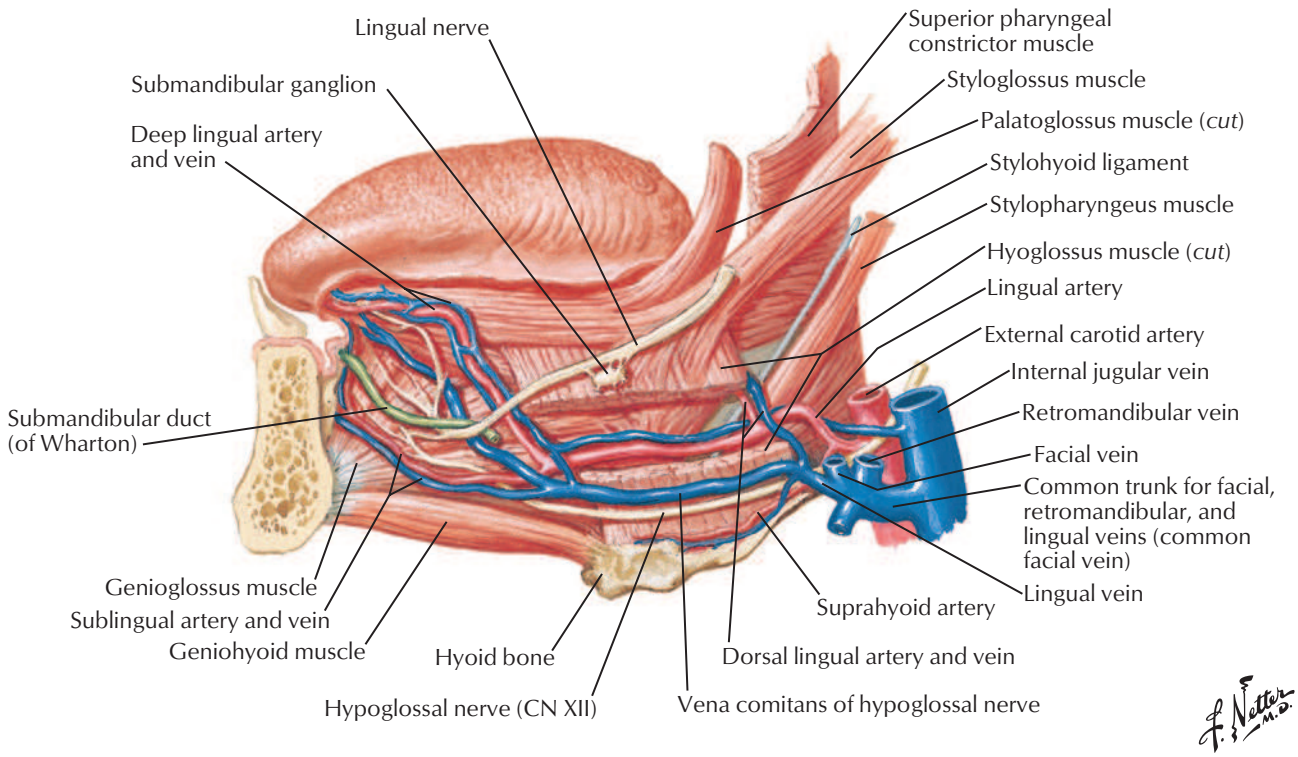


////// facebook : Booksmedicos06

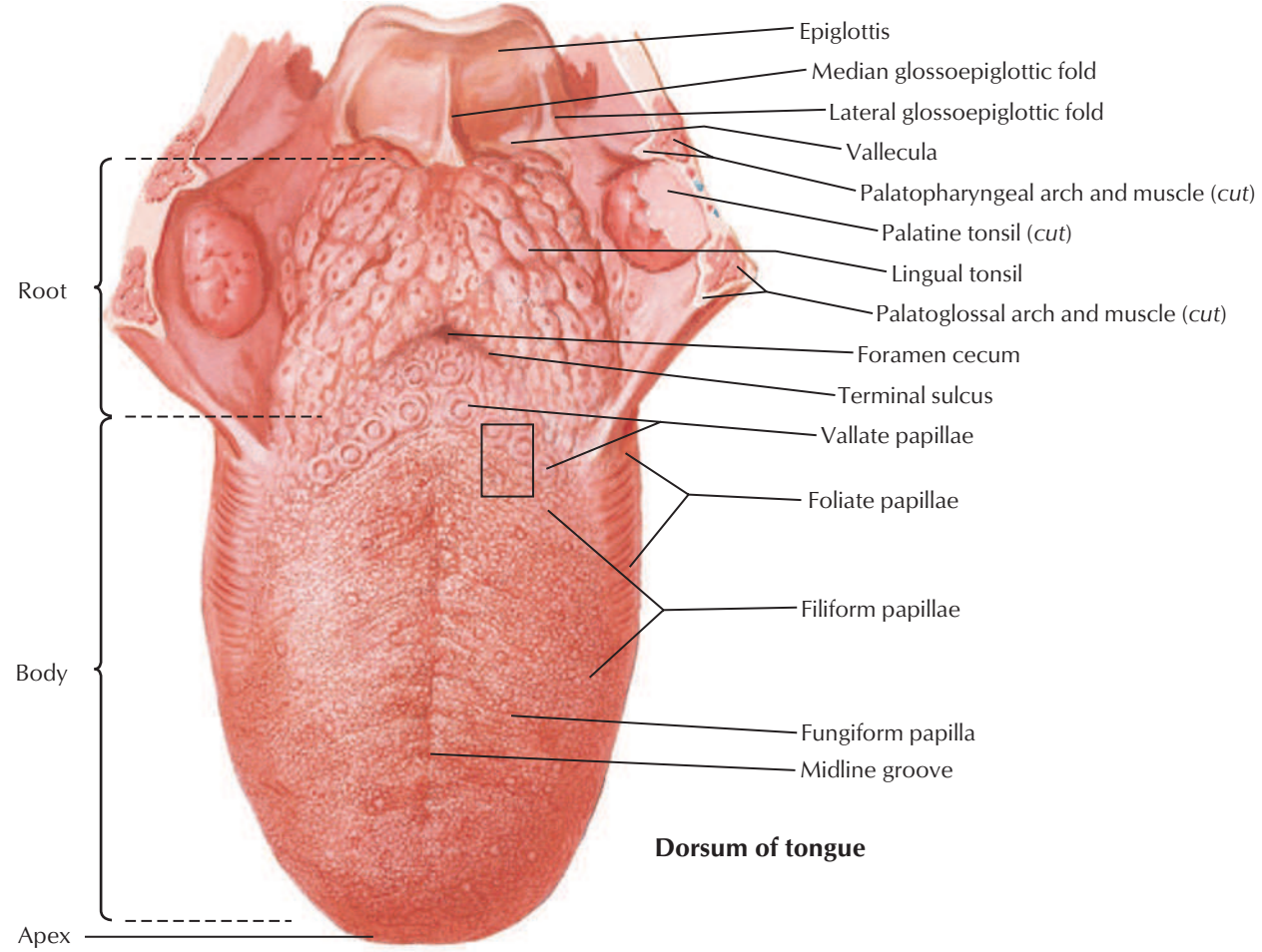
See also Plates 69, 139



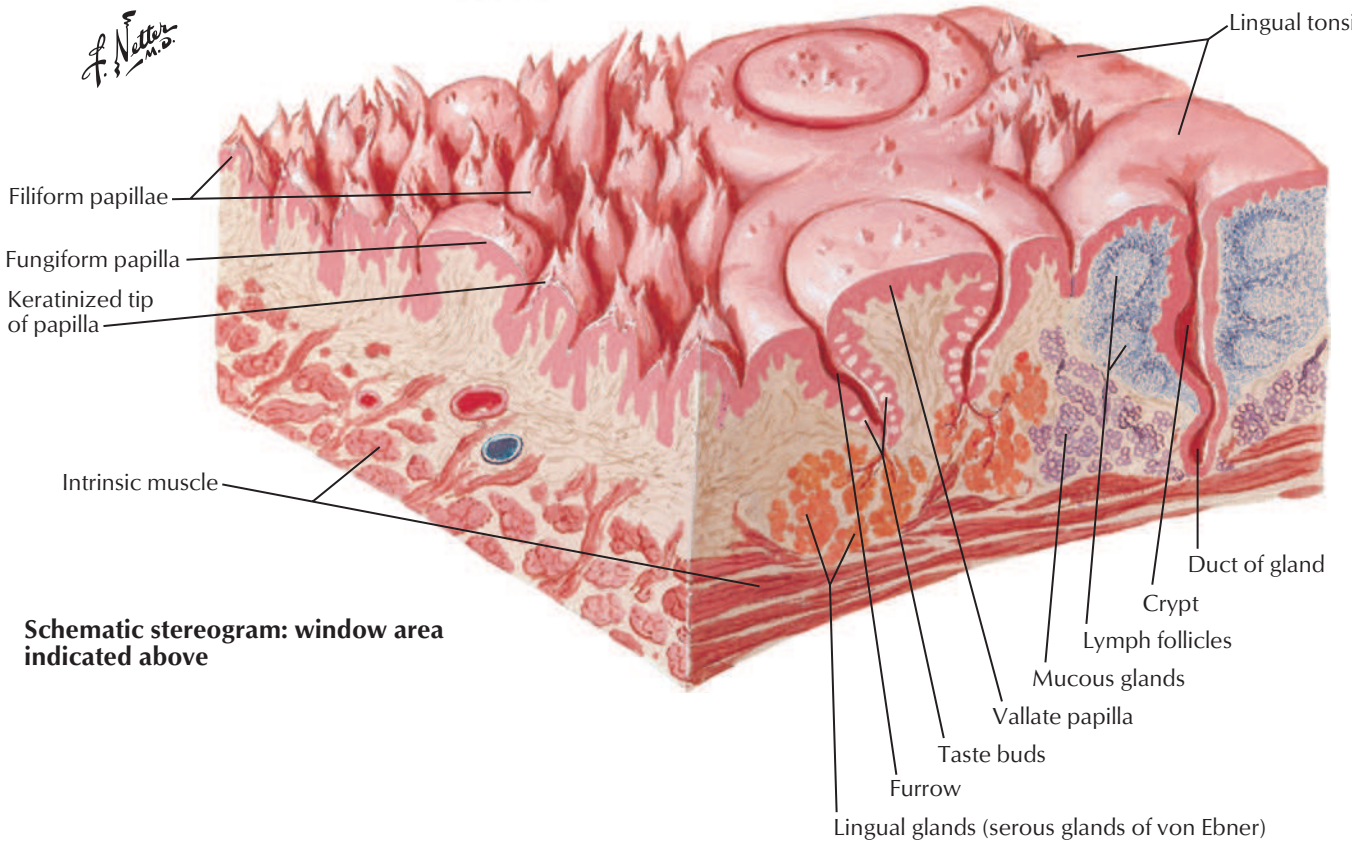
Lateral view (left side of mandible removed)



www.Booksmedicos06.com



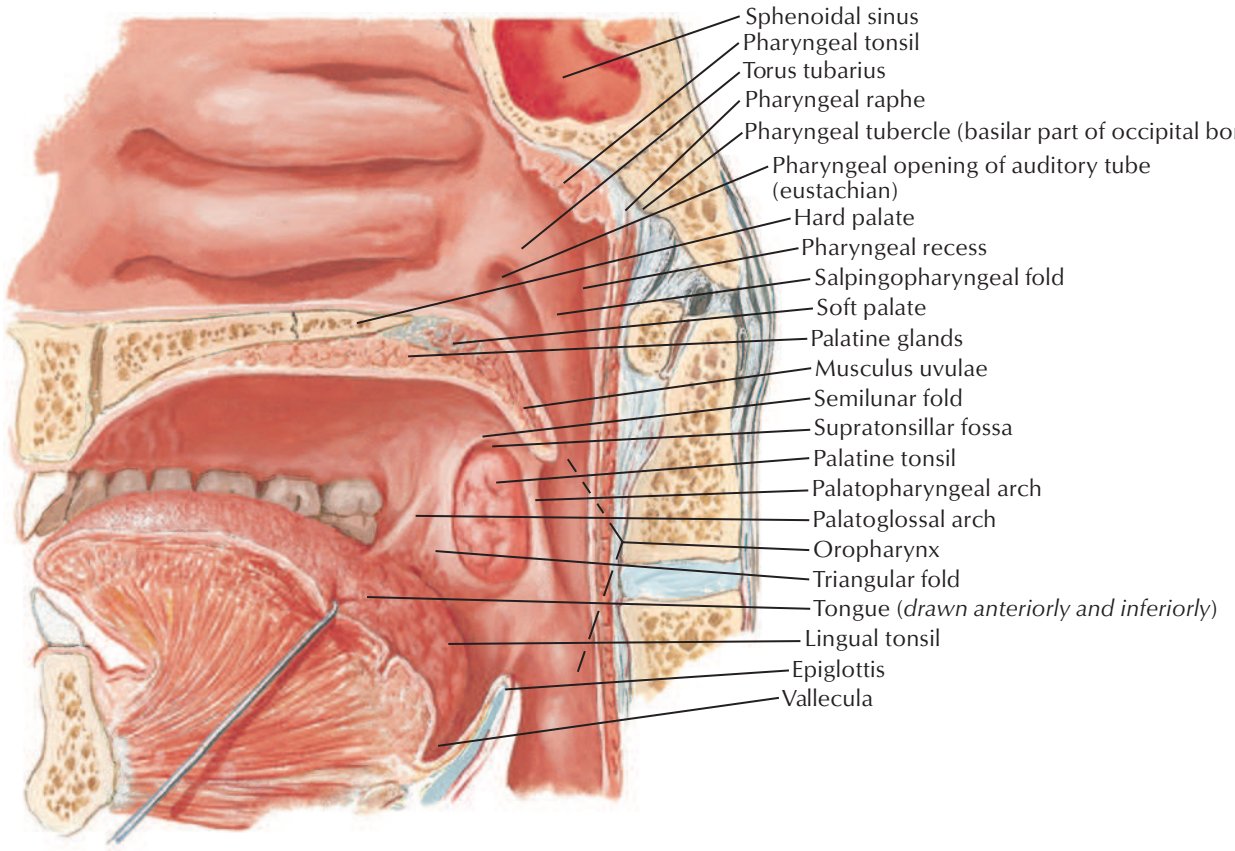
Dorsum of tongue



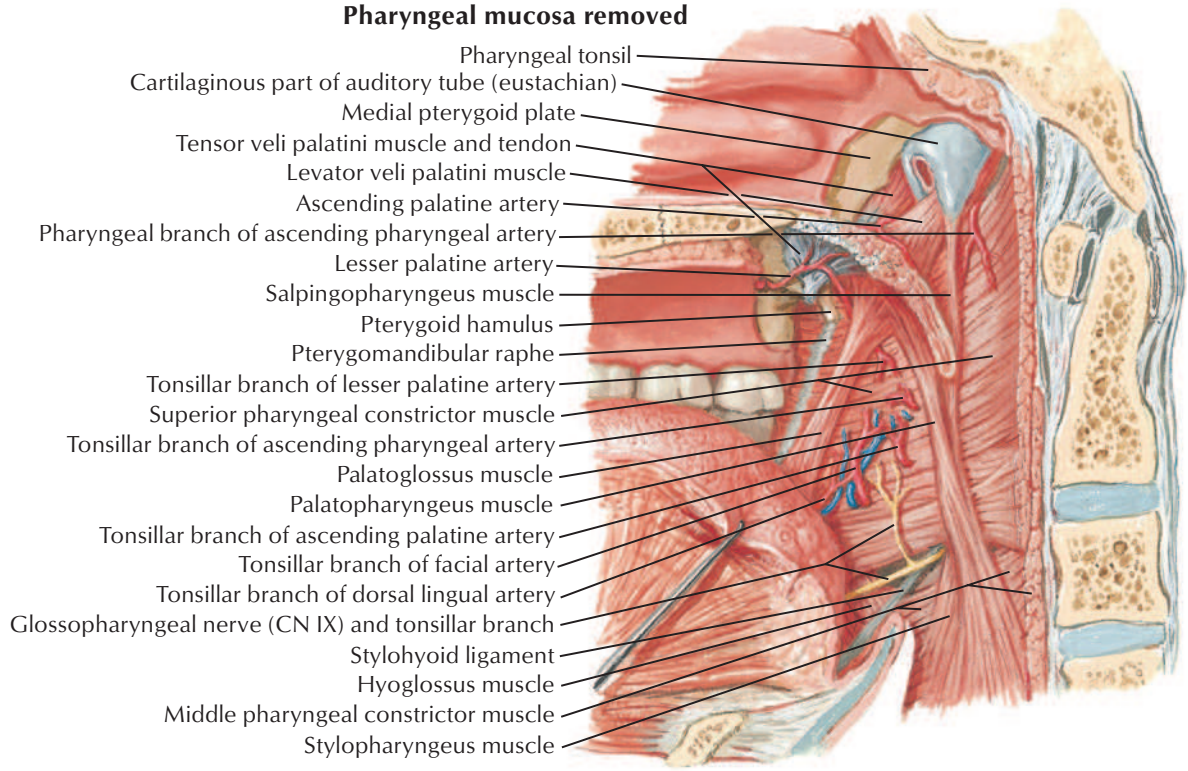
Schematic stereogram: window area indicated above

////// facebook : Booksmedicos06

Medial view
sagittal section

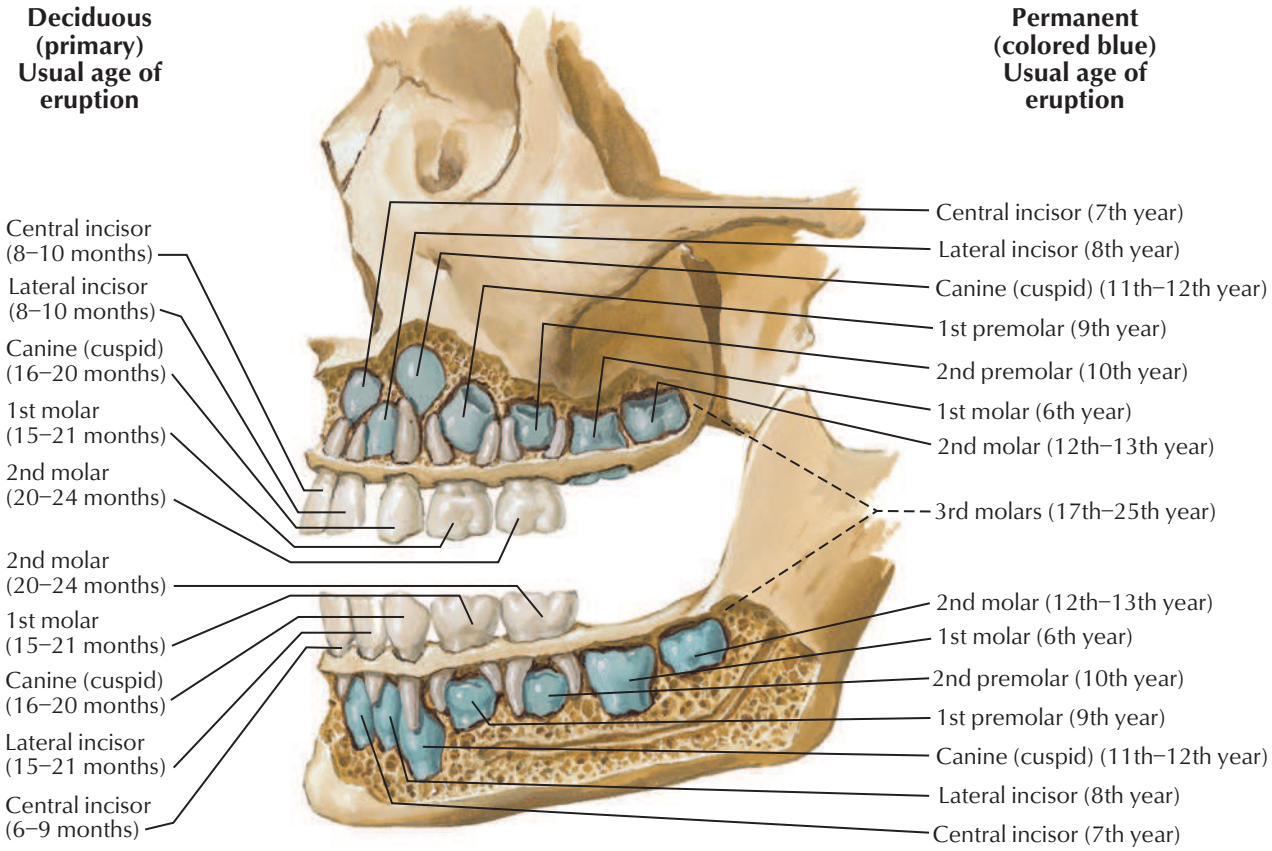


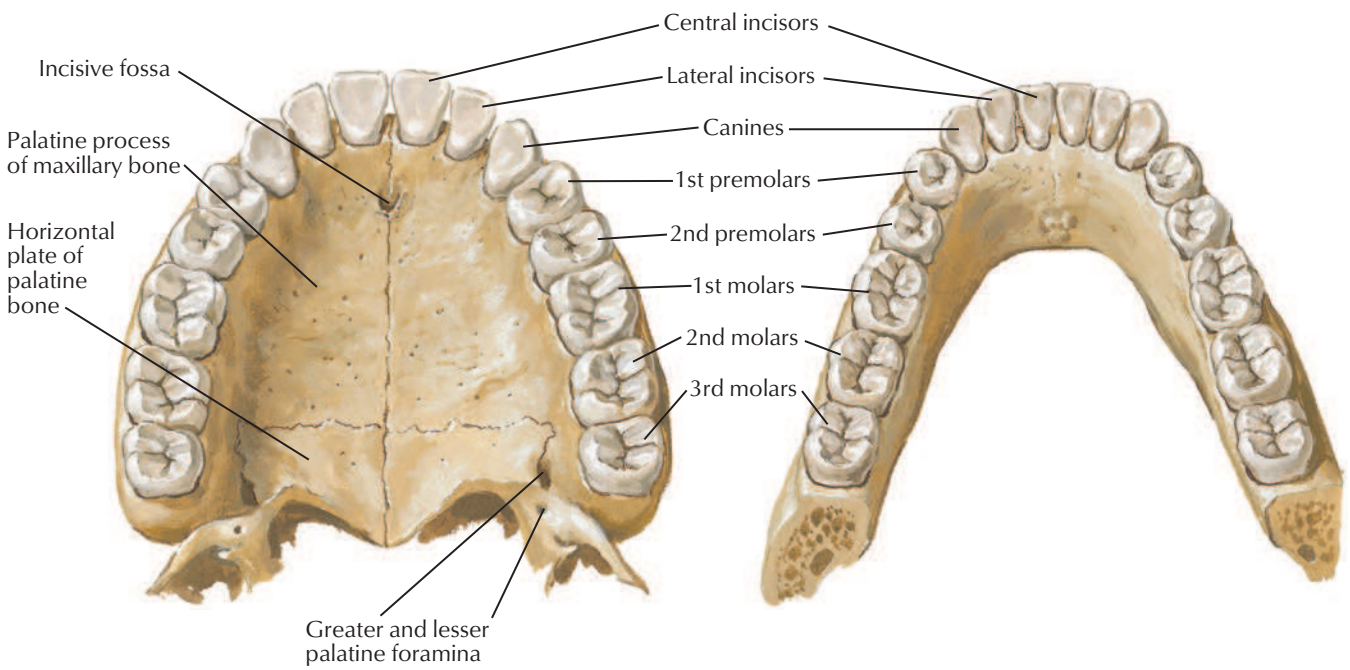
Pharyngeal mucosa removed



www.Booksmedicos06.com

See also Plate 67

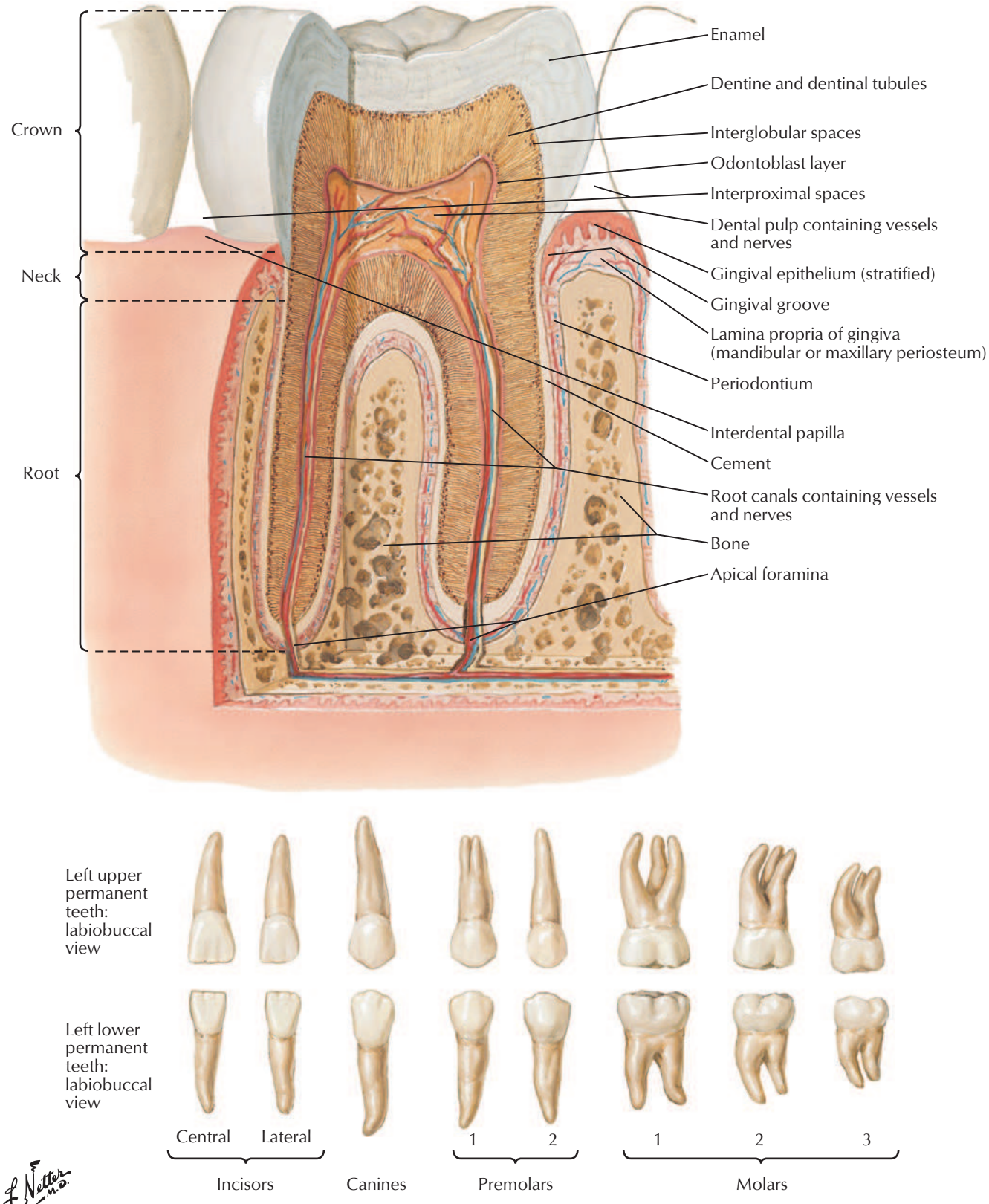




Upper permanent teeth

Lower permanent teeth

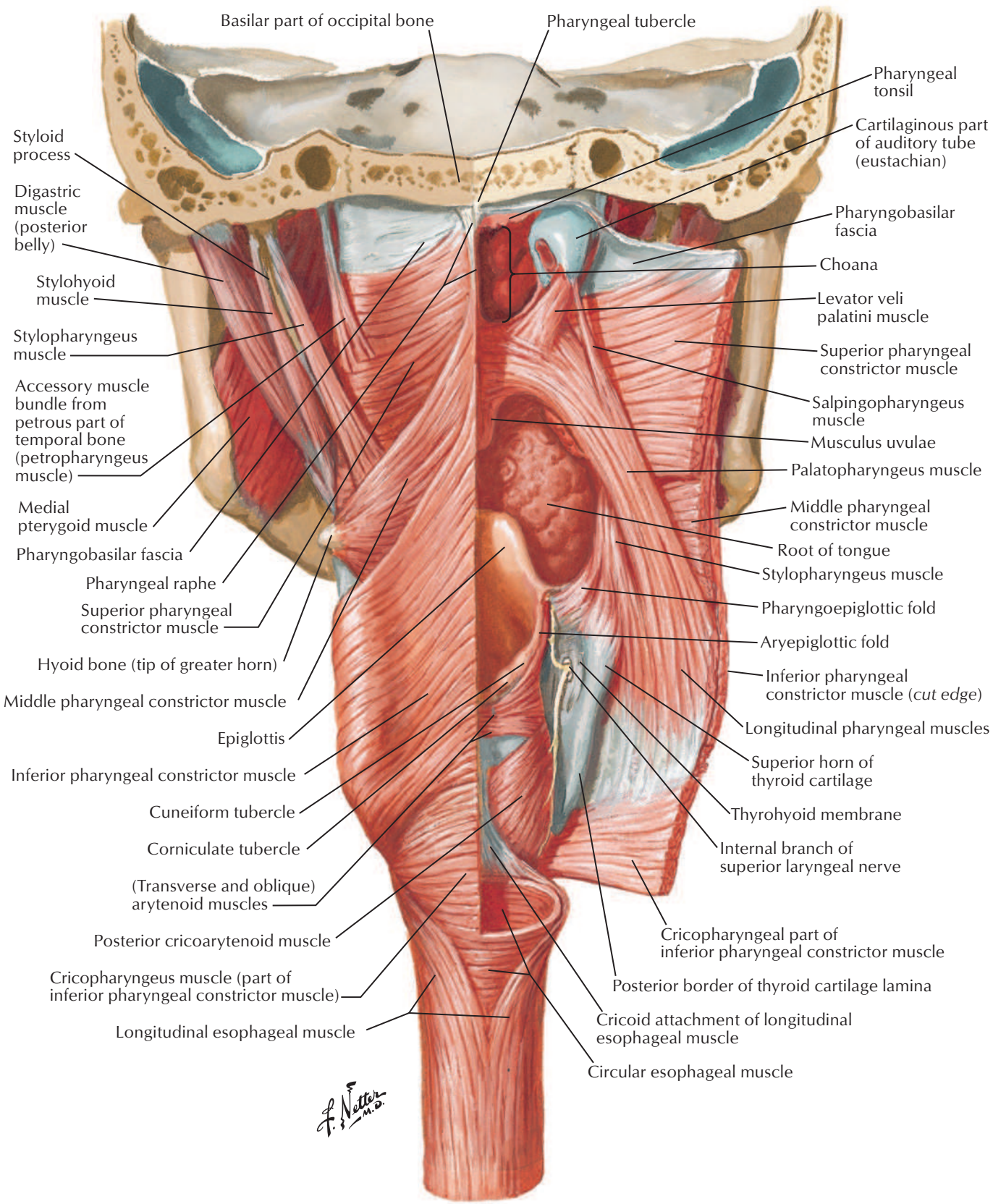
////// facebook : Booksmedicos06



www.Booksmedicos06.com

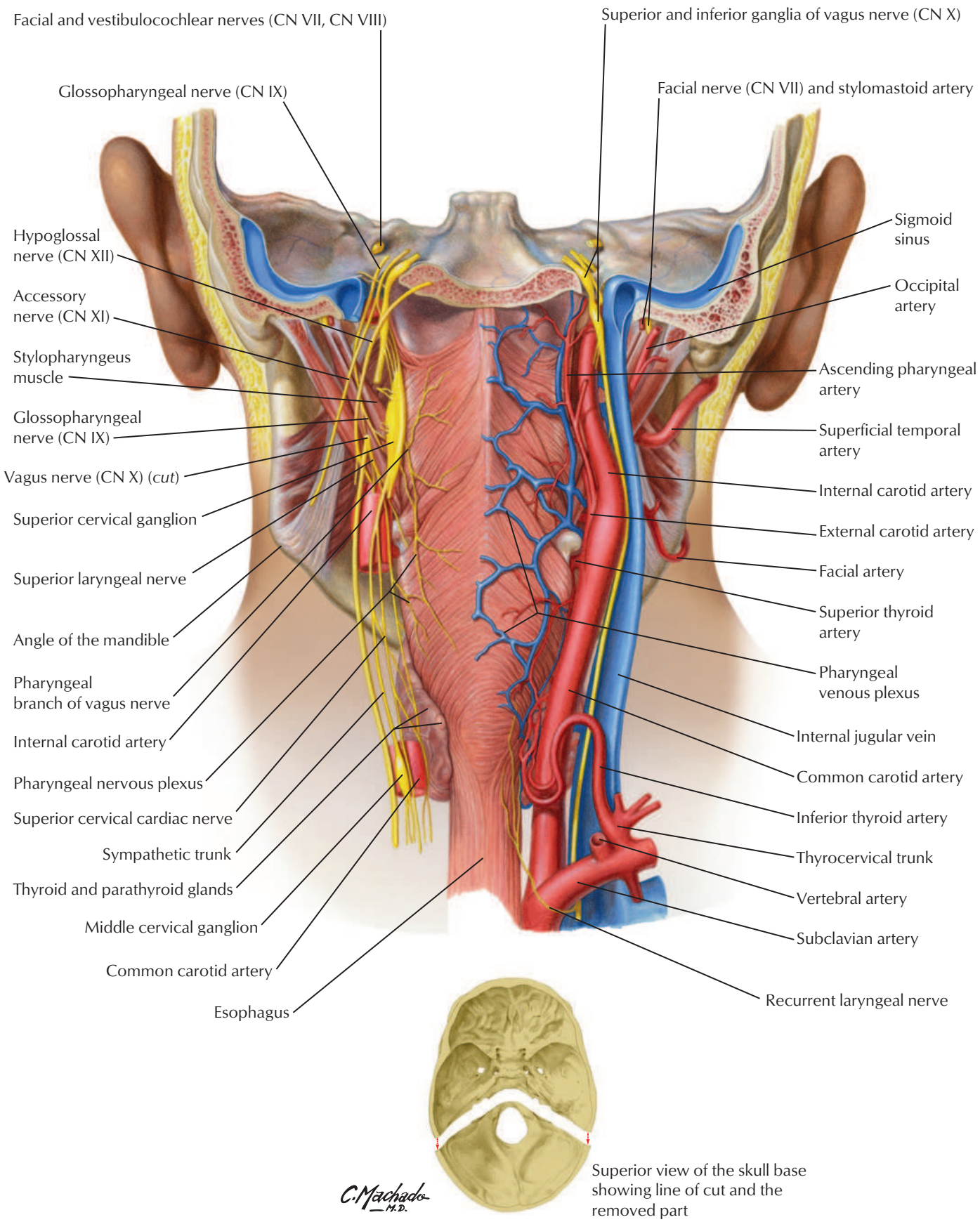
Muscles of Pharynx: Partially Opened Posterior View

See also Plates 76, 81



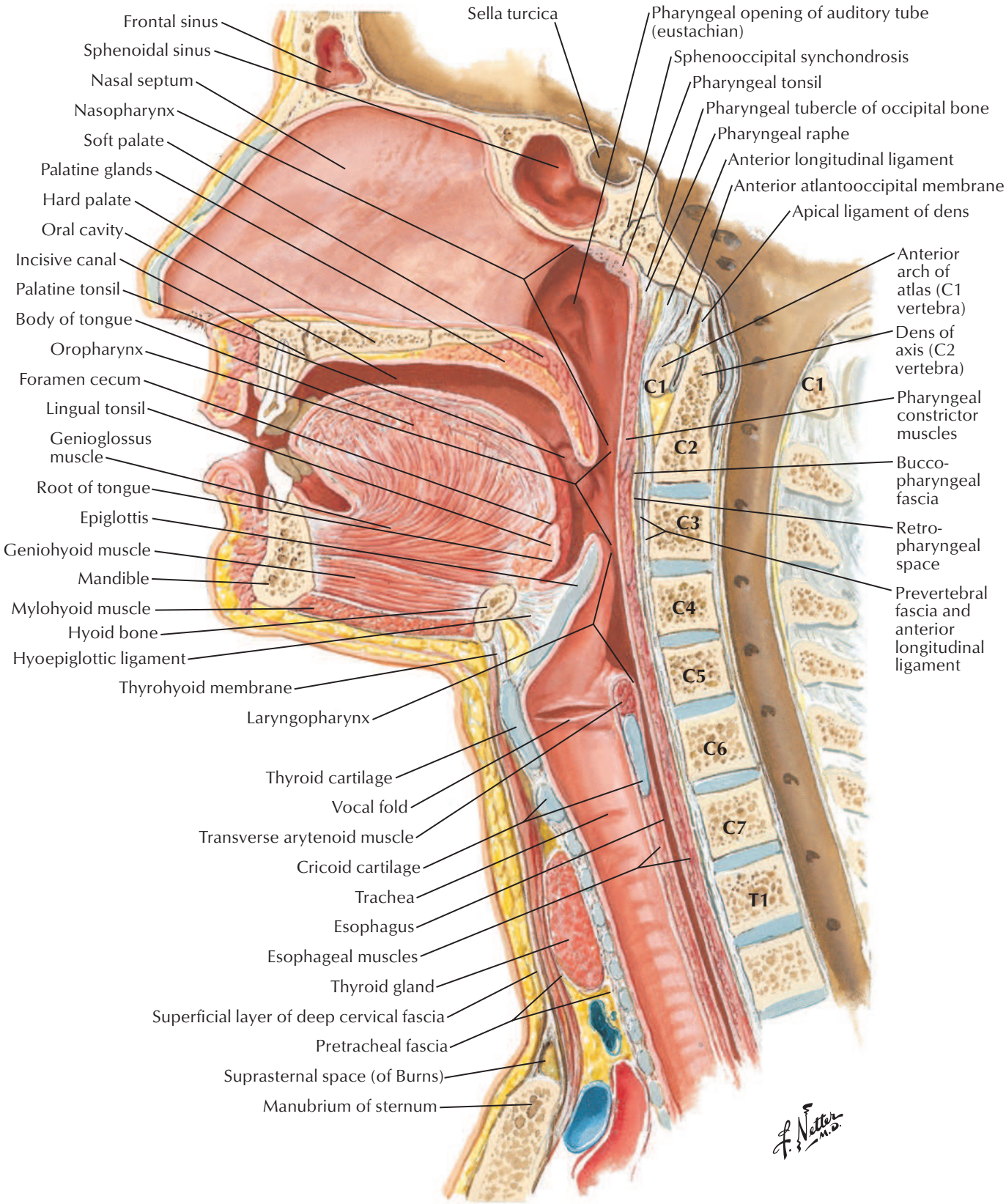
////// facebook : Booksmedicos06

See also Plates 75, 79, 82, 83



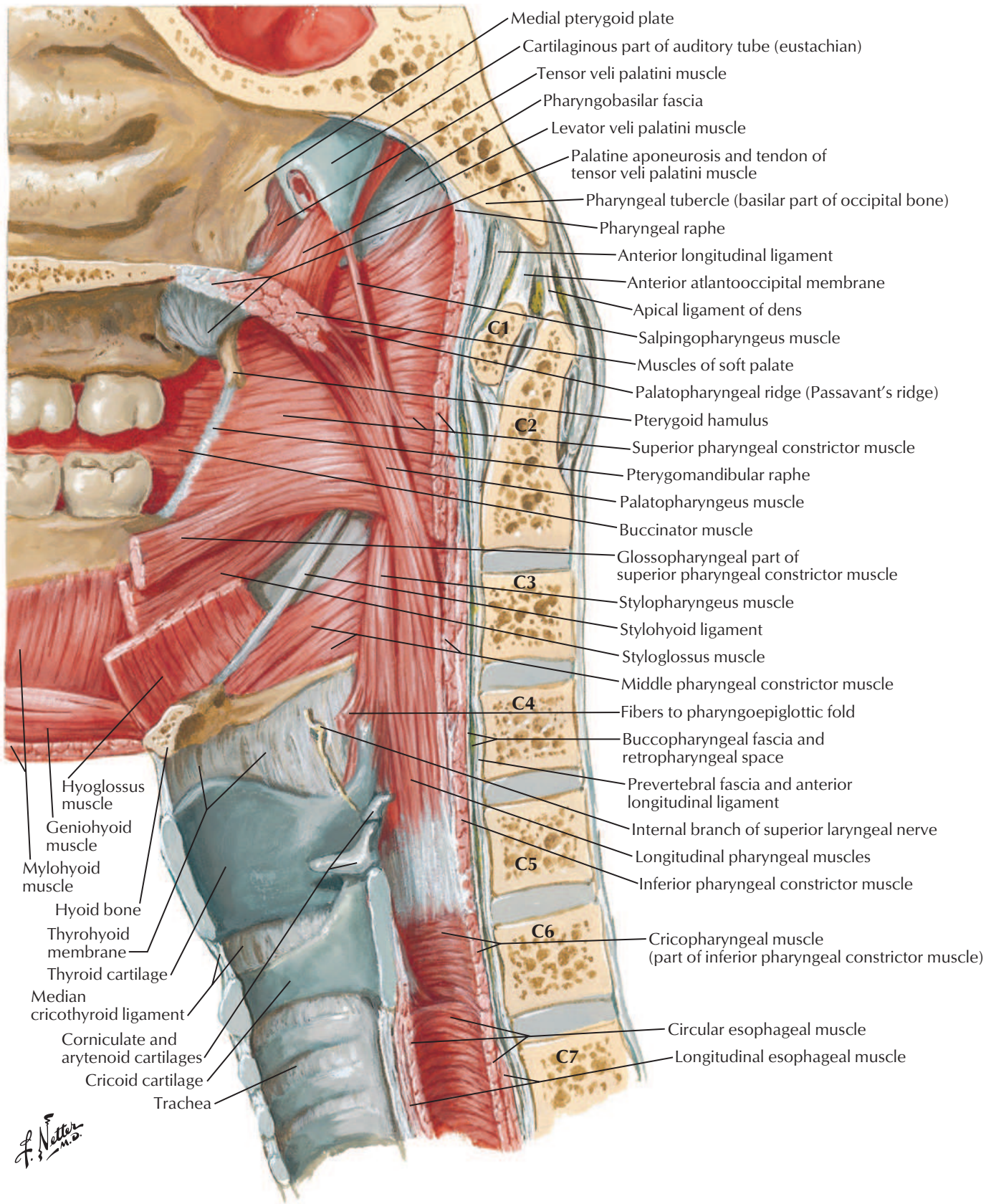
Superior view of the skull base showing line of cut and the removed part

www.Booksmedicos06.com

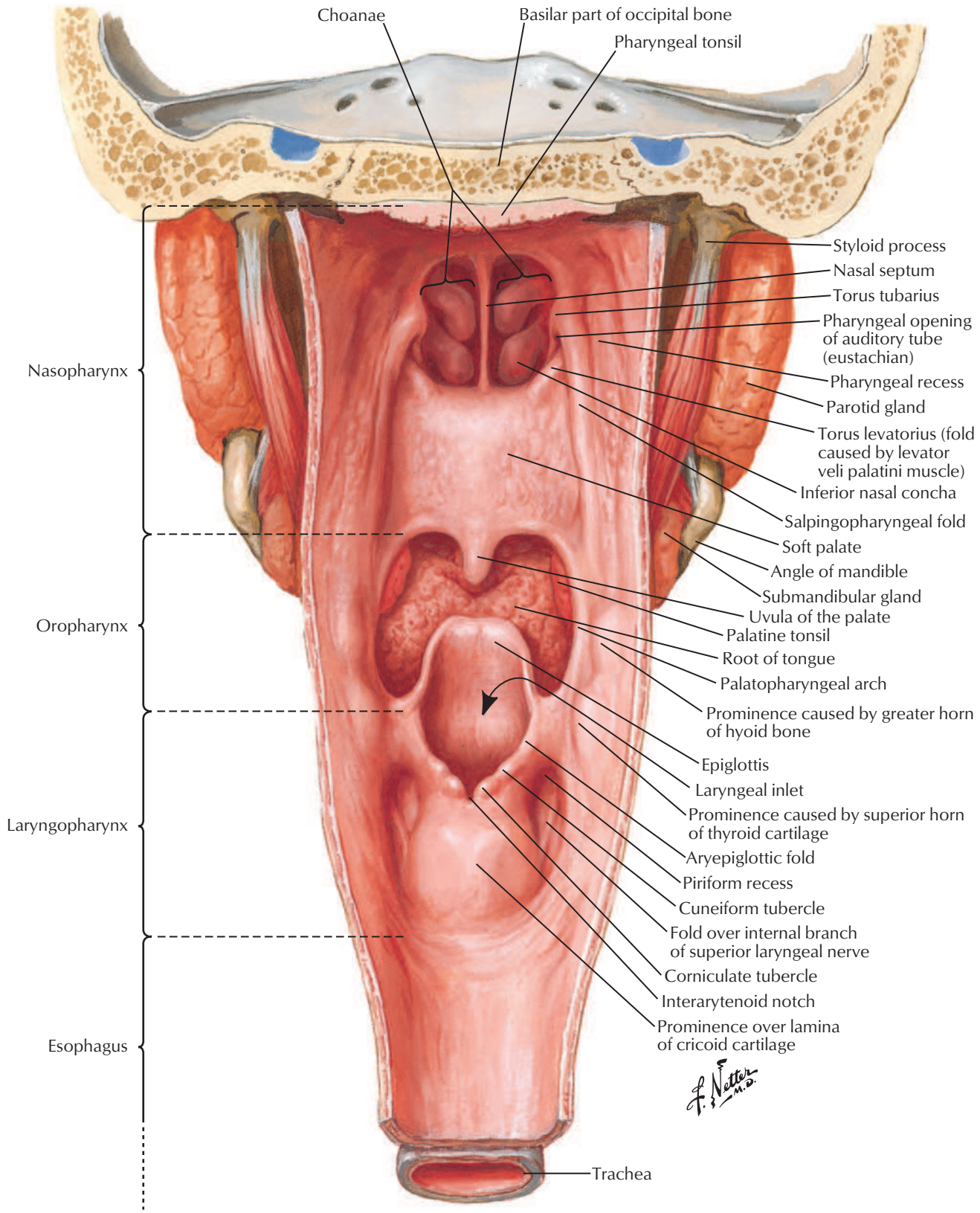


////// facebook : Booksmedicos06

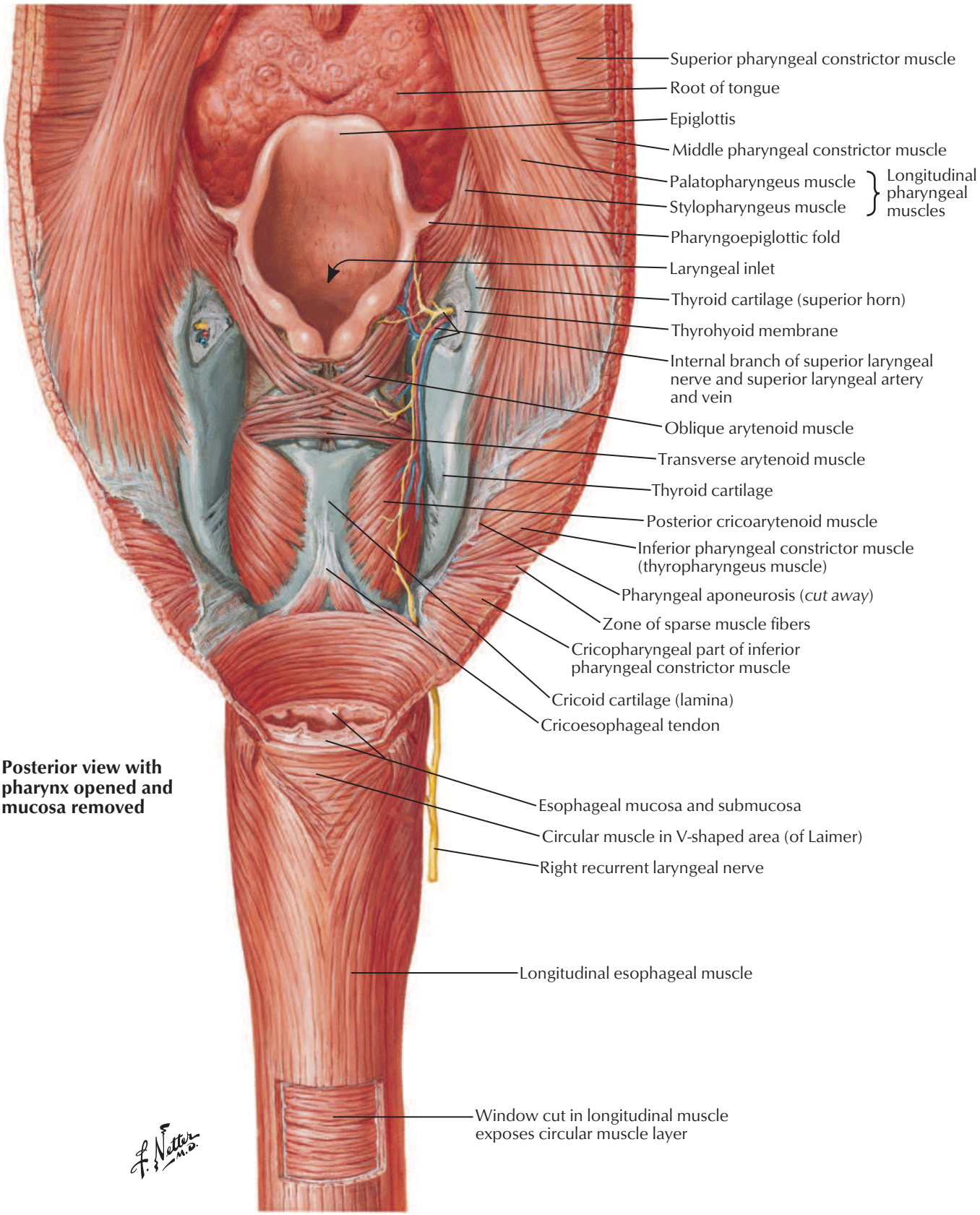
See also Plate 72



www.Booksmedicos06.com



////// facebook : Booksmedicos06

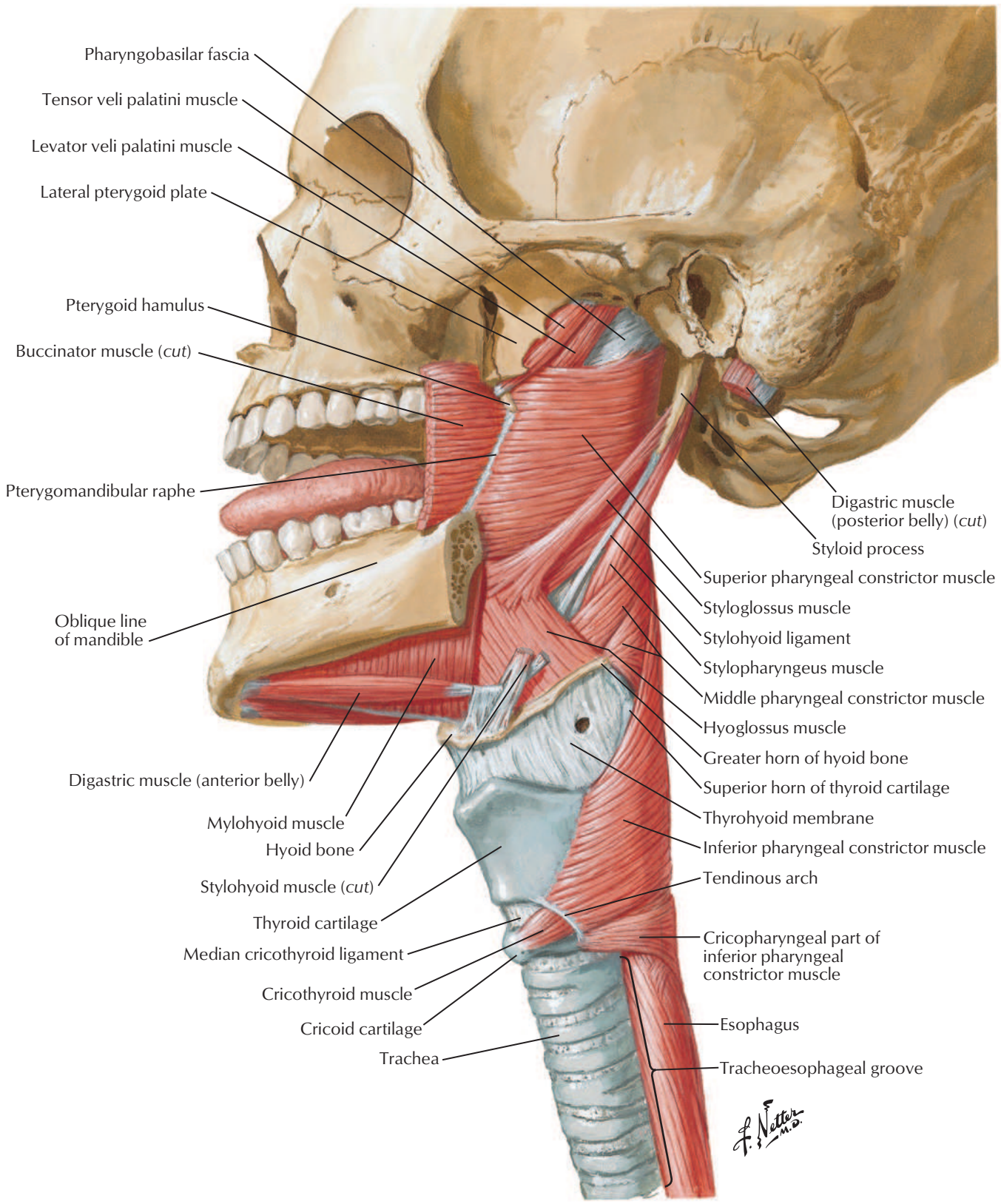


Posterior view with pharynx opened and mucosa removed

www.Booksmedicos06.com

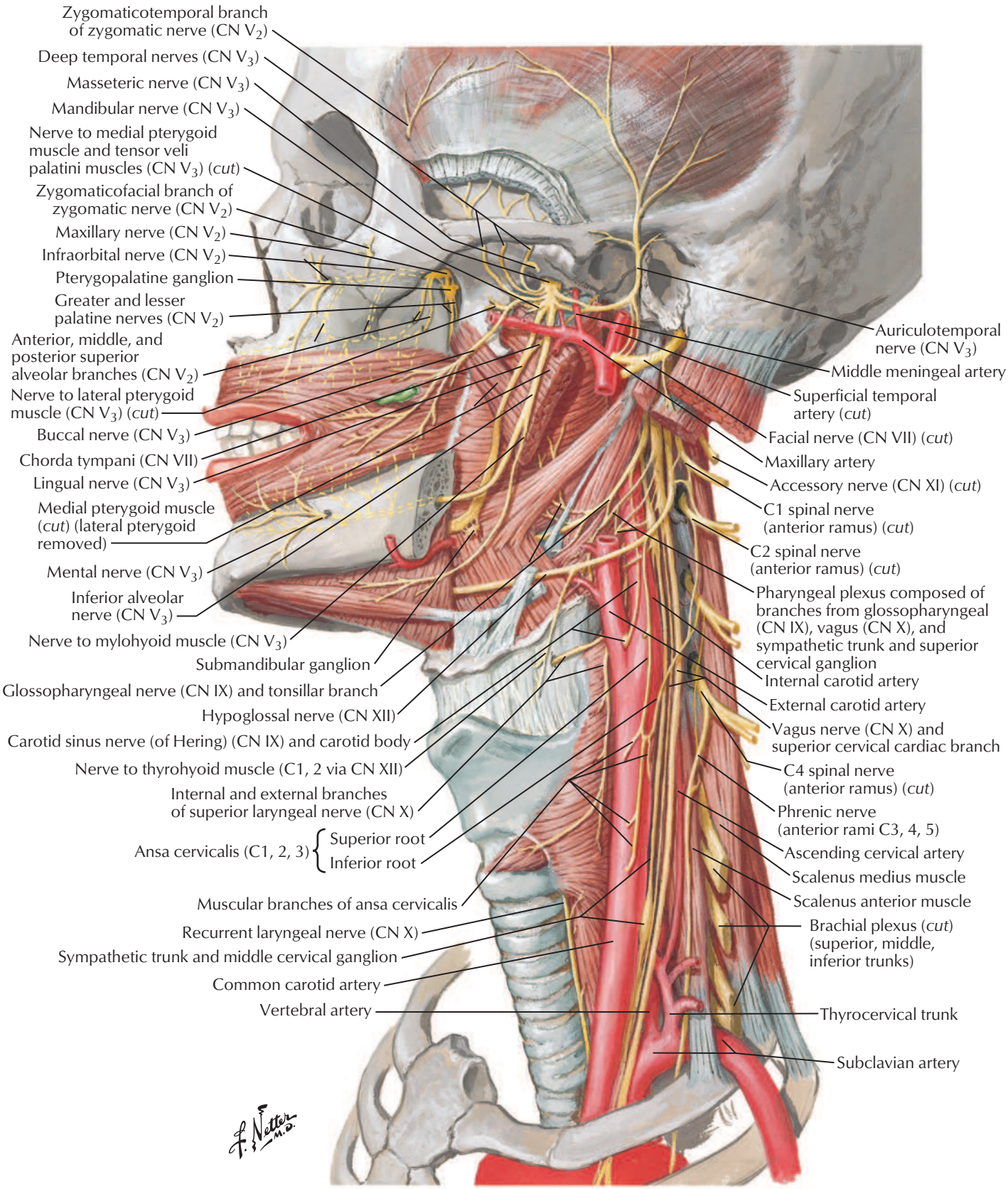
Muscles of Pharynx: Lateral View

See also Plate 75



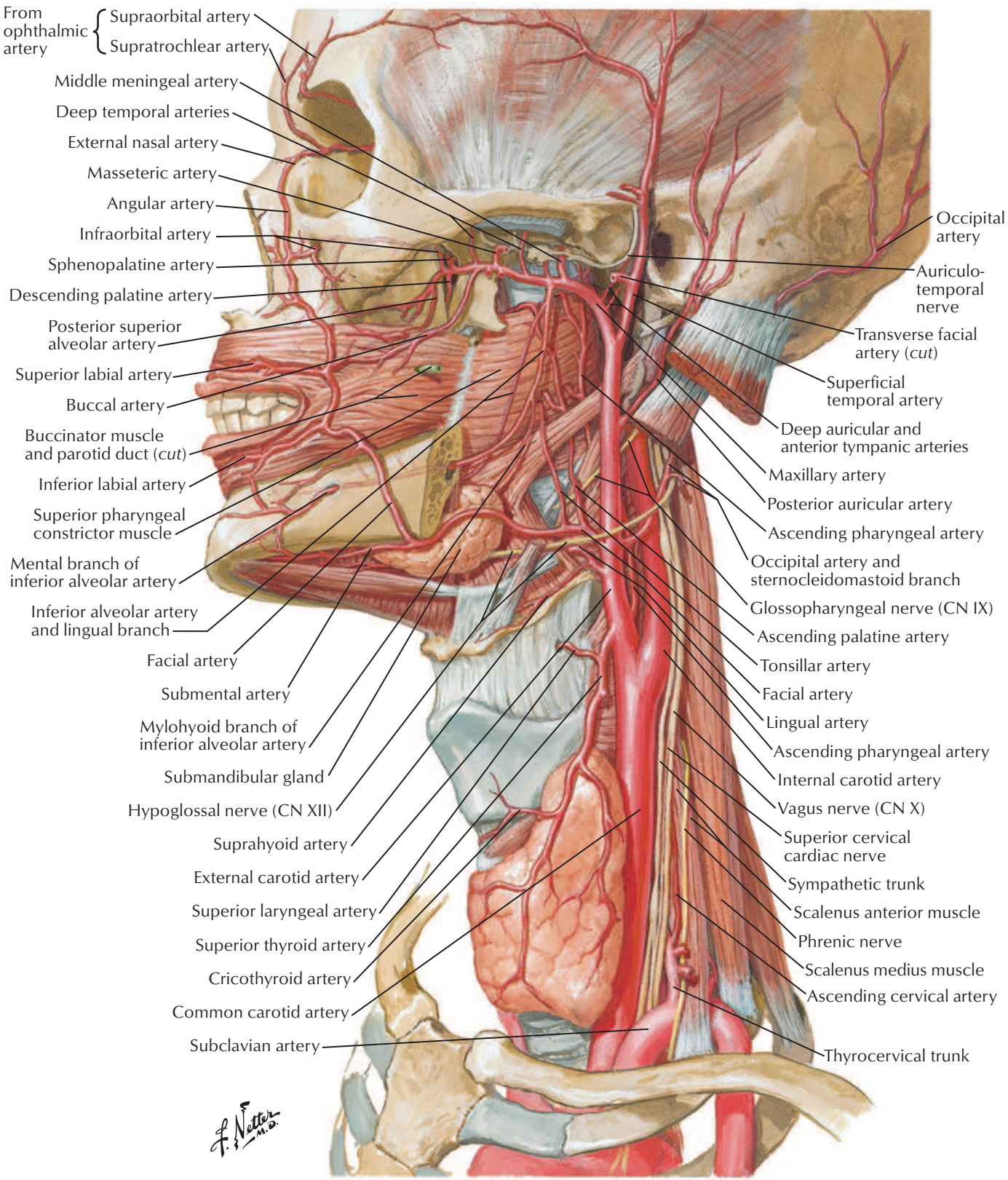
////// facebook : Booksmedicos06

See also Plates 59, 133, 136



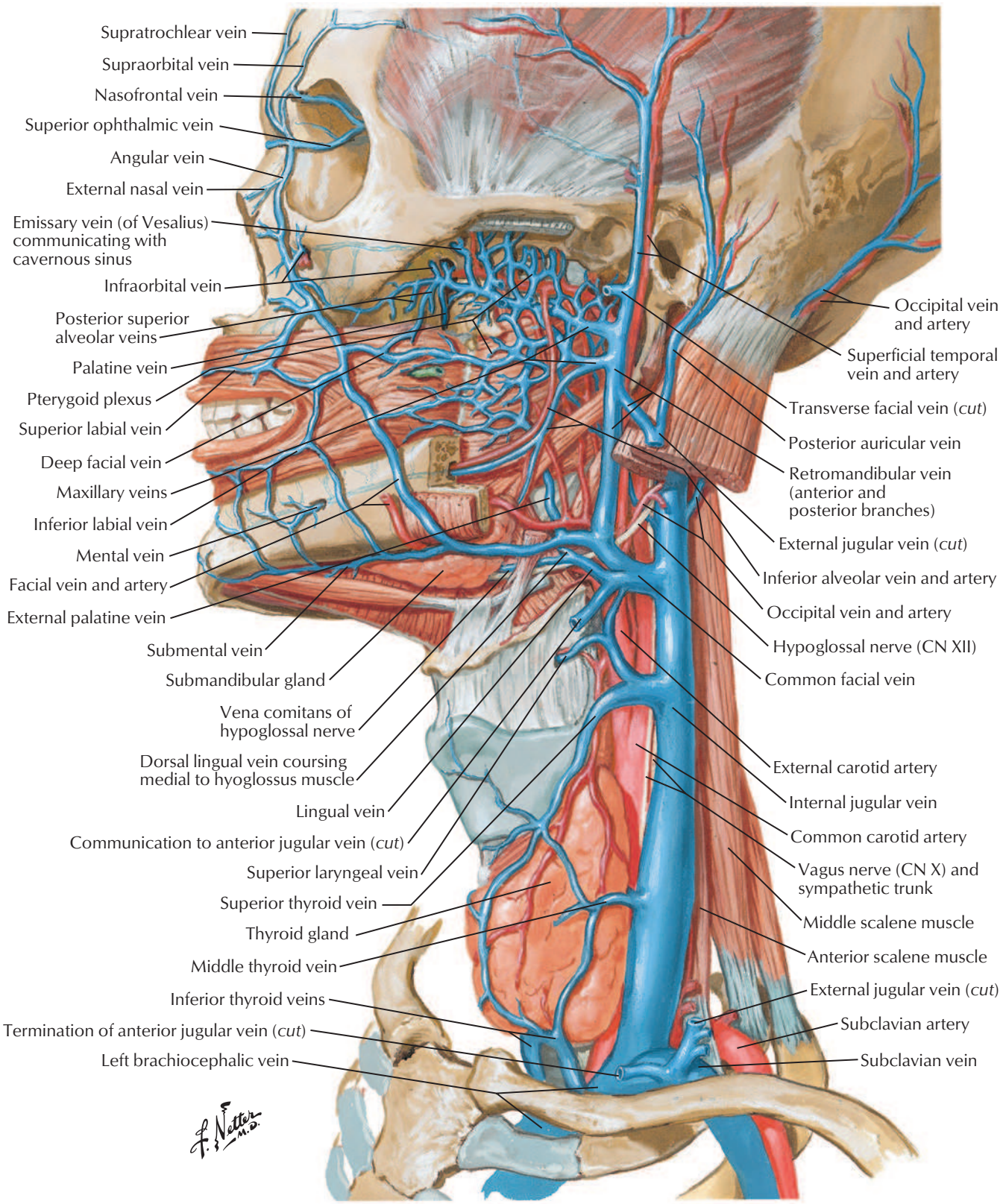
www.Booksmedicos06.com

See also Plates 41, 57



////// facebook : Booksmedicos06

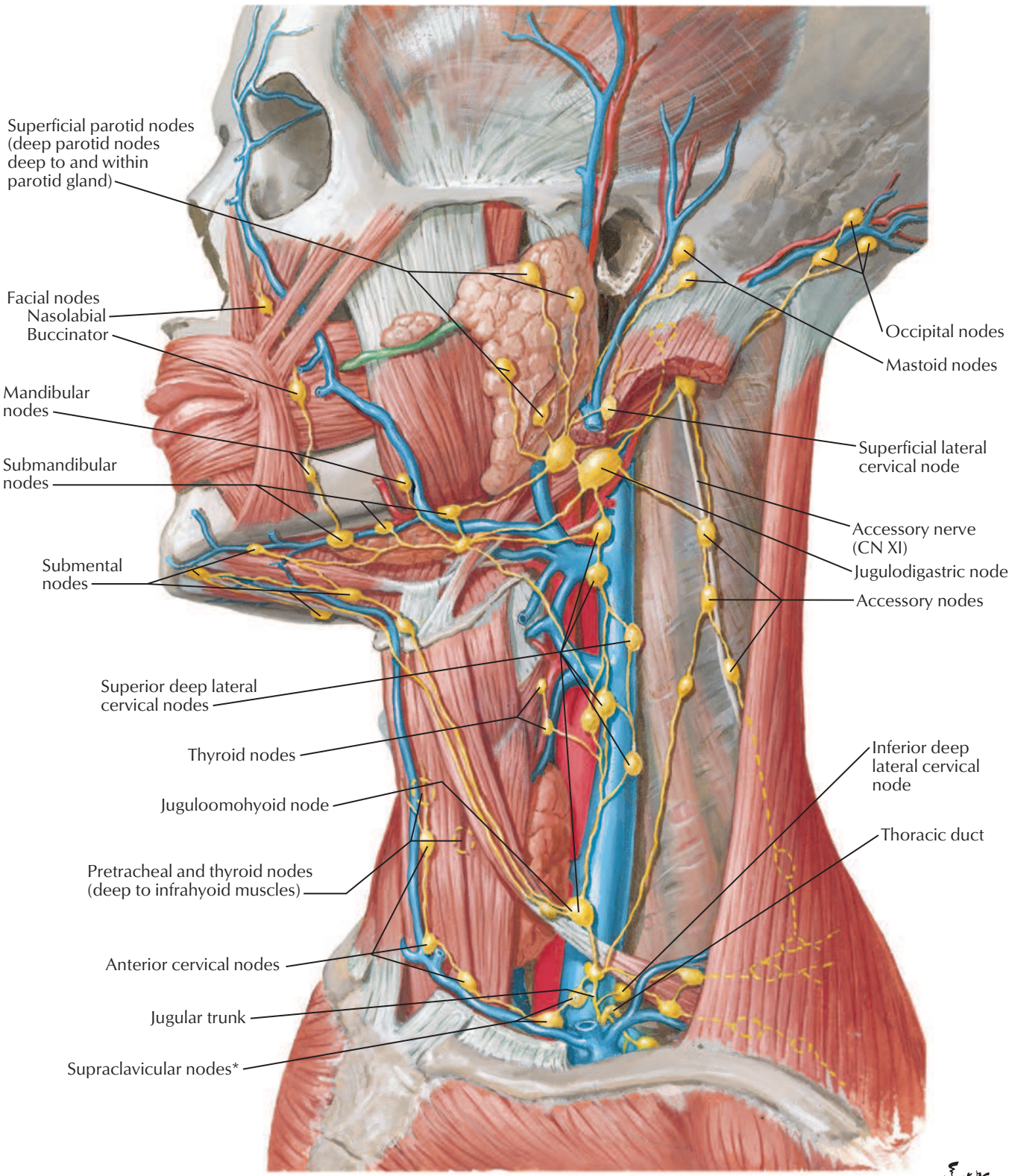
See also Plate 85



www.Booksmedicos06.com

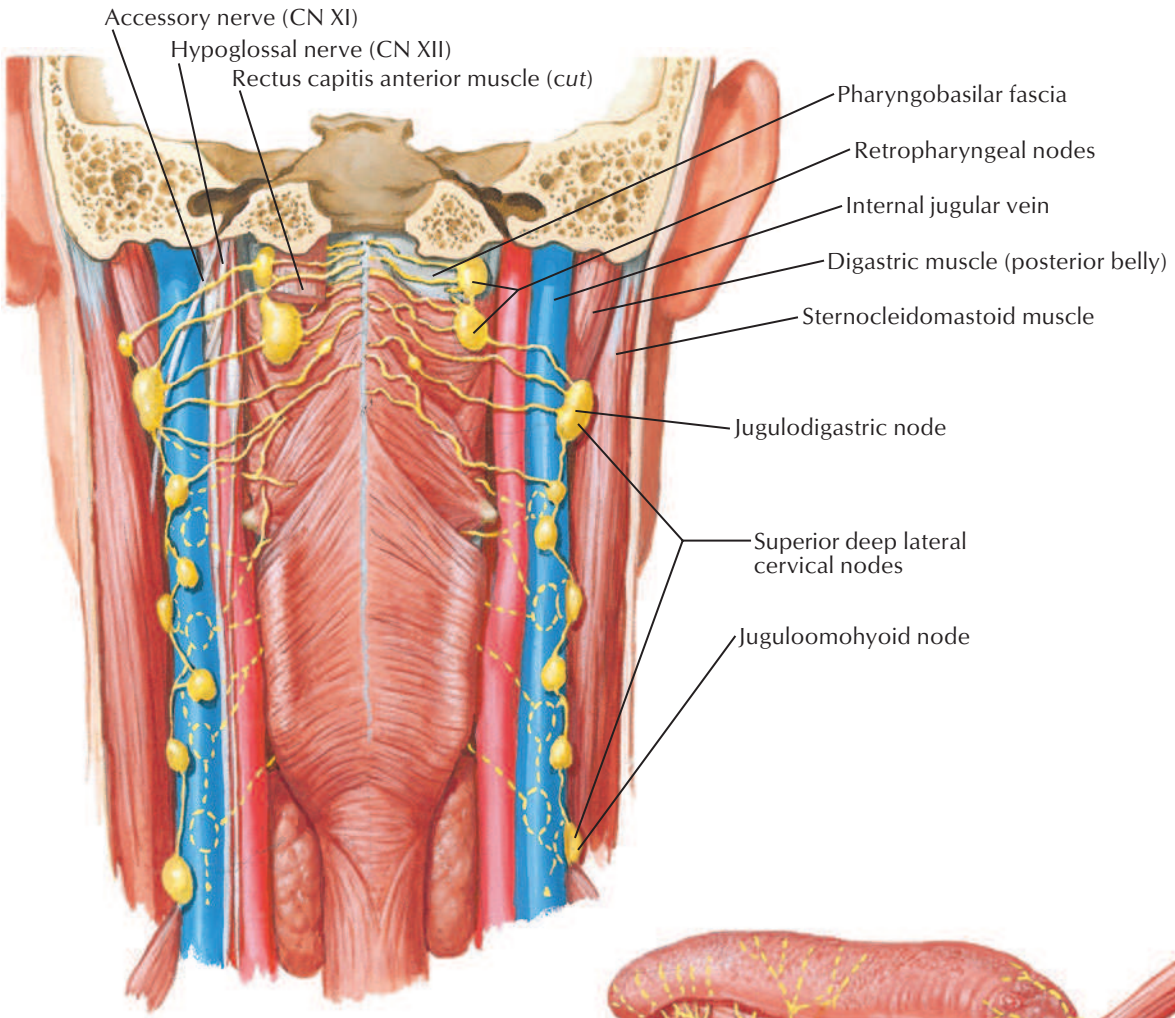
Lymph Vessels and Nodes of Head and Neck

See also Plate 242

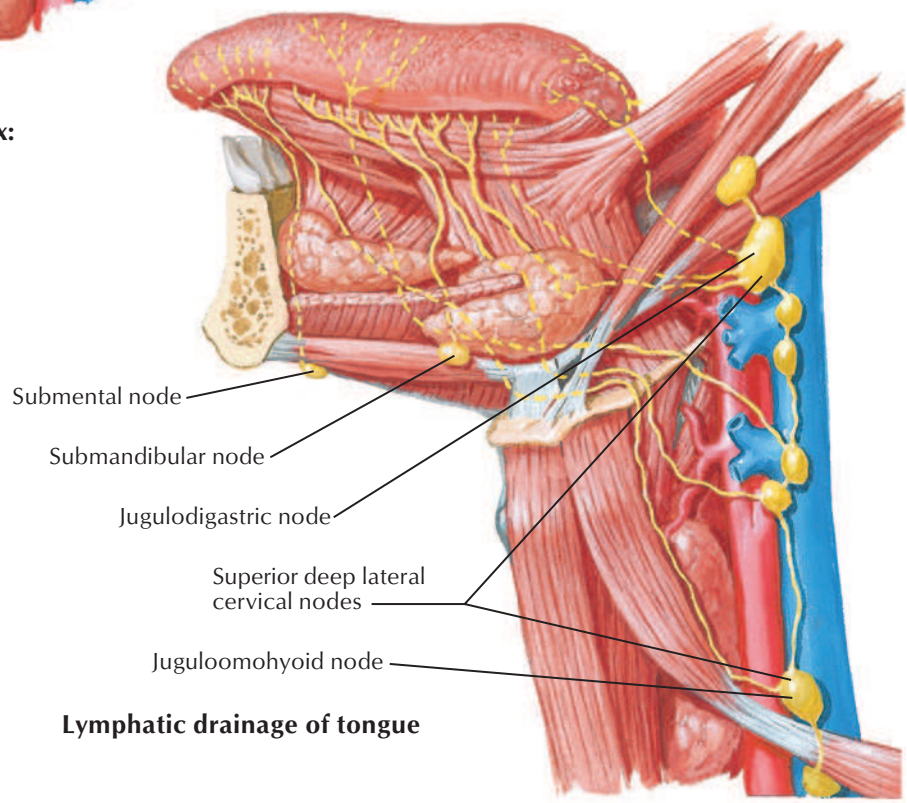


**The supraclavicular group of nodes, especially on the left, are also sometimes referred to as the signal or sentinel lymph nodes of Virchow or Troisier, especially when sufficiently enlarged and palpable. These nodes (or a single node) are so termed because they may be the first recognized presumptive evidence of malignant disease in the viscera.*

/////// facebook : Booksmedicos06

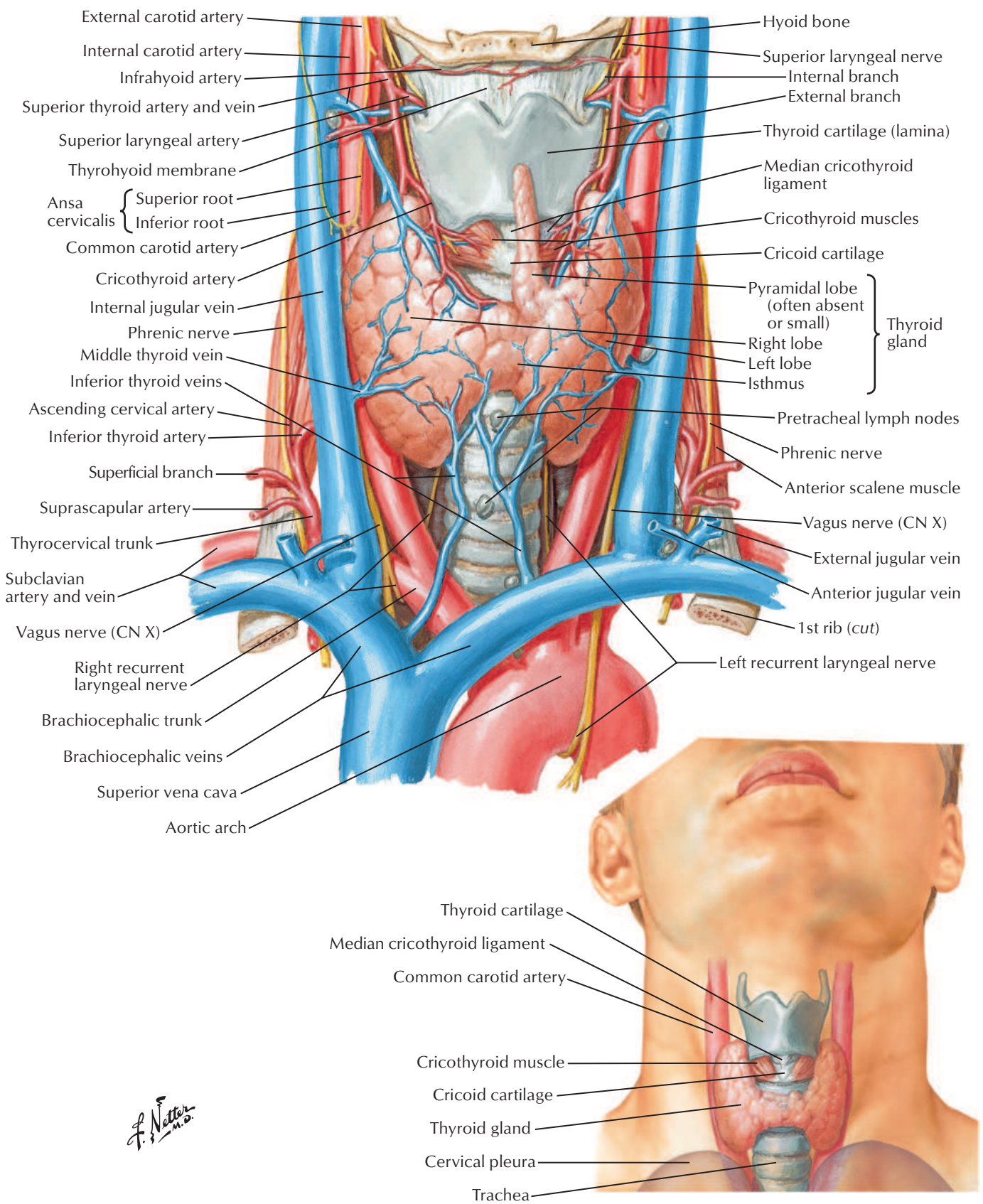


Lymphatic drainage of pharynx: posterior view



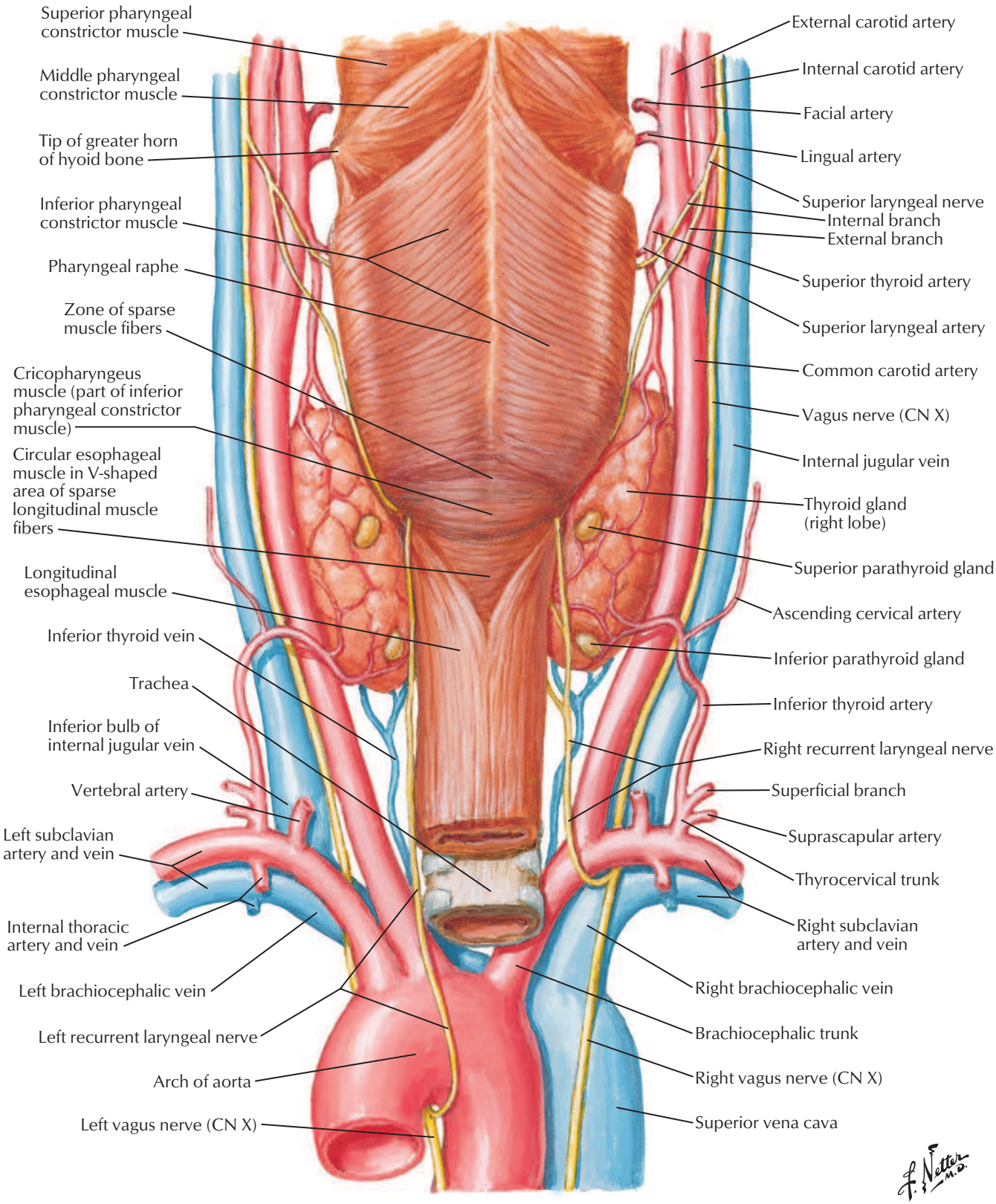
Lymphatic drainage of tongue

www.Booksmedicos06.com



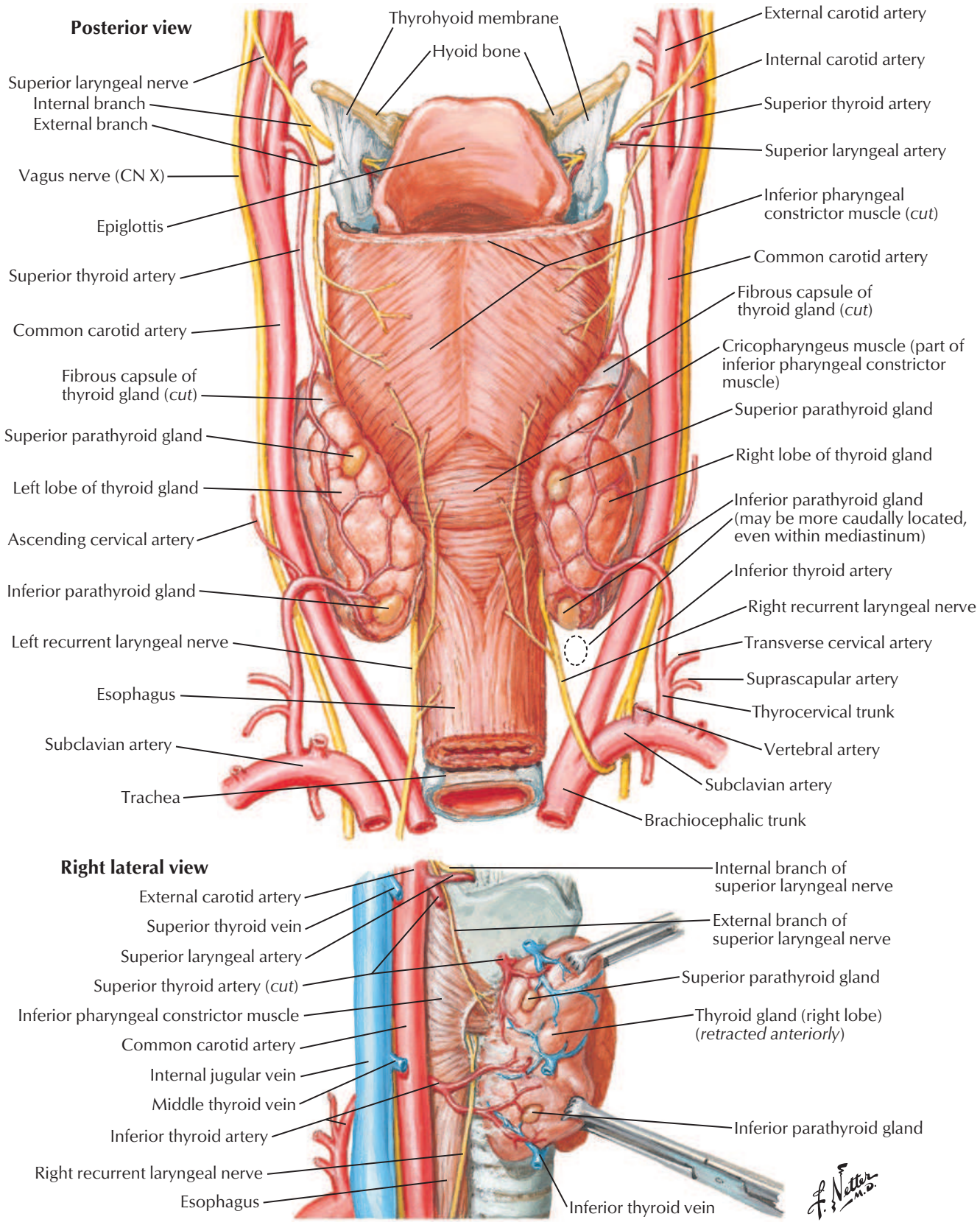
////// facebook : Booksmedicos06

See also Plate 89



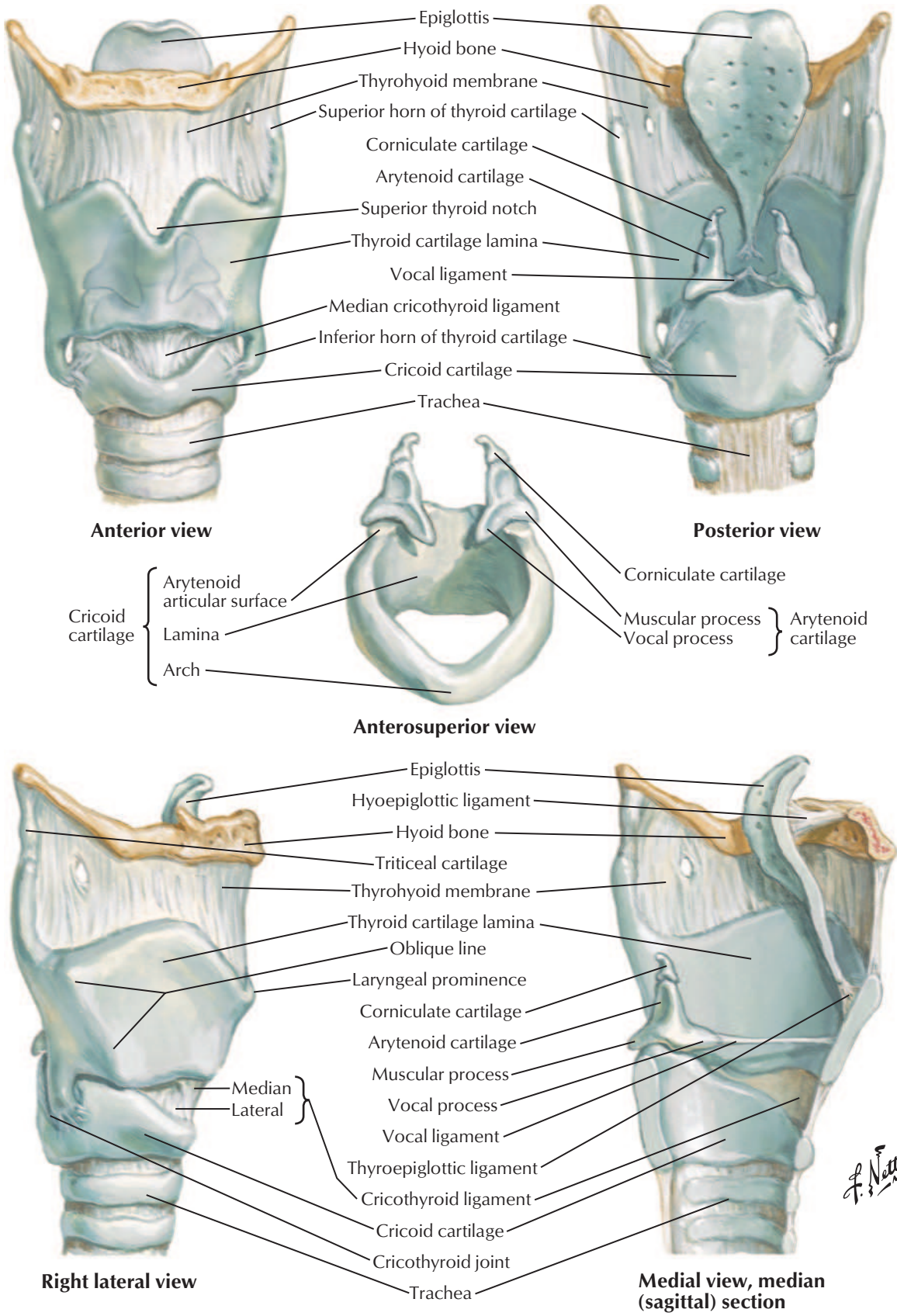
www.Booksmedicos06.com

See also Plates 80, 88, 92



////// facebook : Booksmedicos06

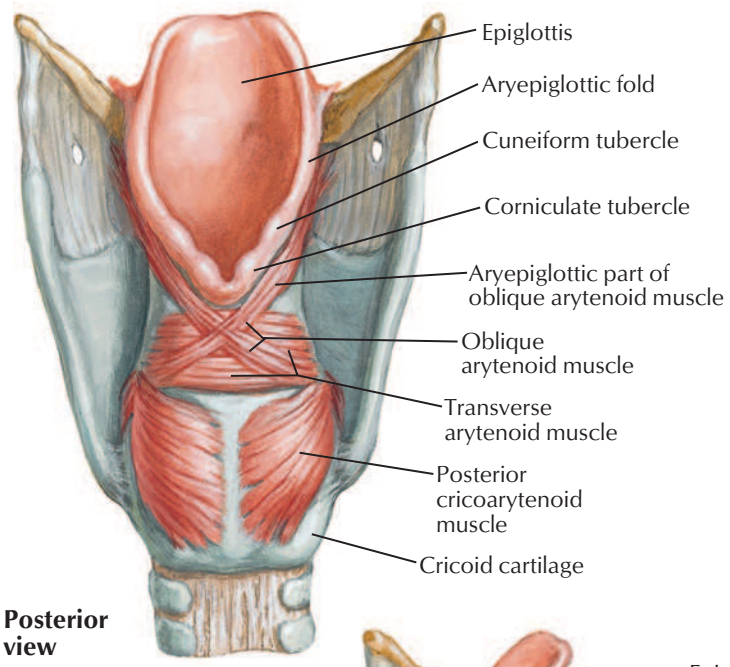
See also Plates 91, 92, 93



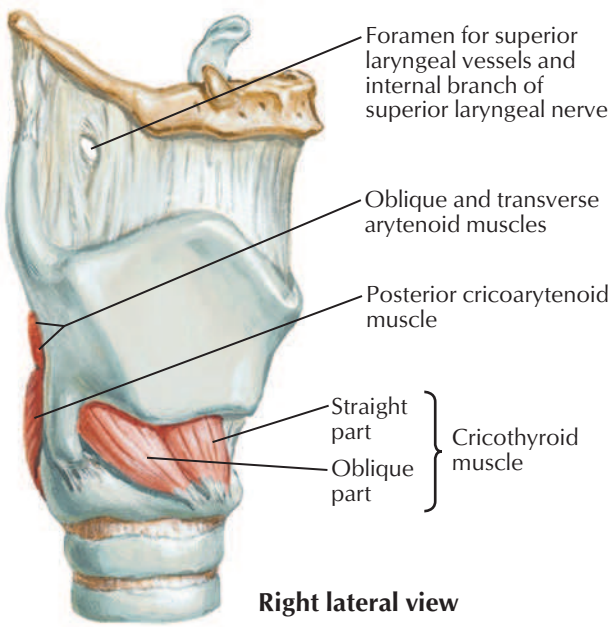
www.Booksmedicos06.com

Intrinsic Muscles of Larynx

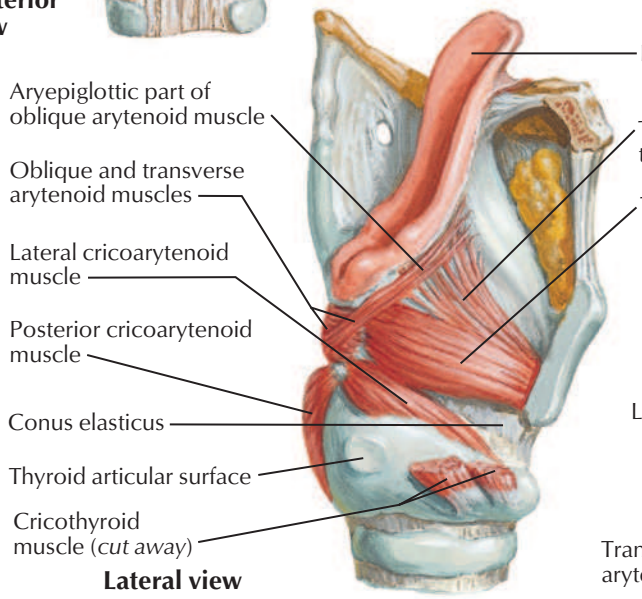
See also Plates 90, 92, 93



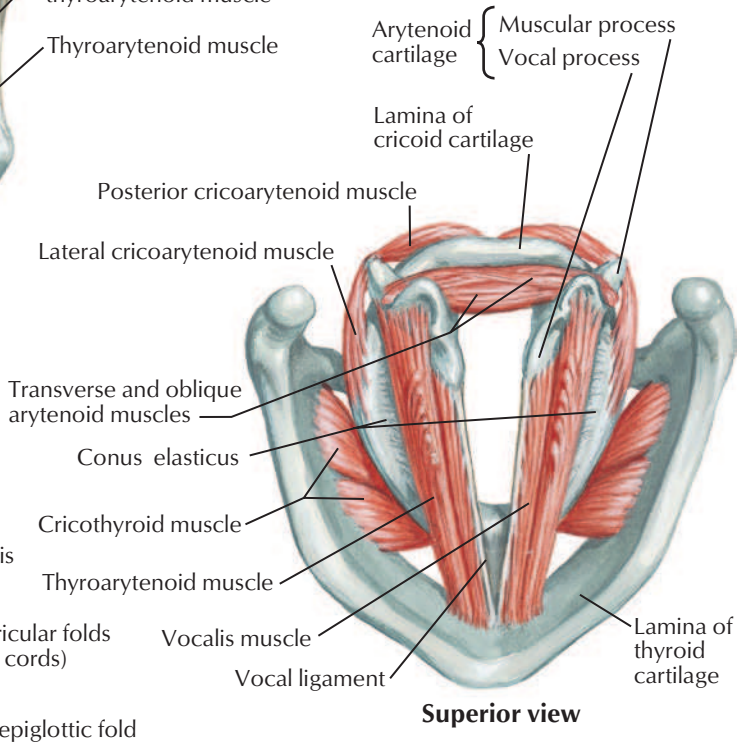
Posterior view



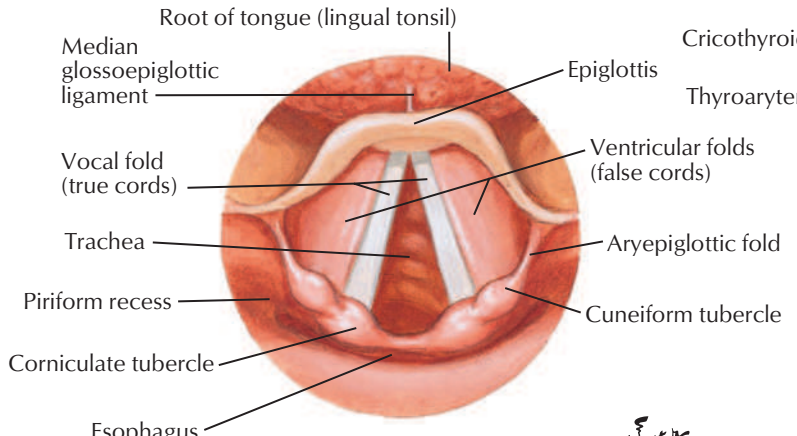
Right lateral view



Lateral view



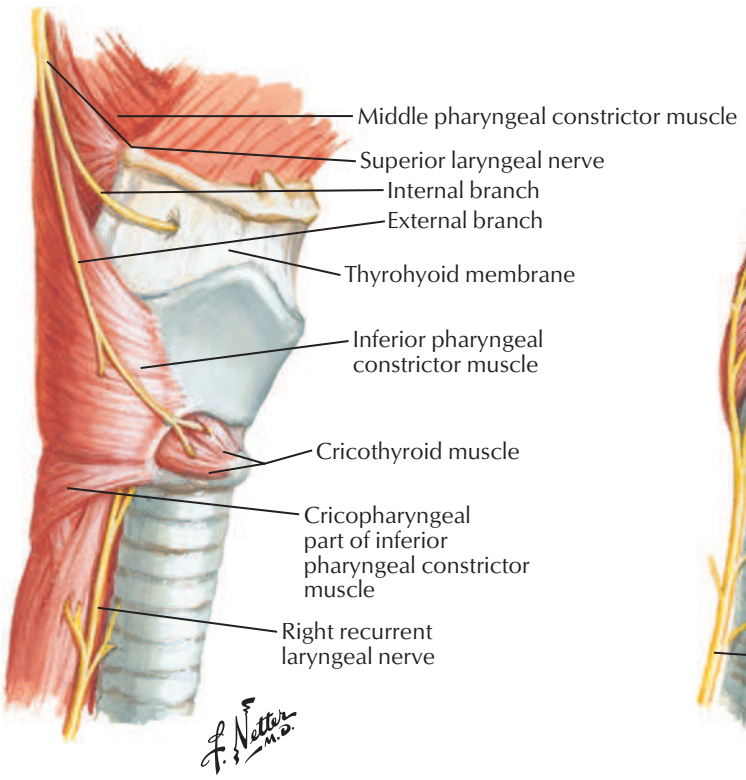
Superior view

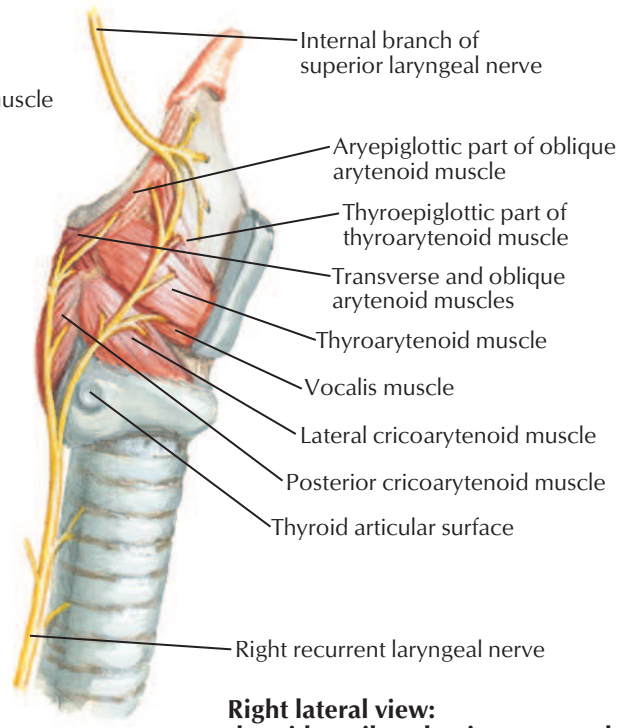


Normal larynx: inspiration

////// facebook : Booksmedicos06

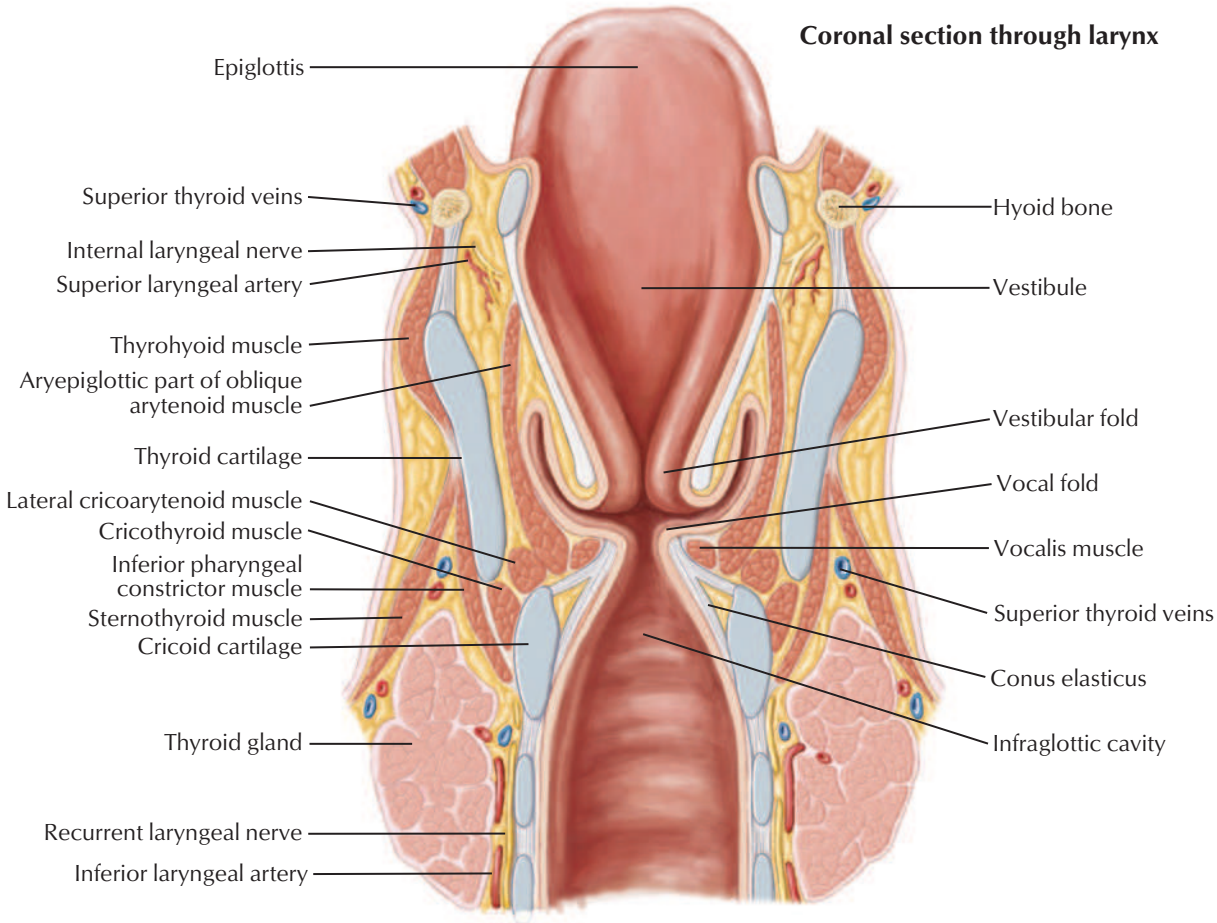
See also Plates 90, 91, 93





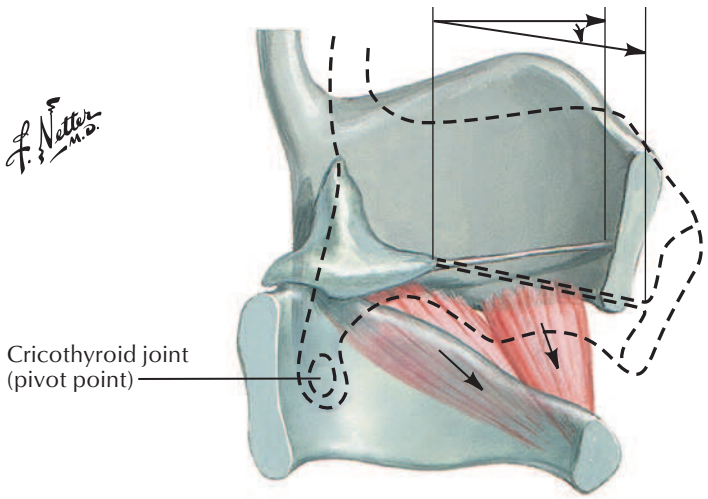
Right lateral view: thyroid cartilage lamina removed

Coronal section through larynx

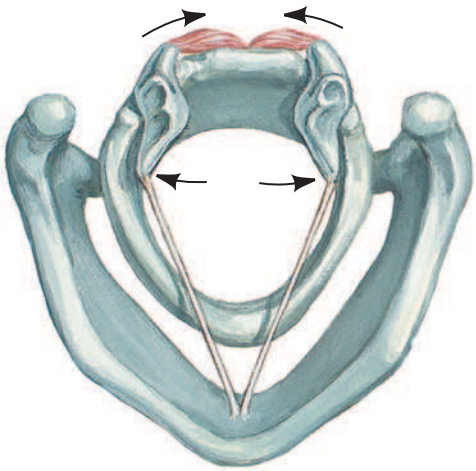


www.Booksmedicos06.com

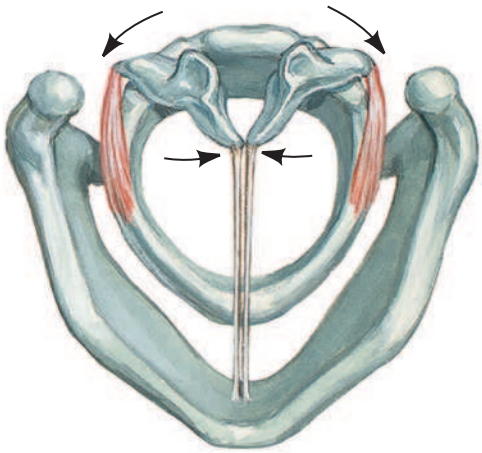
See also Plates 90, 91, 92



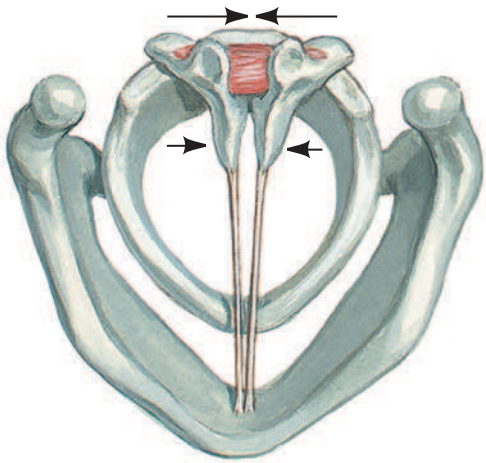
Action of cricothyroid muscles
Lengthening (increasing tension) of vocal ligaments



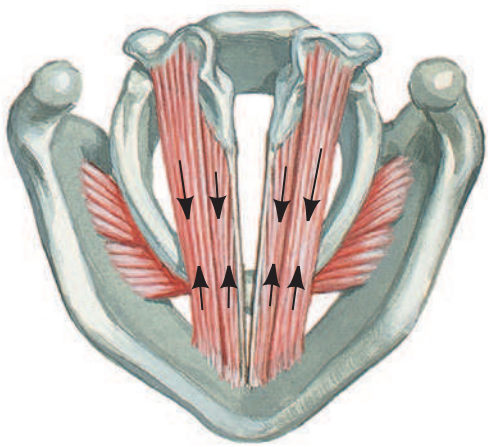
Action of posterior cricoarytenoid muscles
Abduction of vocal ligaments



Action of lateral cricoarytenoid muscles
Adduction of vocal ligaments

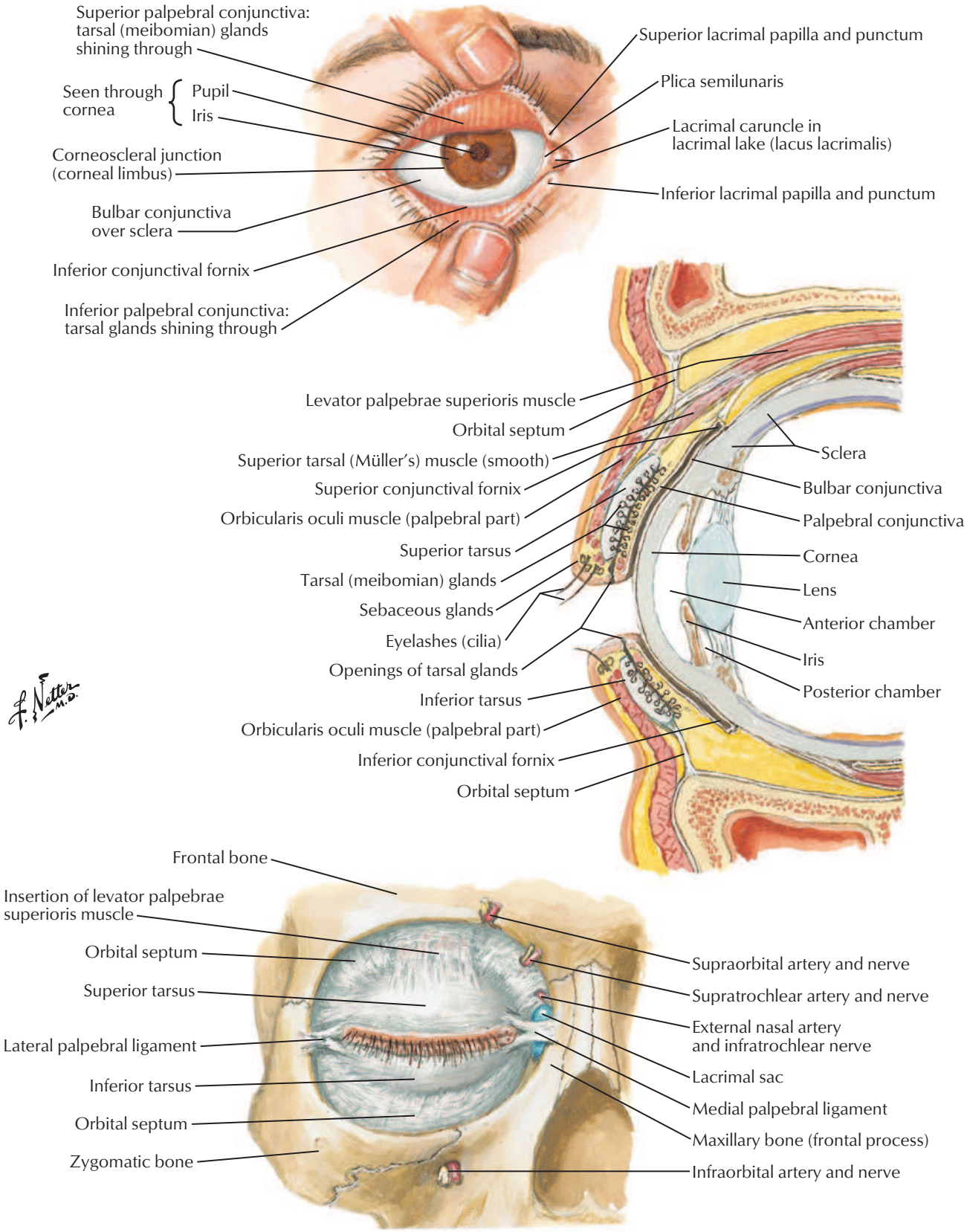


Action of transverse and oblique arytenoid muscles
Adduction of vocal ligaments



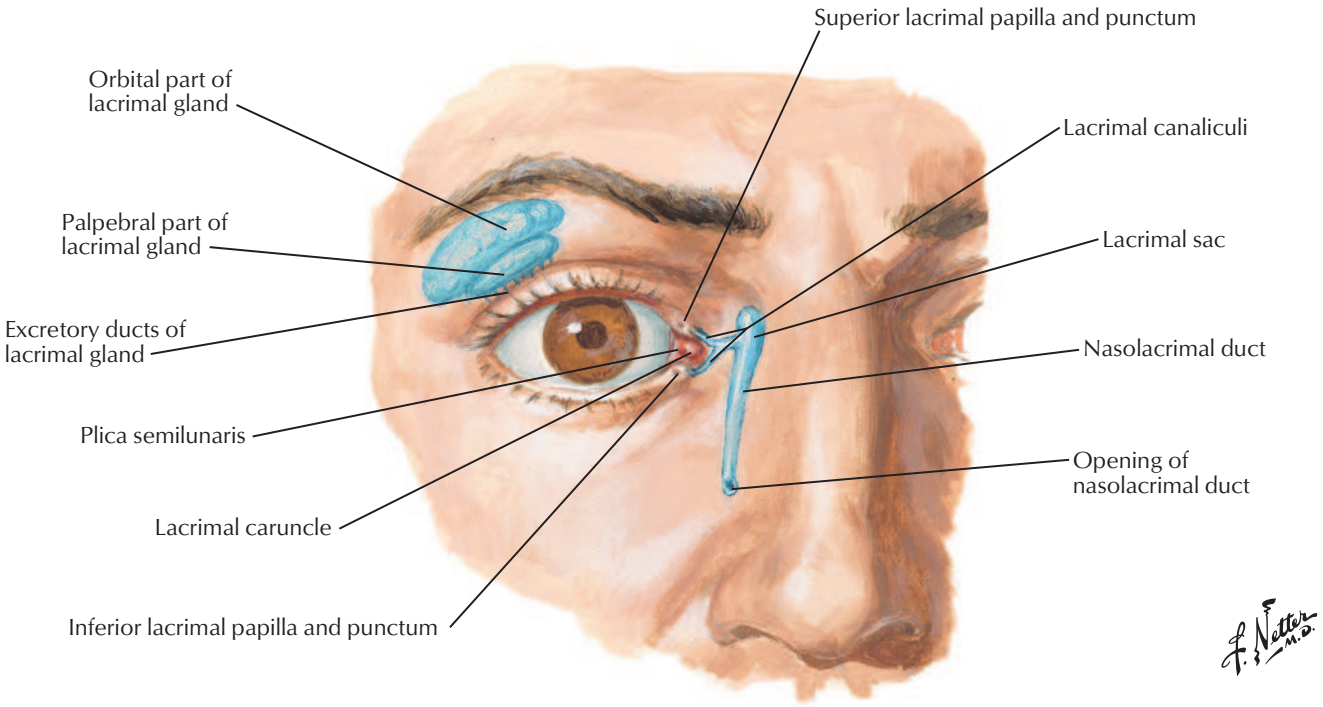
Action of vocalis and thyroarytenoid muscles
Shortening (relaxation) of vocal ligaments

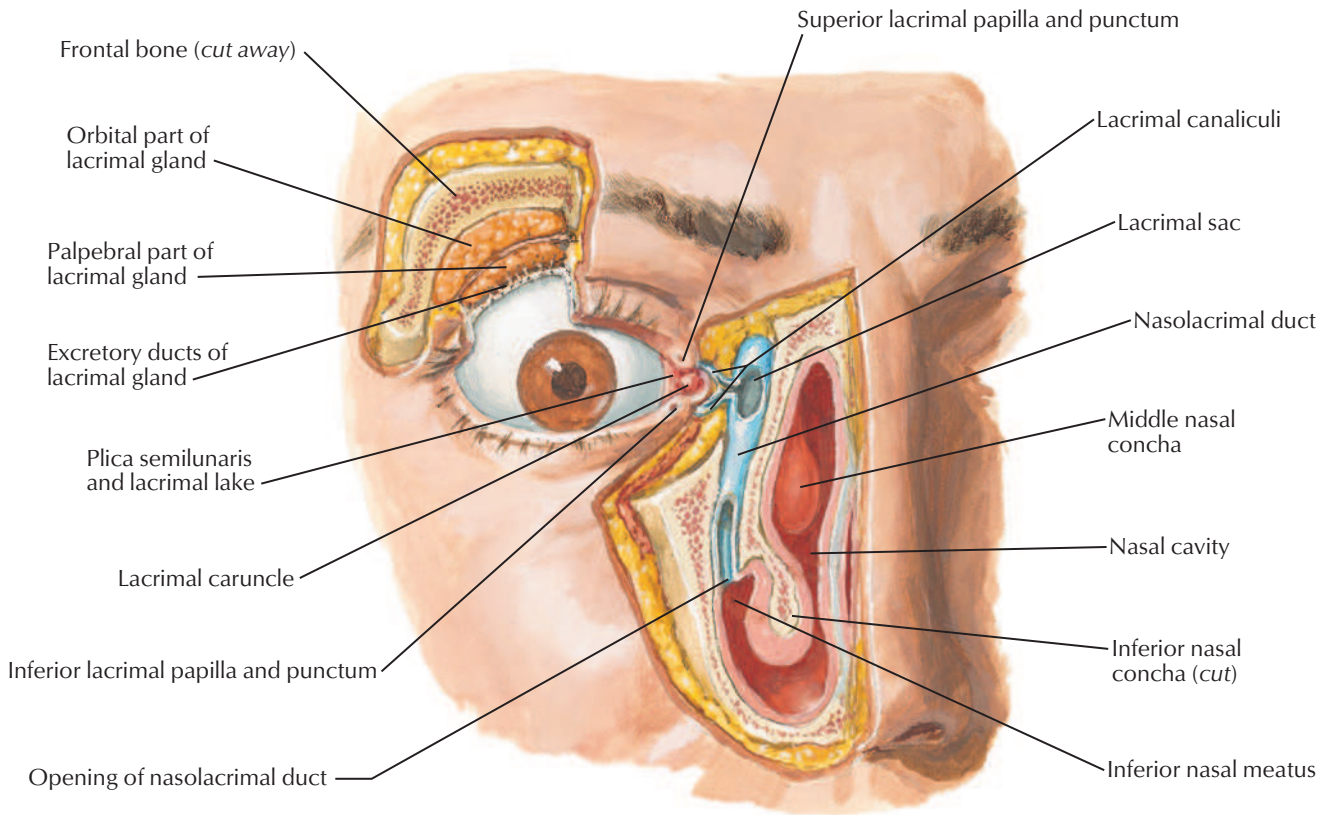
////// facebook : Booksmedicos06



www.Booksmedicos06.com

See also Plate 144

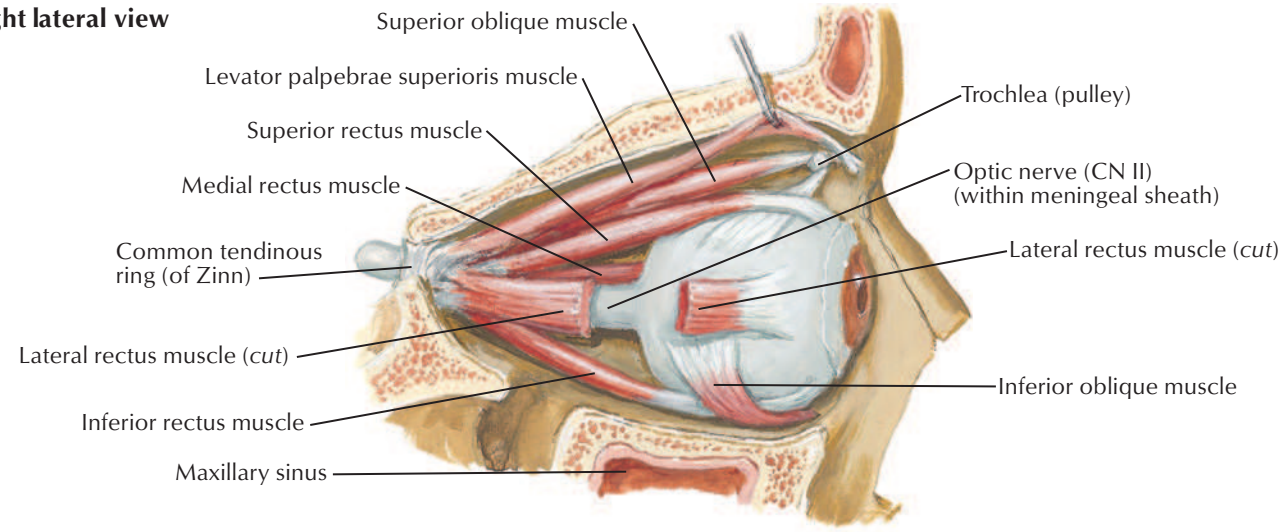




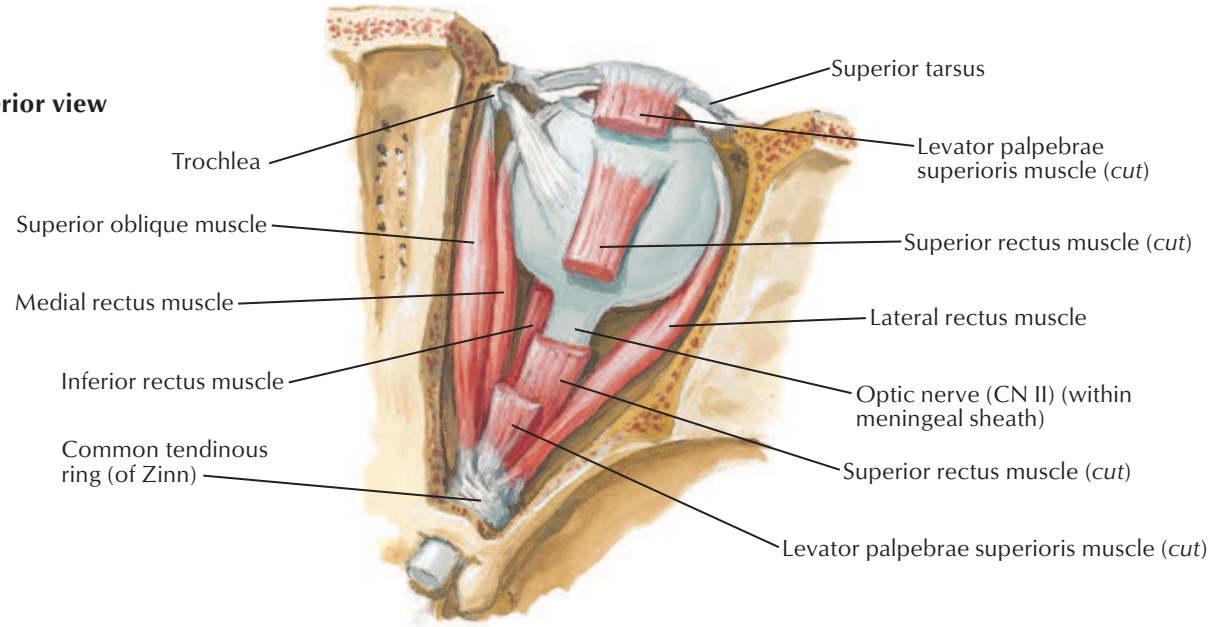
////// facebook : Booksmedicos06

See also Plate 97

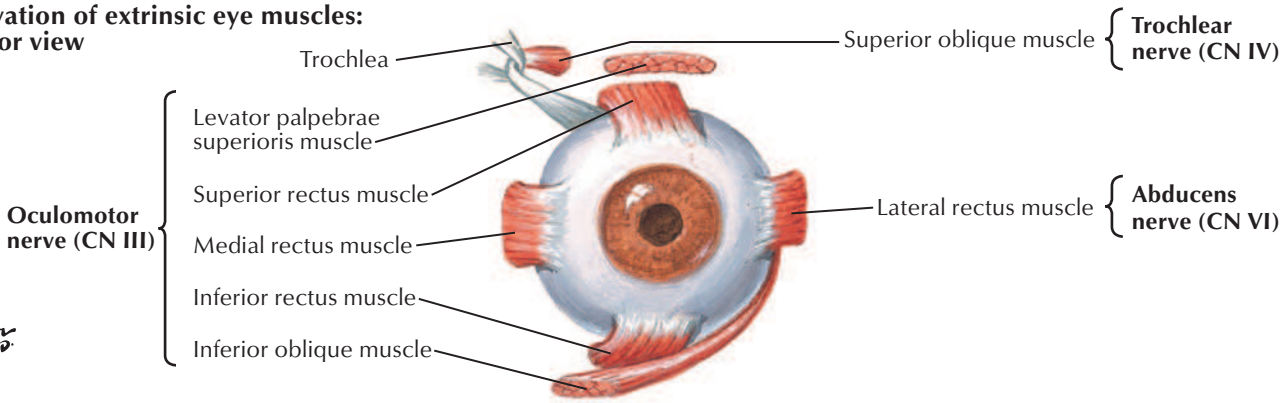
Right lateral view



Superior view



Innervation of extrinsic eye muscles: anterior view

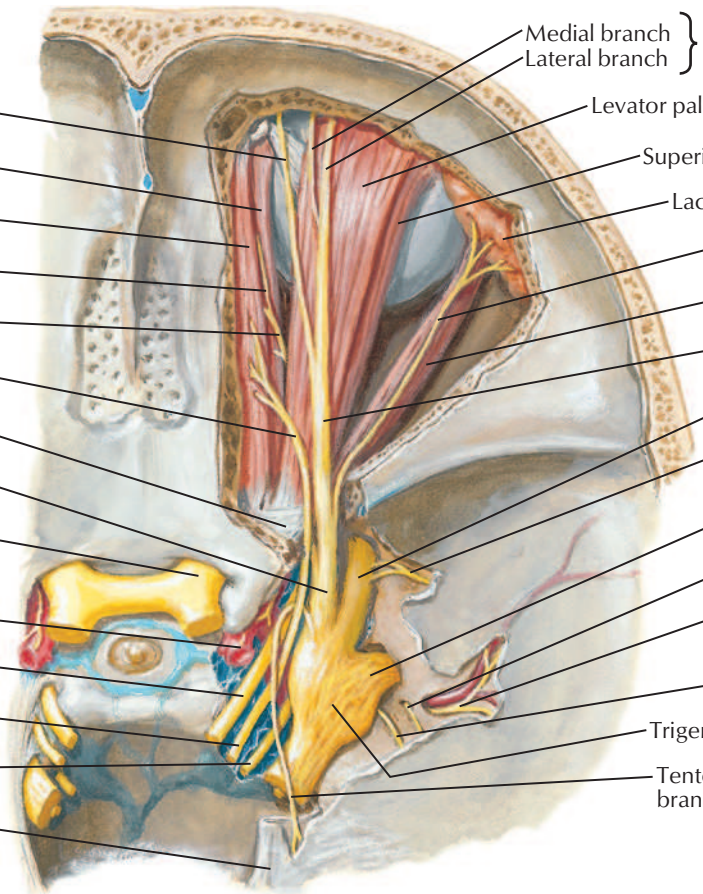


www.Booksmedicos06.com

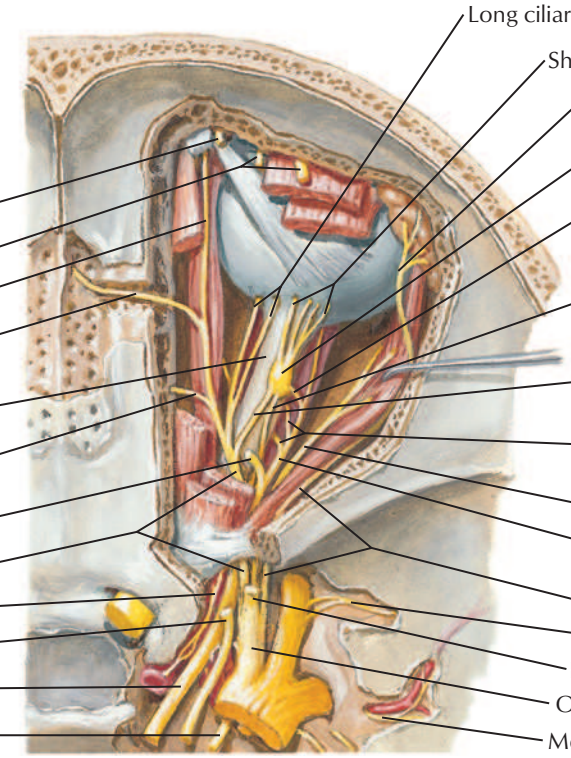
See also Plates 61, 132, 133

/////// facebook : Booksmedicos06

Superior view

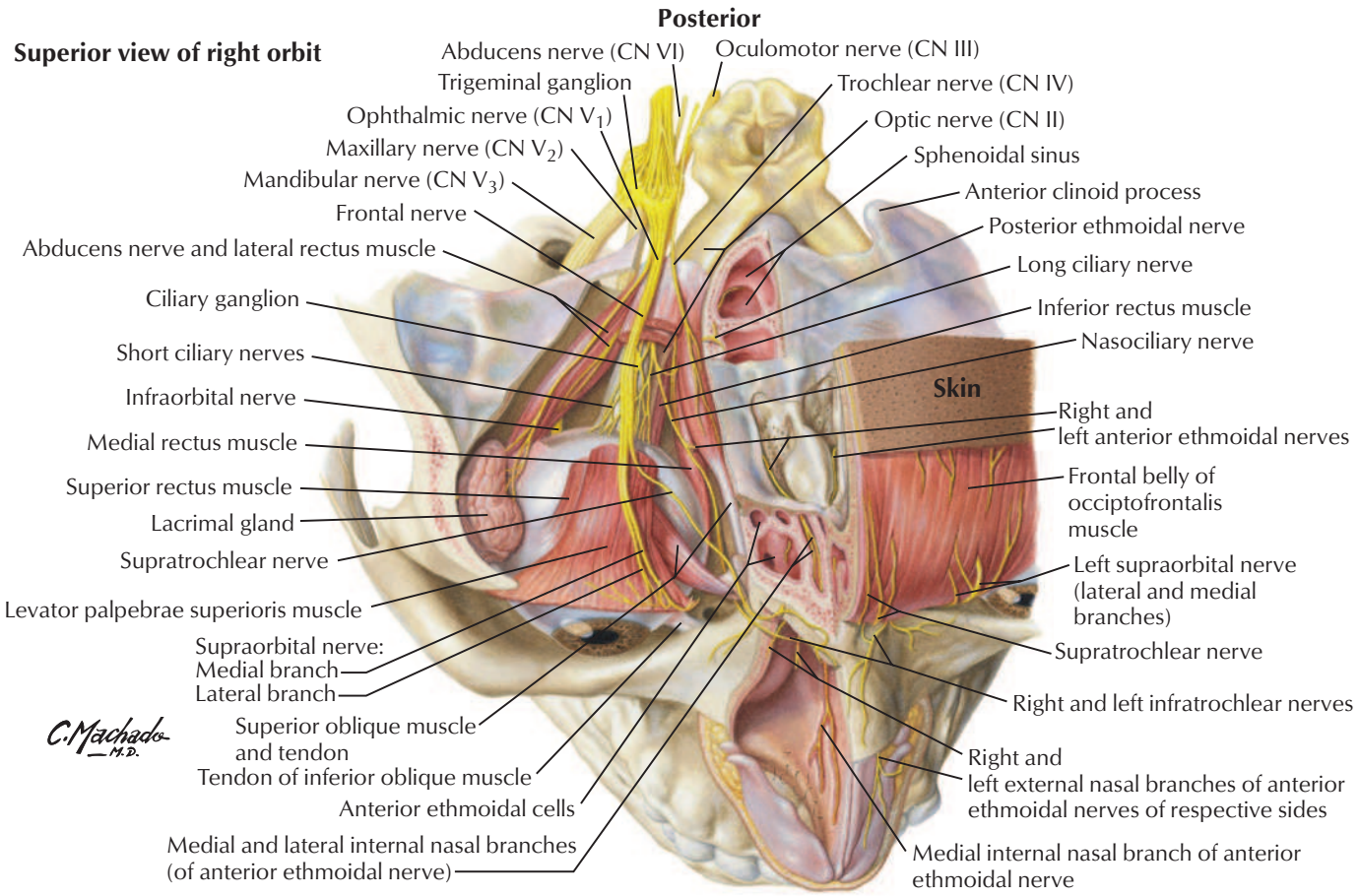


Superior view:
levator palpebrae superioris, superior rectus, and superior oblique muscles partially cut away

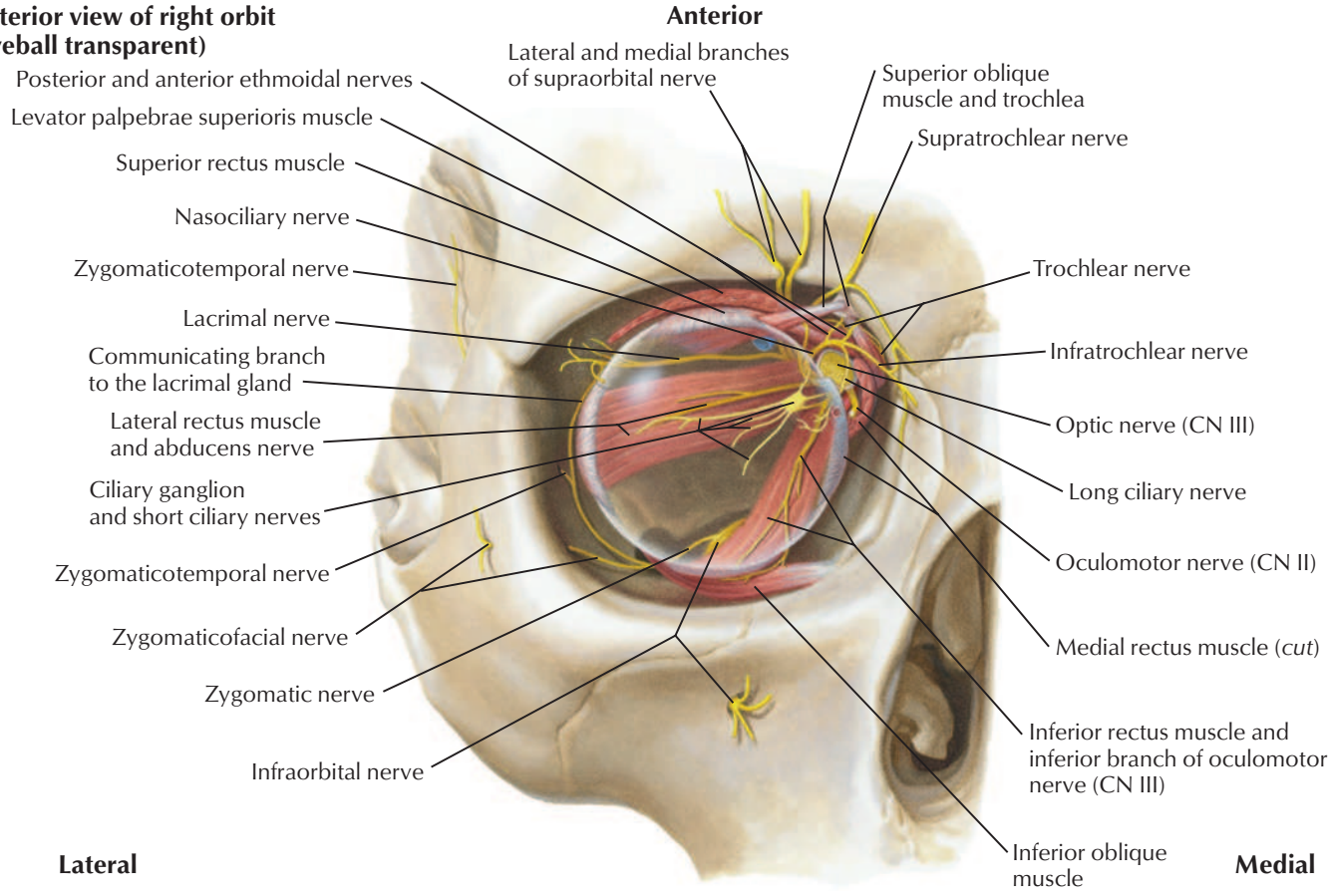


See also Plates 96, 97

Superior view of right orbit



Anterior view of right orbit (eyeball transparent)

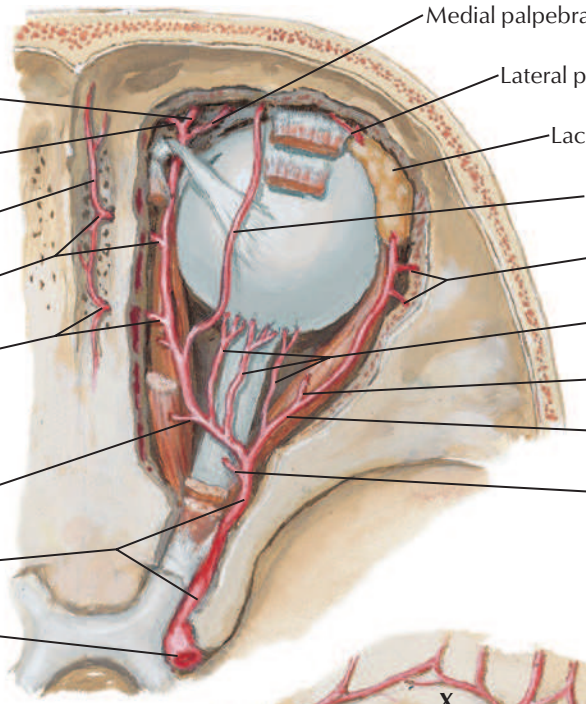


www.Booksmedicos06.com

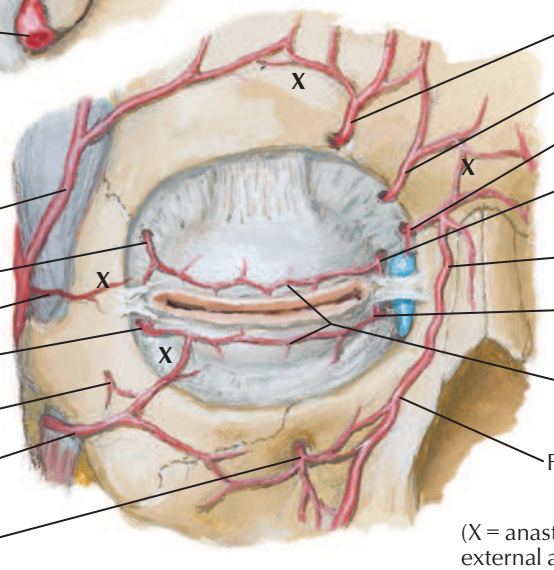
See also Plates 10, 84

////// facebook : Booksmedicos06

Superior view

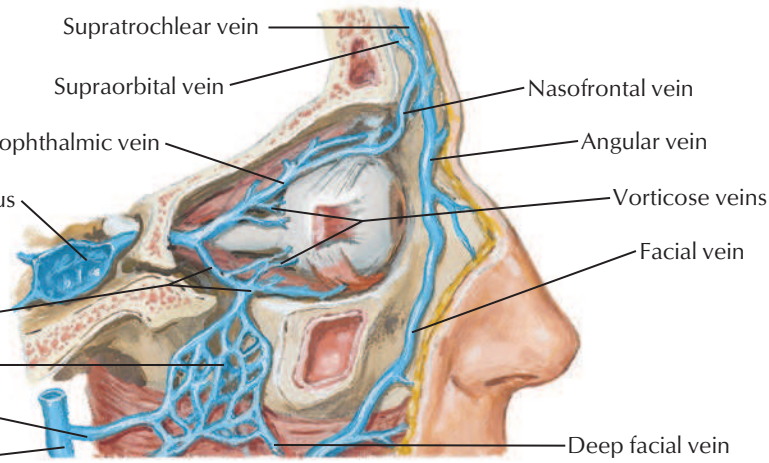


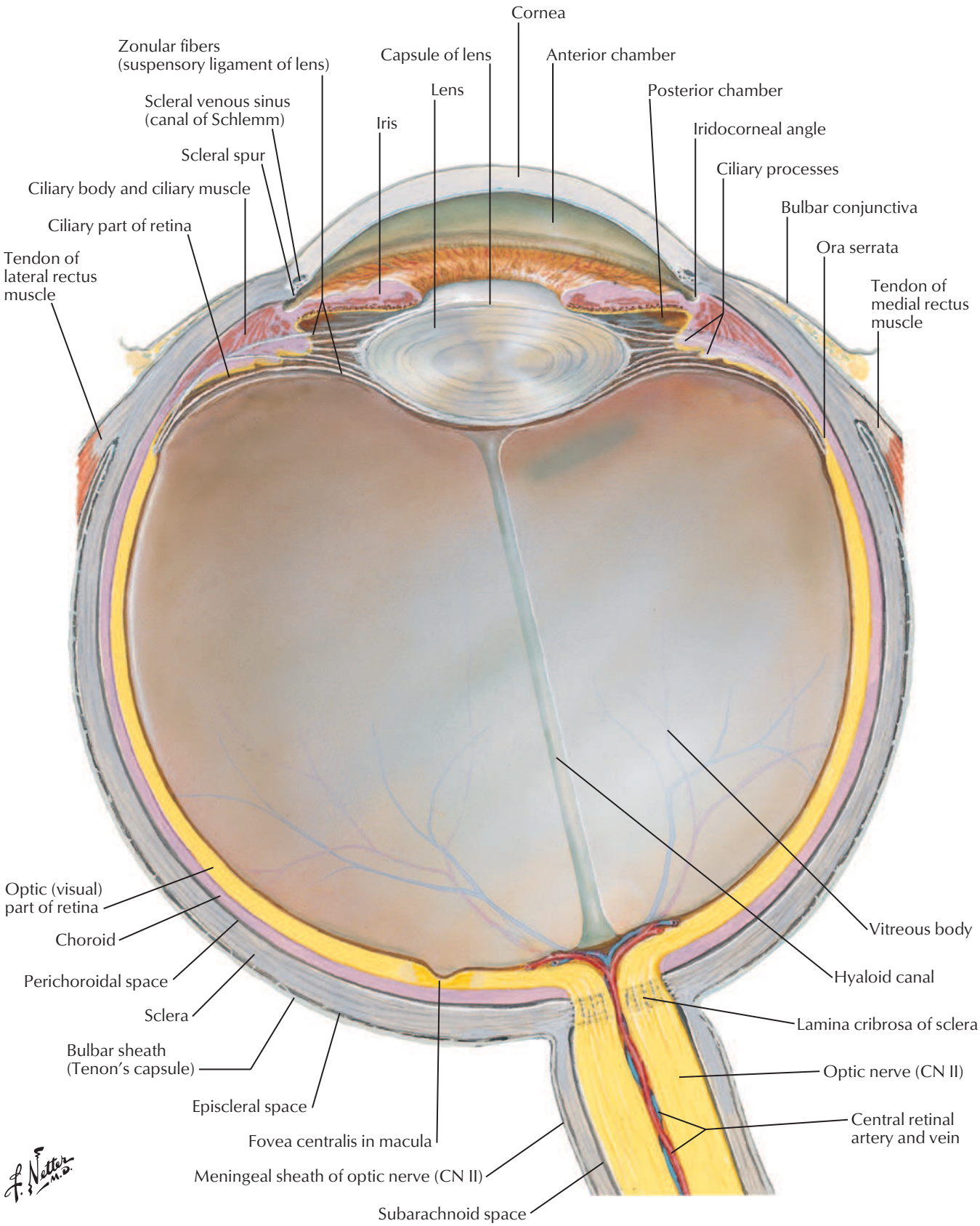
Anterior view



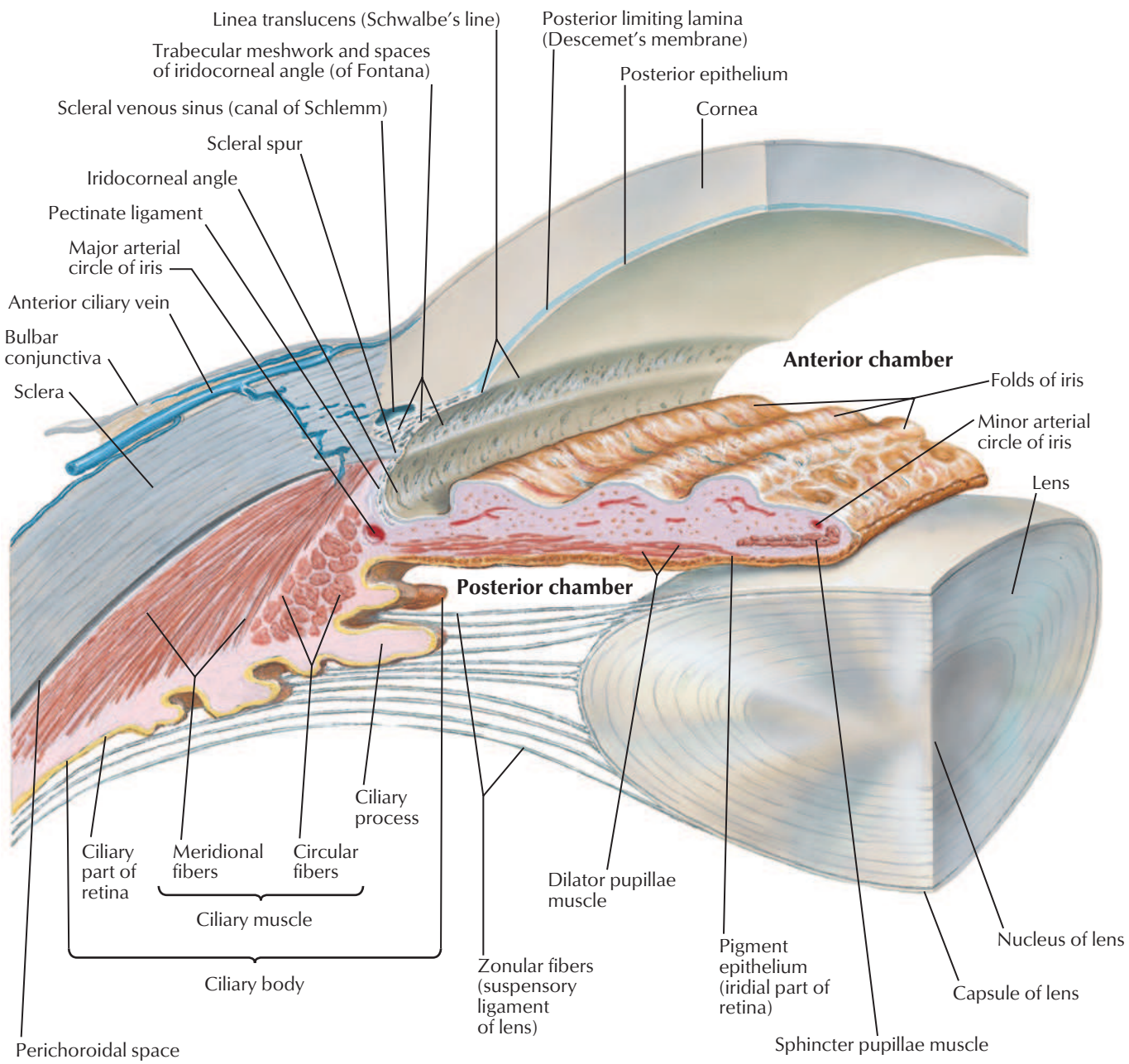
(X = anastomosis of vessels from external and internal carotid arteries)

Lateral view



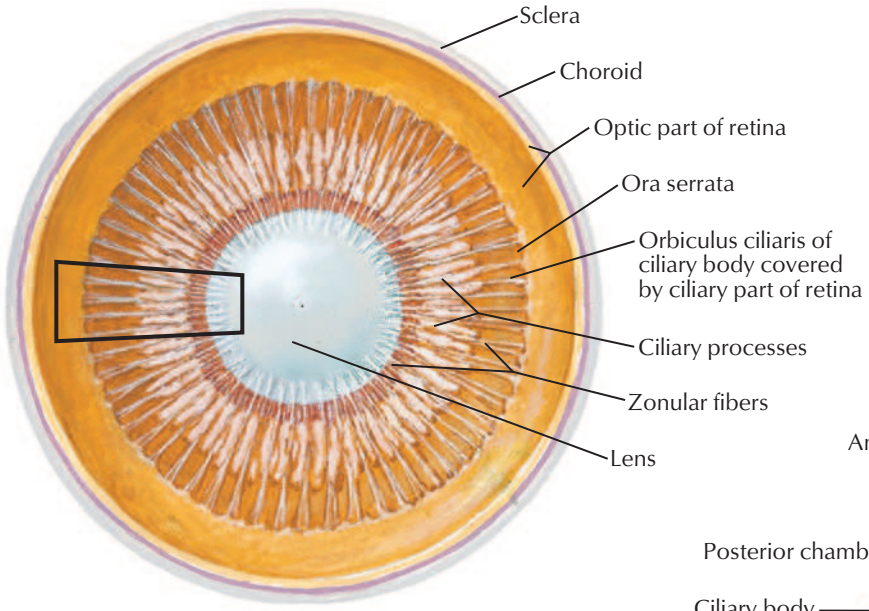


www.Booksmedicos06.com ////////

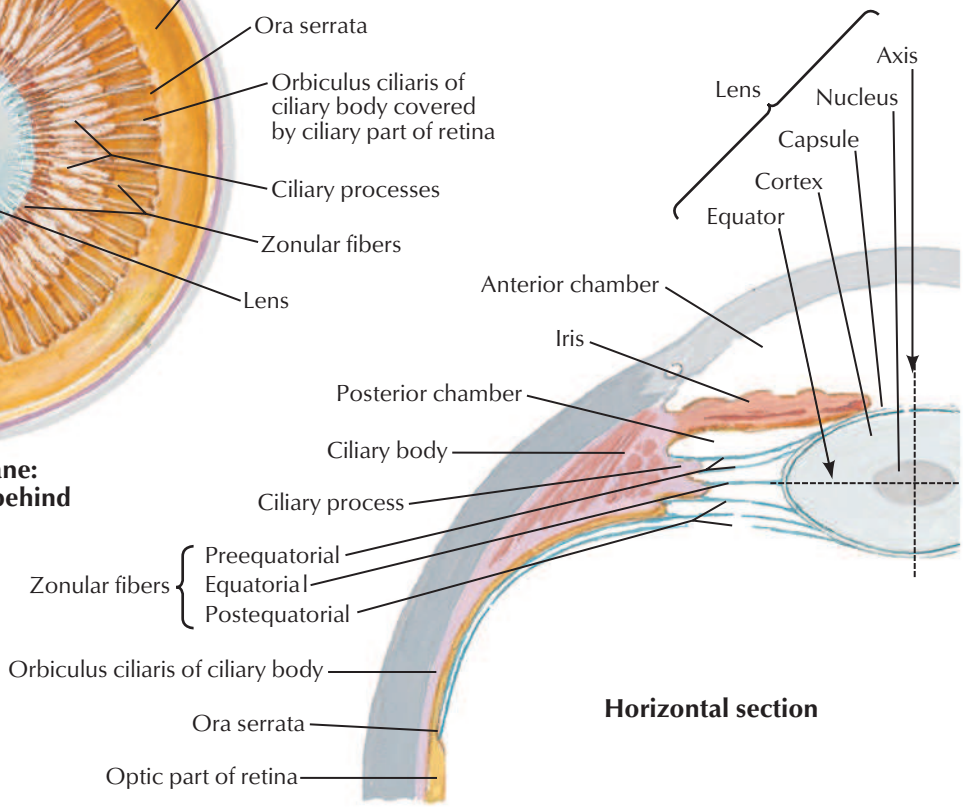


Note: For clarity, only single plane of zonular fibers shown; actually, fibers surround entire circumference of lens.

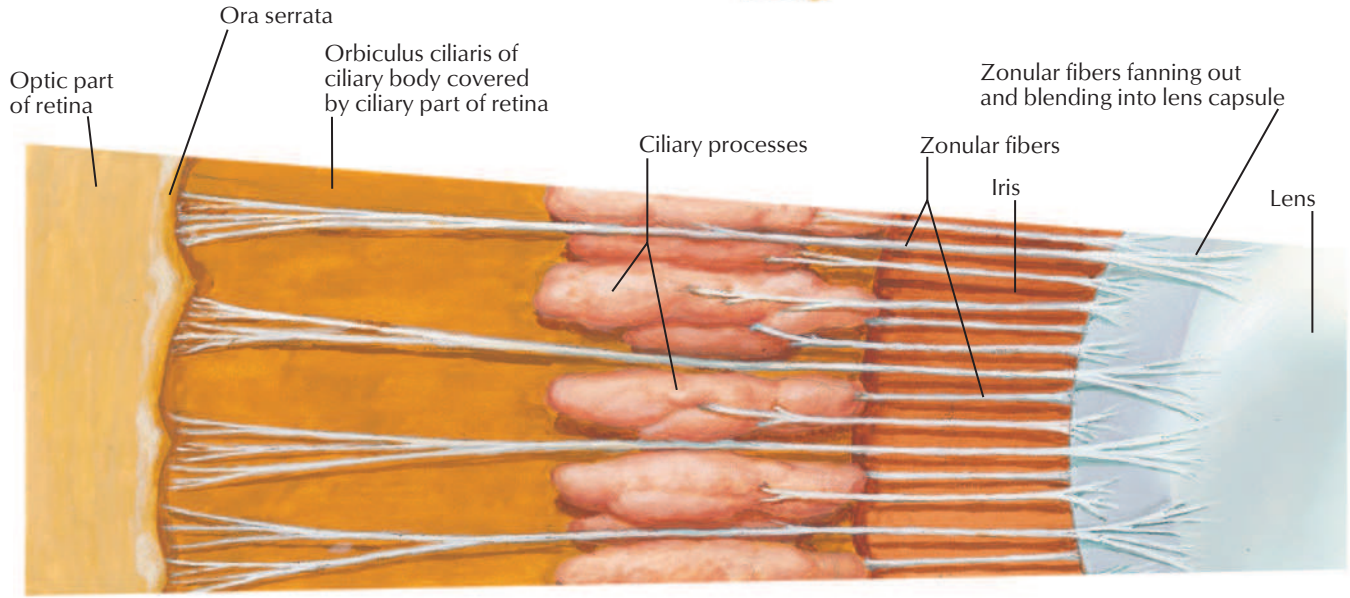
////// facebook : Booksmedicos06



Eyeball sectioned in coronal plane: anterior segment viewed from behind



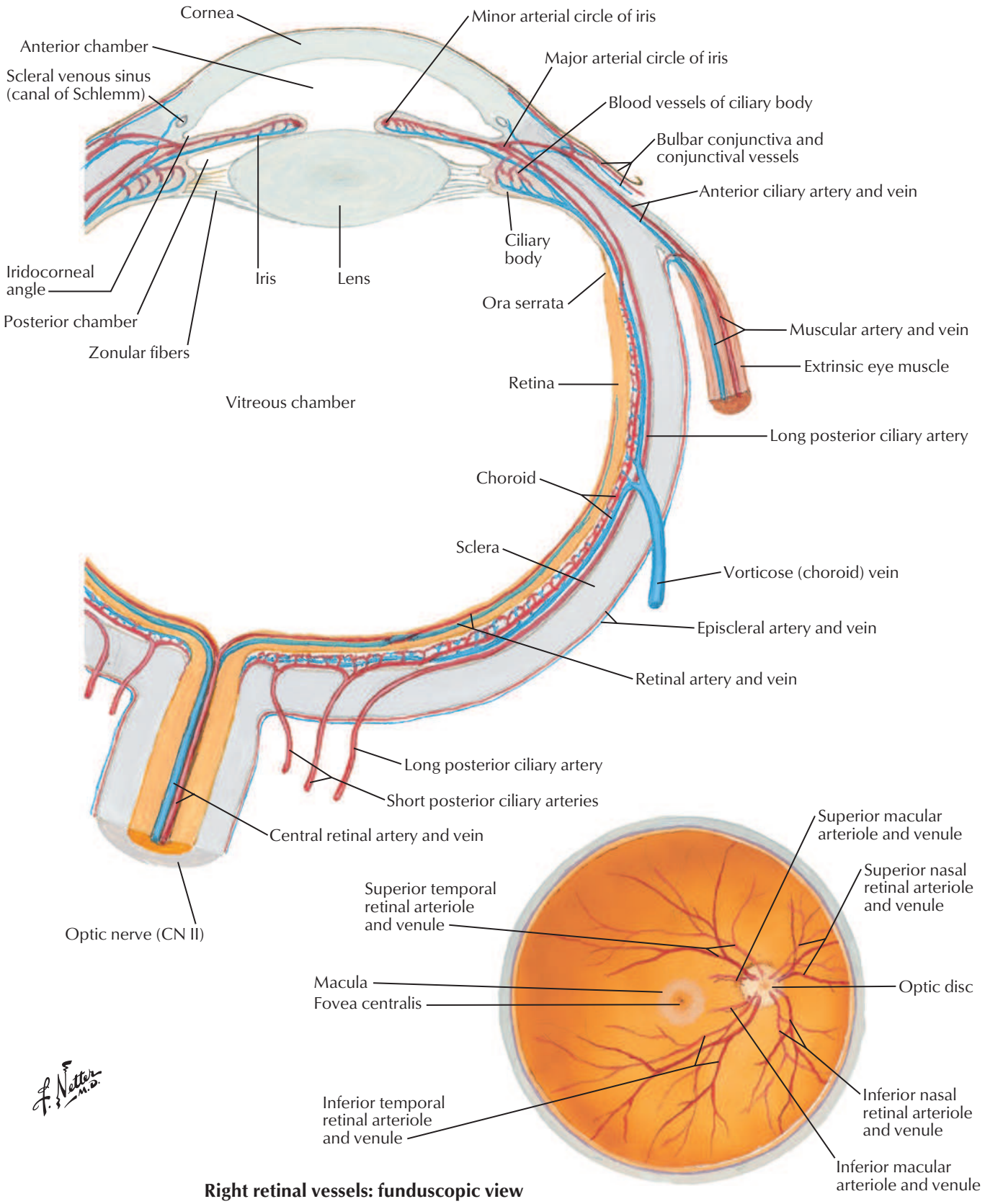
Horizontal section



Enlargement of segment outlined in top illustration (semischematic)

www.Booksmedicos06.com

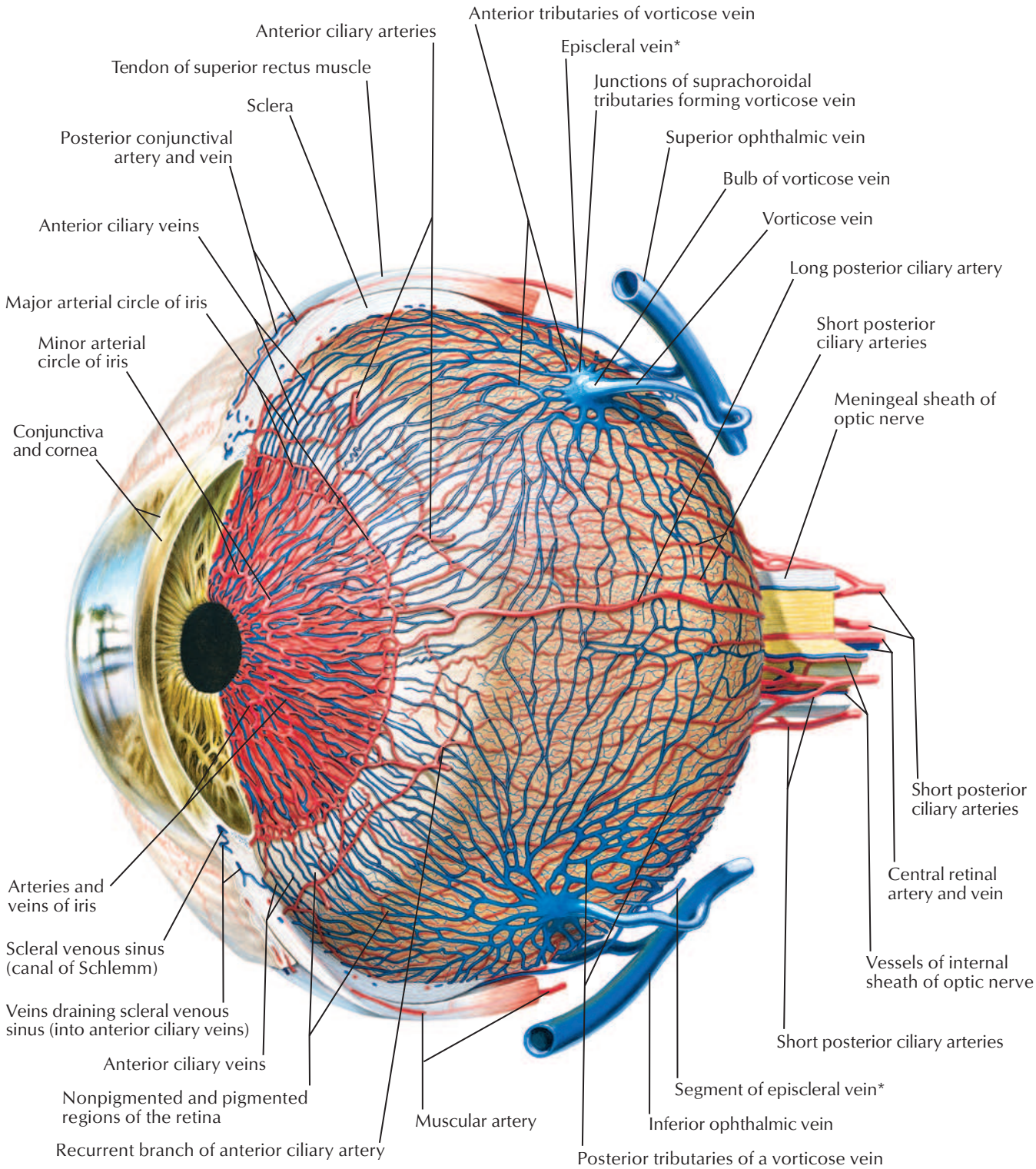
See also Plate 104



Right retinal vessels: funduscopic view

////// facebook : Booksmedicos06

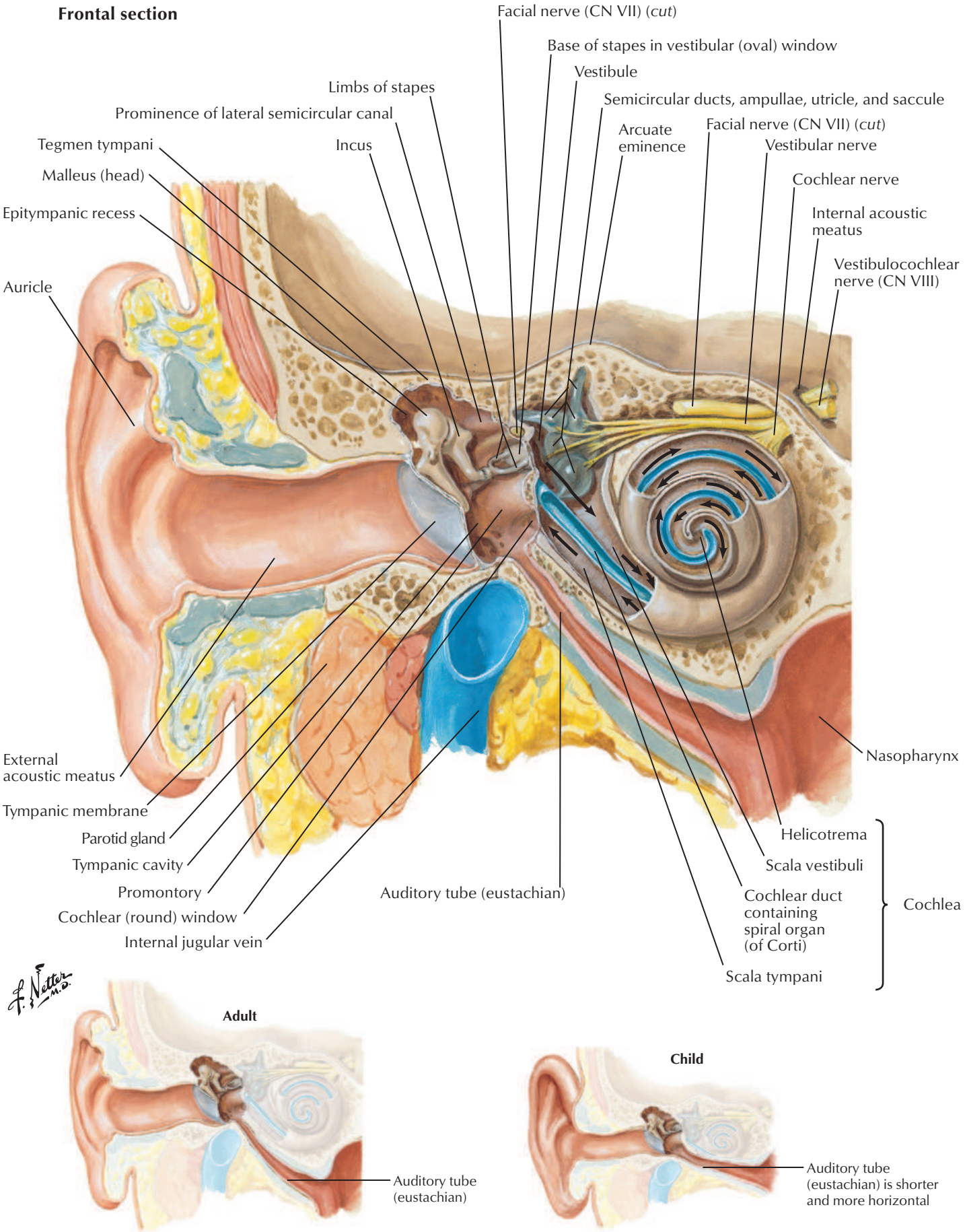
Vascular arrangements within the choroid (vascular tunic) of the eyeball



*The episcleral veins are shown here anastomosing with the vorticose veins, which they do; however, they also drain into the anterior ciliary veins.

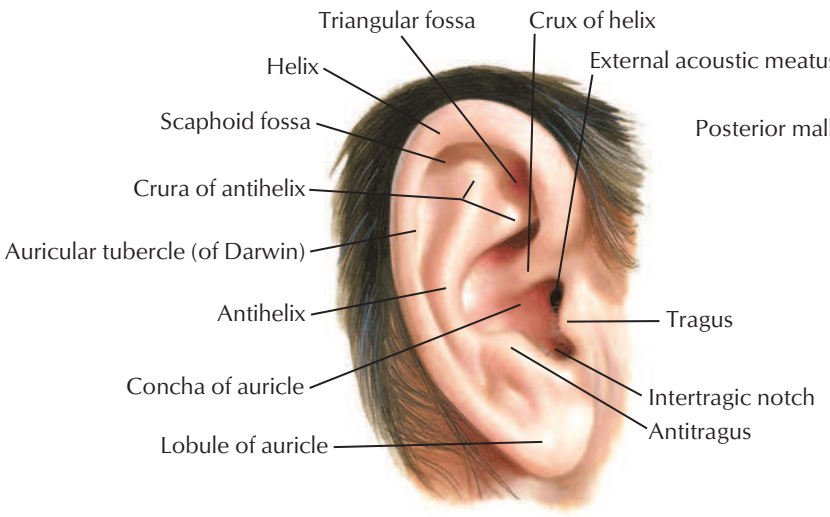
C. Machado M.D.

www.Booksmedicos06.com

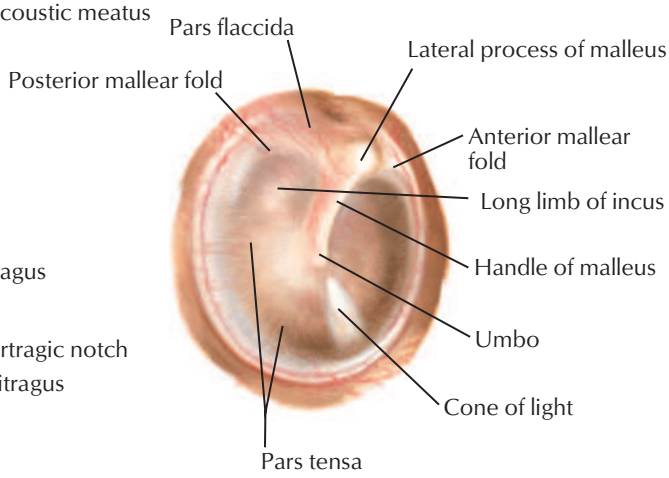


////// facebook : Booksmedicos06

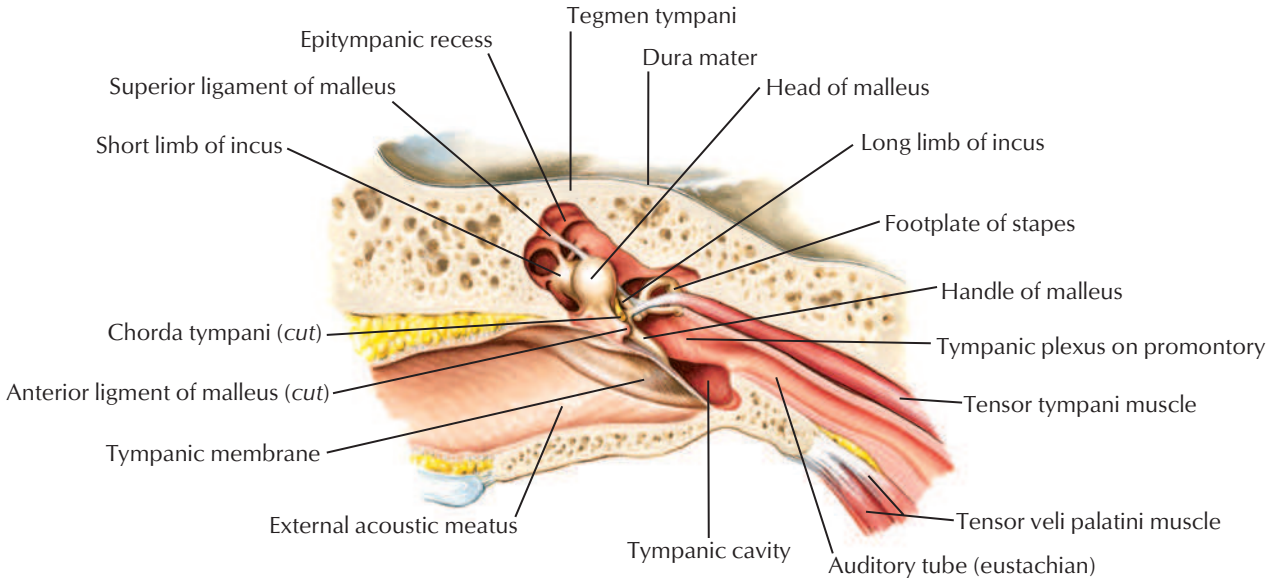
Right auricle (pinna)



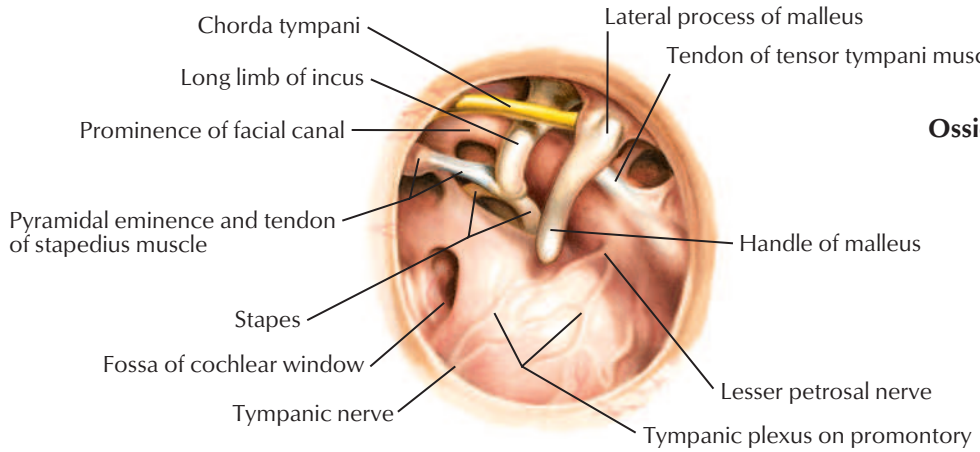
Otoscopic view of right tympanic membrane



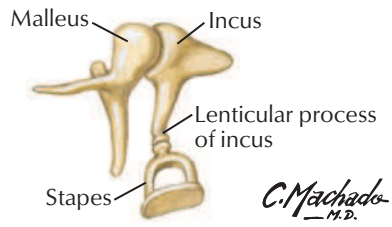
Coronal oblique section of external acoustic meatus and middle ear (tympanic cavity)



Right tympanic cavity after removal of tympanic membrane (lateral view)

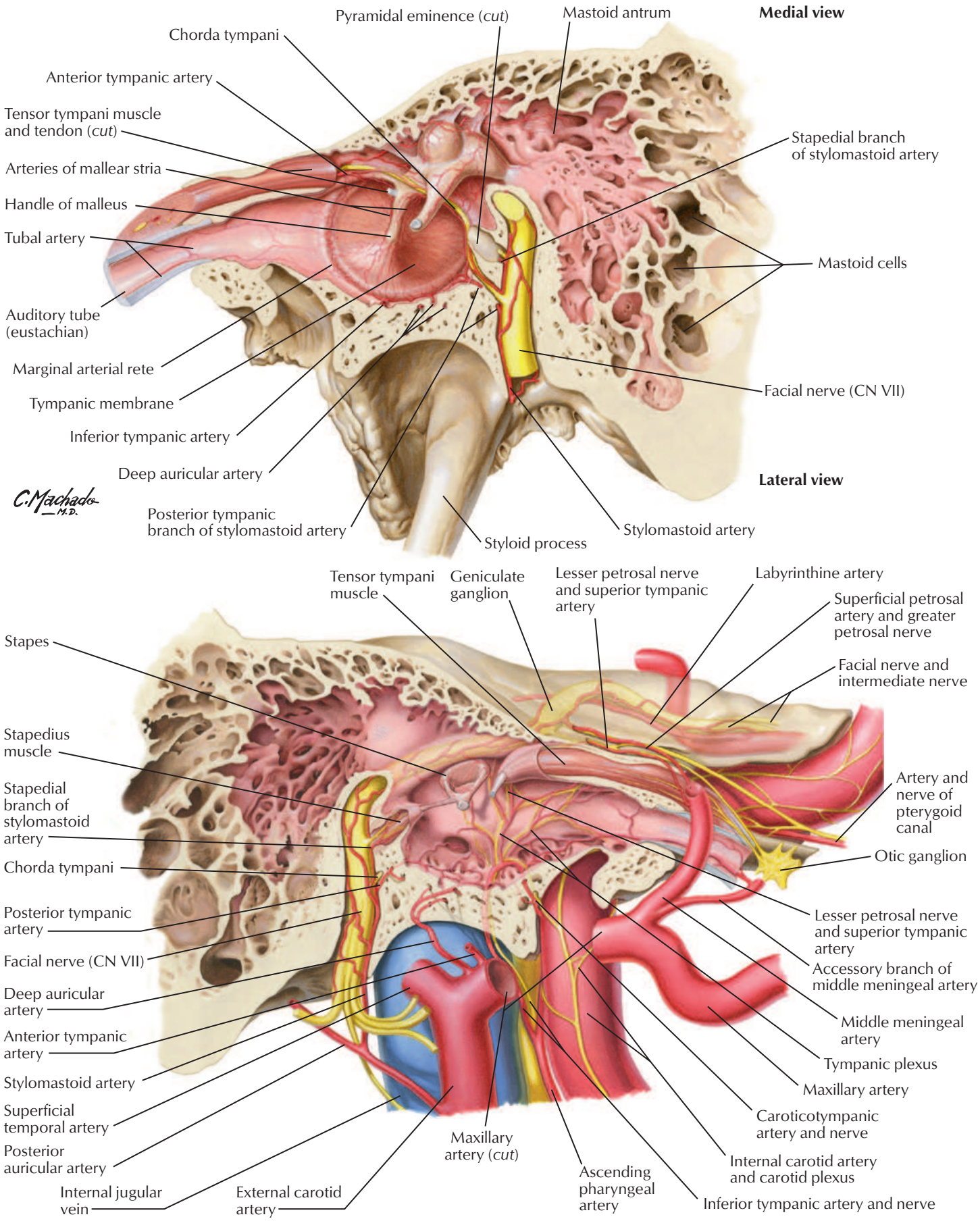


Ossicles articulated: medial view



www.Booksmedicos06.com

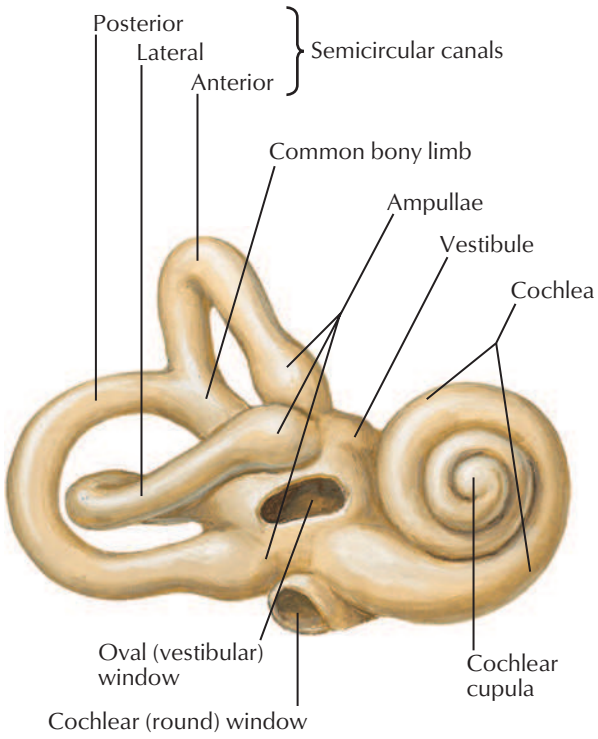
See also Plates 59, 146



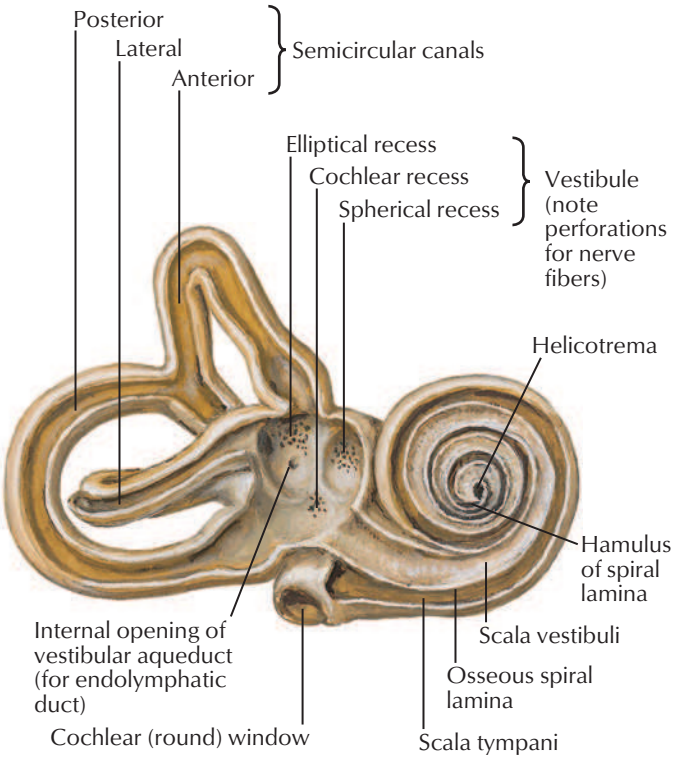
////// facebook : Booksmedicos06

See also Plate 135

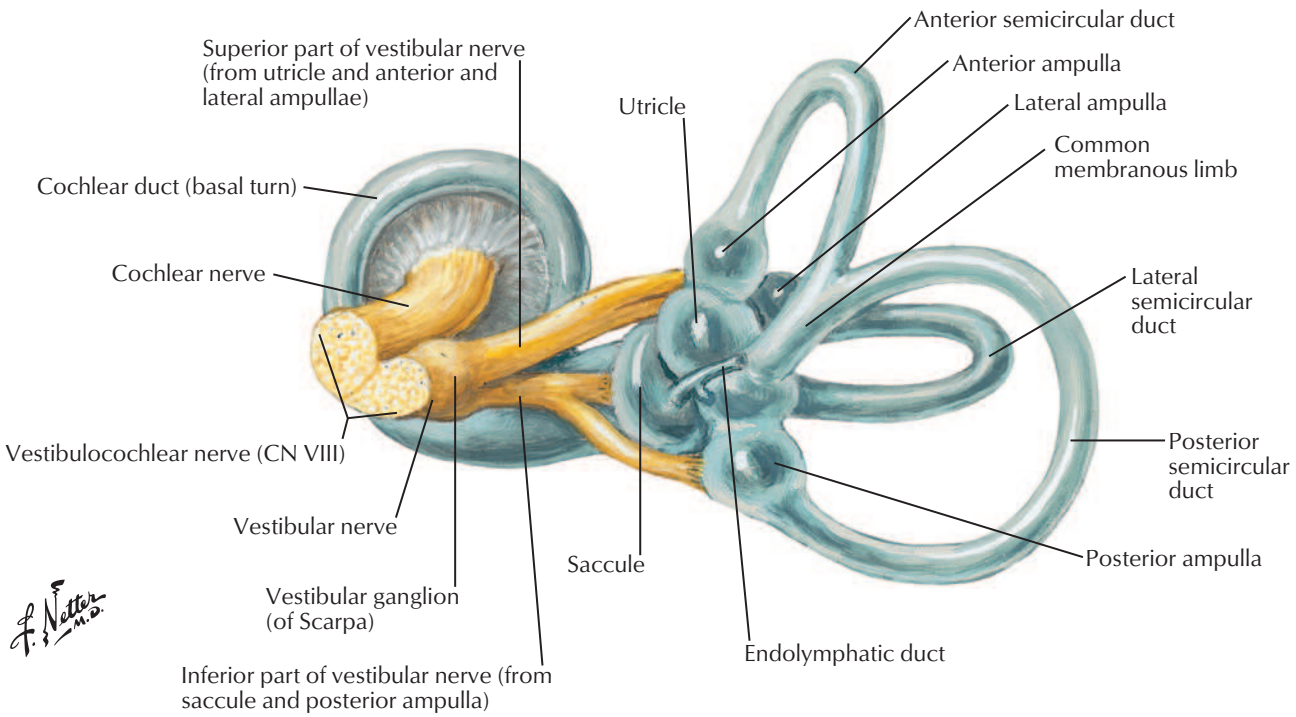
Right bony labyrinth (otic capsule), anterolateral view: surrounding cancellous bone removed



Dissected right bony labyrinth (otic capsule): membranous labyrinth removed



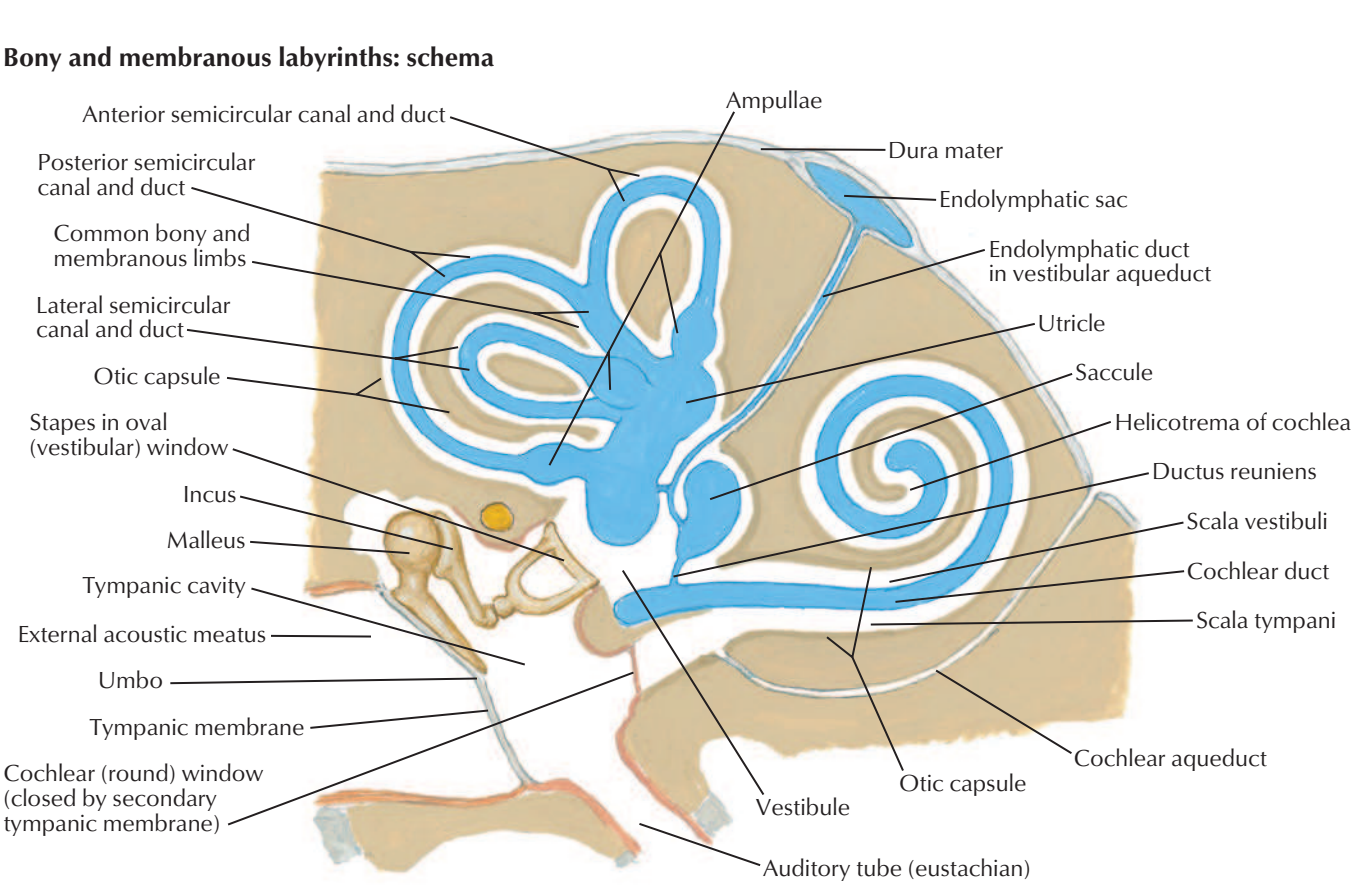
Right membranous labyrinth with nerves: medial view



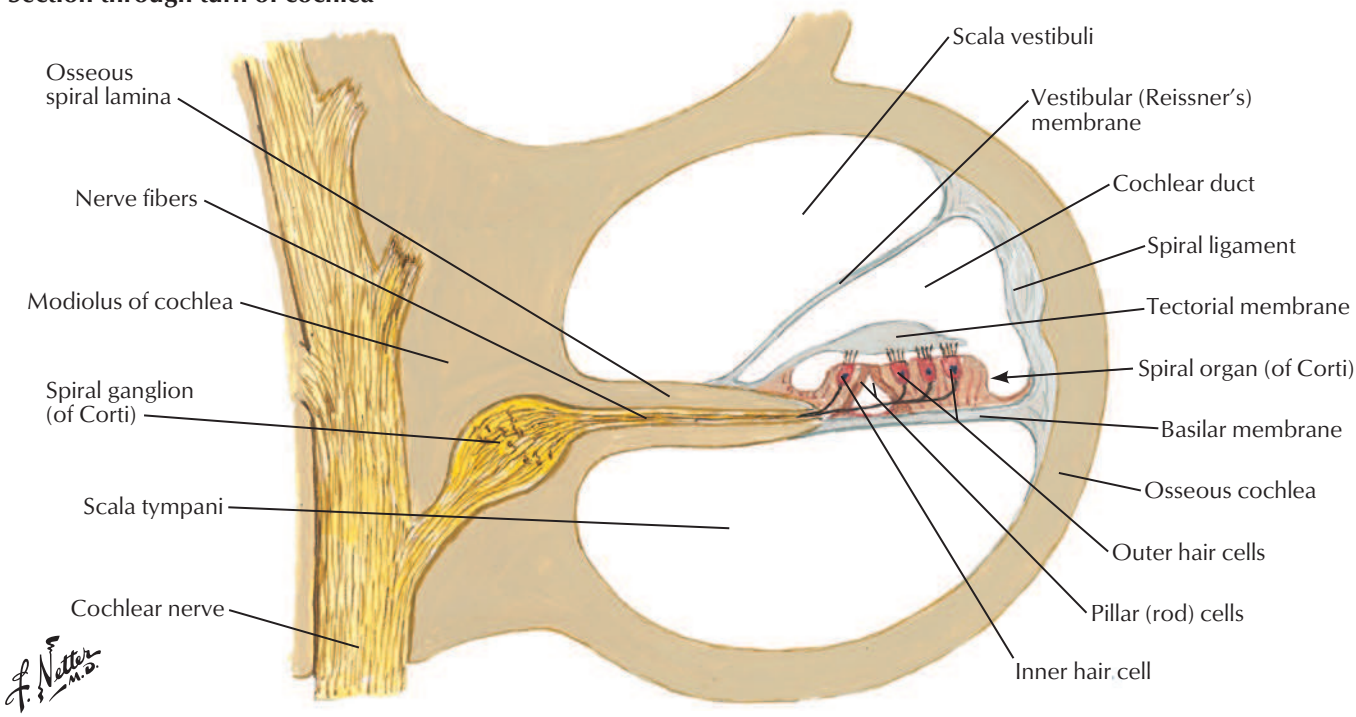
www.Booksmedicos06.com

////// facebook : Booksmedicos06

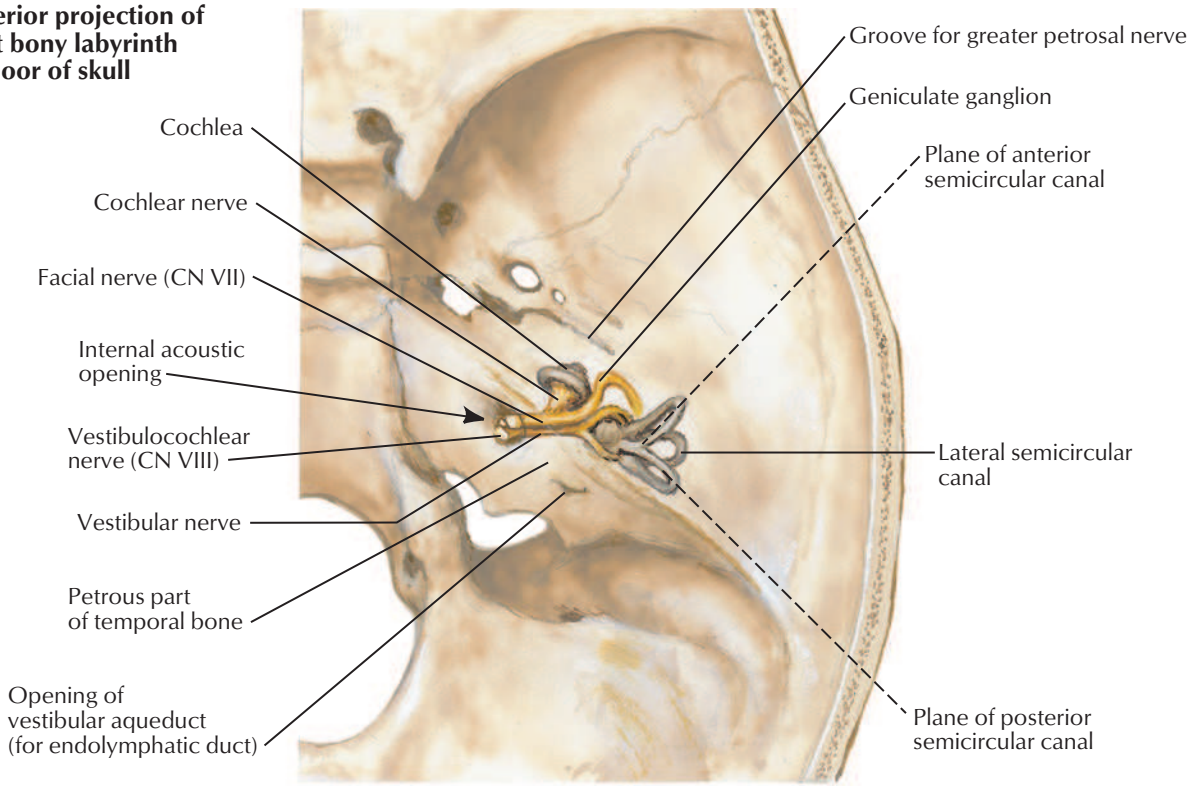
Bony and membranous labyrinths: schema



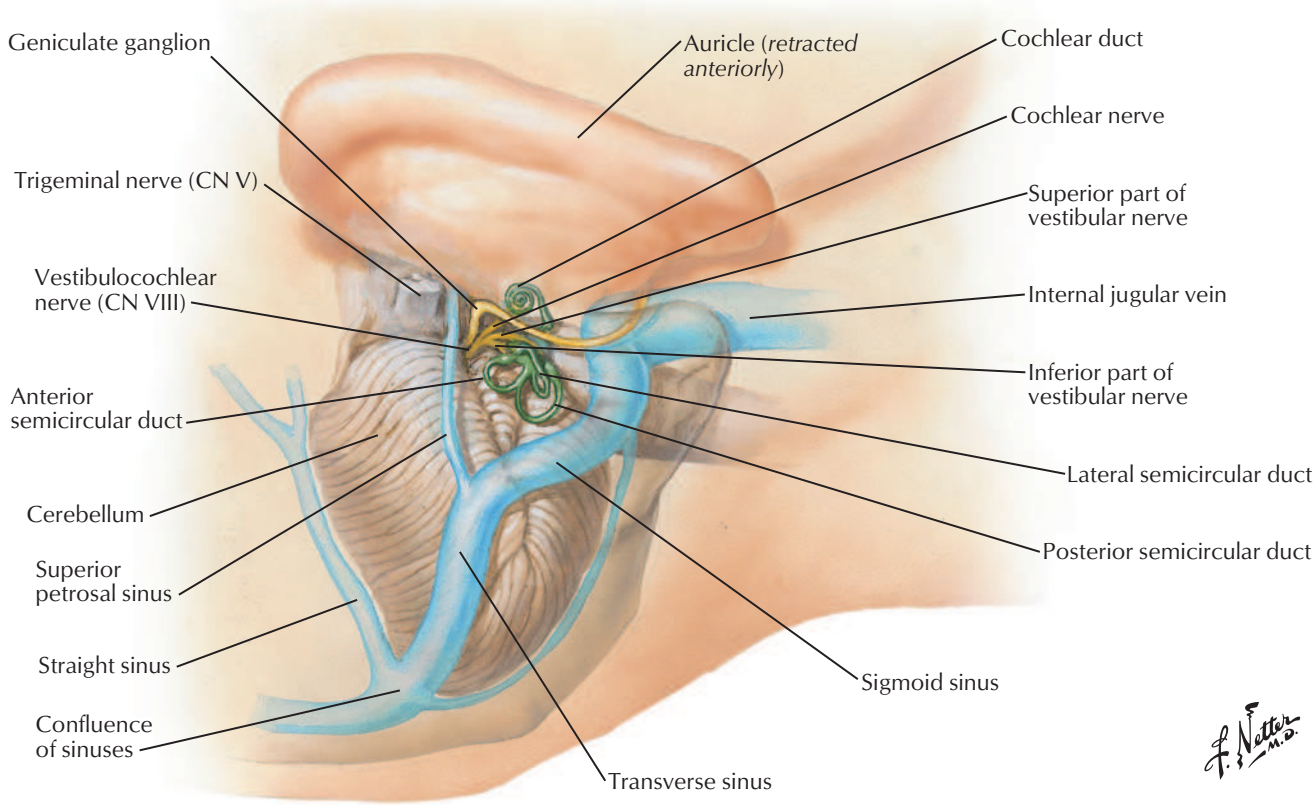
Section through turn of cochlea



Superior projection of right bony labyrinth on floor of skull

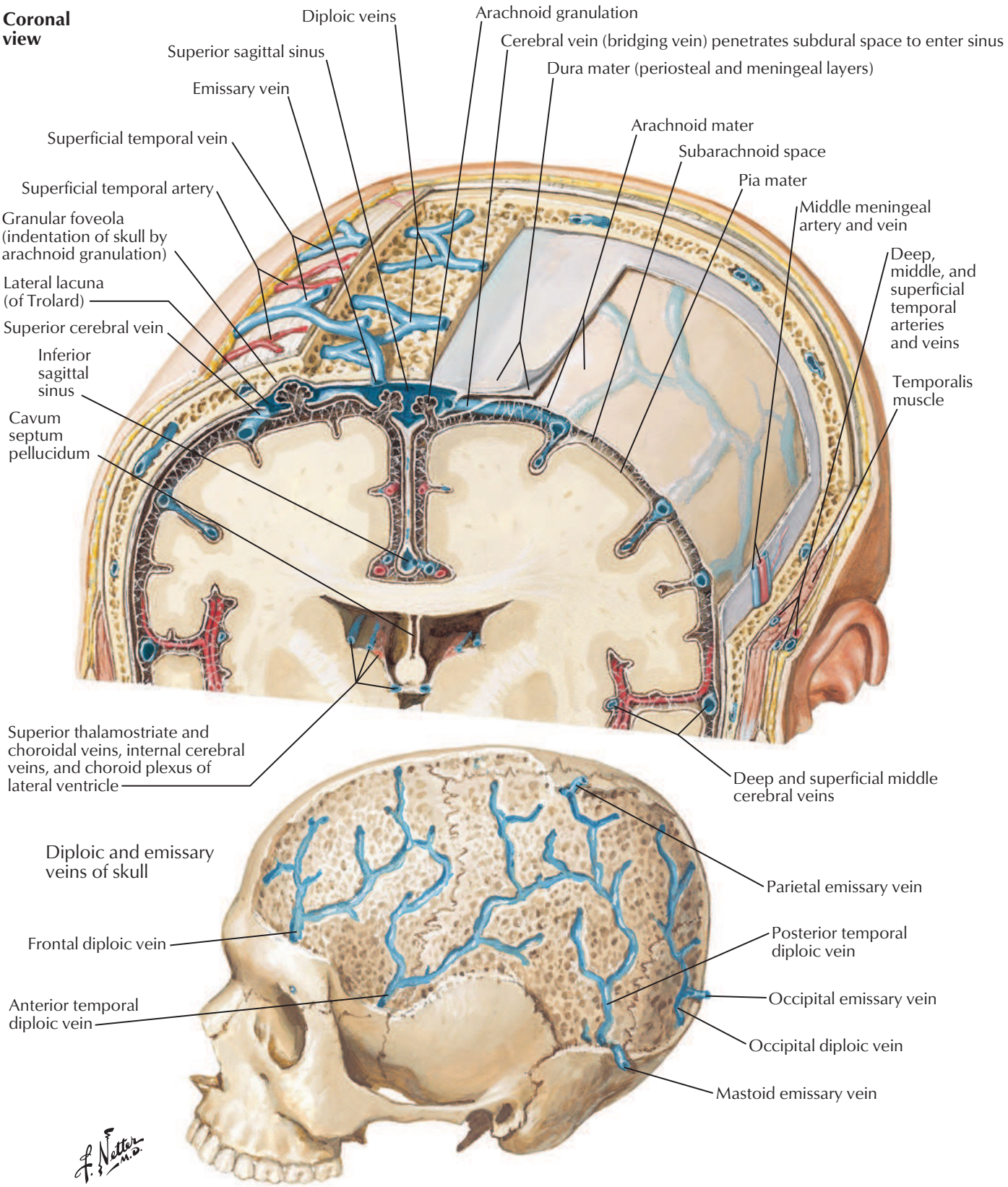


Lateral projection of right membranous labyrinth



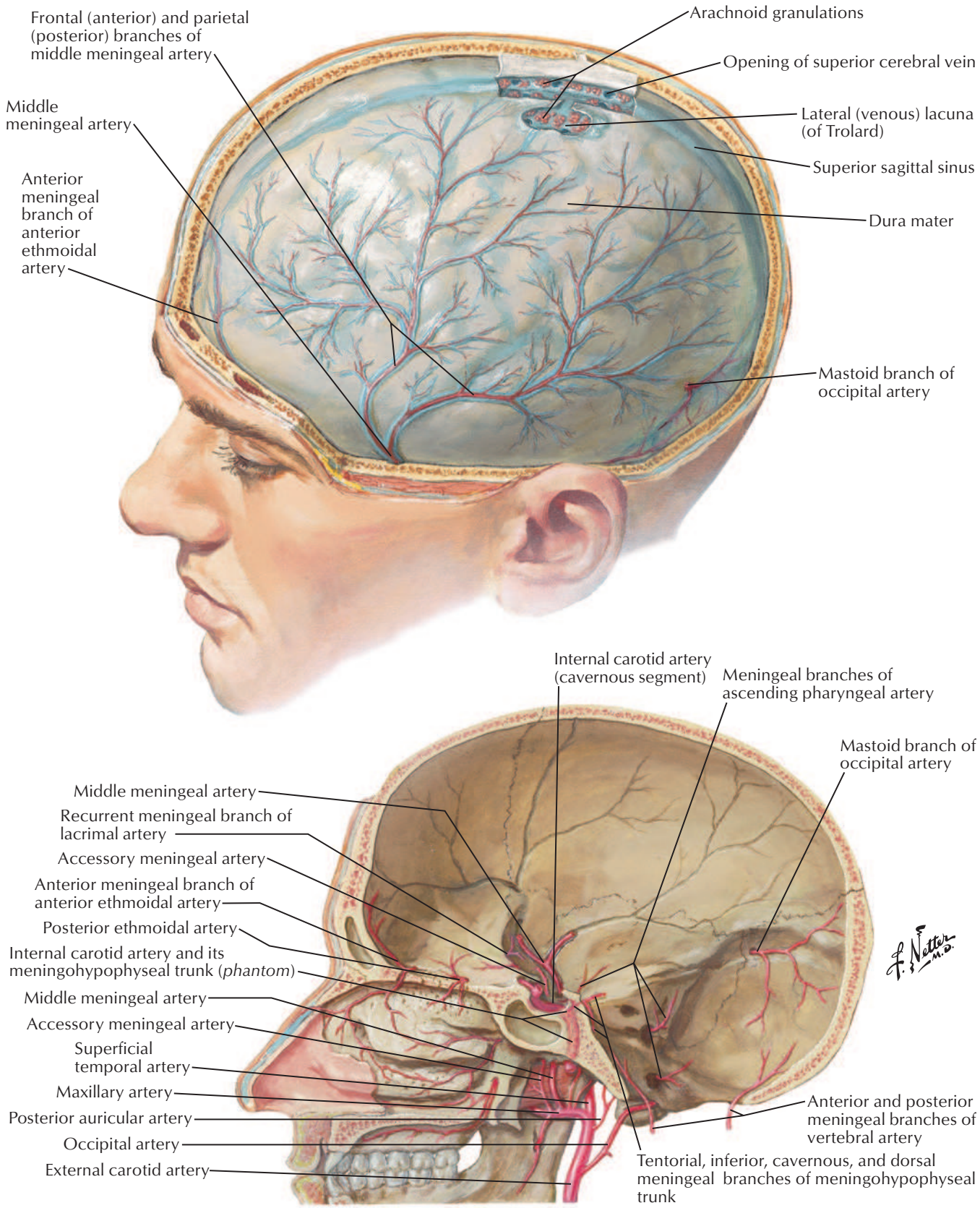
www.Booksmedicos06.com

See also Plate 10



////// facebook : Booksmedicos06

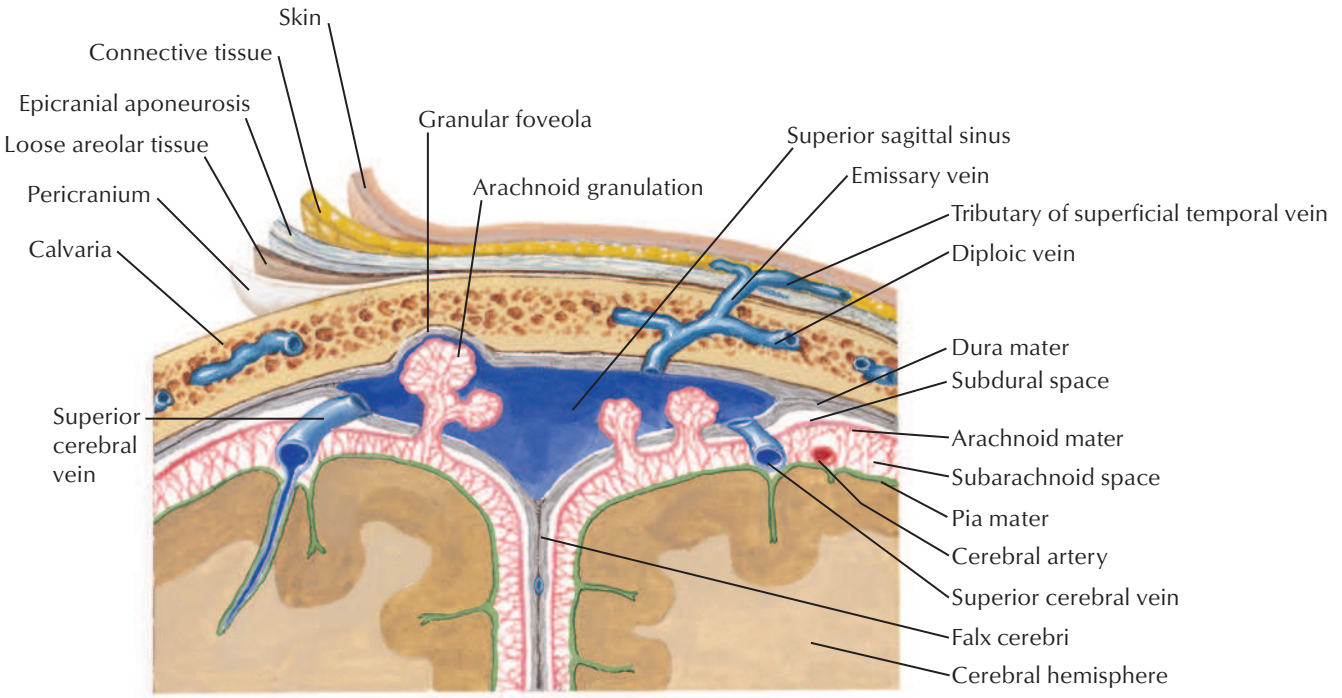
See also Plate 147

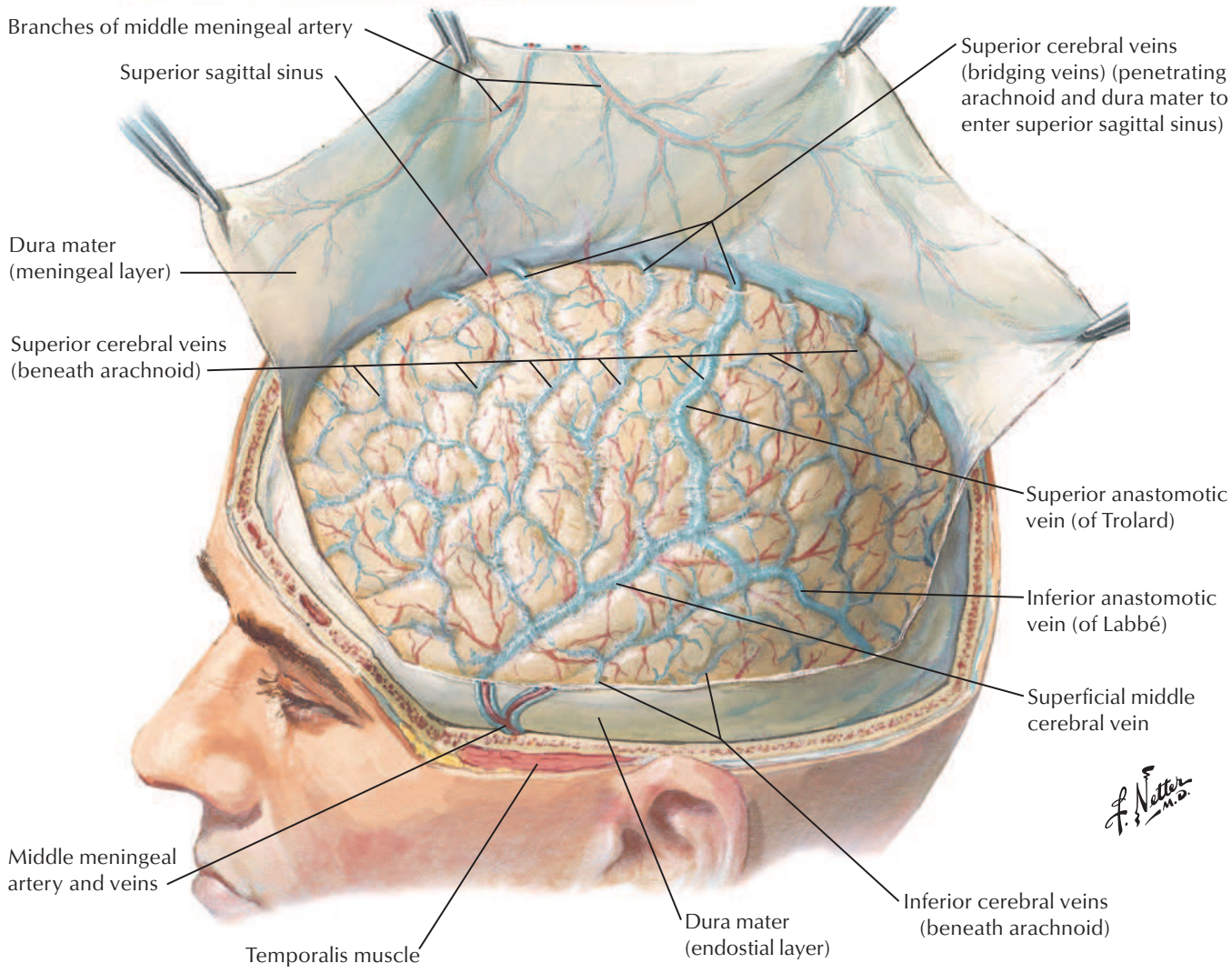


www.Booksmedicos06.com

Meninges and Superficial Cerebral Veins

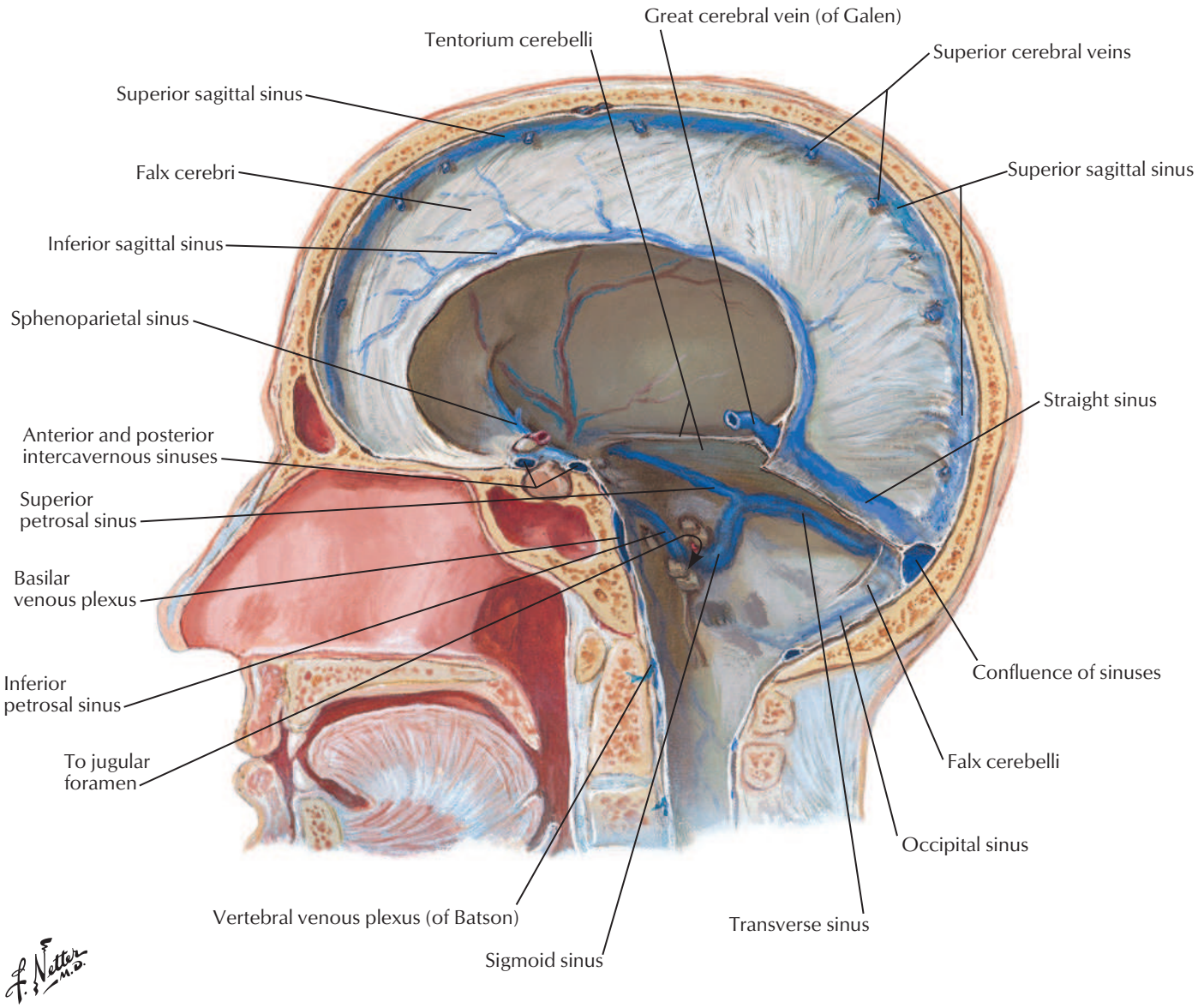
For deep veins of brain see Plate 156





////// facebook : Booksmedicos06

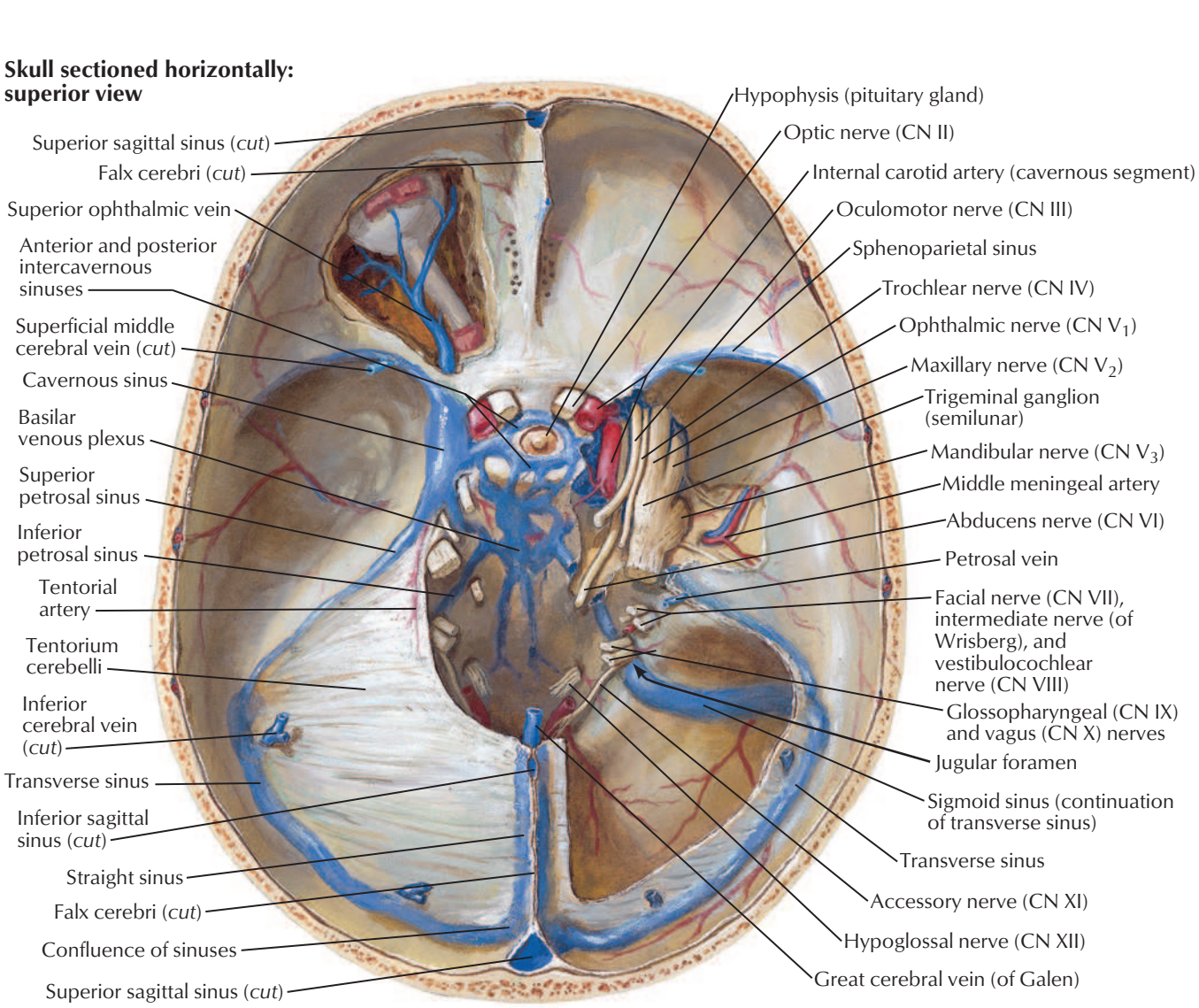
See also Plates 111, 117

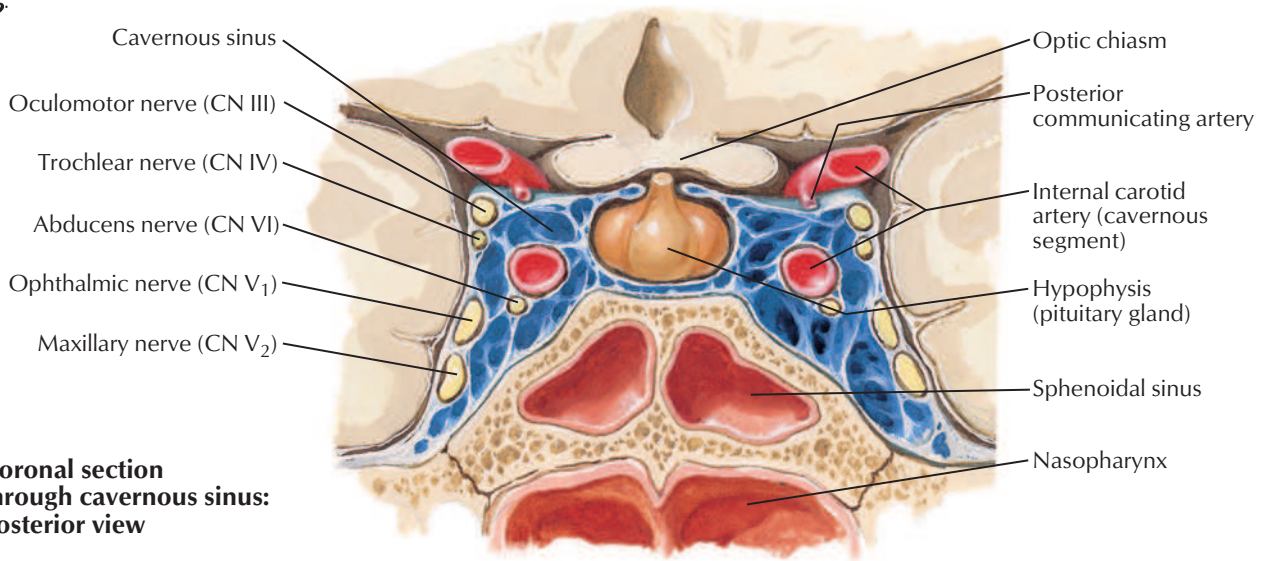


www.Booksmedicos06.com

See also Plates 64, 97

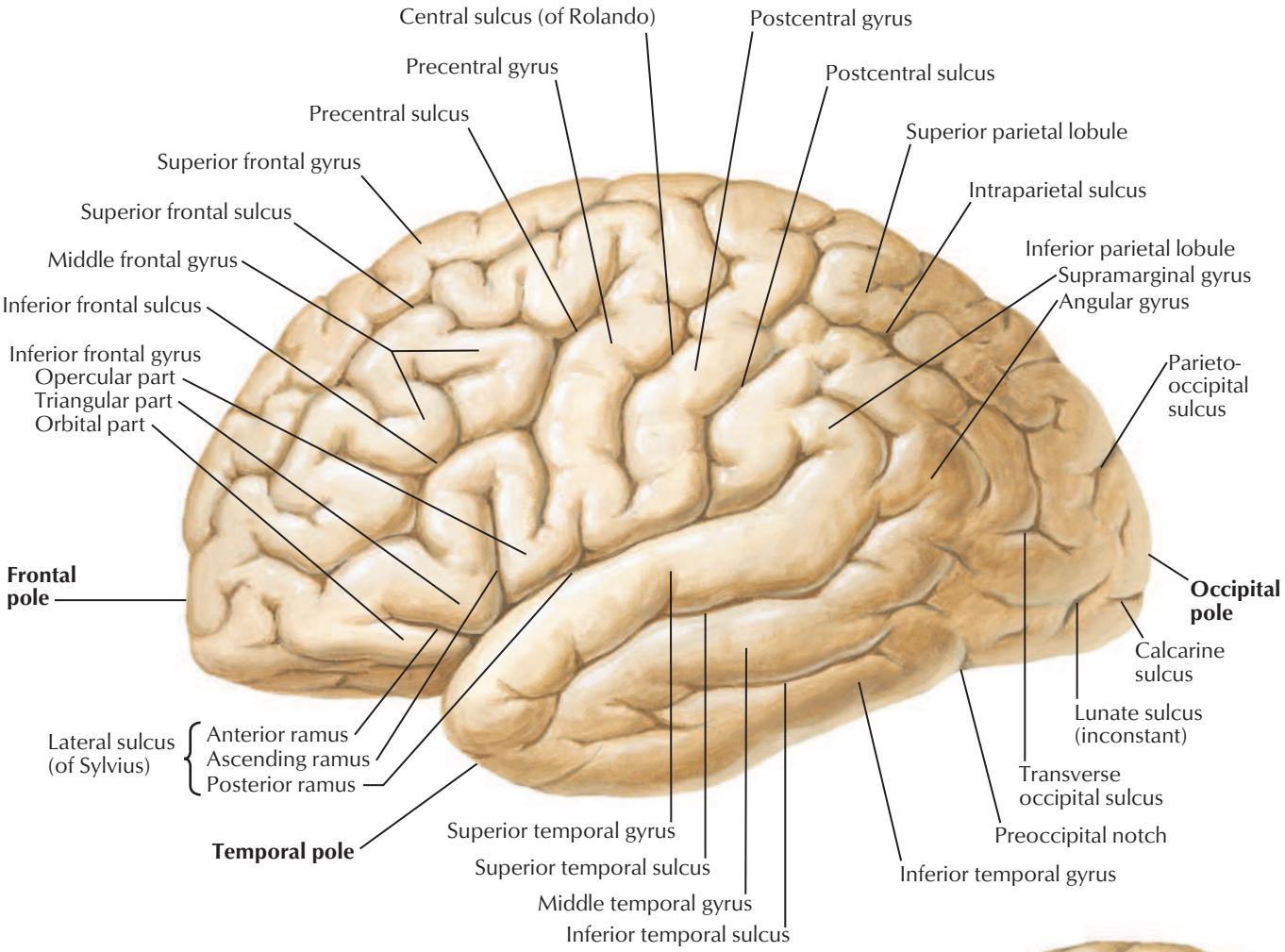
Skull sectioned horizontally: superior view

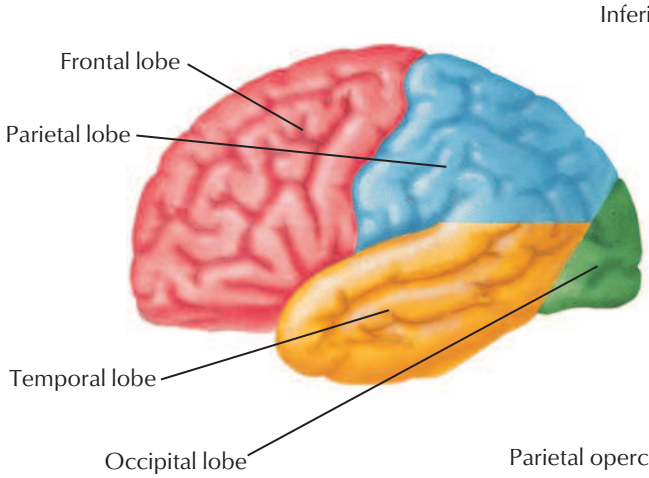


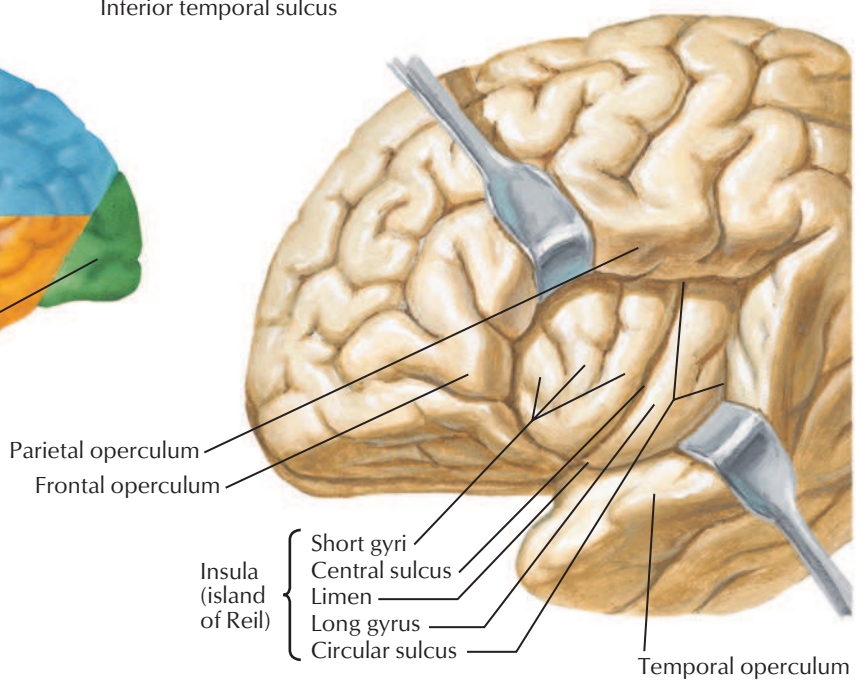


Coronal section through cavernous sinus: posterior view

////// facebook : Booksmedicos06





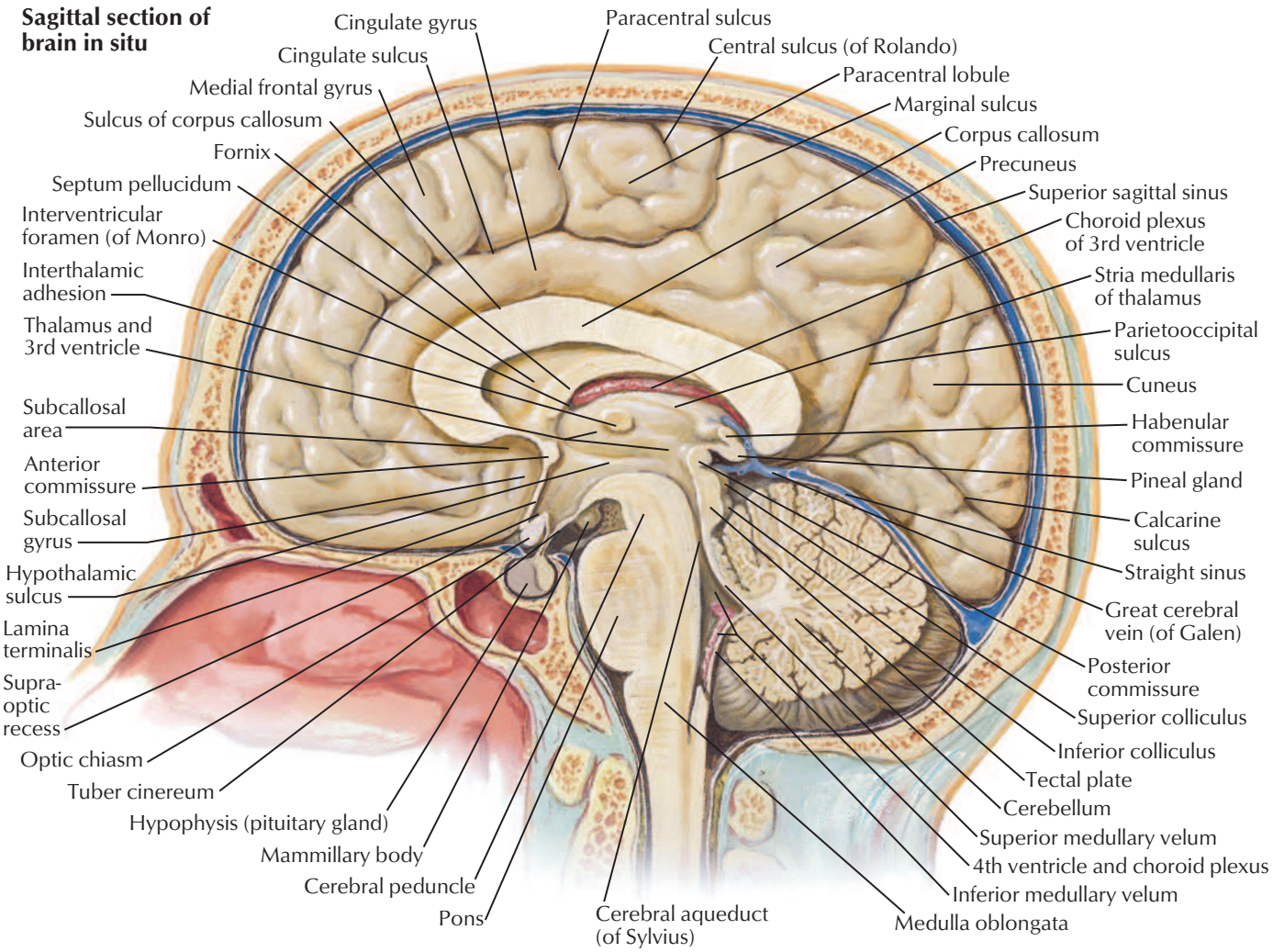


www.Booksmedicos06.com

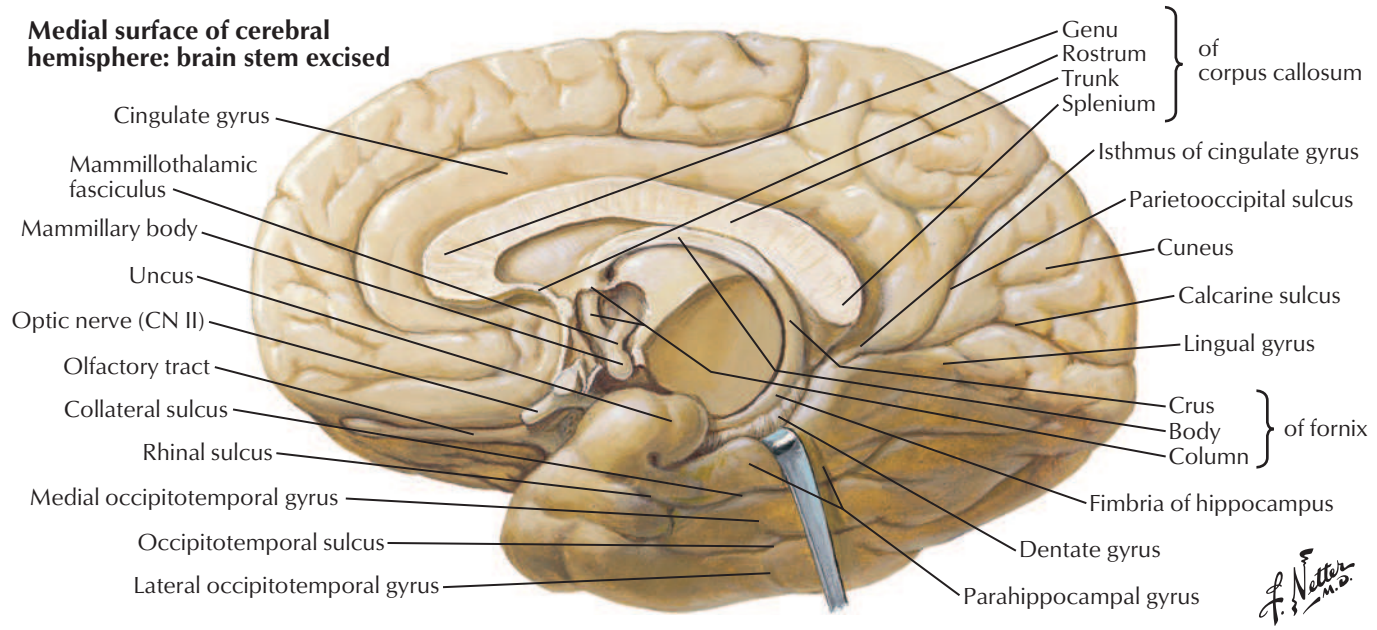
See also Plate 158

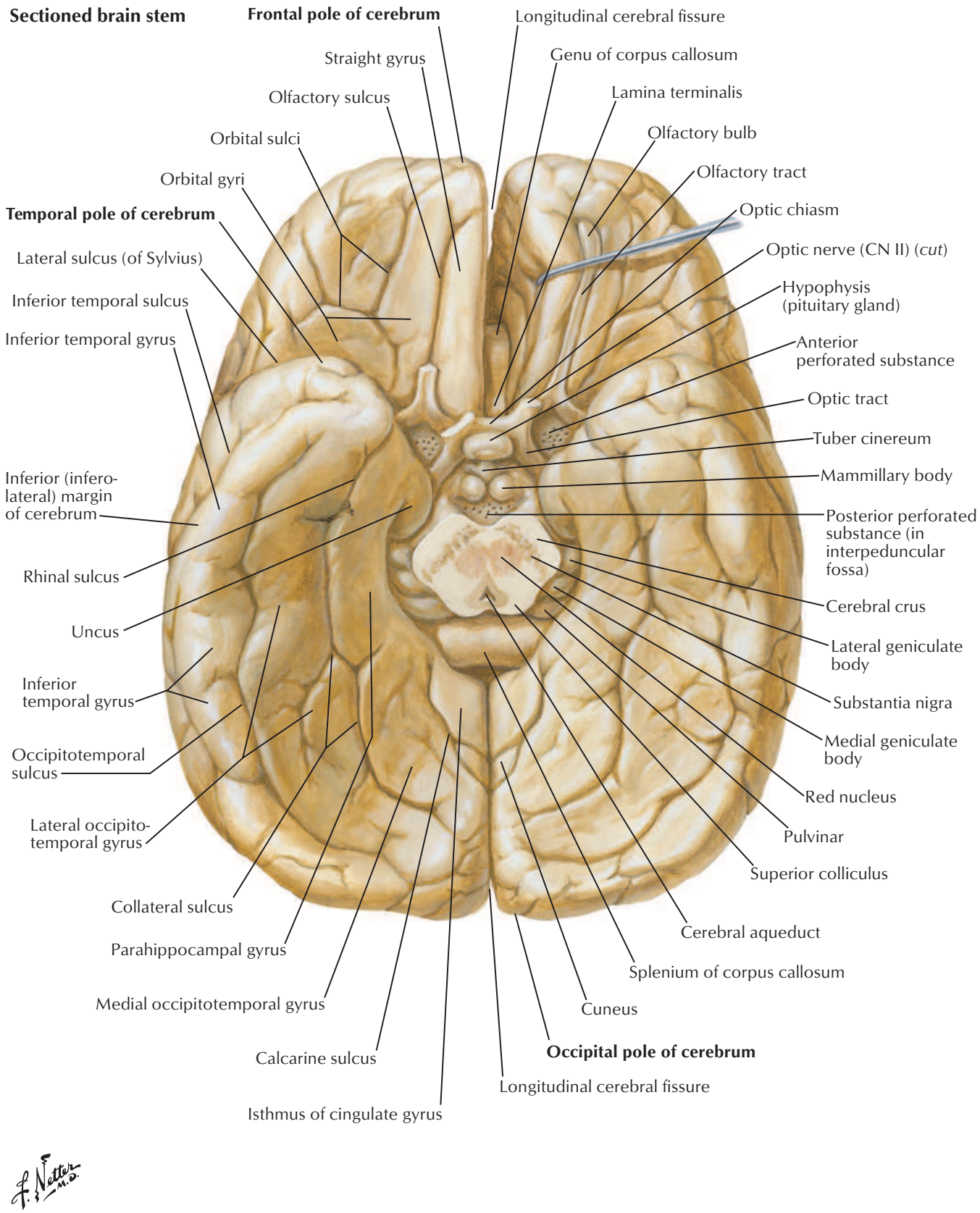
////// facebook : Booksmedicos06

Sagittal section of brain in situ

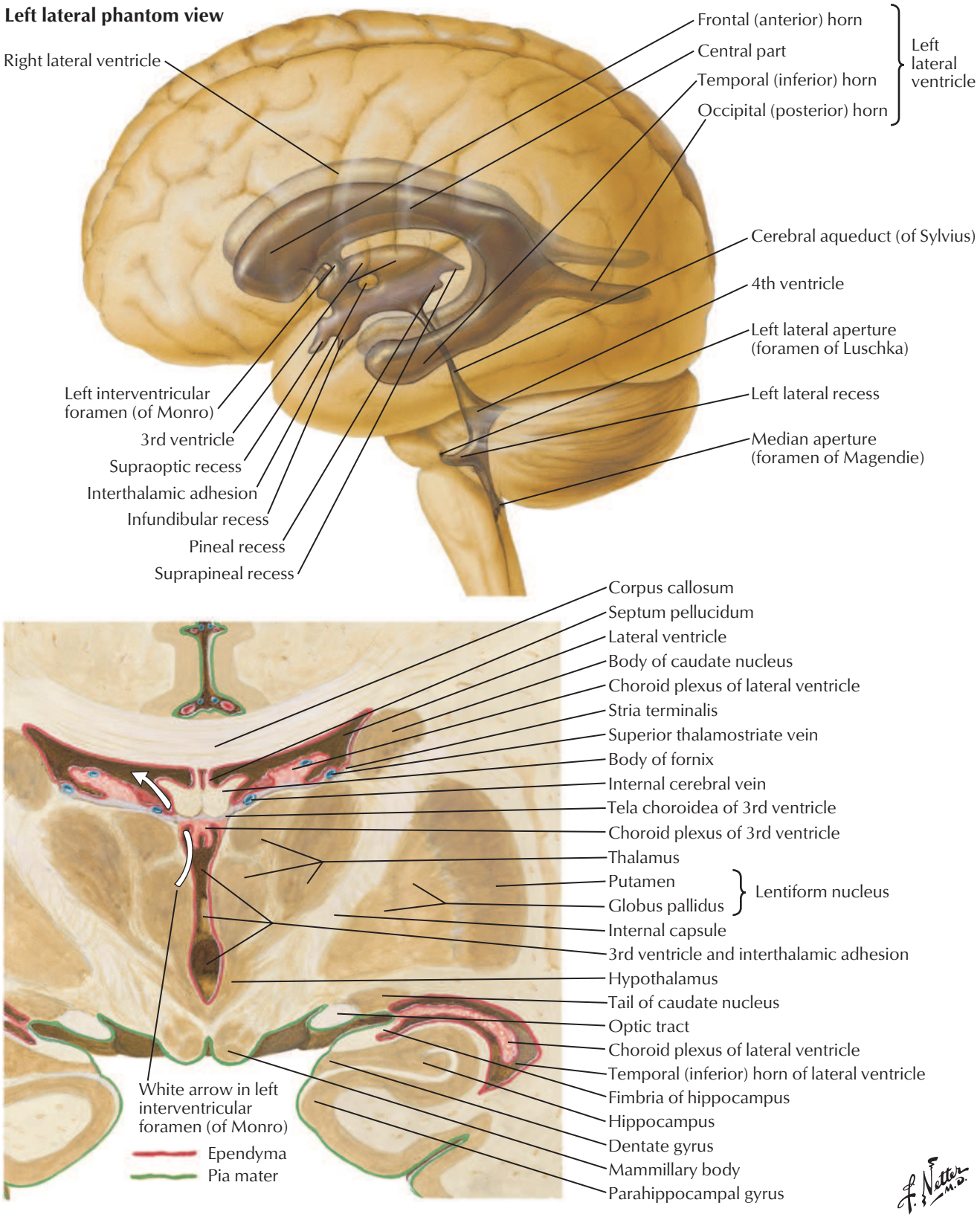


Medial surface of cerebral hemisphere: brain stem excised





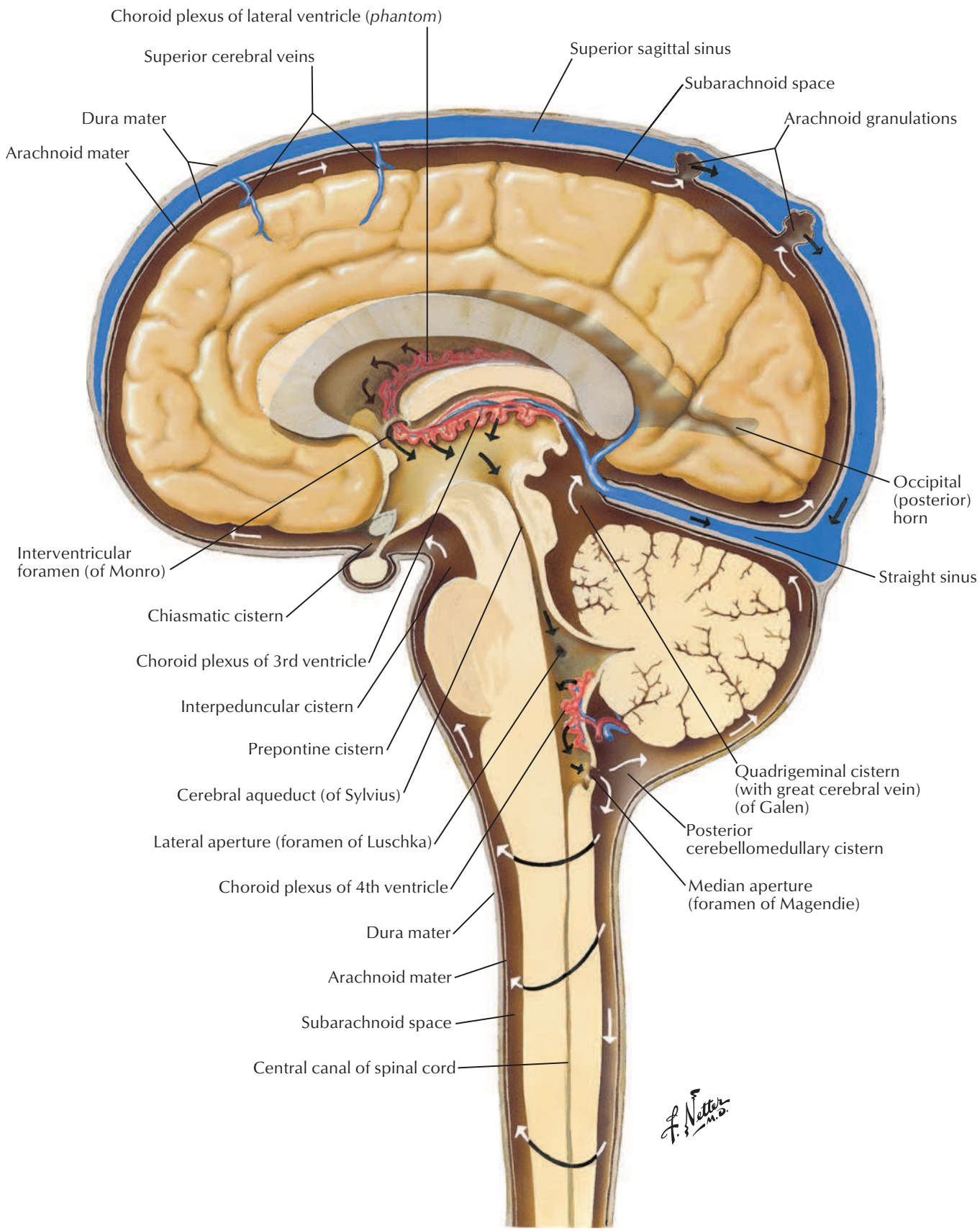
www.Booksmedicos06.com



Coronal section of brain: posterior view

////// facebook : Booksmedicos06

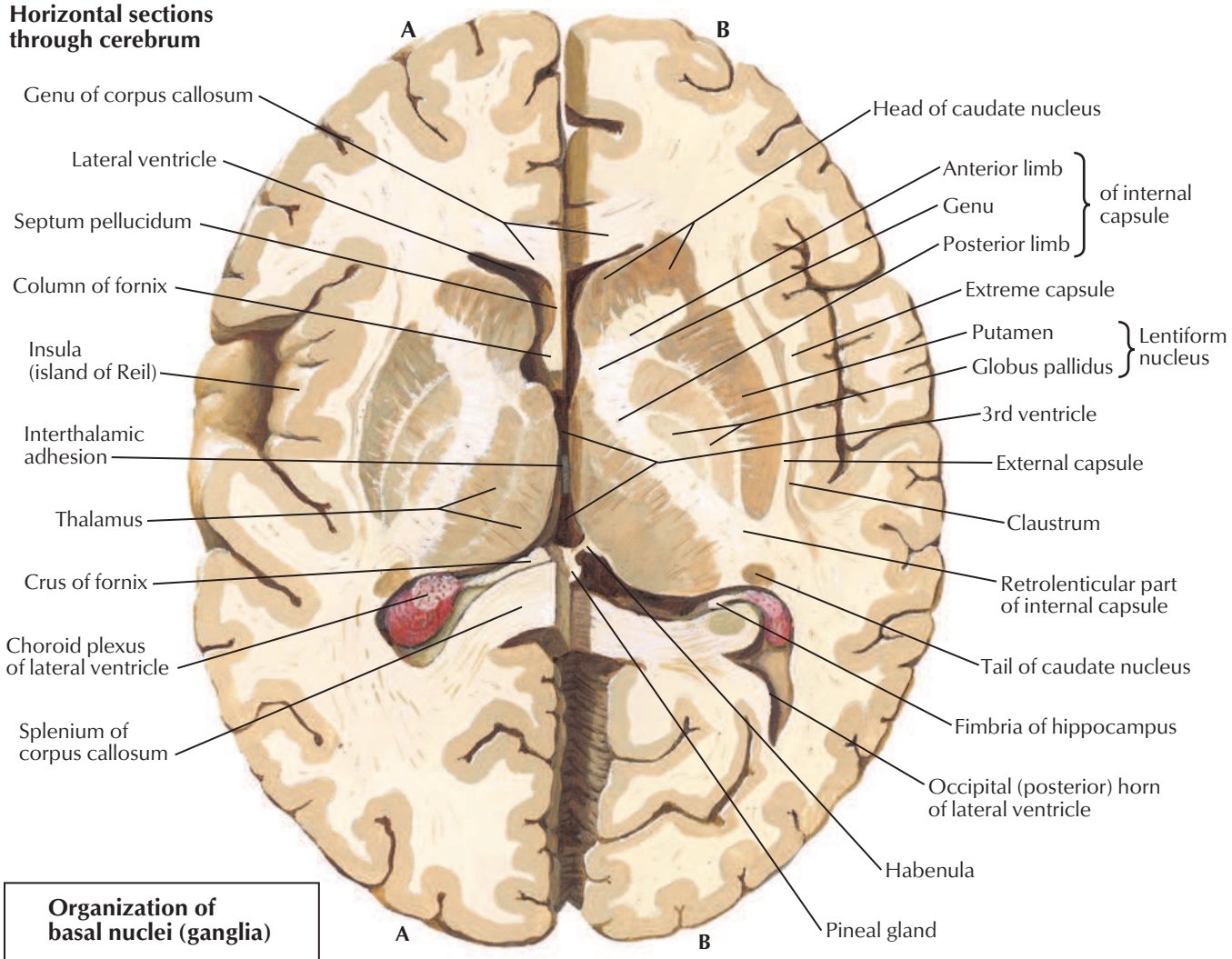
See also Plates 119, 157



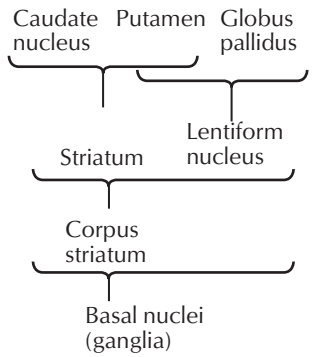
www.Booksmedicos06.com

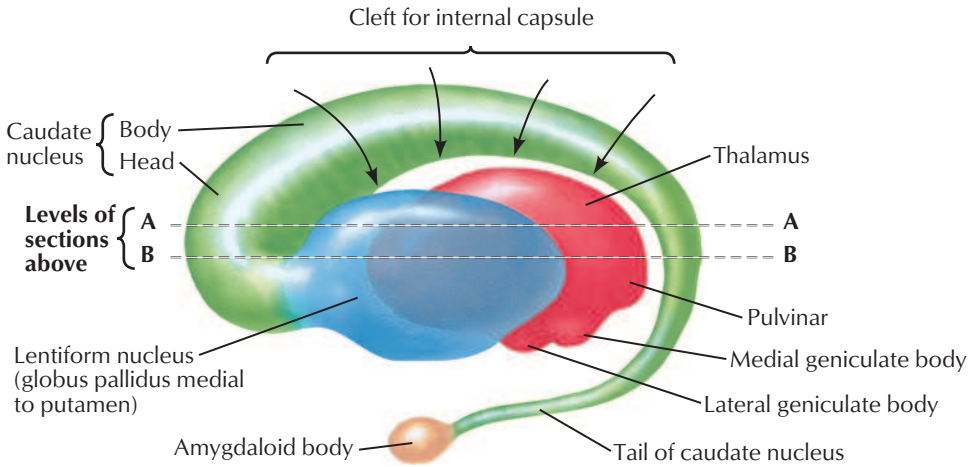
////// facebook : Booksmedicos06

Horizontal sections through cerebrum

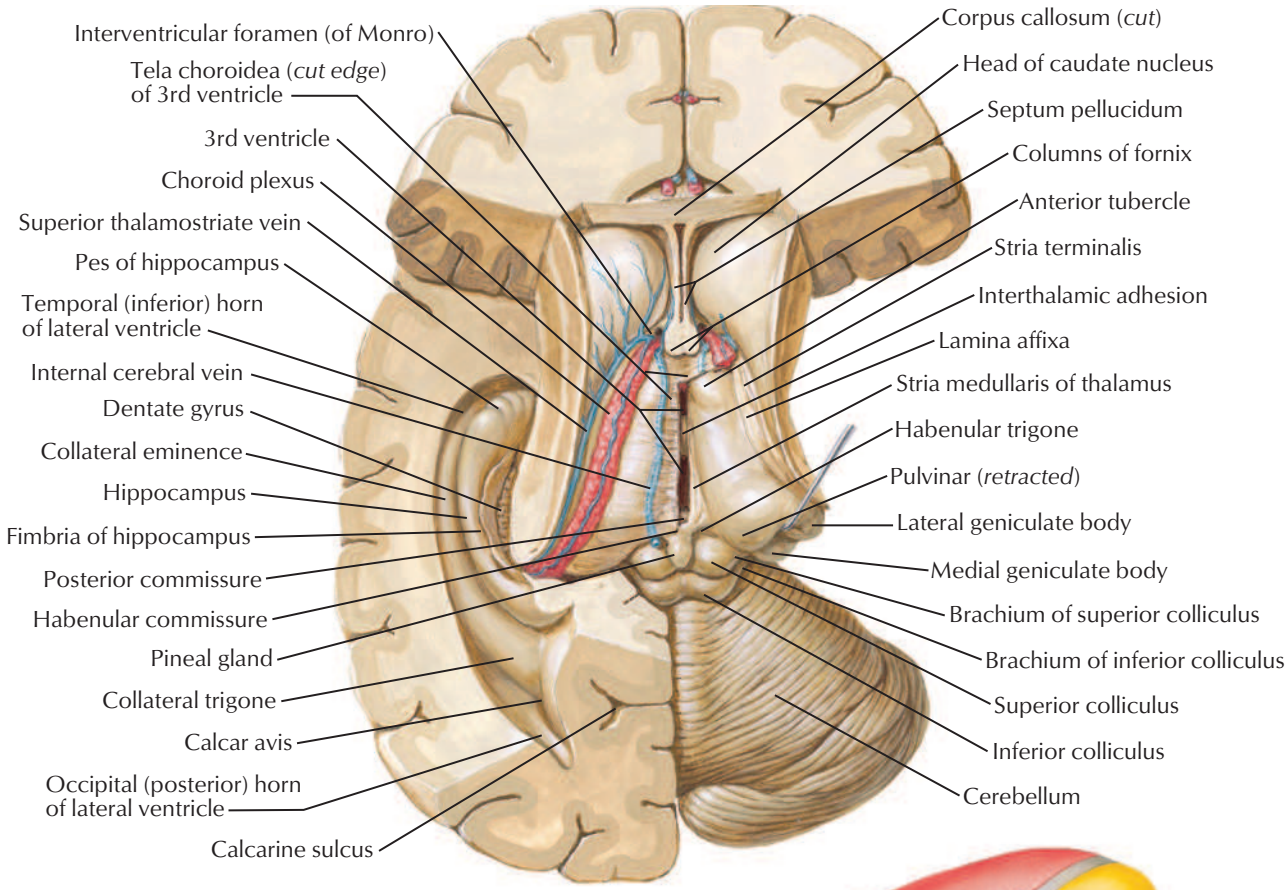


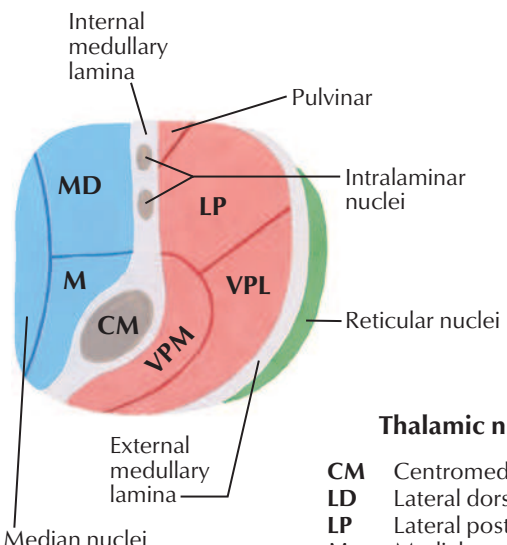
Organization of basal nuclei (ganglia)





Interrelationship of thalamus, lentiform nucleus, caudate nucleus, and amygdaloid body (schema): left lateral view

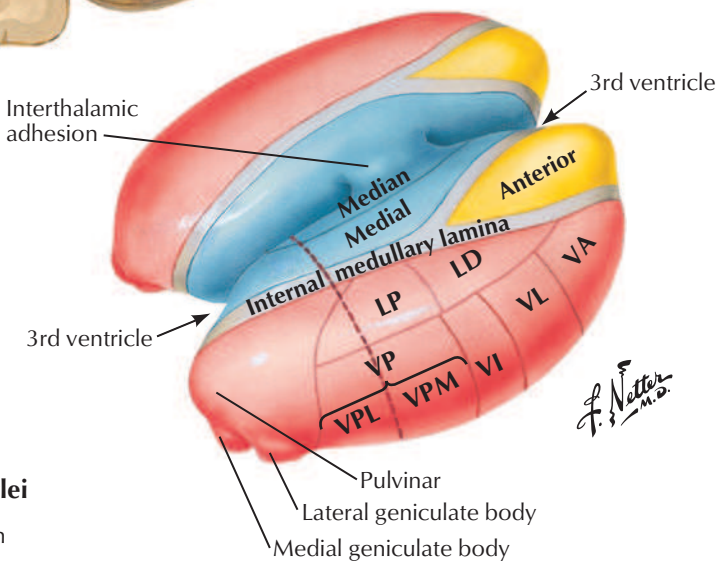




Schematic section through thalamus
(at level of broken line shown in figure at right)

Thalamic nuclei

CM	Centromedian
LD	Lateral dorsal
LP	Lateral posterior
M	Medial group
MD	Medial dorsal
VA	Ventral anterior
VI	Ventral intermedial
VL	Ventral lateral
VP	Ventral posterior (ventrodorsal)
VPL	Ventral posterolateral
VPM	Ventral posteromedial



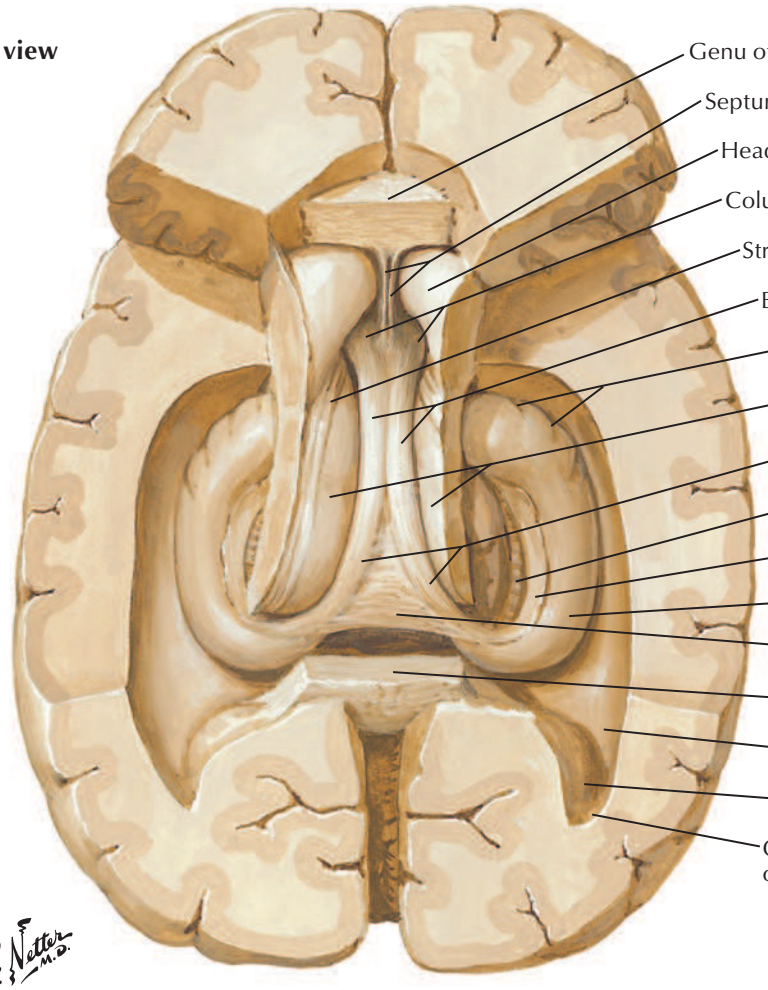
Schematic representation of thalamus
(external medullary lamina and reticular nuclei removed)

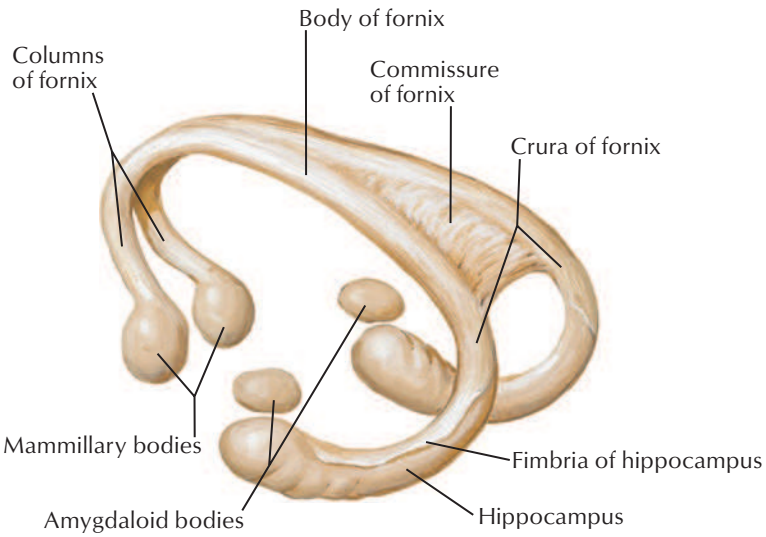
Lateral cell mass
Medial and median cell mass
Anterior cell mass

www.Booksmedicos06.com ////////

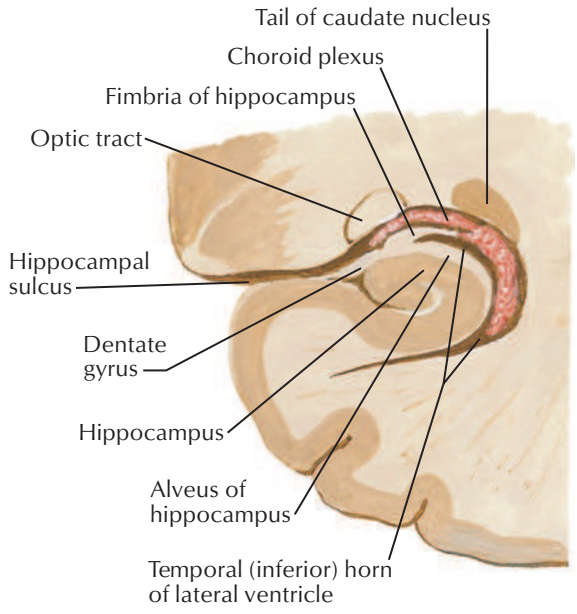
////// facebook : Booksmedicos06

Superior view

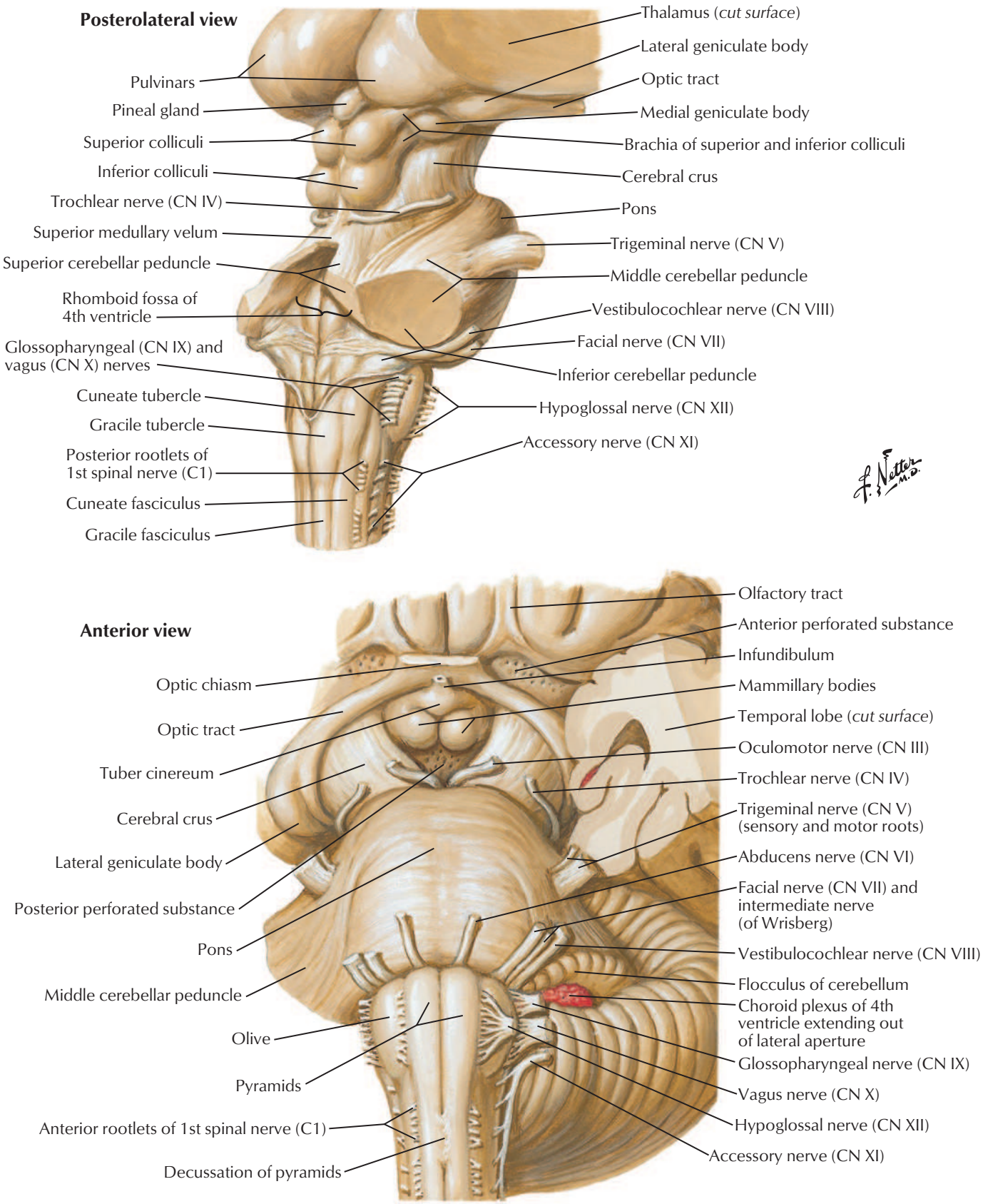




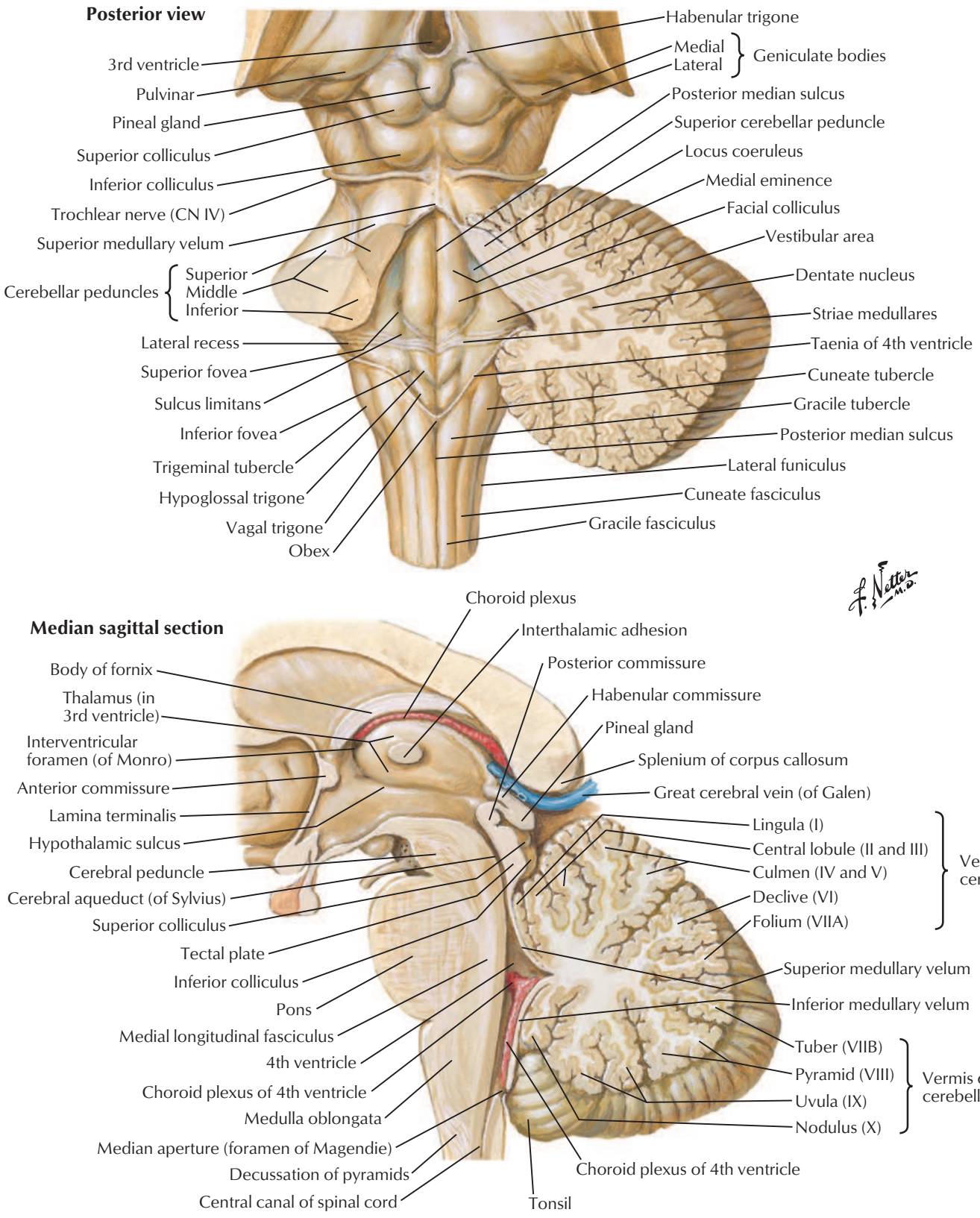
Fornix: schema



Coronal section: posterior view

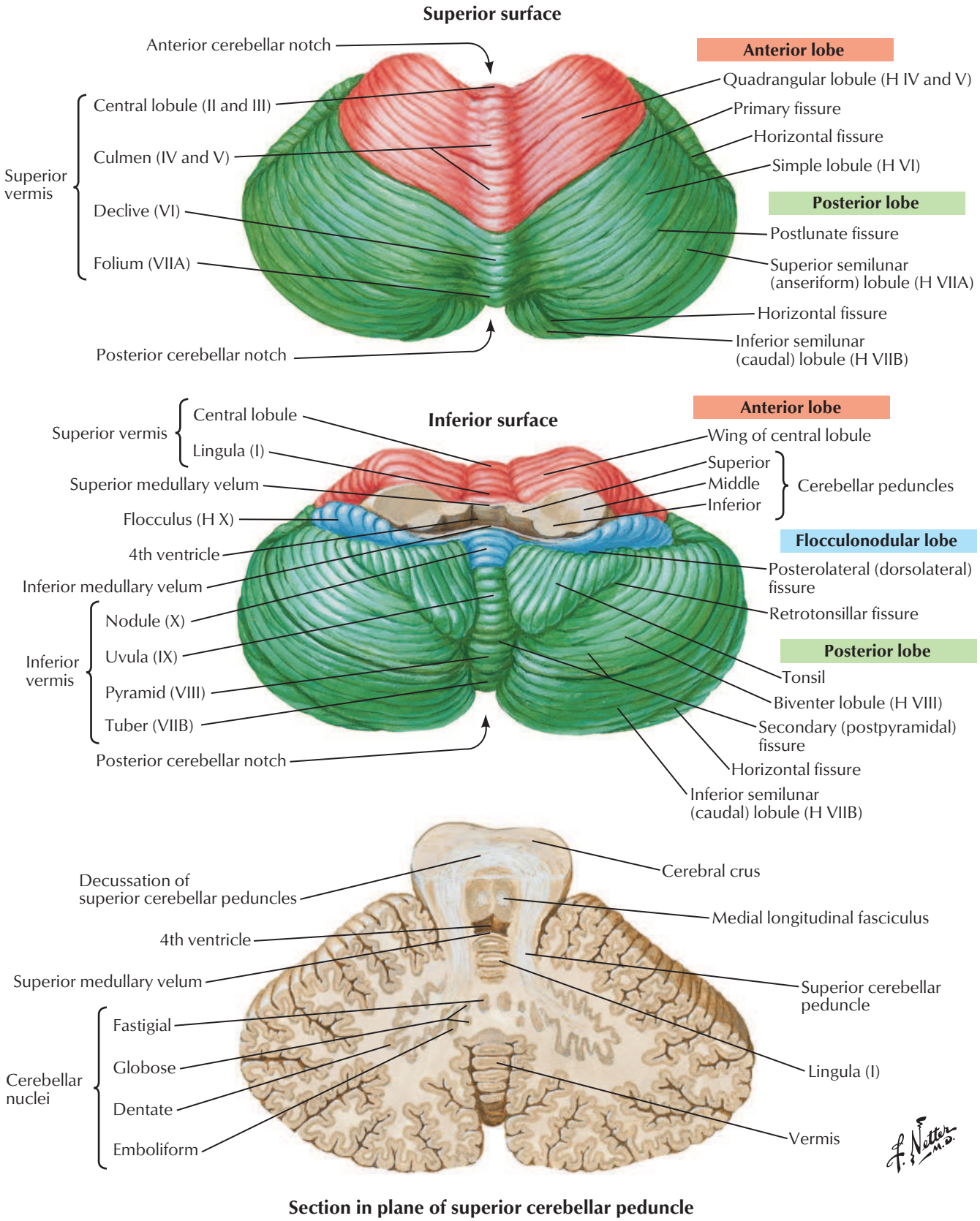


www.Booksmedicos06.com



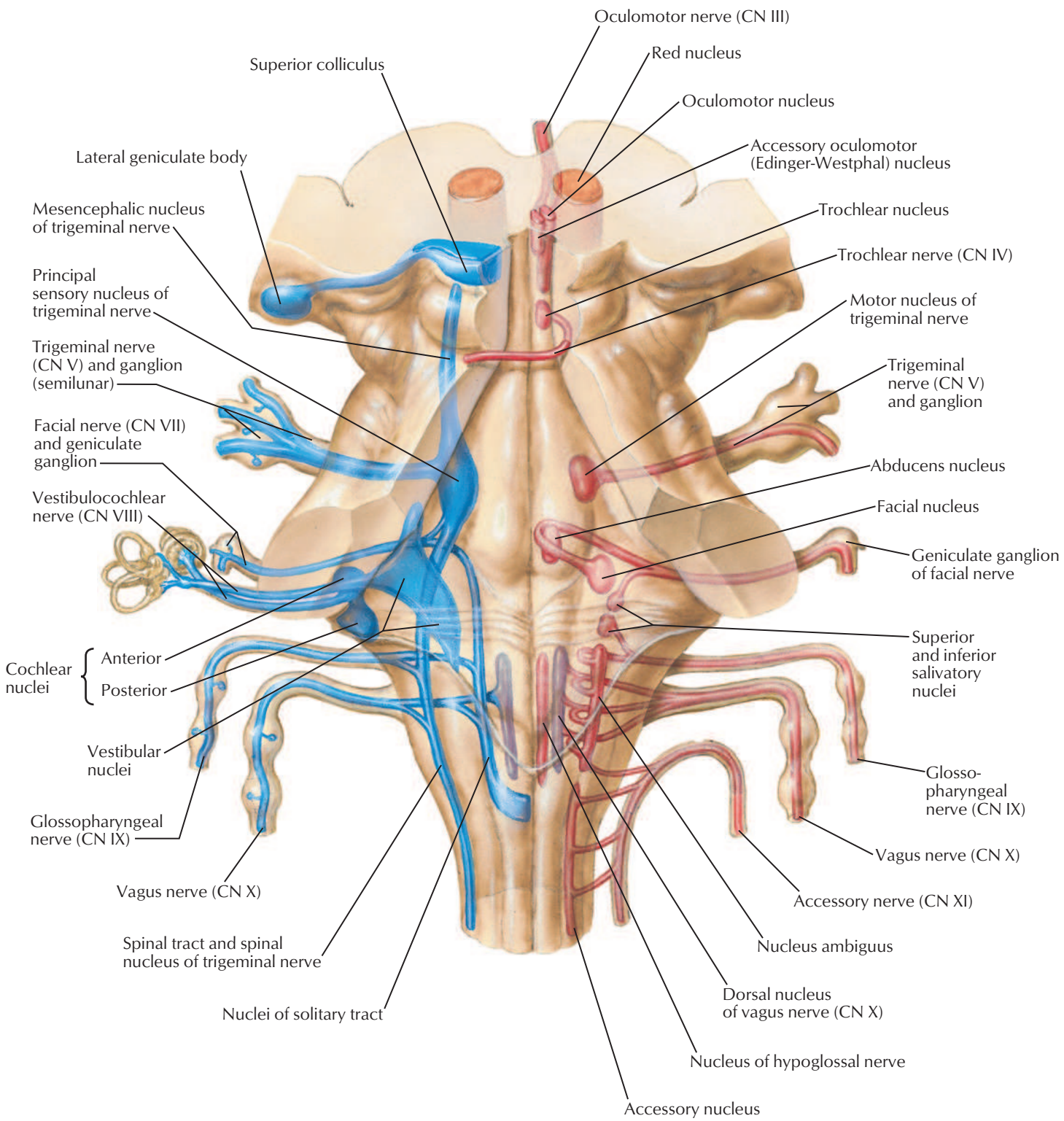
////// facebook : Booksmedicos06

See also Plate 125

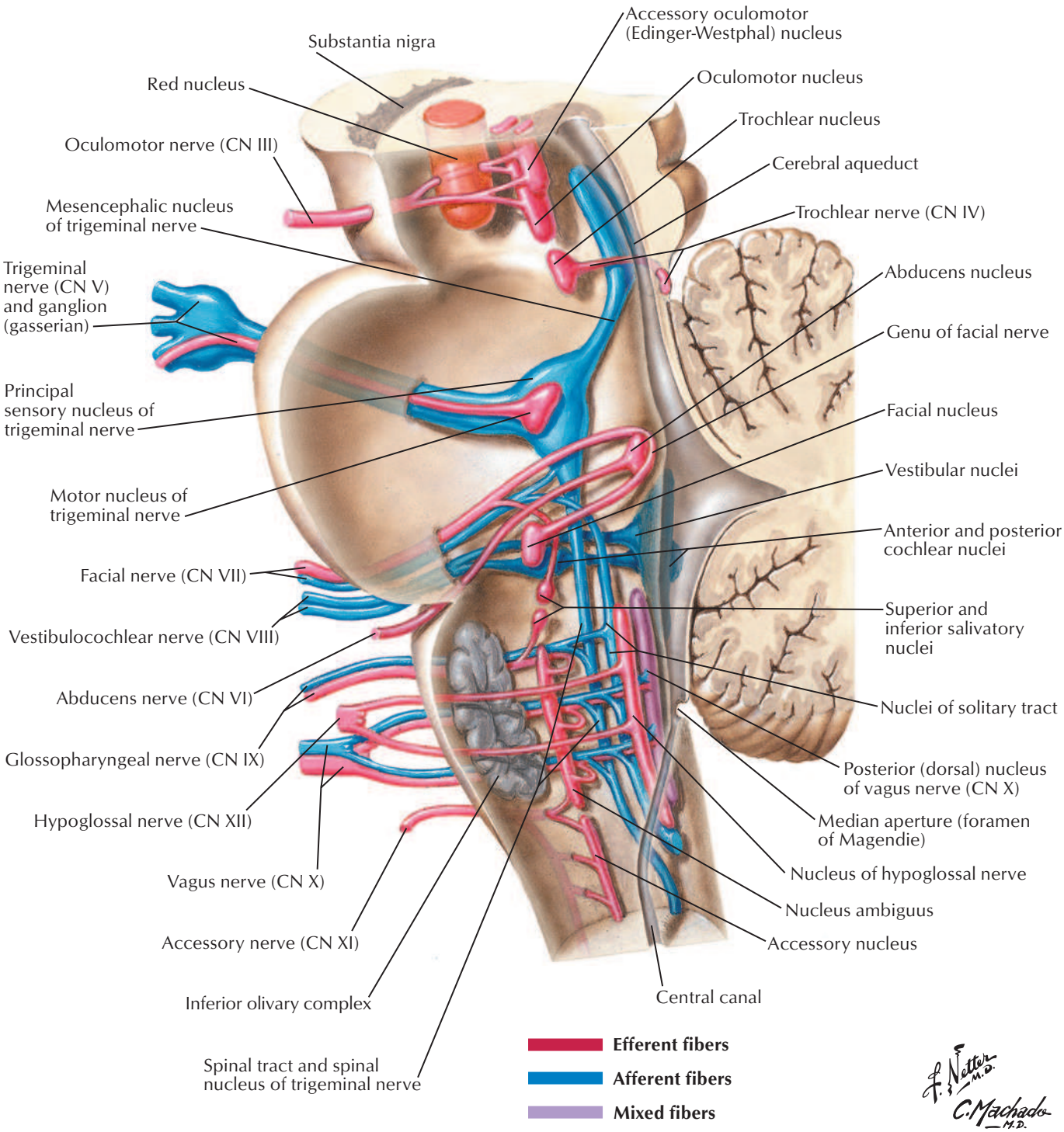


Section in plane of superior cerebellar peduncle

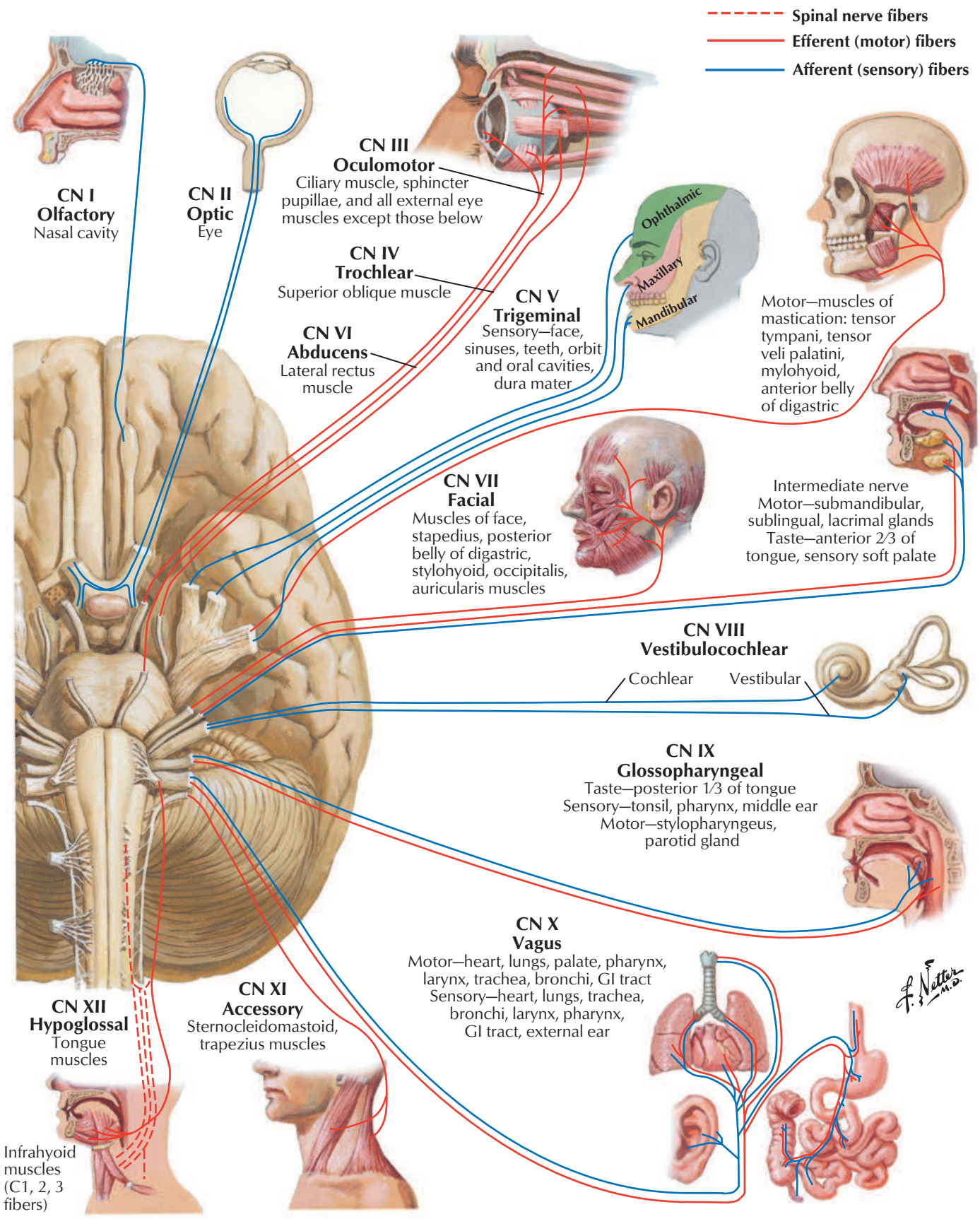
www.Booksmedicos06.com



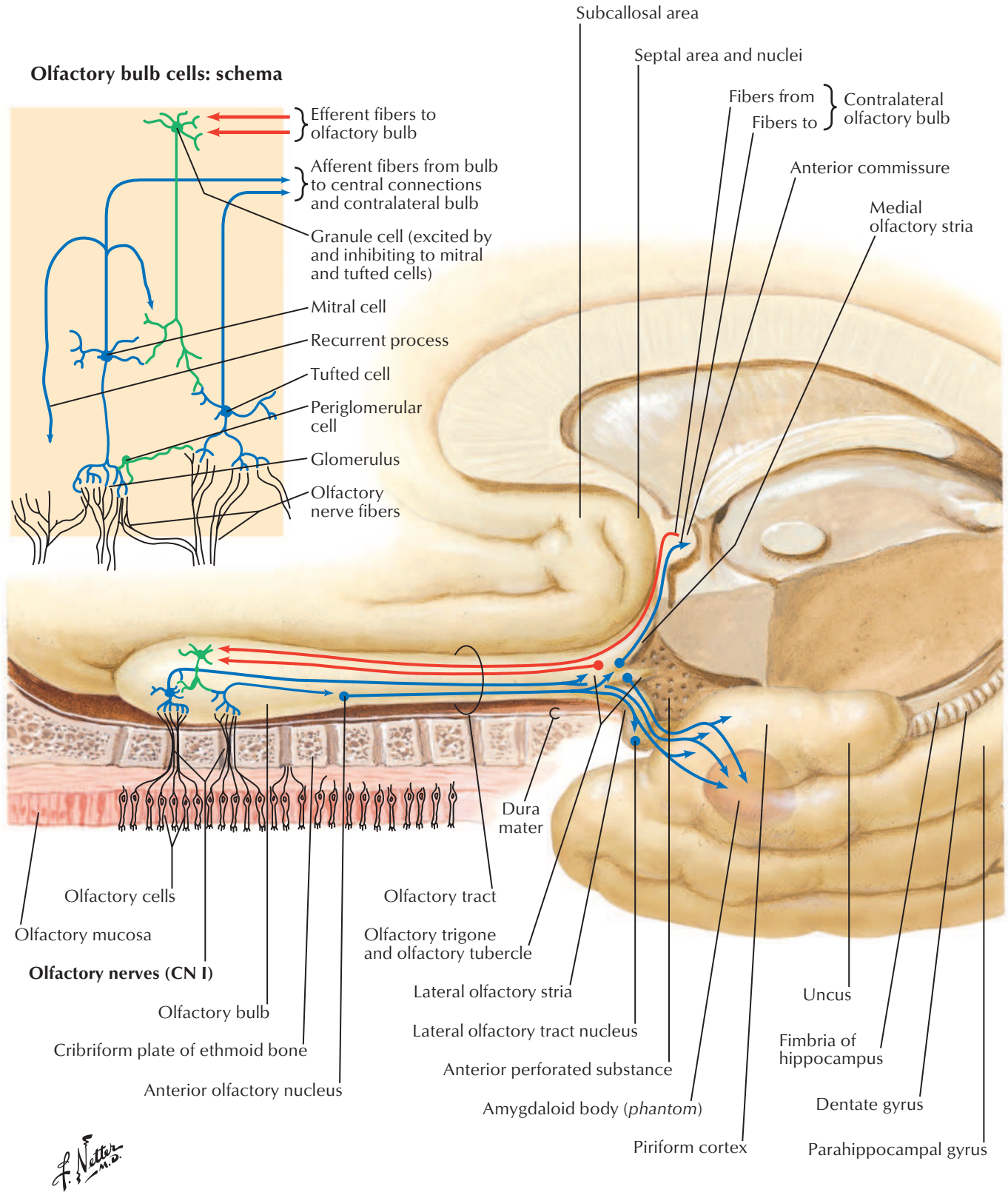
////// facebook : Booksmedicos06



www.Booksmedicos06.com



////// facebook : Booksmedicos06

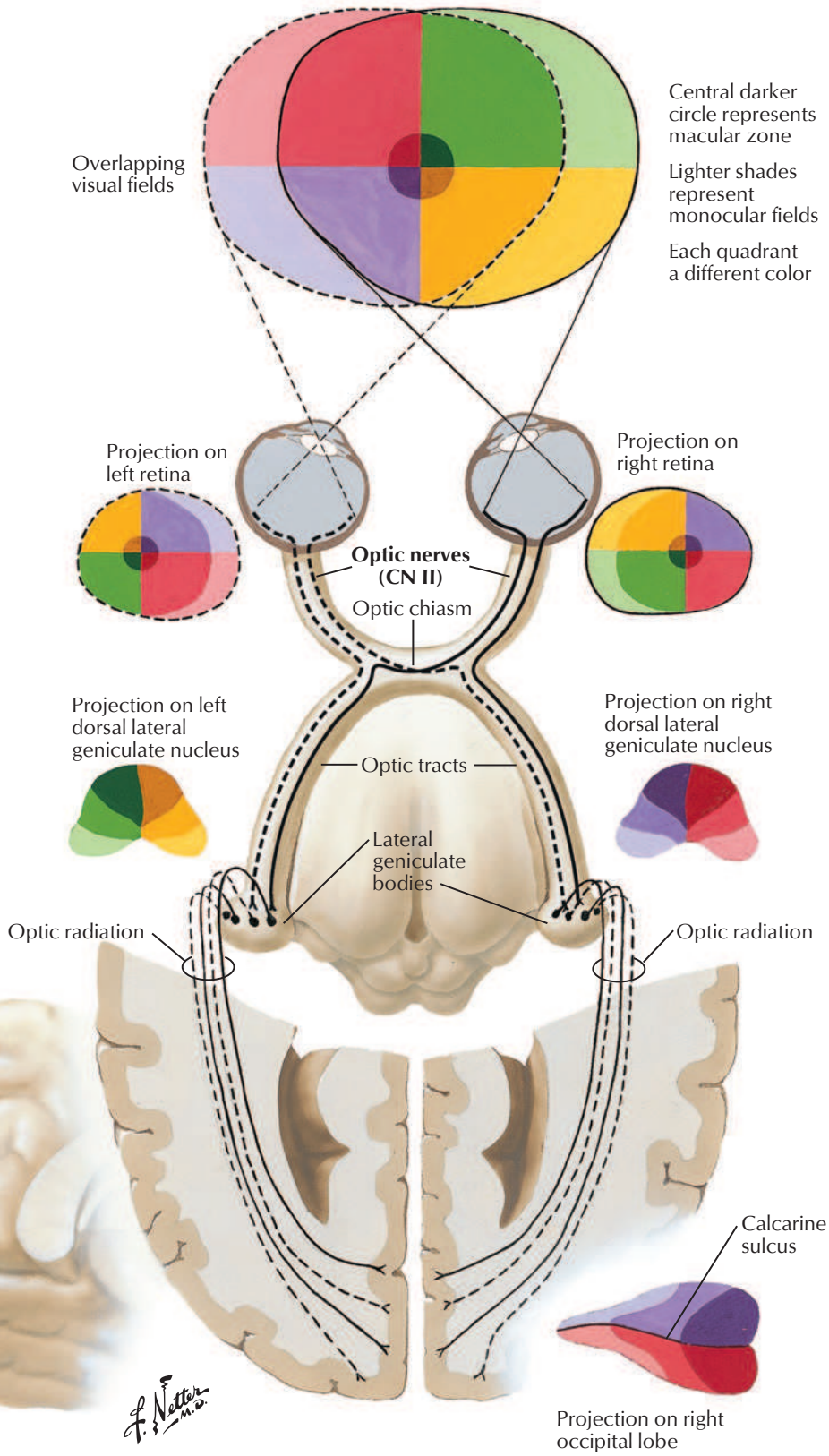


www.Booksmedicos06.com



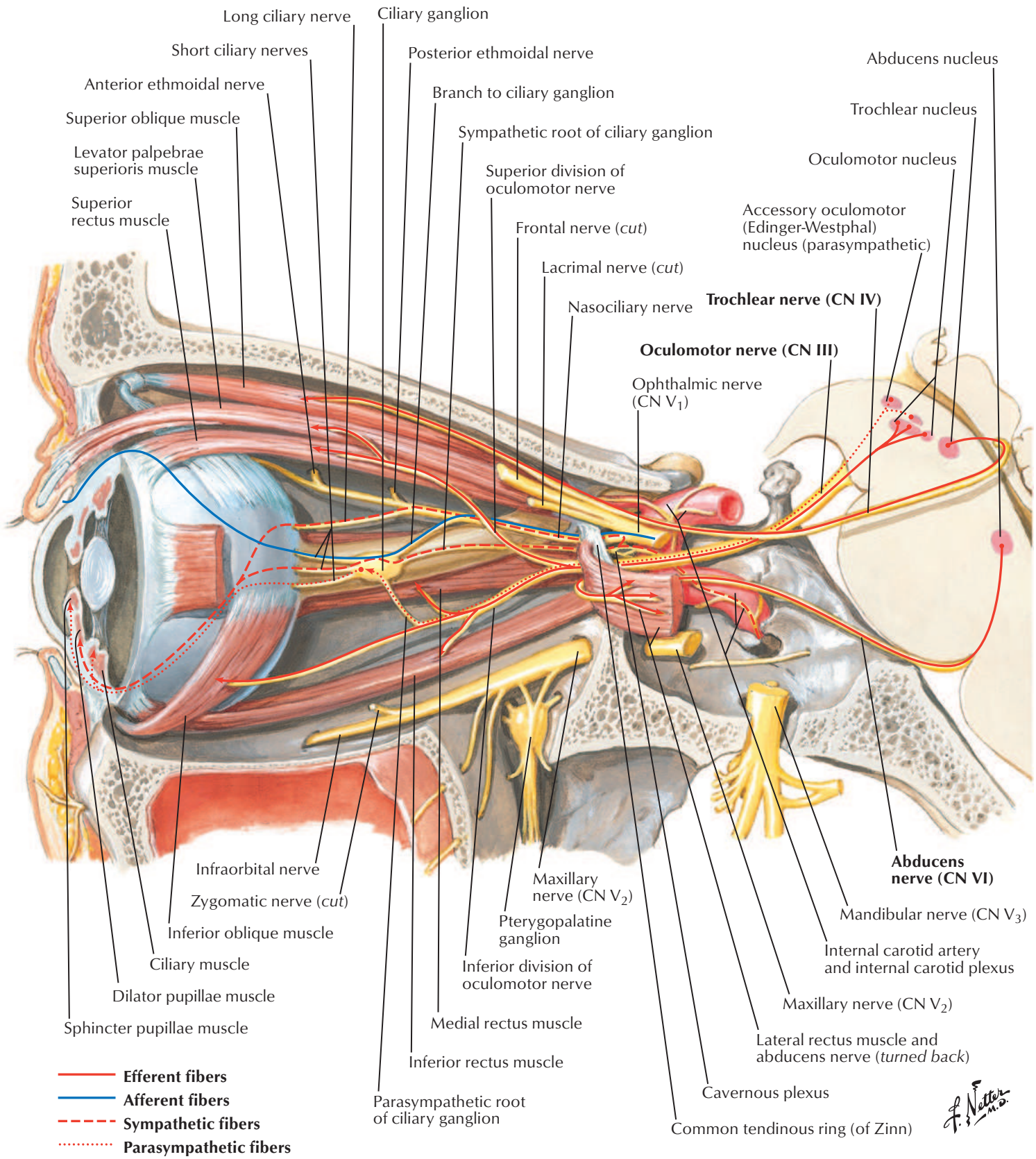
Structure of retina: schema

- **A** Amacrine cells
- **B** Bipolar cells
- **C** Cones
- **G** Ganglion cells
- **H** Horizontal cells
- **P** Pigment cells
- **R** Rods



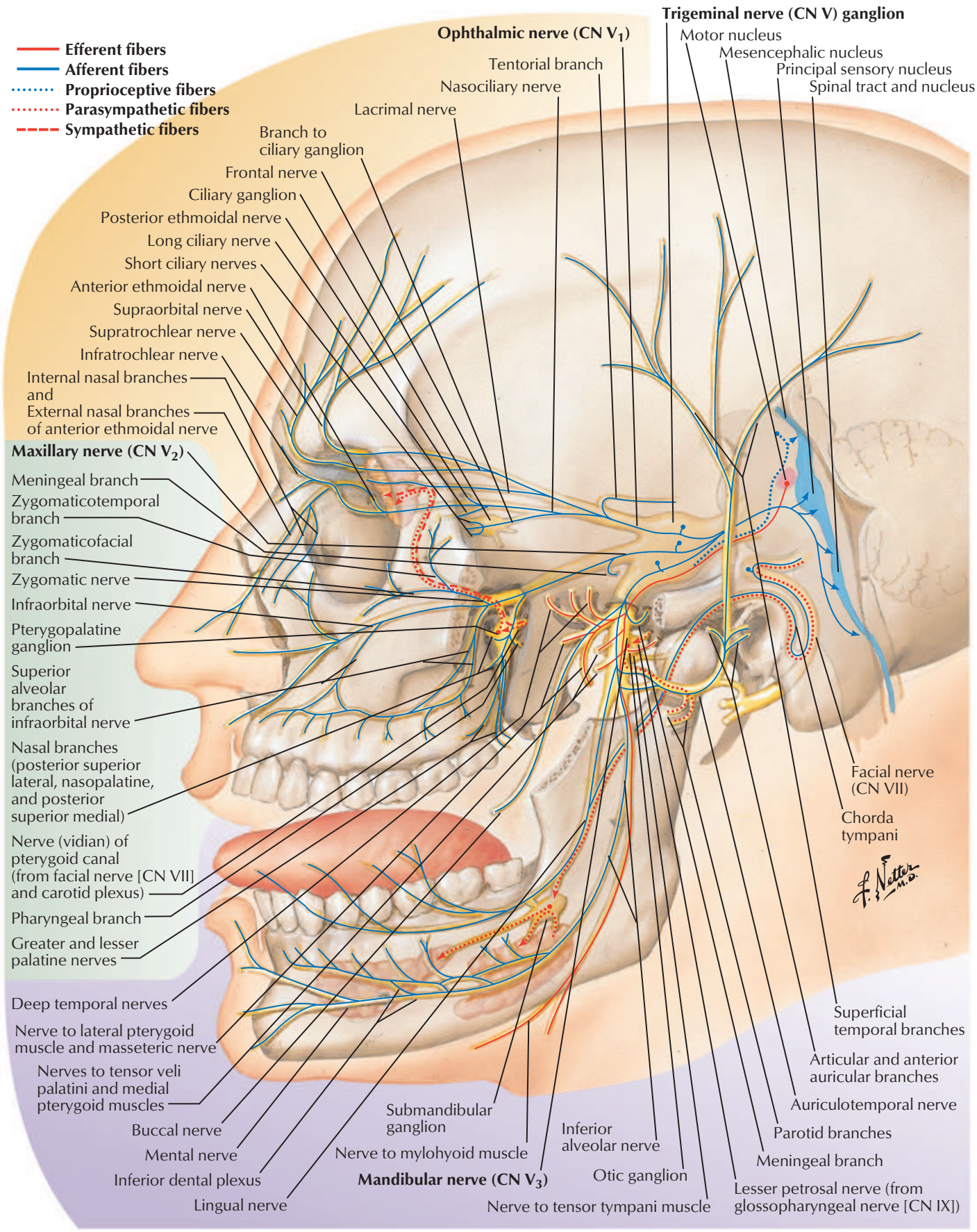
////// facebook : Booksmedicos06

See also Plates 97, 143



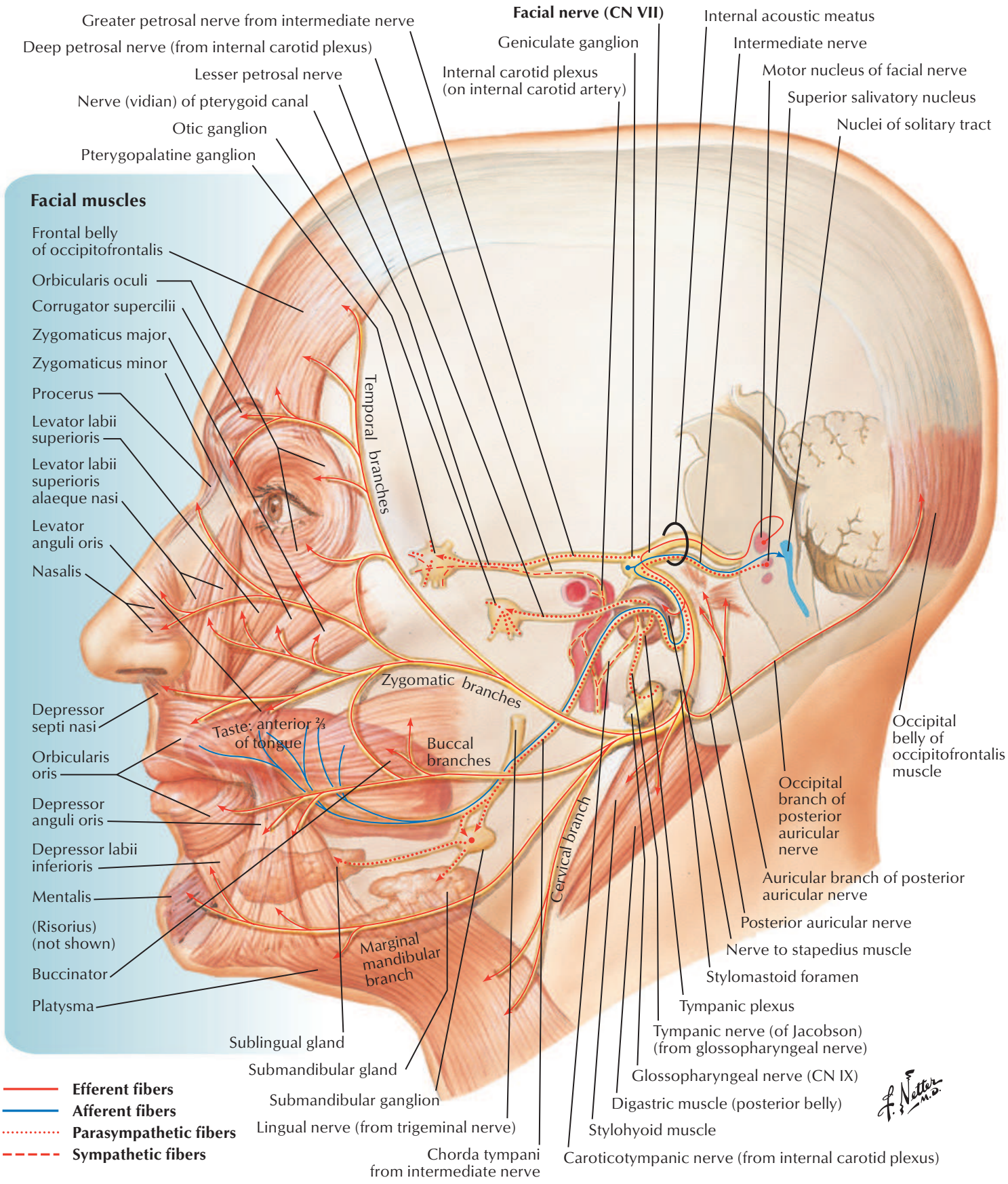
www.Booksmedicos06.com

See also Plates 9, 59, 61

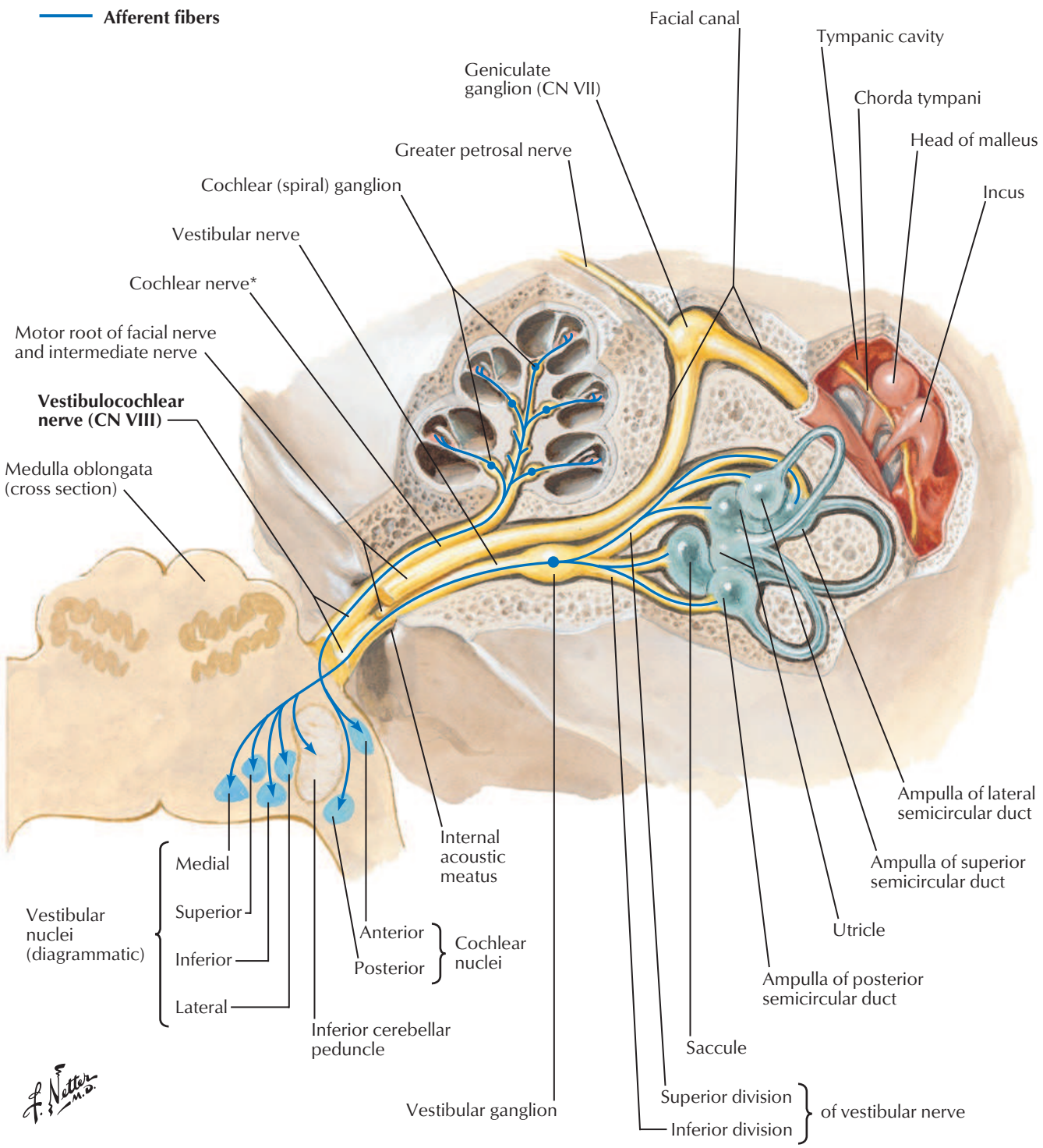


Booksmedicos06 : facebook ////////

See also Plate 54

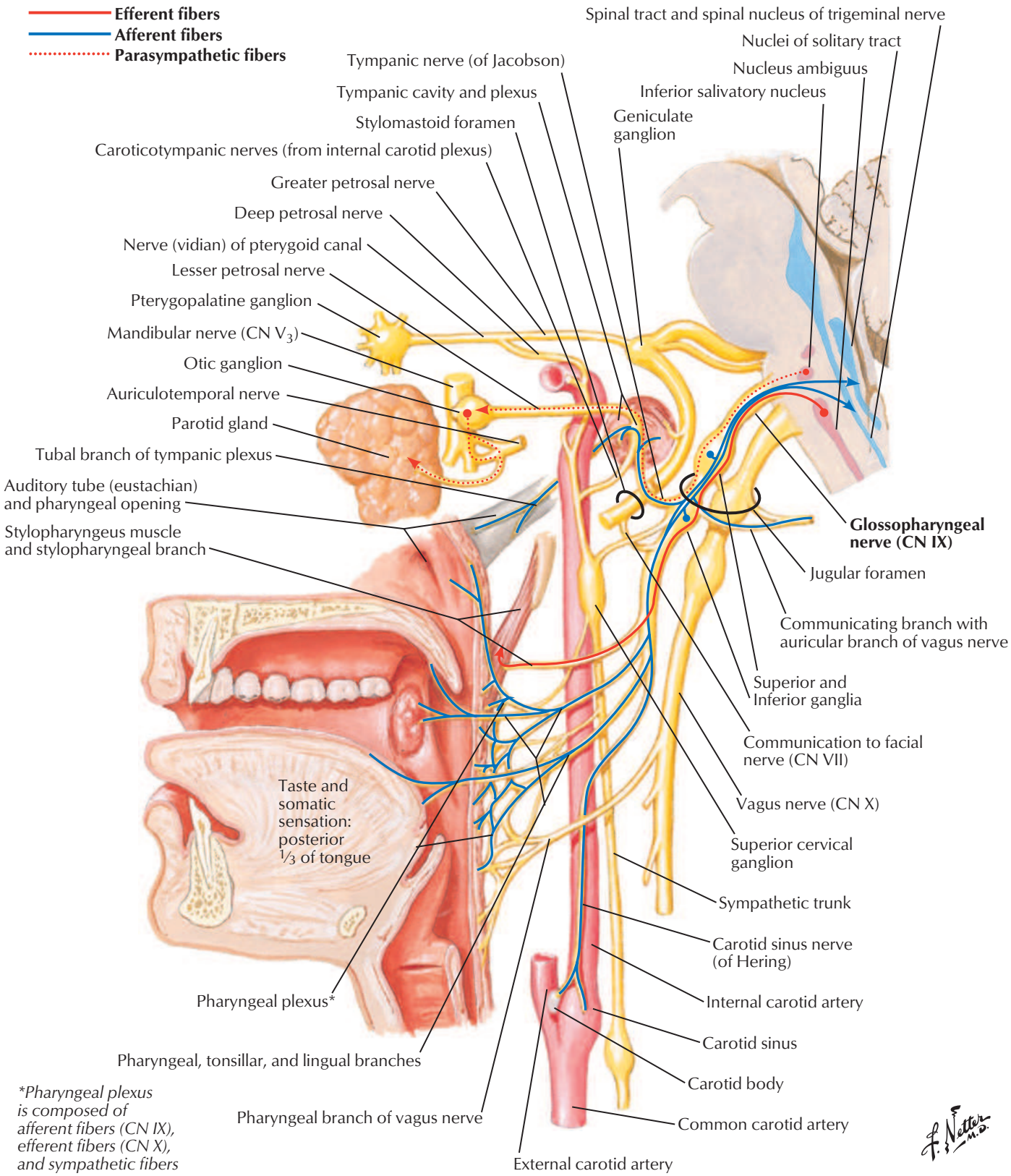


www.Booksmedicos06.com

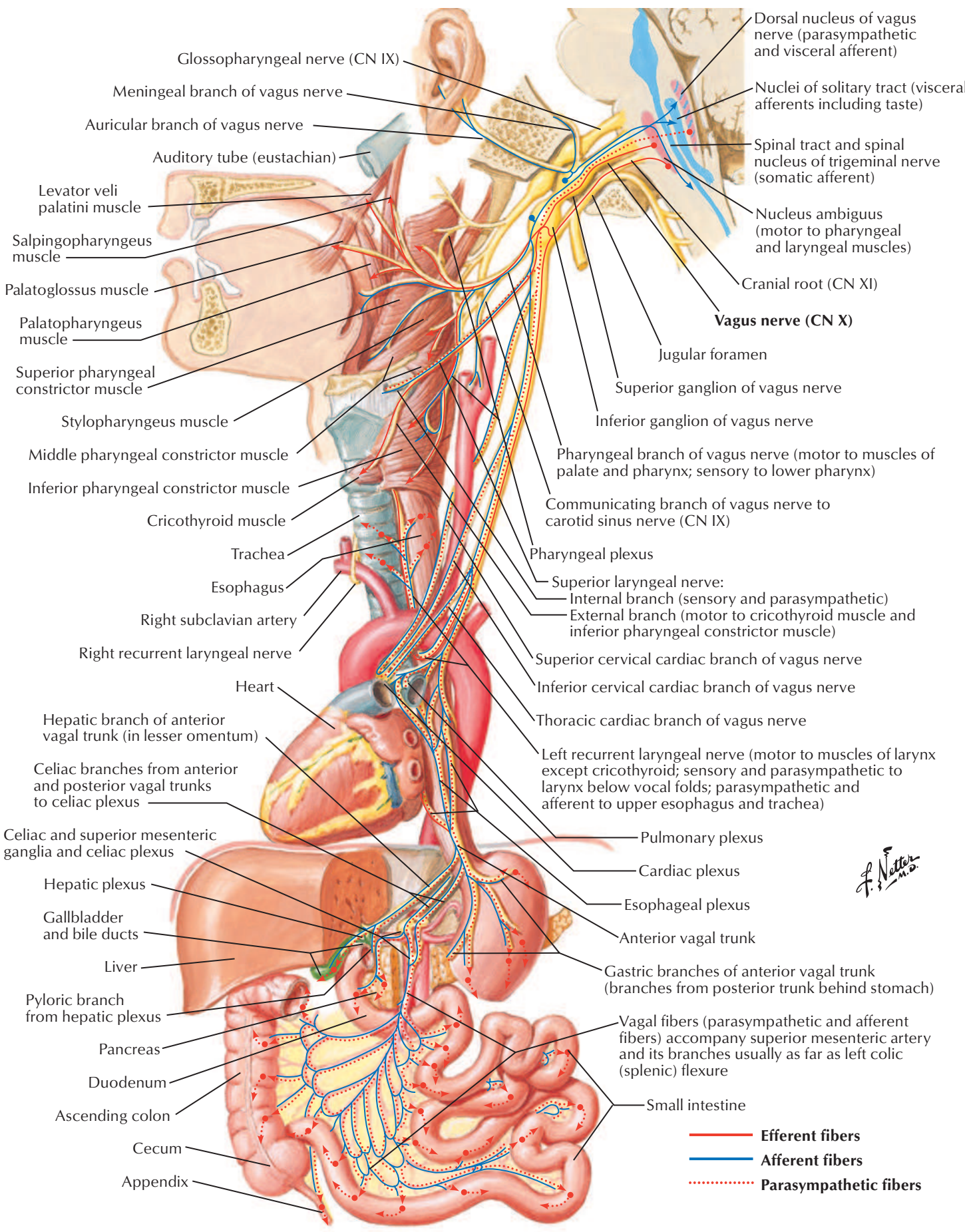


*Note: The cochlear nerve also contains efferent fibers to the sensory epithelium. These fibers are derived from the vestibular nerve while in the internal acoustic meatus.

////// facebook : Booksmedicos06

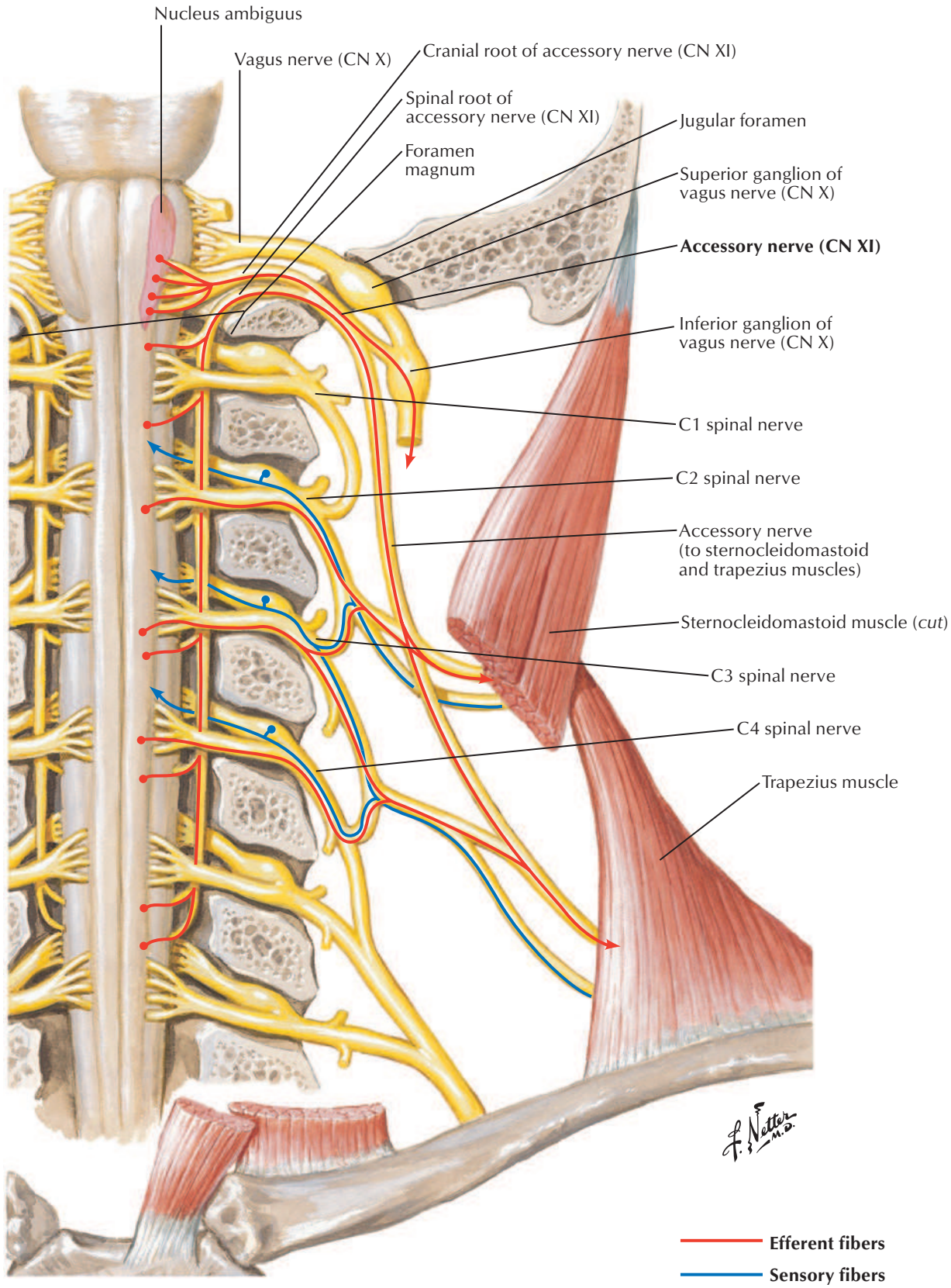


www.Booksmedicos06.com



////// facebook : Booksmedicos06

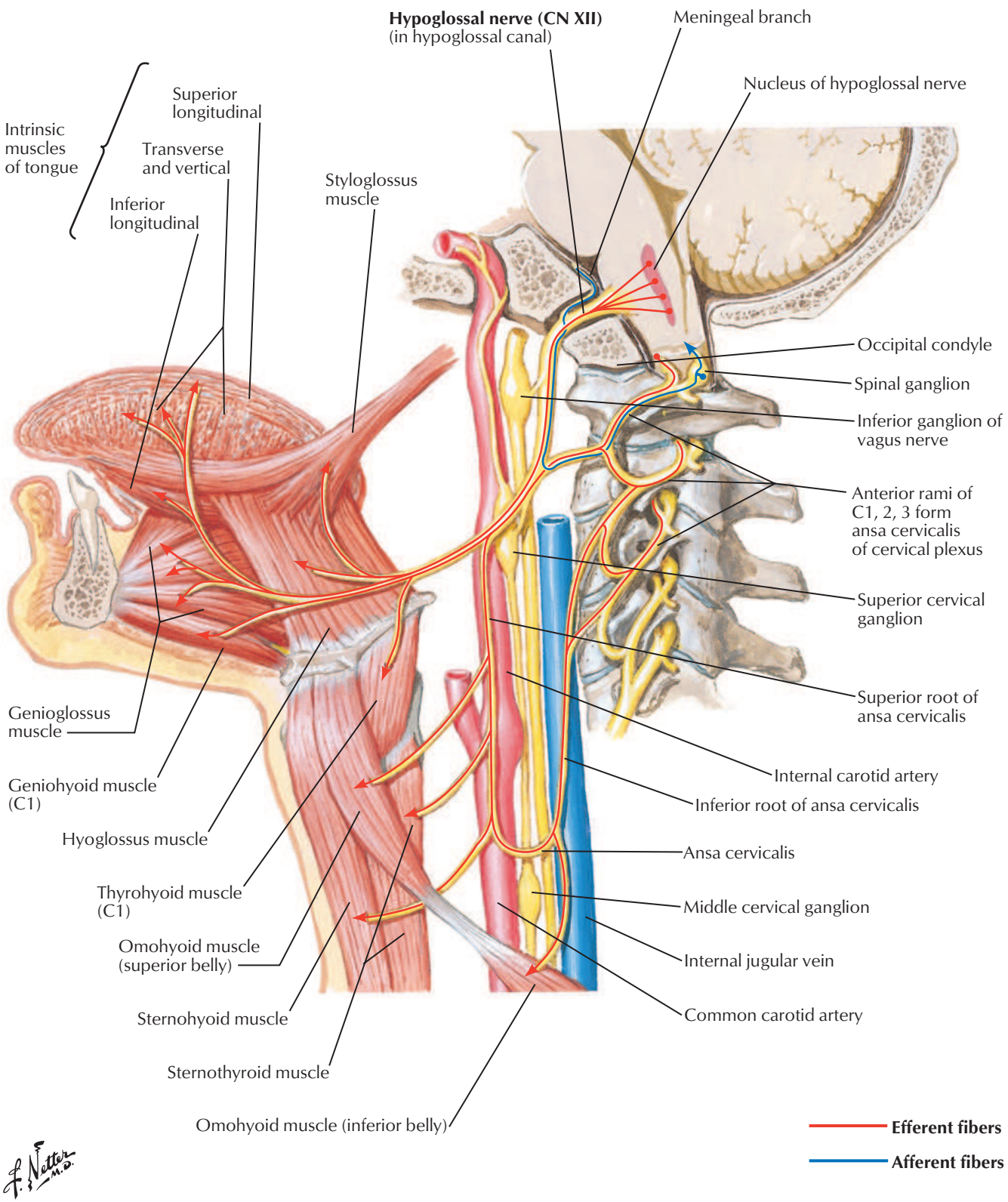
See also Plate 39



www.Booksmedicos06.com

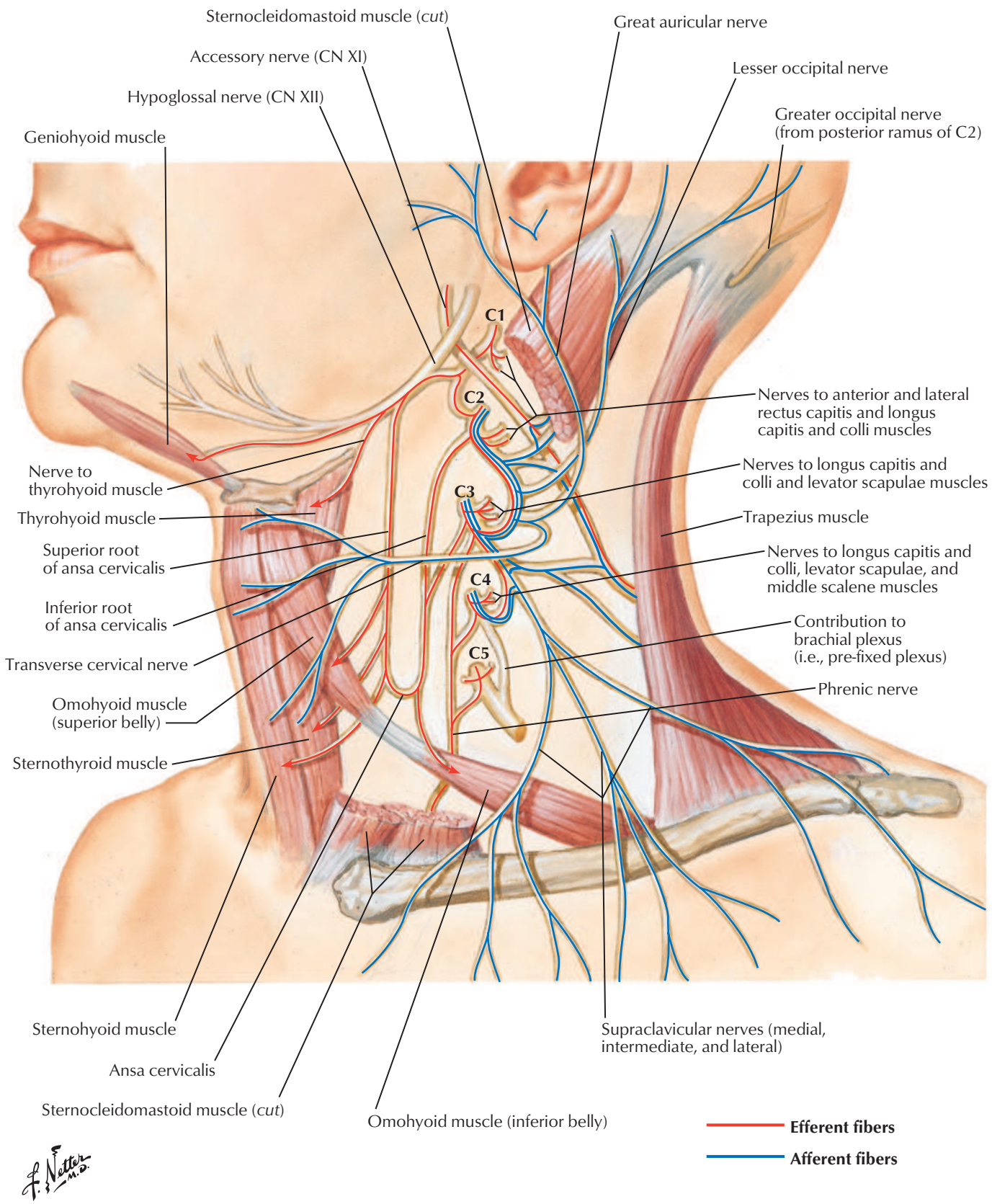
Hypoglossal Nerve (CN XII): Schema

See also Plate 39



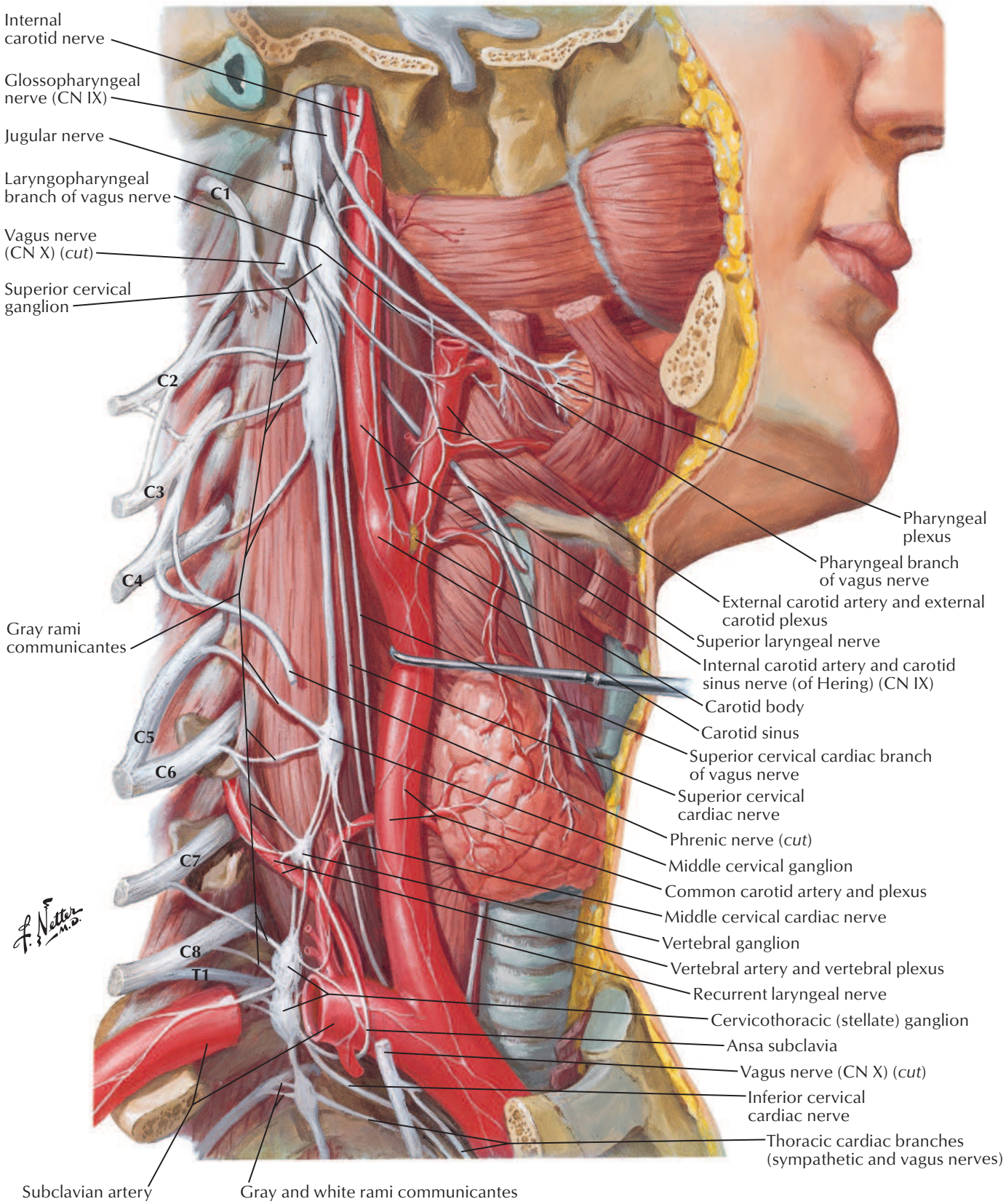
////// facebook : Booksmedicos06

See also Plates 39, 40



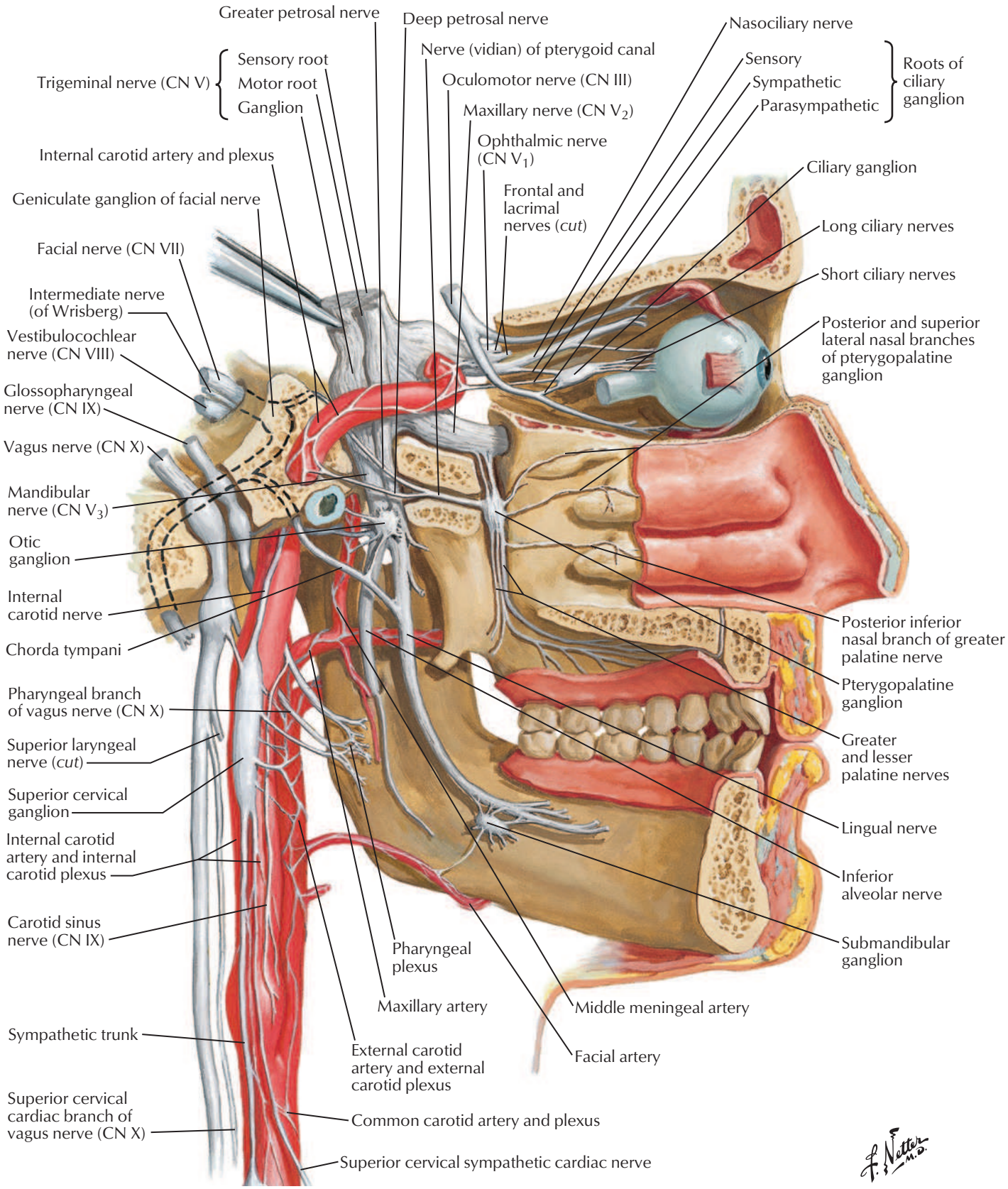
www.Booksmedicos06.com

See also Plate 136



////// facebook : Booksmedicos06

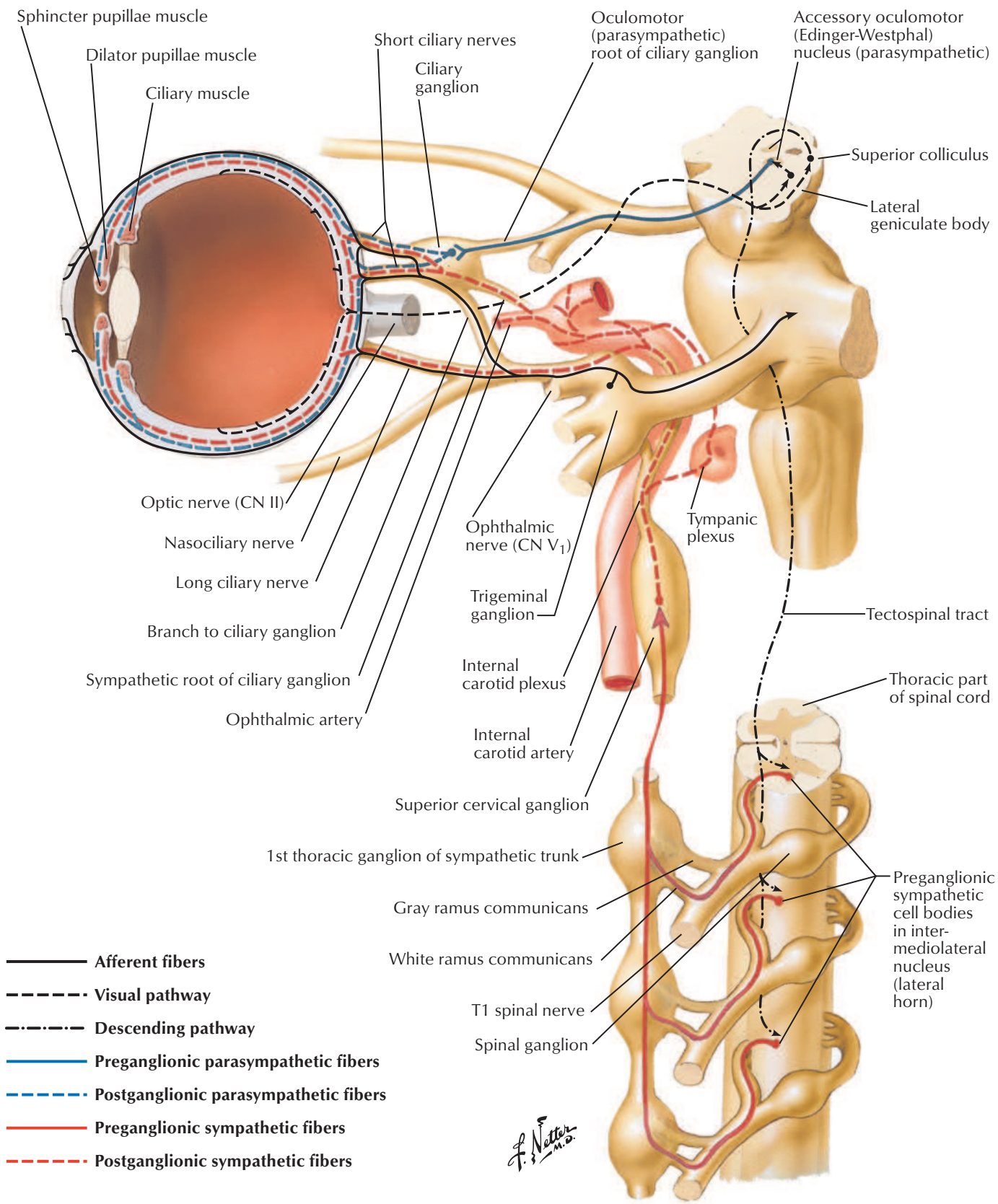
See also Plates 62, 133, 144



www.Booksmedicos06.com

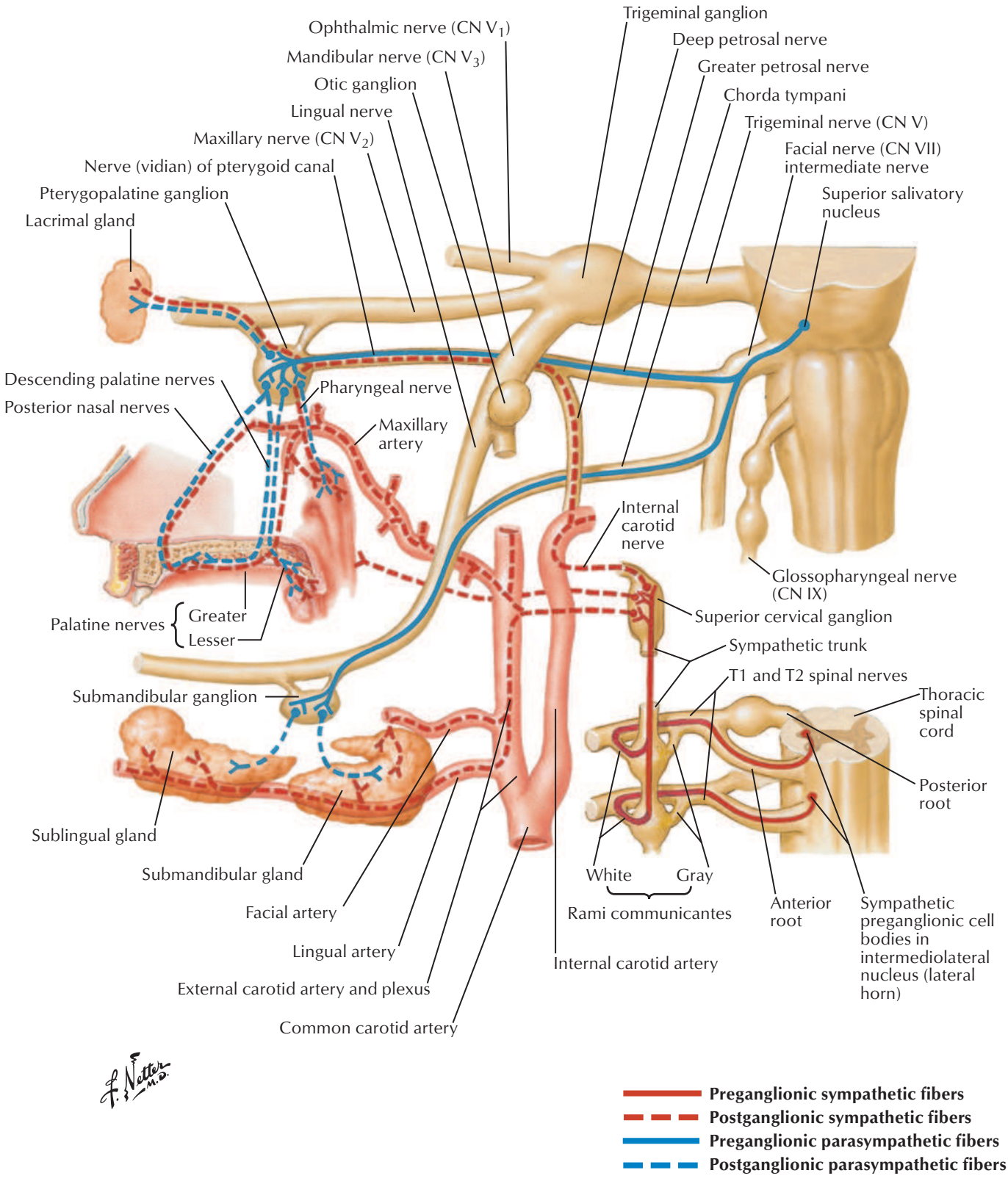
Ciliary Ganglion: Schema

See also Plate 62

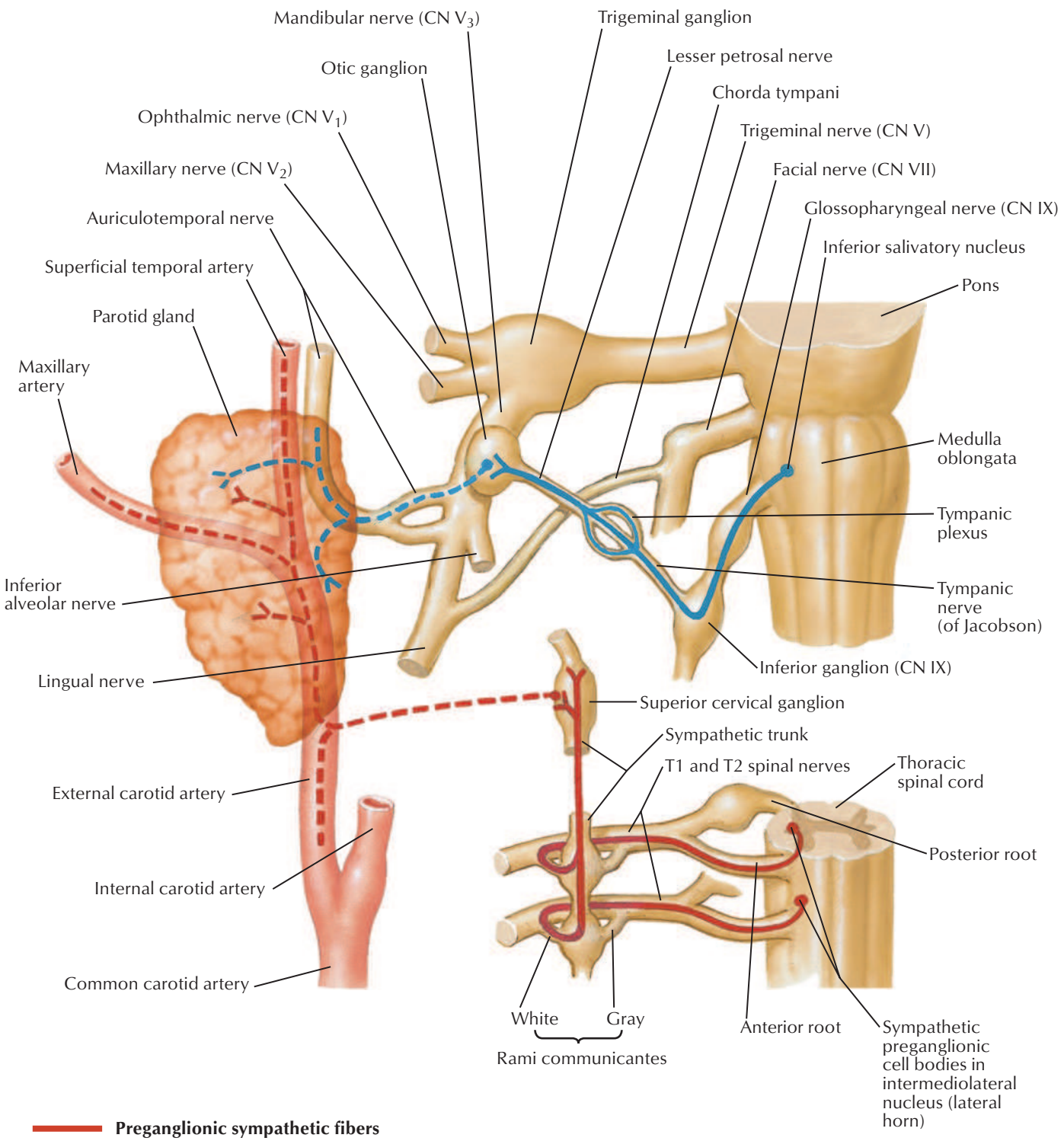


/////// facebook : Booksmedicos06

See also Plate 95

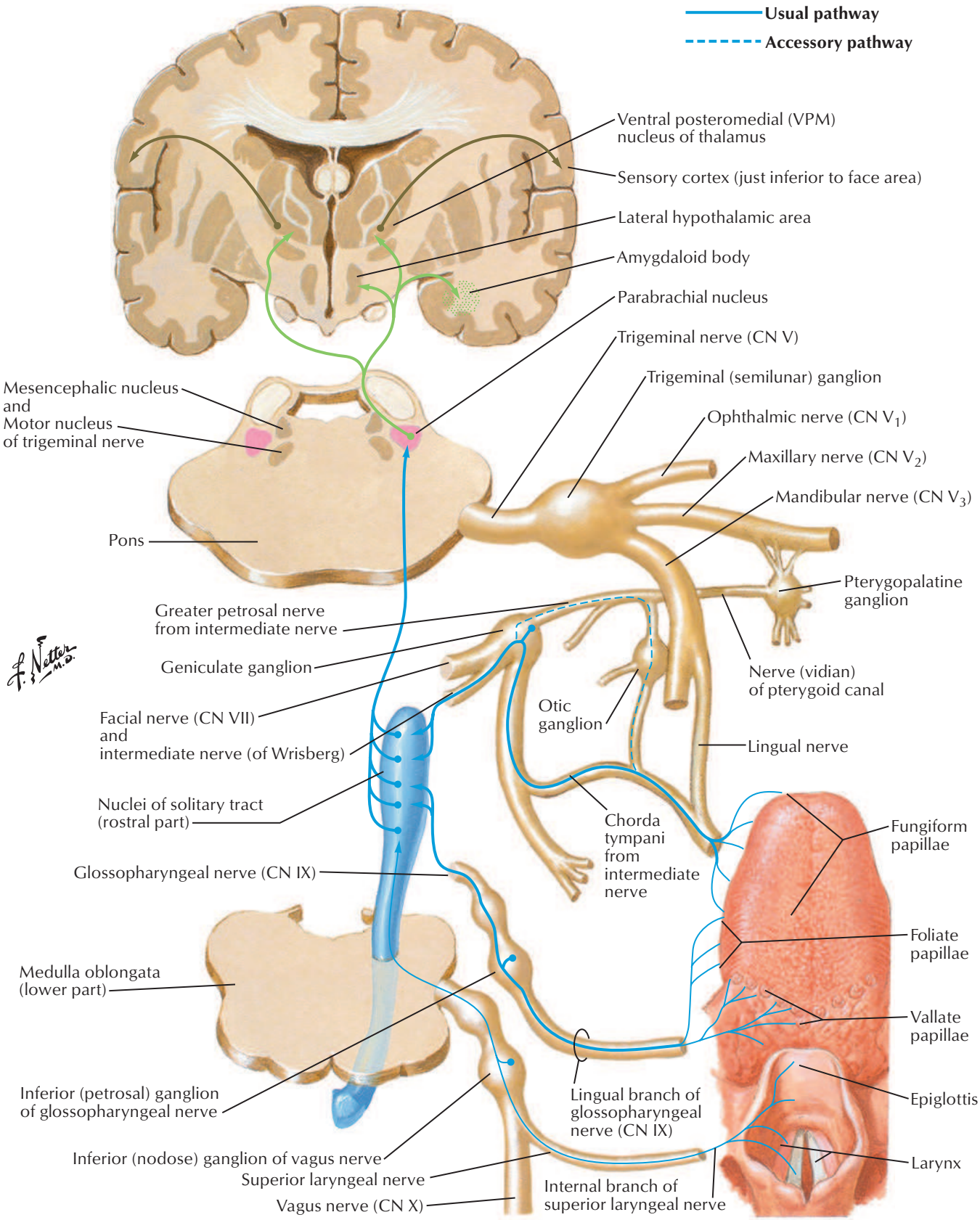


www.Booksmedicos06.com



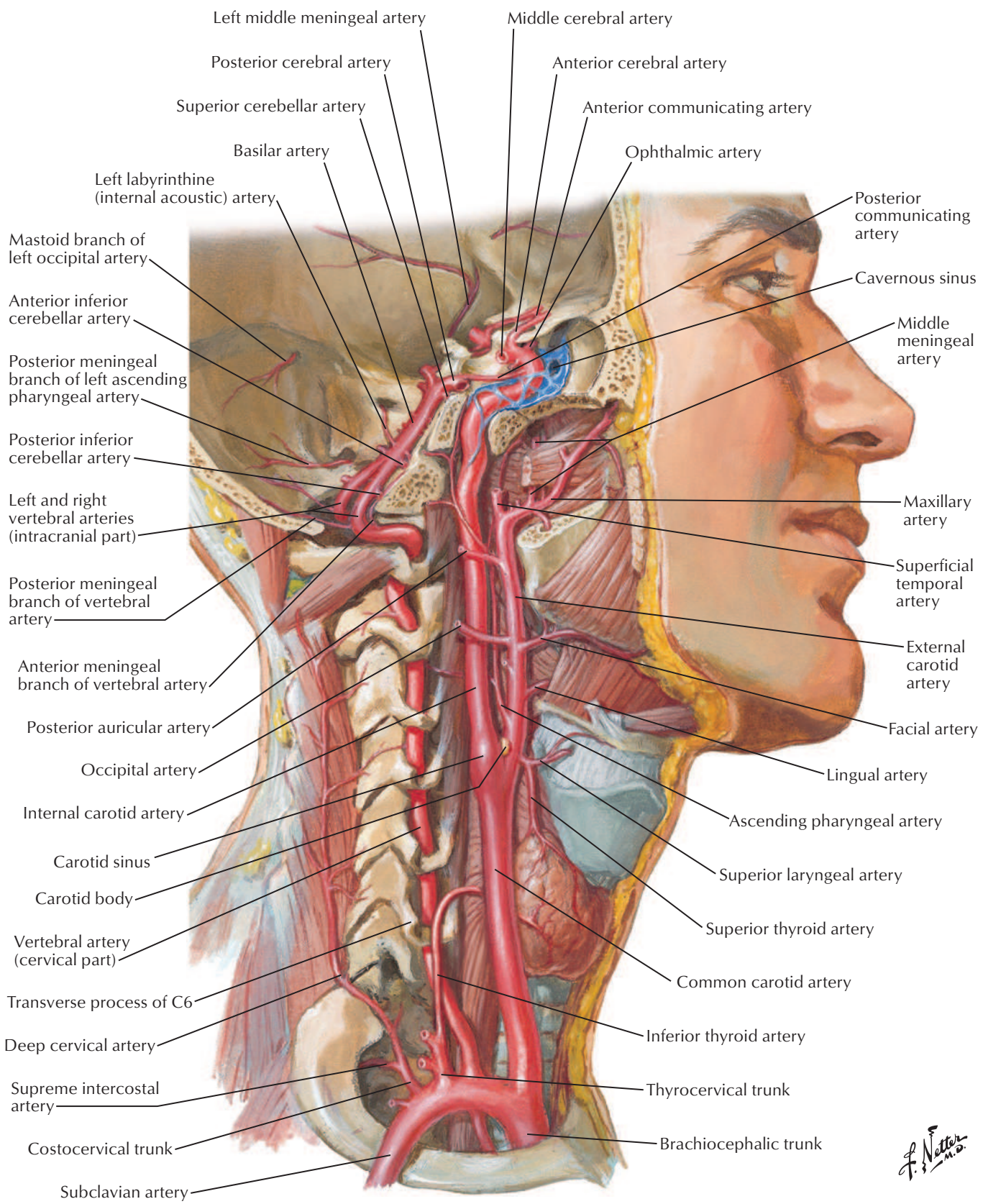
////// facebook : Booksmedicos06

See also Plates 134, 136



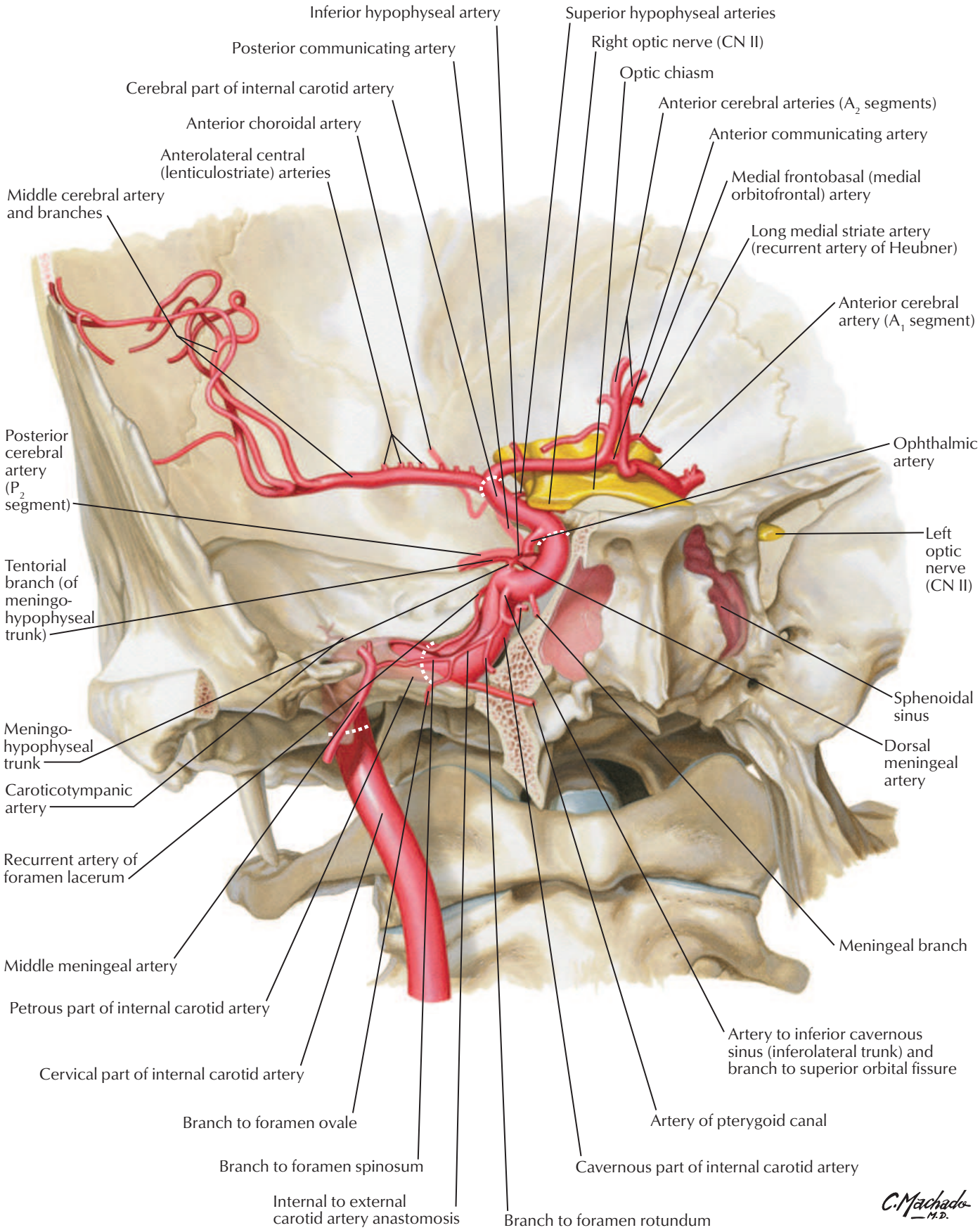
www.Booksmedicos06.com

See also Plates 41, 64, 148

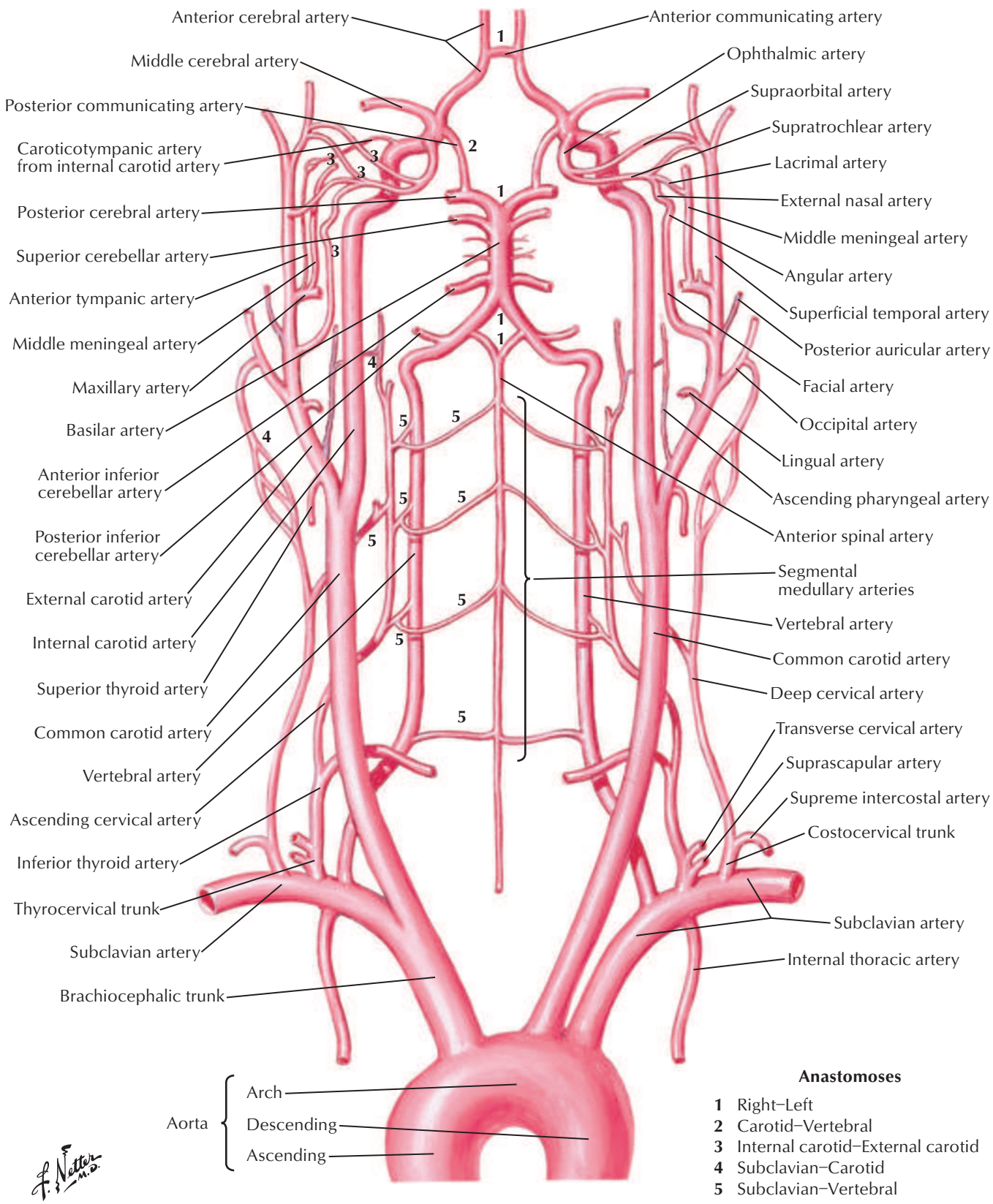


////// facebook : Booksmedicos06

See also Plates 147, 150

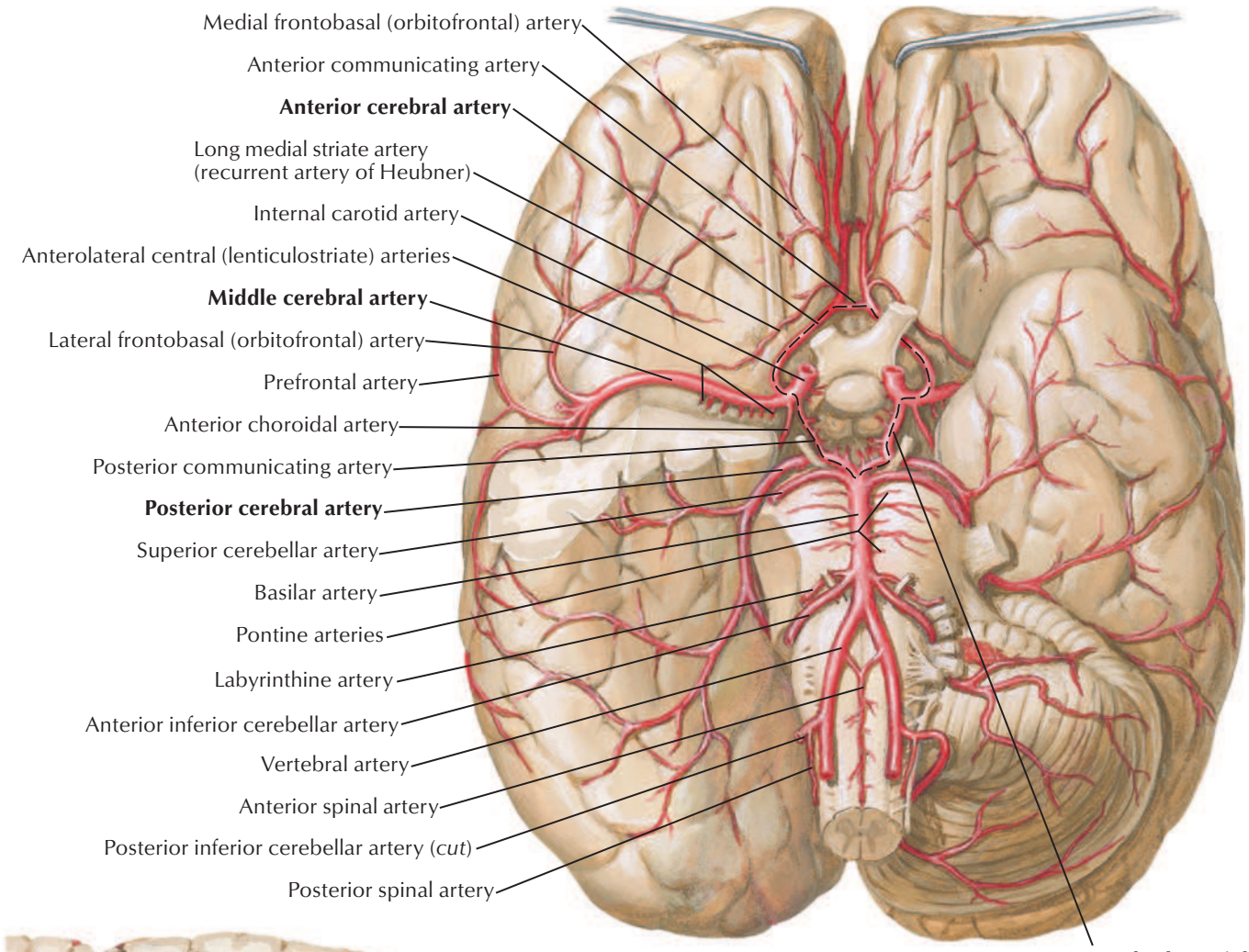


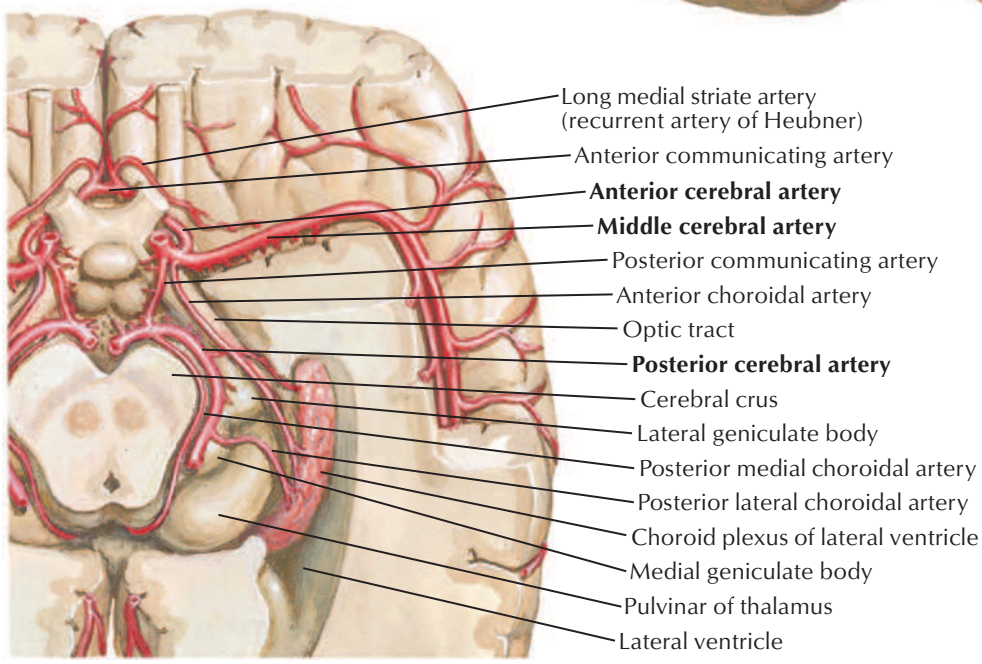
www.Booksmedicos06.com



////// facebook : Booksmedicos06

See also Plate 148

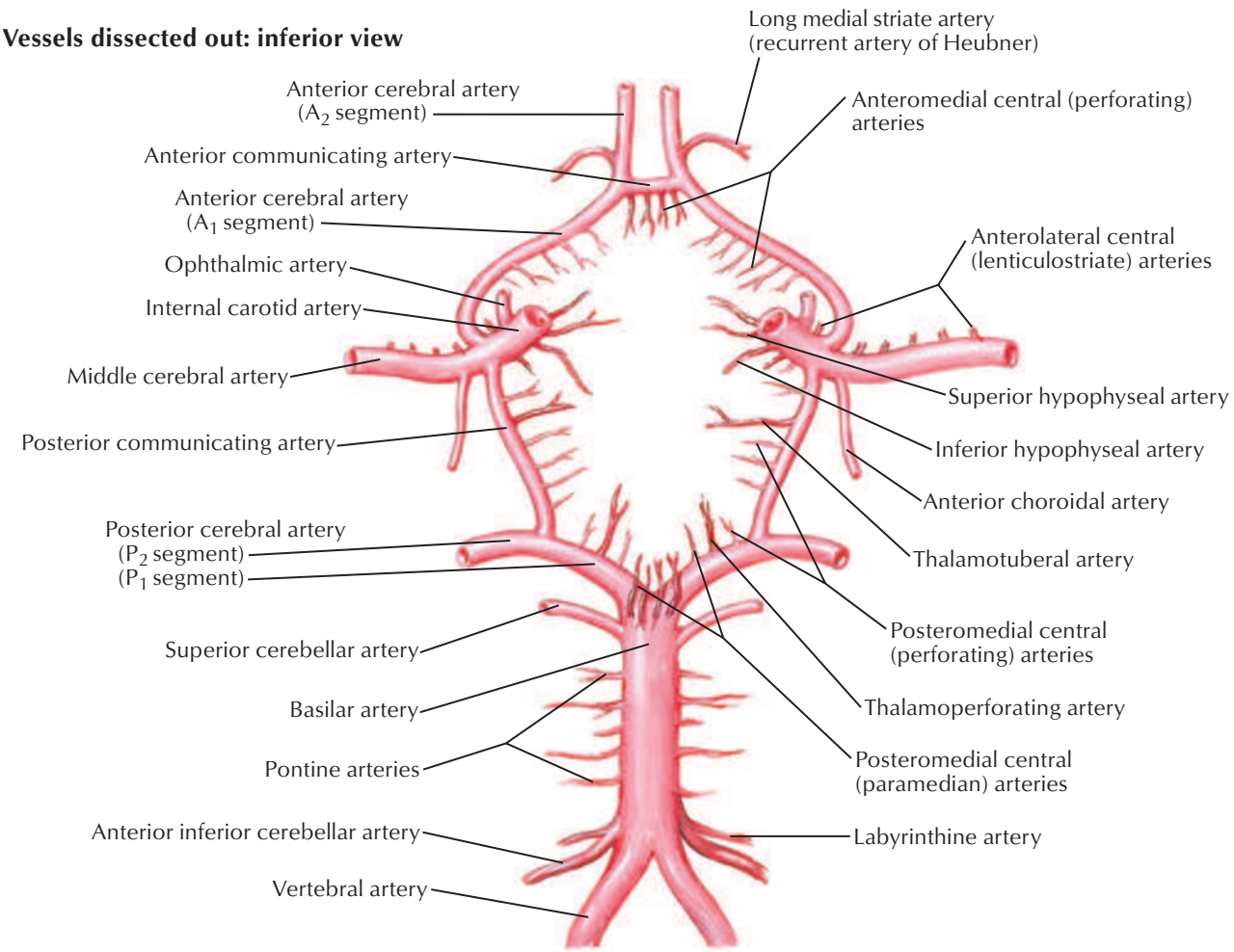




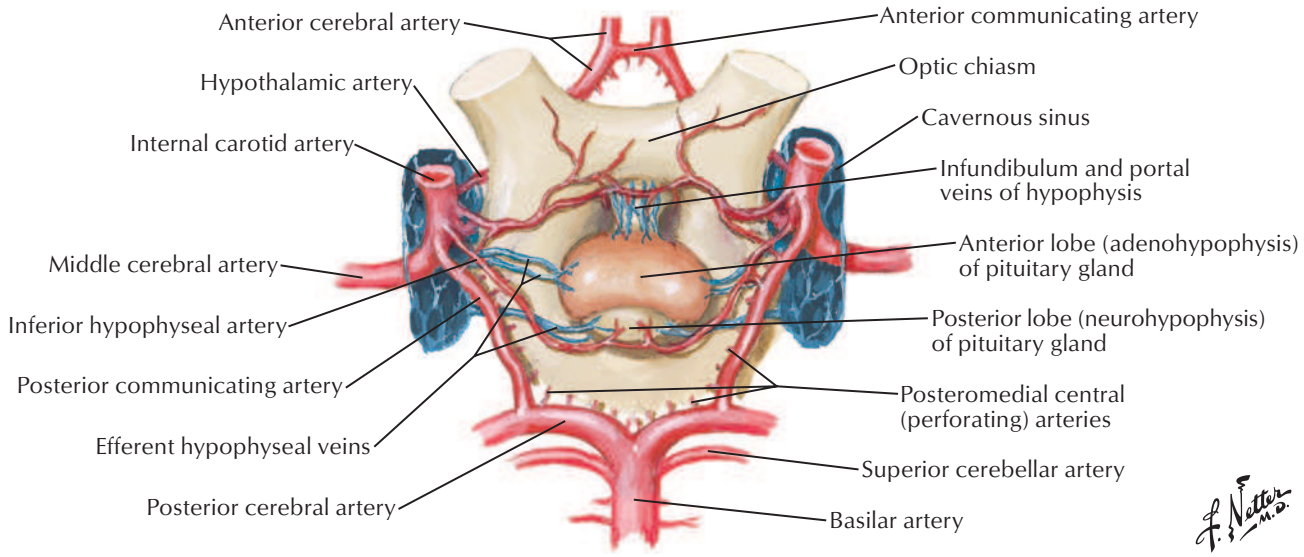
www.Booksmedicos06.com ////////

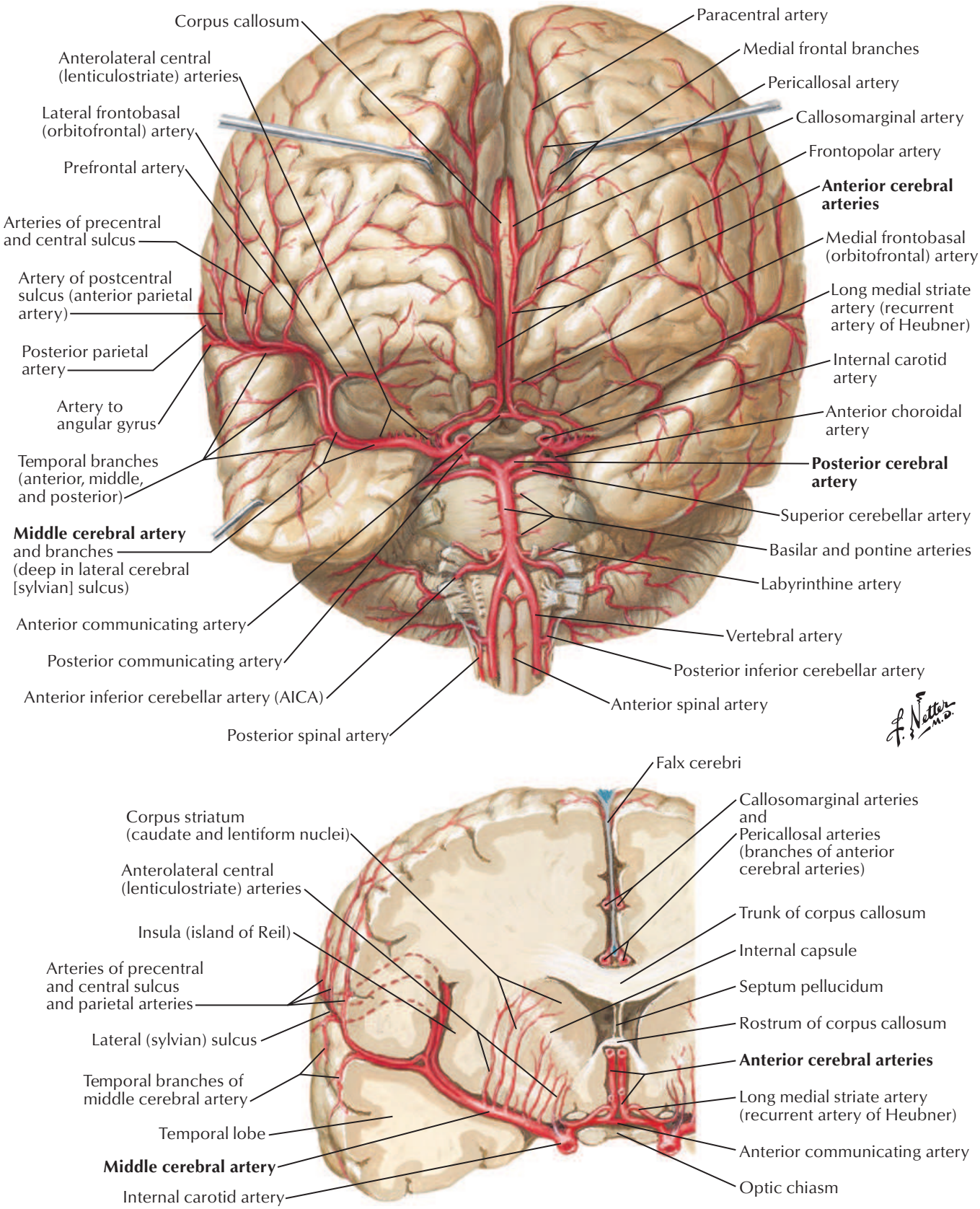
////// facebook : Booksmedicos06

Vessels dissected out: inferior view

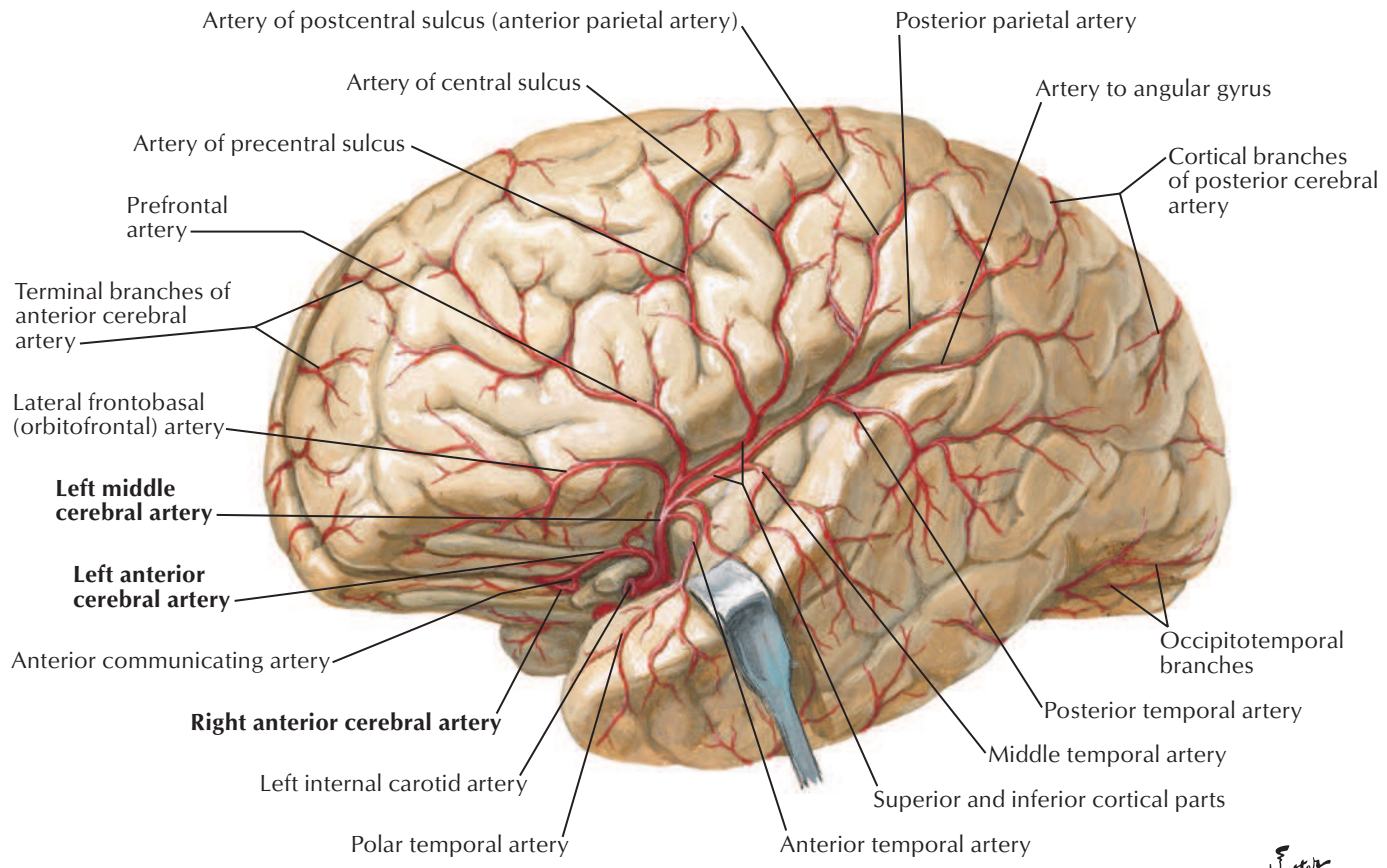


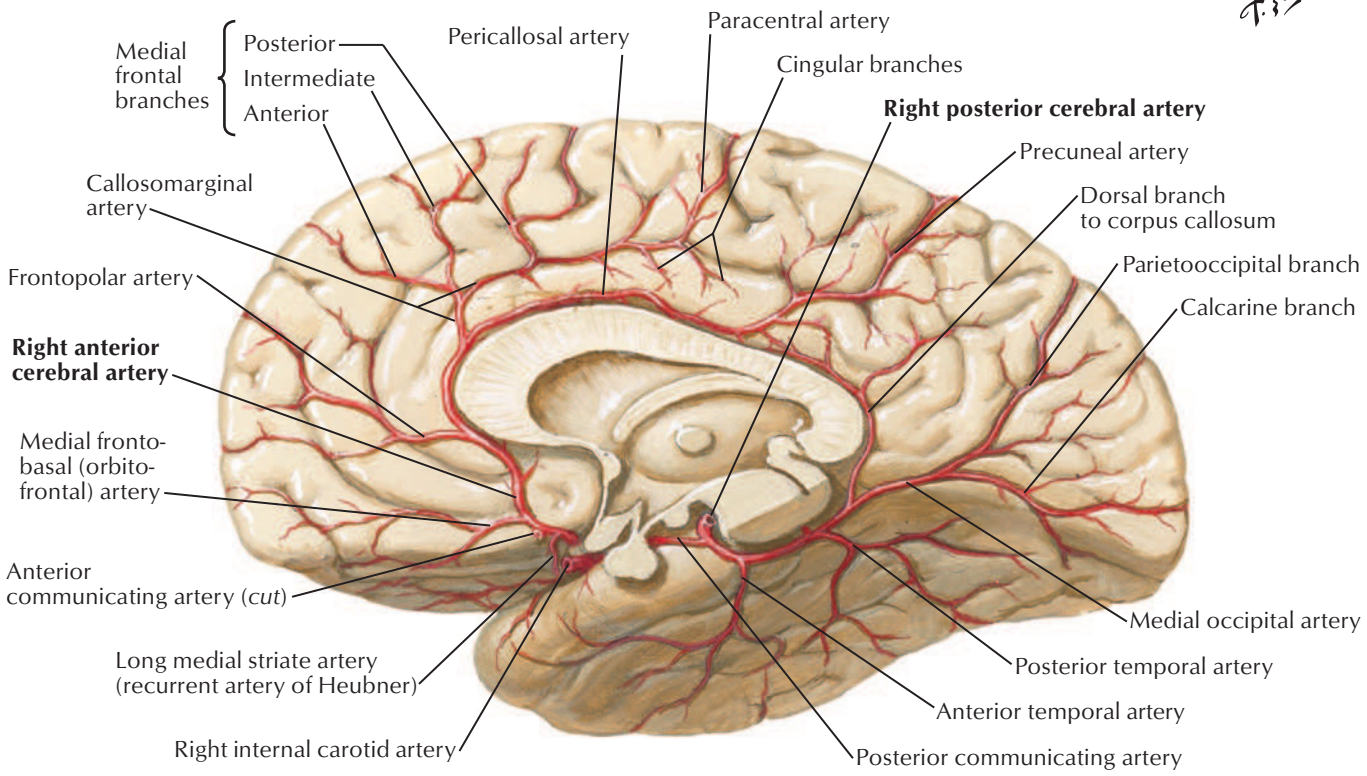
Vessels in situ: inferior view



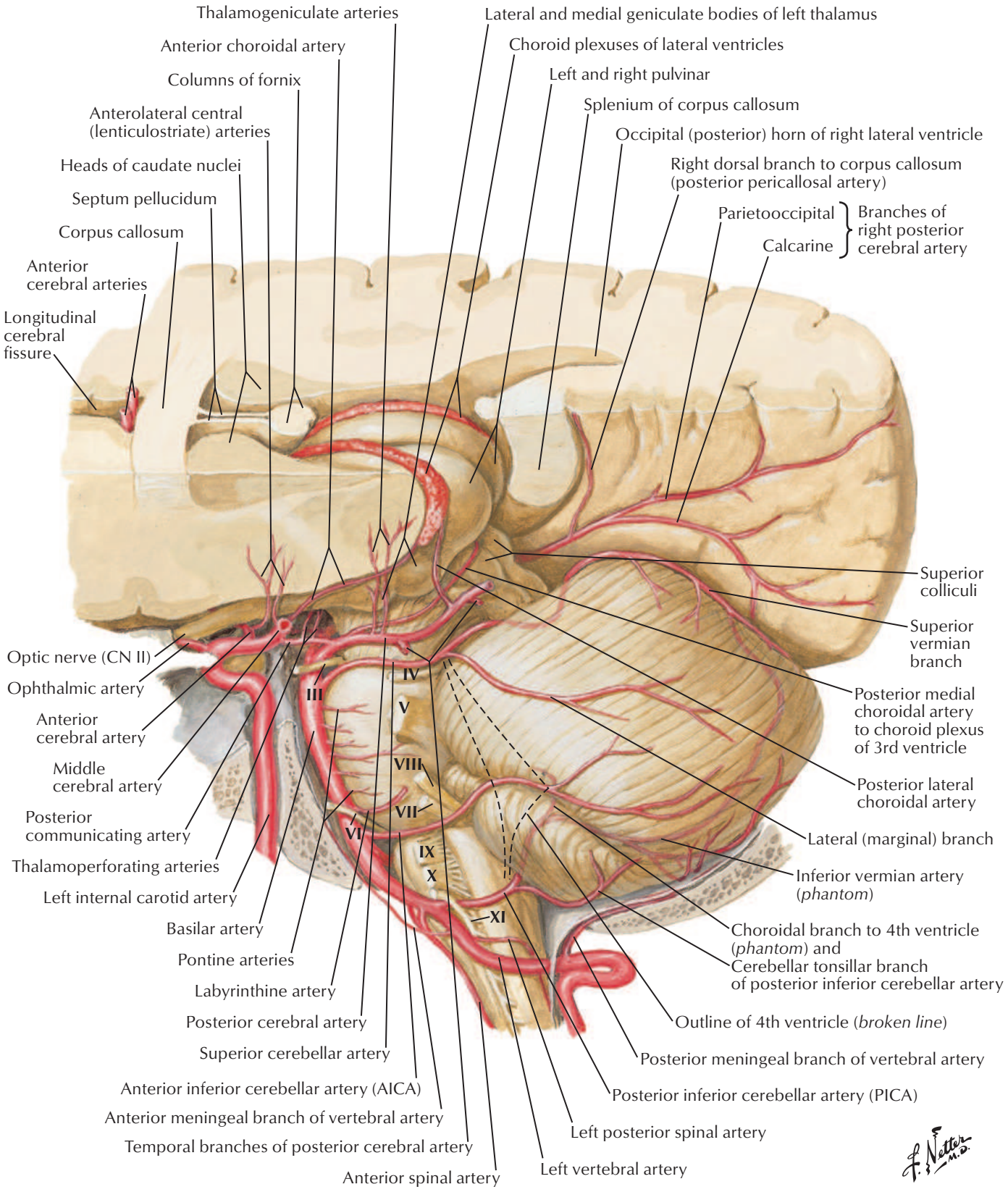


www.Booksmedicos06.com

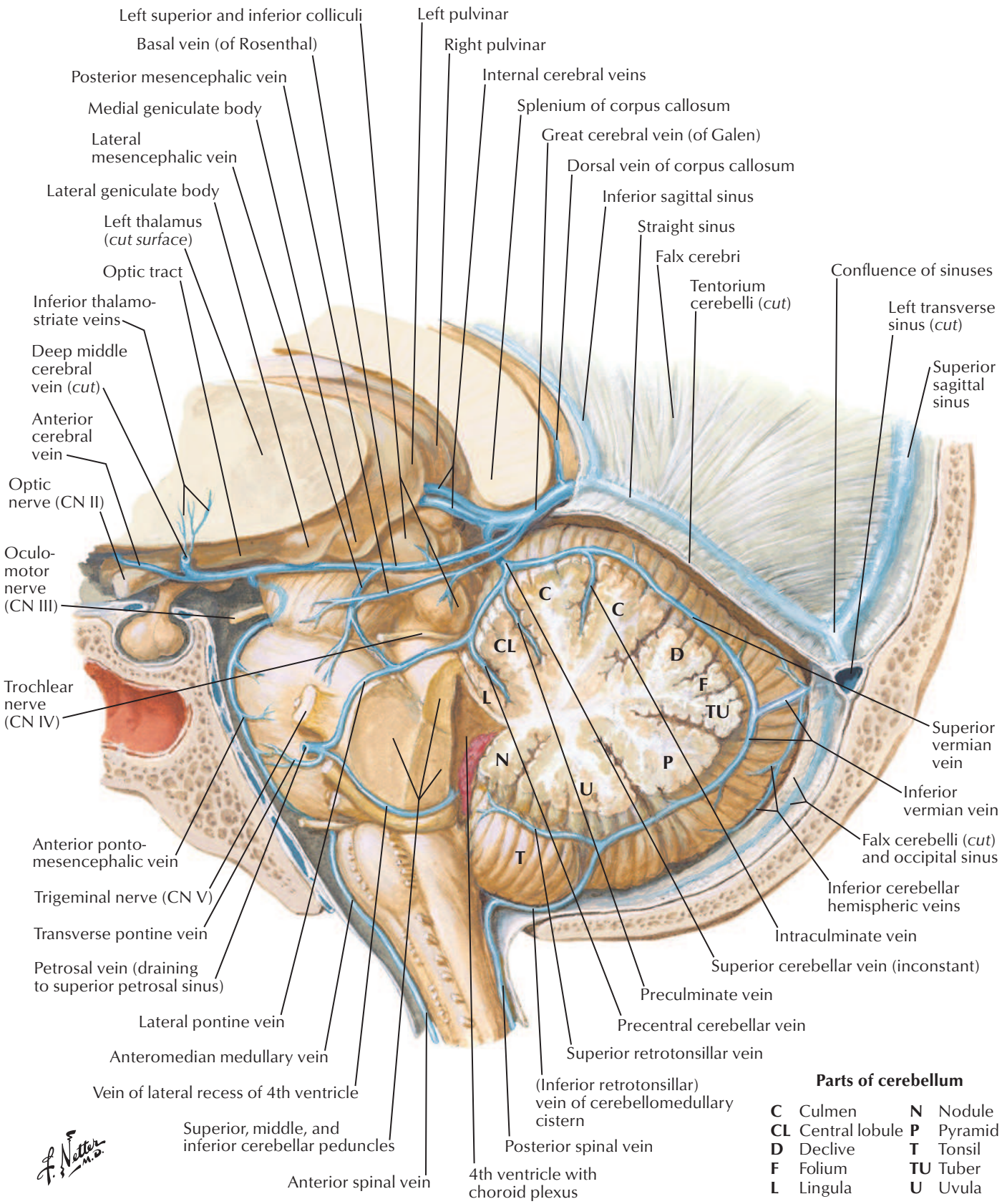




////// facebook : Booksmedicos06



www.Booksmedicos06.com

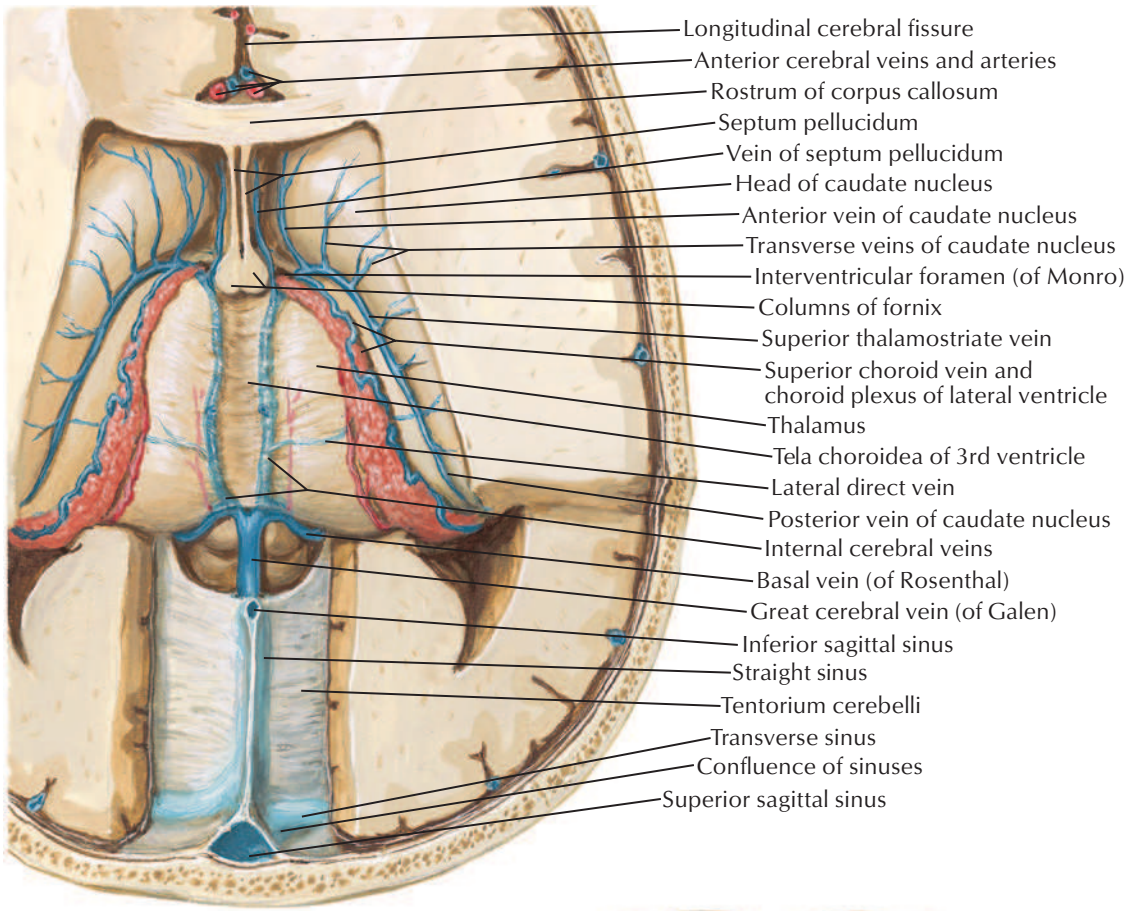


Parts of cerebellum

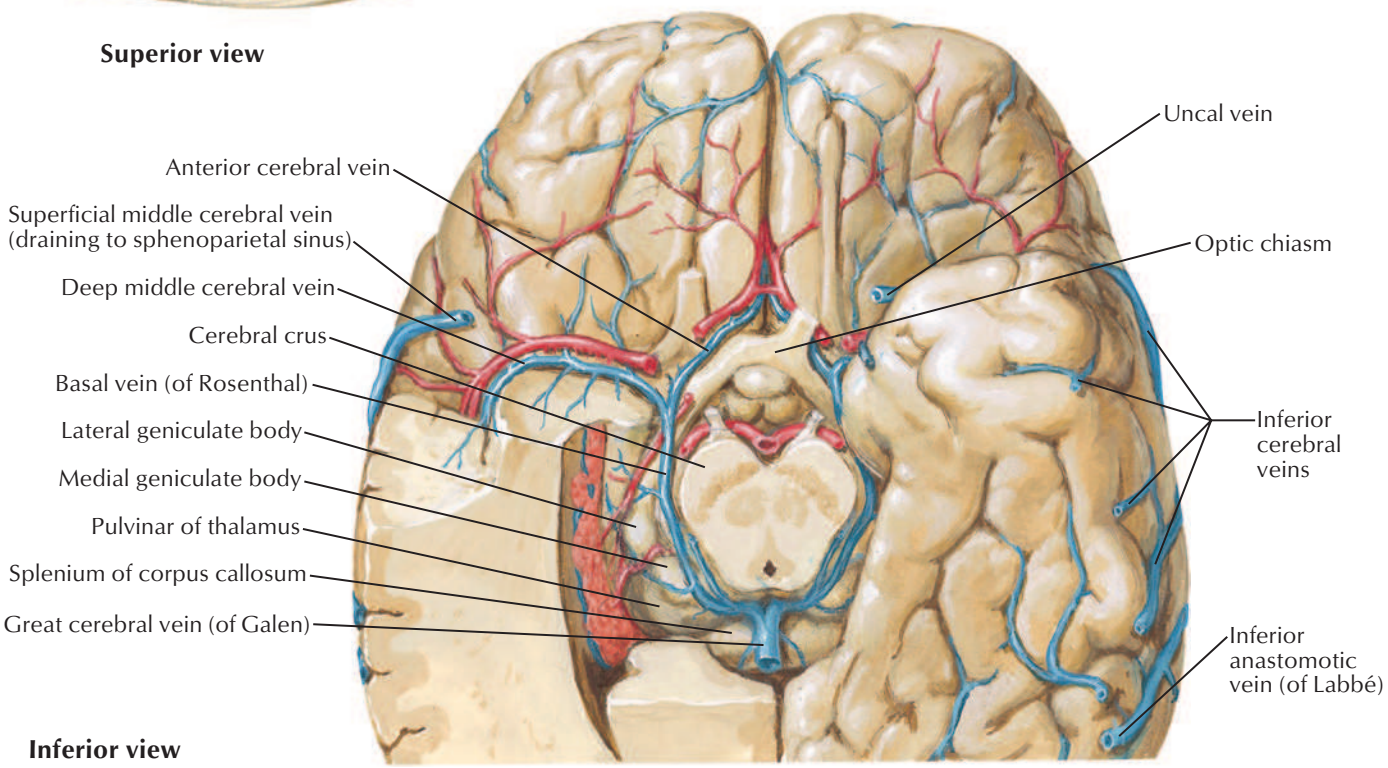
C	Culmen	**N**	Nodule
CL	Central lobule	**P**	Pyramid
D	Declive	**T**	Tonsil
F	Folium	**TU**	Tuber
L	Lingula	**U**	Uvula

////// facebook : Booksmedicos06

For superficial veins of brain see Plate 122

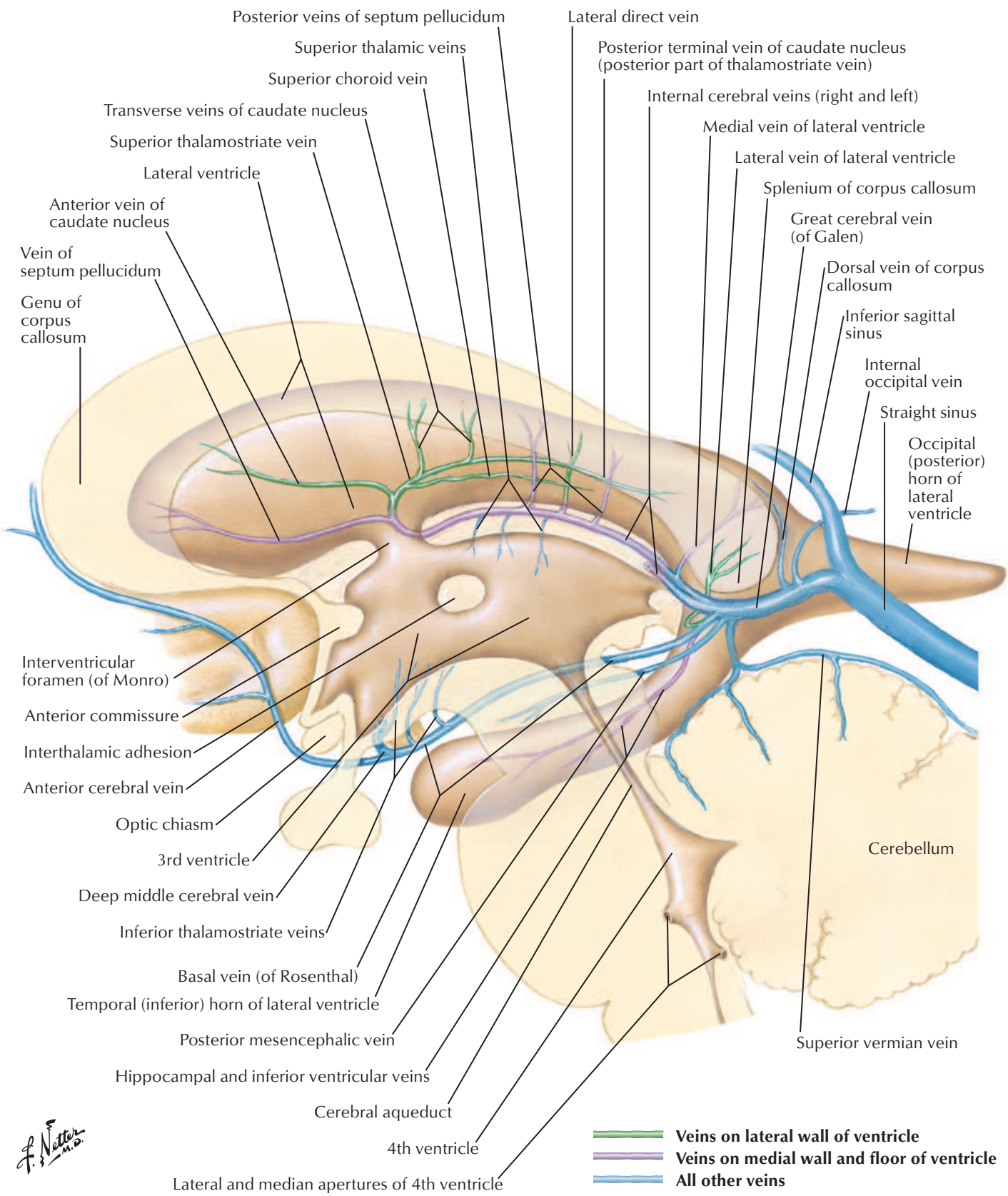


Superior view



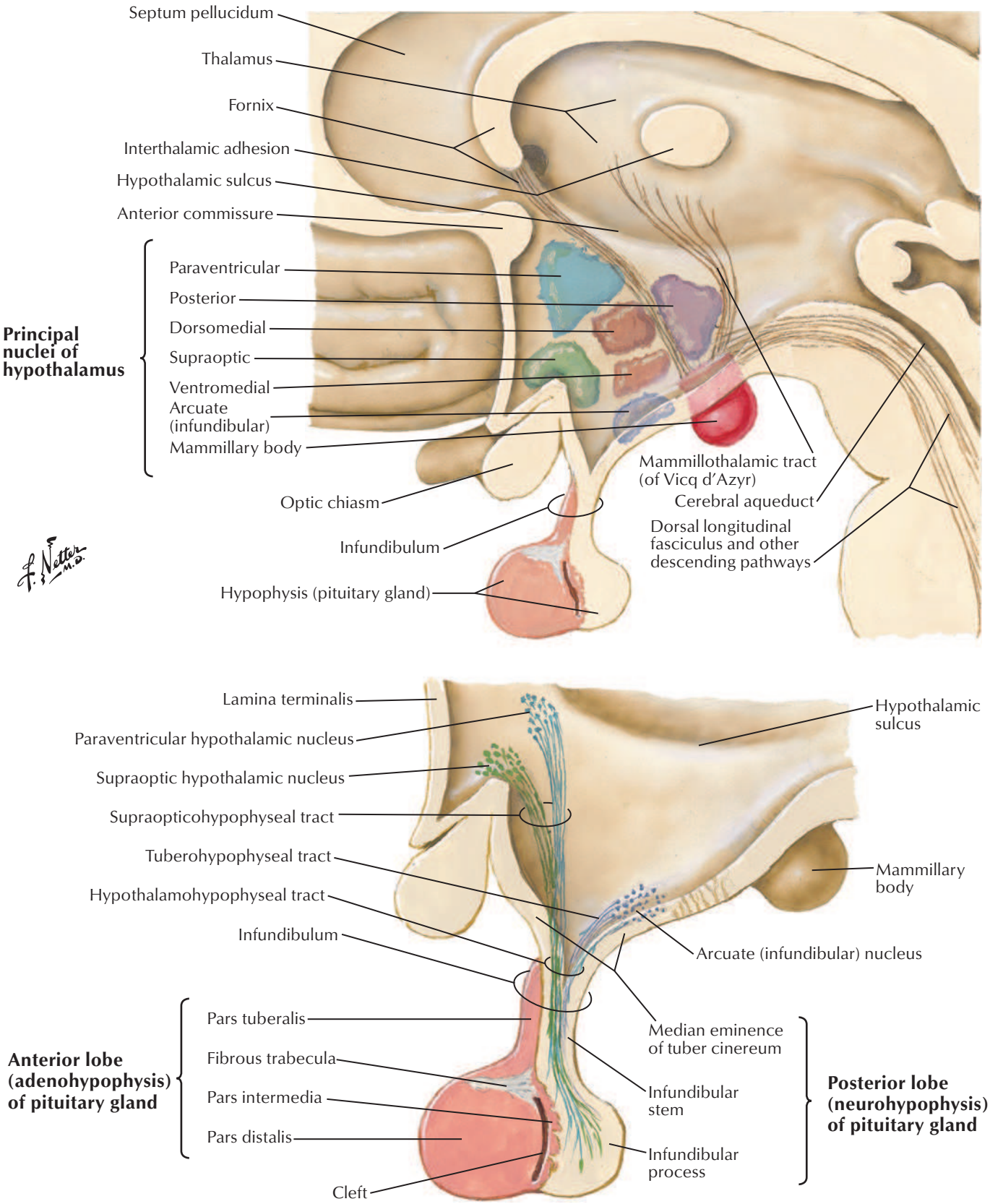
Inferior view

www.Booksmedicos06.com ////////



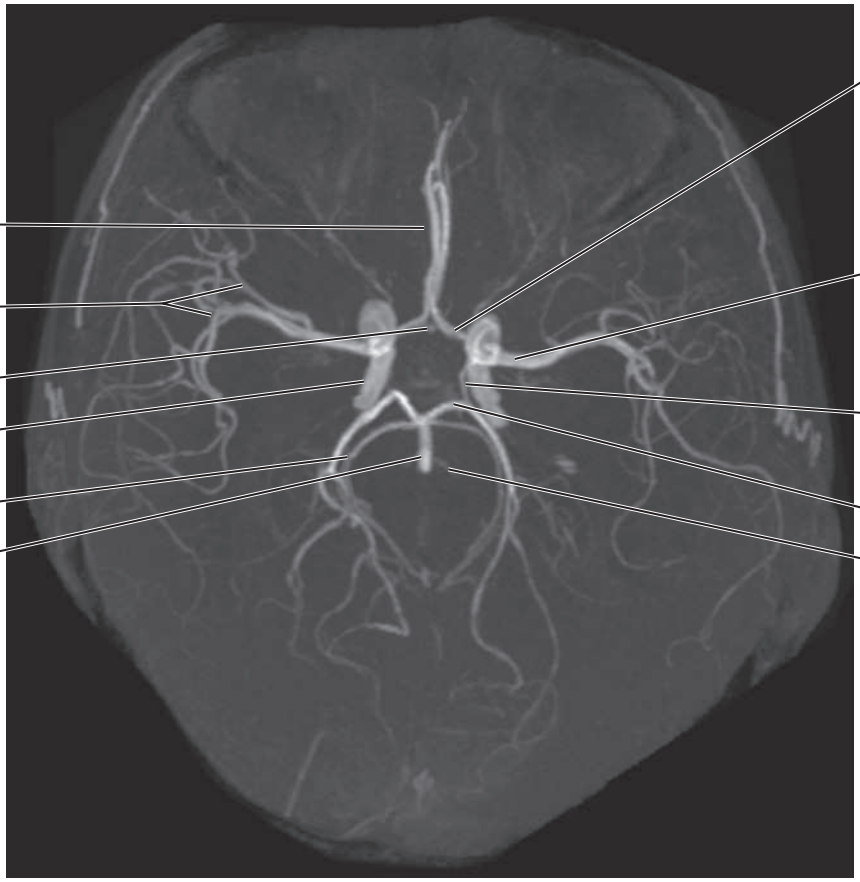
////// facebook : Booksmedicos06

See also Plate 117

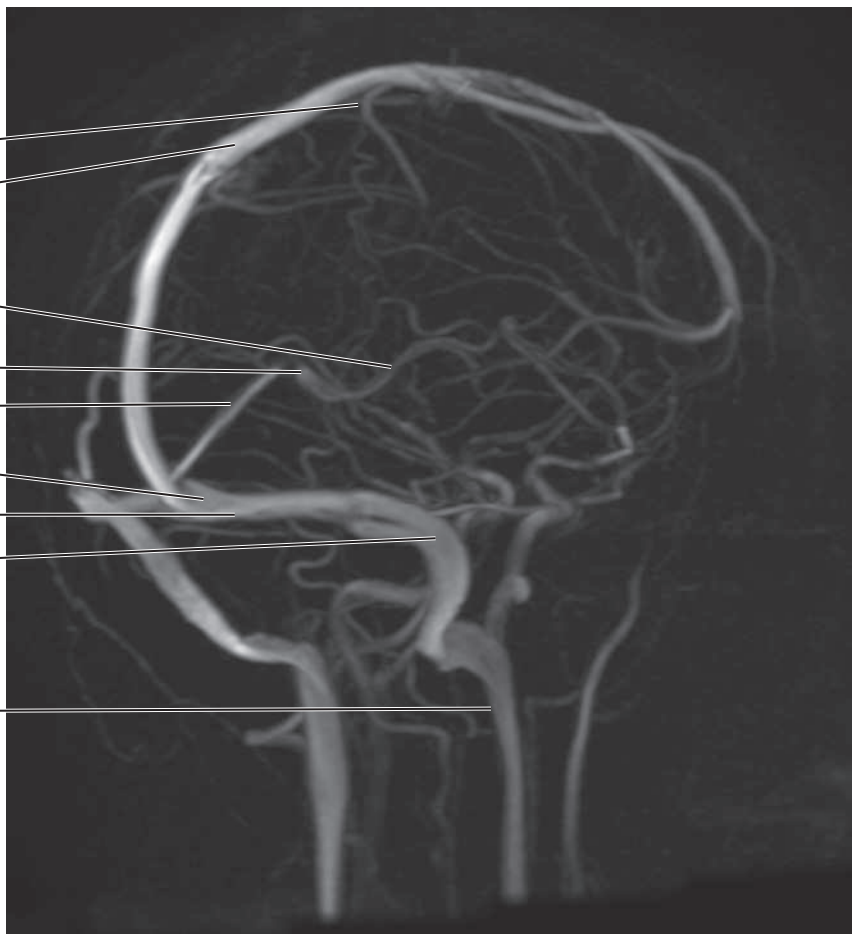


www.Booksmedicos06.com ///////

Magnetic resonance angiography (MRA) at level of circle of Willis (3D time-of-flight image without contrast)

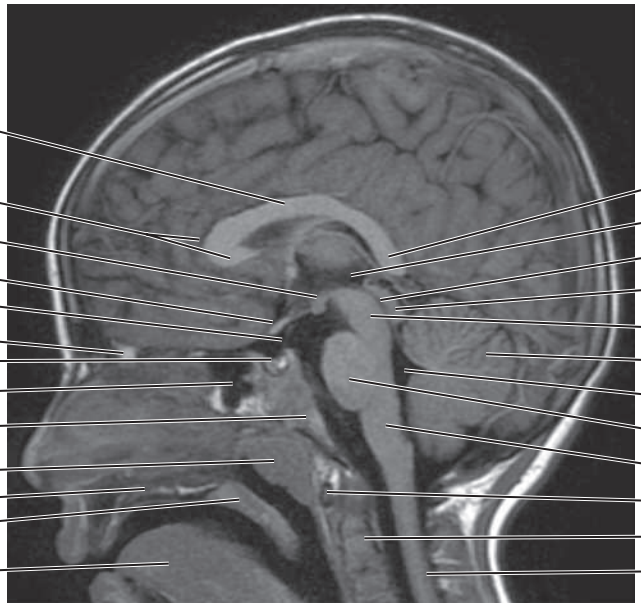


Magnetic resonance venography (MRV) (2D time-of-flight image without contrast)

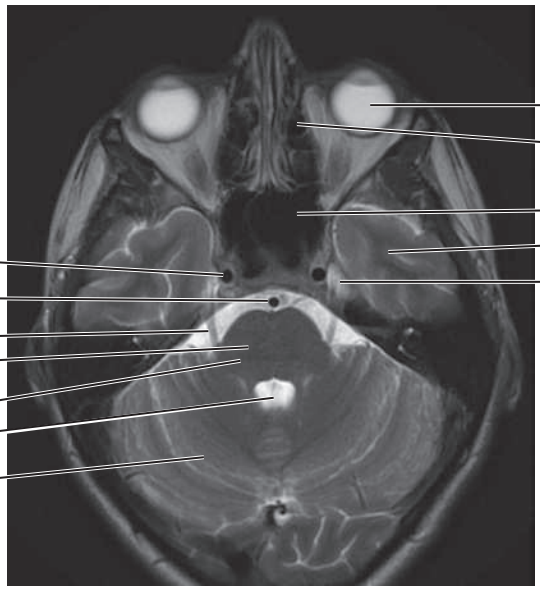


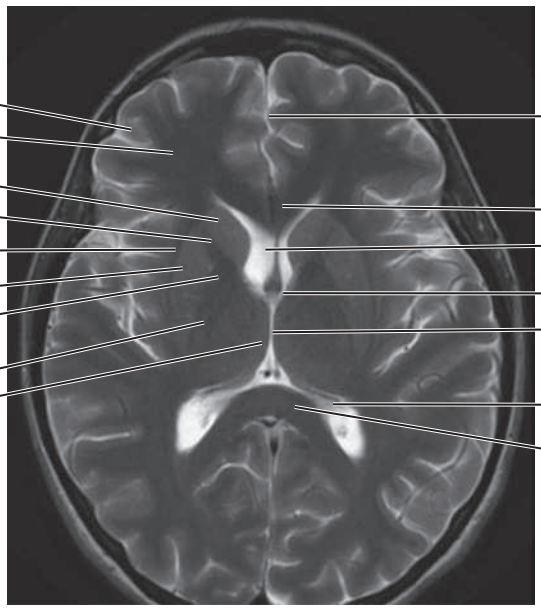
////// facebook : Booksmedicos06

T1-weighted MRI, sagittal view



T2-weighted, MRI axial views without contrast





www.Booksmedicos06.com ////////

////// facebook : Booksmedicos06

ANATOMIC STRUCTURES	CLINICAL IMPORTANCE	PLATE NUMBERS
SKELETAL SYSTEM		
Orbit	Direct trauma to eye may result in "blowout" fracture; margin remains intact, but medial and/or inferior walls of orbit have fractured	11, 50
Pterion	Weak area of skull that is common site of fracture	13
Temporomandibular joint	Temporomandibular disorders are common source of pain and joint dysfunction	25
Cervical vertebrae	Degenerative changes cause narrowing of intervertebral foramina that may cause cervical radiculopathy	26–28
Cervical vertebrae	Bilateral fracture of pars interarticularis of C2 (spondylolysis) results from hyperextension of head on neck and results in spondylolisthesis of C2 (hangman's fracture); fractures (common) are due to motor vehicle, snowmobile, and all-terrain vehicle accidents	26
Thyroid cartilage, cricoid cartilage	Palpable landmarks used for cricothyrotomy and tracheostomy	87, 90
Ear ossicles	Pathologic conditions involving ossicles (e.g., otosclerosis) can cause conductive hearing loss	105, 106
MUSCULAR SYSTEM		
Muscles of facial expression	Used to assess function of CN VII during cranial nerve examination; may become weak or paralyzed with CN VII dysfunction (e.g., Bell's palsy)	31, 134
Sternocleidomastoid muscle	Palpated to identify "nerve point of neck" for administration of anesthesia to cervical plexus	39
Sternocleidomastoid, trapezius muscles	Used to assess function of CN XI during cranial nerve examination	39, 138
Muscles of mastication	Used to assess function of CN V (V_3) during cranial nerve examination	55, 56
Levator veli palatini, musculus uvulae	Used to assess function of CN X during cranial nerve examination; contralateral deviation of uvula during elevation indicates CN X dysfunction	67
Genioglossus muscle	Used to assess CN XII function during cranial nerve examination; deviates to side of lesion when protruded following CN XII injury	70, 139
Levator palpebrae superioris, superior tarsal muscles	Muscles responsible for elevating eyelid; ptosis indicates pathologic change in CN III or sympathetics (superior tarsal muscle)	94, 96
Eye muscles	Used to assess function of CN III, CN IV, and CN VI during cranial nerve examination	96, 98
Dilator pupillae muscle	Important in assessment of sympathetic function in head; lack of dilation indicates interruption in sympathetic outflow (e.g., Horner's syndrome)	101, 132
Sphincter pupillae muscle	Involved in pupillary light reflex and accommodation reflex	101, 132
RESPIRATORY SYSTEM		
Paranasal sinuses	Cavities in skull; prone to mucosal inflammation due to bacterial or viral infection	49, 50
DIGESTIVE SYSTEM		
Parotid gland	Swelling of gland due to infection (e.g., mumps) may compress branches of facial nerve, producing facial muscle weakness	53, 54

ANATOMIC STRUCTURES	CLINICAL IMPORTANCE	PLATE NUMBERS
ENDOCRINE SYSTEM		
Thyroid gland	Common site of cancer; removed with thyroidectomy	87
NERVOUS SYSTEM		
Accessory nerve (CN XI)	Lymph node biopsy in posterior cervical triangle can cause iatrogenic injury of CN XI	39
Cervical plexus	Cervical plexus blocks are performed for neck procedures	39, 40
Trigeminal nerve (CN V)	Branches of CN V are anesthetized for procedures on face or anterior scalp	42, 133
Olfactory nerve (CN I)	One of most commonly injured cranial nerves; can be avulsed at cribriform plate following falls	46, 130
Facial nerve (CN VII)	Idiopathic unilateral facial nerve palsy (Bell's palsy) can result in inability to fully close eye and result in desiccated cornea ipsilaterally	54
Recurrent laryngeal nerve	May be compressed or damaged by procedures in neck (e.g., thyroidectomy), aortic arch aneurysm, or lung cancer, producing hoarseness of voice	88, 89
Oculomotor nerve (CN III), trochlear nerve (CN IV), and abducens nerve (CN VI)	Cavernous sinus thrombosis can result in dysfunction of extraocular muscles caused by compression of one, two, or all three nerves	115
Superior colliculus and cerebral aqueduct	Tumor of midbrain can result in compression of cerebral aqueduct, with resultant hydrocephalus	120
Optic nerve (CN II)	One early sign of growing pituitary gland mass is bitemporal hemianopsia	131, 151
Optic nerve (CN II)	One of first signs of ophthalmic artery aneurysm is visual loss due to compression of overlying optic nerve	148
CARDIOVASCULAR SYSTEM		
Right internal and external jugular veins	Examined to assess jugular venous pulse; internal jugular vein is preferred because it is in line with superior vena cava; external jugular vein may be used instead as the internal jugular vein is very difficult to visualize	38
Internal jugular vein, subclavian vein	Used to obtain venous access via insertion of central venous catheter	38, 84
Inferior thyroid artery	At risk during thyroidectomy; must be preserved to maintain blood supply to parathyroid glands	40, 88
Common carotid artery	Palpated in neck to assess carotid pulse; prone to atherosclerotic thickening of vessel wall	41
Anterior ethmoidal, sphenopalatine, and facial arteries	Anastomosis site of these vessels in nasal vestibule is common site of nosebleed (epistaxis)	47
Pterygoid venous plexus	Common route for spread of infection due to connections between face, orbit, and venous sinuses	84, 99
Ophthalmic artery	Primary source of blood to retina; blindness may occur if artery is occluded	99, 103
Arteries of scalp	Lacerations bleed profusely owing to rich blood supply; vessels do not retract in dense connective tissue layer of scalp	111
Superior cerebral veins	May be torn from their junction with superior sagittal sinus, producing subdural hematoma	112, 113, 114, 120

www.Booksmedicos06.com

ANATOMIC STRUCTURES	CLINICAL IMPORTANCE	PLATE NUMBERS
CARDIOVASCULAR SYSTEM—Continued		
Middle meningeal artery	Trauma to skull can tear middle meningeal artery, causing epidural hematoma	112
Dural venous sinuses	Infections in head may spread to sinuses, causing dural sinus thrombosis; cavernous sinus is most common site	114, 115
Cavernous sinus	Fistula (anastomosis) between internal carotid artery and cavernous sinus may form, especially following trauma	115, 151
Carotid sinus	Compressed during carotid sinus massage	141
Cerebral arterial circle of Willis	Common site of aneurysms; rupture produces subarachnoid hemorrhage	150
LYMPHATIC SYSTEM		
Thoracic duct	May be injured in neck at junction of internal jugular and subclavian veins	85
Superior and inferior deep nodes	Palpated during neck examination to assess size	85, 86

*Selections were based largely on clinical data and commonly discussed clinical correlations in gross anatomy courses.

////// facebook : Booksmedicos06

MUSCLE	MUSCLE GROUP	PROXIMAL ATTACHMENT (ORIGIN)	DISTAL ATTACHMENT (INSERTION)	INNERVATION	BLOOD SUPPLY	MAIN ACTIONS
Auricularis anterior	External ear	Temporal fascia, epicranial aponeurosis	Anterior part of medial surface of helix of ear	Posterior auricular and temporal branches of facial nerve	Auricular branch of posterior auricular artery, parietal branch of superficial temporal artery	Elevates and draws auricle forward
Auricularis posterior	External ear	Base of mastoid process	Lower part of cranial surface of auricle	Posterior auricular and temporal branches of facial nerve	Auricular branch of posterior auricular artery, parietal branch of superficial temporal artery	Retracts and elevates auricle
Auricularis superior	External ear	Temporal fascia, epicranial aponeurosis	Upper part of medial surface of auricle	Posterior auricular and temporal branches of facial nerve	Auricular branch of posterior auricular artery, parietal branch of superficial temporal artery	Retracts and elevates auricle
Buccinator	Facial expression	Posterior portion of alveolar process of maxillary bone and mandible opposite sockets of molar teeth, anterior border of pterygomandibular raphe	Angle of mouth	Buccal branches of facial nerve	Muscular branches of facial artery, buccal branch of maxillary artery	Compresses cheeks, expels air between lips, aids in mastication
Ciliary	Intrinsic eye	Corneoscleral junction	Ciliary body	Parasympathetic fibers via short ciliary nerves (CN III)	Ophthalmic artery	Constricts ciliary body and lens rounds up (accommodation)
Corrugator supercilii	Facial expression	Medial part of supraorbital margin	Skin of medial half of eyebrow	Zygomatic and temporal branches of facial nerve	Zygomatic and anterior branches of superficial temporal artery	Draws eyebrows downward and medially, produces vertical wrinkles of skin between eyebrows
Cricothyroid	Laryngeal	Anterior cricoid cartilage	Inferior border of thyroid cartilage and its inferior horn	External branch of superior laryngeal nerve	Superior and inferior thyroid arteries	Lengthens and tenses vocal ligaments
Depressor anguli oris	Facial expression	Continuous with platysma muscle on oblique line of mandible	Angle of mouth into orbicularis oris muscle and skin	Mandibular and buccal branches of facial nerve	Inferior labial artery of facial artery	Depresses angle of mouth
Depressor labii inferioris	Facial expression	Lateral surface of mandible between symphysis and mental foramen deep to depressor anguli oris	Skin to lower lip, mingling with orbicularis oris muscle, medial fibers joining those of opposite side	Mandibular and buccal branches of facial nerve	Inferior labial artery of facial artery	Depresses lower lip and draws it lateralward
Depressor septi nasi	Facial expression	Incisive fossa of maxillary bone	Septum and posterior part of ala of nose	Zygomatic and buccal branches of facial nerve	Superior labial artery of facial artery	Narrows nostril, draws septum downward
Digastric	Suprahyoid	*Anterior belly:* digastric fossa of mandible *Posterior belly*: mastoid notch of temporal bone	Intermediate tendon attached to body of hyoid	*Anterior belly:* nerve to mylohyoid muscle *Posterior belly:* facial nerve	*Anterior belly:* branches of submental artery *Posterior belly:* muscular branches of posterior auricular artery, muscular branches of occipital artery	Raises hyoid bone and base of tongue, steadies hyoid bone, opens mouth by lowering mandible
Dilator pupillae	Intrinsic eye	Radial fibers in iris	Blends with sphincter pupillae fibers	Sympathetic fibers from superior cervical ganglion	Ophthalmic artery	Dilates pupil
Frontal belly of occipitofrontalis	Facial expression	Epicranial aponeurosis at level of coronal suture	Skin of frontal region, epicranial aponeurosis	Temporal branches of facial nerve	Frontal branch of superficial temporal artery	Horizontally wrinkles skin of forehead, raises eyebrows
Genioglossus	Extrinsic tongue	Mental spine of mandible	Dorsum of tongue, hyoid bone	Hypoglossal nerve (CN XII)	Sublingual and submental arteries	Depresses and protrudes tongue

Variations in spinal nerve contributions to the innervation of muscles, their arterial supply, their attachments, and their actions are common themes in human anatomy. Therefore, expect differences between texts and realize that anatomical variation is normal.

www.Booksmedicos06.com

MUSCLE	MUSCLE GROUP	PROXIMAL ATTACHMENT (ORIGIN)	DISTAL ATTACHMENT (INSERTION)	INNERVATION	BLOOD SUPPLY	MAIN ACTIONS
Geniohyoid	Suprahyoid	Inferior genial tubercle on back of symphysis of mandible	Anterior surface of body of hyoid bone	Branch of C1 through hypoglossal nerve (CN XII)	Sublingual branch of lingual artery	Elevates hyoid bone and depresses mandible
Hyoglossus	Extrinsic tongue	Body and greater horn of hyoid bone	Lateral and inferior aspect of tongue	Hypoglossal nerve (CN XII)	Sublingual and submental arteries	Depresses and retracts tongue
Inferior longitudinal lingual muscle	Intrinsic tongue	Under surface of tongue between genioglossus and hyoglossus	Apex of tongue blending with styloglossus	Hypoglossal nerve (CN XII)	Deep lingual branch of lingual artery, branches from facial artery	Shortens tongue, turns tip and sides downward
Inferior oblique	Extraocular; eyelid	Anterior floor of orbit lateral to nasolacrimal canal	Lateral sclera deep to lateral rectus muscle	Oculomotor nerve (CN III), inferior division	Ophthalmic artery	Abducts, elevates, and laterally rotates eyeball
Inferior pharyngeal constrictor	Circular pharyngeal	Oblique line of thyroid cartilage and cricoid cartilage	Median raphe of pharynx	Vagus nerve via pharyngeal plexus	Ascending pharyngeal artery, branches of superior thyroid artery	Constricts wall of pharynx during swallowing
Inferior rectus	Extraocular; eyelid	Common tendinous ring	Inferior aspect of eyeball, posterior to corneoscleral junction	Oculomotor nerve (CN III), inferior division	Ophthalmic artery	Depresses, adducts, and laterally rotates eyeball
Lateral cricoarytenoid	Laryngeal	Arch of cricoid cartilage	Muscular process of arytenoid cartilage	Recurrent laryngeal nerve	Superior and inferior thyroid arteries	Adducts vocal folds
Lateral pterygoid	Mastication	*Superior head:* infratemporal surface of greater wing of sphenoid bone *Inferior head:* lateral pterygoid plate	Pterygoid fovea, capsule of temporomandibular joint, articular disc	Mandibular nerve (CN V_3)	Muscular branches of maxillary artery	*Bilaterally:* protrudes mandible *Unilaterally and alternately:* produces side-to-side grinding
Lateral rectus	Extraocular; eyelid	Common tendinous ring	Lateral aspect of eyeball, posterior to corneoscleral junction	Abducens nerve (CN VI)	Ophthalmic artery	Abducts eyeball
Levator anguli oris	Facial expression	Canine fossa of maxillary bone immediately below infra-orbital foramen and under cover of zygomatic head of levator labii superioris	Angle of mouth; fibers intermingle with orbicularis oris, depressor anguli oris, zygomaticus	Zygomatic and buccal branches of facial nerve	Superior labial artery of facial artery	Elevates angle of mouth
Levator labii superioris alaeque nasi	Facial expression	Upper part of frontal process of maxillary bone	Into major alar cartilage, skin of nose, lateral upper lip	Zygomatic and buccal branches of facial nerve	Superior labial artery and angular branches of facial artery	Elevates upper lip and dilates nostril
Levator labii superioris	Facial expression	Maxillary bone above infraorbital foramen	Skin of upper lip	Zygomatic and buccal branches of facial nerve	Superior labial artery and angular branches of facial artery	Elevates upper lip, dilates nares
Levator palpebrae superioris	Extraocular; eyelid	Lesser wing of sphenoid bone, anterior to optic canal	Superior tarsal plate	Oculomotor nerve (CN III), superior division	Ophthalmic artery	Raises upper eyelid
Levator veli palatini	Palatal	Temporal bone (petrous portion) and auditory tube	Palatine aponeurosis	Vagus nerve via pharyngeal plexus	Ascending palatine artery branch of facial artery, descending palatine artery branch of maxillary artery	Elevates soft palate during swallowing

/////// facebook : Booksmedicos06

MUSCLE	MUSCLE GROUP	PROXIMAL ATTACHMENT (ORIGIN)	DISTAL ATTACHMENT (INSERTION)	INNERVATION	BLOOD SUPPLY	MAIN ACTIONS
Longus capitis	Anterior vertebral	Anterior tubercles of transverse processes of C3–C6	Inferior surface of basilar part of occipital bone	Anterior rami of cervical nerves (C1–C3)	Ascending cervical branch of inferior thyroid artery, ascending pharyngeal artery, muscular branches of vertebral artery	Flexes head
Longus colli	Anterior vertebral	*Vertical portion:* C5–T3 vertebrae *Inferior oblique portion:* T1–T3 vertebrae *Superior oblique portion*: anterior tubercles of transverse processes of C3–C5 vertebrae	*Vertical portion:* into C2–C4 vertebrae *Inferior oblique portion*: on anterior tubercles of transverse processes of C3–C6 vertebrae *Superior oblique portion:* tubercle of anterior arch of atlas	Anterior primary rami of cervical nerves (C2–C8)	Prevertebral branches of ascending pharyngeal artery, muscular branches of ascending cervical and vertebral arteries	*Bilaterally*: flex and assist in rotating cervical vertebrae and head *Unilaterally:* flexes vertebral column laterally
Masseter	Mastication	Zygomatic arch	Ramus of mandible, coronoid process	Mandibular nerve (CN V_3), via masseteric nerve	Transverse facial artery; masseteric branch of maxillary and facial arteries	Elevates and protrudes mandible; deep fibers retract it
Medial pterygoid	Mastication	Medial surface of lateral plate of pterygoid, pyramidal process of palatine bone, maxillary tuberosity	Medial surface of ramus and angle of mandible inferior to mandibular foramen	Mandibular nerve (V_3), nerve to medial pterygoid muscle	Facial and maxillary arteries	*Bilaterally:* protrudes and elevates mandible *Unilaterally and alternately:* produces side-to-side movements
Medial rectus	Extraocular; eyelid	Common tendinous ring	Medial aspect of eyeball, posterior to corneoscleral junction	Oculomotor nerve (CN III), inferior division	Ophthalmic artery	Adducts eyeball
Mentalis	Facial expression	Incisive fossa of mandible	Skin of chin	Marginal mandibular branch of facial nerve	Inferior labial artery of facial artery	Raises and protrudes lower lip
Middle pharyngeal constrictor	Circular pharyngeal	Stylohyoid ligament and horns of hyoid bone	Median raphe of pharynx	Vagus nerve via pharyngeal plexus	Ascending pharyngeal artery, ascending palatine and tonsillar branches of facial artery, dorsal lingual branches of lingual artery	Constricts wall of pharynx during swallowing
Musculus uvulae	Palatal	Nasal spine, palatine aponeurosis	Mucosa of uvula of the palate	Vagus nerve via pharyngeal plexus	Ascending palatine artery branch of facial artery, descending palatine artery branch of maxillary artery	Shortens, elevates, and retracts uvula of the palate
Mylohyoid	Suprahyoid	Mylohyoid line of mandible	Median raphe and body of hyoid bone	Nerve to mylohyoid muscle	Sublingual branch of lingual artery, submental branch of facial artery	Elevates hyoid bone, base of tongue, floor of mouth; depresses mandible
Nasalis	Facial expression	Canine eminence above and lateral to incisive fossa of maxillary bone	Aponeurosis on nasal cartilages	Zygomatic and buccal branches of facial nerve	Superior labial, septal, and lateral nasal branches of facial artery	Draws ala of nose toward nasal septum, compresses nostrils; alar part opens nostrils
Occipital belly (occipitofrontalis) muscle	Facial expression	Lateral 2/3 of superior nuchal line and mastoid process	Skin of occipital region, epicranial aponeurosis	Posterior auricular nerve of facial nerve	Occipital branch of posterior auricular artery, descending branch of occipital artery	Moves scalp backward

www.Booksmedicos06.com ///////

MUSCLE	MUSCLE GROUP	PROXIMAL ATTACHMENT (ORIGIN)	DISTAL ATTACHMENT (INSERTION)	INNERVATION	BLOOD SUPPLY	MAIN ACTIONS
Omohyoid	Infrahyoid	*Inferior belly:* from upper border of scapula and superior transverse scapular ligament, ending in intermediate tendon *Superior belly:* from this tendon	*Inferior belly:* to intermediate tendon *Superior belly:* to body of hyoid bone	Ansa cervicalis	Hyoid branch of lingual artery, sternocleidomastoid branch of superior thyroid artery	Steadies hyoid bone and depresses hyoid
Orbicularis oculi	Facial expression	Medial orbital margin, palpebral ligament, lacrimal bone	Skin around orbit, palpebral ligament, upper and lower eyelids	Facial nerve (CN VII)	Facial and superficial temporal arteries	Closes eyelids
Orbicularis oris	Facial expression	Maxillary bone above incisor teeth	Skin around lips	Zygomatic, buccal, and mandibular branches of facial nerve	Inferior and superior labial branches of facial artery	Compression, contraction, and protrusion of lips
Palatoglossus	Palatal	Palatine aponeurosis of soft palate	Lateral aspect of tongue	Vagus nerve via pharyngeal plexus	Ascending pharyngeal arteries, palatine branches of facial and maxillary arteries	Elevates posterior tongue, depresses palate
Palatopharyngeus	Longitudinal pharyngeal	Hard palate, superior palatine aponeurosis	Lateral pharyngeal wall	Vagus nerve via pharyngeal plexus	Ascending palatine artery branch of facial artery, descending palatine artery branch of maxillary artery	Tenses soft palate; pulls walls of pharynx superiorly, anteriorly, and medially during swallowing
Platysma	Facial expression	Skin below clavicle, upper thorax	Mandible, oral muscles	Facial nerve	Submental and suprascapular arteries	Tenses skin of neck
Posterior cricoarytenoid	Laryngeal	Posterior surface of lamina of cricoid cartilage	Muscular process of arytenoid cartilage	Recurrent laryngeal nerve	Superior and inferior thyroid arteries	Abducts vocal folds
Procerus	Facial expression	Fascia covering lower parts of nasal bone and upper part of lateral nasal cartilage	Skin between and above eyebrows	Temporal and zygomatic branches of facial nerve	Angular and lateral nasal branches of facial artery	Draws down medial angle of eyebrows, produces transverse wrinkles over bridge of nose
Rectus capitis anterior	Anterior vertebral	Lateral mass of atlas	Base of occipital bone in front of foramen magnum	Anterior rami of cervical nerves (C1–C2)	Muscular branches of vertebral artery, ascending pharyngeal artery	Flexes head
Rectus capitis lateralis	Anterior vertebral	Upper surface of transverse process of atlas	Inferior surface of jugular process of occipital bone	Anterior rami of cervical nerves (C1–C2)	Muscular branches of vertebral artery, occipital artery, ascending pharyngeal artery	Flexes head laterally to same side
Risorius	Facial expression	Fascia over masseter muscle superficial to platysma muscle	Skin at angle of mouth	Zygomatic and buccal branches of facial nerve	Superior labial artery of facial artery	Retracts angle of mouth
Salpingopharyngeus	Longitudinal pharyngeal	Pharyngotympanic (auditory, eustachian) tube	Side of pharyngeal wall	Vagus nerve via pharyngeal plexus	Pharyngeal branch of ascending pharyngeal artery	Elevates pharynx and larynx during swallowing and speaking
Scalenus anterior	Lateral vertebral	Anterior tubercles of transverse processes of C3–C6	Scalene tubercle on 1st rib	Anterior rami of cervical nerves (C5–C8)	Ascending cervical branch of inferior thyroid artery	Elevates 1st rib, bends neck
Scalenus medius	Lateral vertebral	Posterior tubercles of transverse processes of C2–C7	Upper surface of 1st rib (behind subclavian groove)	Anterior rami of cervical nerves (C3–C7)	Muscular branches of ascending cervical artery	Elevates 1st rib, bends neck
Scalenus posterior	Lateral vertebral	Posterior tubercles of transverse processes of C4–C6	Outer surface of 2nd rib	Anterior rami of cervical nerves (C5–C8)	Muscular branches of ascending cervical division of inferior thyroid artery, superficial branch of transverse cervical artery	Elevates 2nd rib, bends neck

Table 2.7

////// facebook : Booksmedicos06

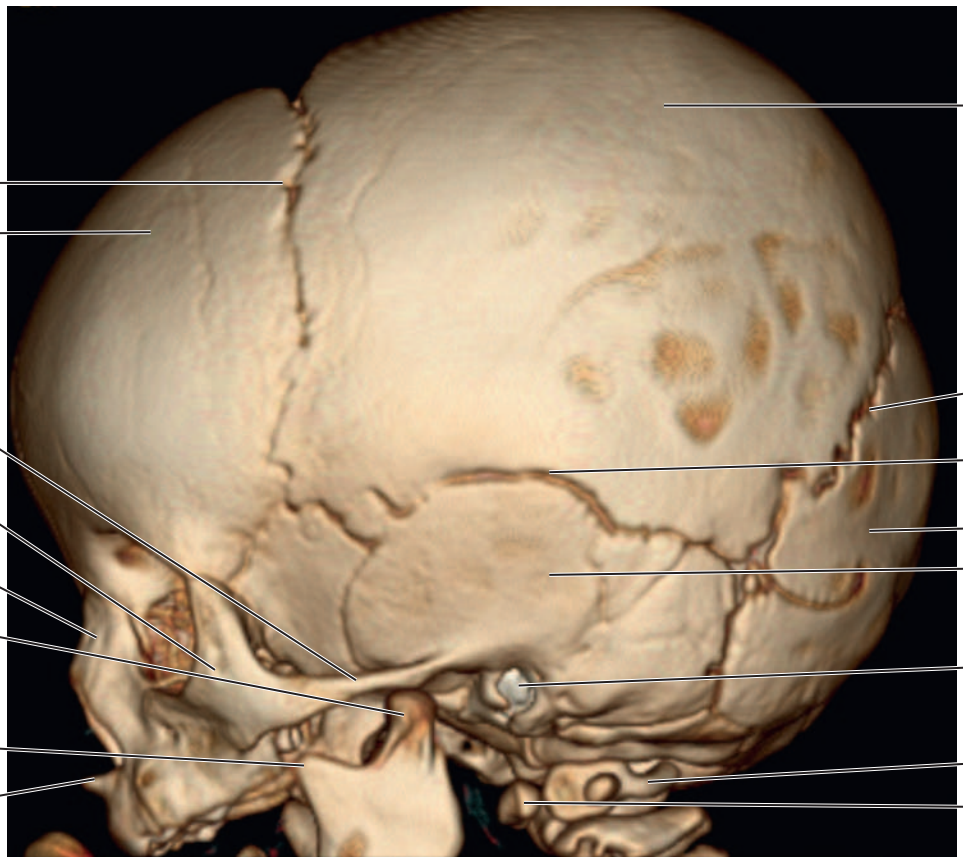
MUSCLE	MUSCLE GROUP	PROXIMAL ATTACHMENT (ORIGIN)	DISTAL ATTACHMENT (INSERTION)	INNERVATION	BLOOD SUPPLY	MAIN ACTIONS
Sphincter pupillae	Intrinsic eye	Circular smooth muscle of iris that passes around pupil	Blends with dilator pupillae fibers	Parasympathetic fibers via oculomotor nerve (CN III)	Ophthalmic artery	Constricts pupil
Stapedius	Middle ear	Pyramidal eminence of temporal bone	Stapes	Facial nerve	Posterior auricular, anterior tympanic, and middle meningeal arteries	Pulls stapes posteriorly to lessen oscillation of tympanic membrane
Sternocleidomastoid	Neck	*Sternal head:* anterior surface of manubrium *Clavicular head:* upper surface of medial 1/3 of clavicle	Lateral surface of mastoid process; lateral half of superior nuchal line of occipital bone	Accessory nerve (CN XI)	Sternocleidomastoid branch of superior thyroid and occipital arteries, muscular branch of suprascapular artery, occipital branch of posterior auricular artery	*Bilaterally:* flexes head, raises thorax *Unilaterally:* turns face toward opposite side
Sternohyoid	Infrahyoid	Posterior surface of manubrium sterni, posterior sternoclavicular ligament, medial end of clavicle	Medial part of lower border of body of hyoid bone	Ansa cervicalis	Sternocleidomastoid and hyoid branches of superior thyroid artery, hyoid branch of lingual artery	Depresses larynx and hyoid bone, steadies hyoid bone
Sternothyroid	Infrahyoid	Posterior surface of manubrium sterni below and deep to origin of sternohyoid, edge of 1st costal cartilage	Oblique line on lamina of thyroid cartilage	Ansa cervicalis	Cricothyroid branch of superior thyroid artery	Depresses larynx and thyroid cartilage
Styloglossus	Extrinsic tongue	Styloid process and stylohyoid ligament	Lateral and inferior aspect of tongue	Hypoglossal nerve (CN XII)	Sublingual artery	Retracts tongue and draws it up for swallowing
Stylohyoid	Suprahyoid	Posterior border of styloid process	Body of hyoid bone at junction with greater horn	Facial nerve	Muscular branches of facial artery, muscular branches of occipital artery	Elevates and retracts hyoid bone
Stylopharyngeus	Longitudinal pharyngeal	Medial aspect of styloid process	Pharyngeal wall and posterior border of thyroid cartilage	Glossopharyngeal nerve (CN IX)	Ascending pharyngeal artery, ascending palatine and tonsillar branches of facial artery, dorsal branches of lingual artery	Elevates pharynx and larynx during swallowing and speaking
Subclavius	Shoulder	Upper border of 1st rib and its cartilage	Inferior surface of middle third of clavicle	Nerve to subclavius muscle	Clavicular branch of thoracoacromial artery	Anchors and depresses clavicle
Superior longitudinal lingual muscle	Intrinsic tongue	Submucous fibers at back of tongue	Apex of tongue; unites with muscle of opposite side	Hypoglossal nerve (CN XII)	Deep lingual branch of lingual artery, branches from facial artery	Shortens tongue, turns tip and sides upward
Superior oblique	Extraocular; eyelid	Body of sphenoid bone (above optic canal), medial to origin of superior rectus	Passes through trochlea, attaches to superior sclera between superior and lateral recti muscles	Trochlear nerve (CN IV)	Ophthalmic artery	Abducts, depresses, and medially rotates eyeball
Superior pharyngeal constrictor	Circular pharyngeal	Hamulus, pterygomandibular raphe, mylohyoid line of mandible	Median raphe of pharynx	Vagus nerve via pharyngeal plexus	Ascending pharyngeal artery, ascending palatine and tonsillar branches of facial artery, dorsal branches of lingual artery	Constricts wall of pharynx during swallowing
Superior rectus	Extraocular; eyelid	Common tendinous ring	Superior aspect of eyeball, posterior to the corneoscleral junction	Oculomotor nerve (CN III), superior division	Ophthalmic artery	Elevates, adducts, and medially rotates eyeball

www.Booksmedicos06.com ///////

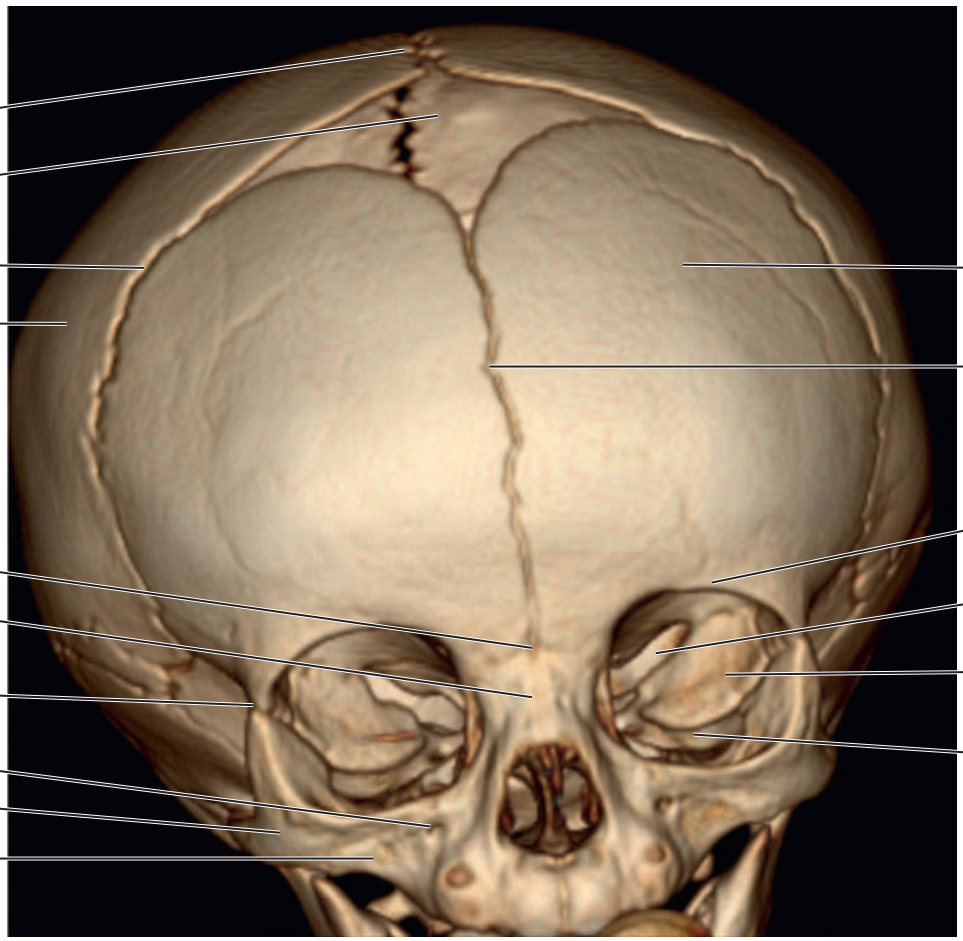
MUSCLE	MUSCLE GROUP	PROXIMAL ATTACHMENT (ORIGIN)	DISTAL ATTACHMENT (INSERTION)	INNERVATION	BLOOD SUPPLY	MAIN ACTIONS
Temporalis	Mastication	Floor of temporal fossa, deep temporal fascia	Coronoid process and ramus of mandible	Mandibular nerve (CN V_3), deep temporal nerves	Superficial temporal and maxillary arteries, middle, anterior, and posterior deep temporal arteries	Elevates mandible; posterior fibers retract mandible
Tensor tympani	Middle ear	Cartilage of pharyngotympanic (auditory, eustachian) tube	Handle of malleus	Mandibular branch of trigeminal nerve (CN V_3)	Superior tympanic branch of middle meningeal division of maxillary artery	Tenses tympanic membrane by drawing it medially
Tensor veli palatini	Palatal	Scaphoid fossa of medial pterygoid plate, spine of sphenoid bone, pharyngotympanic (auditory, eustachian) tube	Palatine aponeurosis	Mandibular nerve	Ascending palatine artery branch of facial artery, descending palatine artery branch of maxillary artery	Tenses soft palate, opens pharyngotympanic (auditory, eustachian) tube during swallowing and yawning
Thyroarytenoid	Laryngeal	Posterior aspect of thyroid cartilage	Muscular process of arytenoid cartilage	Recurrent laryngeal nerve	Superior and inferior thyroid arteries	Shortens and relaxes vocal cords, sphincter of vestibule
Thyrohyoid	Infrahyoid	Oblique line on lamina of thyroid cartilage	Lower border of body and greater horn of hyoid bone	Thyrohyoid branch of C1 nerve via hypoglossal nerve (CN XII)	Hyoid branch of superior thyroid artery	Depresses larynx and hyoid bone, elevates larynx when hyoid bone is fixed
Transverse and oblique arytenoid	Laryngeal	Arytenoid cartilage	Opposite arytenoid cartilage	Recurrent laryngeal nerve	Superior and inferior thyroid arteries	Closes intercartilaginous portion of rima glottides
Transverse (tongue)	Intrinsic tongue	Median fibrous septum of tongue	Dorsum and sides of tongue	Hypoglossal nerve (CN XII)	Deep lingual branch of lingual artery, branches from facial artery	Narrows and elongates tongue
Vertical (tongue)	Intrinsic tongue	Mucous membrane on dorsum of forepart of tongue	Fibers extend from dorsum to undersurface of tongue	Hypoglossal nerve (CN XII)	Deep lingual branch of lingual artery, branches from facial artery	Flattens and broadens tongue
Vocalis	Laryngeal	Vocal process of arytenoid cartilage	Vocal ligament	Recurrent laryngeal nerve	Superior and inferior thyroid arteries	Tenses anterior vocal ligament, relaxes posterior vocal ligament
Zygomaticus major	Facial expression	Zygomatic arch	Angle of mouth	Zygomatic and buccal branches of facial nerve	Superior labial artery of facial artery	Draws angle of mouth backward and upward
Zygomaticus minor	Facial expression	Zygomatic arch	Angle of mouth, upper lip	Zygomatic and buccal branches of facial nerve	Superior labial artery of facial artery	Elevates upper lip

/////// facebook : Booksmedicos06

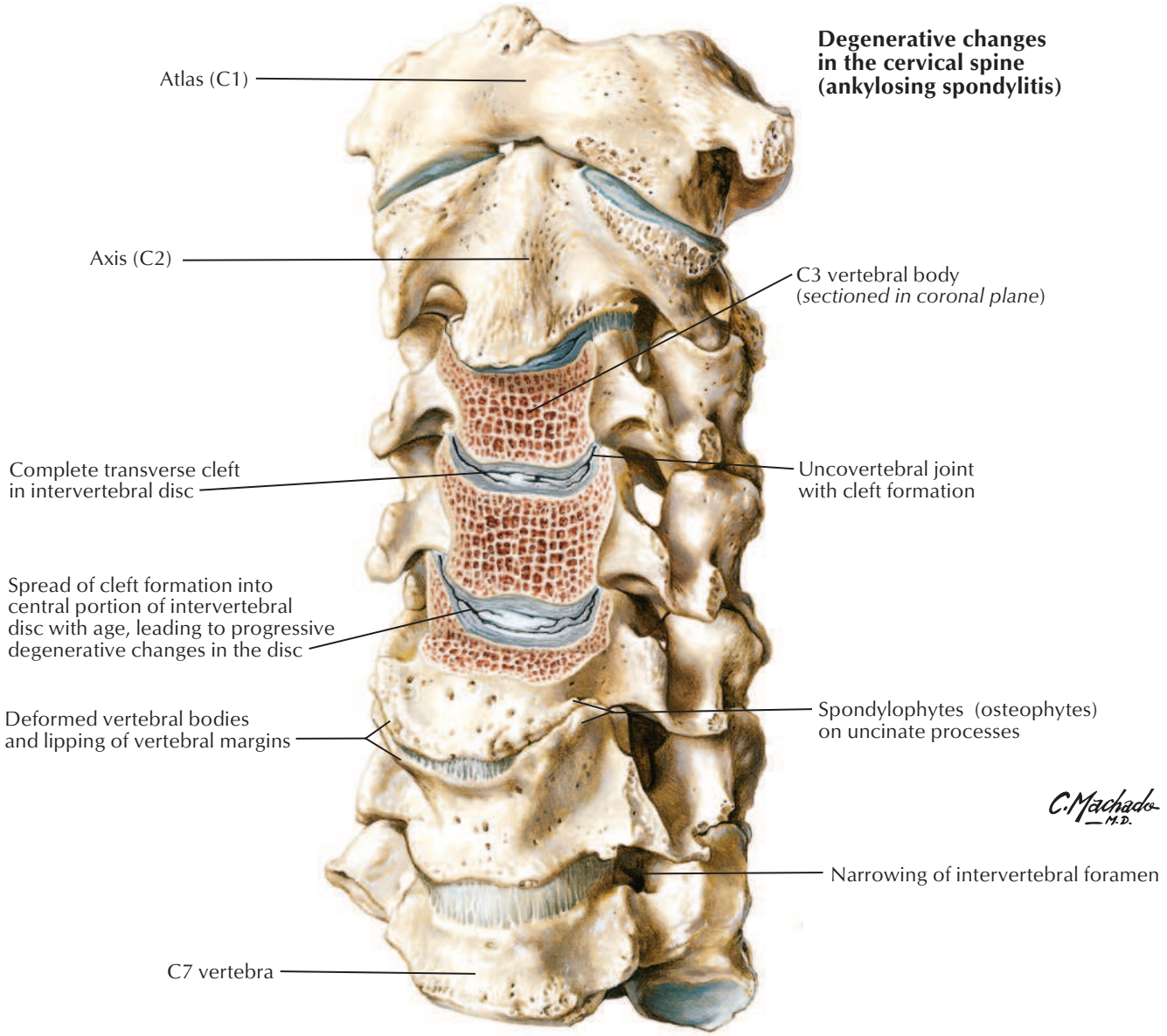
CT 3D child skull reconstruction, lateral view



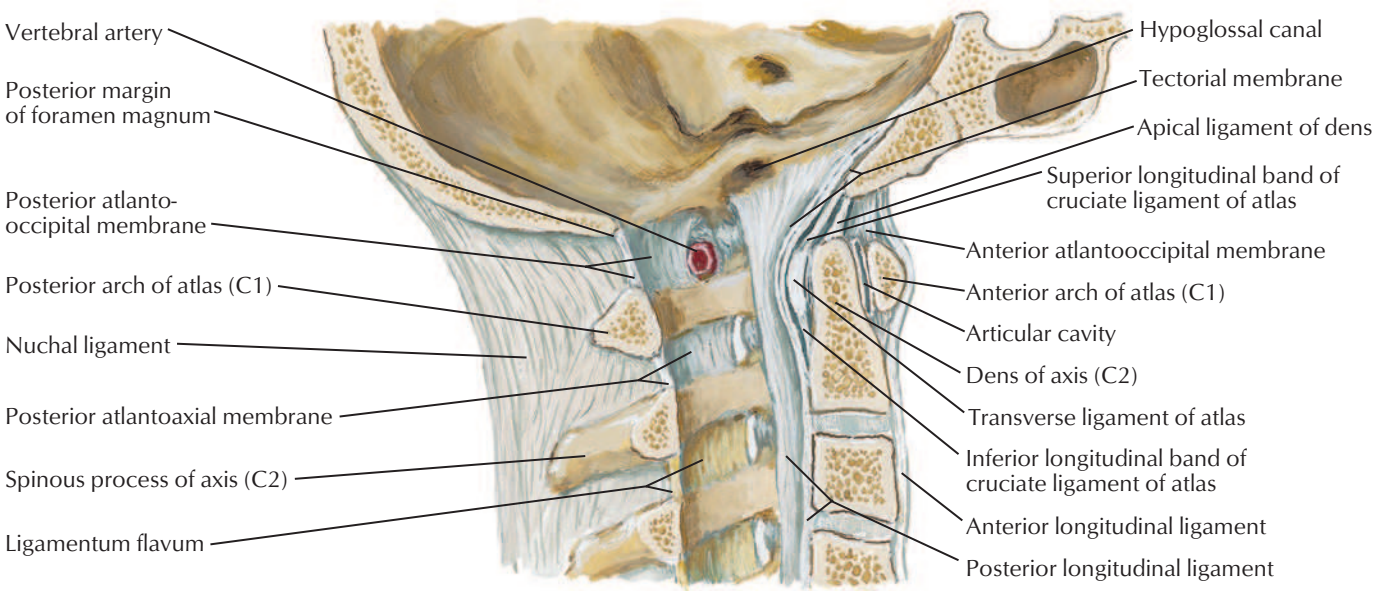
CT 3D child skull reconstruction, frontal view

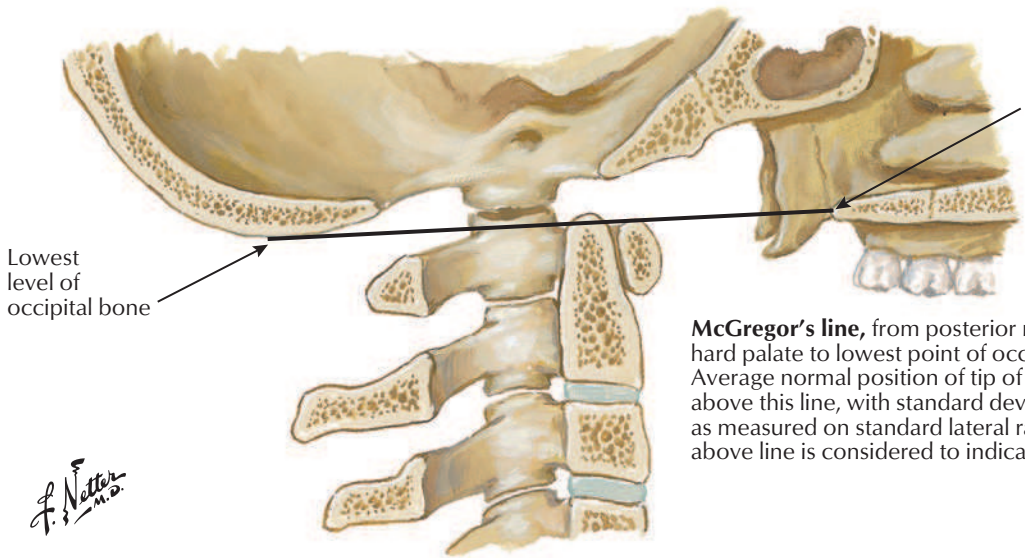


www.Booksmedicos06.com ////////



/////// facebook : Booksmedicos06



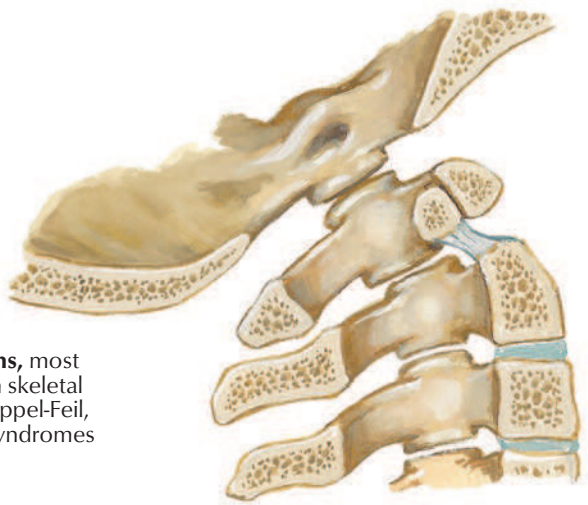


McGregor's line, from posterior nasal spine of hard palate to lowest point of occipital bone. Average normal position of tip of dens is 1.32 mm above this line, with standard deviation of ±2.6 mm as measured on standard lateral radiograph. Tip >4.5 mm above line is considered to indicate basilar impression.



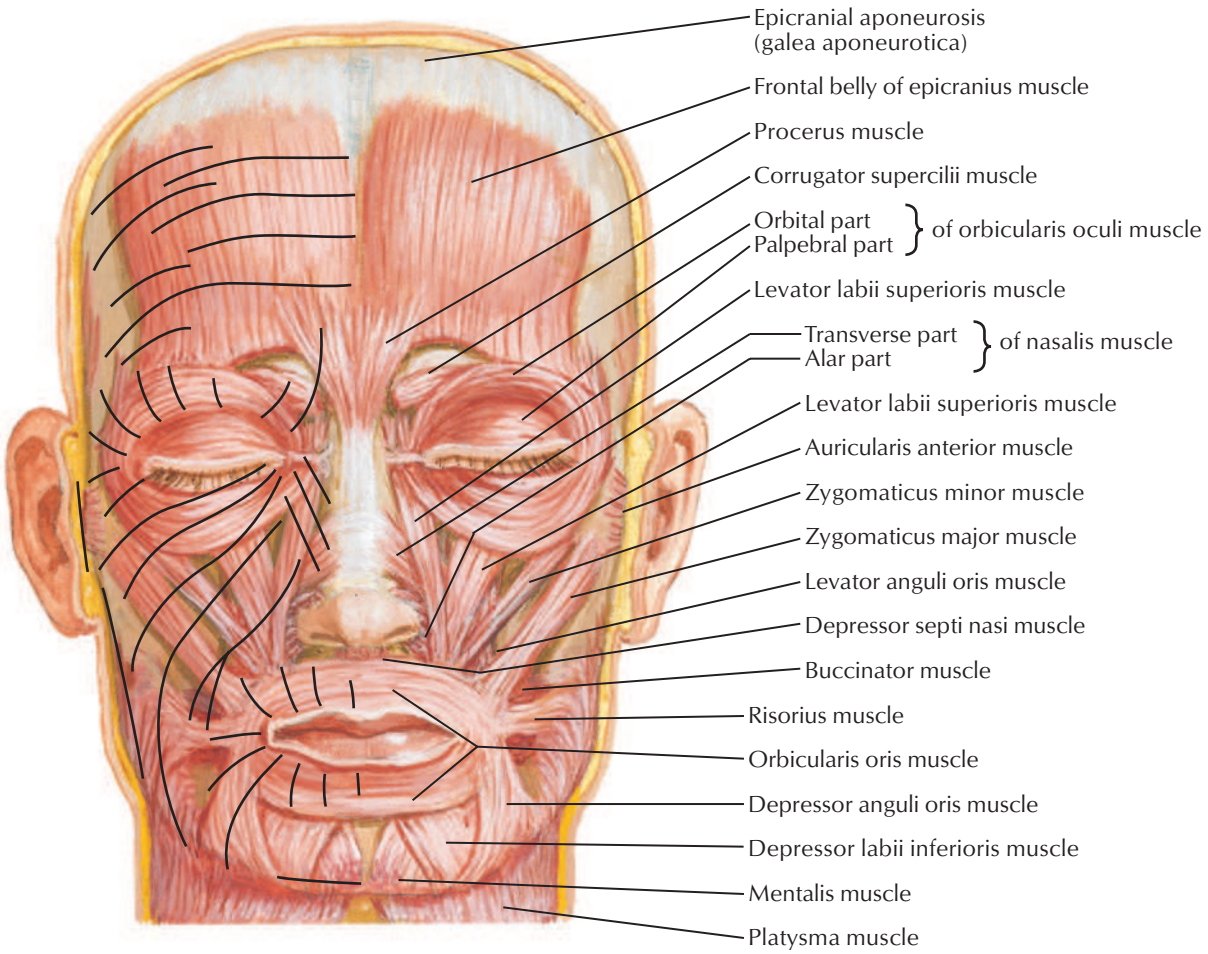
Hypoplastic dens

Abnormalities of dens, most often associated with skeletal dysplasias such as Klippel-Feil, Down, or Morquio syndromes

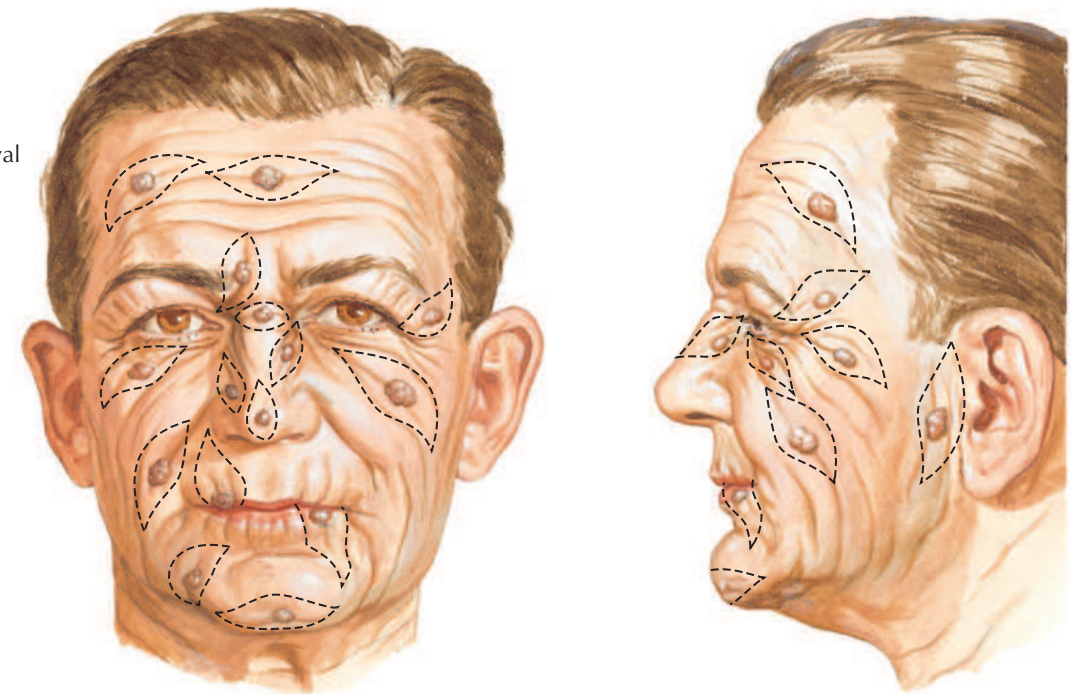


Os odontoideum with fibrous union and narrowing of vertebral canal with head in extension

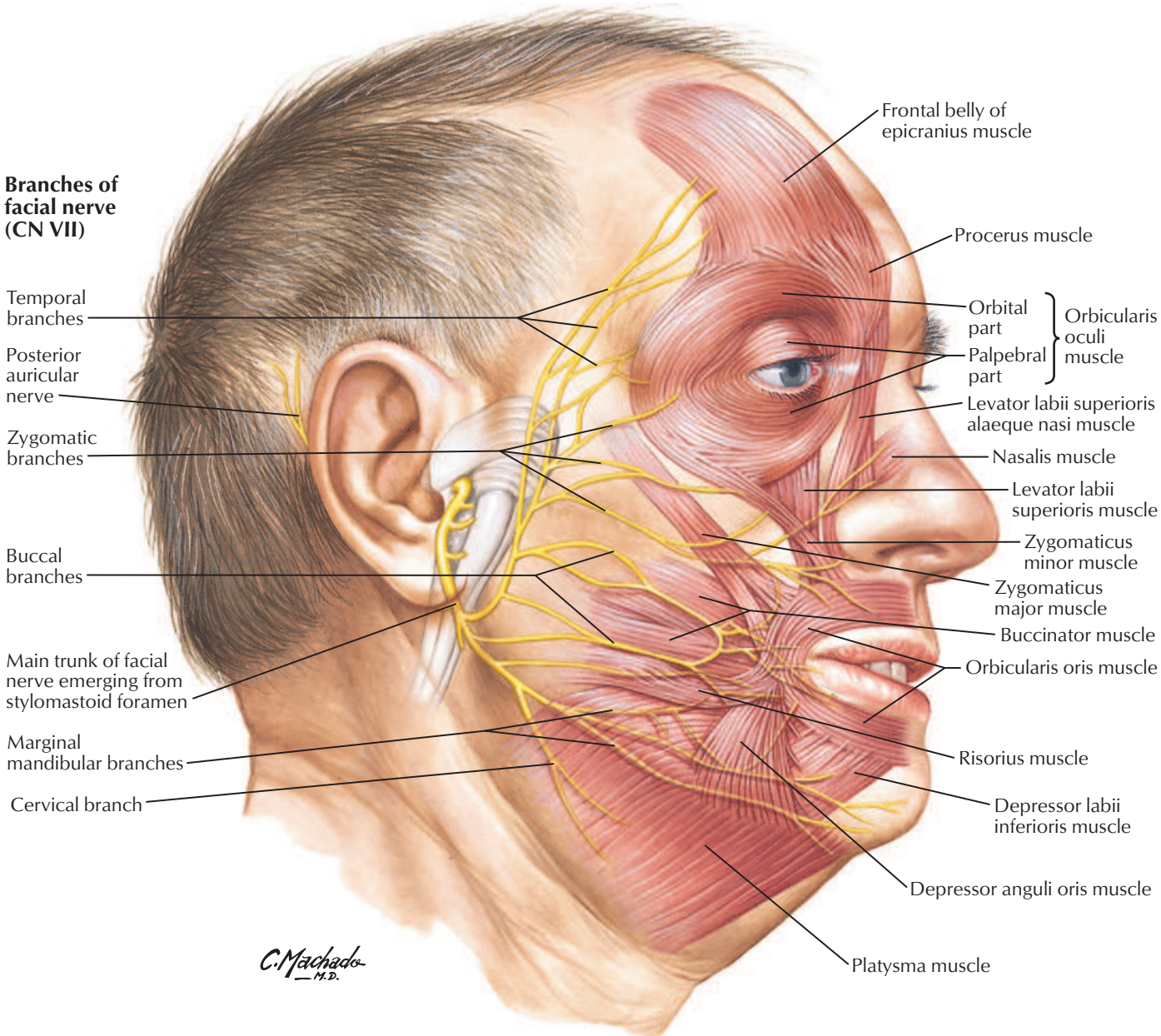
www.Booksmedicos06.com



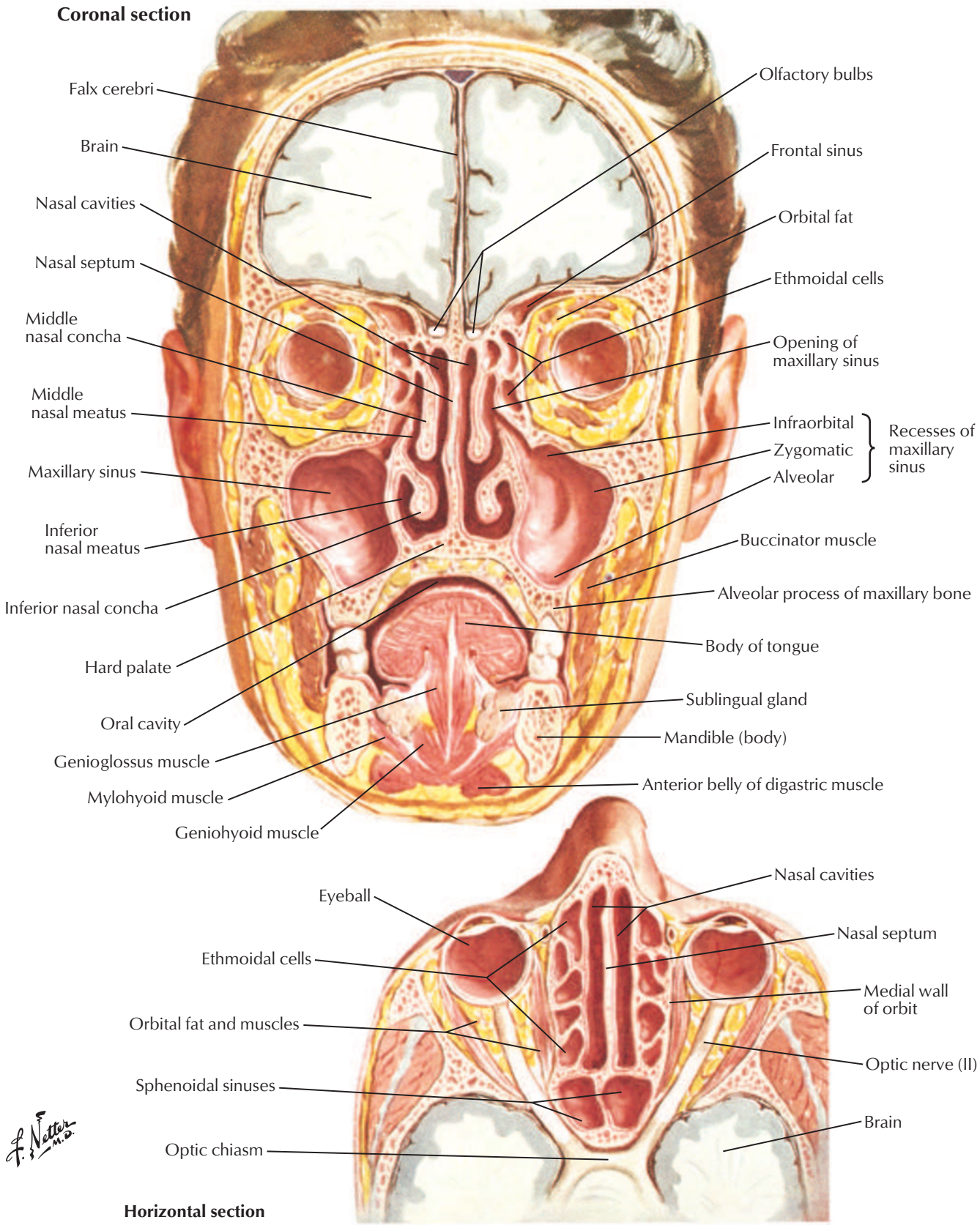
Course of wrinkle lines (Langer's lines) of skin is transverse to fiber direction of facial muscles. Elliptical incisions for removal of skin tumors conform to direction of wrinkle lines.



////// facebook : Booksmedicos06

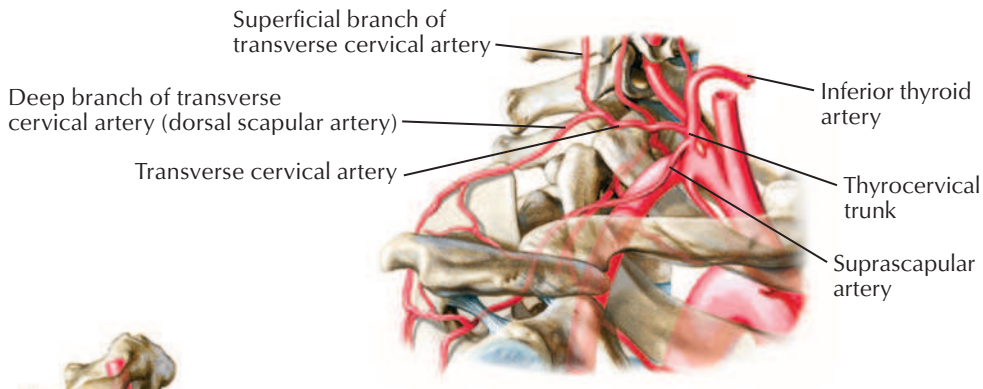


www.Booksmedicos06.com

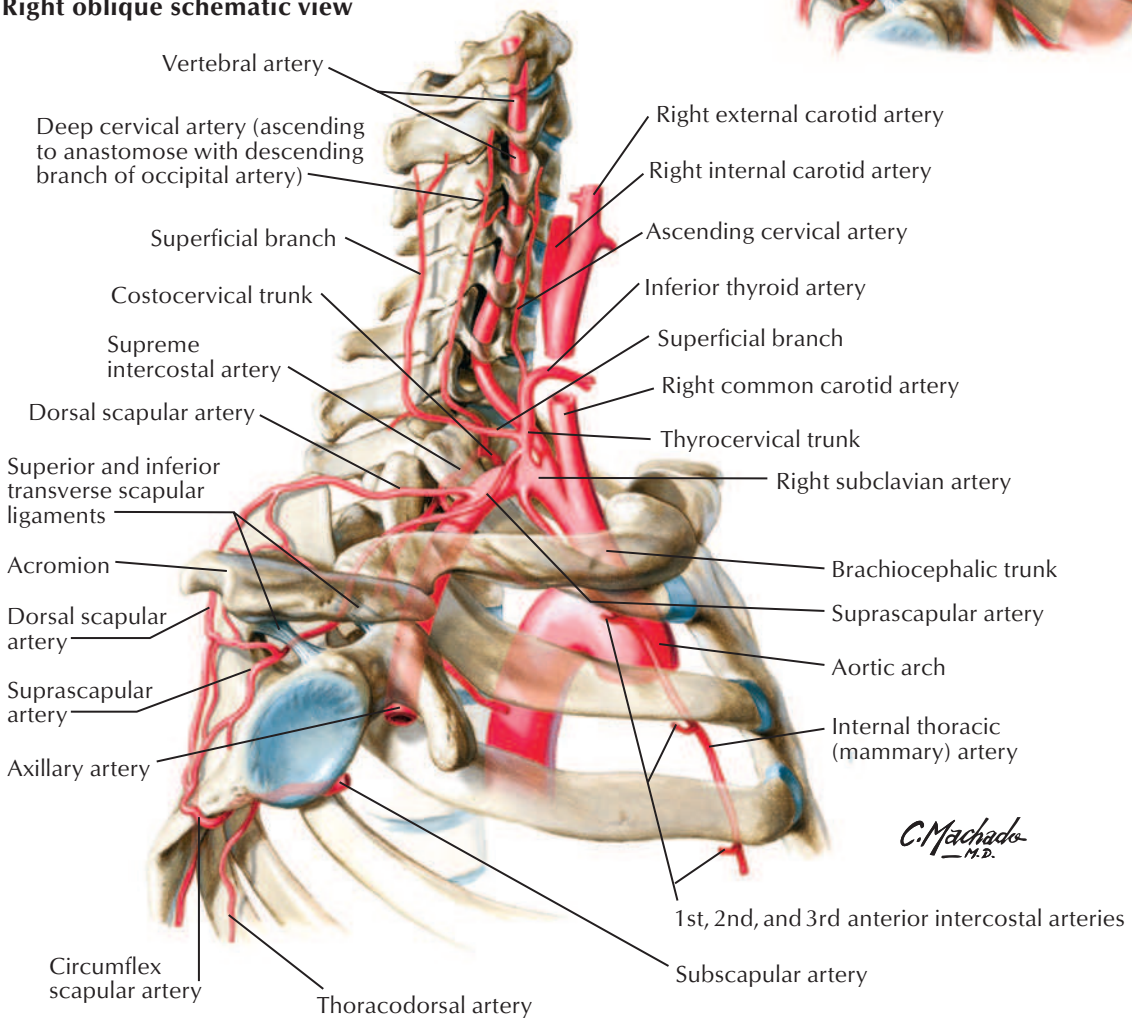


////// facebook : Booksmedicos06

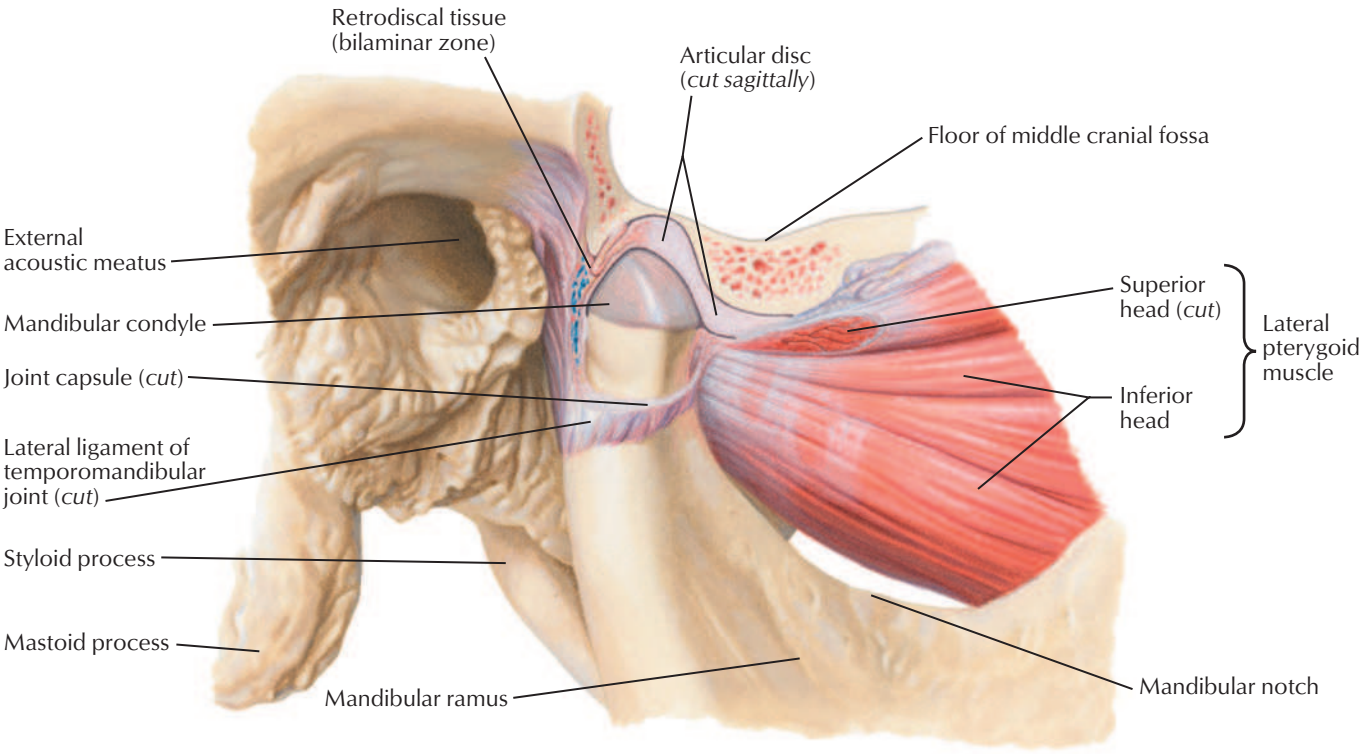
Common origin of superficial cervical and dorsal scapular arteries from transverse cervical artery (~30%)

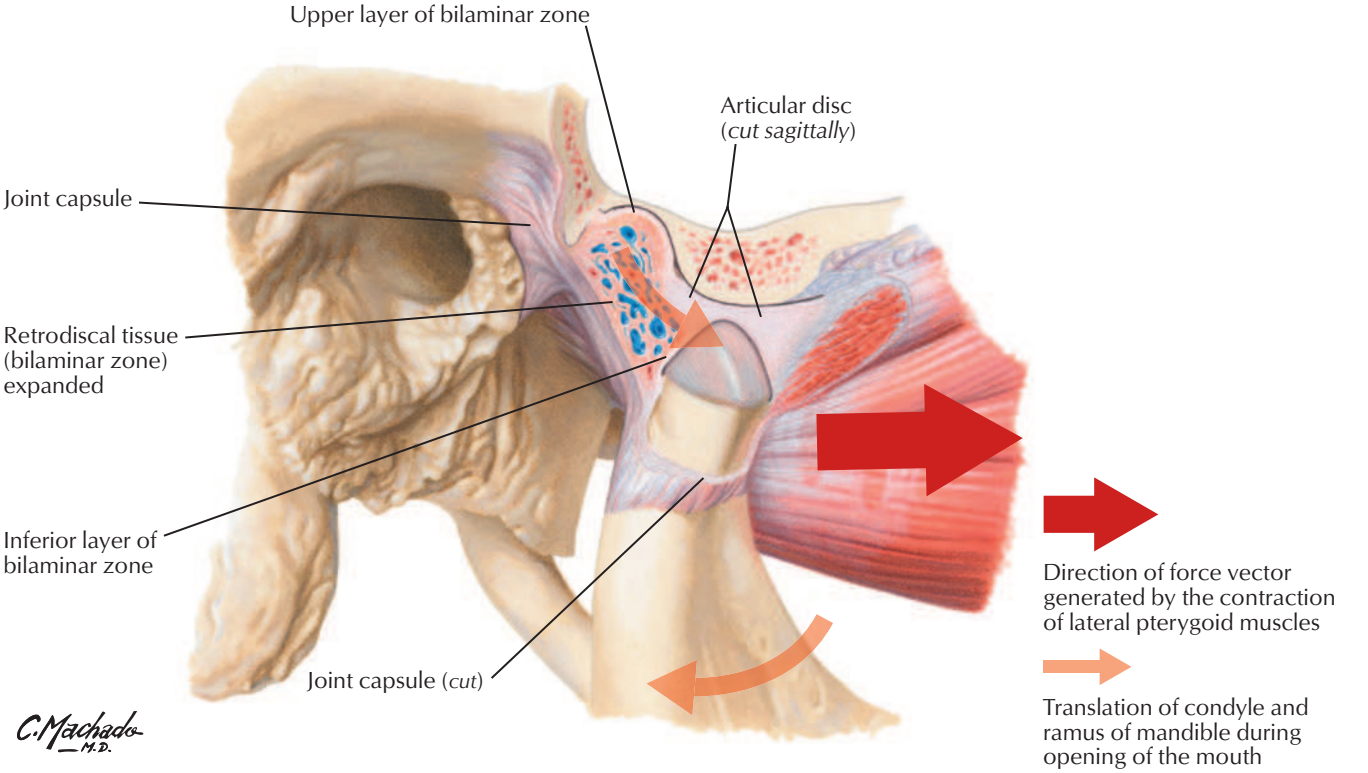


Right oblique schematic view

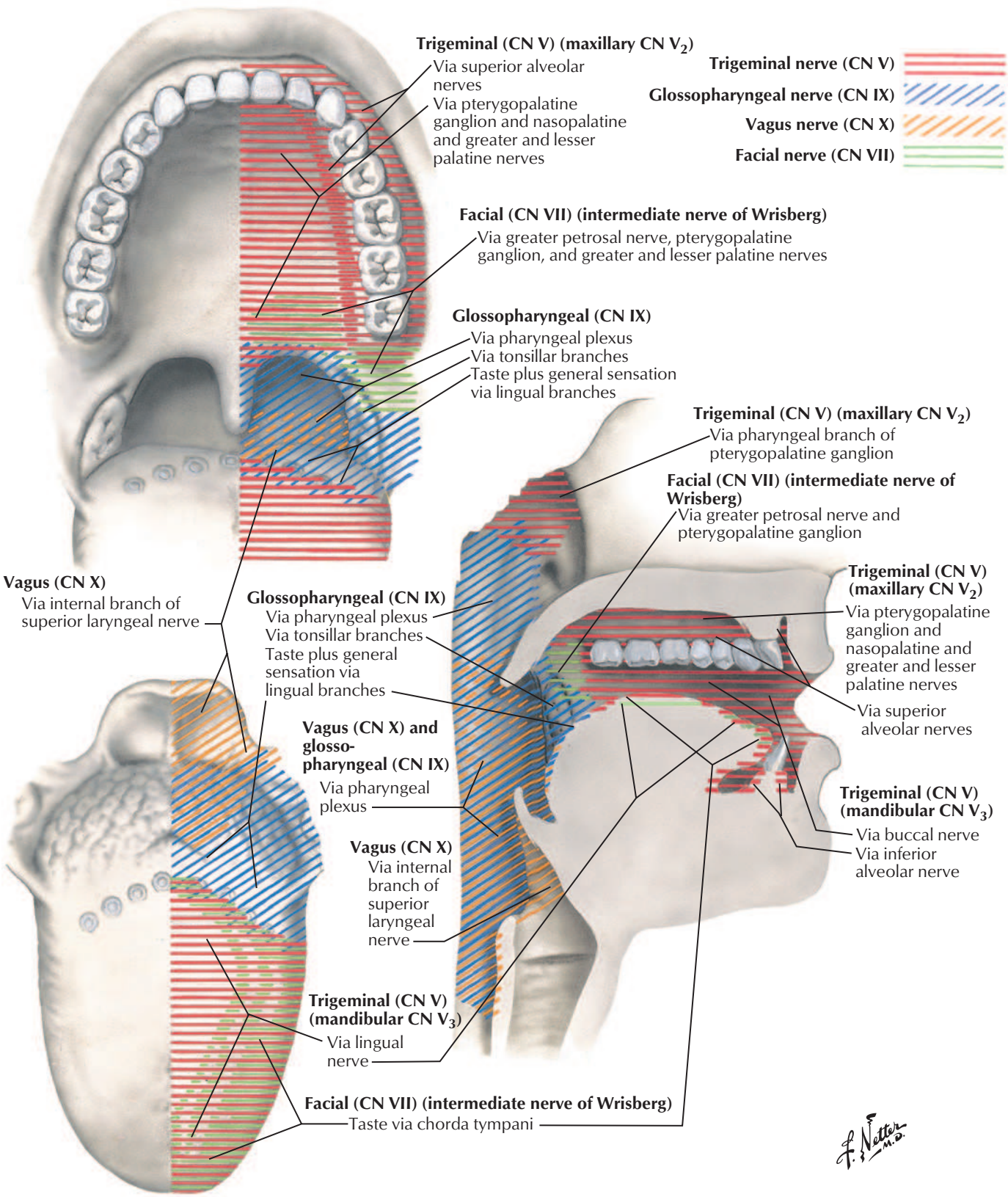


www.Booksmedicos06.com ////////

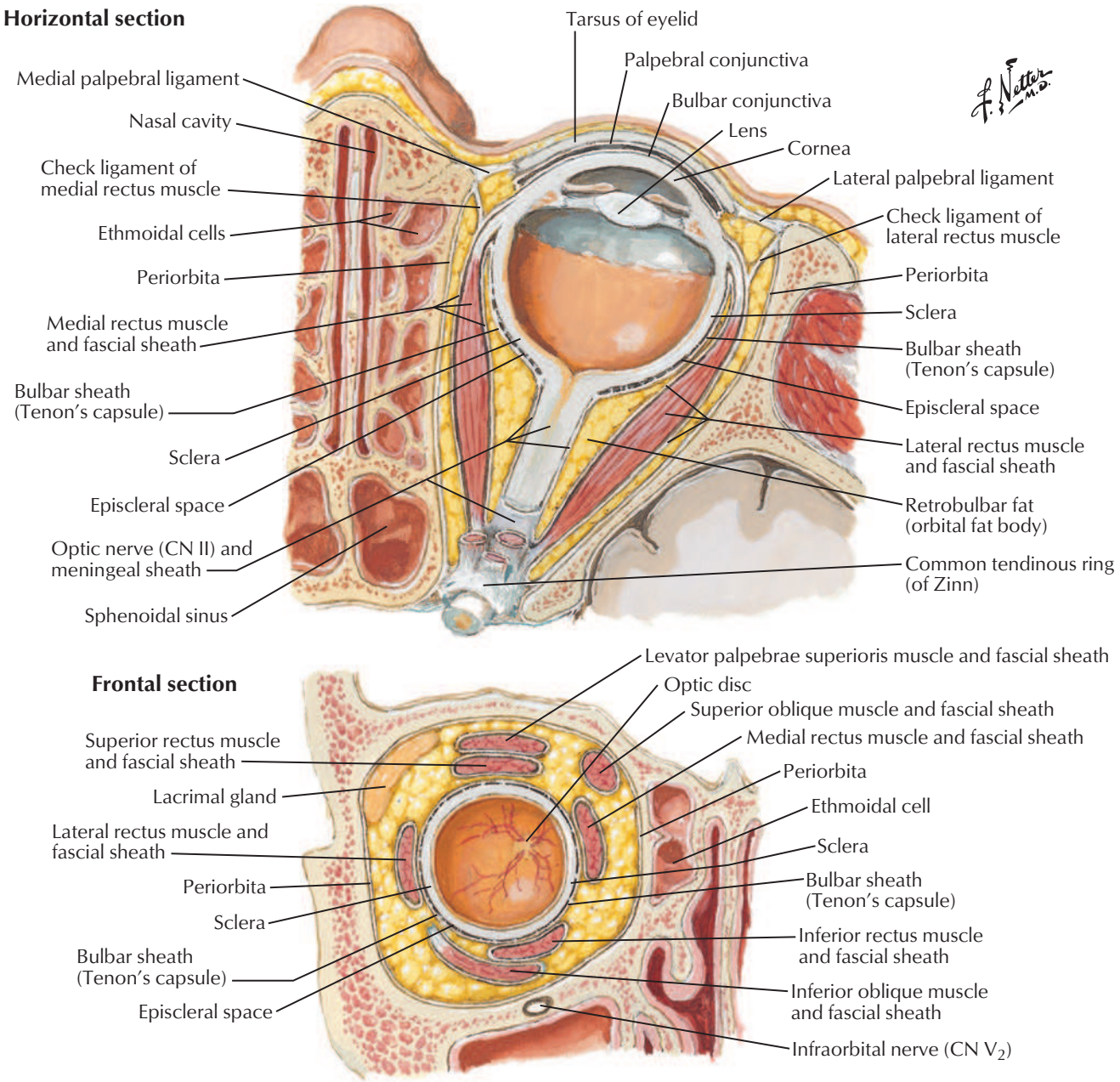




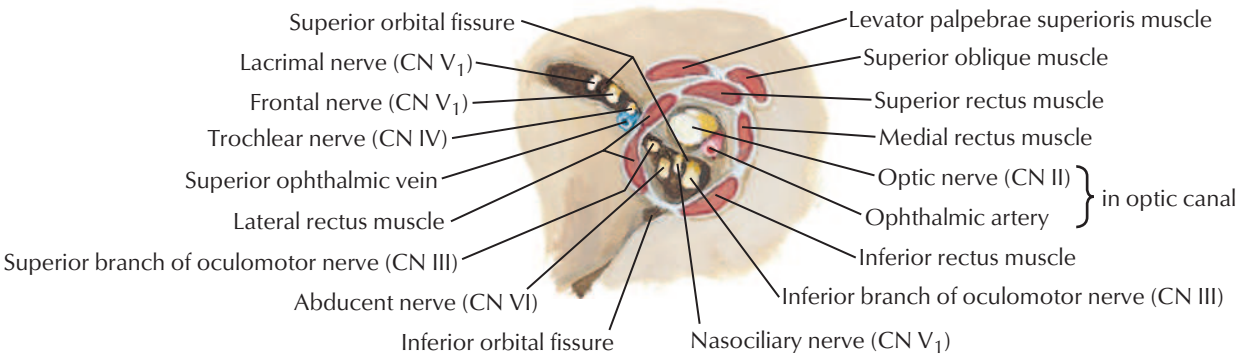
////// facebook : Booksmedicos06



www.Booksmedicos06.com

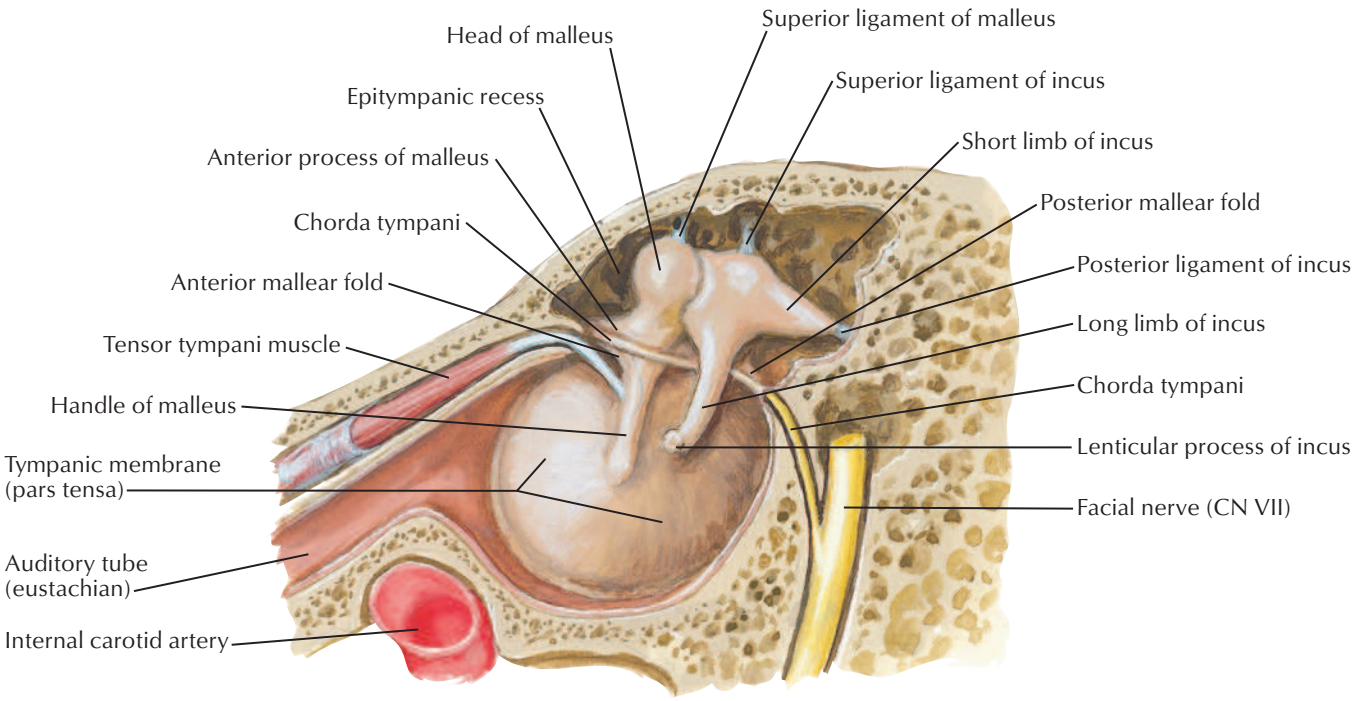


Muscle attachments and nerves and vessels entering orbit

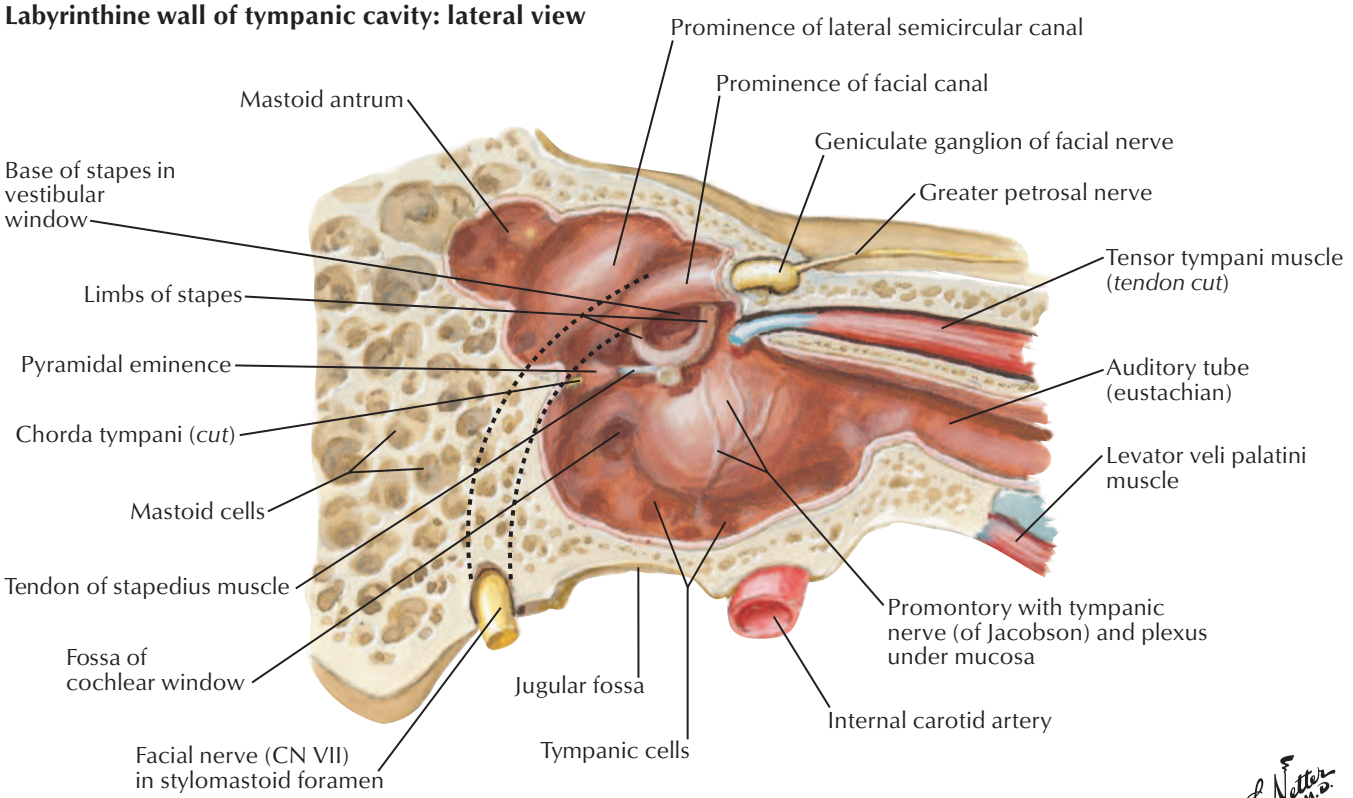


////// facebook : Booksmedicos06

Lateral wall of tympanic cavity: medial (internal) view



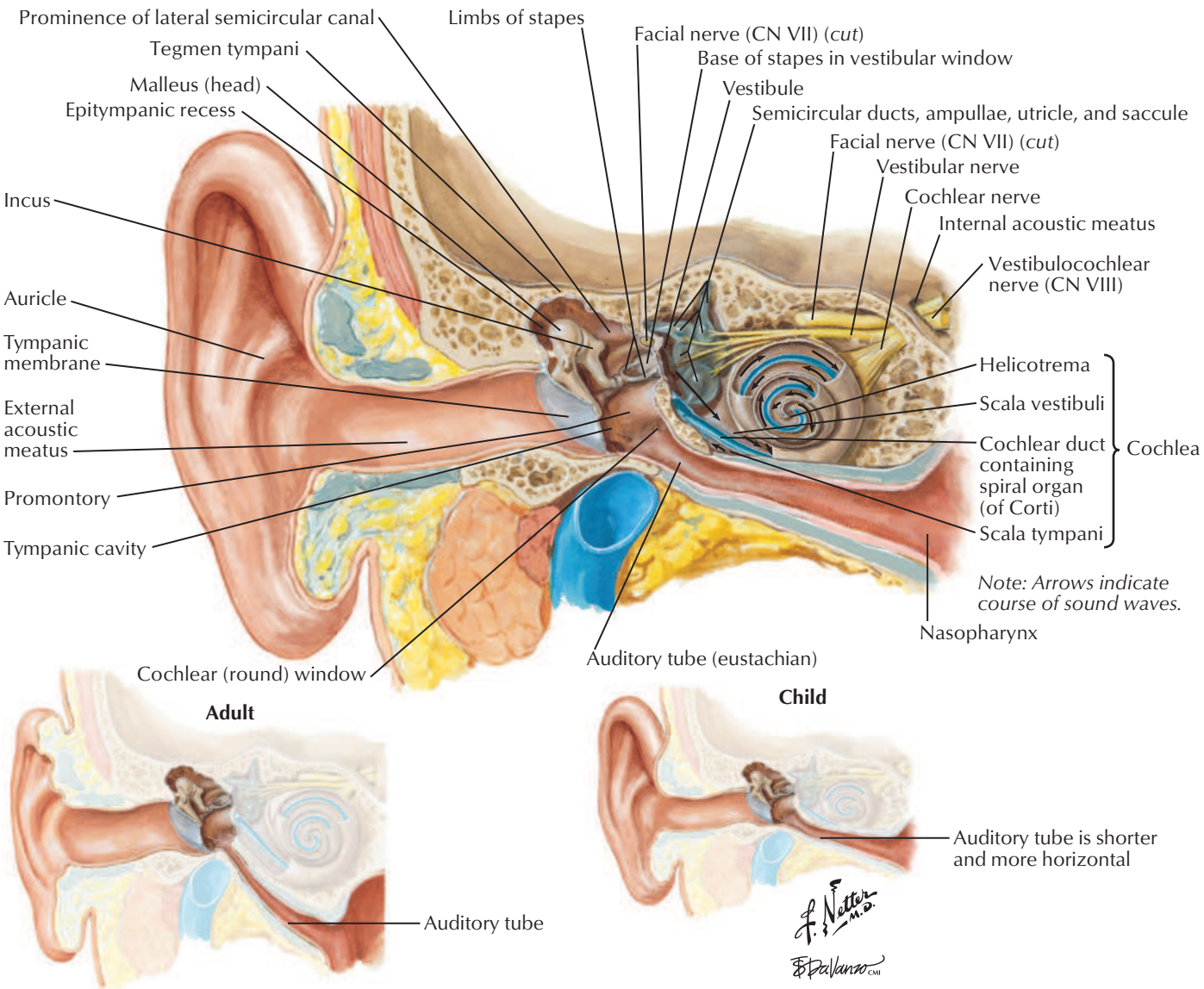
Labyrinthine wall of tympanic cavity: lateral view



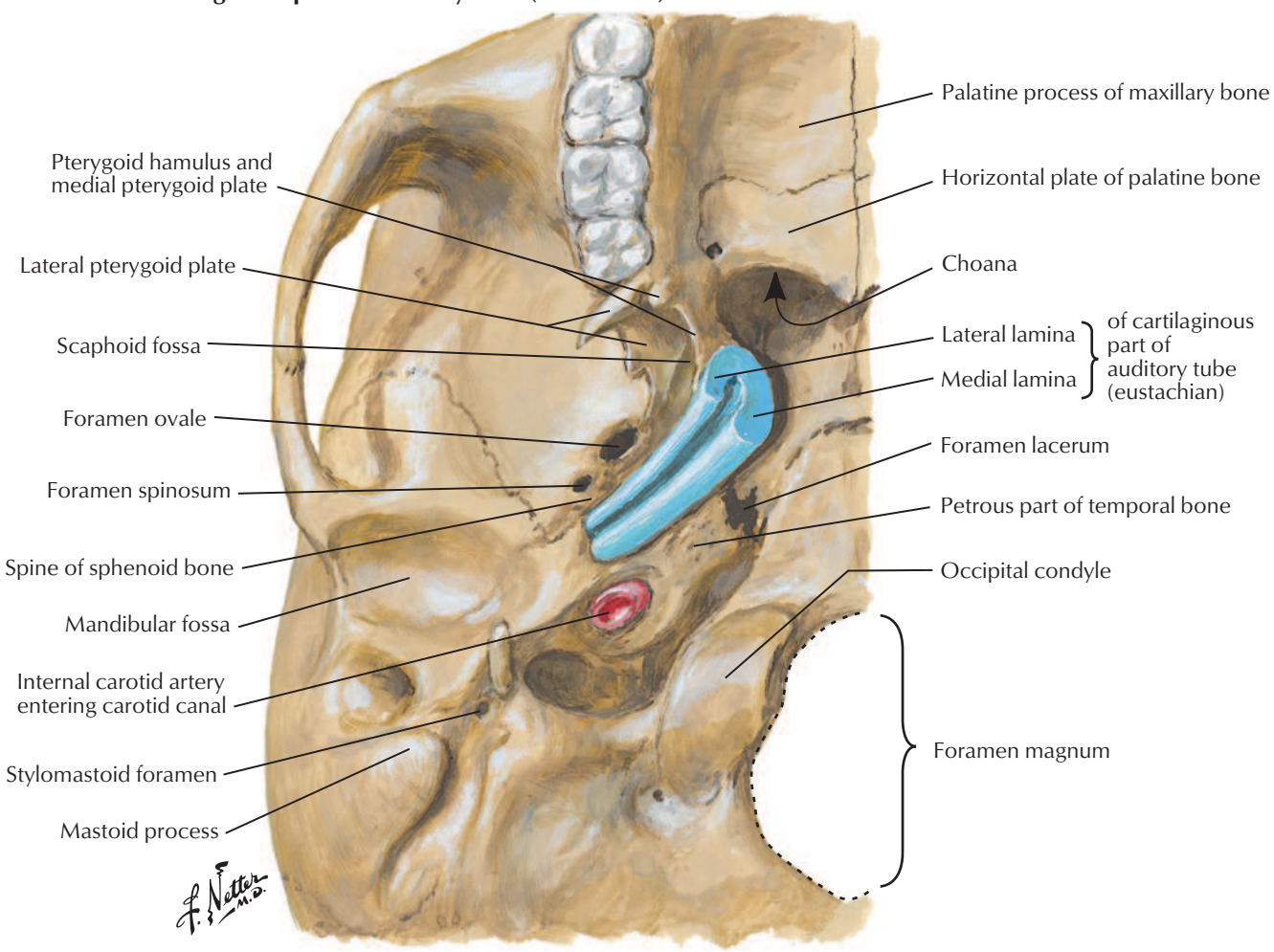
www.Booksmedicos06.com

////// facebook : Booksmedicos06

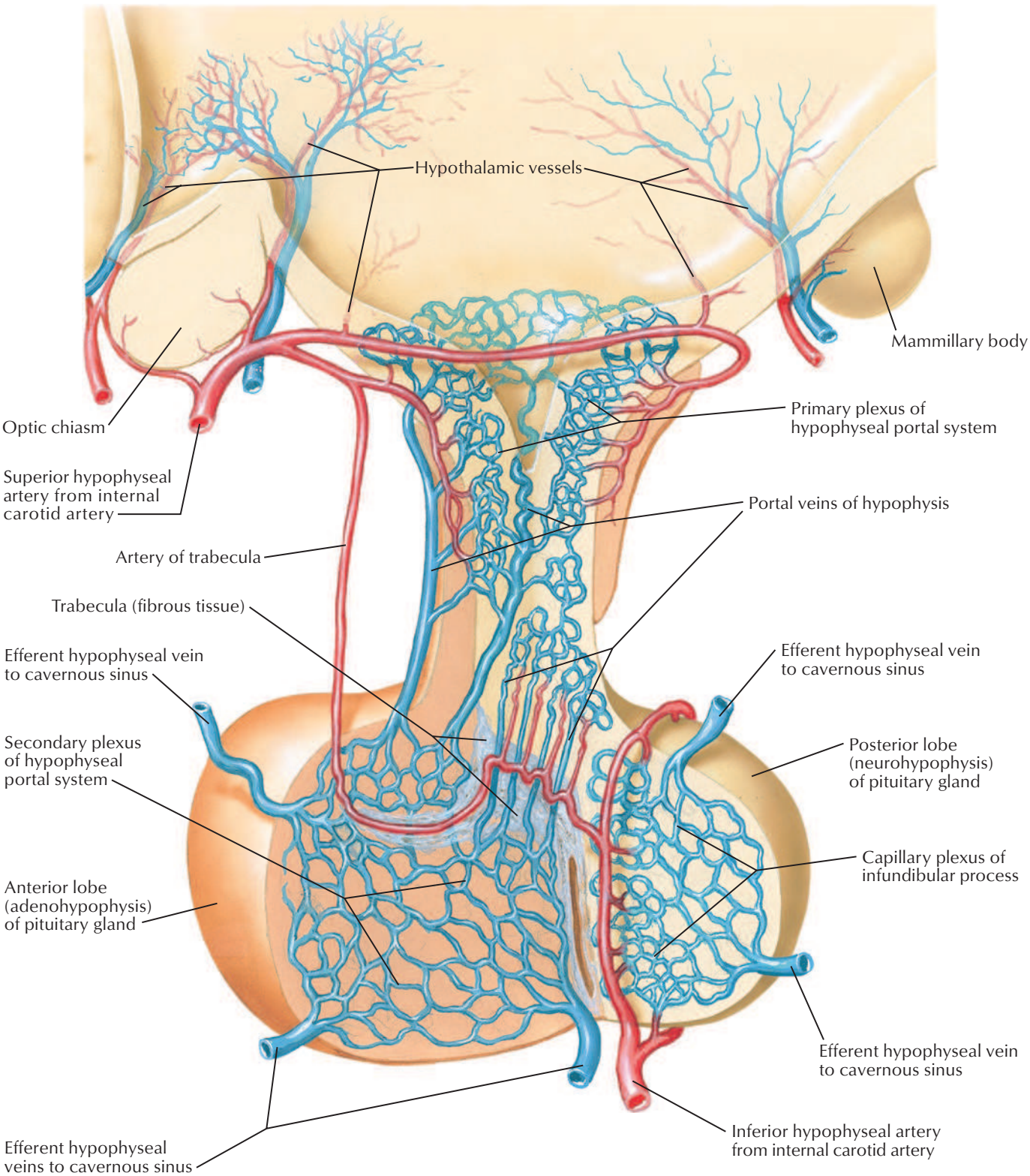
Pediatric ear: frontal section



Cartilaginous part of auditory tube (eustachian) at base of skull: inferior view



www.Booksmedicos06.com ////////



////// facebook : Booksmedicos06



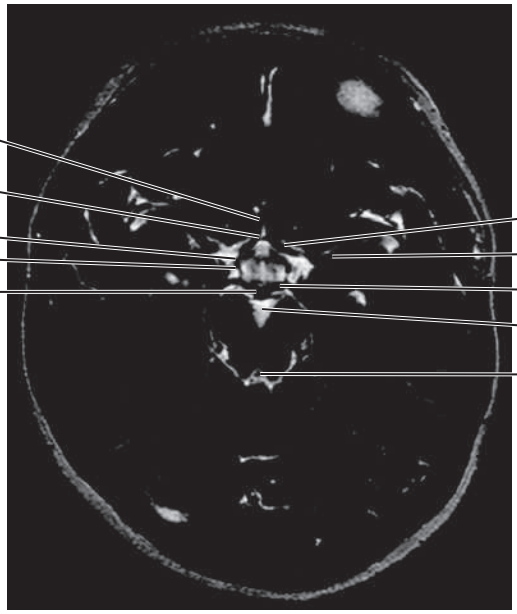


www.Booksmedicos06.com ////////

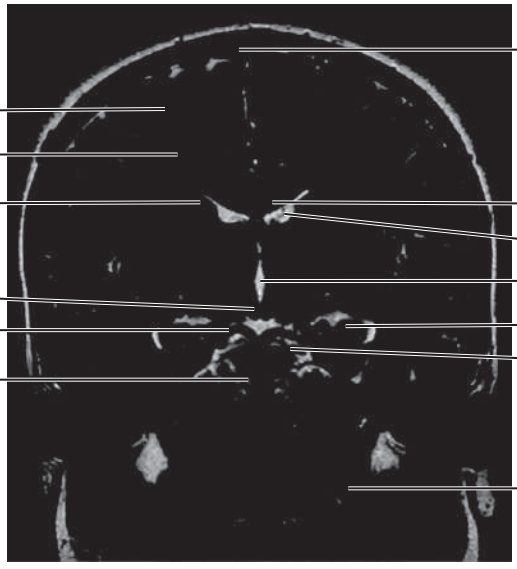
T2-weighted axial brain MRI without contrast



T2-weighted axial brain MRI without contrast



T2-weighted coronal brain MRI without contrast



////// facebook : Booksmedicos06

BACK AND SPINAL CORD 3

Surface Anatomy	161	**Structures With High Clinical Significance**	Table 3.1
Bones and Ligaments	162-168	**Muscle Tables**	Tables 3.2-3.3
Spinal Cord	169-179	**Electronic Bonus Plates**	BP33-BP43
Muscles and Nerves	180-184		
Cross-Sectional Anatomy	185-186		

ELECTRONIC BONUS PLATES



BP33 Vertebral Ligaments



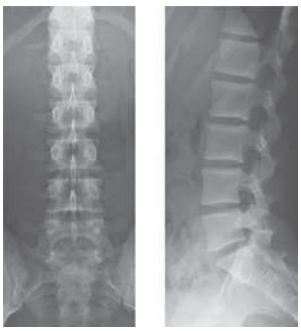
BP34 Cervical Spine: Radiographs



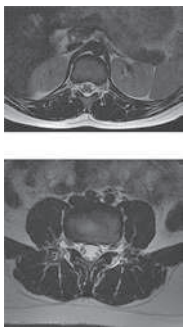
BP35 Cervical Spine: MRI and Radiograph



BP36 Thoracolumbar Spine: Lateral Radiograph



BP37 Lumbar Vertebrae: Radiographs



BP38 Lumbar Spine: MRIs



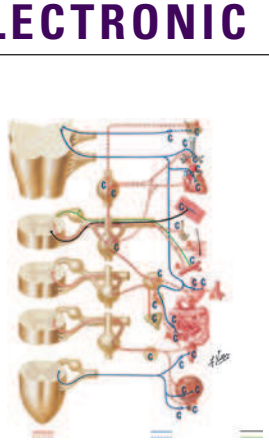
BP39 Sympathetic Nervous System: General Topography



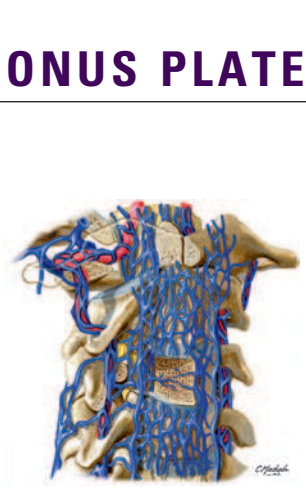
BP40 Parasympathetic Nervous System: General Topography

www.Booksmedicos06.com ///////

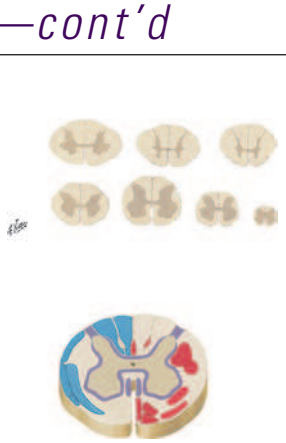
ELECTRONIC BONUS PLATES—*cont'd*



BP41 Cholinergic and Adrenergic Synapses: Schema



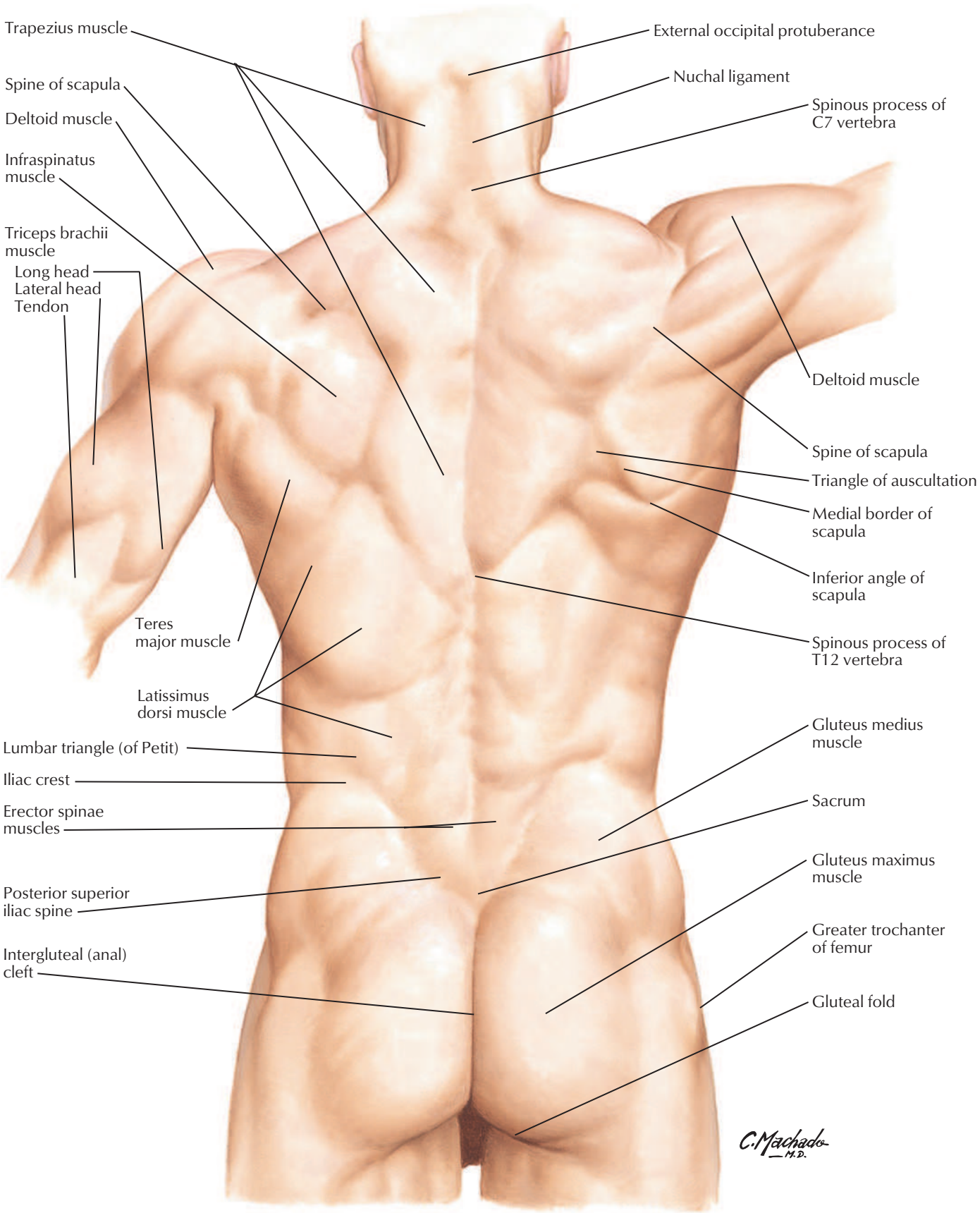
BP42 Vertebral Veins: Detail Showing Venous Communications



BP43 Spinal Cord Cross Sections: Fiber Tracts

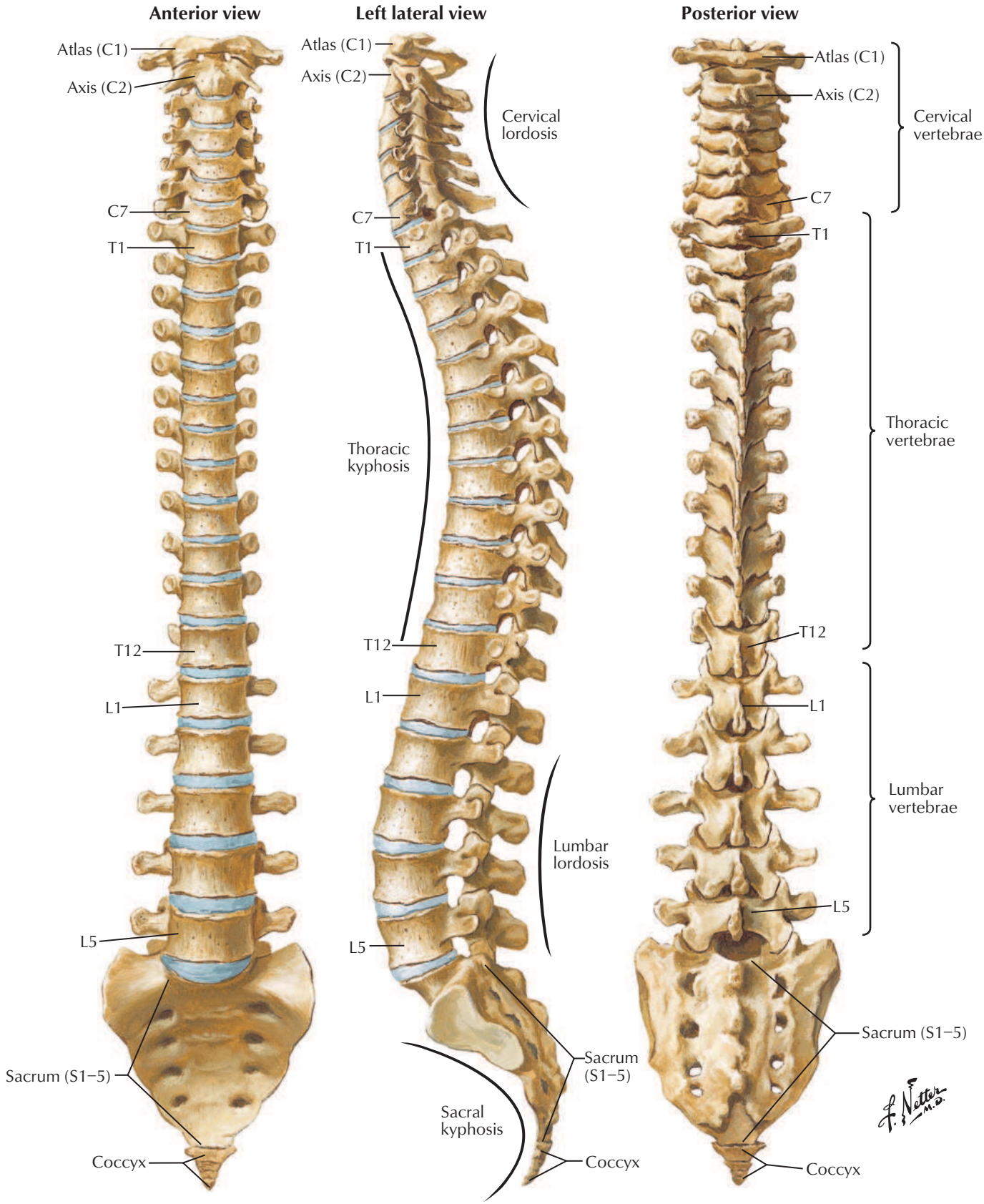
/////// facebook : Booksmedicos06

See also Plates 162, 171, 180

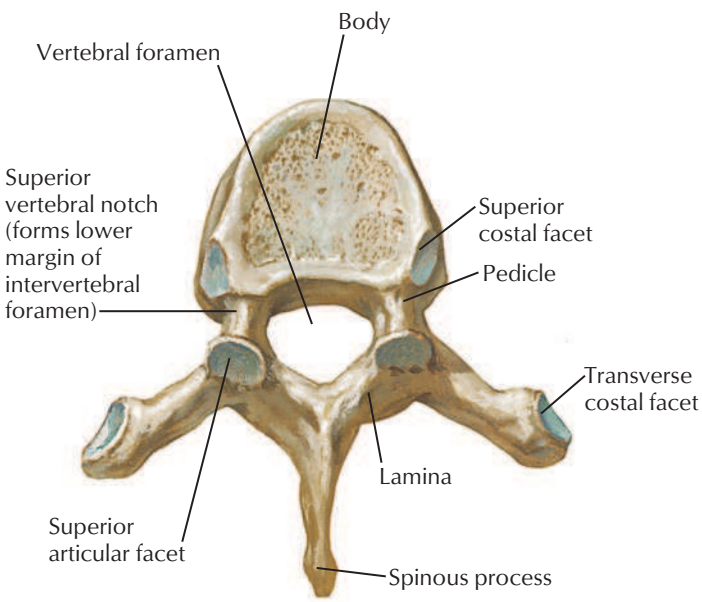


www.Booksmedicos06.com

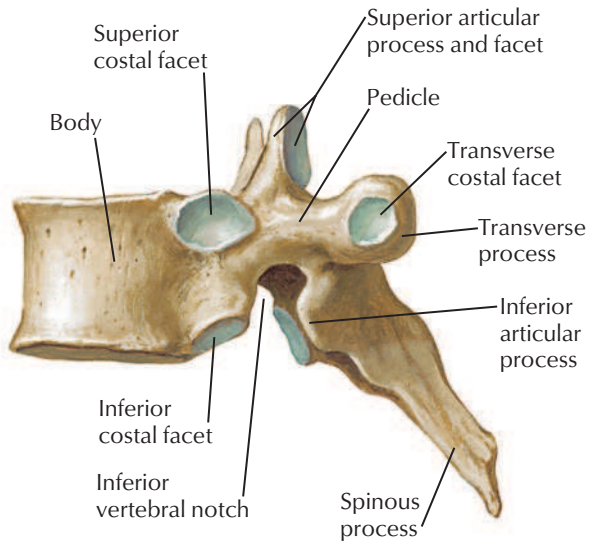
See also Plates 28, 192, 250



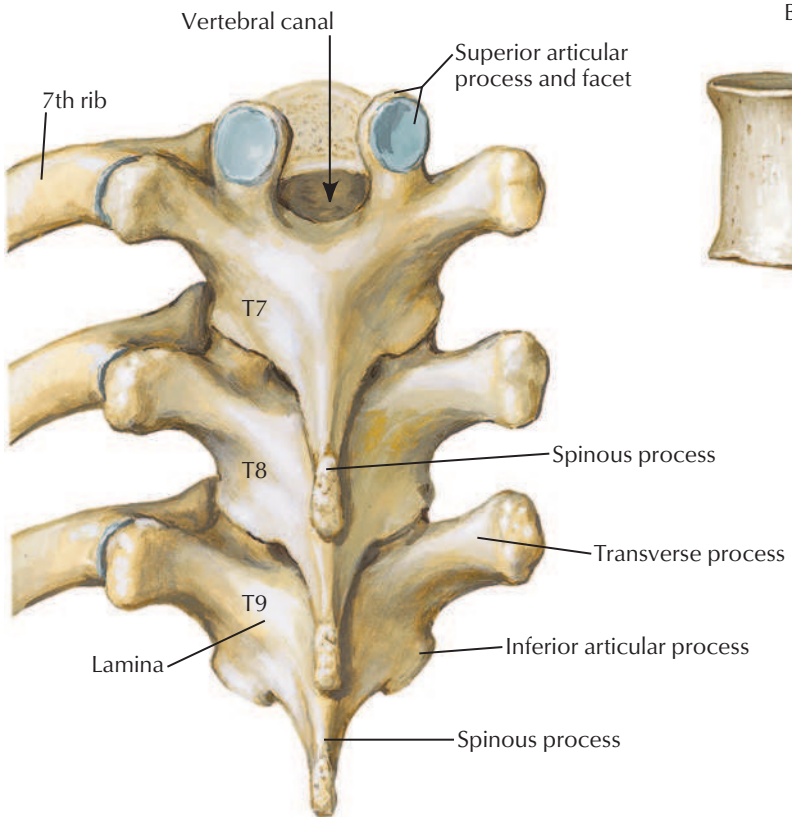
/////// facebook : Booksmedicos06



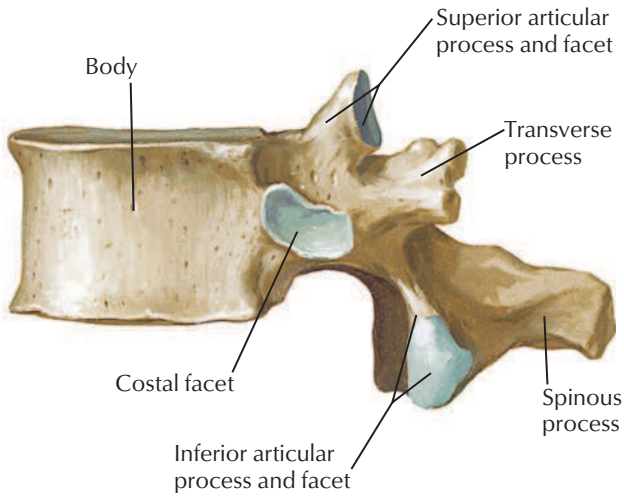
T6 vertebra: superior view



T6 vertebra: lateral view

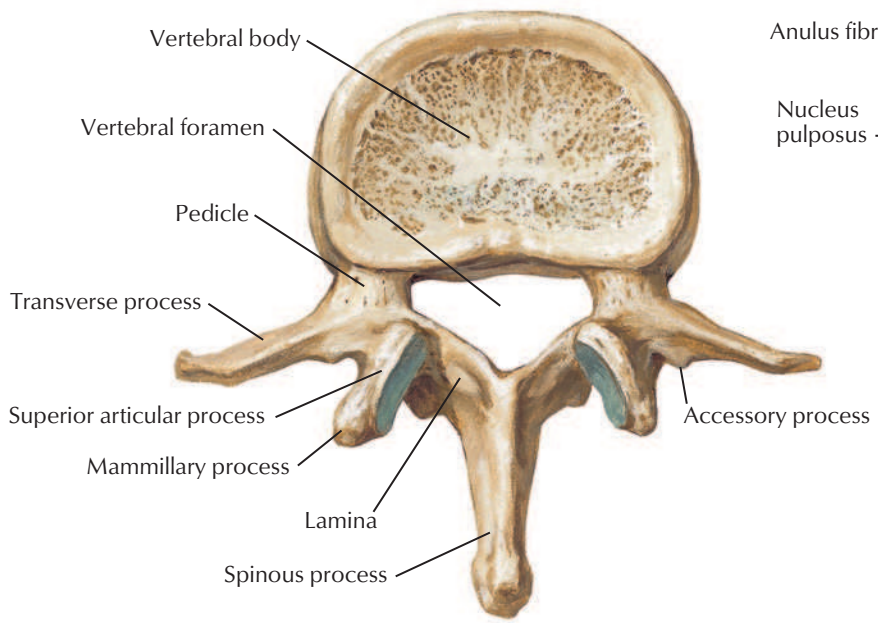


T7, T8, and T9 vertebrae: posterior view

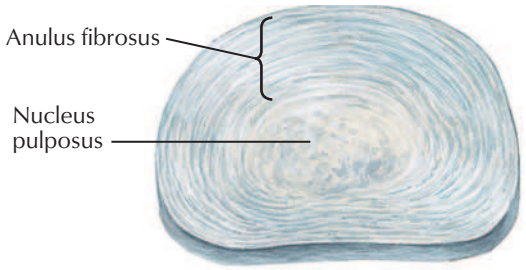


T12 vertebra: lateral view

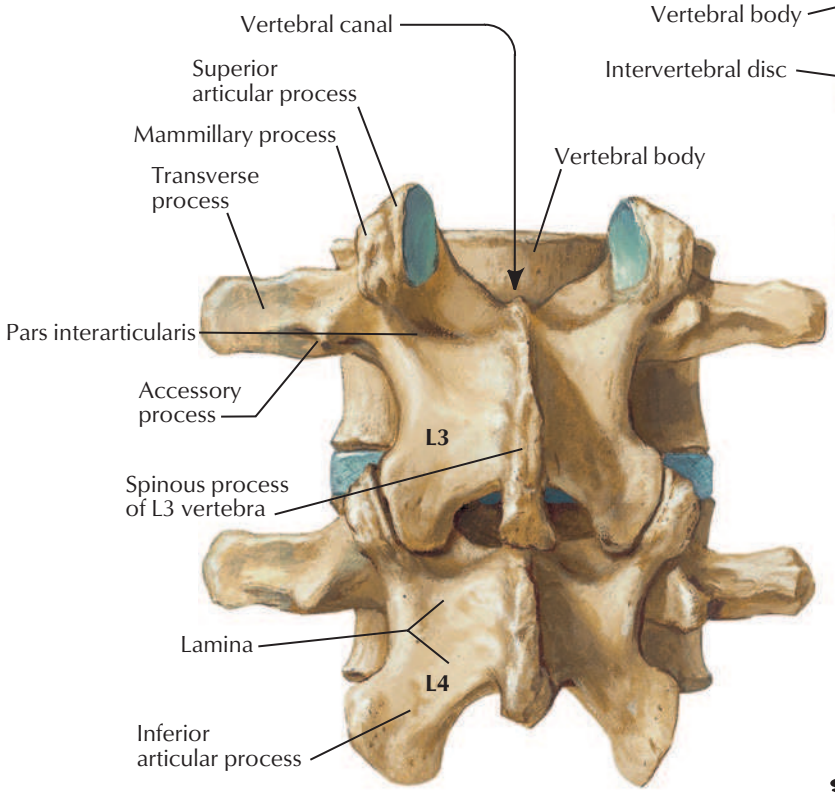
www.Booksmedicos06.com ////////



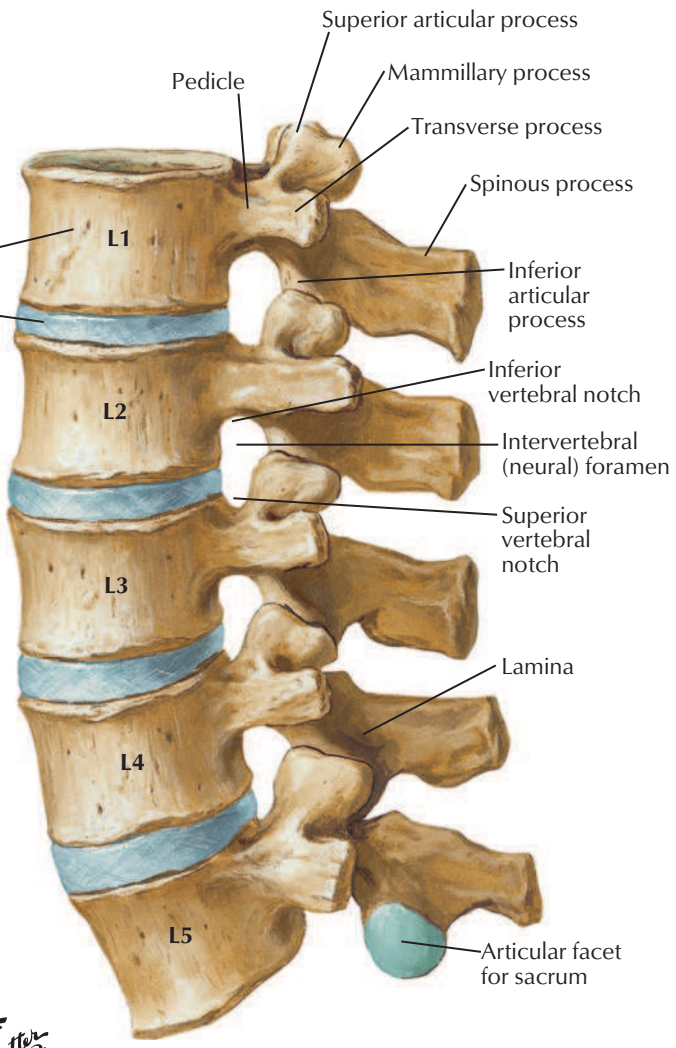
L2 vertebra: superior view



Intervertebral disc



L3 and L4 vertebrae: posterior view

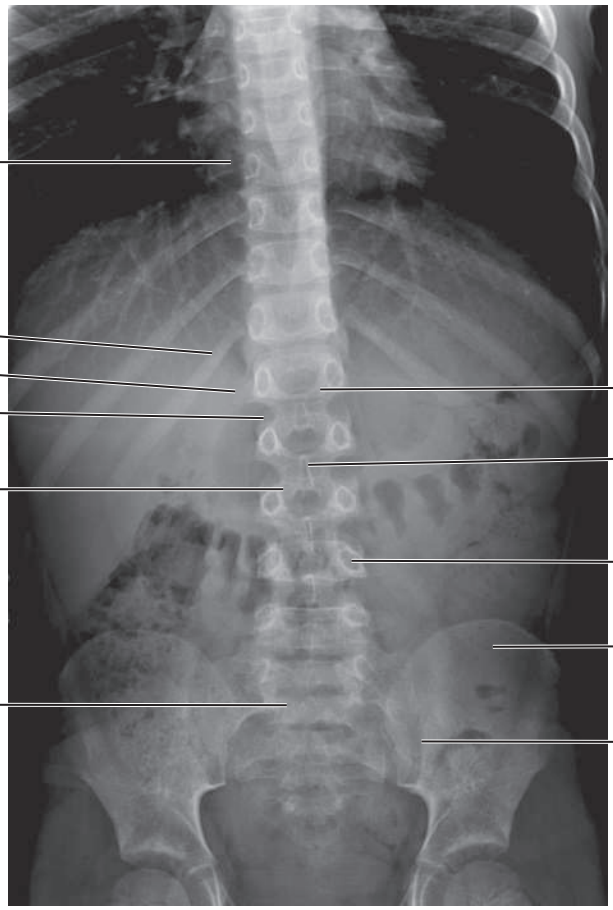


Lumbar vertebrae, articulated: left lateral view

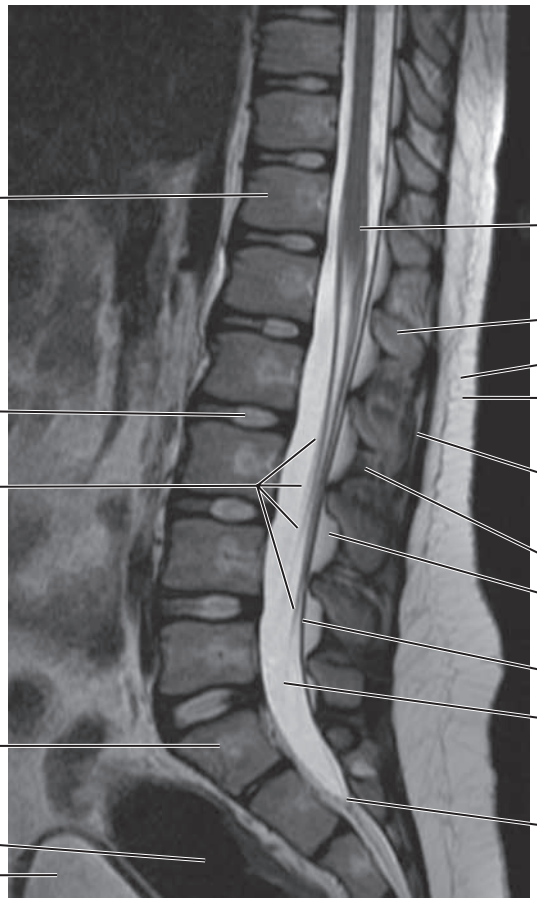
////// facebook : Booksmedicos06

See also Plates 162, 250

Anteroposterior radiograph of thoracolumbar spine

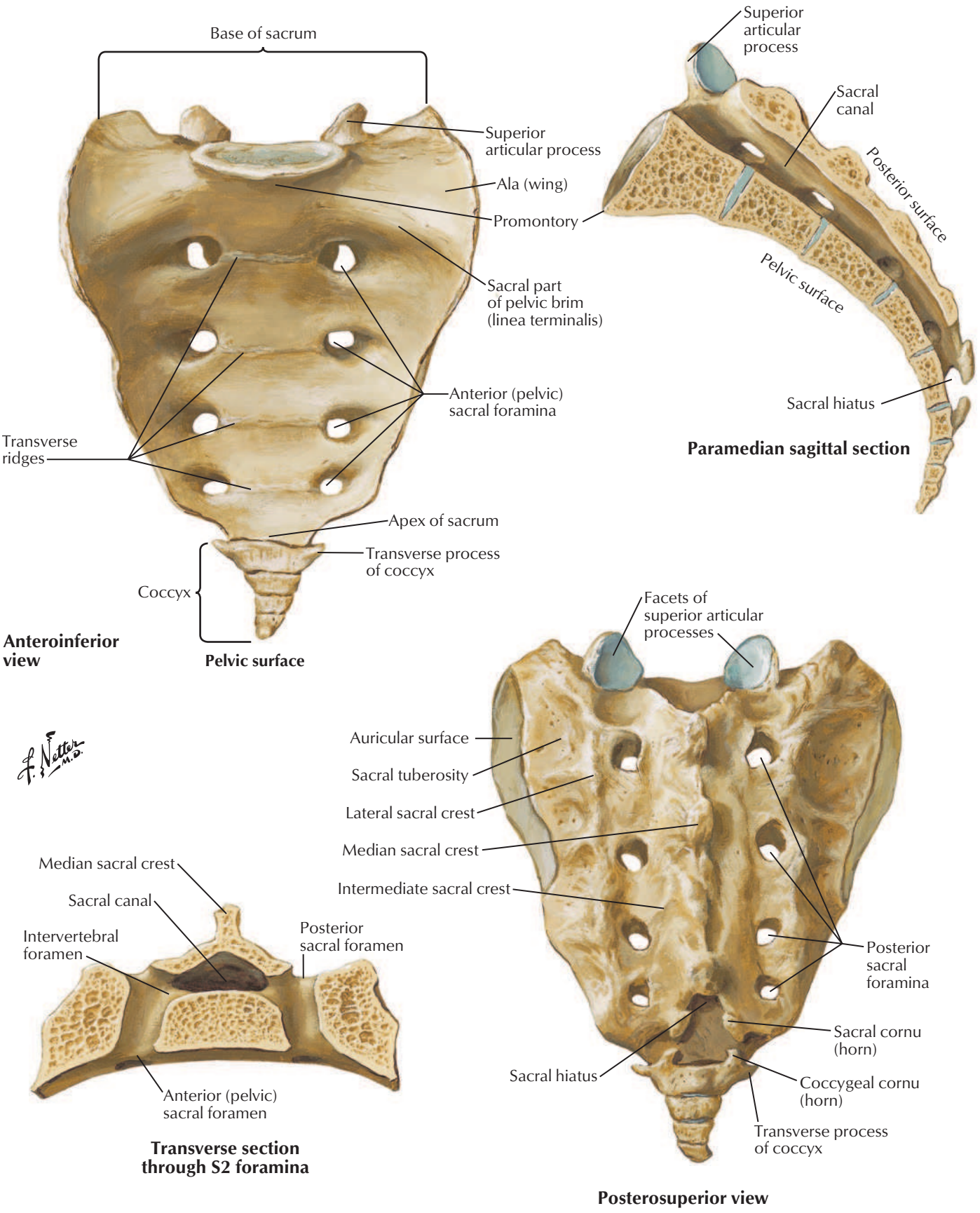


T2-weighted sagittal MRI of lumbar spine

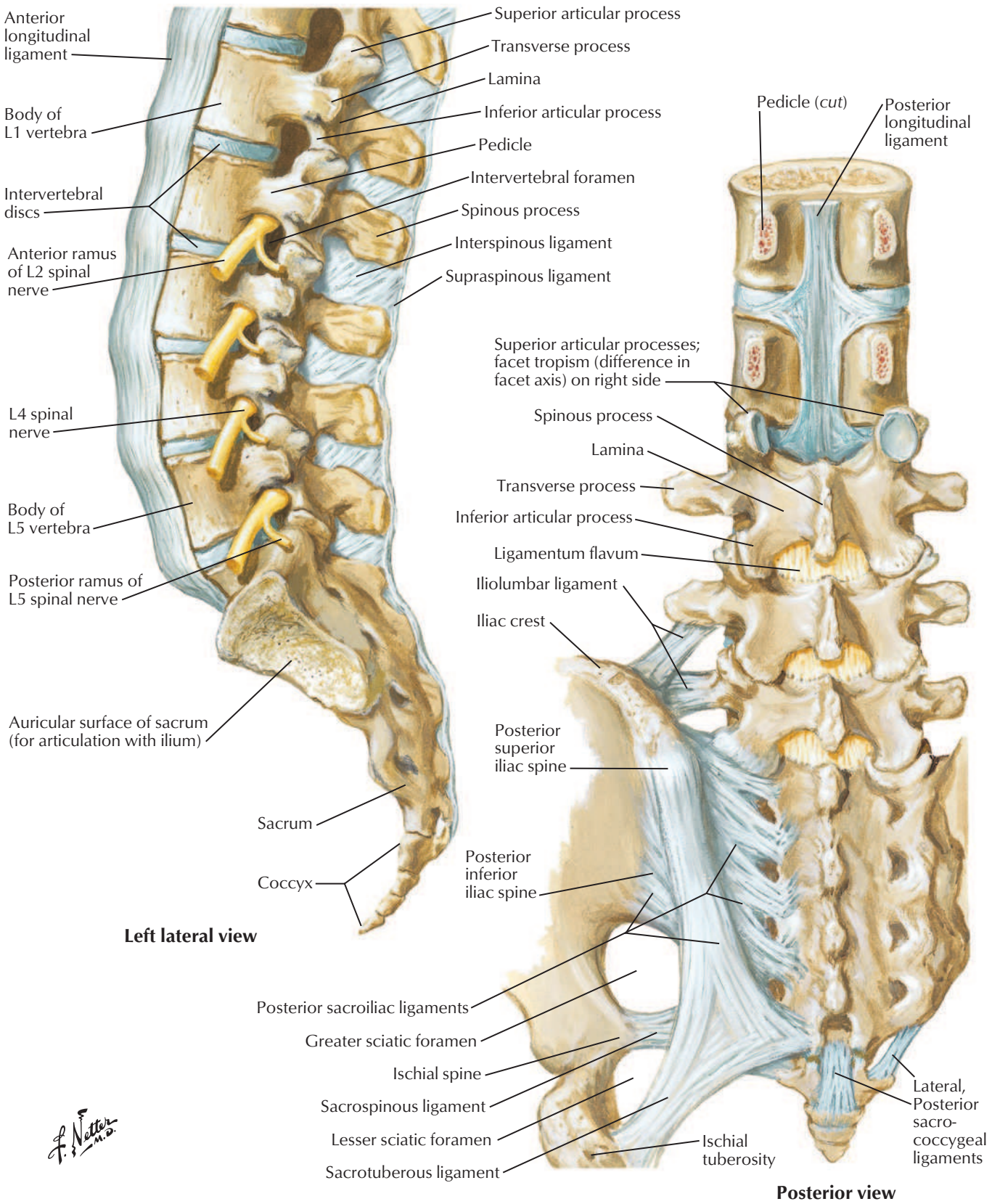


www.Booksmedicos06.com

See also Plates 334, 338

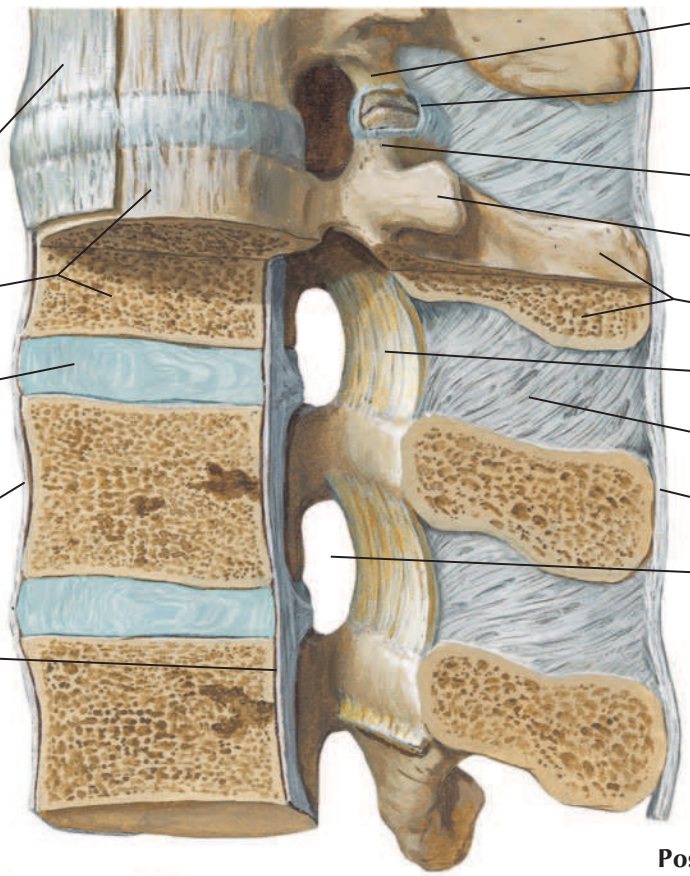


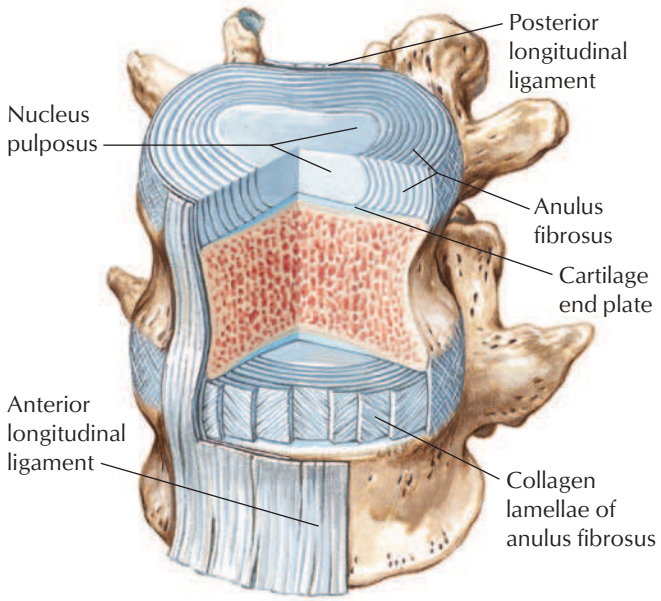
////// facebook : Booksmedicos06



www.Booksmedicos06.com

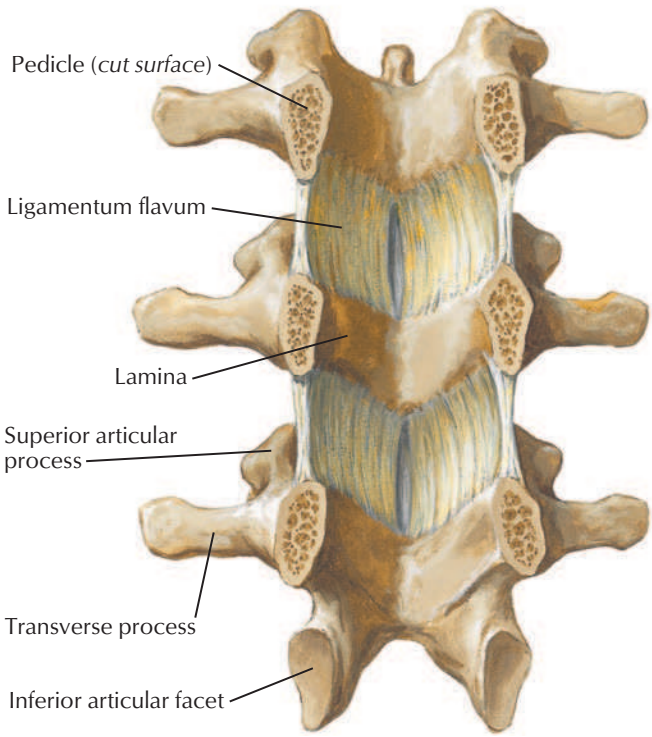
Left lateral view (*partially sectioned in median plane*)





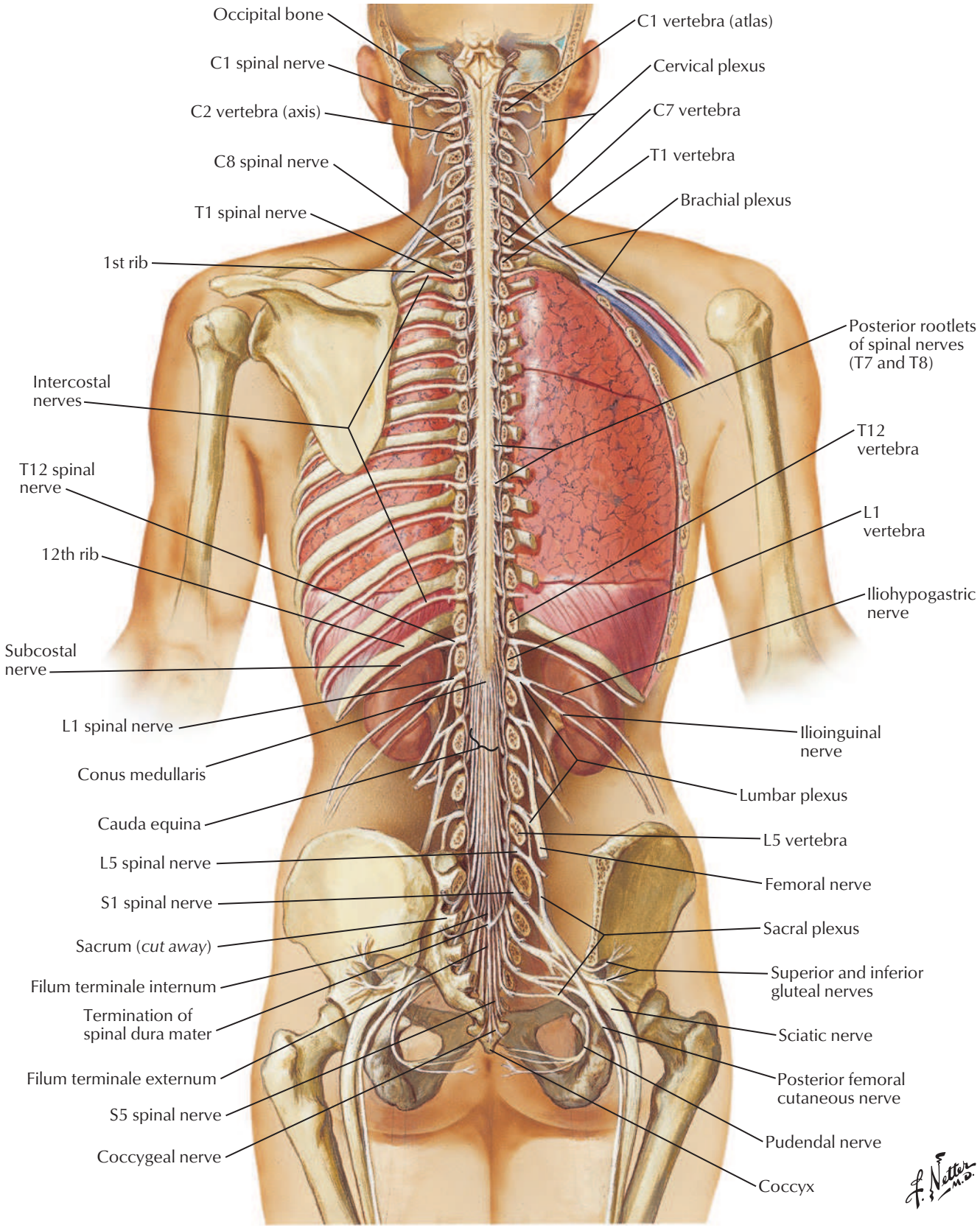
Intervertebral disc composed of central nuclear zone of collagen and hydrated proteoglycans surrounded by concentric lamellae of collagen fibers

Posterior vertebral arches: anterior view

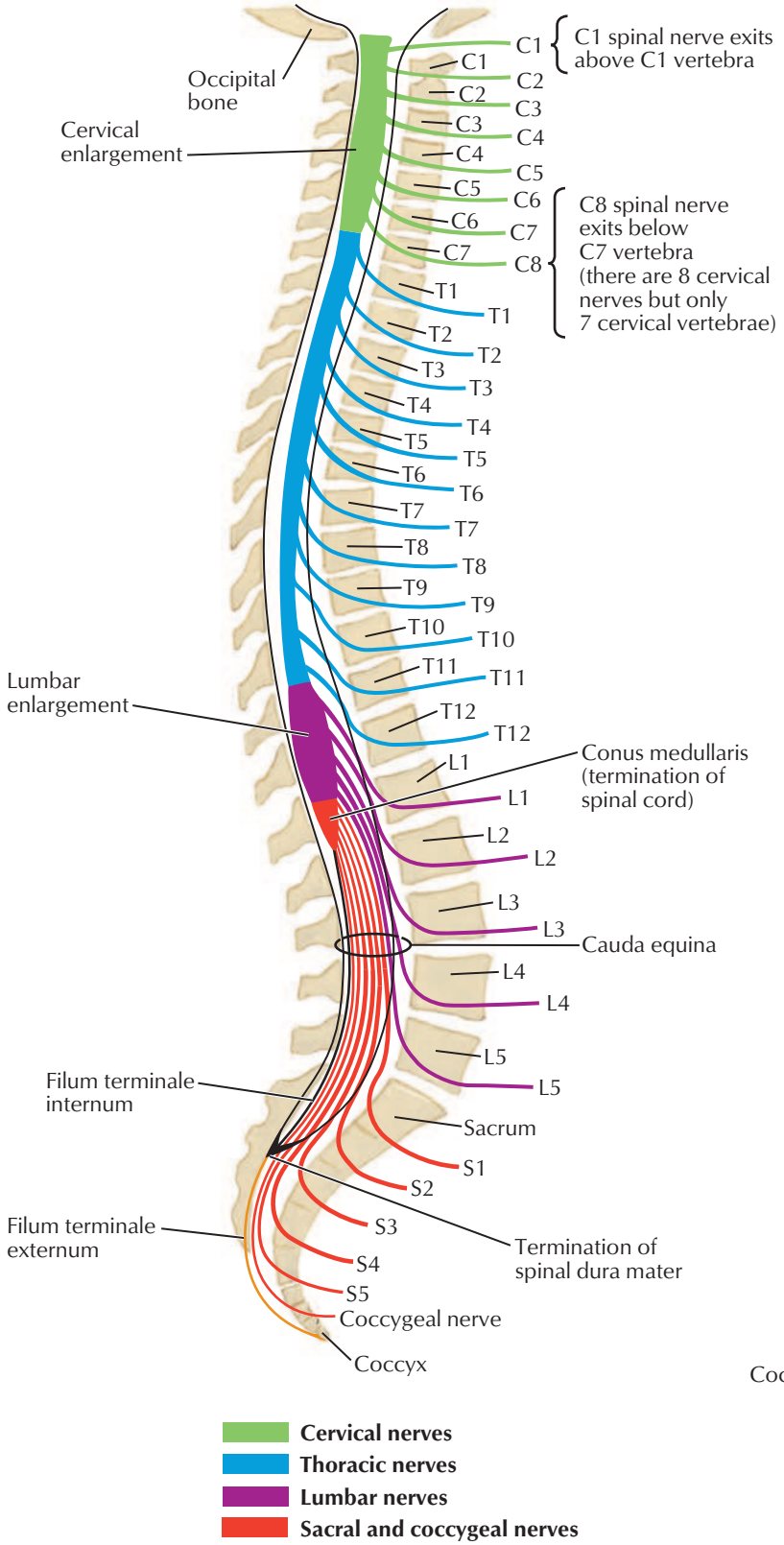


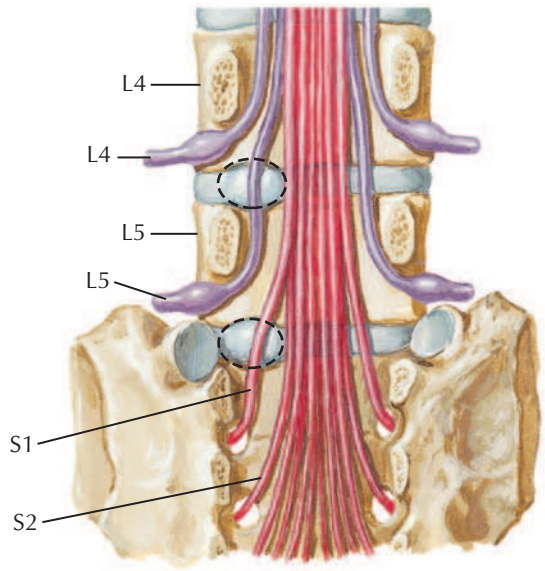
F. Netter M.D. C. Machado M.D.

////// facebook : Booksmedicos06

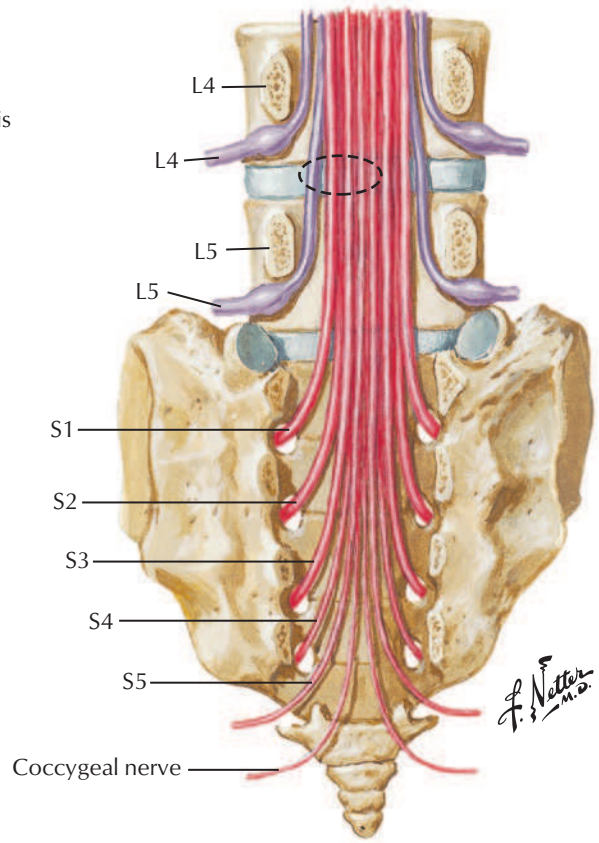


www.Booksmedicos06.com



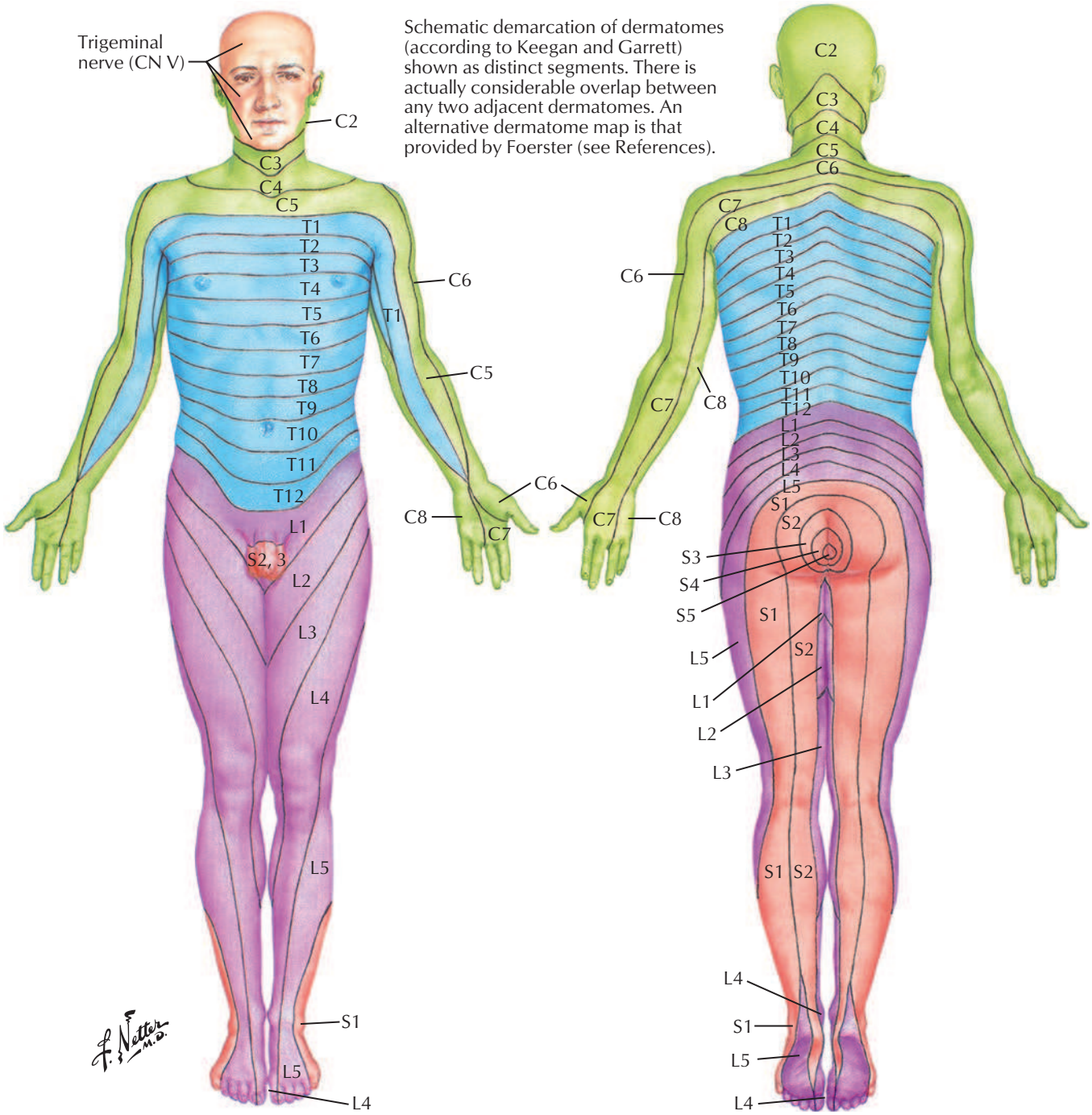


Lumbar disc protrusion (*dashed ovals*) does not usually affect nerve exiting above disc. Lateral protrusion at disc level L4–5 affects L5 spinal nerve, not L4 spinal nerve. Protrusion at disc level L5–S1 affects S1 spinal nerve, not L5 spinal nerve.



Medial protrusion at disc level L4–5 (*dashed oval*) rarely affects L4 spinal nerve but might affect L5 spinal nerve and sometimes S1–4 spinal nerves.

////// facebook : Booksmedicos06

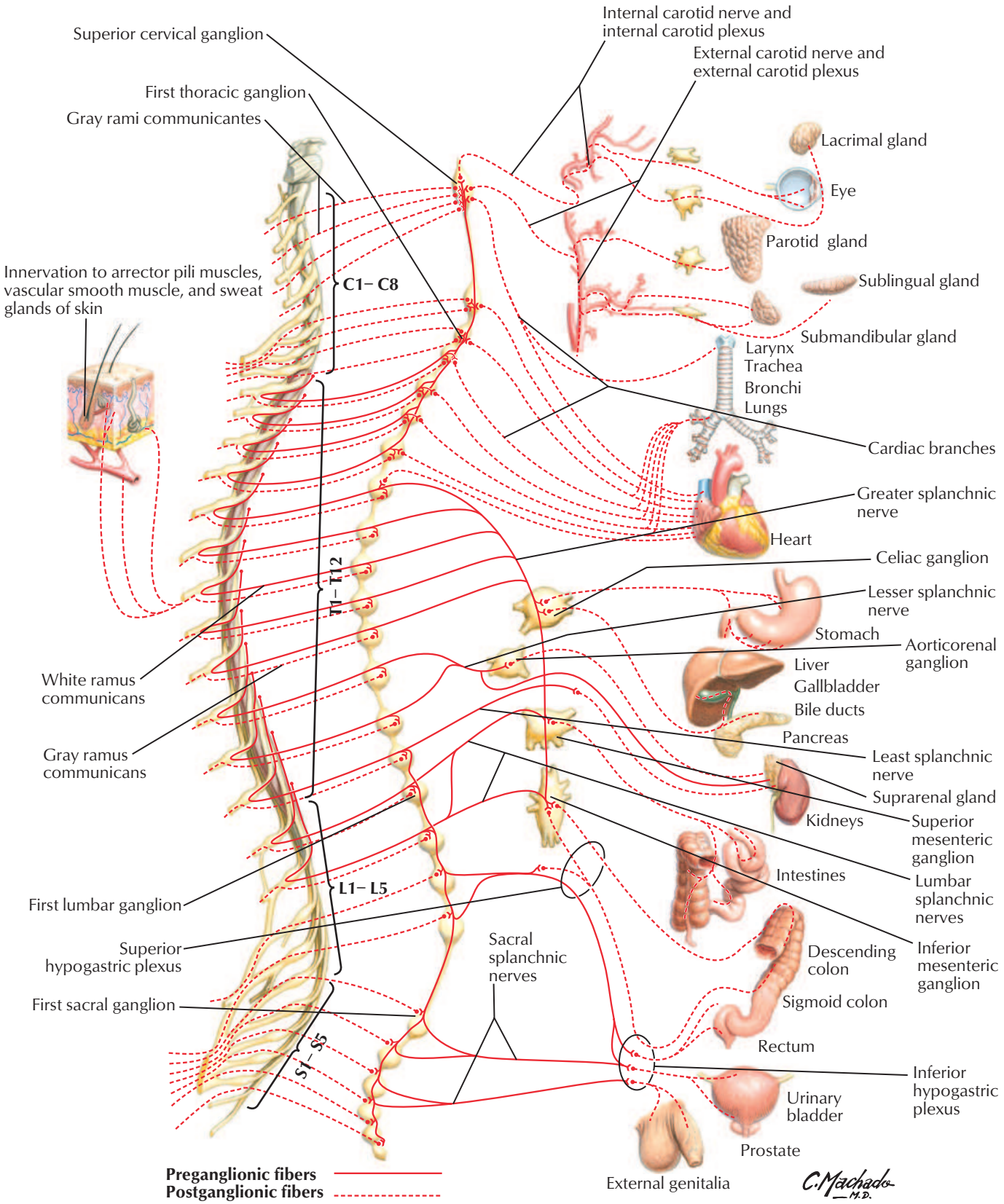


Levels of principal dermatomes

C5	Level of clavicles
C5, 6	Lateral sides of upper limbs
C8, T1	Medial sides of upper limbs
C6	Digit I (thumb)
C6, 7, 8	Hand
C8	Digits IV and V (ring and little fingers)
T4	Level of nipples
T10	Level of umbilicus
L1	Inguinal region
L1, 2, 3, 4	Anterior and medial surfaces of lower limbs
L4, 5, S1	Foot
L4	Medial side digit I (great toe)
L5, S1, 2	Lateral and posterior surfaces of lower limbs
S1	Lateral margin of foot and digit V (little toe)
S2, 3, 4	Perineum

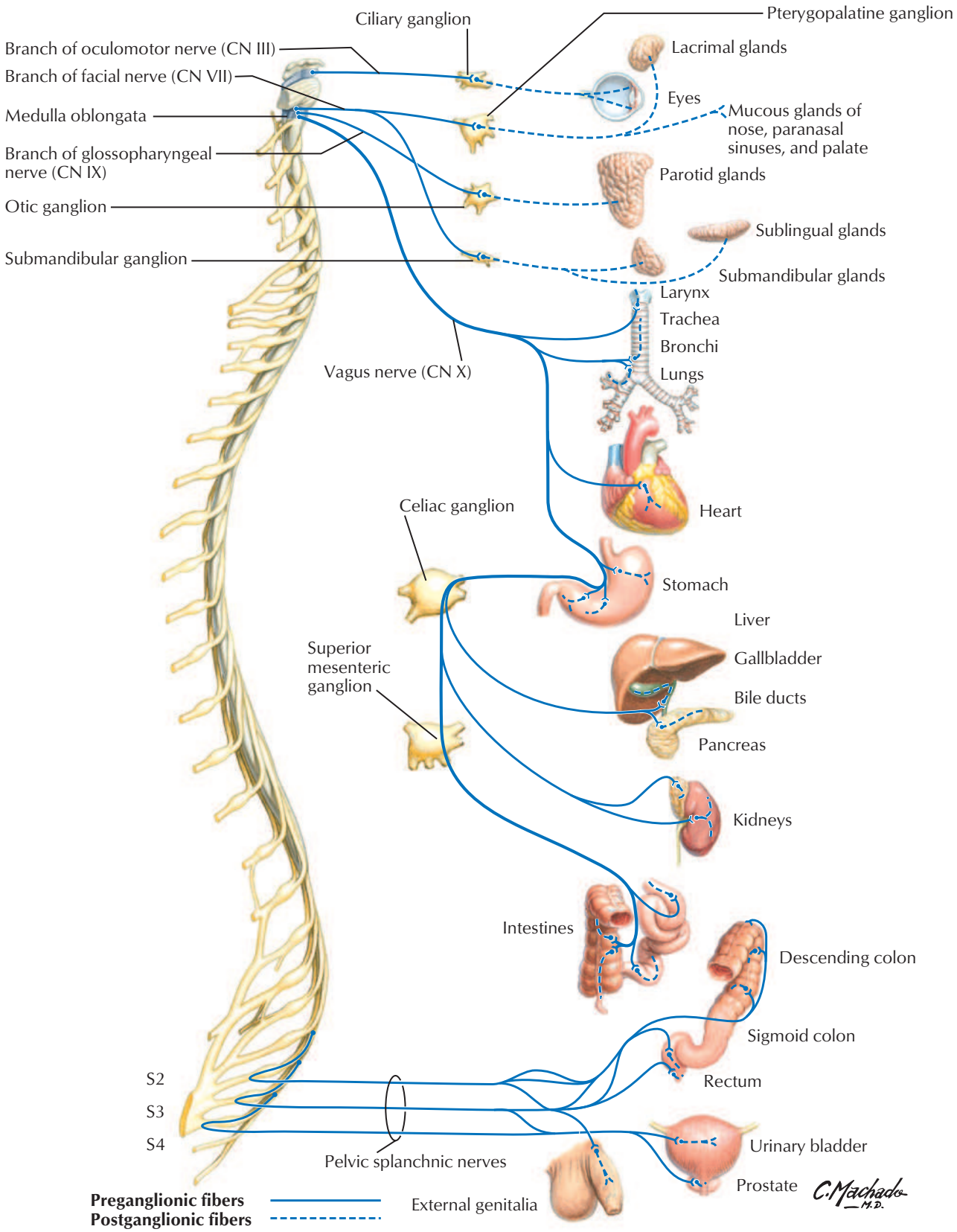
www.Booksmedicos06.com ////////

See also Plates 213, 320, 322



////// facebook : Booksmedicos06

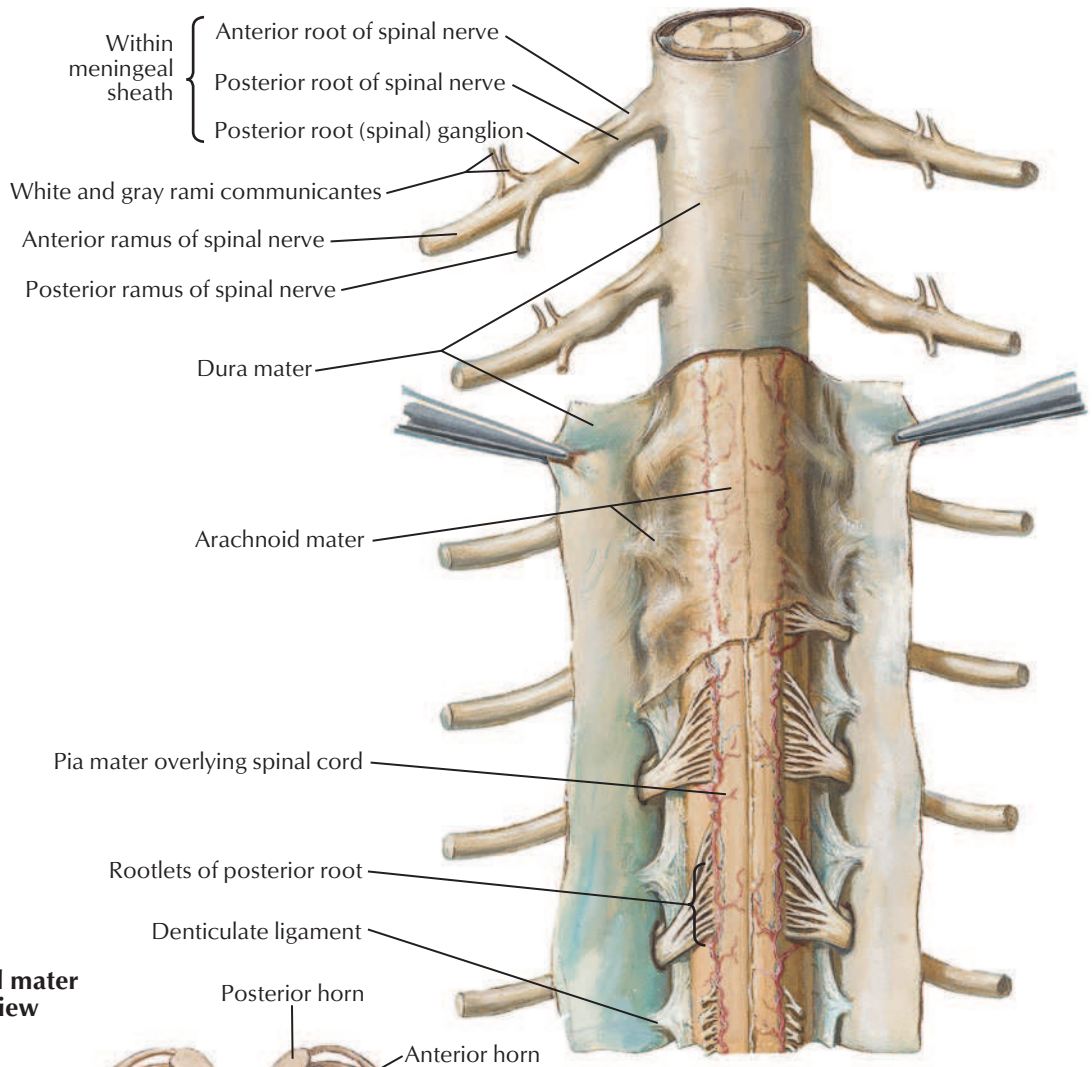
See also Plates 306, 394



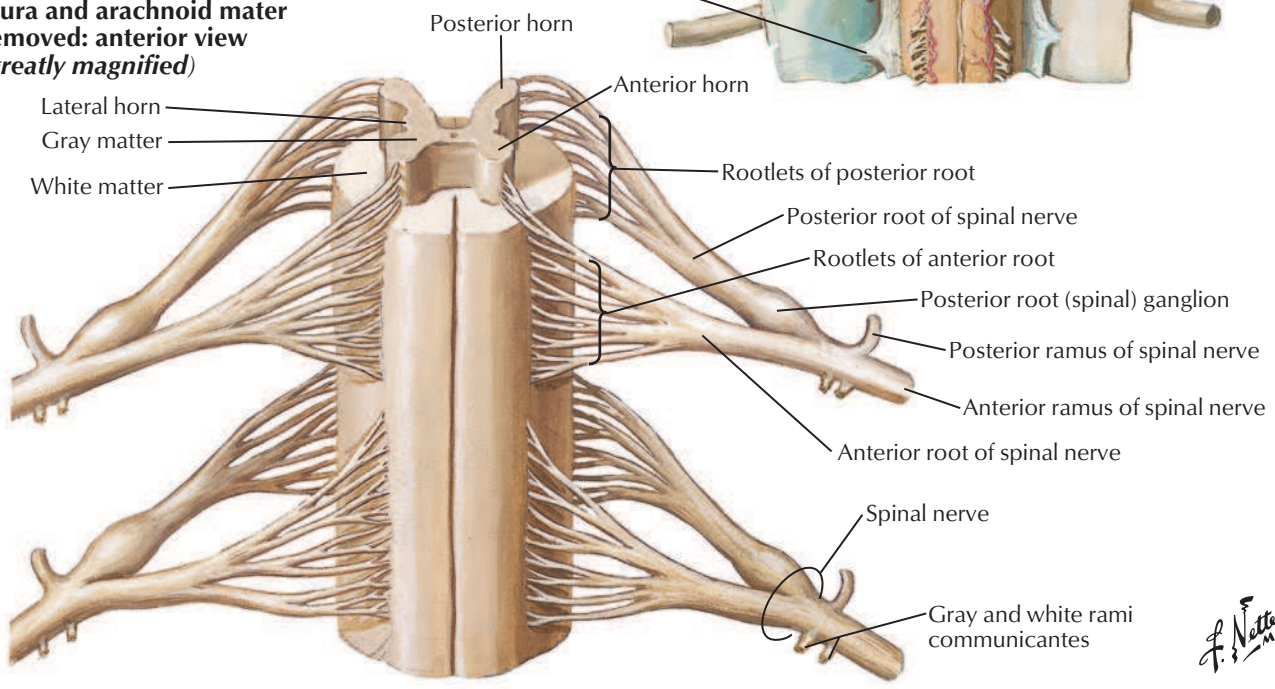
www.Booksmedicos06.com

////// facebook : Booksmedicos06

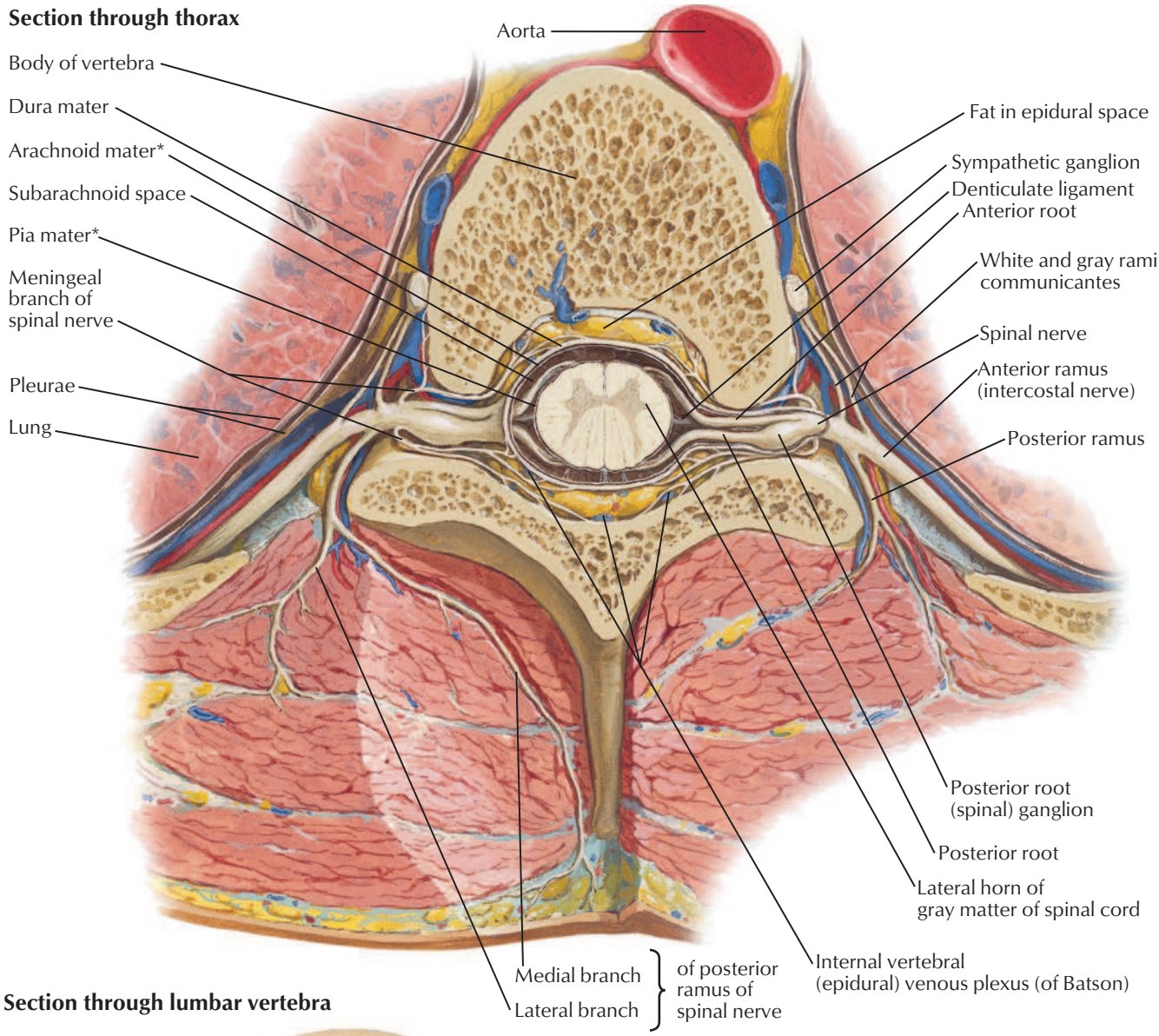
Posterior view



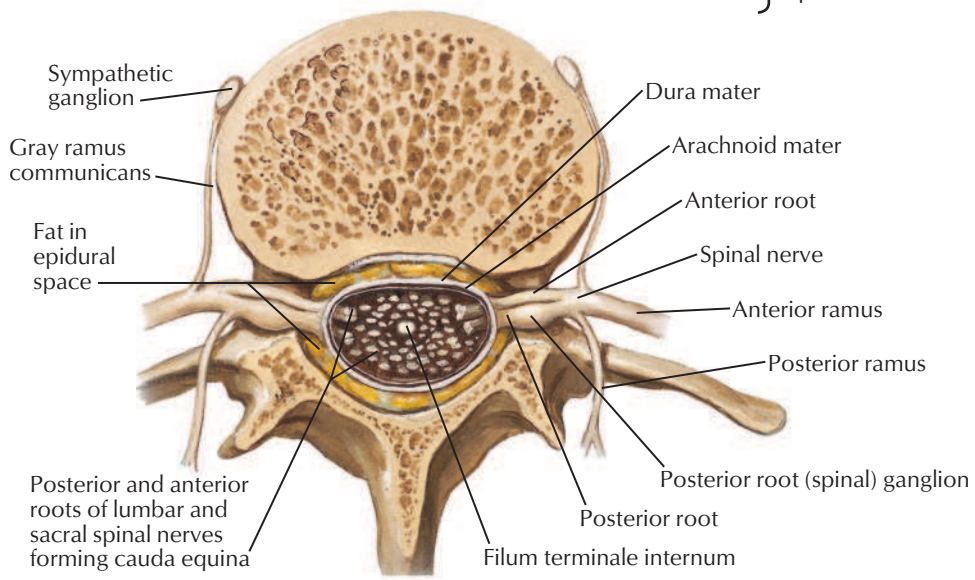
Dura and arachnoid mater removed: anterior view (*greatly magnified*)



Section through thorax

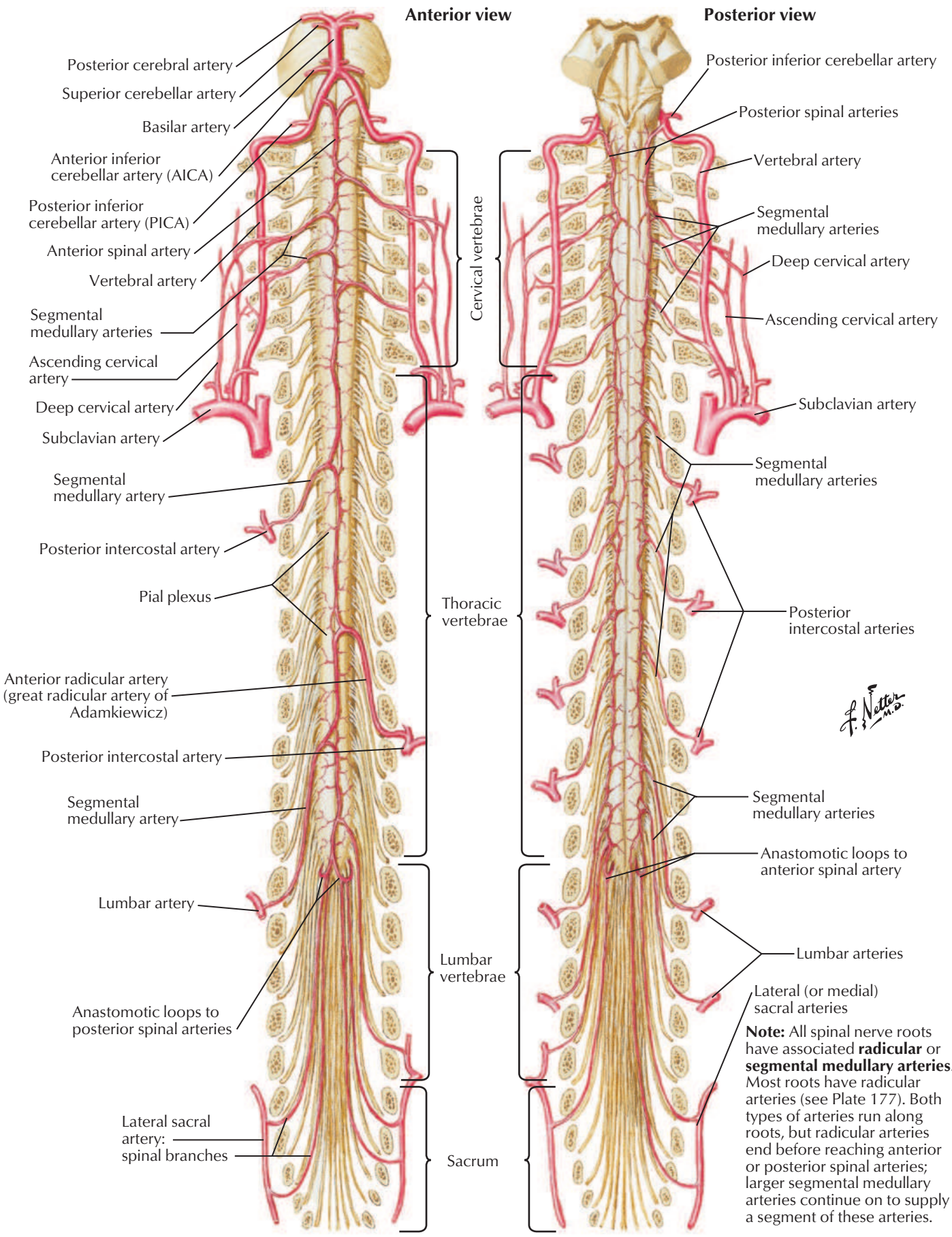


Section through lumbar vertebra



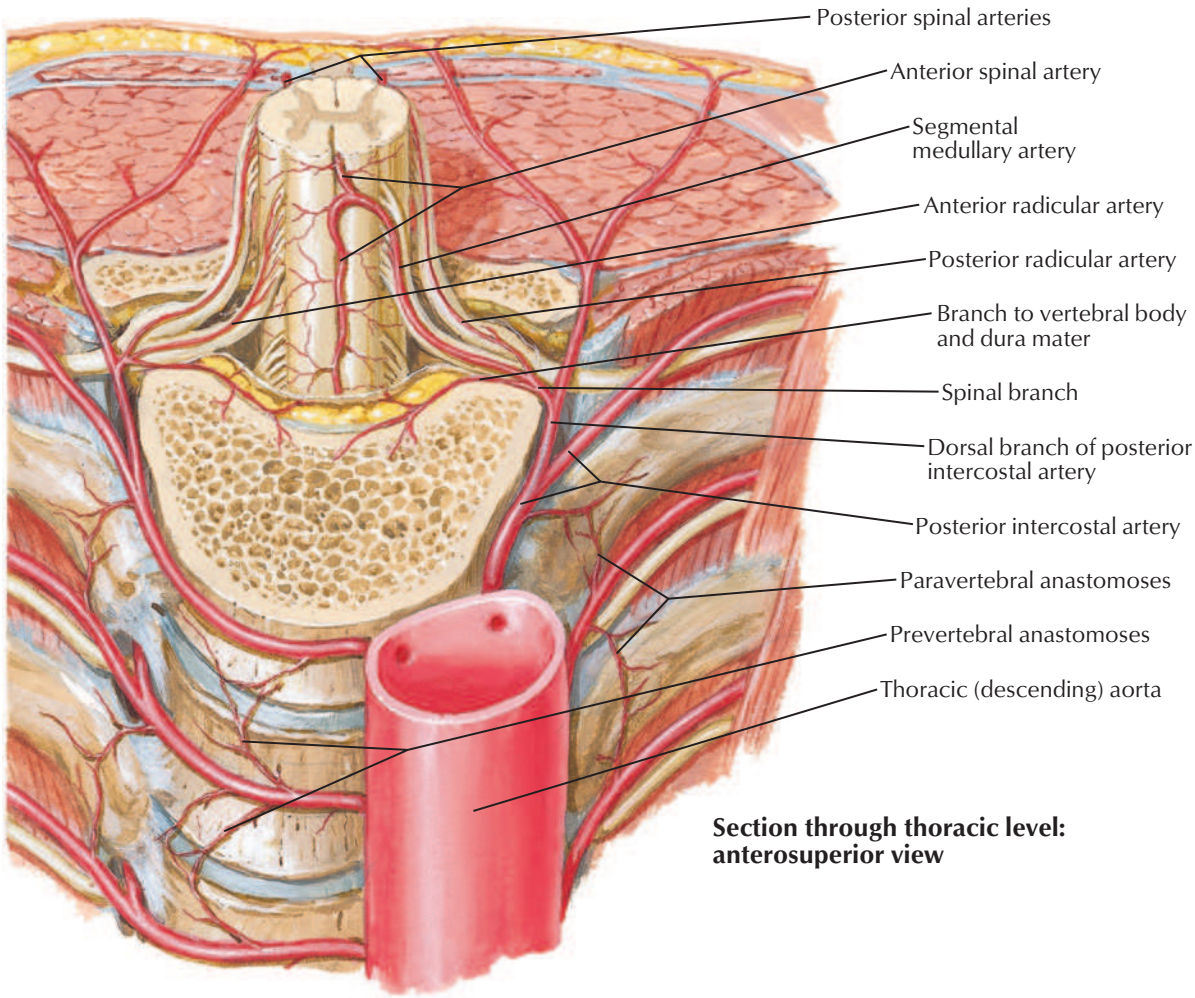
*Leptomeninges

www.Booksmedicos06.com

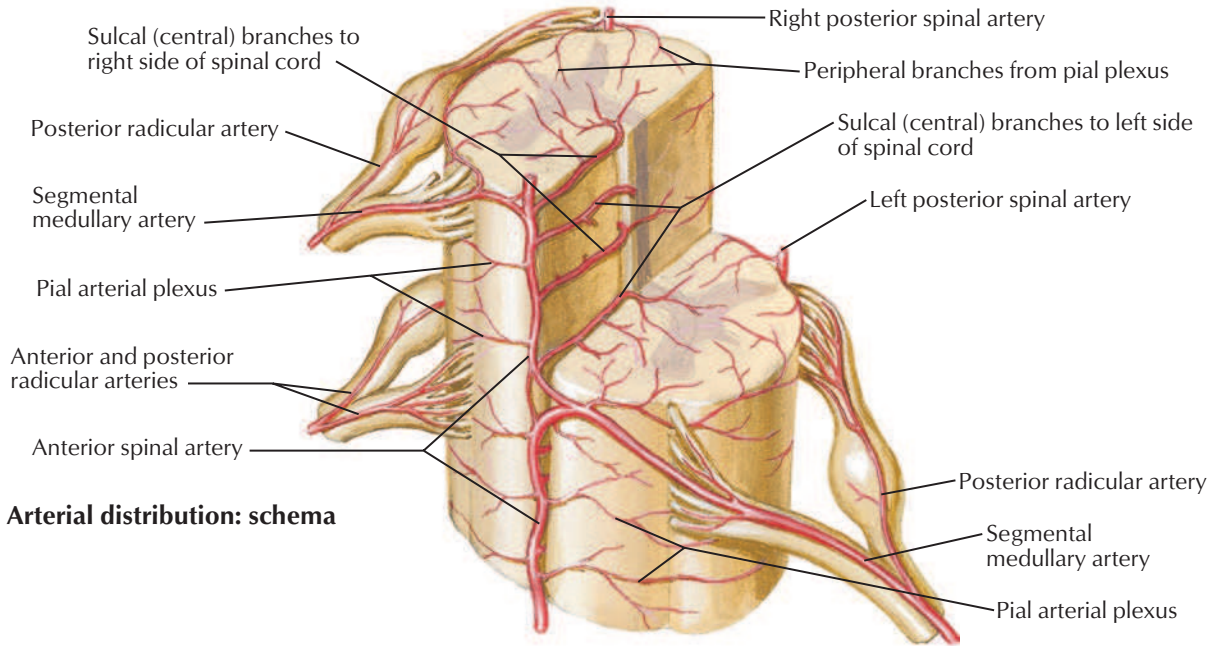


Note: All spinal nerve roots have associated **radicular** or **segmental medullary arteries**. Most roots have radicular arteries (see Plate 177). Both types of arteries run along roots, but radicular arteries end before reaching anterior or posterior spinal arteries; larger segmental medullary arteries continue on to supply a segment of these arteries.

////// facebook : Booksmedicos06

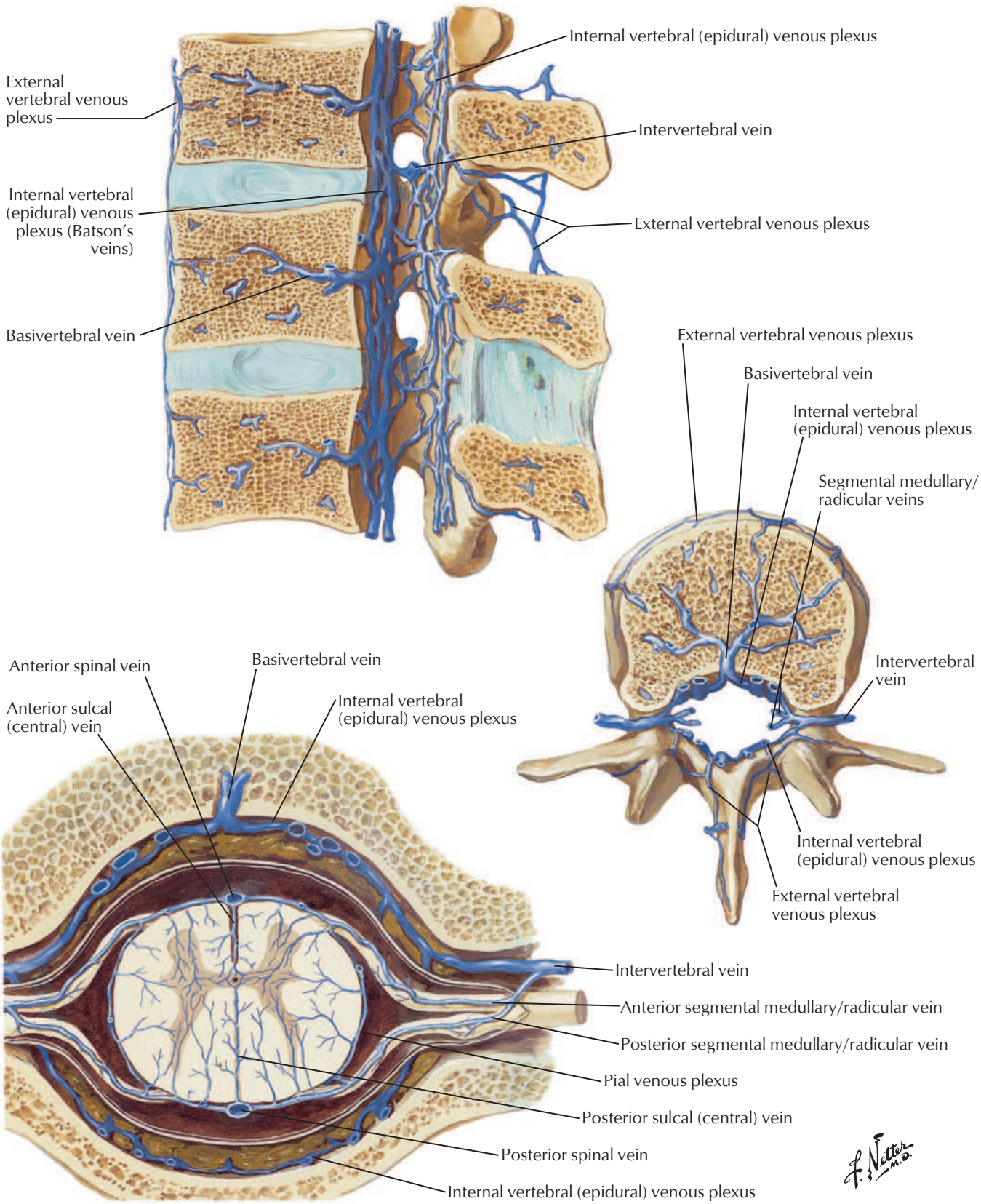


Section through thoracic level: anterosuperior view

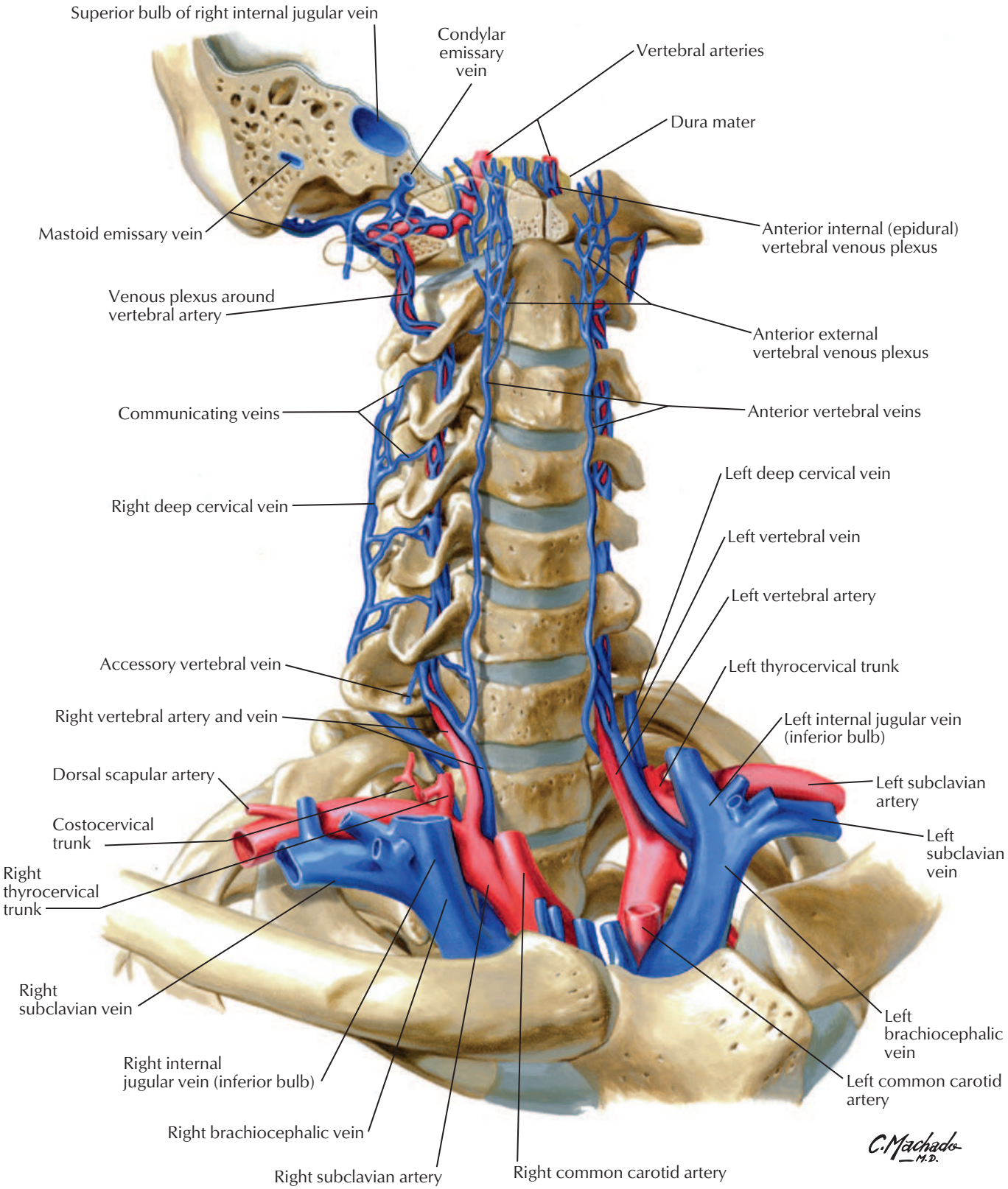


Arterial distribution: schema

www.Booksmedicos06.com ///////

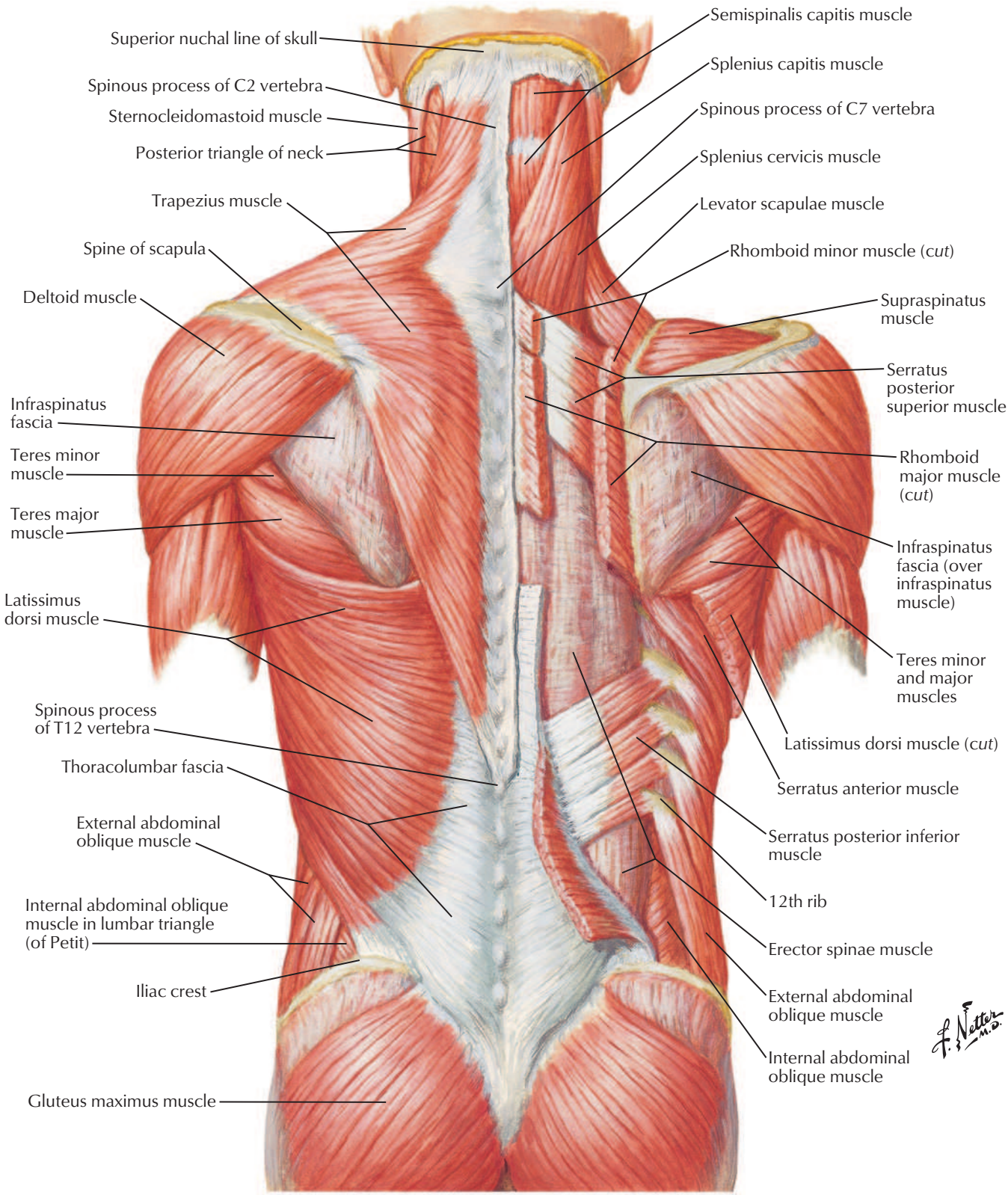


////// facebook : Booksmedicos06

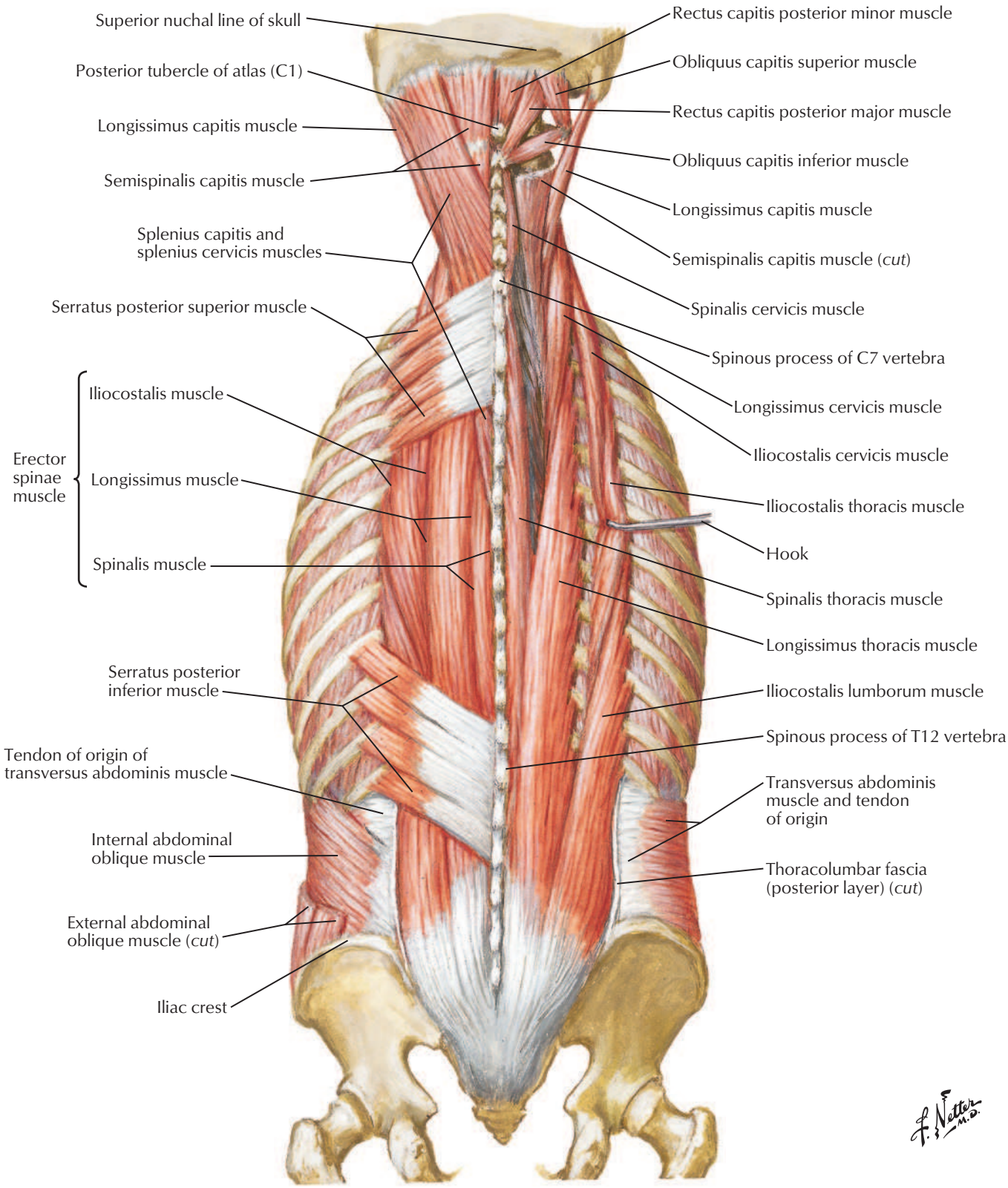


www.Booksmedicos06.com

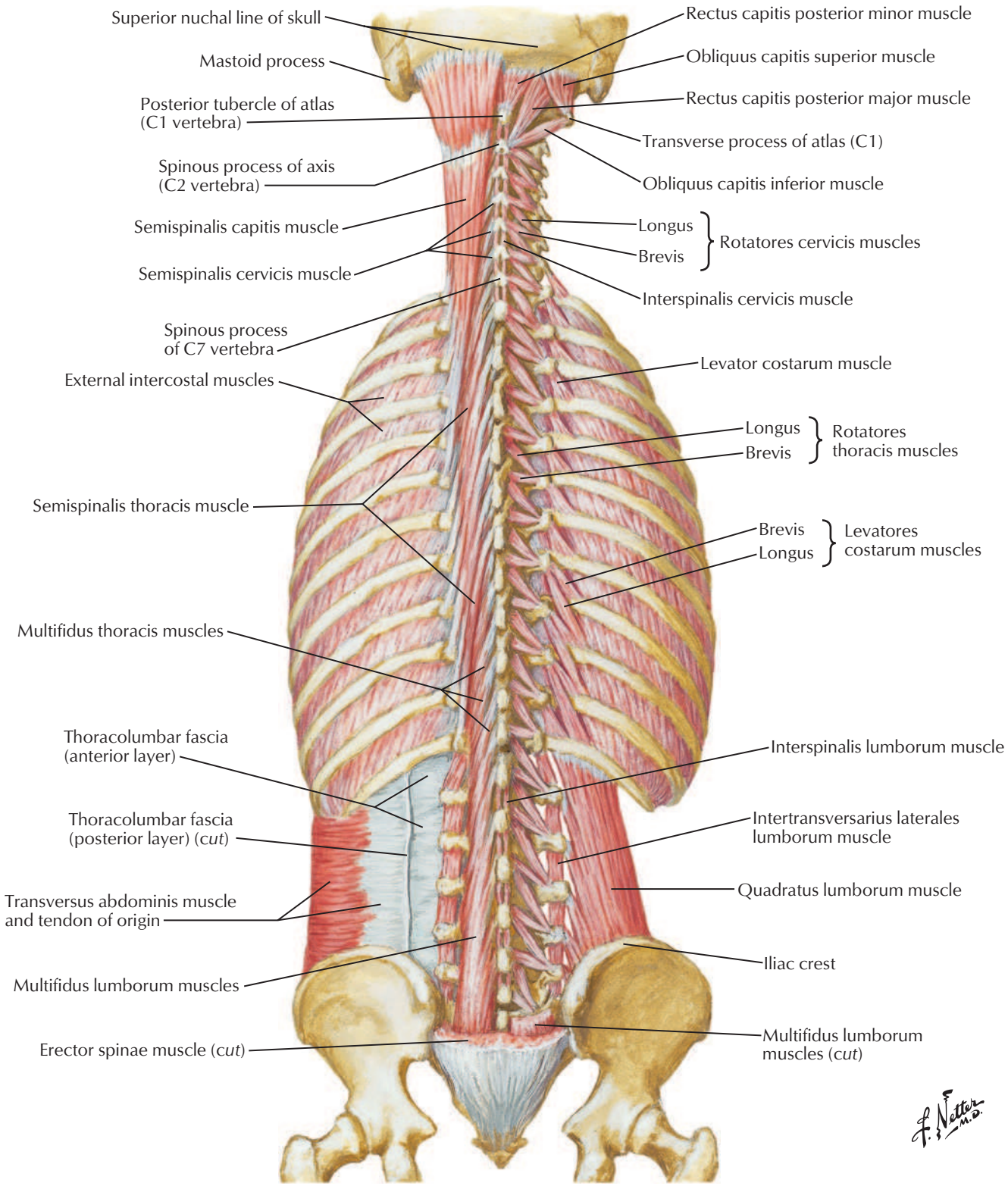
See also Plates 36, 257



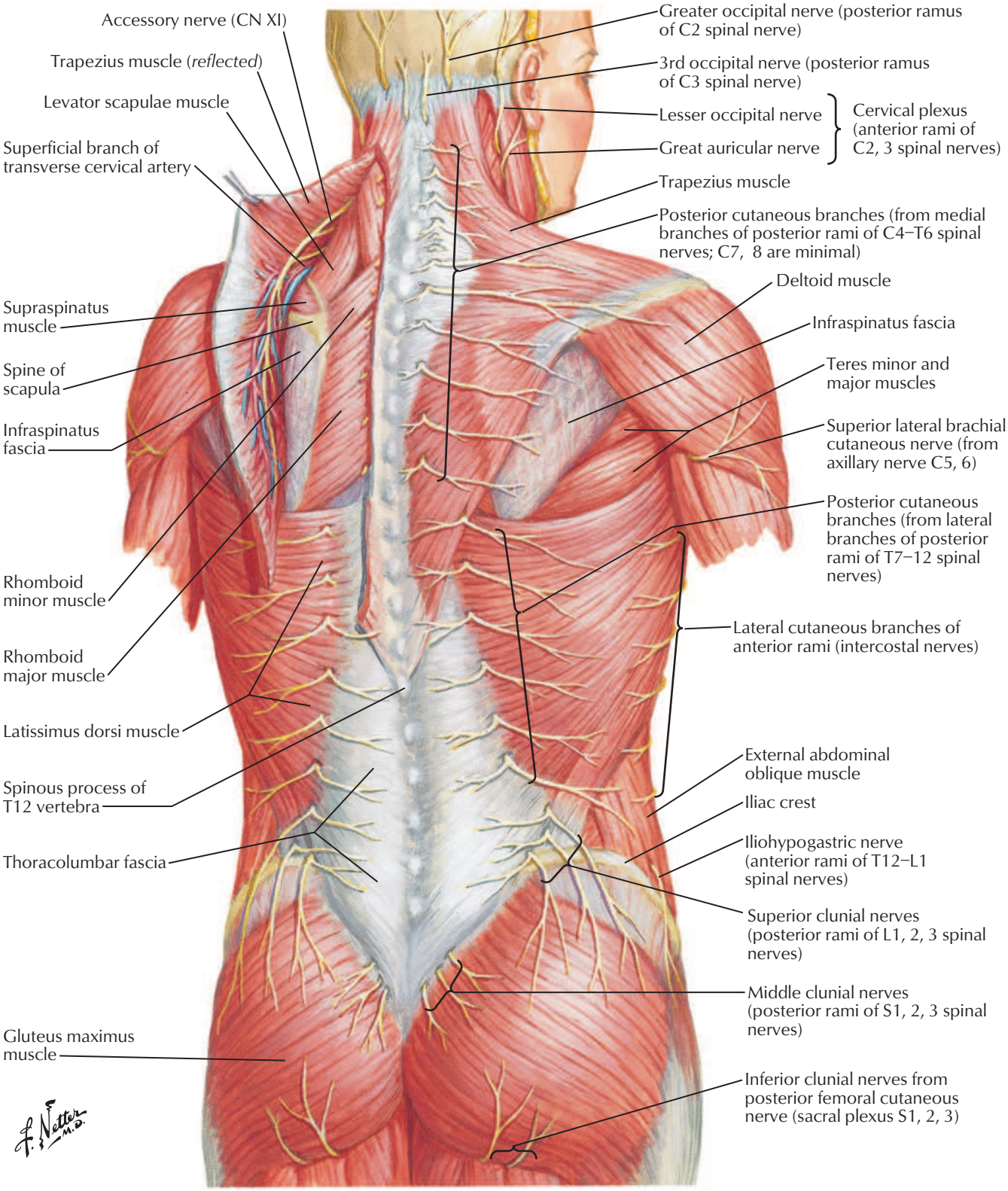
////// facebook : Booksmedicos06



www.Booksmedicos06.com

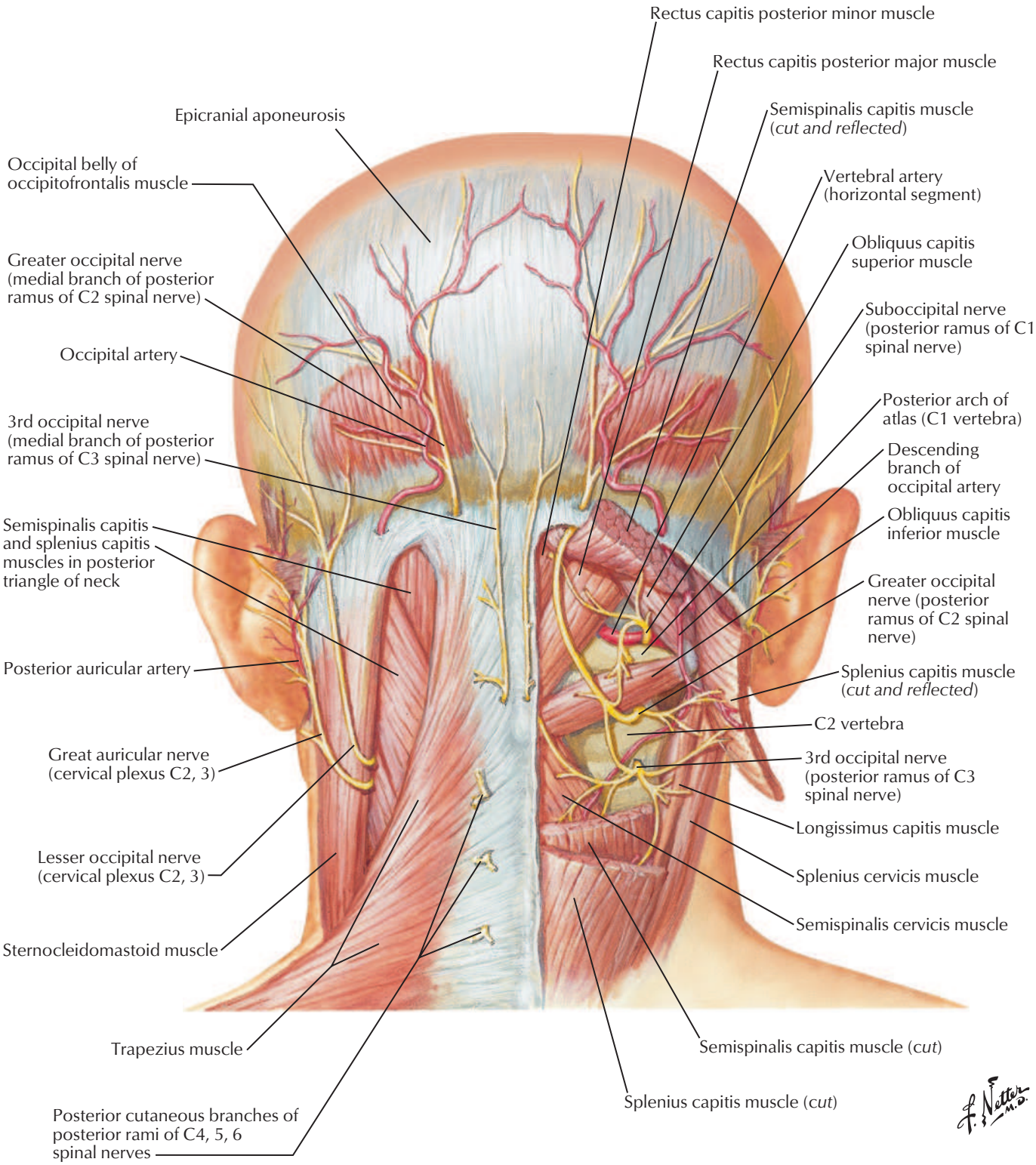


////// facebook : Booksmedicos06



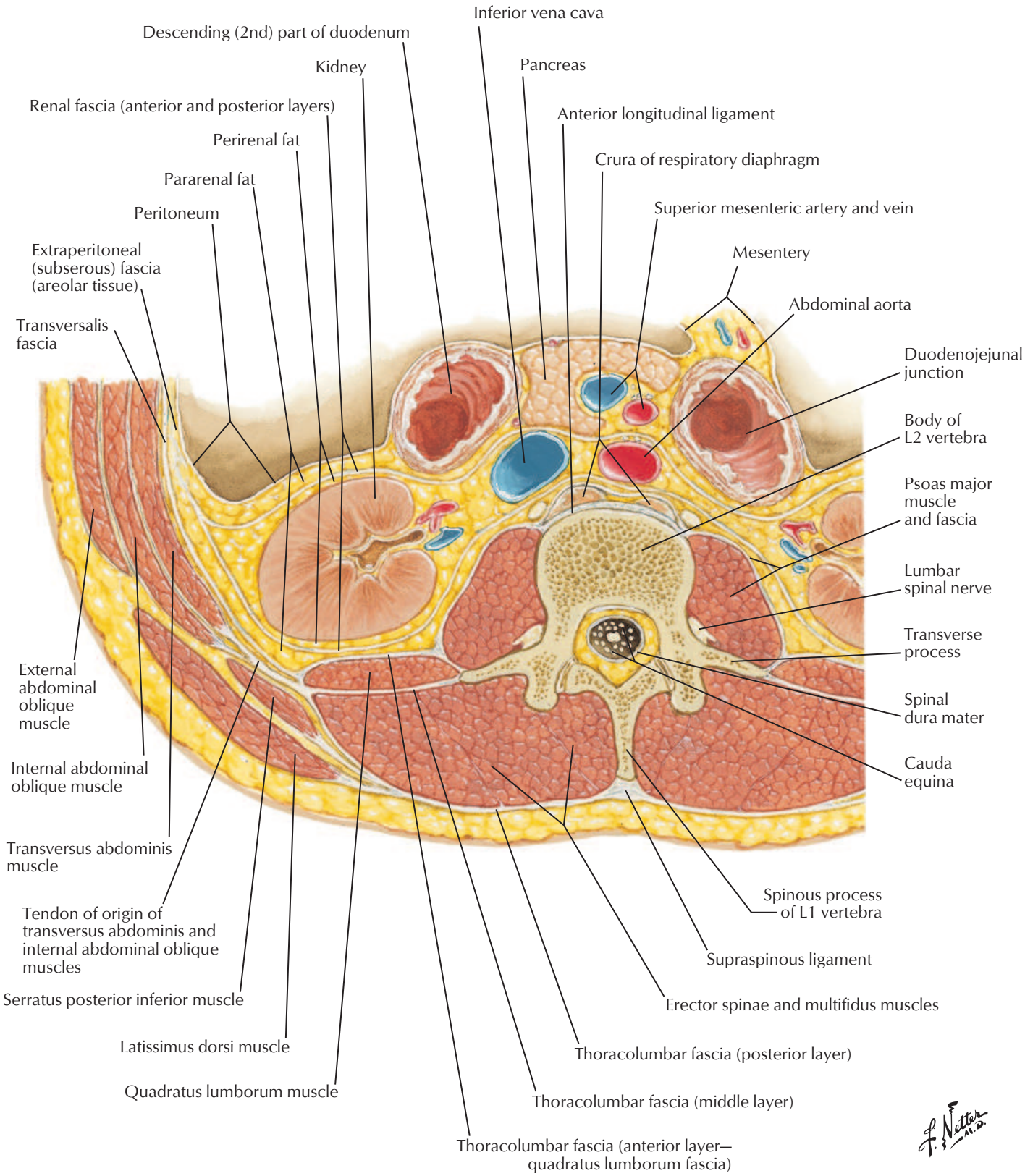
www.Booksmedicos06.com

See also Plates 36, 39



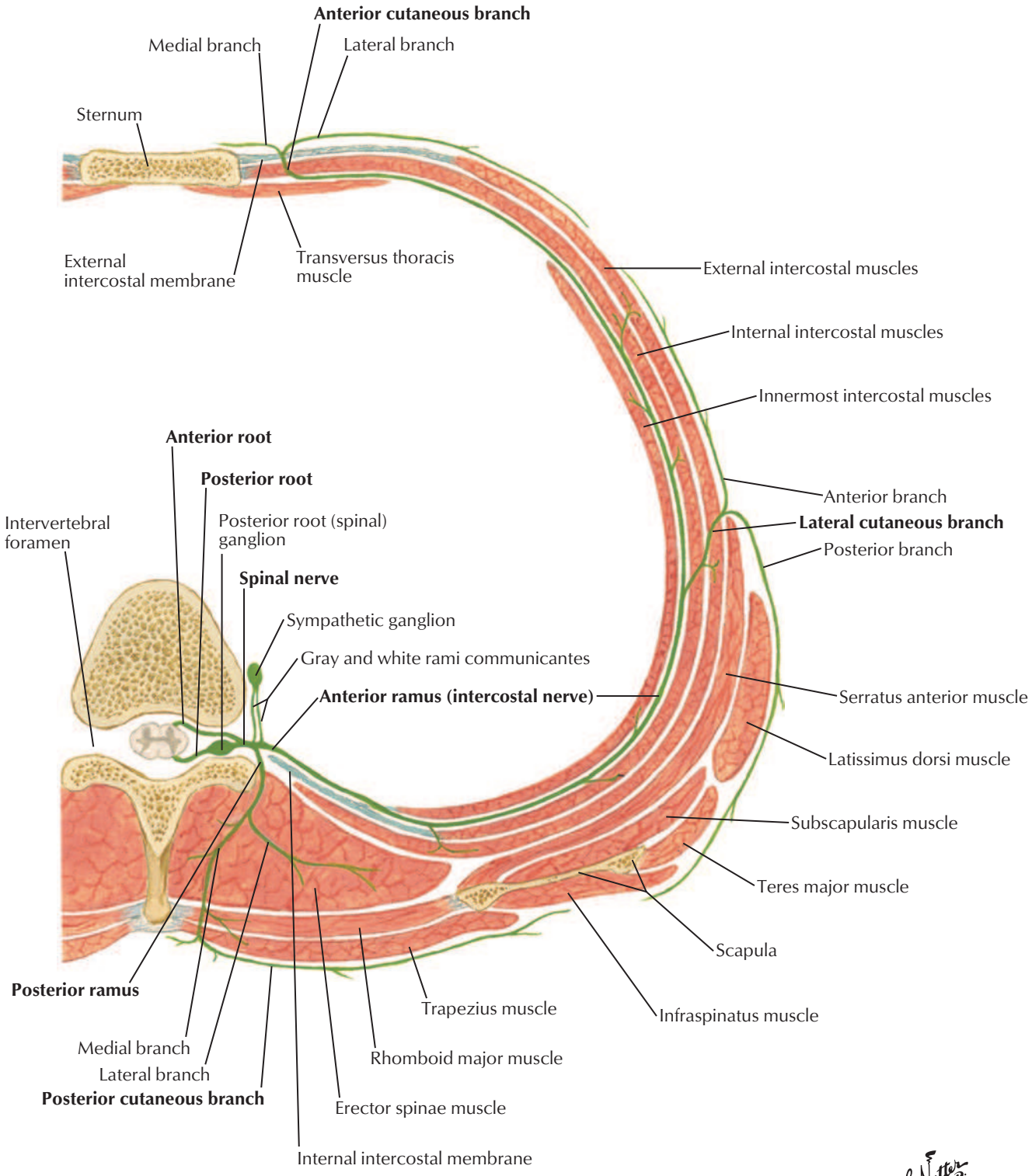
////// facebook : Booksmedicos06

See also Plates 312, 318



www.Booksmedicos06.com

See also Plate 261



Note: *In lower thoracic region, lateral branch of posterior ramus is longer, motor, and cutaneous; medial branch is shorter and motor only.*

////// facebook : Booksmedicos06

ANATOMIC STRUCTURES	CLINICAL IMPORTANCE	PLATE NUMBERS
SKELETAL SYSTEM		
Spinous processes	Palpable landmarks used to assess spinal curvatures and determine location of spinal cord for procedures such as lumbar puncture and injection of spinal anesthesia	161, 180
C7 spinous process	Most prominent spinous process (vertebra prominens); often used to begin counting vertebrae	161, 163
Intervertebral disc	Age-related changes may produce herniation of nucleus pulposus, causing back pain; occurs most commonly in lower lumbar regions of vertebral column	164, 170
Lamina	Surgically removed in laminectomy to gain access to vertebral canal and spinal cord	164
Intervertebral foramen	May become narrowed by age-related changes (e.g., osteophyte formation) or changes in intervertebral disc height, producing compression of its contents	164, 167, 168
Sacral hiatus	Provides access to epidural space to administer caudal epidural anesthesia	166
5th lumbar vertebra	Spondylolysis is clinical condition in which vertebral body separates from the part of its vertebral arch bearing inferior articulating process; if this occurs bilaterally, L5 body and transverse process may slide forward over sacrum, giving rise to spondylolisthesis	167
L5/S1 vertebrae	Most common level of intervertebral disc herniation	167, 170
Vertebral foramen	May become narrowed by arthritic changes in lumbar vertebrae, resulting in spinal stenosis; can lead to back pain, sciatica, numbness or tingling, and weakness in lower limbs	163, 164
MUSCULAR SYSTEM		
Trapezius muscle	Responsible for holding scapula against thoracic wall against gravity; drooping of shoulder indicates weakness of or injury to accessory nerve	180
Intrinsic back muscles	Microscopic stretching or tearing of muscle fibers produces back strain, a common cause of low back pain	181, 182
NERVOUS SYSTEM		
Conus medullaris	Indicates inferior limit of spinal cord; it is necessary to locate this point in procedures such as lumbar puncture	169
Cauda equina	Lumbar and sacral nerve roots may be anesthetized with anesthesia injected into subarachnoid space (spinal block)	169, 170
Spinal meninges	Access to epidural and subarachnoid spaces is necessary for clinical procedures such as epidural anesthesia and lumbar puncture	165, 175
CARDIOVASCULAR SYSTEM		
Segmental medullary arteries	Narrowing or damage to these arteries caused by atherosclerosis, vertebral fractures, or vertebral dislocations may cause ischemia of spinal cord	176
Vertebral venous plexuses	Venous conduits for metastasis of cancer cells to spine, lungs, and brain	178

*Selections were based largely on clinical data as well as commonly covered clinical correlations in gross anatomy courses.

www.Booksmedicos06.com ////////

MUSCLE	MUSCLE GROUP	PROXIMAL ATTACHMENT (ORIGIN)	DISTAL ATTACHMENT (INSERTION)	INNERVATION	BLOOD SUPPLY	MAIN ACTIONS
Erector spinae	Sacrospinalis	Posterior sacrum, iliac crest, sacrospinous ligament, supraspinous ligament, spinous processes of lower lumbar vertebrae and sacrum	*Iliocostalis:* angles of lower ribs, cervical transverse processes *Longissimus:* between tubercles and angles of ribs, transverse processes of thoracic and cervical vertebrae, mastoid process *Spinalis:* spinous processes of upper thoracic and midcervical vertebrae	Posterior rami of each region	*Cervical portions:* occipital, deep cervical, and vertebral arteries *Thoracic portions:* dorsal branches of posterior intercostal, subcostal, and lumbar arteries *Sacral portions:* dorsal branches of lateral sacral arteries	Extends and laterally bends vertebral column and head
Interspinales (cervical, thoracic, lumbar)	Segmental	Spinous process	Adjacent spinous process	Posterior rami of spinal nerves	*Cervical portions:* occipital, deep cervical, and vertebral arteries *Thoracic portions:* dorsal branches of posterior intercostal arteries *Lumbar portions:* dorsal branches of lumbar arteries	Aid in extension of vertebral column
Intertransversarii (cervical, thoracic, lumbar)	Segmental	Extend between adjacent transverse processes of vertebrae	Extend between adjacent transverse processes of vertebrae	Posterior rami of spinal nerves	*Cervical portions:* occipital, deep cervical, and vertebral arteries *Thoracic portions:* dorsal branches of posterior intercostal, subcostal, and lumbar arteries *Lumbar portions:* dorsal branches of lateral lumbar arteries	Assist in lateral flexion of vertebral column
Latissimus dorsi	Superficial back	Spinous processes of T7–L5, thoracolumbar fascia, iliac crest, and last three ribs	Intertubercular sulcus of humerus	Thoracodorsal nerve	Thoracodorsal artery, dorsal perforating branches of 9th, 10th, and 11th posterior intercostal, subcostal, and first three lumbar arteries	Extends, adducts, and medially rotates humerus
Levator scapulae	Superficial back	Posterior tubercles of transverse processes of C1–C4	Medial border of scapula from superior angle to spine	Anterior rami of C3–C4 and dorsal scapular nerve	Dorsal scapular artery, transverse cervical artery, ascending cervical artery	Elevates scapula medially, inferiorly rotates glenoid fossa
Multifidus	Transversospinales	Sacrum, ilium, transverse processes of T1–T12, and articular processes of C4–C7	Spinous processes of vertebrae above, spanning two to four segments	Posterior rami of each region	*Cervical portions:* occipital, deep cervical, and vertebral arteries *Thoracic portions:* dorsal branches of posterior intercostal, subcostal, and lumbar arteries *Sacral portions:* dorsal branches of lateral sacral arteries	Stabilizes spine
Obliquus capitis inferior	Suboccipital	Spine of axis	Transverse process of atlas	Suboccipital nerve	Vertebral artery, descending branch of occipital artery	Rotates atlas to turn face to same side
Obliquus capitis superior	Suboccipital	Transverse process of atlas	Occipital bone	Suboccipital nerve	Vertebral artery, descending branch of occipital artery	Extends and bends head laterally
Rectus capitis posterior major	Suboccipital	Spine of axis	Inferior nuchal line	Suboccipital nerve	Vertebral artery, descending branch of occipital artery	Extends and rotates head to same side

Variations in spinal nerve contributions to the innervation of muscles, their arterial supply, their attachments, and their actions are common themes in human anatomy. Therefore, expect differences between texts and realize that anatomical variation is normal.

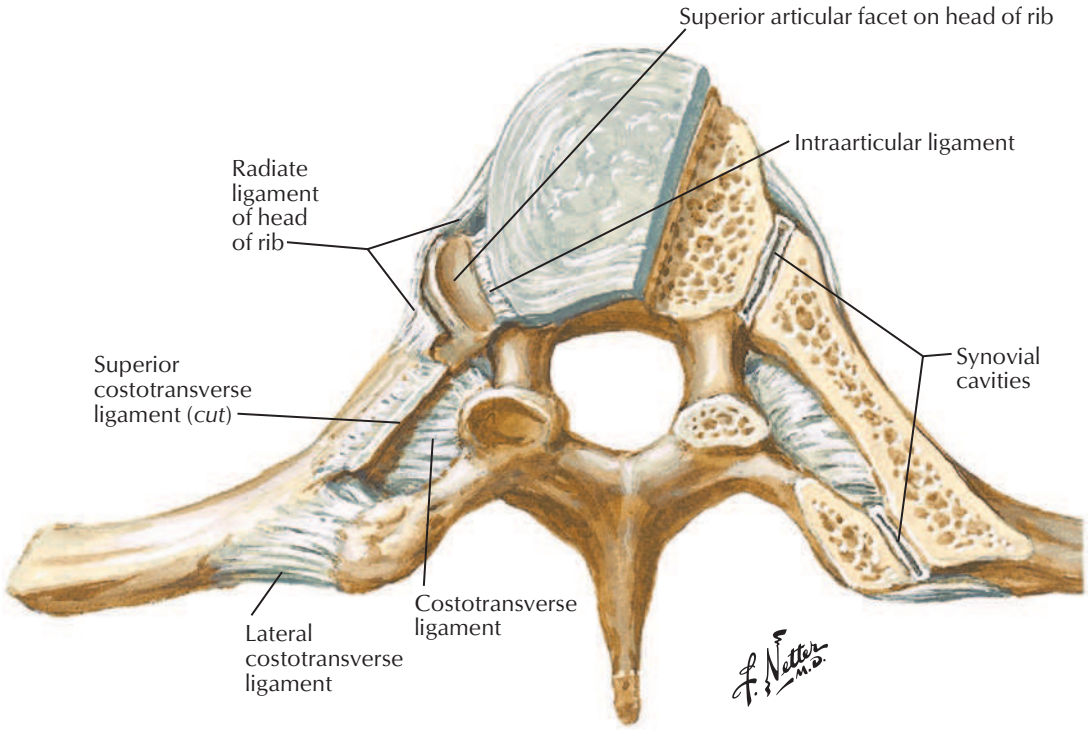
/////// facebook : Booksmedicos06

MUSCLE	MUSCLE GROUP	PROXIMAL ATTACHMENT (ORIGIN)	DISTAL ATTACHMENT (INSERTION)	INNERVATION	BLOOD SUPPLY	MAIN ACTIONS
Rectus capitis posterior minor	Suboccipital	Tubercle of posterior arch of atlas	Median inferior nuchal line	Suboccipital nerve	Vertebral artery, descending branch of occipital artery	Extends head
Rhomboid major	Superficial back	Spinous processes of T2–T5 vertebrae	Medial border of scapula below base of spine of scapula	Dorsal scapular nerve	Dorsal scapular *OR* deep branch of transverse cervical artery, dorsal perforating branches of upper five or six posterior intercostal arteries	Fixes scapula to thoracic wall and retracts and rotates it to depress glenoid cavity
Rhomboid minor	Superficial back	Nuchal ligament, spines of C7 and T1 vertebrae	Medial border of scapula at spine of scapula	Dorsal scapular nerve	Dorsal scapular *OR* deep branch of transverse cervical artery, dorsal perforating branches of upper five or six posterior intercostal arteries	Fixes scapula to thoracic wall and retracts and rotates it to depress glenoid cavity
Rotatores	Transversospinales	Transverse processes of cervical, thoracic, and lumbar regions	Lamina and transverse process of spine above, spanning one or two segments	Posterior rami of spinal nerves	Dorsal branches of segmental arteries	Stabilizes, extends, and rotates spine
Semispinalis	Transversospinales	Transverse processes of C4–T12	Spinous processes of cervical and thoracic regions	Posterior rami of spinal nerves	*Cervical portions:* occipital, deep cervical, and vertebral arteries *Thoracic portions:* dorsal branches of posterior intercostal arteries	Extends head, neck, and thorax and rotates them to opposite side
Serratus posterior inferior	Intermediate back	Spinous processes of T11–L2	Inferior aspect of ribs 9–12	Anterior rami of lower thoracic nerves	Posterior intercostal arteries	Depresses ribs
Serratus posterior superior	Intermediate back	Nuchal ligament, spinous processes of C7–T3	Superior aspect of ribs 2–5	Anterior rami of upper thoracic nerves	Posterior intercostal arteries	Elevates ribs
Splenius capitis	Spinotransverse	Nuchal ligament, spinous processes of C7–T4	Mastoid process of temporal bone, lateral third of superior nuchal line	Posterior rami of middle cervical nerves	Descending branch of occipital artery, deep cervical artery	*Bilaterally:* extends head *Unilaterally*: laterally bends (flexes) and rotates face to same side
Splenius cervicis	Spinotransverse	Spinous processes of T3–T6	Transverse processes (C1–C3)	Posterior rami of lower cervical nerves	Descending branch of occipital artery, deep cervical artery	*Bilaterally*: extends neck *Unilaterally:* laterally bends (flexes) and rotates neck toward same side
Trapezius	Superficial back	Superior nuchal line, external occipital protuberance, nuchal ligament, spinous processes of C7–T12	Lateral third of clavicle, acromion, spine of scapula	Accessory nerve (CN XI)	Transverse cervical artery, dorsal perforating branches of posterior intercostal arteries	Elevates, retracts, and rotates scapula; lower fibers depress scapula

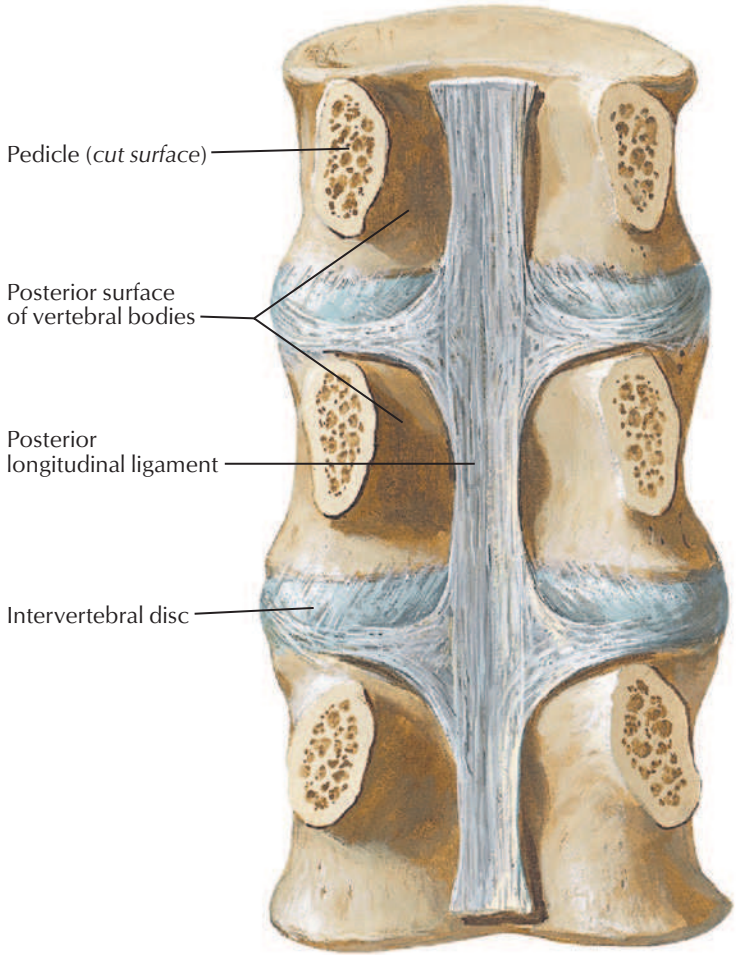
www.Booksmedicos06.com ///////

////// facebook : Booksmedicos06

Thoracic vertebrae, transverse section: superior view



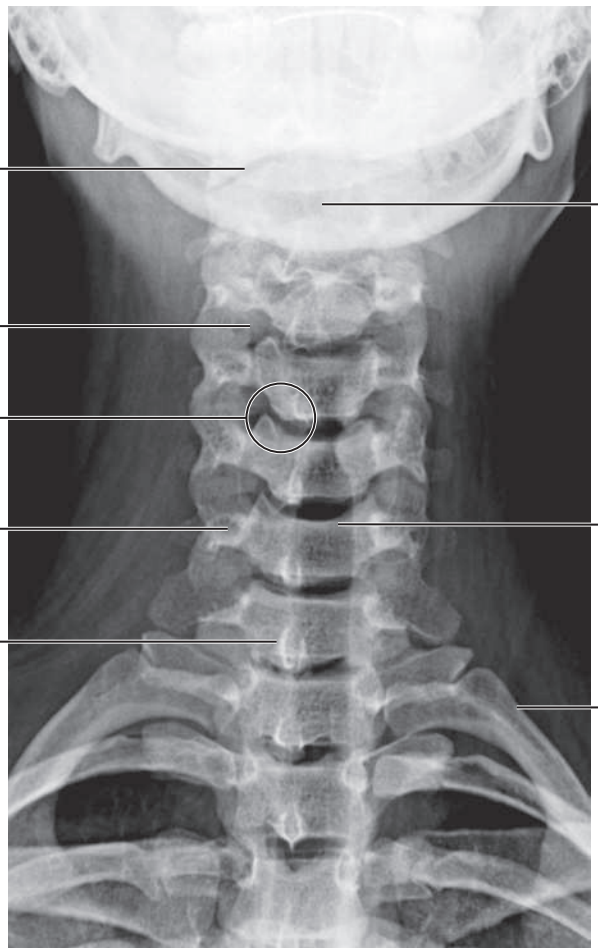
Lumbar anterior vertebral segments: posterior view (*pedicles sectioned*)



Lateral view



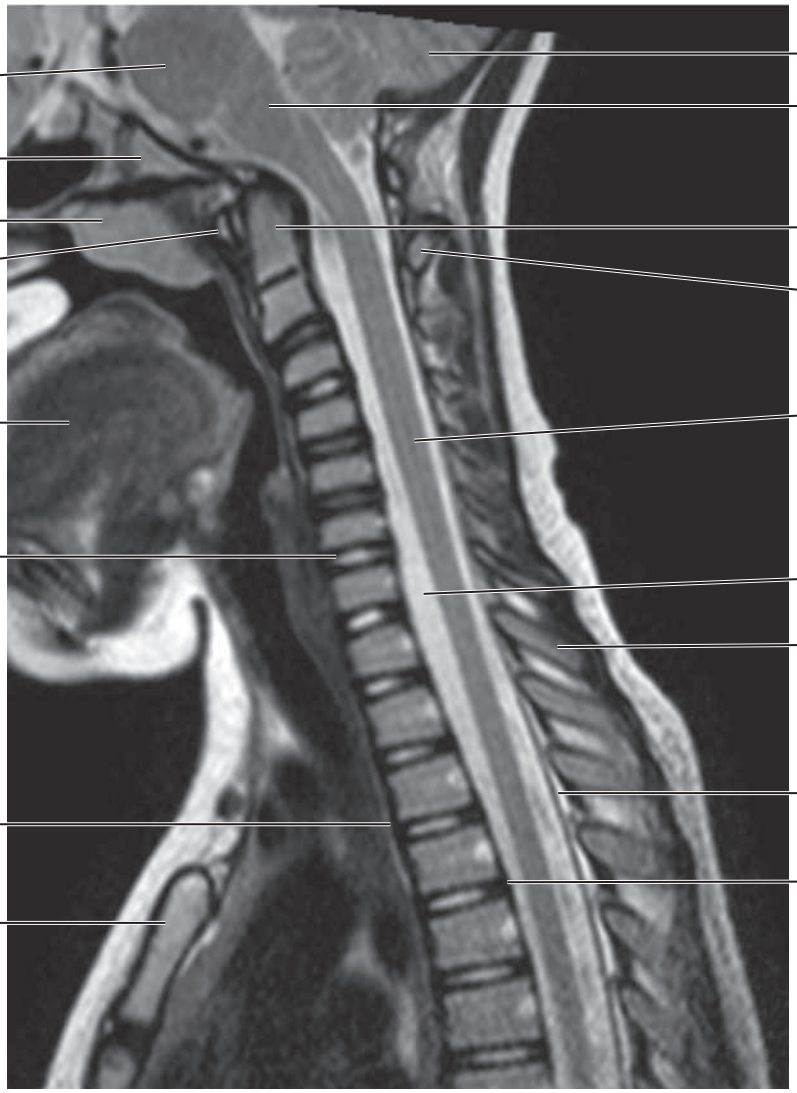
Anteroposterior view



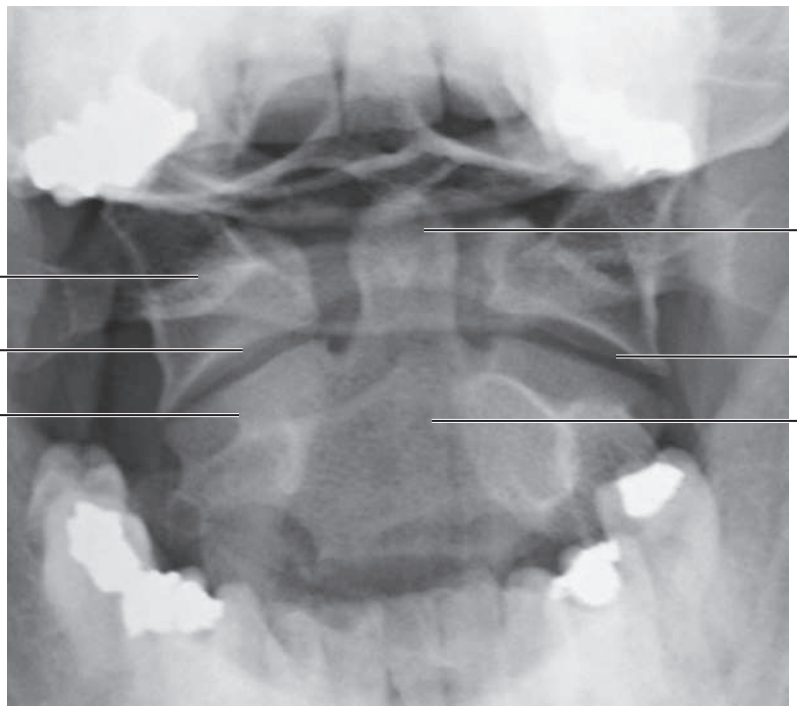
www.Booksmedicos06.com

////// facebook : Booksmedicos06

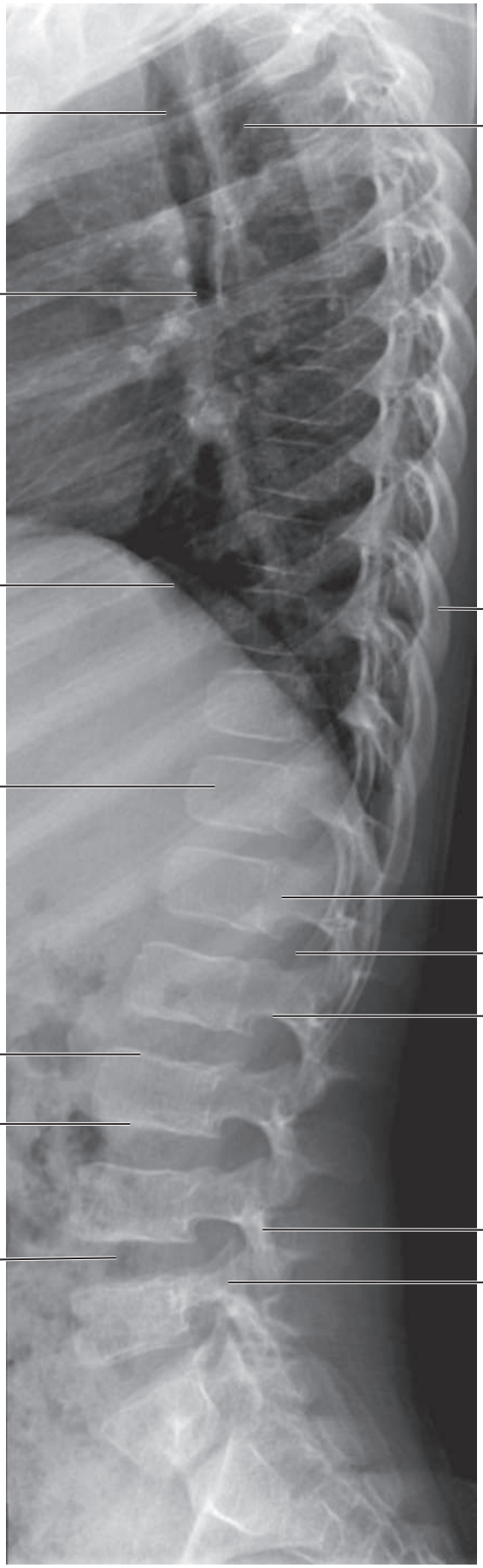
Sagittal T2-weighted MRI of cervical spine, without contrast



Open-mouth radiograph of cervical spine



Lateral radiograph of thoracolumbar spine

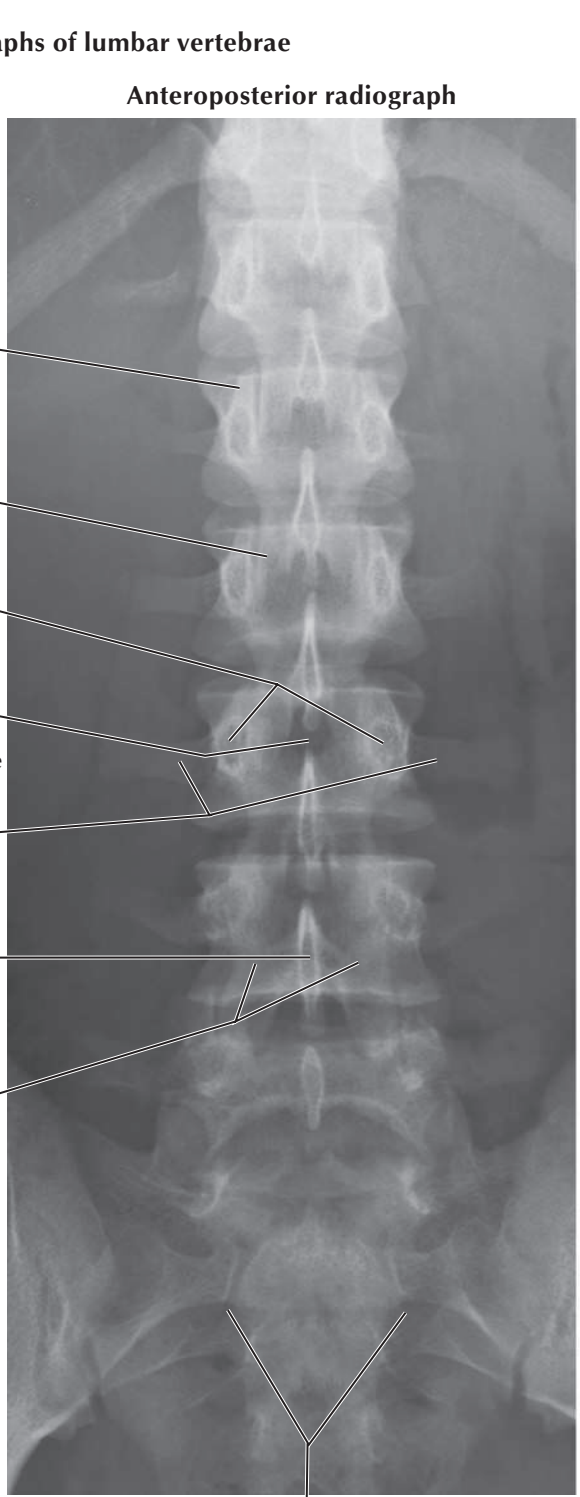


www.Booksmedicos06.com

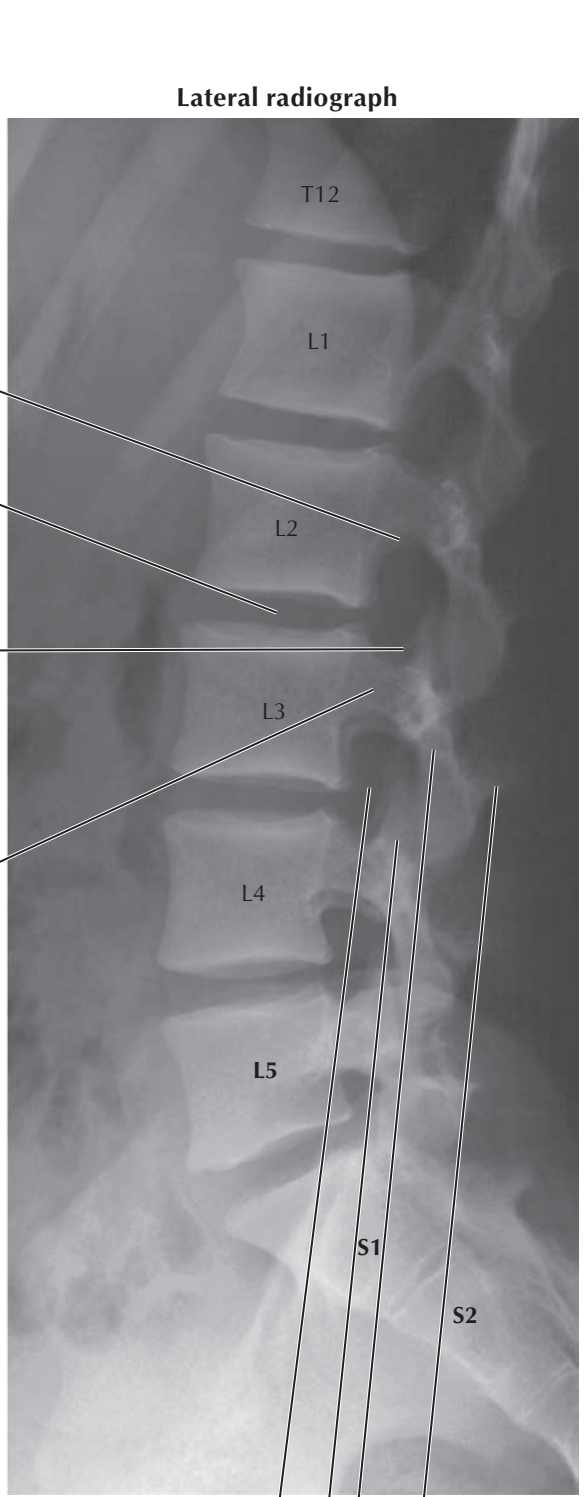
////// facebook : Booksmedicos06

Radiographs of lumbar vertebrae

Anteroposterior radiograph

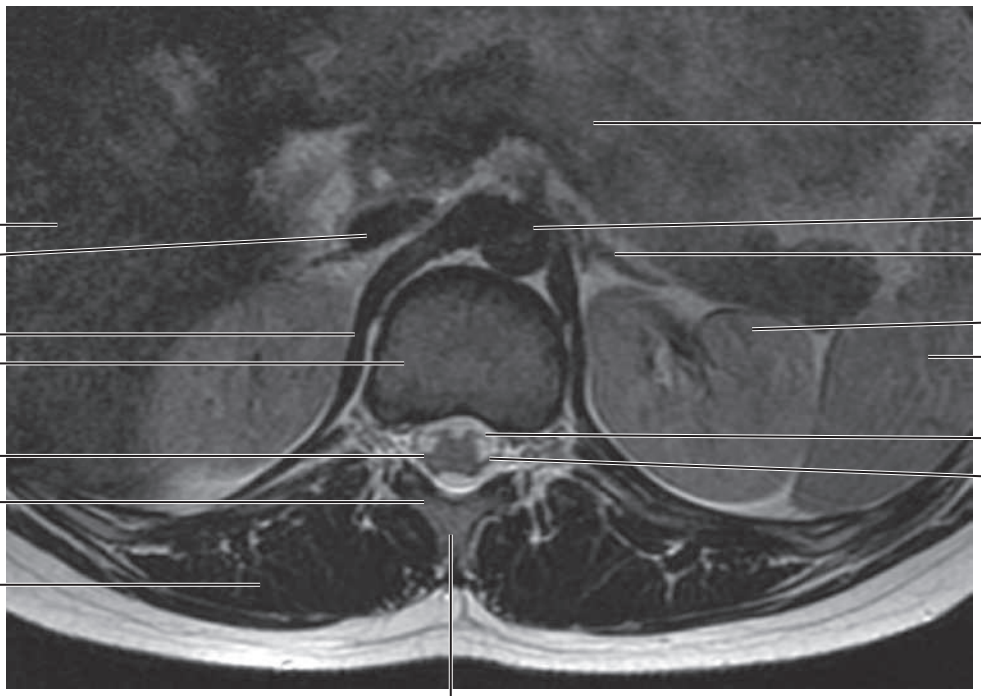


Lateral radiograph

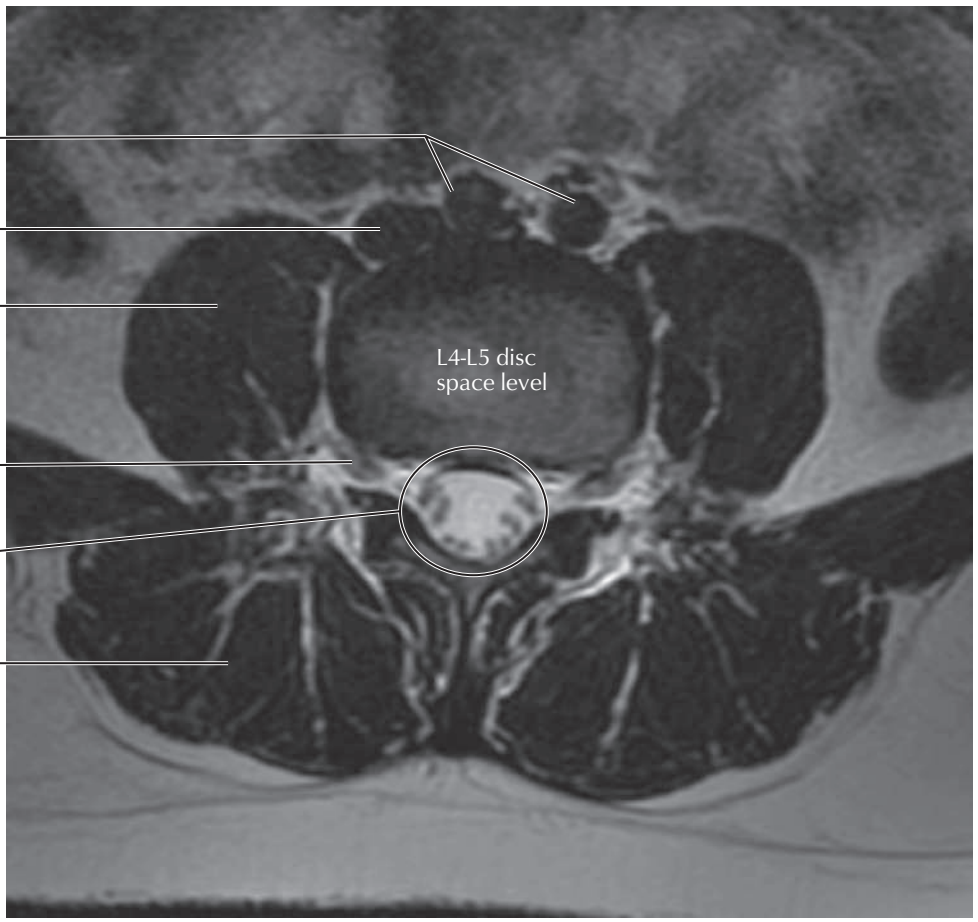


Note: *The vertebral bodies are numbered.*

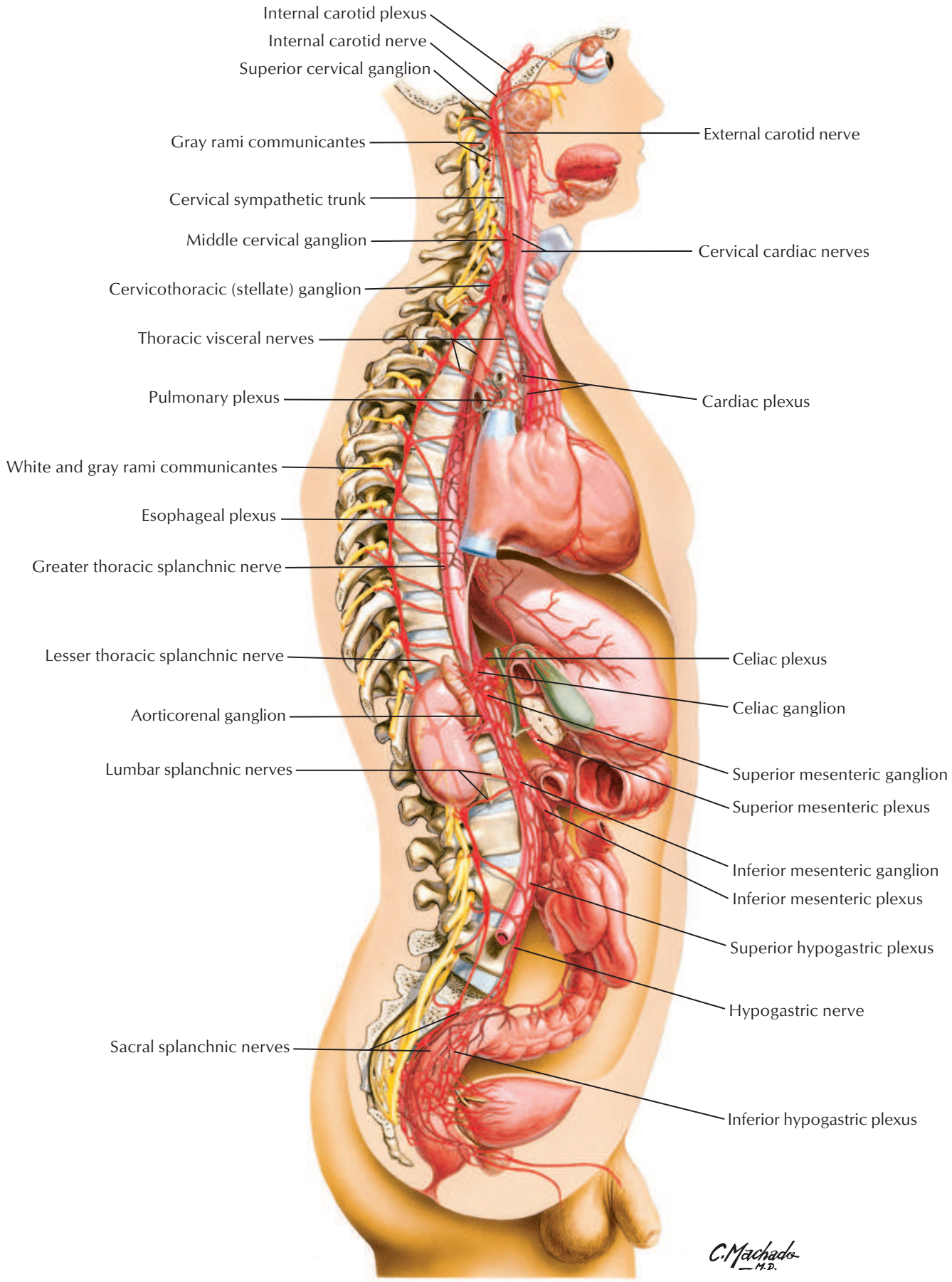
Axial T2-weighted MRI section through upper lumbar level, without contrast



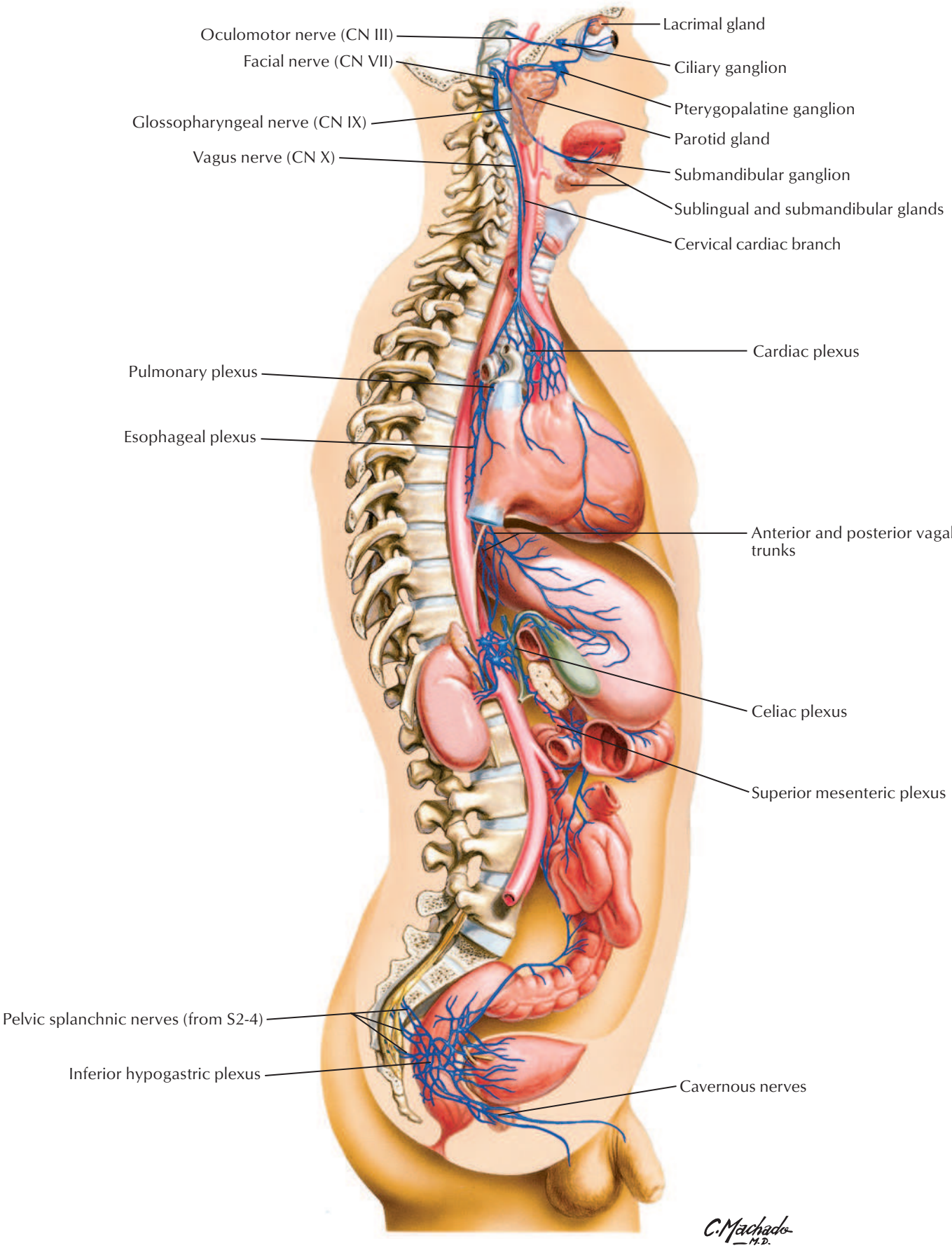
Axial T2-weighted MRI section through lower lumbar level, without contrast



www.Booksmedicos06.com ///////

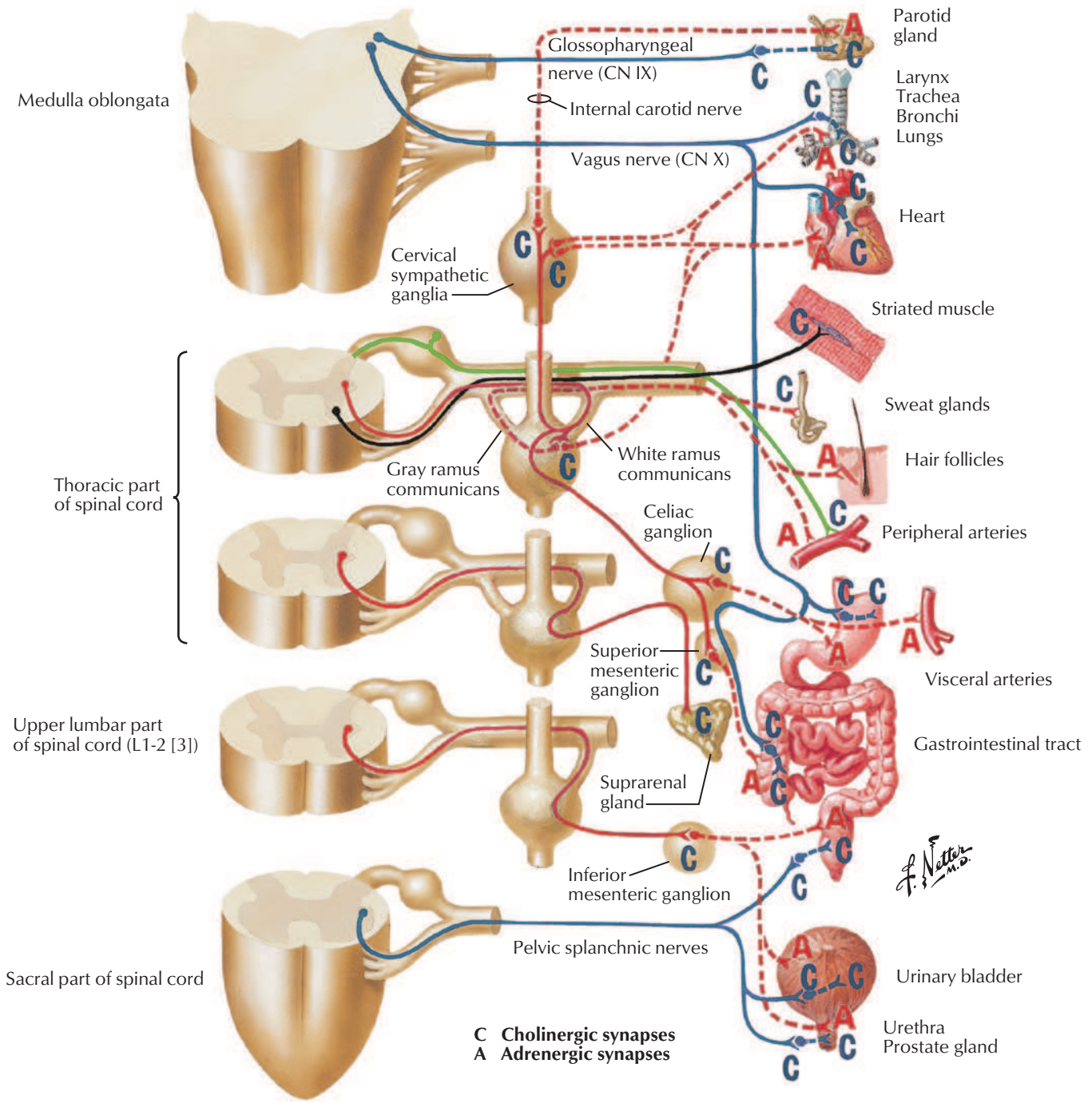


////// facebook : Booksmedicos06

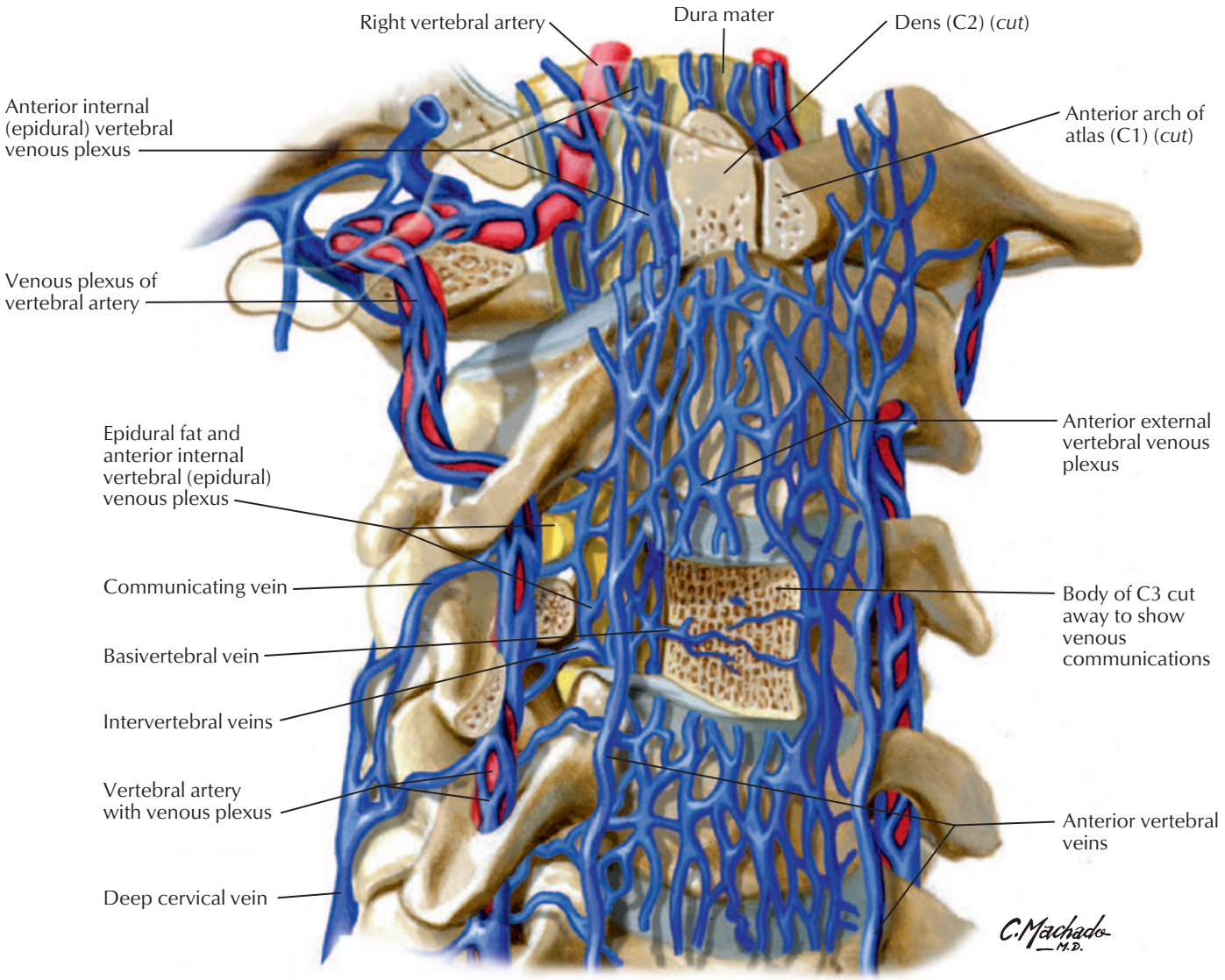


www.Booksmedicos06.com

////// facebook : Booksmedicos06



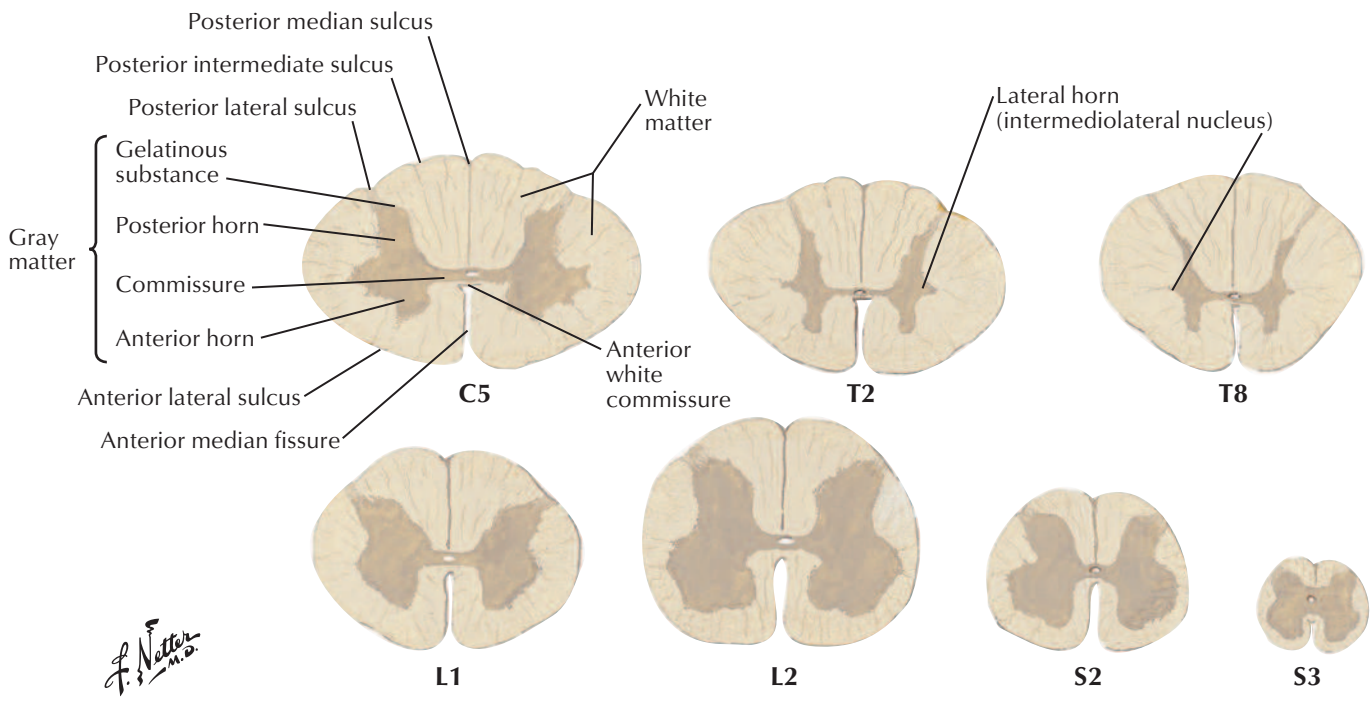
Vertebral Veins: Detail Showing Venous Communications



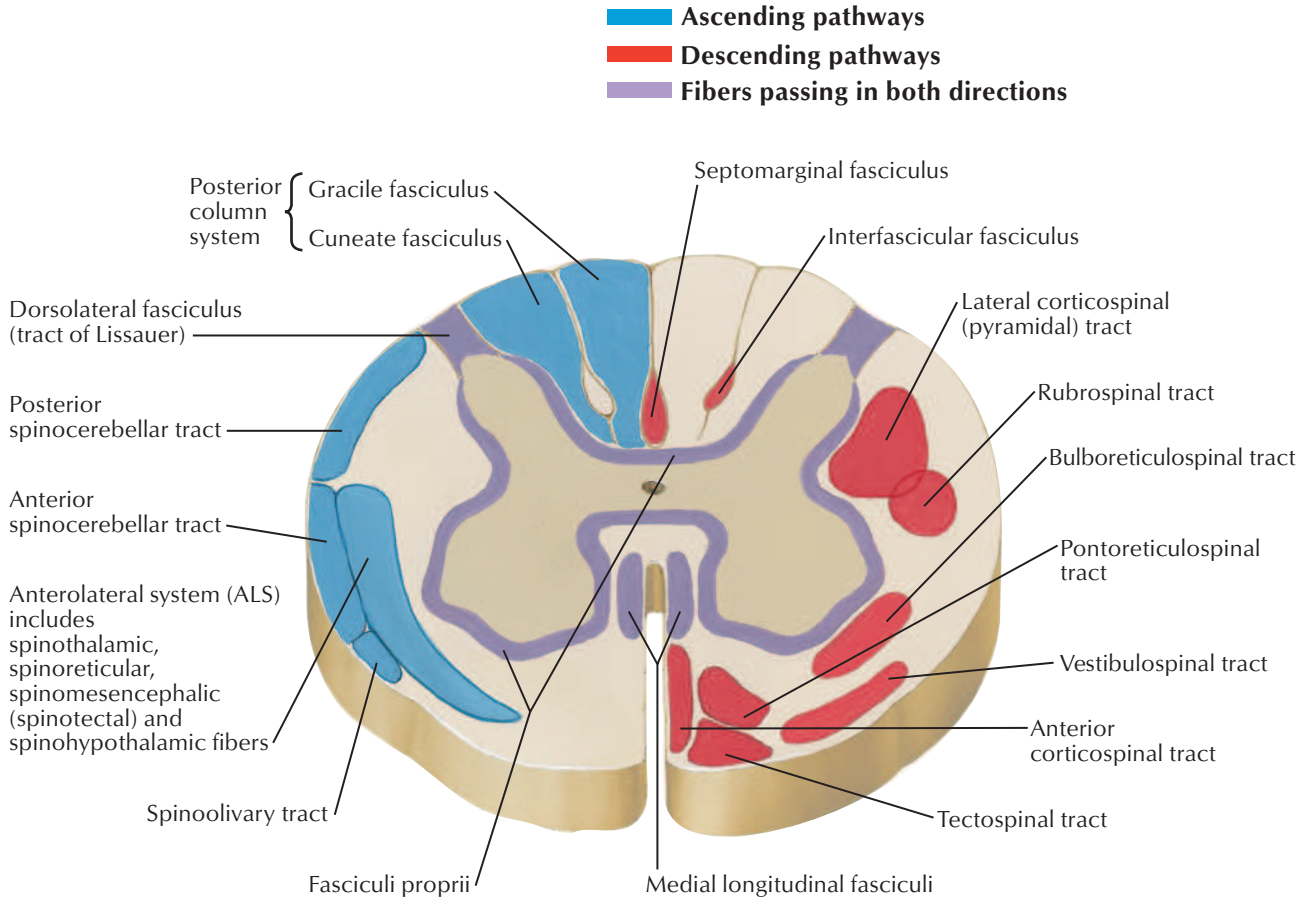
www.Booksmedicos06.com

////// facebook : Booksmedicos06

Sections through spinal cord at various levels



Principal fiber tracts of spinal cord



This page intentionally left blank

www.Booksmedicos06.com ///////

THORAX 4

////// facebook : Booksmedicos06

Surface Anatomy	187	**Regional Scans**	244
Mammary Gland	188-191	**Cross-Sectional Anatomy**	245-248
Body Wall	192-201	**Structures with High Clinical Significance**	Tables 4.1-4.2
Lungs	202-214	**Muscle Table**	Table 4.3
Heart	215-233	**Electronic Bonus Plates**	BP44-BP57
Mediastinum	234-243		

ELECTRONIC BONUS PLATES



BP44 Respiratory System



BP45 Cervical Ribs and Related Anomalies



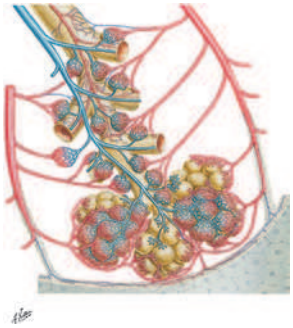
BP46 Muscle Attachments of Ribs



BP47 Muscles of Respiration



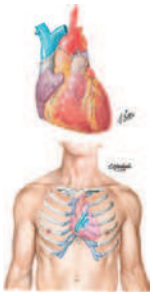
BP48 Intrapulmonary Airways: Schema



BP49 Intrapulmonary Blood Circulation: Schema

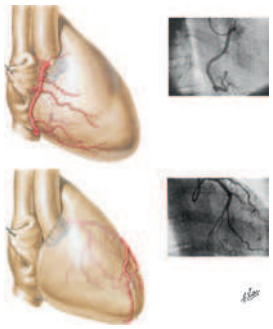


BP50 Gas Exchange

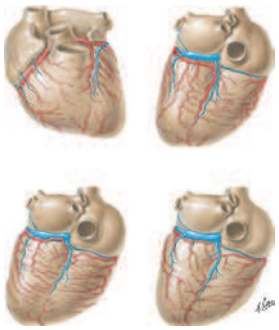


BP51 Anterior Aspect of Heart

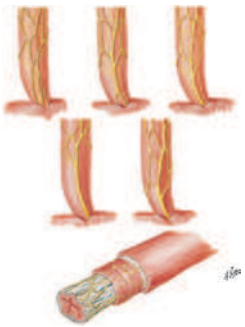
ELECTRONIC BONUS PLATES—*cont'd*



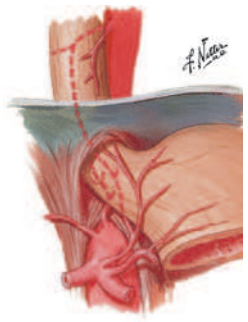
BP52 Coronary Arteries: Right Anterior Oblique Views with Arteriograms



BP53 Coronary Arteries and Cardiac Veins: Variations



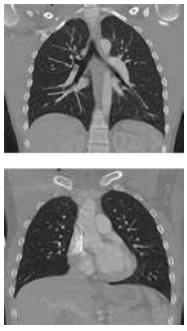
BP54 Intrinsic Nerves and Variations in Nerves of Esophagus



BP55 Arteries of Esophagus: Variations



BP56 Thorax: Coronal Section (Midaxillary Line, Tracheal Bifurcation, Left Atrium)

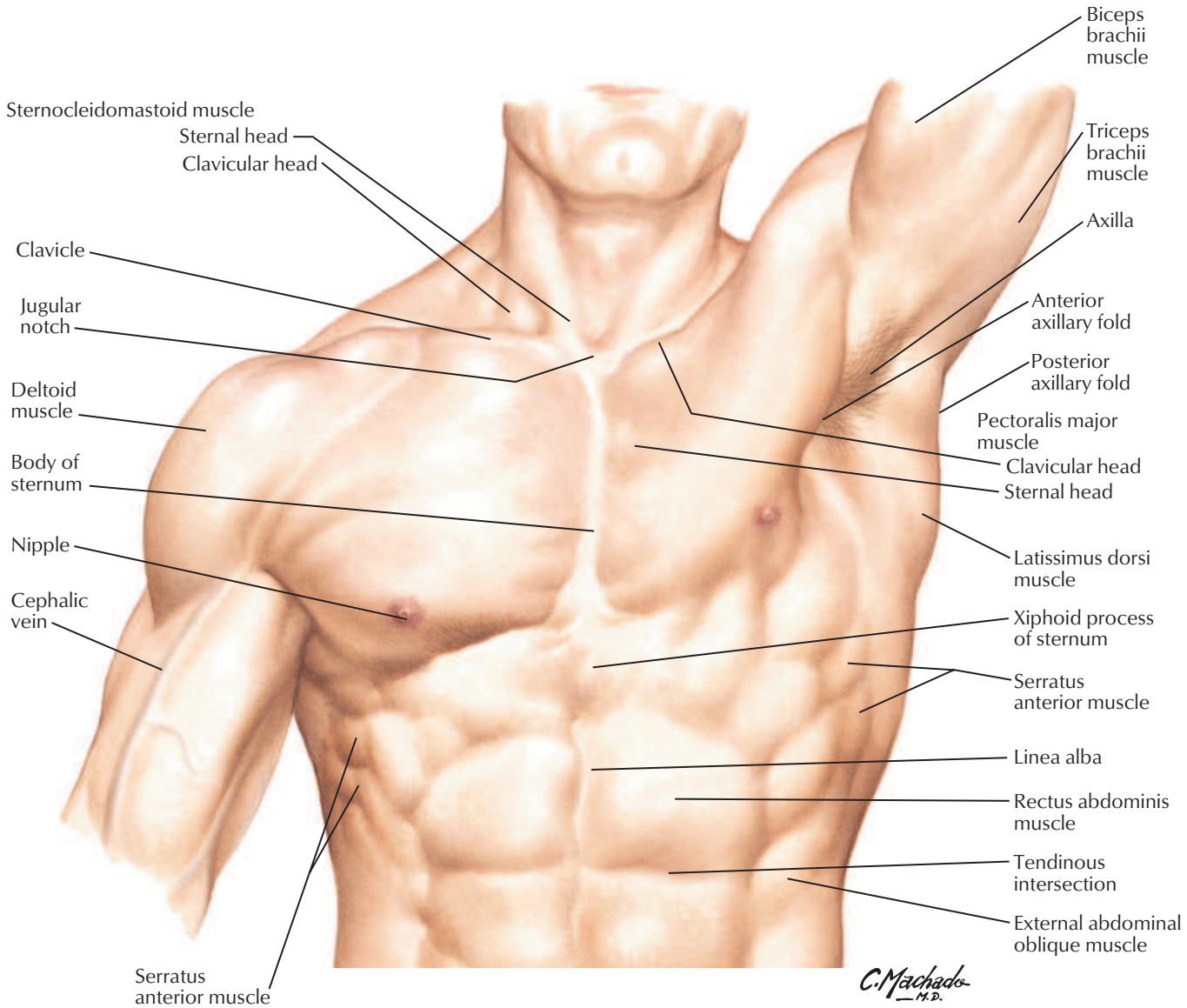


BP57 Thorax: Coronal CTs

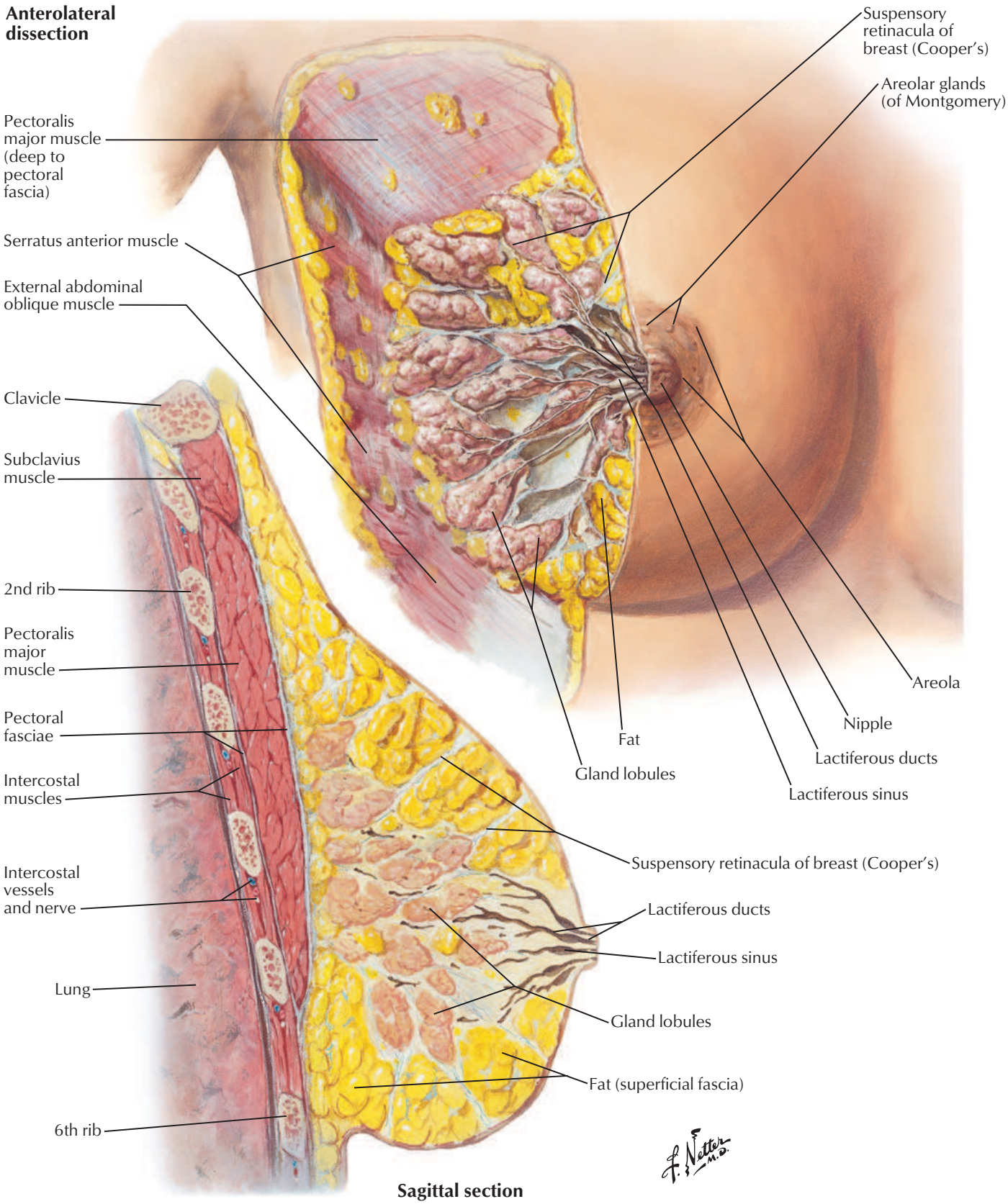
www.Booksmedicos96.com

See also Plates 171, 194

////// facebook : Booksmedicos06

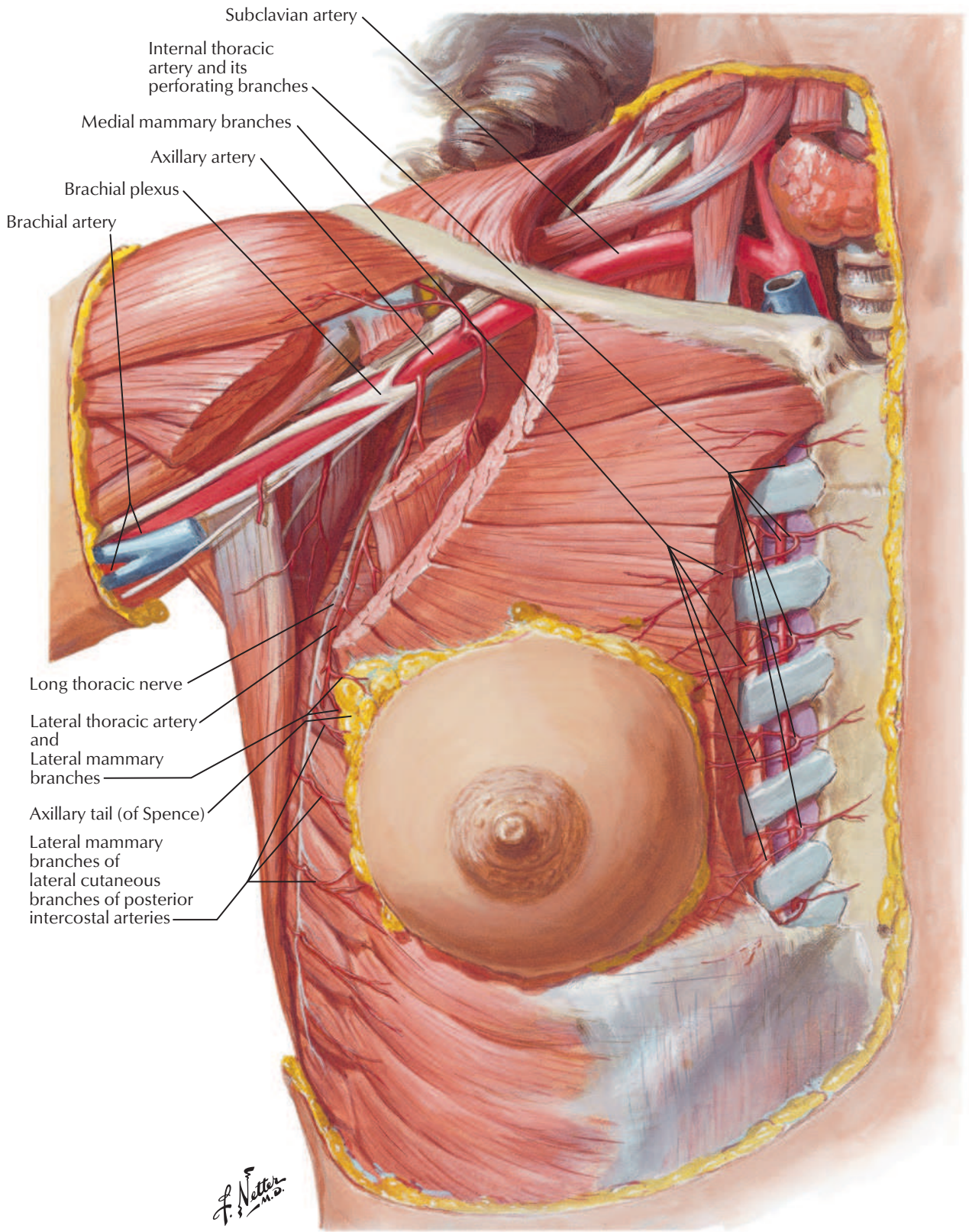


Anterolateral dissection

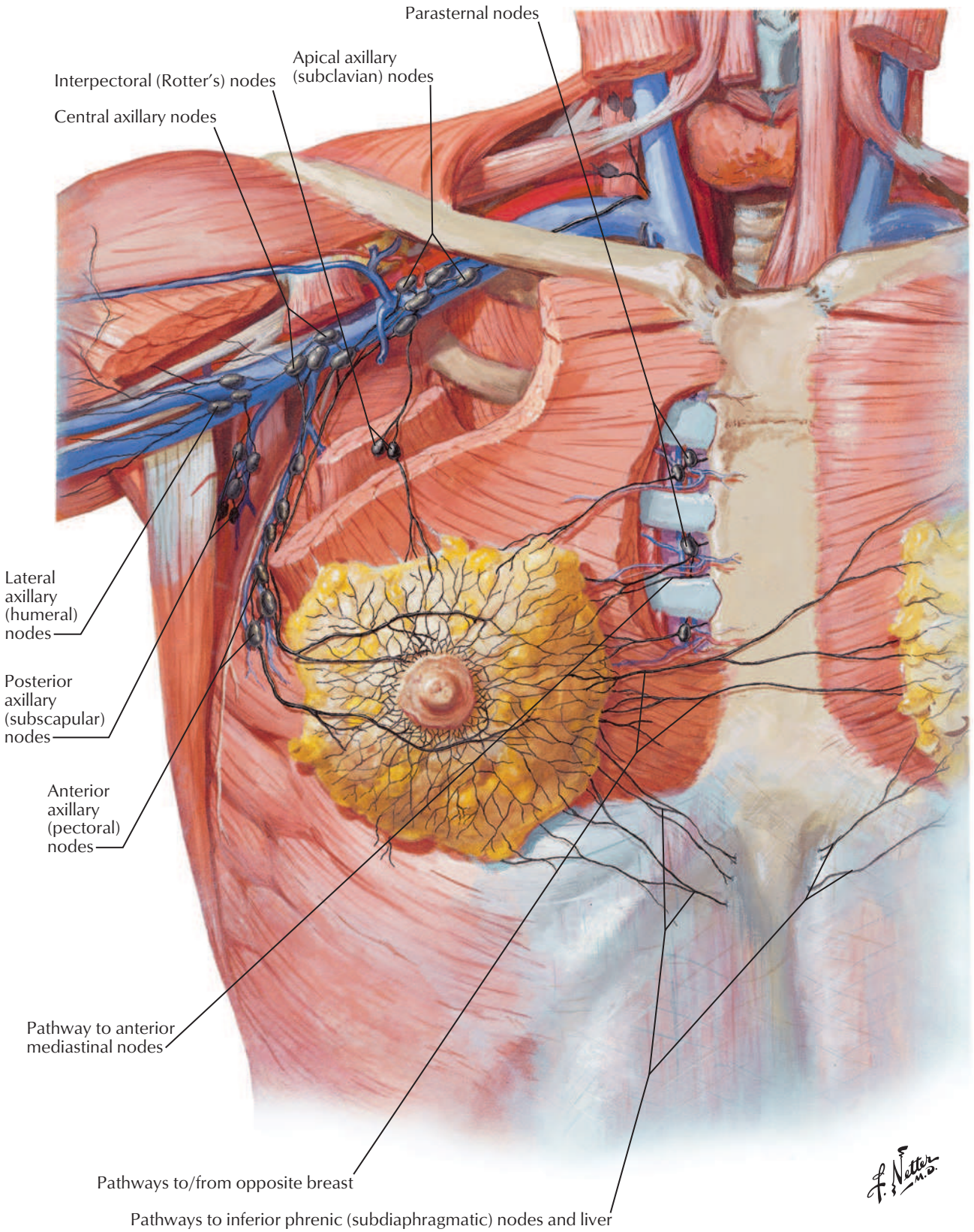


Sagittal section

www.Booksmedicos06.com



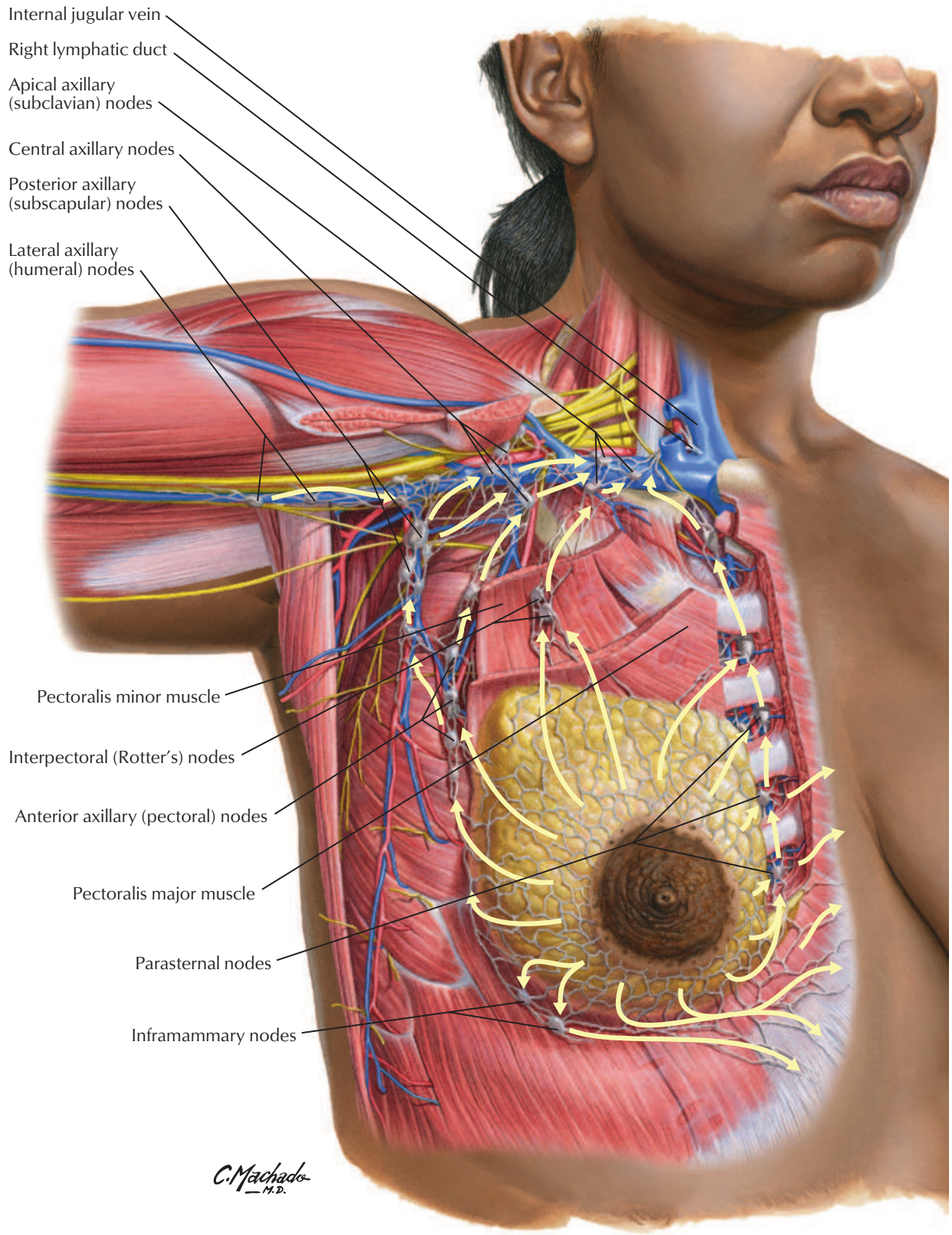
////// facebook : Booksmedicos06

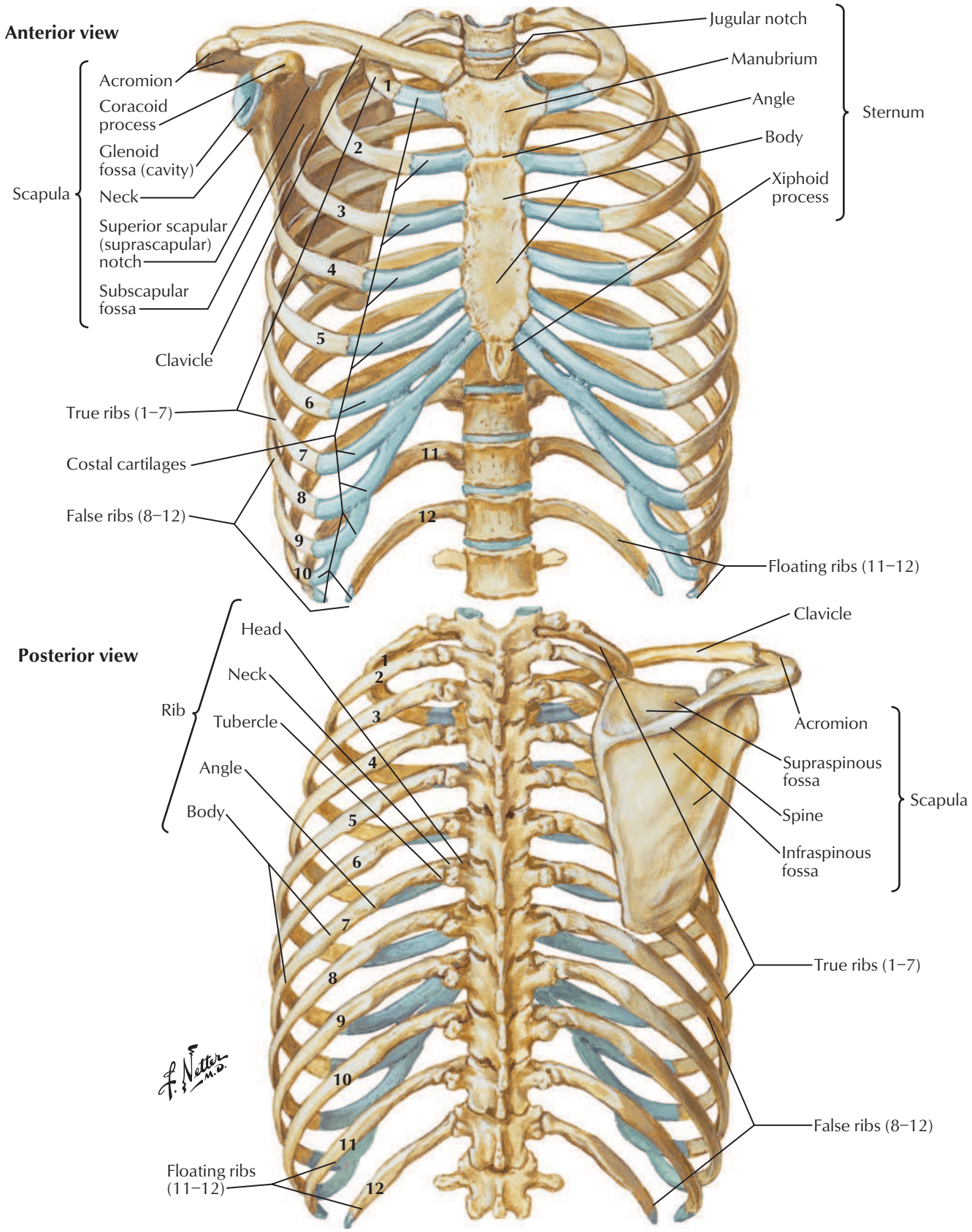


www.Booksmedicos06.com

See also Plate 190

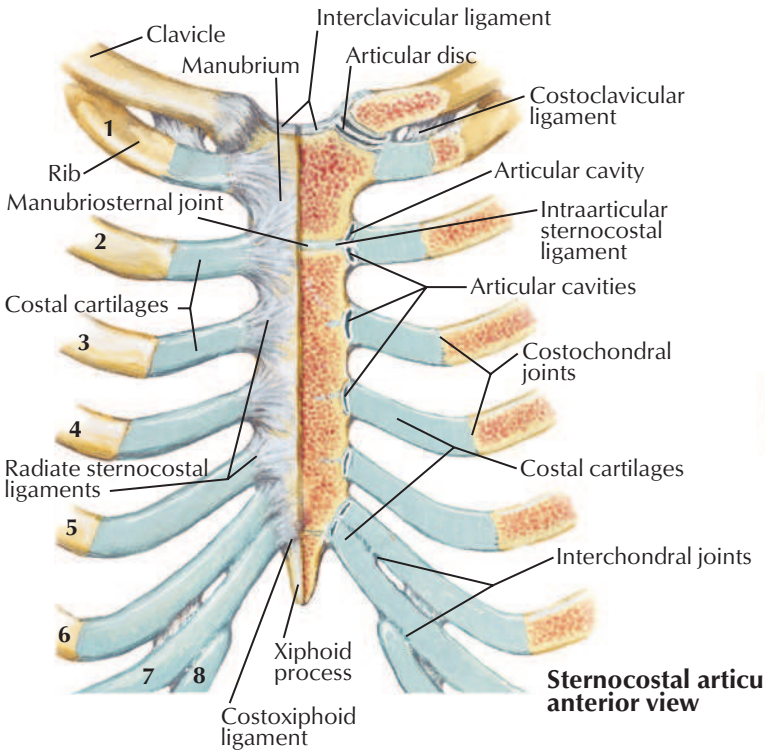
////// facebook : Booksmedicos06



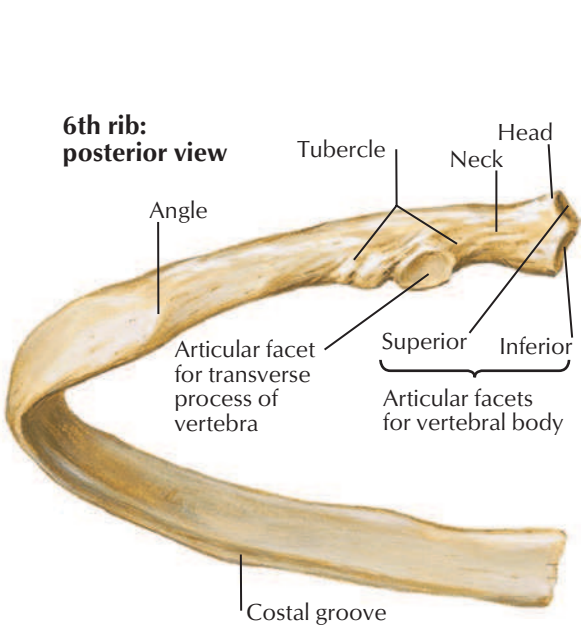


www.Booksmedicos06.com

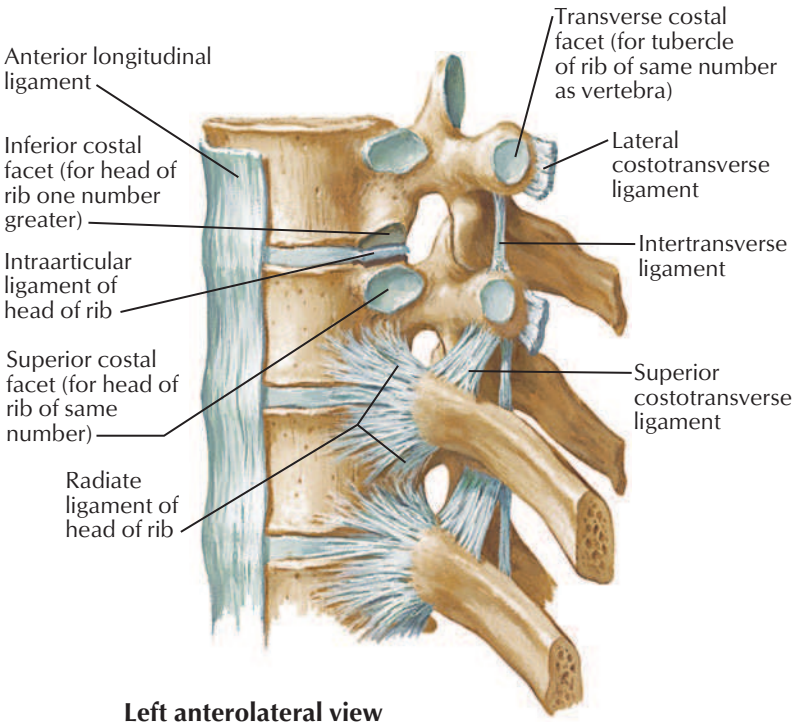
////// facebook : Booksmedicos06



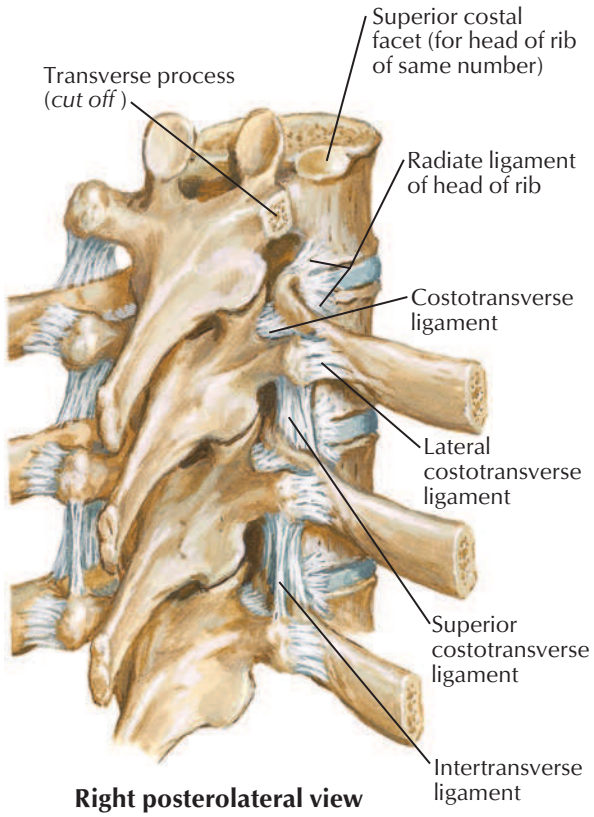
Sternocostal articulations: anterior view



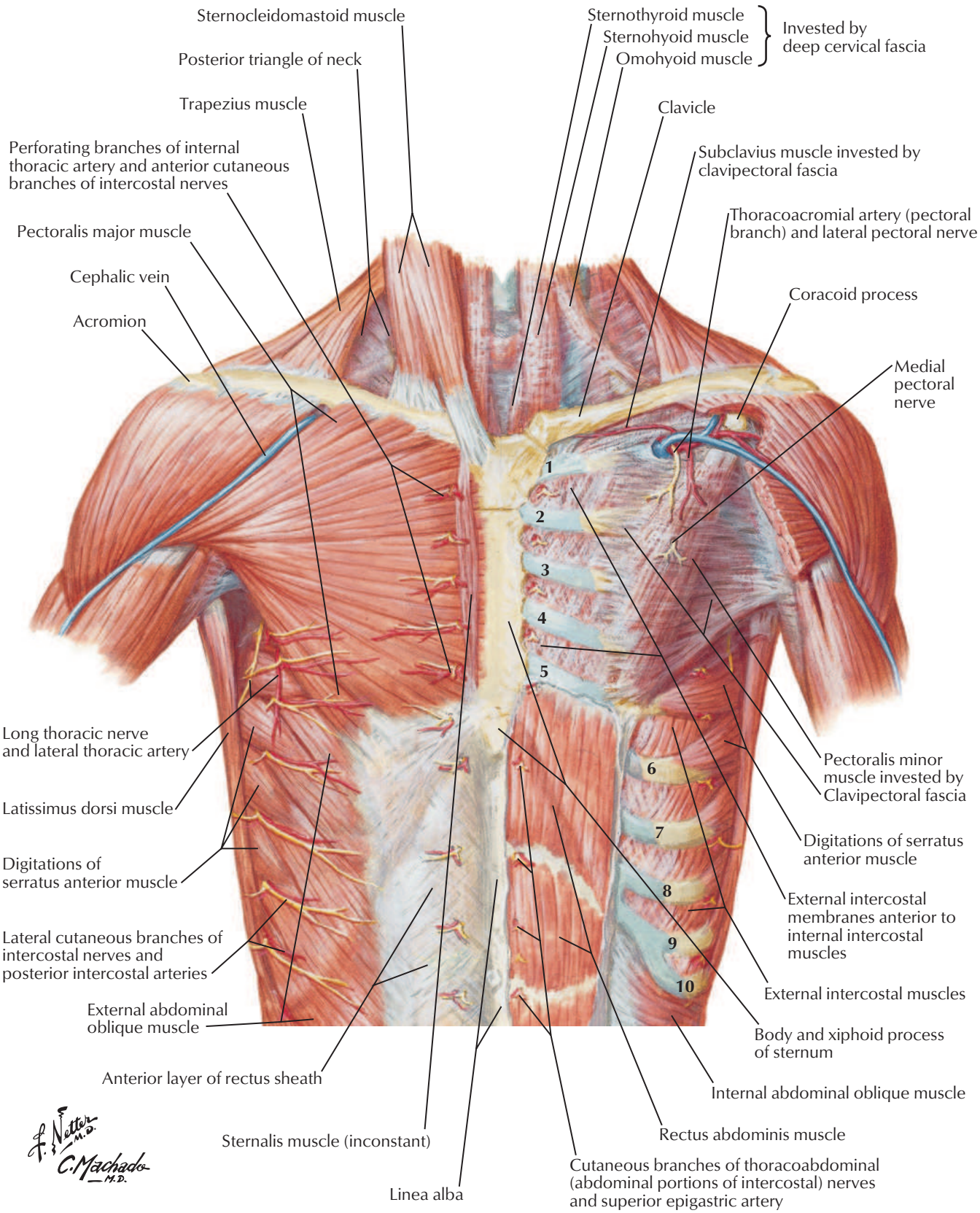
Note: The head of a typical rib articulates with the superior costal facet of the thoracic vertebra of the same number (by its inferior articular facet), the inferior costal facet of the vertebra above (by its superior articular facet), and the intervertebral disc between the two vertebrae. The costal tubercle articulates with the transverse process of the vertebra of the same number.



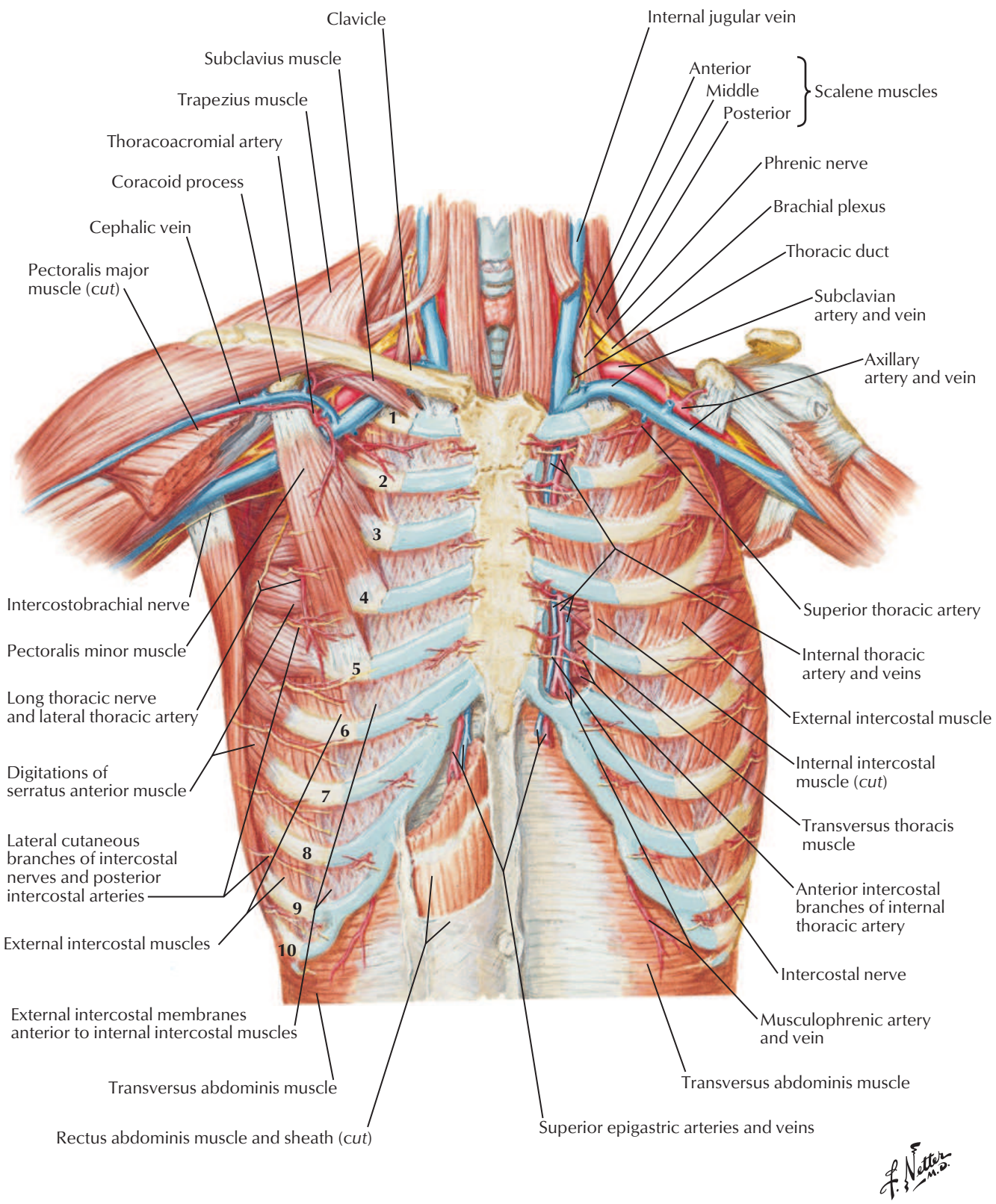
Left anterolateral view



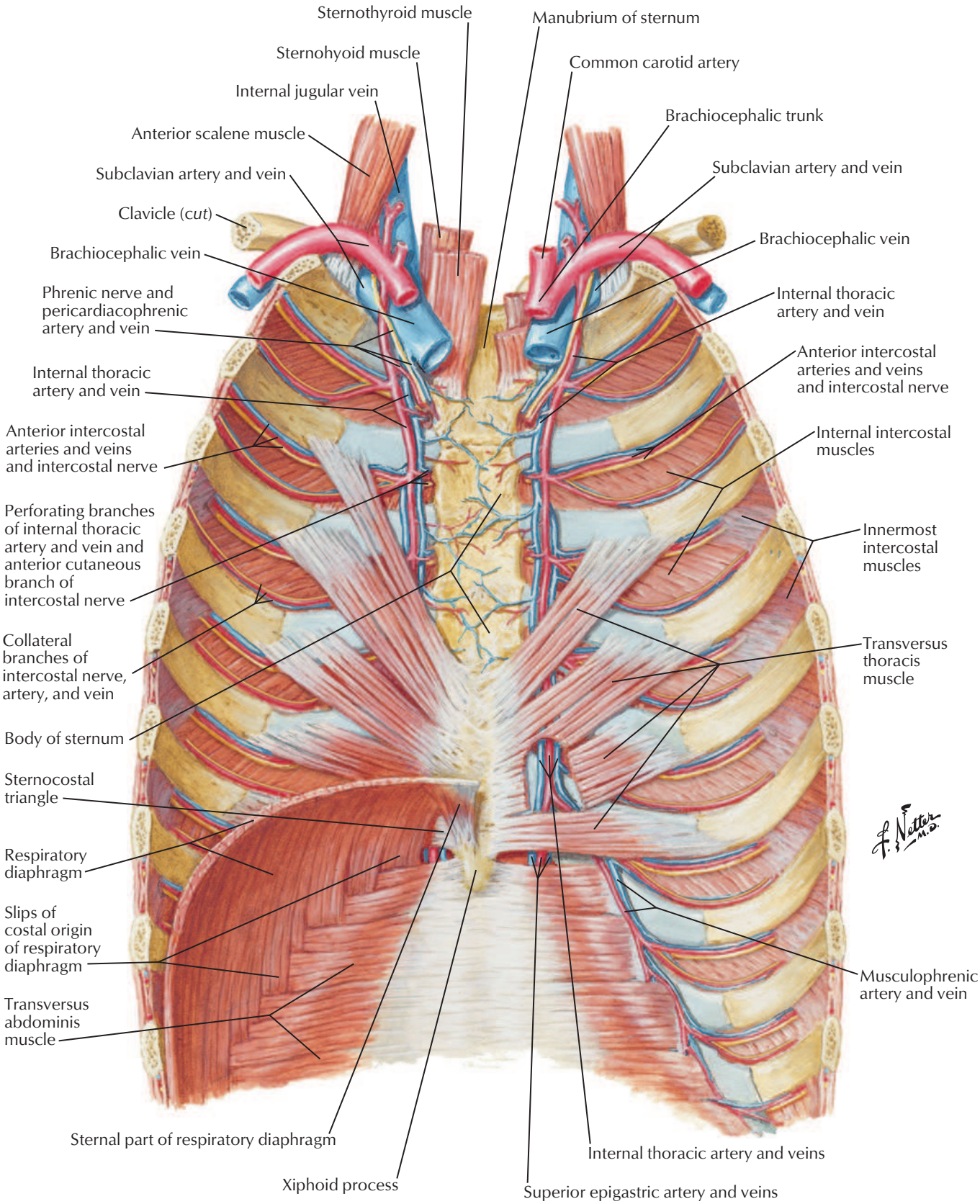
Right posterolateral view



www.Booksmedicos06.com



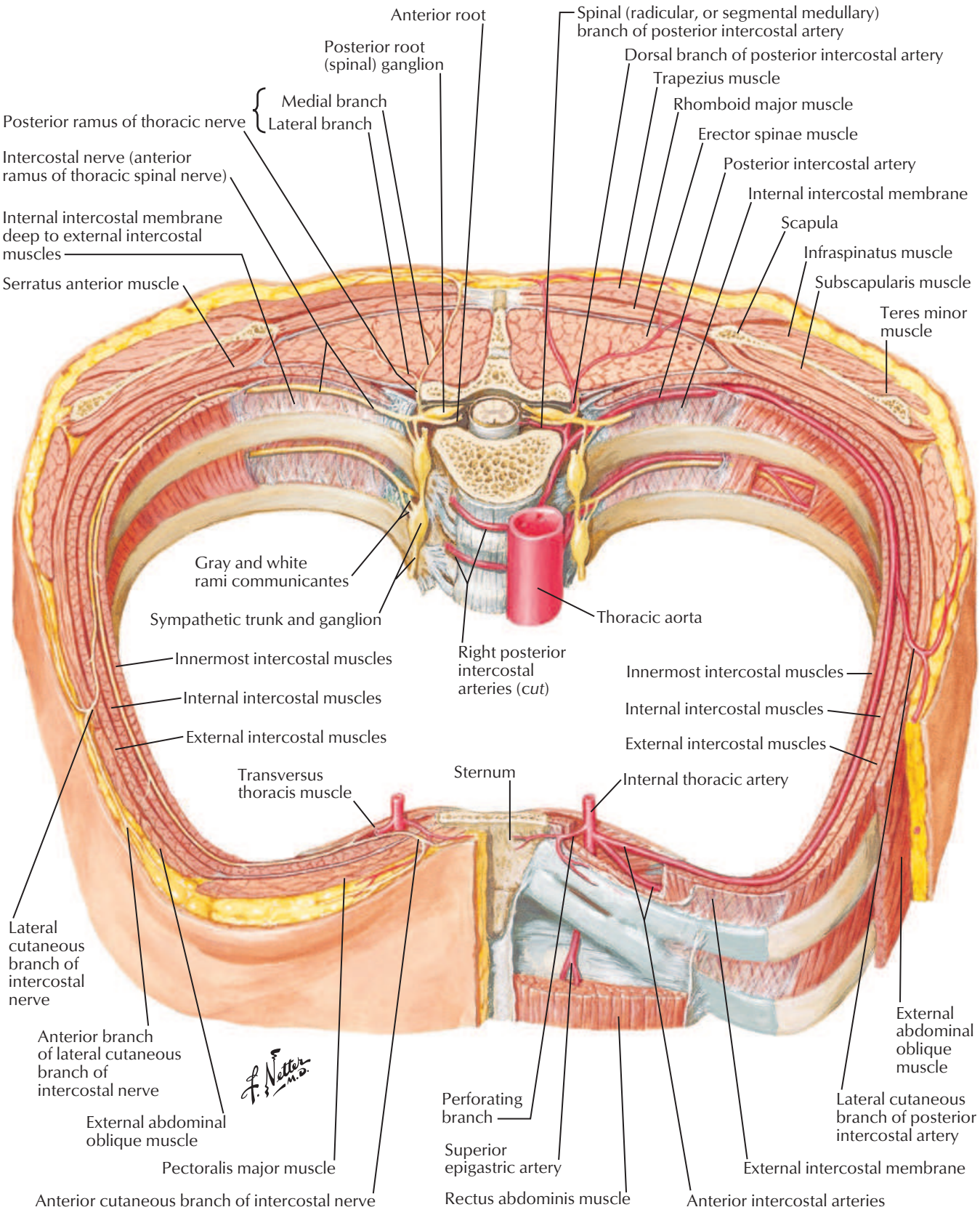
////// facebook : Booksmedicos06



www.Booksmedicos06.com

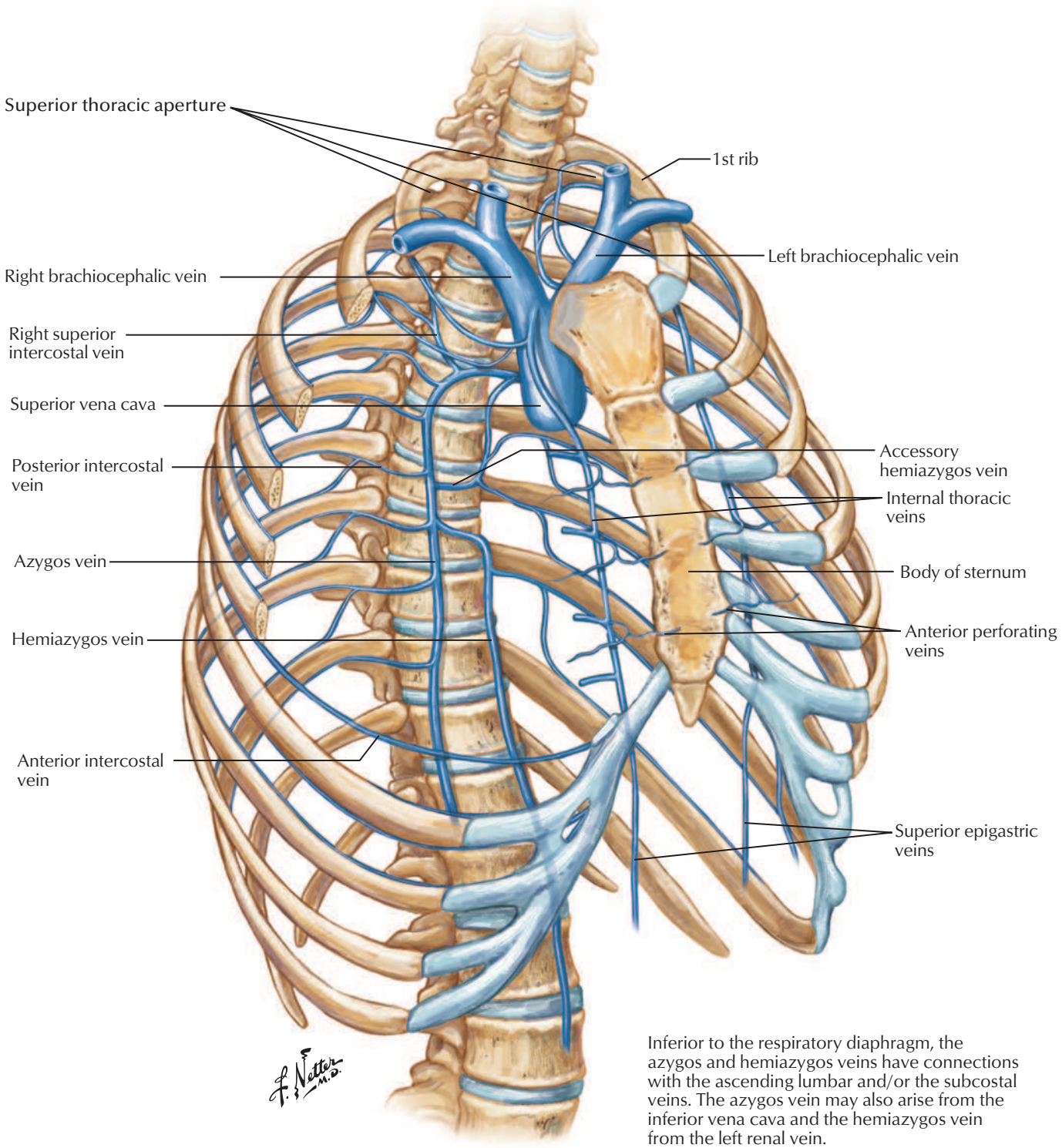
See also Plates 261, 269

////// facebook : Booksmedicos06



Veins of Internal Thoracic Wall

See also Plates 234, 241, 259

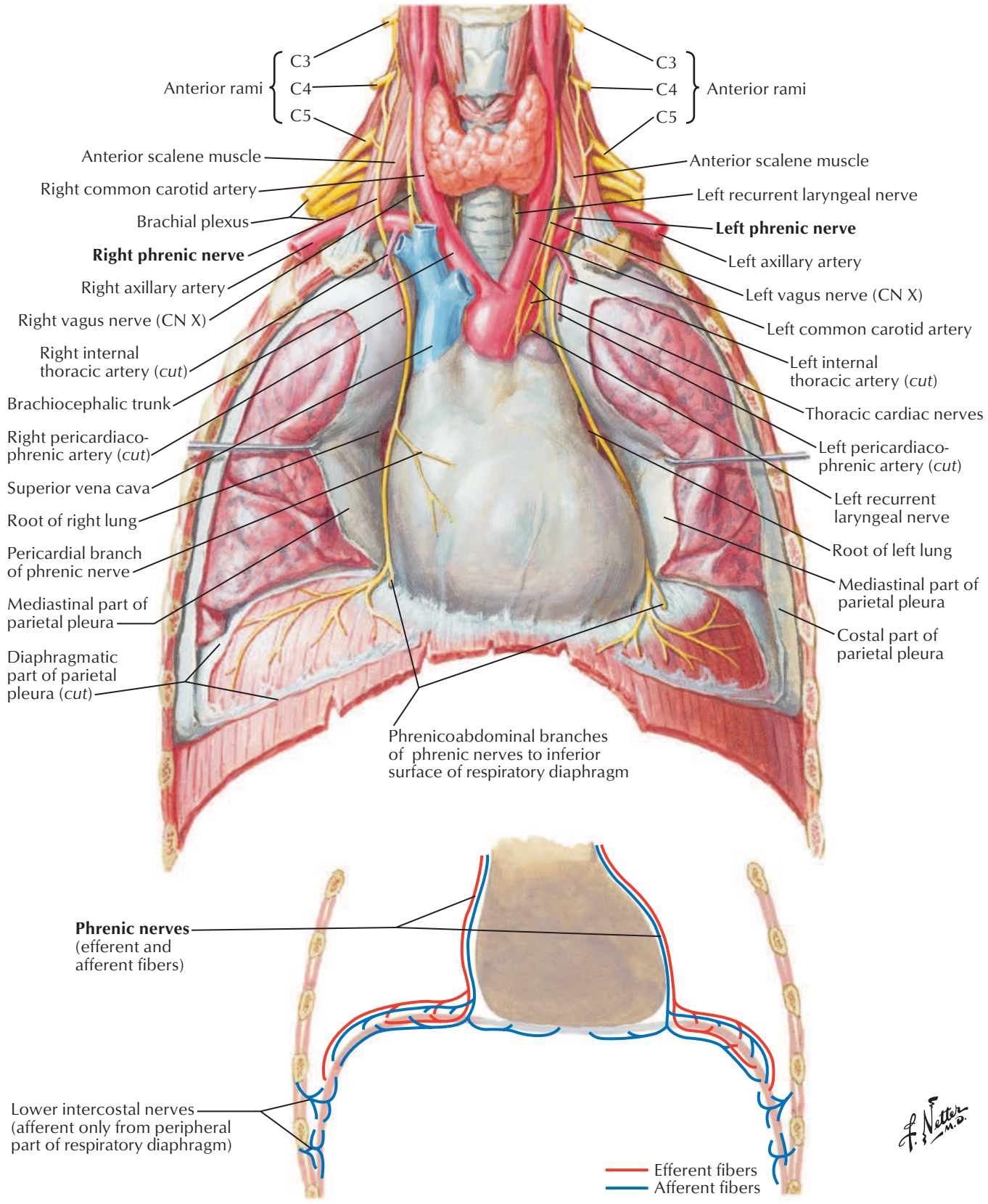


Inferior to the respiratory diaphragm, the azygos and hemiazygos veins have connections with the ascending lumbar and/or the subcostal veins. The azygos vein may also arise from the inferior vena cava and the hemiazygos vein from the left renal vein.

www.Booksmedicos06.com

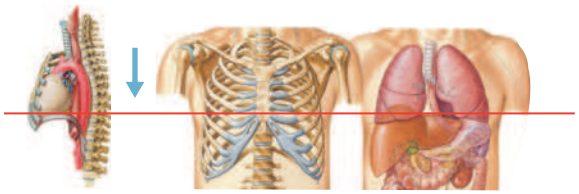
See also Plates 39, 87

////// facebook : Booksmedicos06



Respiratory Diaphragm: Thoracic Surface

See also Plate 236

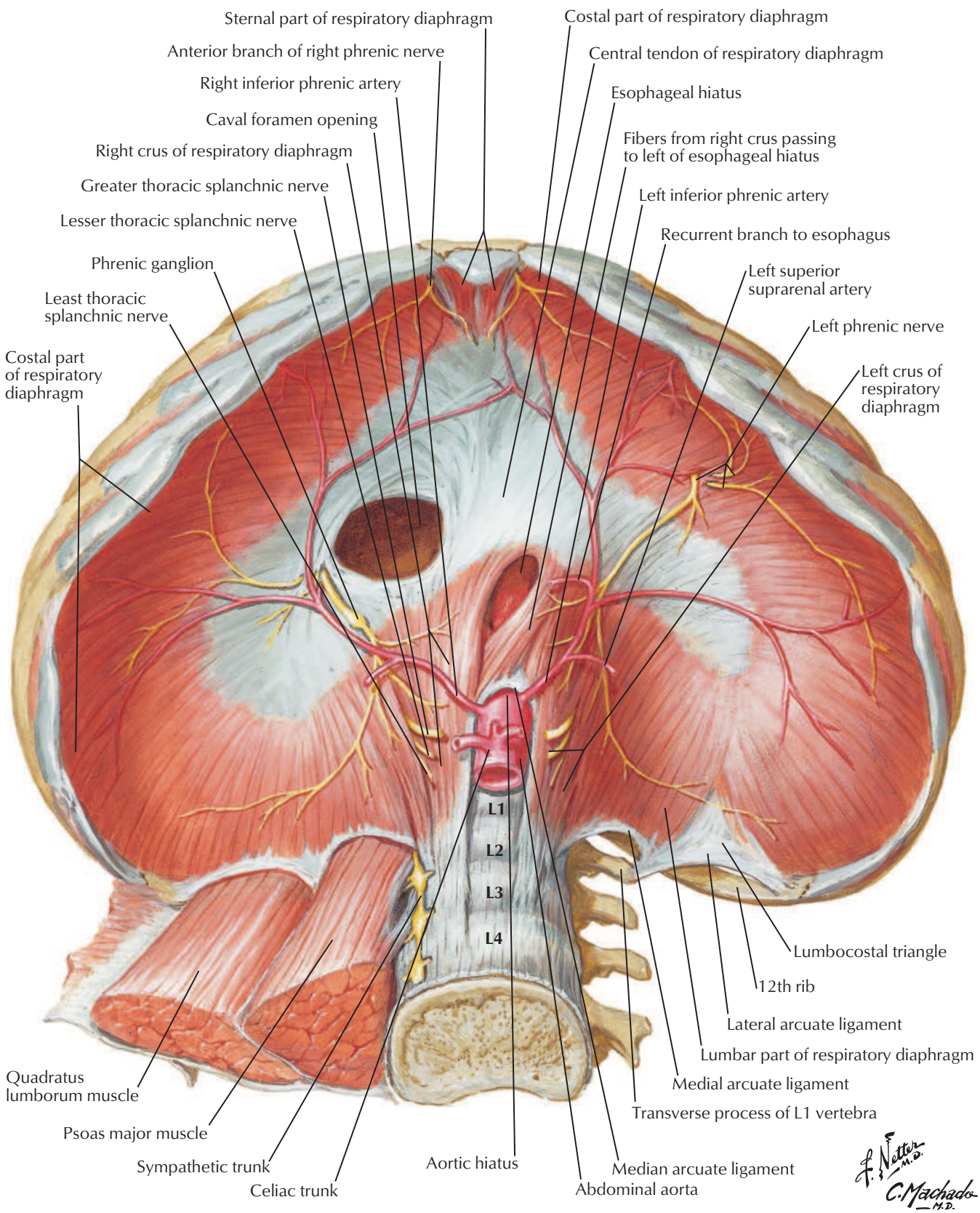


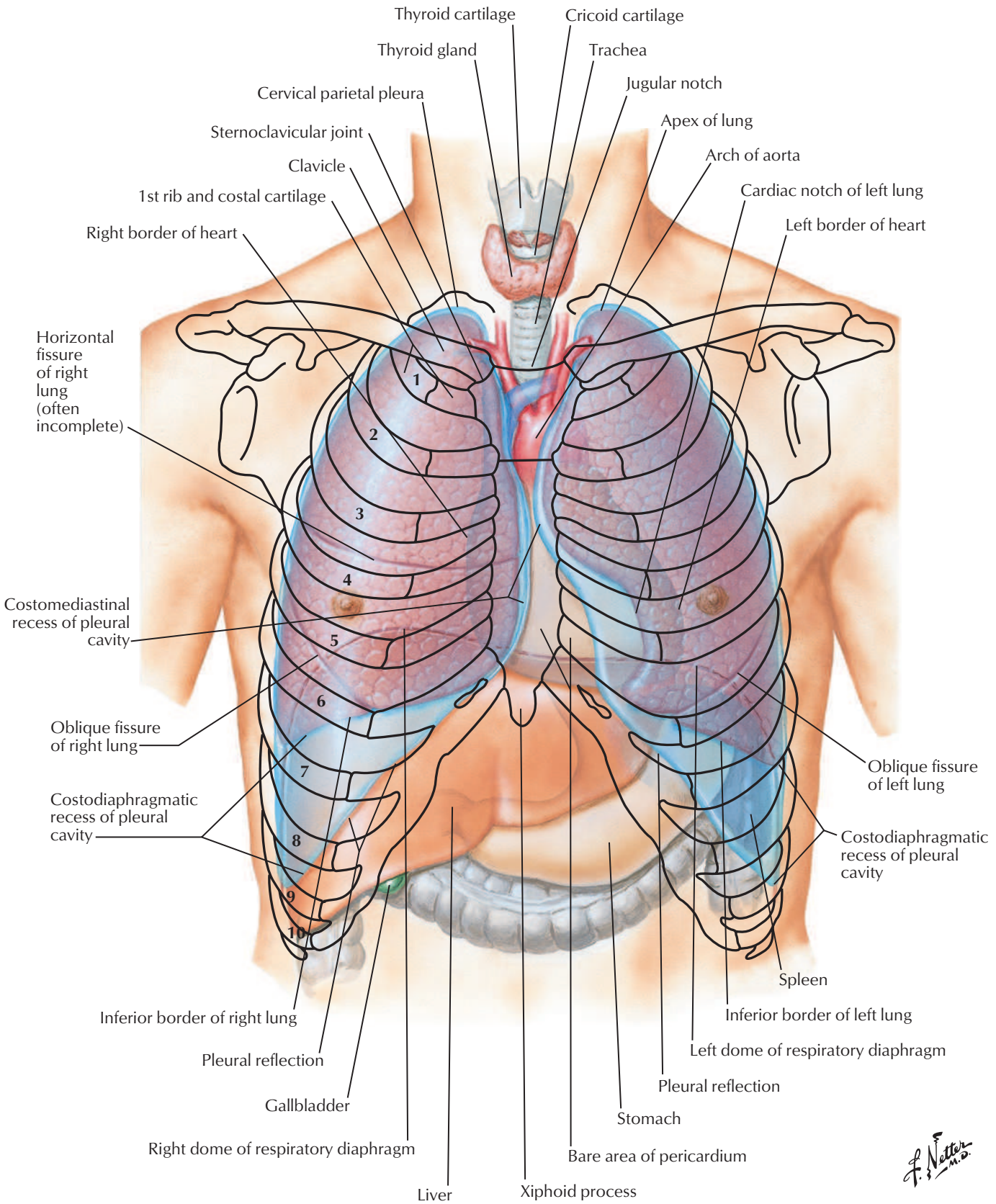
Central tendon covered by pericardium
5th costal cartilage
Left internal thoracic artery and veins
Sternum
Anterior mediastinum
Left costomediastinal recess of pleural cavity
Right costomediastinal recess of pleural cavity
Right internal thoracic artery and veins
Pericardium
Inferior vena cava (receiving hepatic veins)
Left phrenic nerve and pericardiacophrenic artery and vein
Right costodiaphragmatic recess of pleural cavity
Mediastinal part of parietal pleura and pericardium (*cut*)
Mediastinal part of parietal pleura and pericardium (*cut*)
Right phrenic nerve and pericardiacophrenic artery and vein
Central tendon
Diaphragmatic part of parietal pleura (*cut away*)
Diaphragmatic part of parietal pleura (*cut away*)
Central tendon
Thoracic duct
Azygos vein
Esophagus
Costal part of parietal pleura
Mediastinal pleura
Right greater thoracic splanchnic nerve
Hemiazygos vein
Right sympathetic trunk
Left greater thoracic splanchnic nerve
T8–9 intervertebral disc
Left sympathetic trunk
Thoracic (descending) aorta

www.Booksmedicos06.com

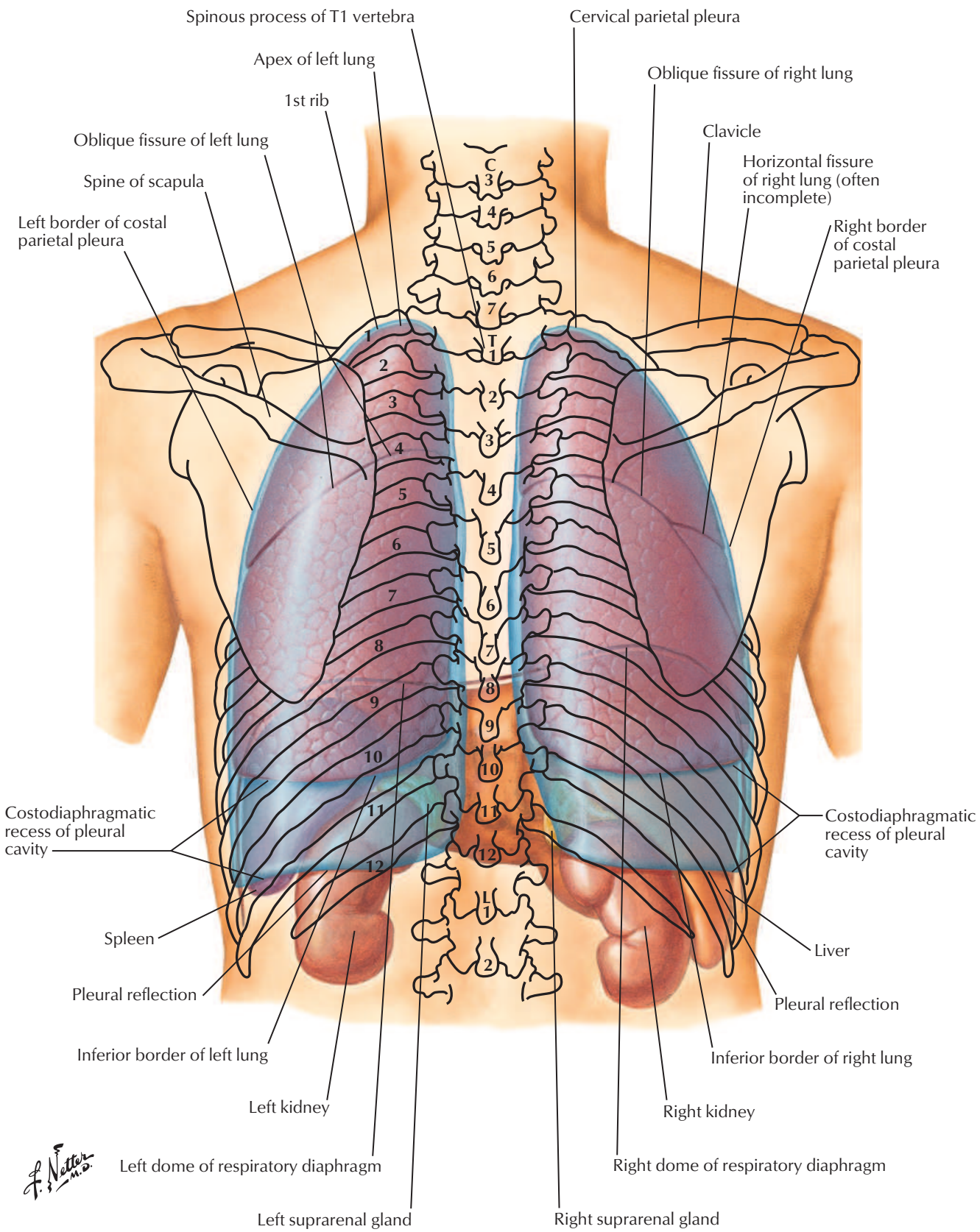
See also Plates 265, 266

////// facebook : Booksmedicos06

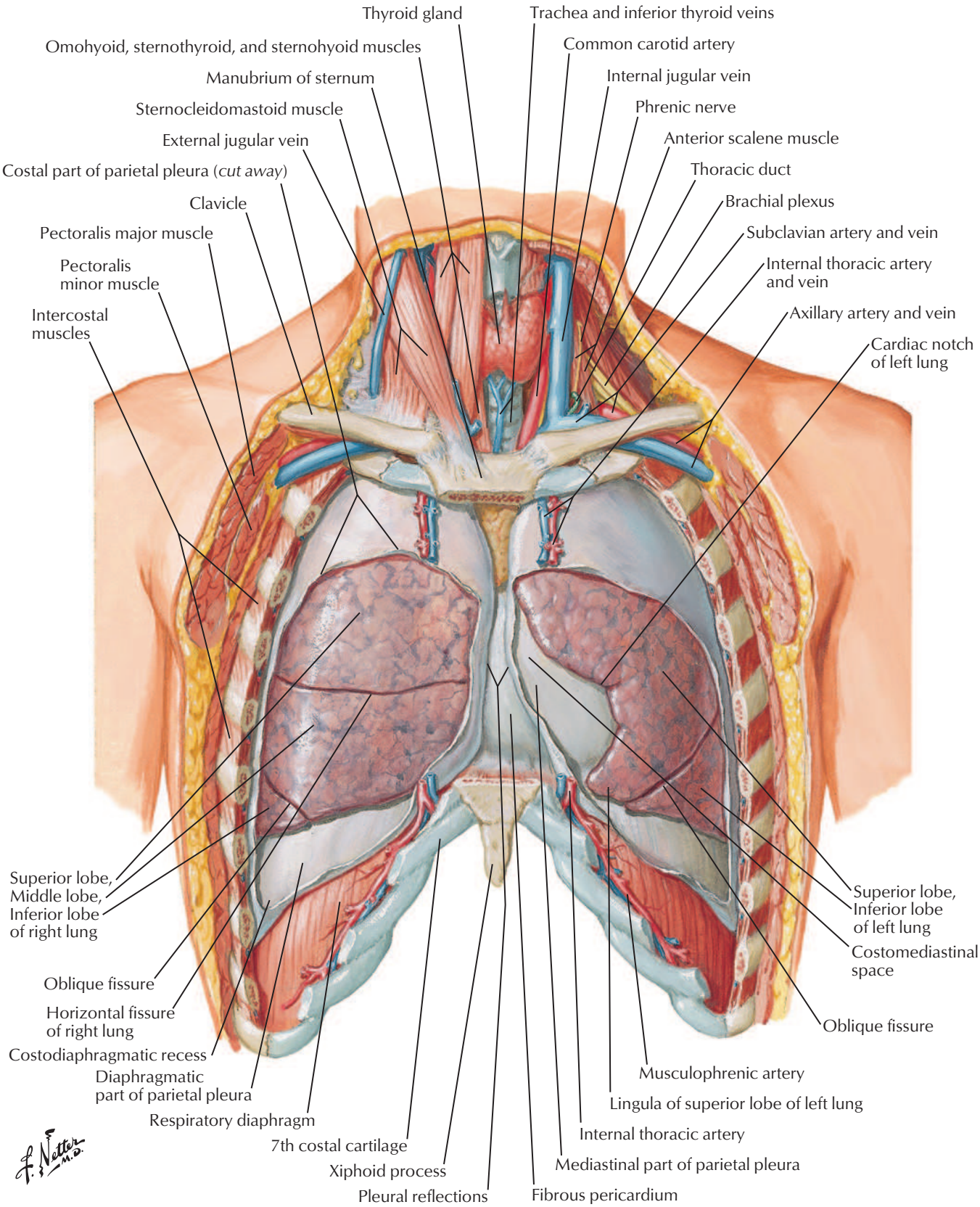




www.Booksmedicos06.com

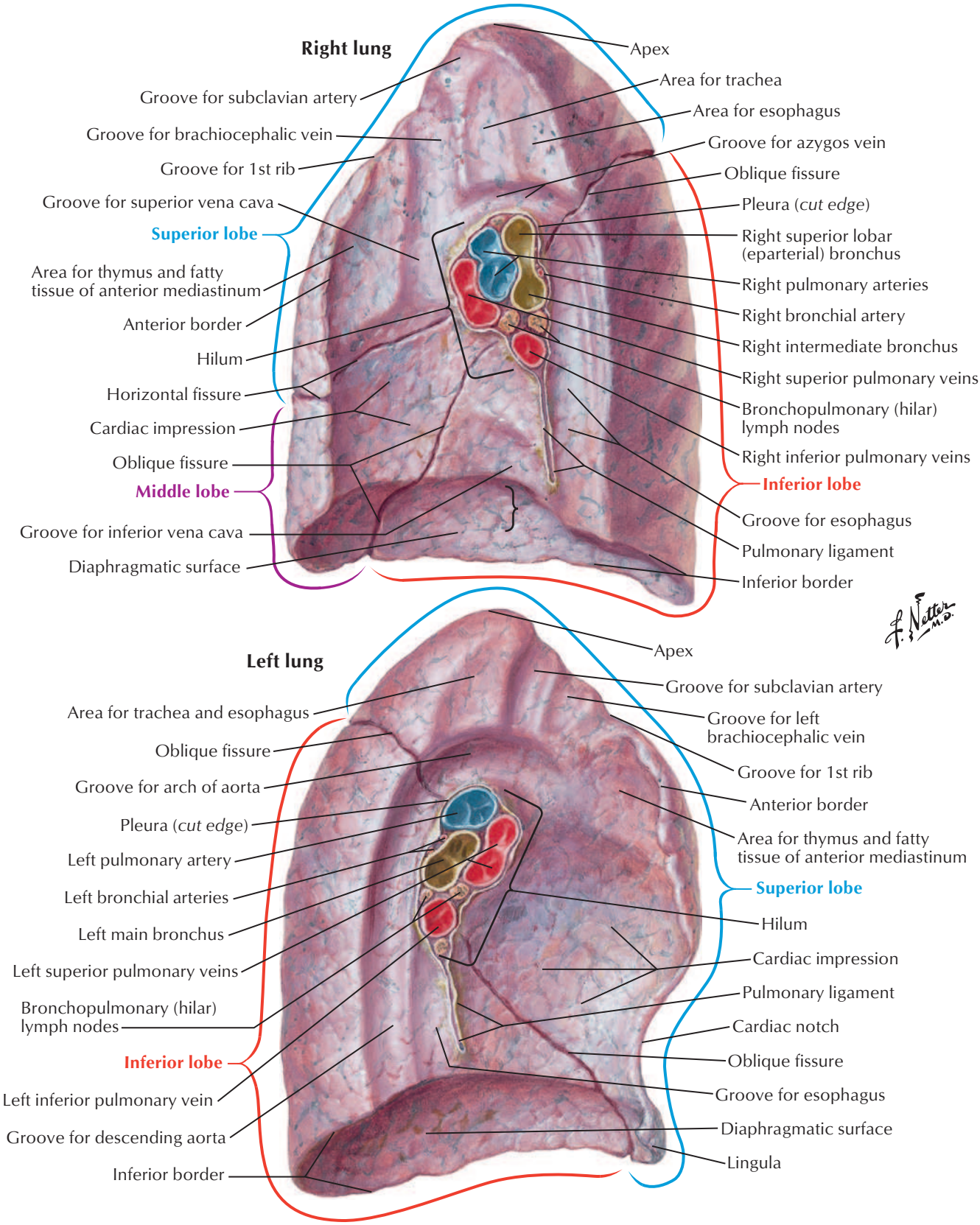


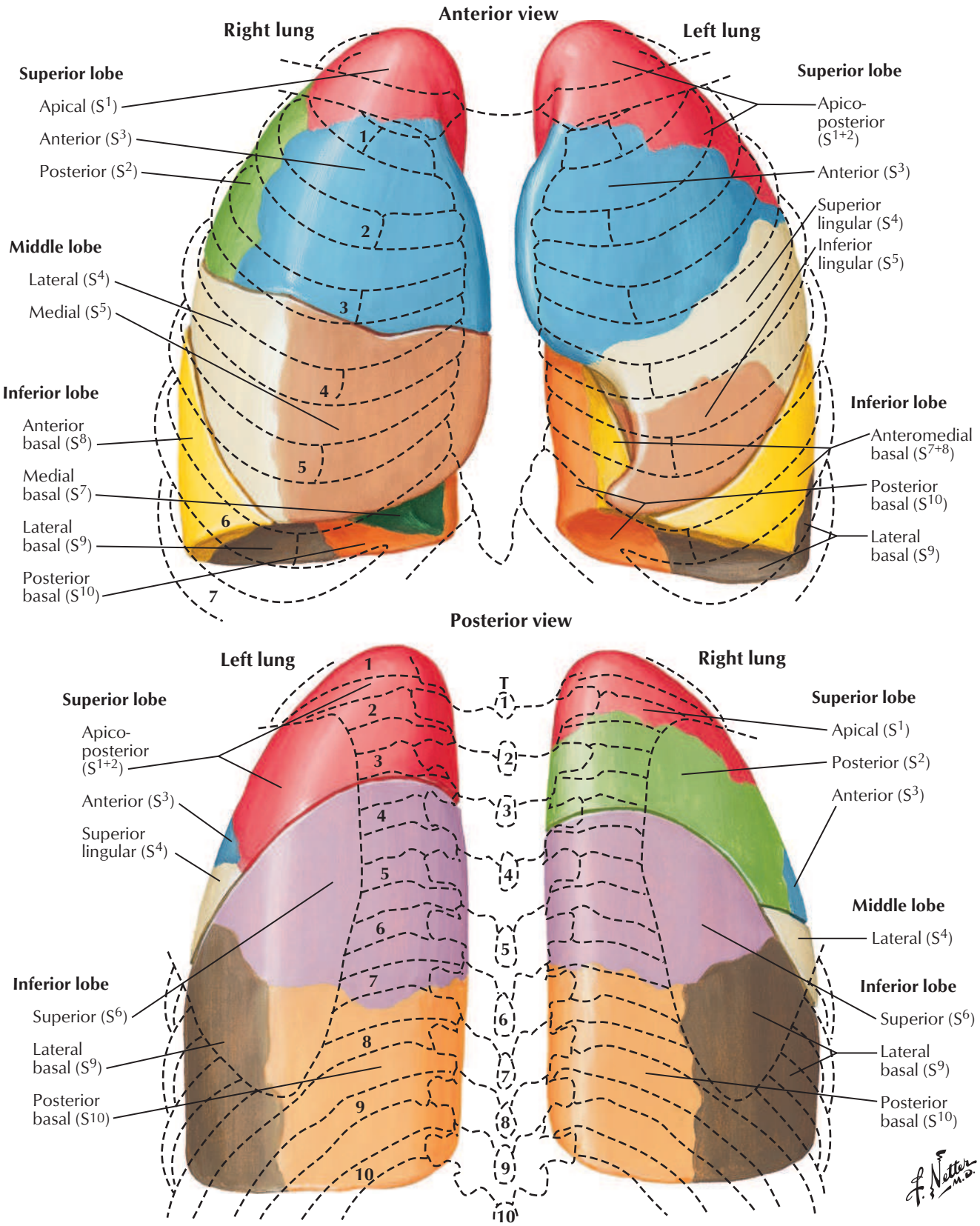
////// facebook : Booksmedicos06



www.Booksmedicos06.com

////// facebook : Booksmedicos06

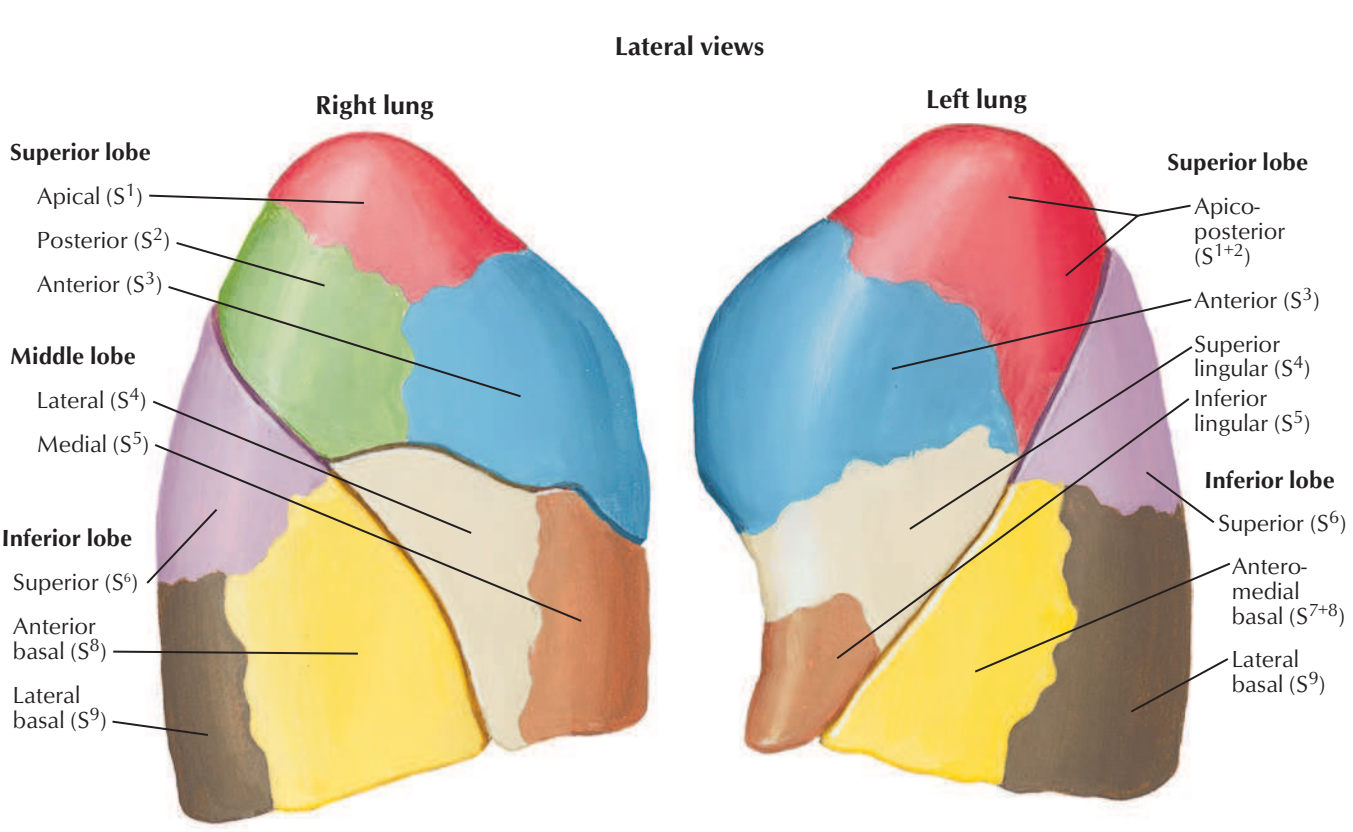




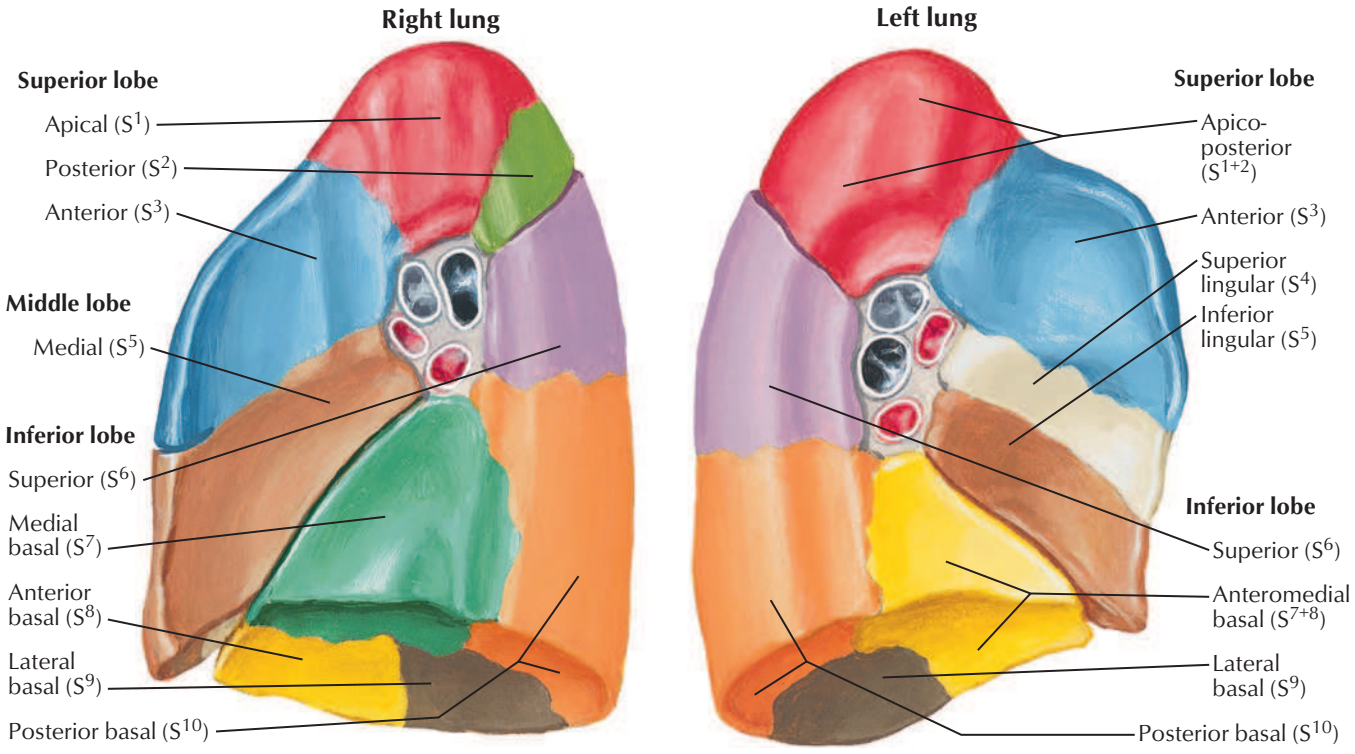
www.Booksmedicos06.com

////// facebook : Booksmedicos06

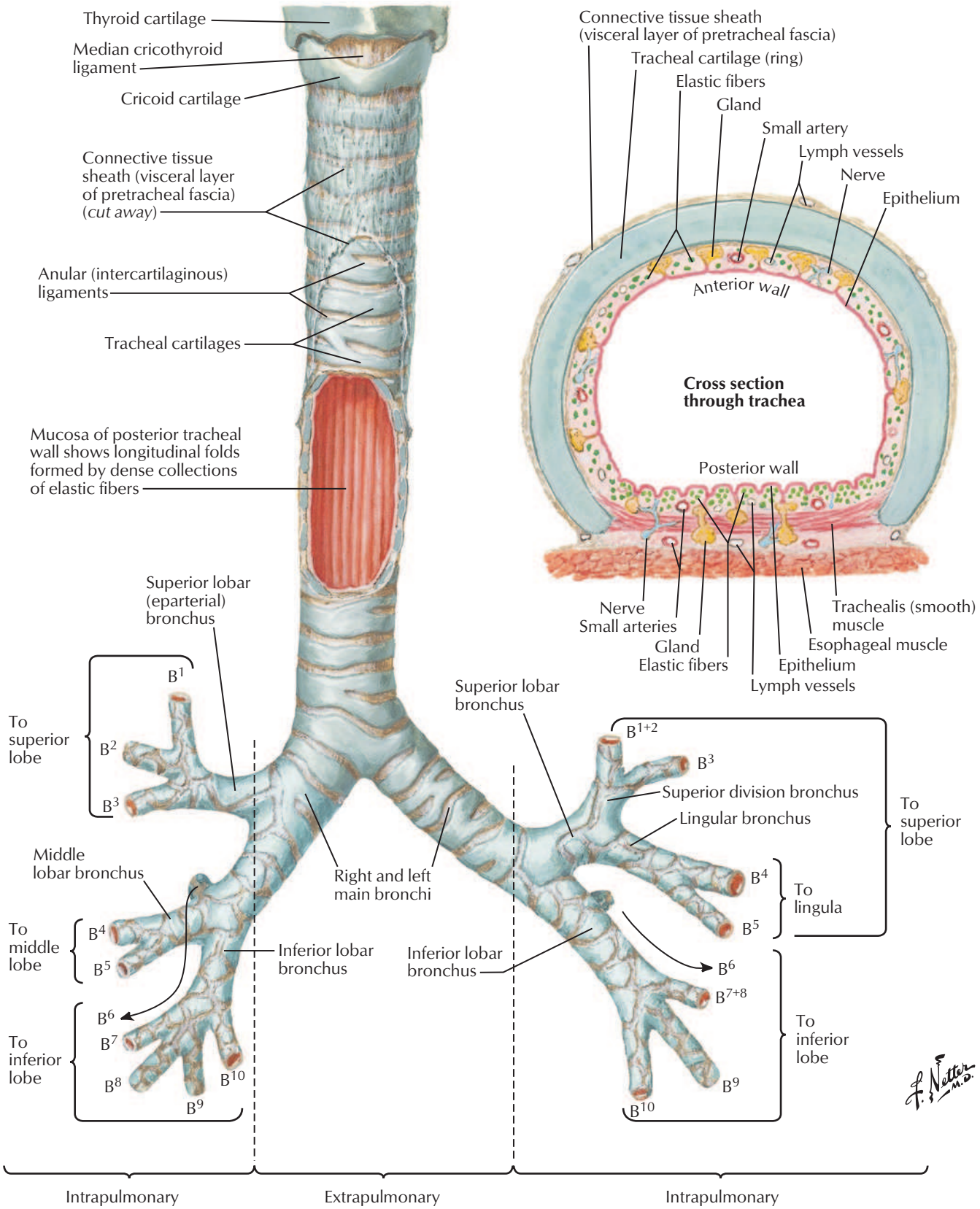
Lateral views



Medial views

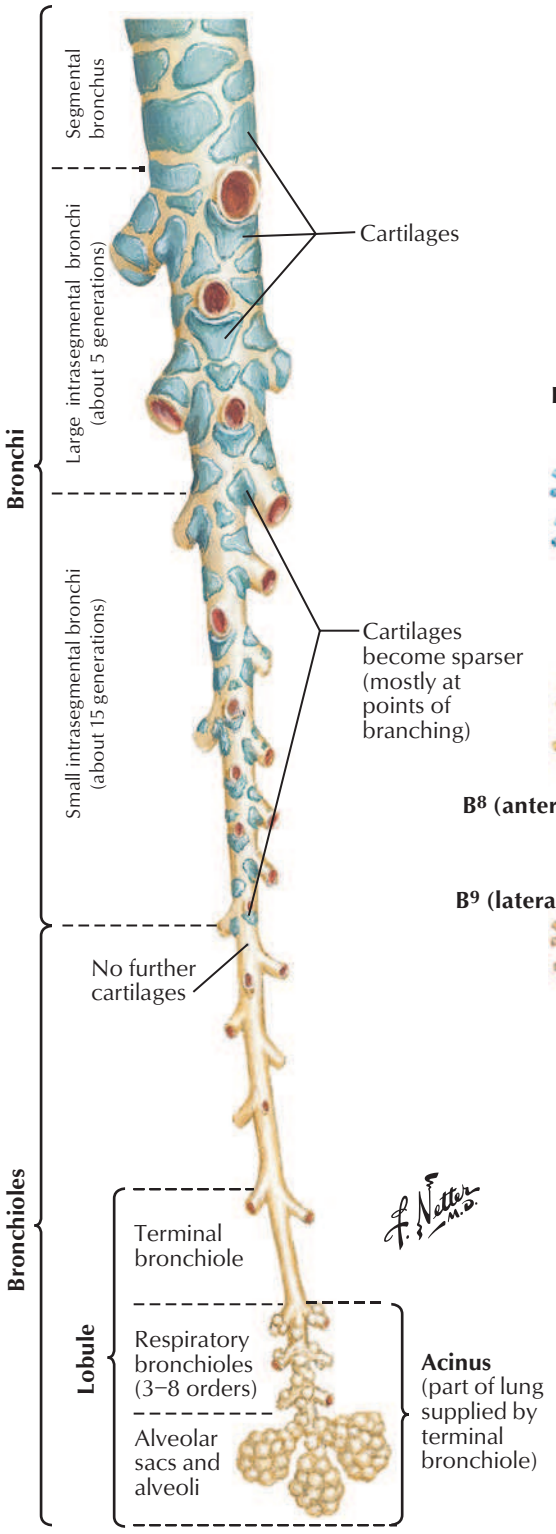


See also Plates 81, 211, 214

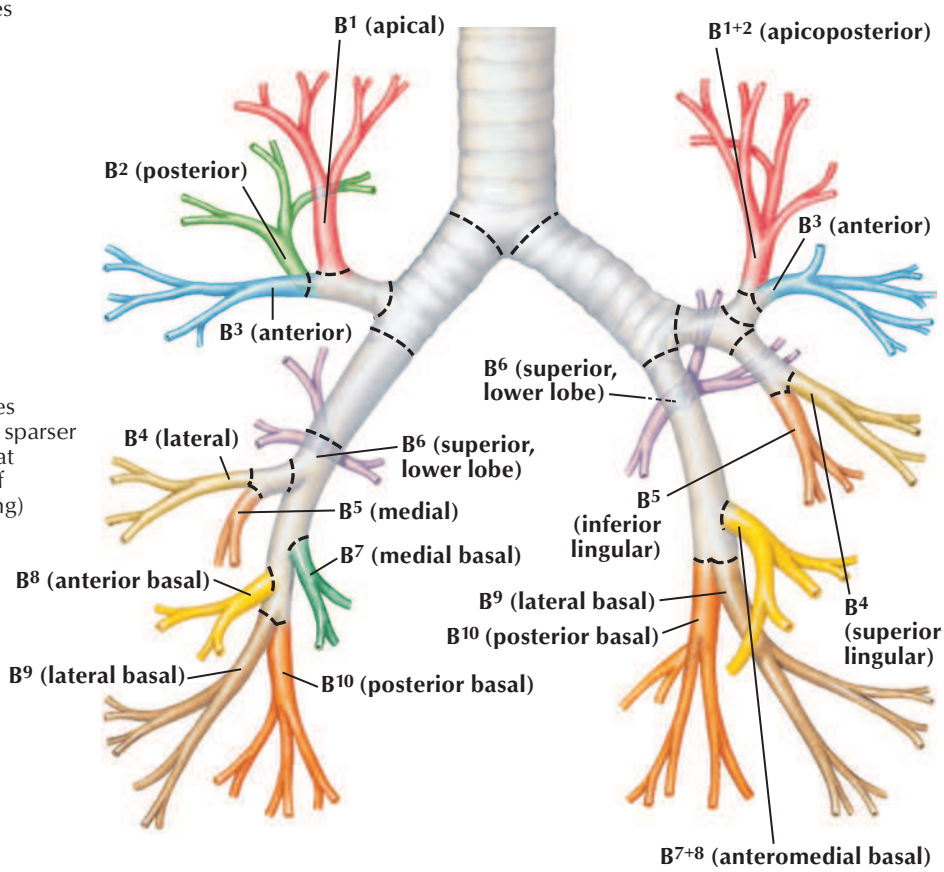


www.Booksmedicos06.com

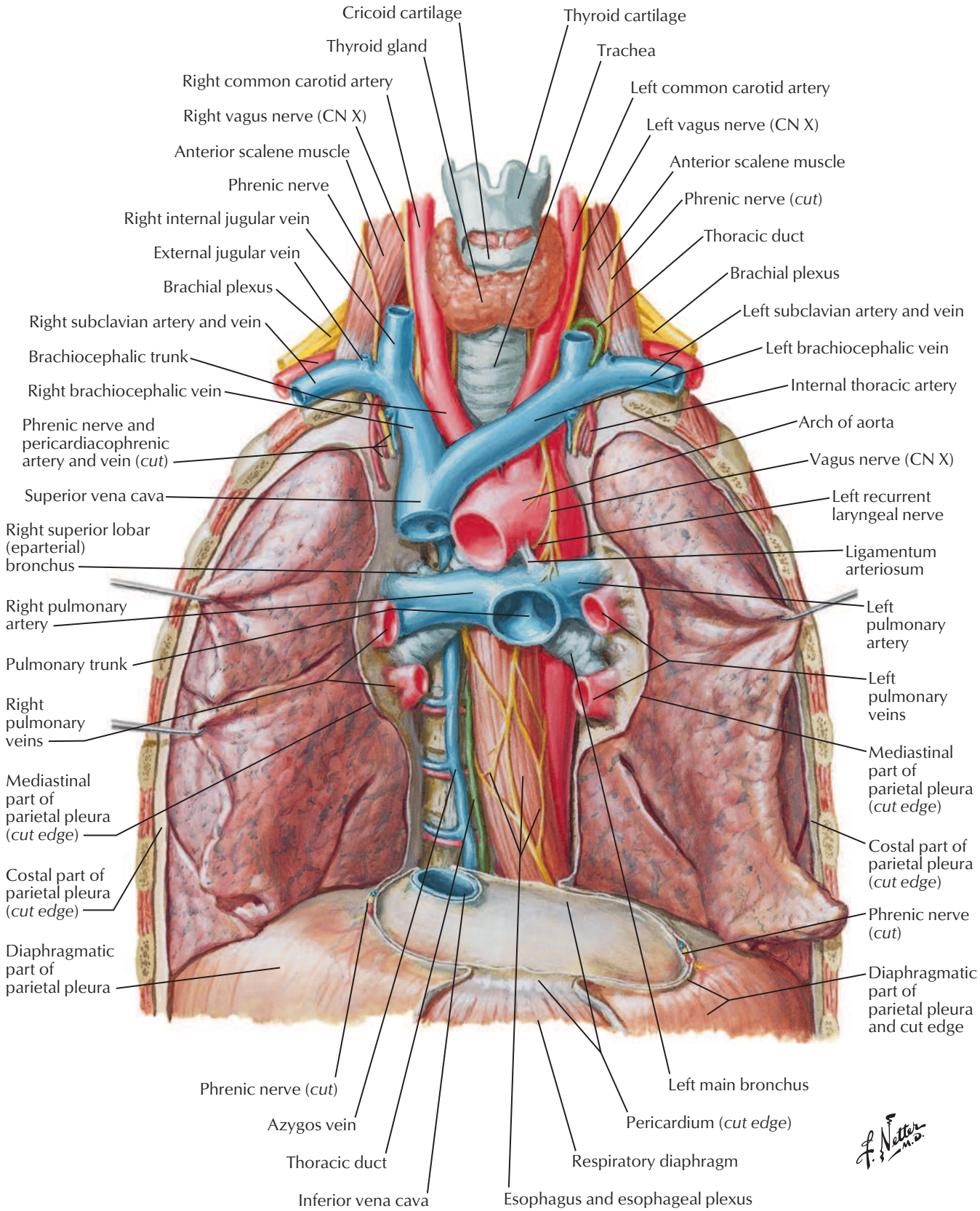
////// facebook : Booksmedicos06



Subdivisions of intrapulmonary airways

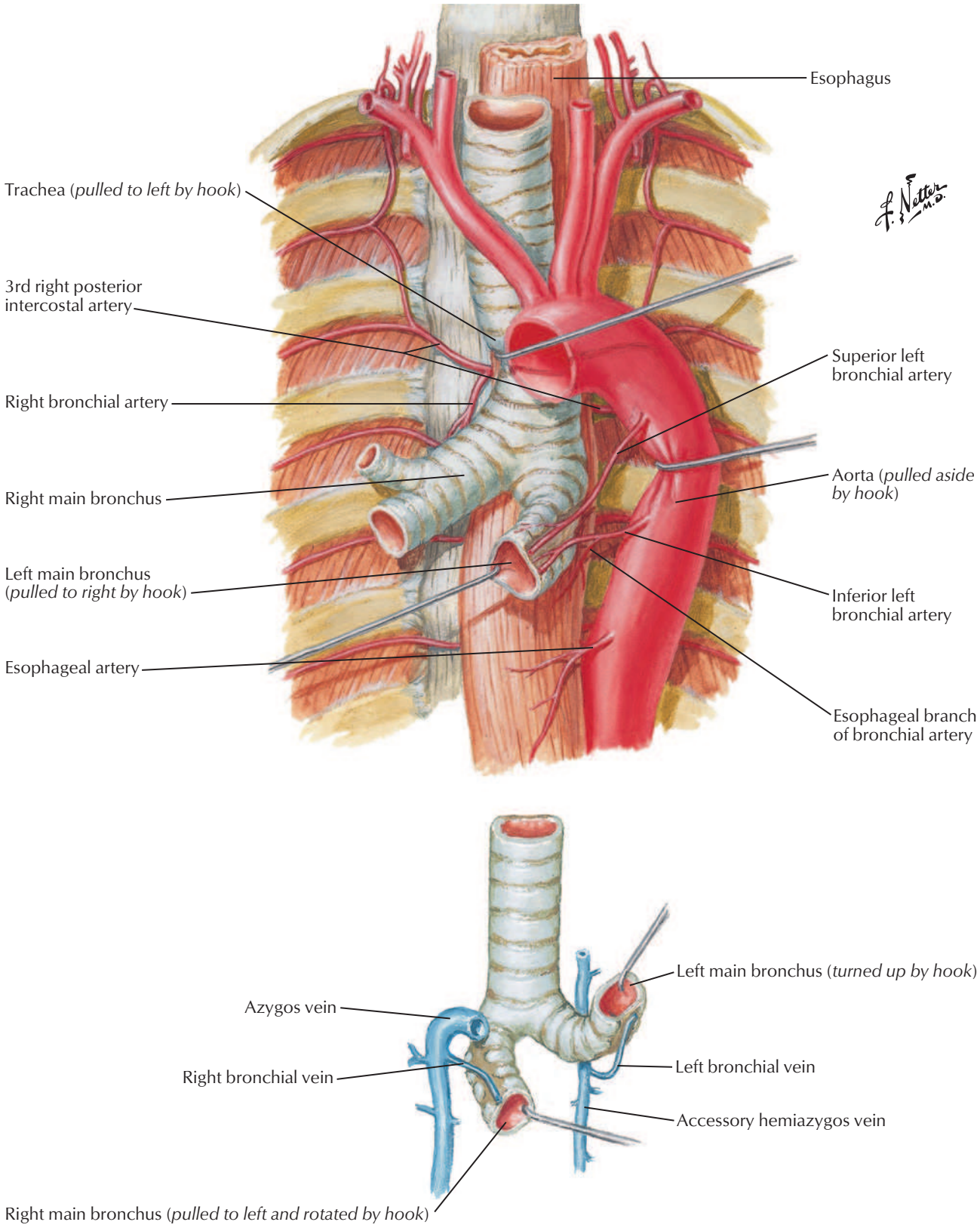


Nomenclature in common usage for bronchopulmonary segments (Plates 206 and 207) is that of Jackson and Huber, and segmental bronchi are named accordingly. Bronchial subdivisions as far as the 5th or 6th generations also are shown but not labelled. Segmental bronchi (B) are numbered from 1 to 10 in each lung, corresponding to the pulmonary segments. In the left lung, B^1 and B^2 are combined, as are B^7 and B^8. Variations of the standard bronchial pattern shown here are common, especially in peripheral airways.



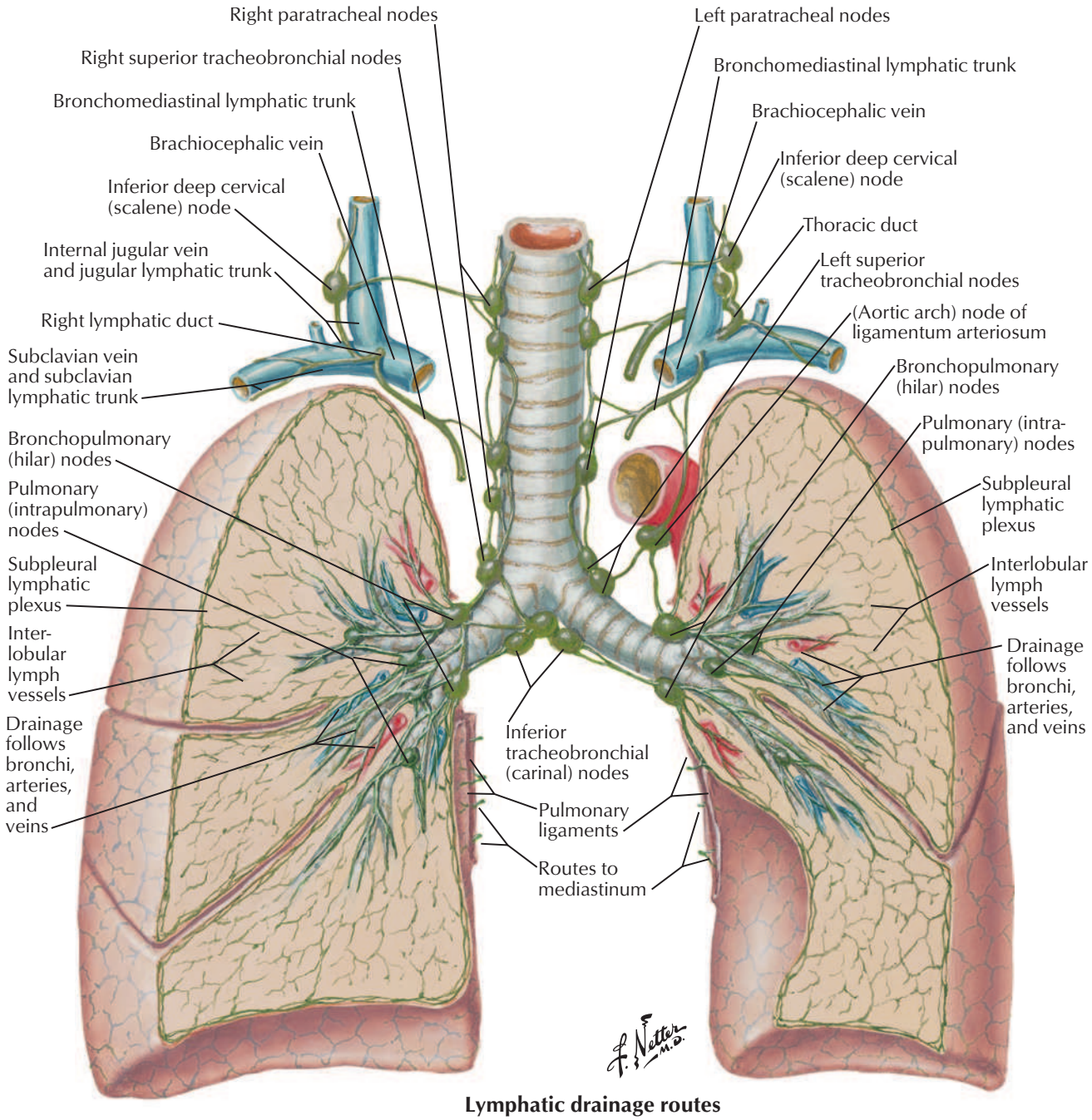
www.Booksmedicos06.com

////// facebook : Booksmedicos06



Lymph Vessels and Nodes of Lung

See also Plates 85, 242



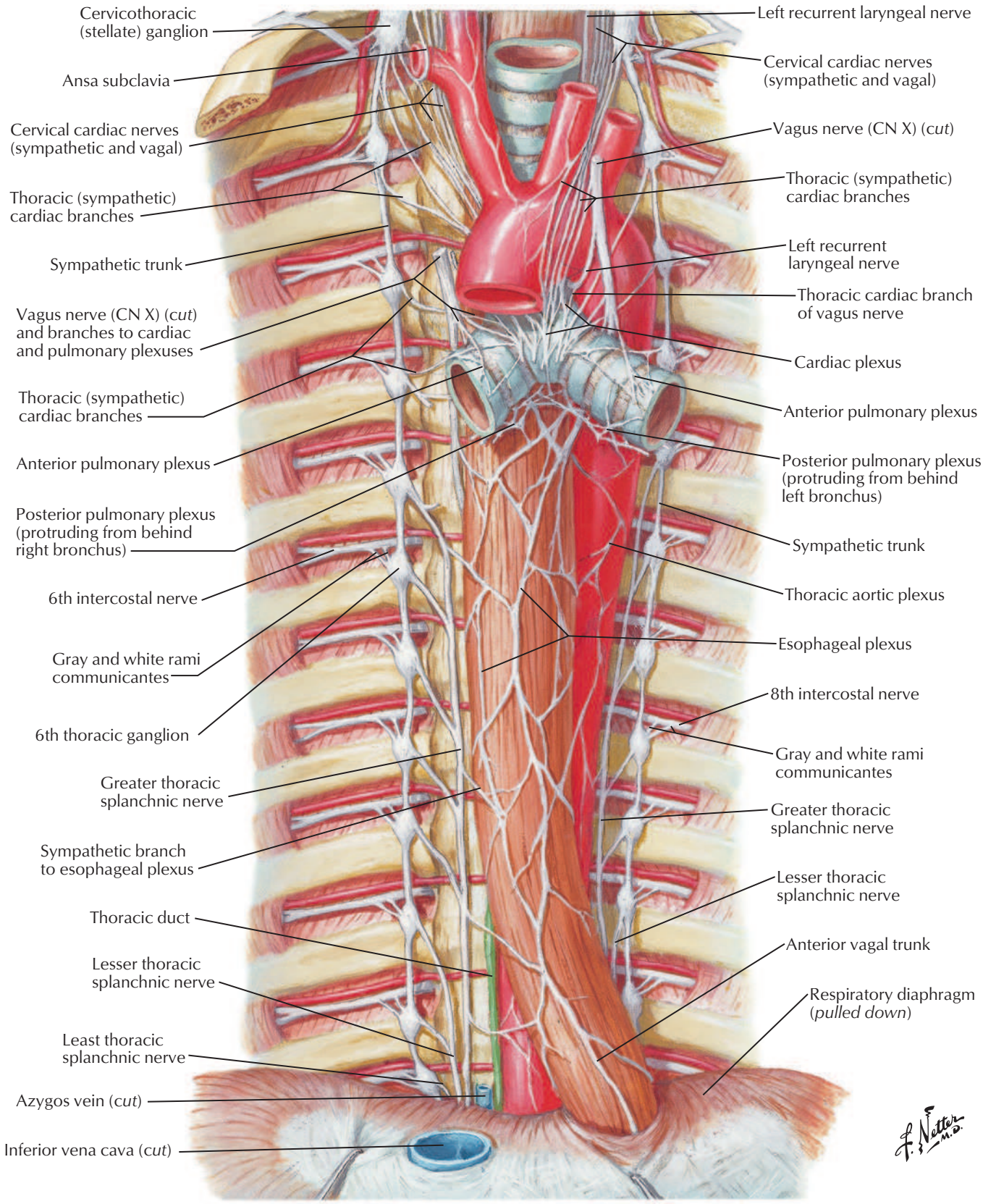
Lymphatic drainage routes

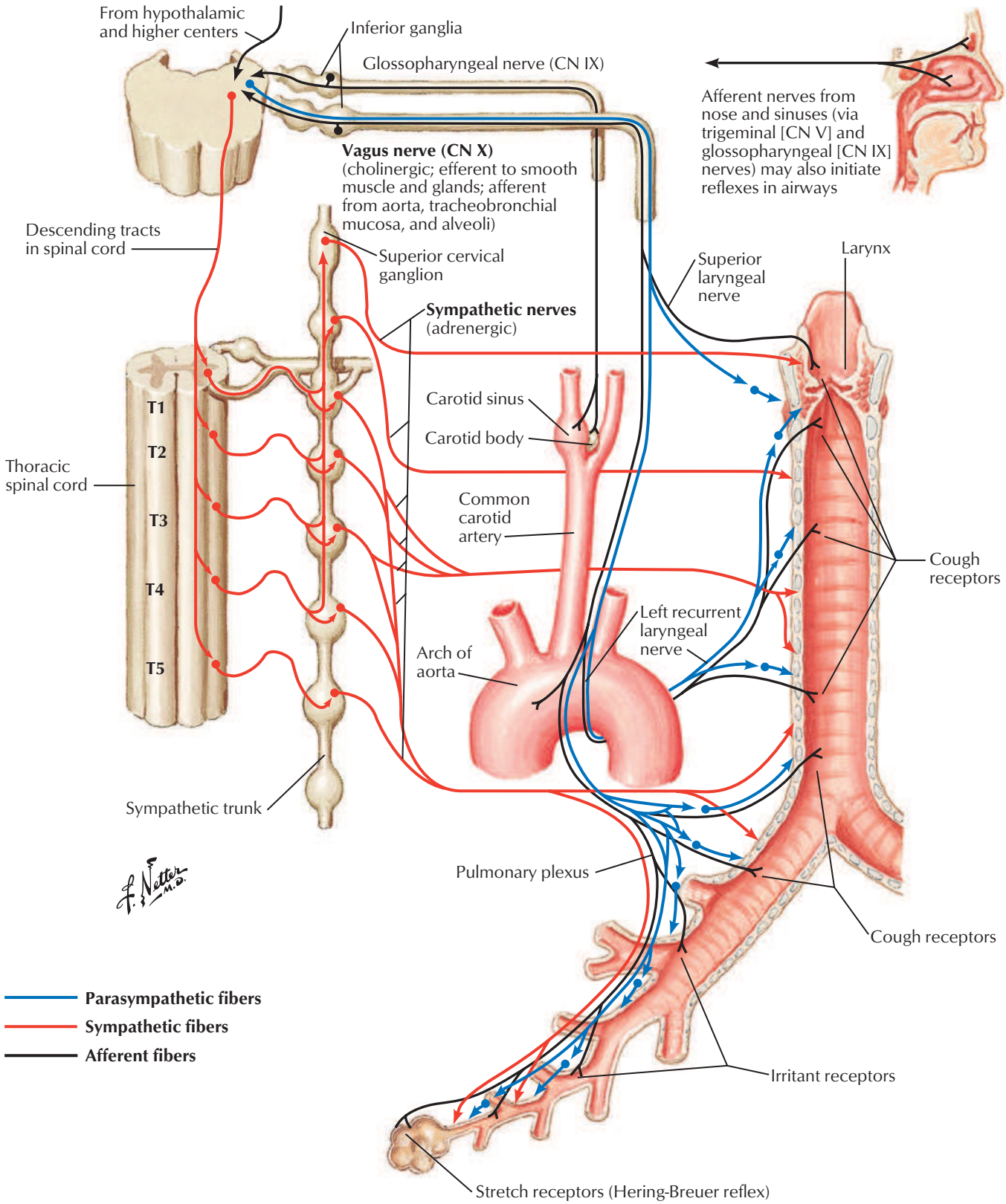
Right lung: All lobes drain to pulmonary and bronchopulmonary (hilar) nodes, then to inferior tracheobronchial (carinal) nodes, right superior tracheobronchial nodes, and right paratracheal nodes on the way to the brachiocephalic vein via the bronchomediastinal lymphatic trunk and/or inferior deep cervical (scalene) node.

Left lung: The superior lobe drains to pulmonary and bronchopulmonary (hilar) nodes, inferior tracheobronchial (carinal) nodes, left superior tracheobronchial nodes, left paratracheal nodes and/or (aortic arch) node of ligamentum arteriosum, then to the brachiocephalic vein via the left bronchomediastinal trunk and thoracic duct. The left inferior lobe also drains to the pulmonary and bronchopulmonary (hilar) nodes and to inferior tracheobronchial (carinal) nodes, but then mostly to right superior tracheobronchial nodes, where it follows the same route as lymph from the right lung.

www.Booksmedicos06.com ////////

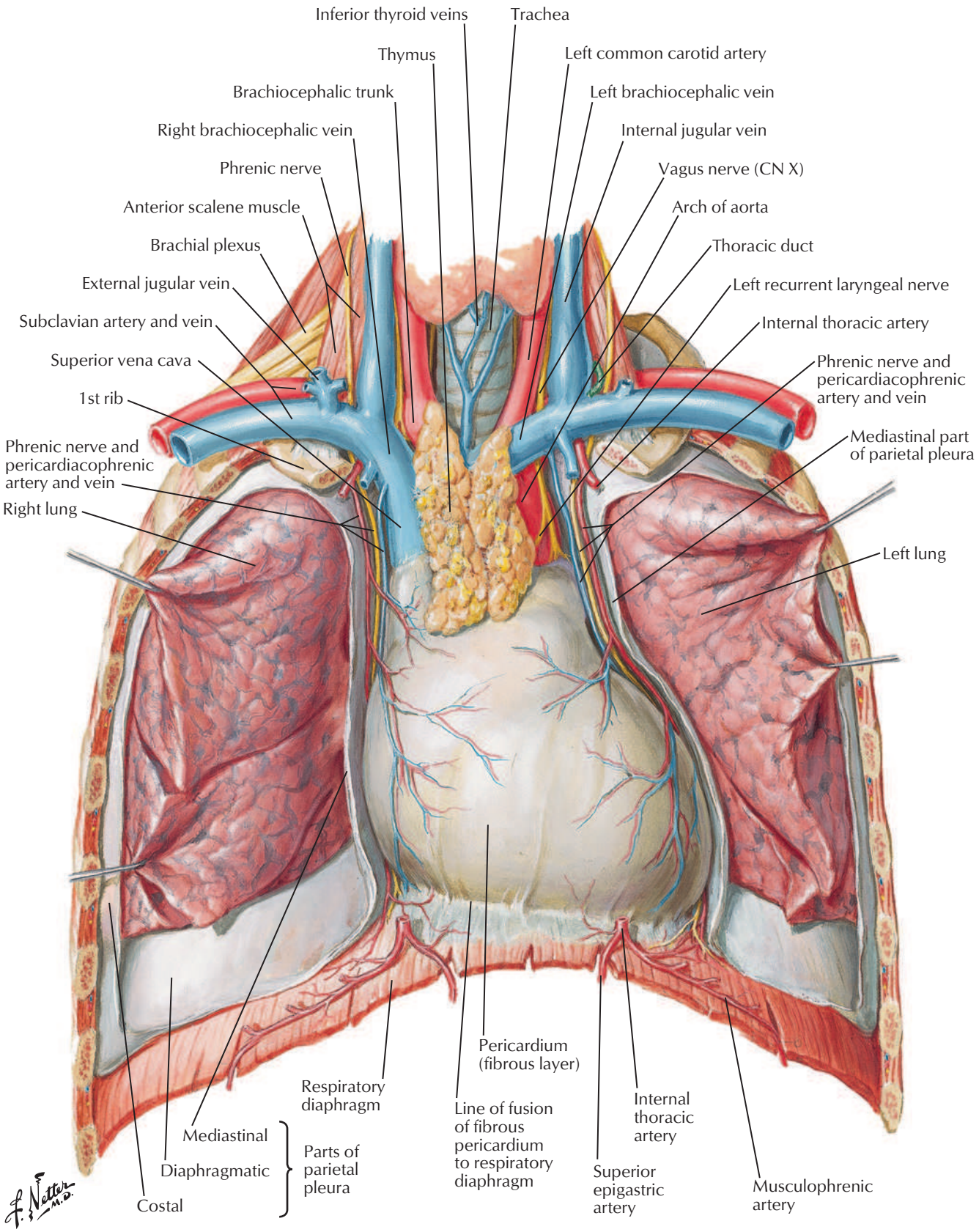
////// facebook : Booksmedicos06

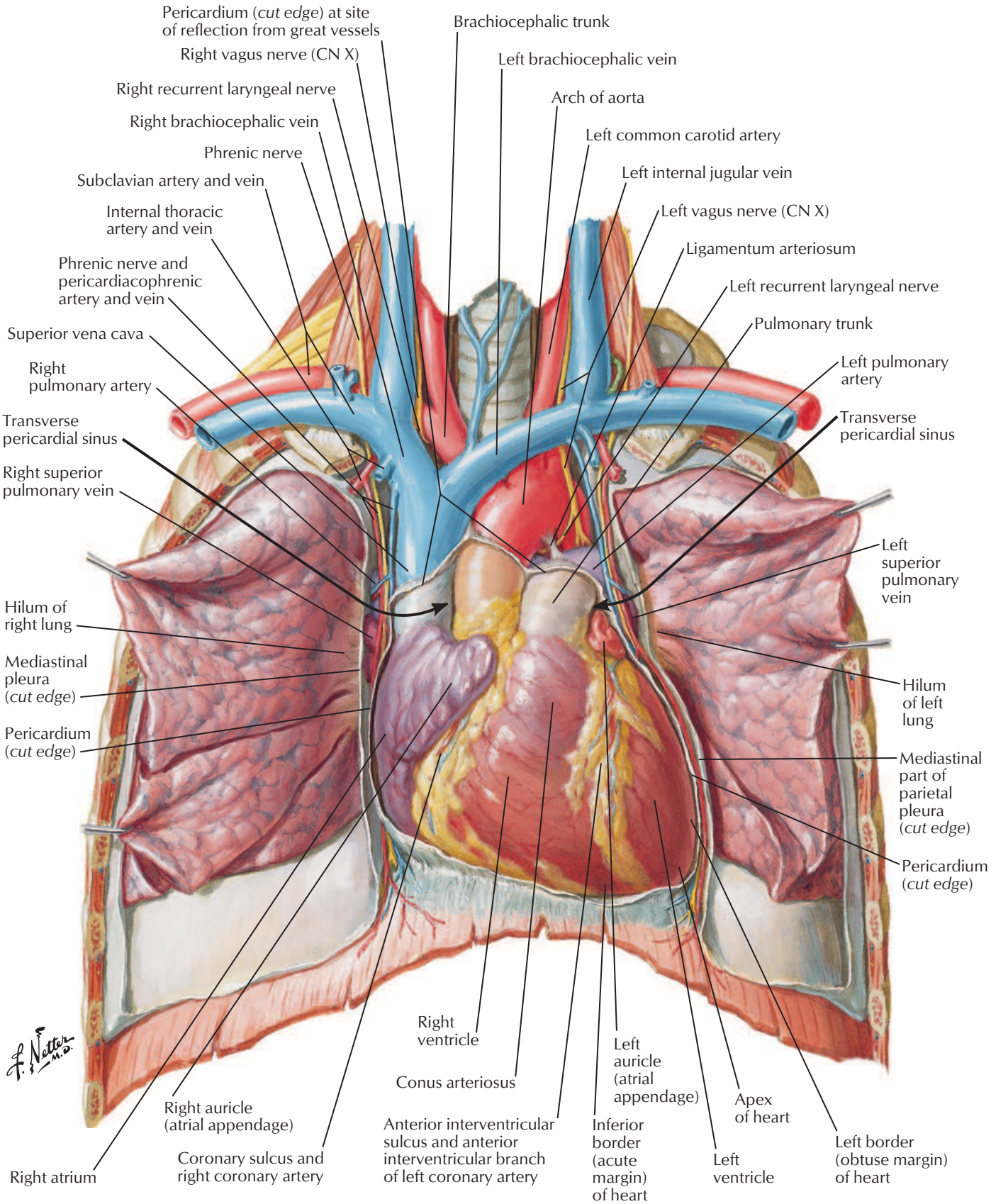




www.Booksmedicos06.com

////// facebook : Booksmedicos06

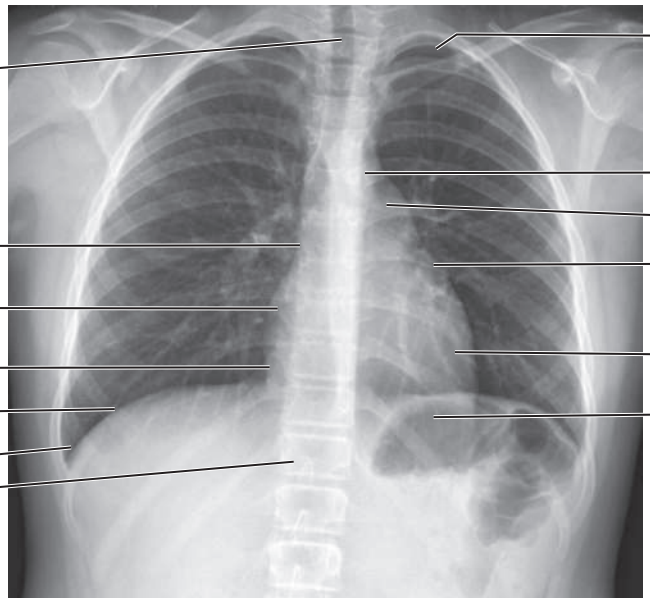




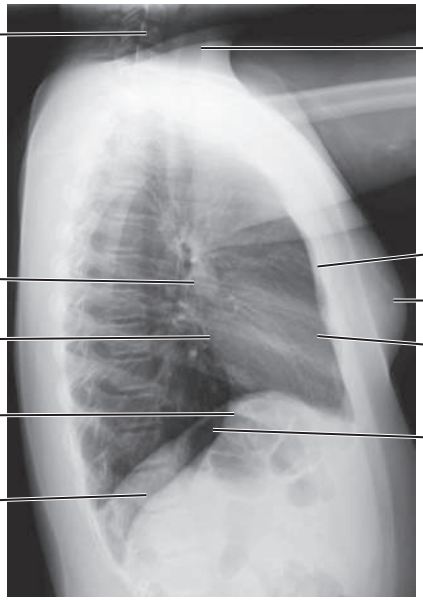
www.Booksmedicos06.com

////// facebook : Booksmedicos06

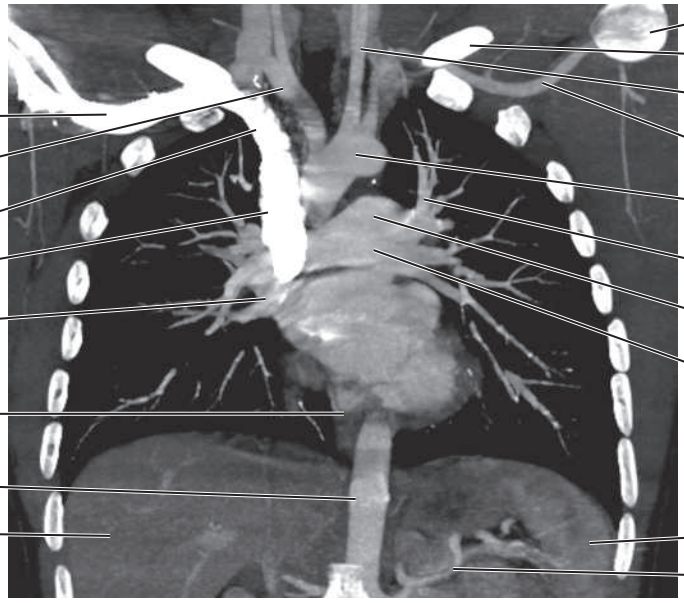
Radiograph: posteroanterior view

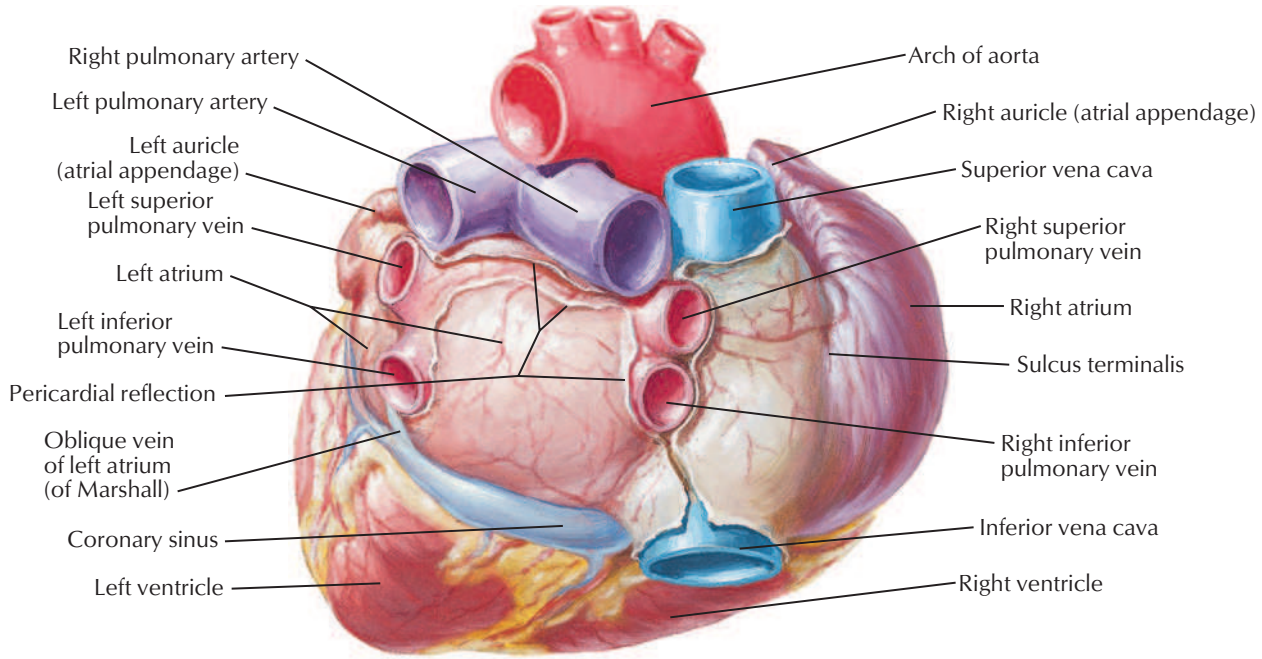


Radiograph: lateral view

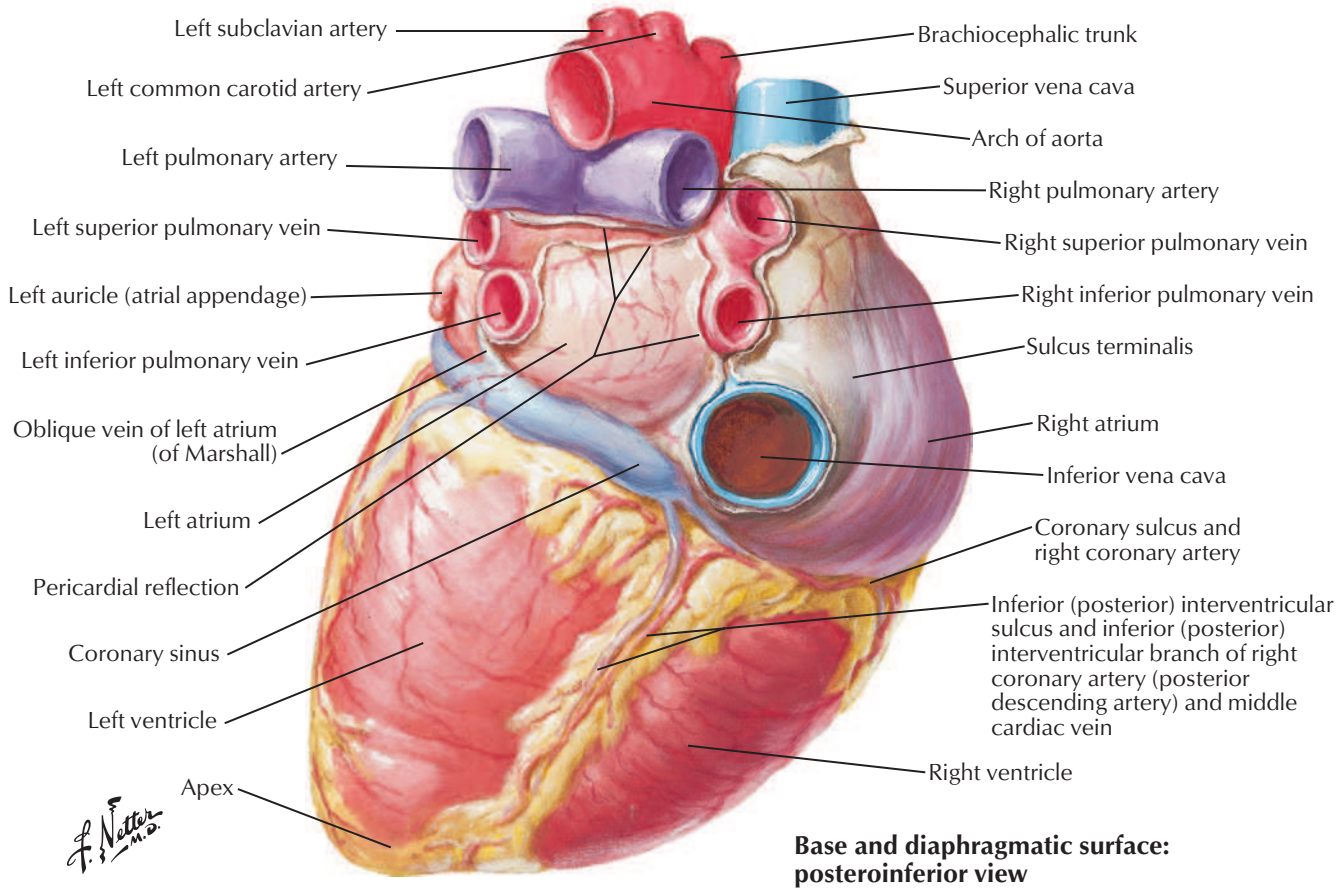


CT angiogram: coronal view





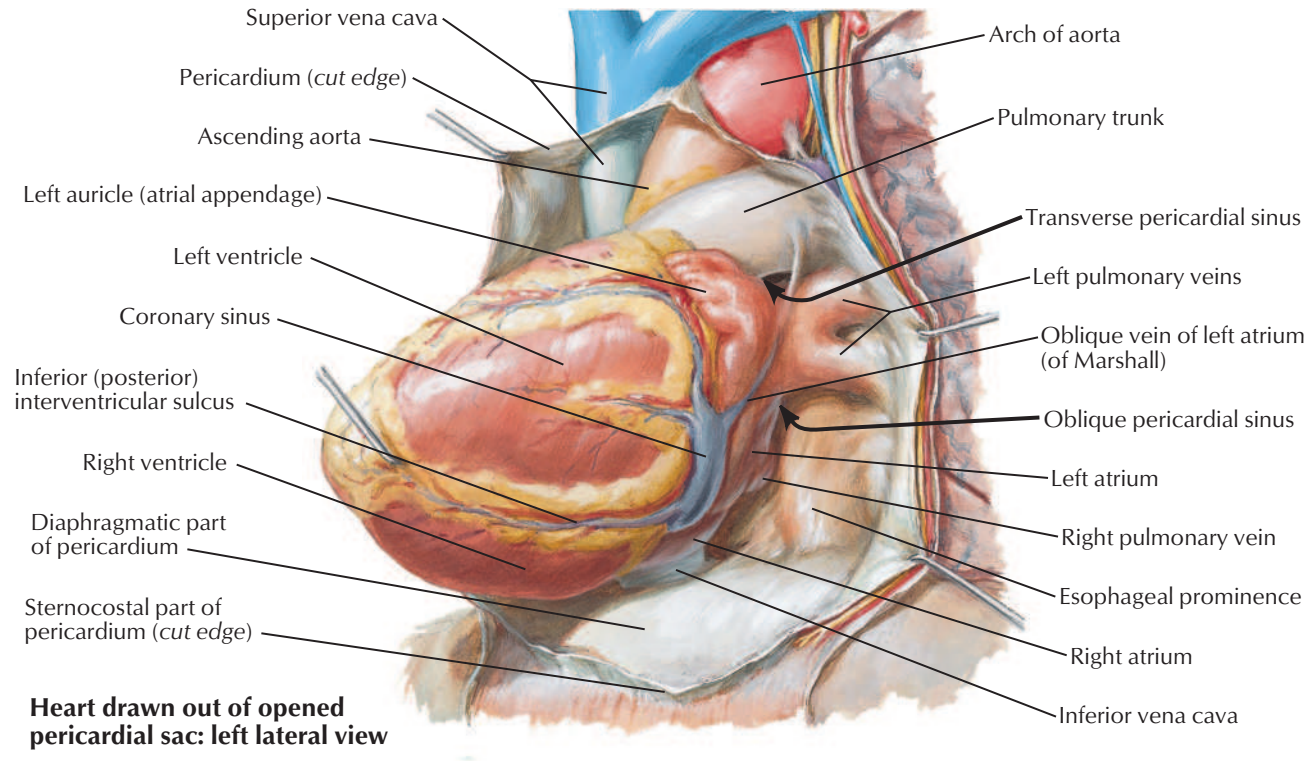
Base of heart: posterior view



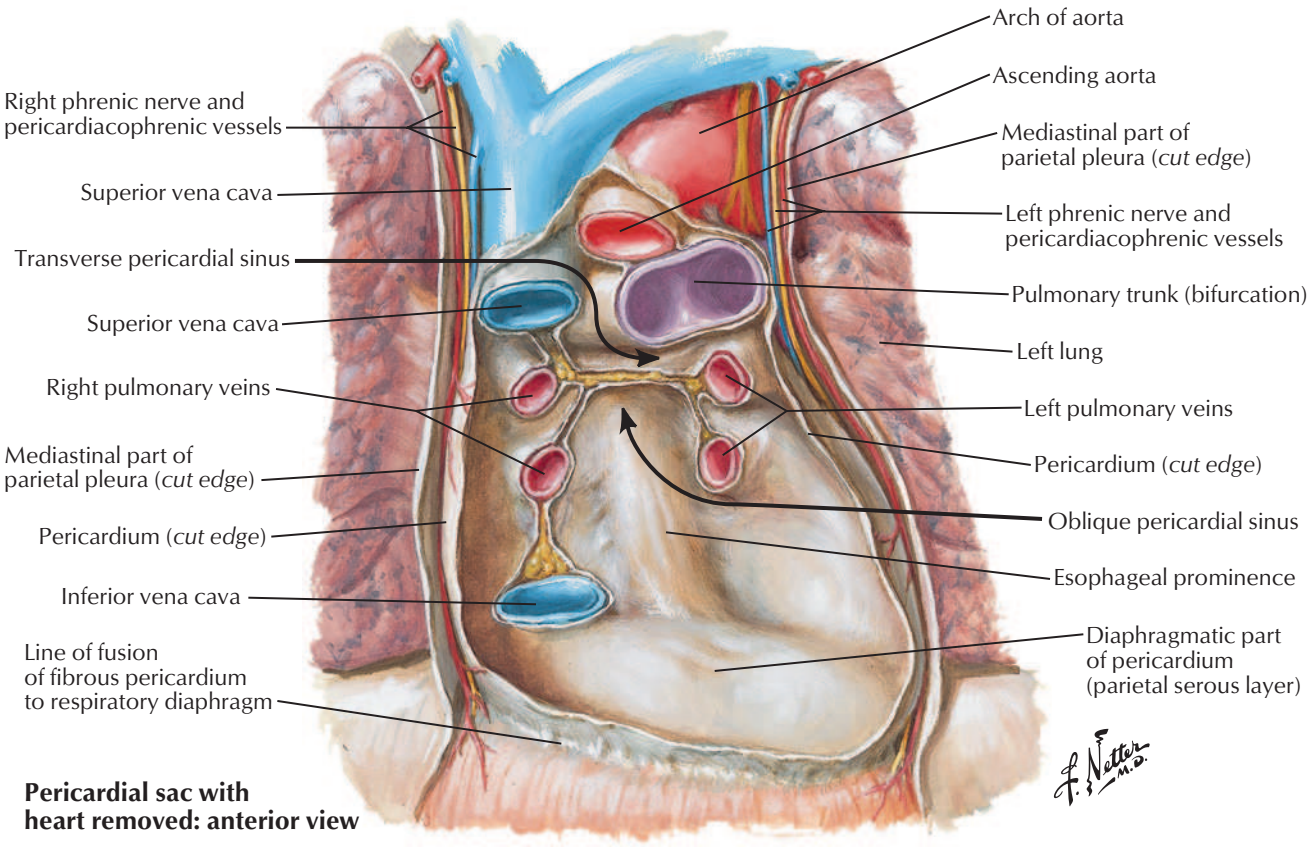
Base and diaphragmatic surface: posteroinferior view

www.Booksmedicos06.com

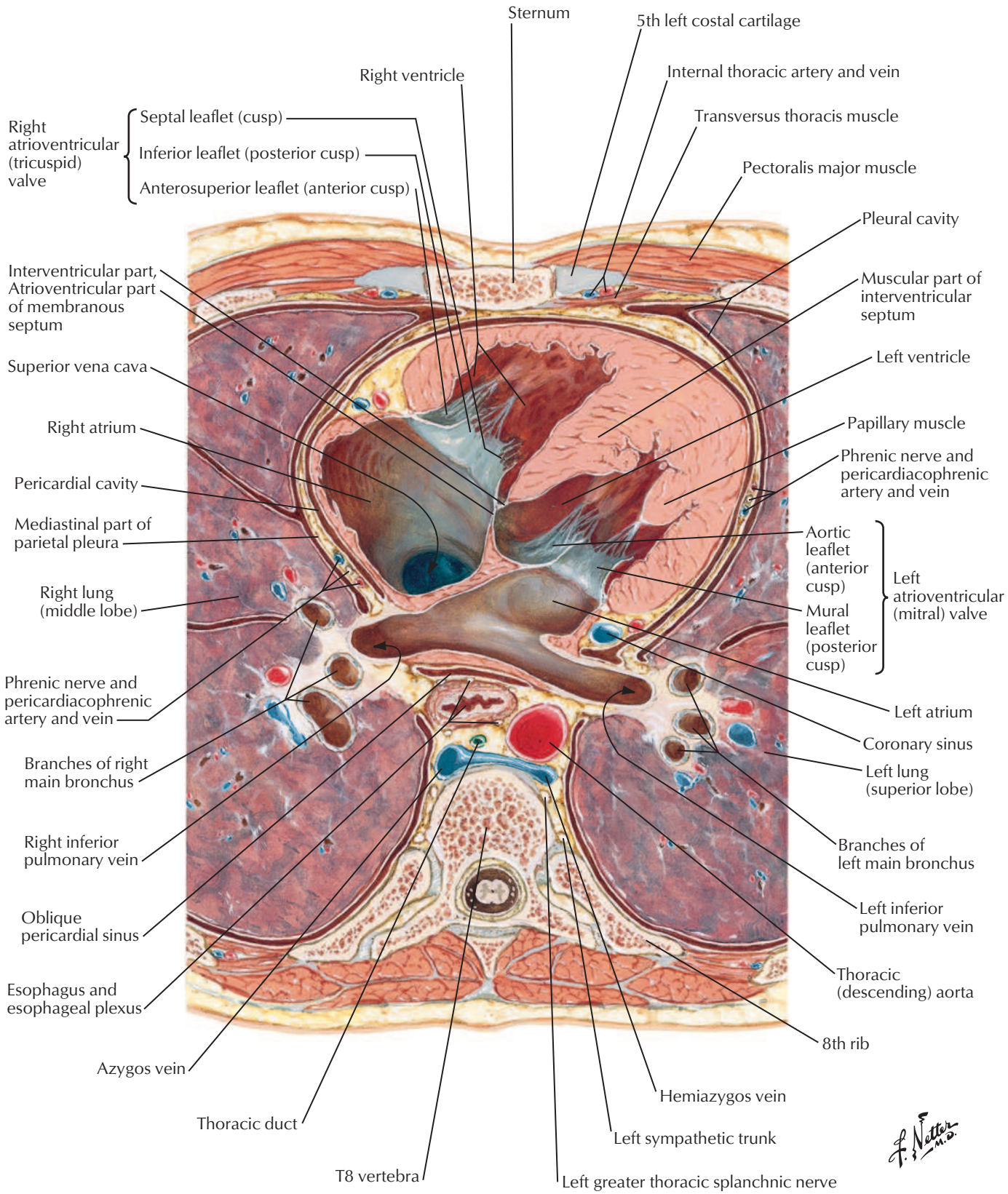
////// facebook : Booksmedicos06



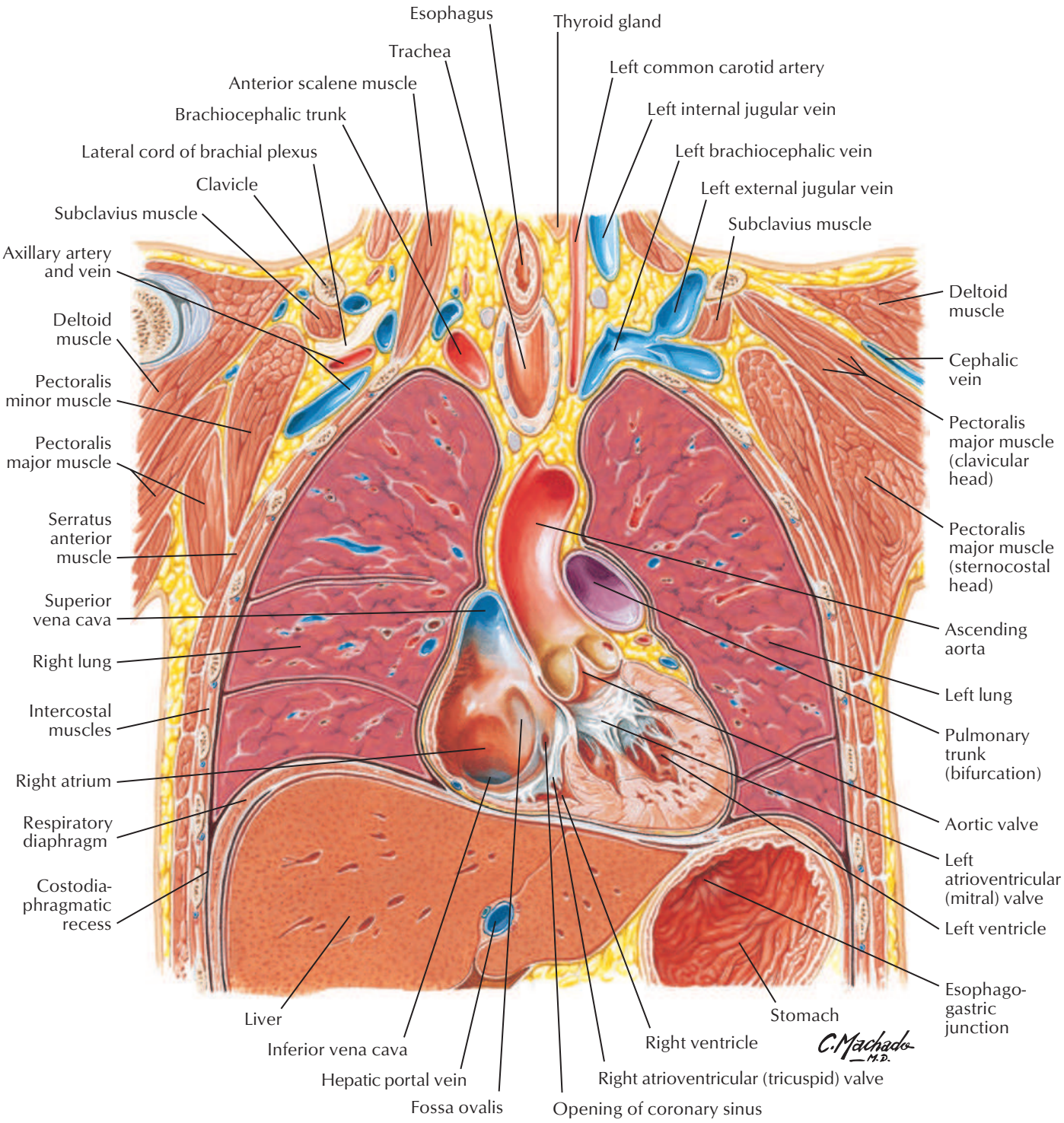
Heart drawn out of opened pericardial sac: left lateral view



Pericardial sac with heart removed: anterior view

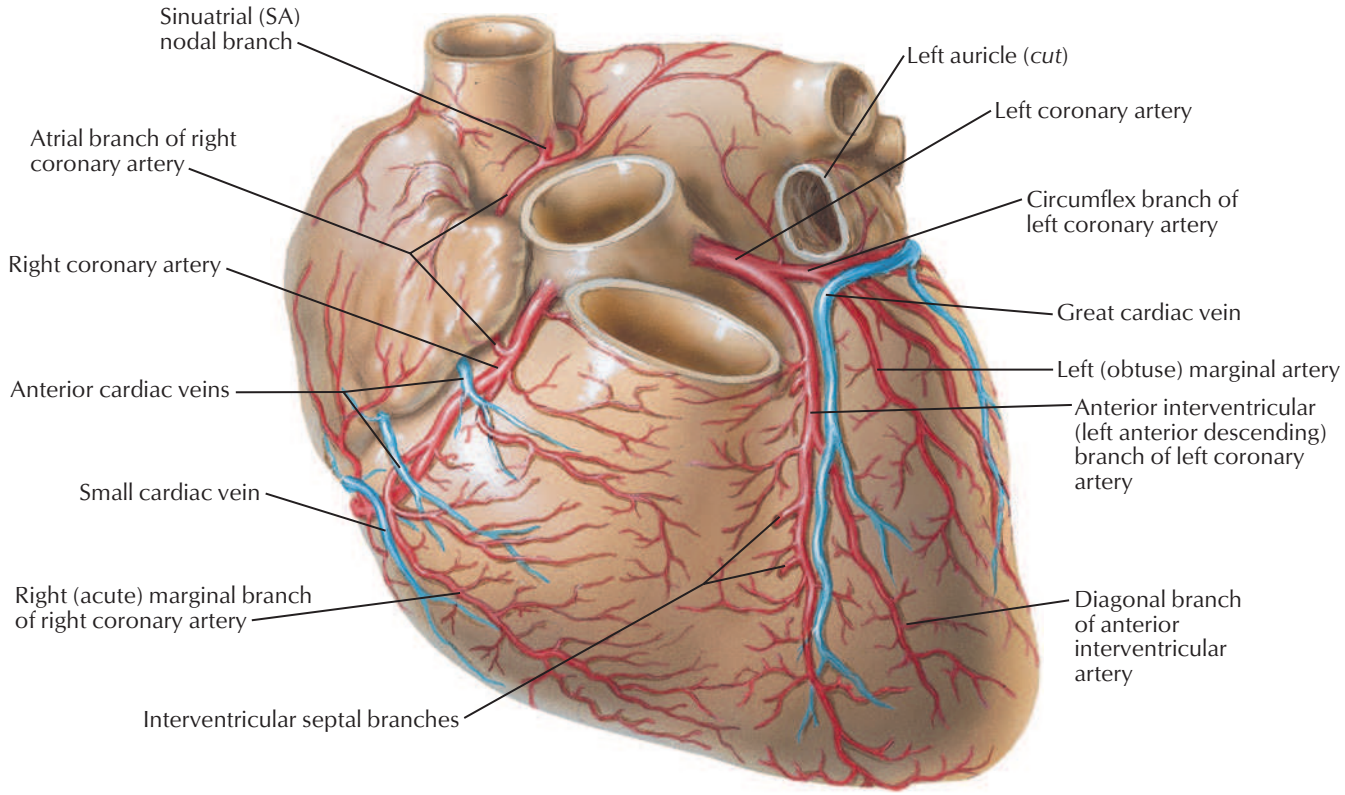


www.Booksmedicos06.com

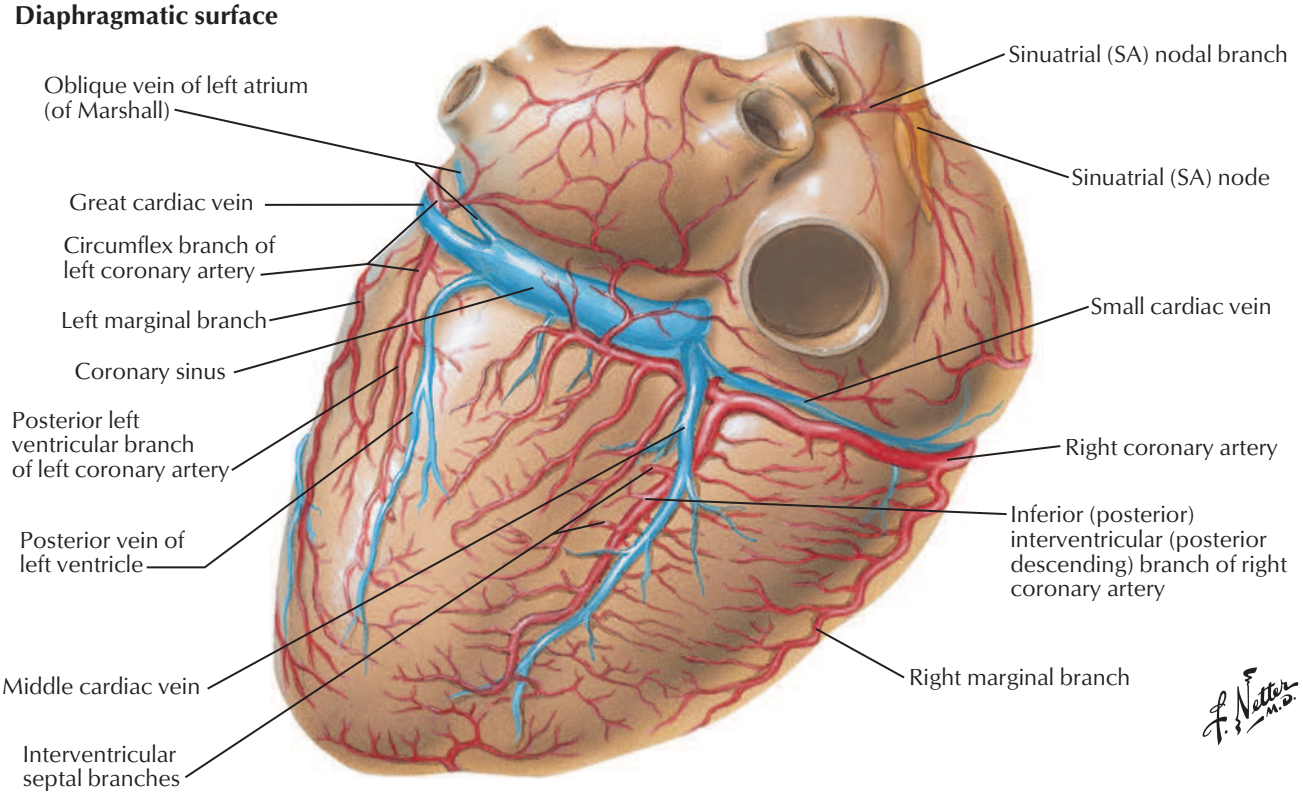


////// facebook : Booksmedicos06

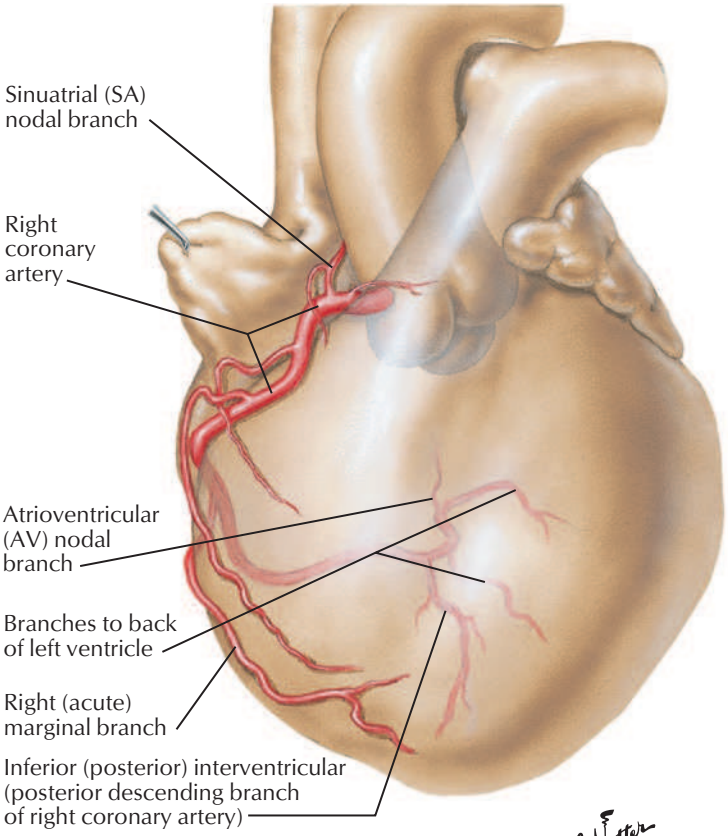
Sternocostal surface

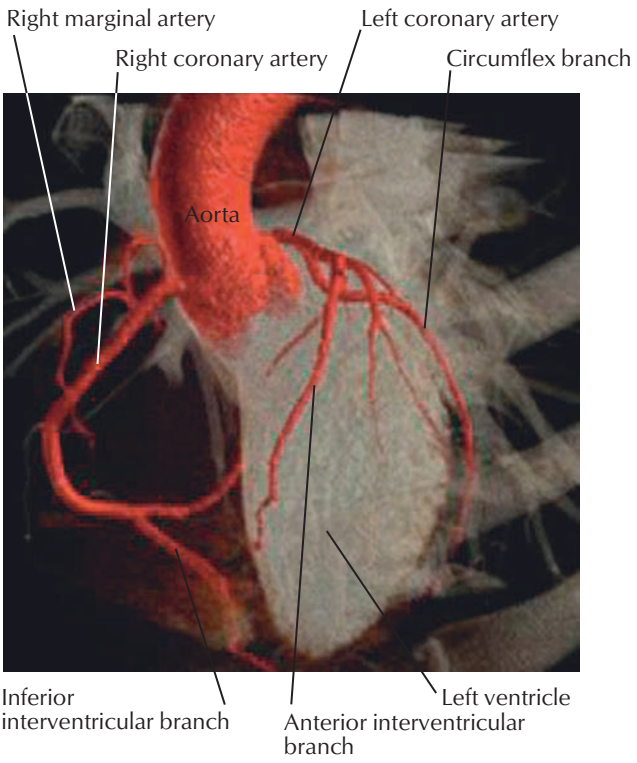


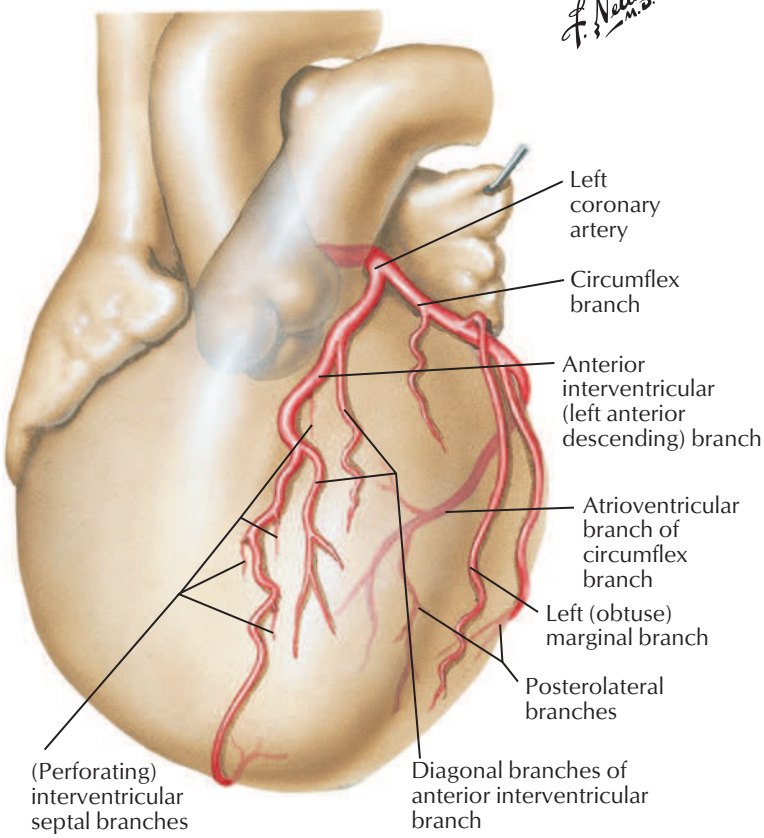
Diaphragmatic surface

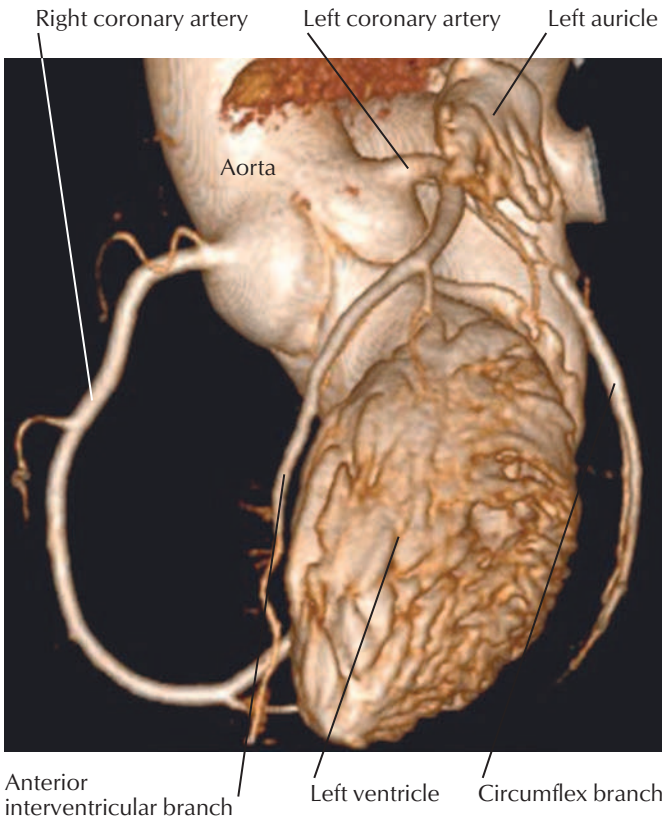


www.Booksmedicos06.com

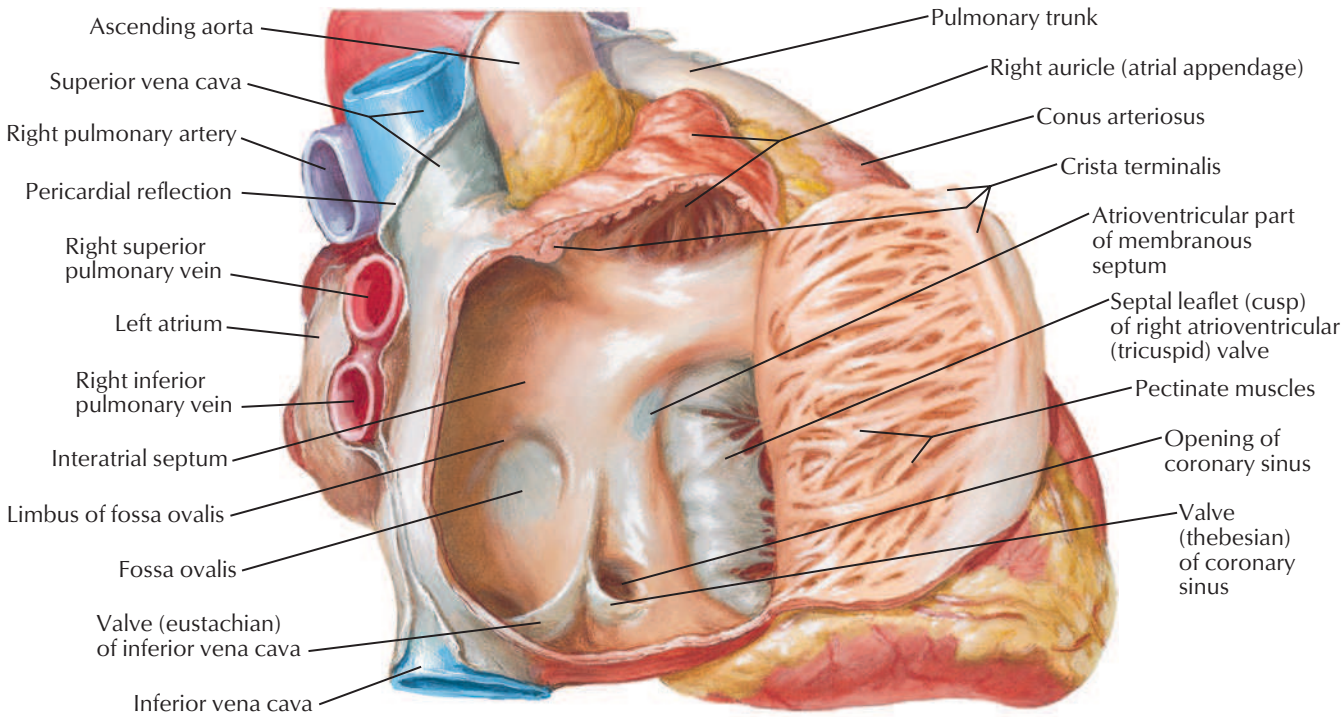




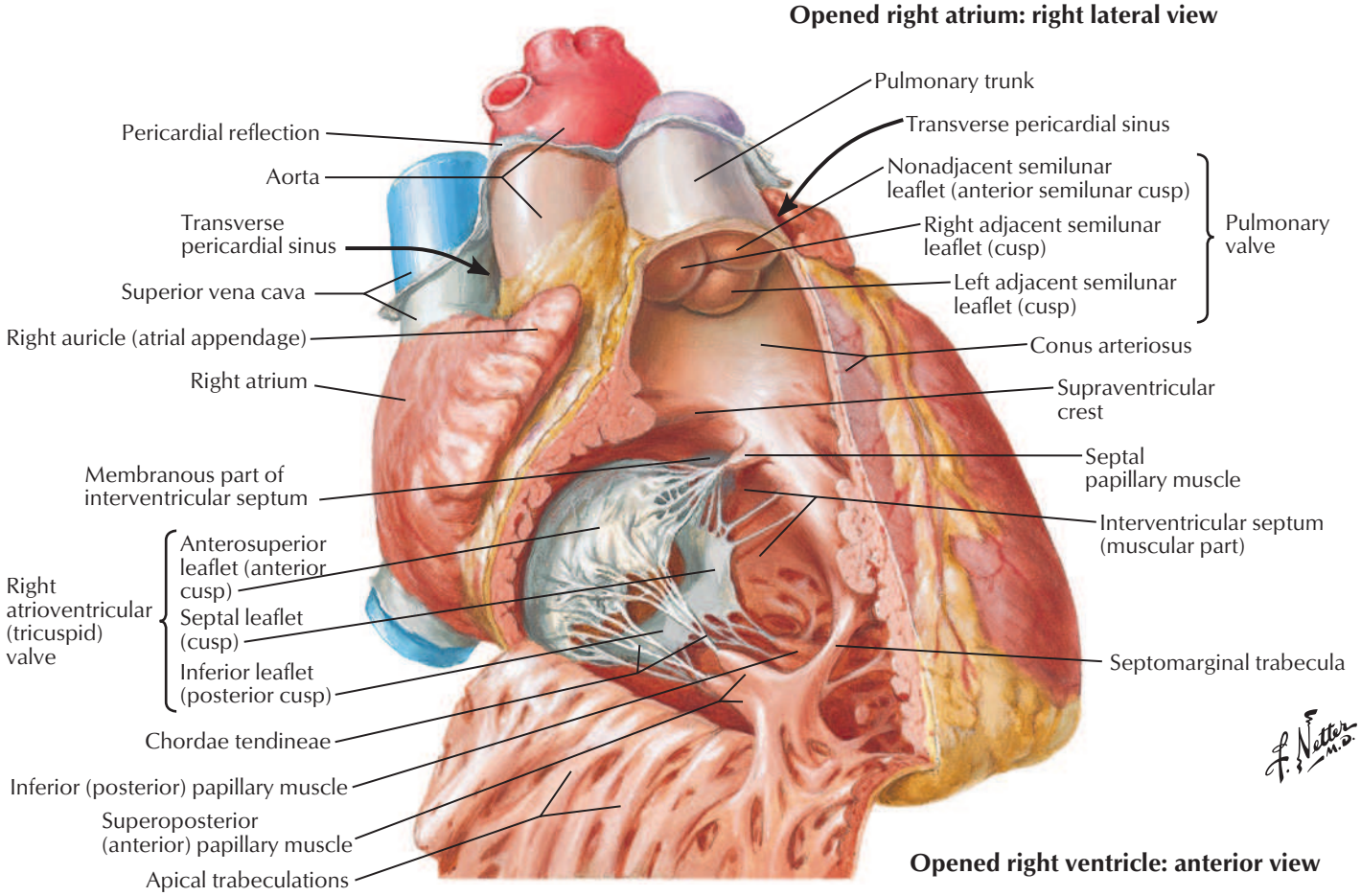




////// facebook : Booksmedicos06



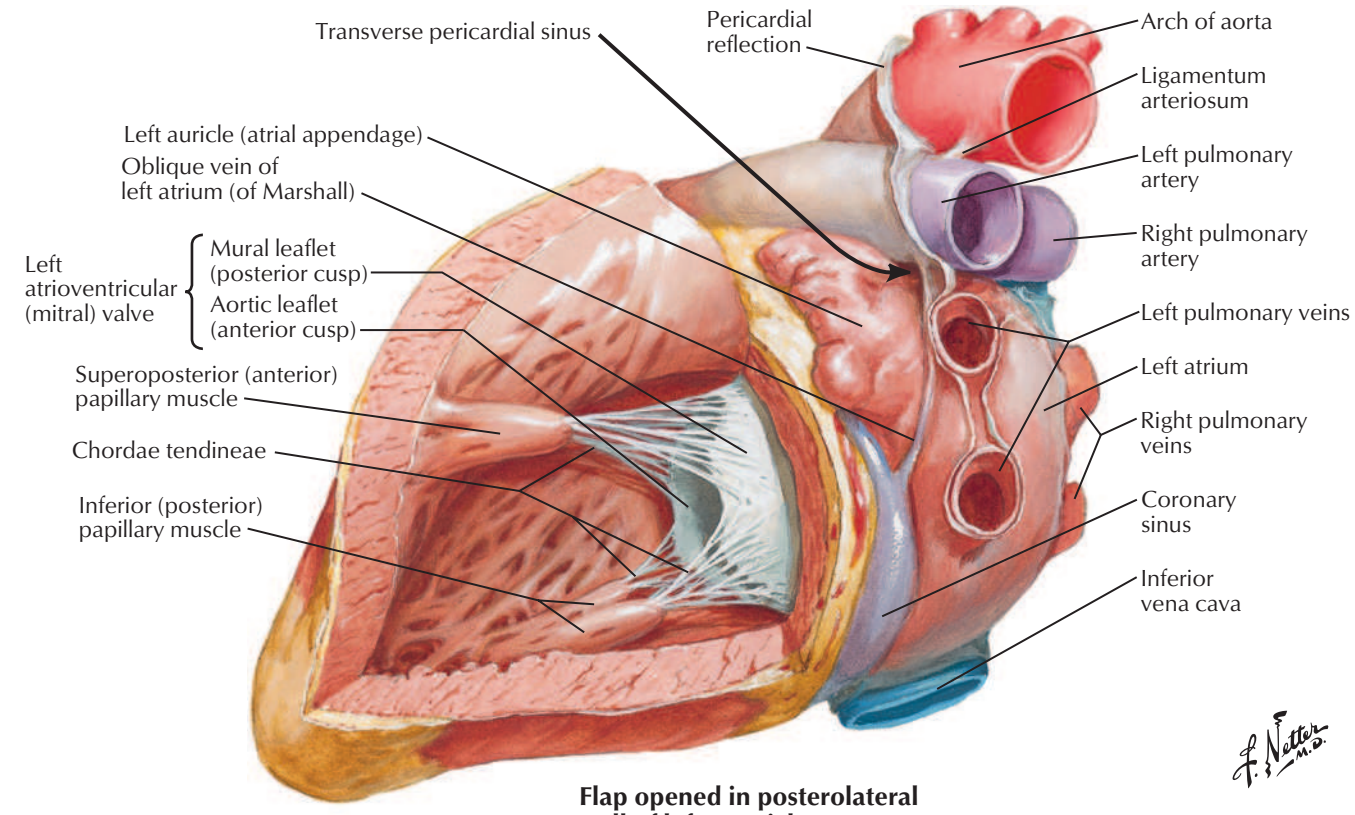
Opened right atrium: right lateral view



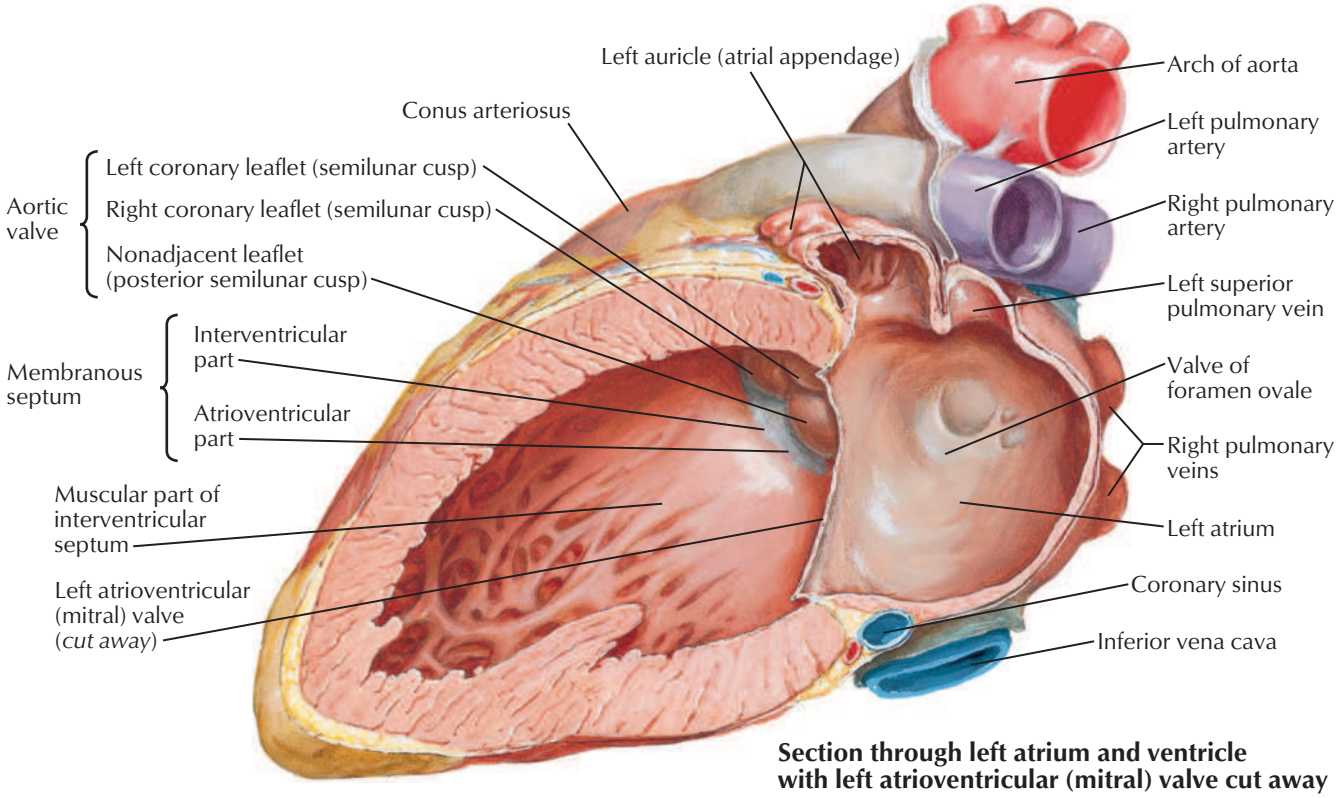
Opened right ventricle: anterior view

www.Booksmedicos06.com

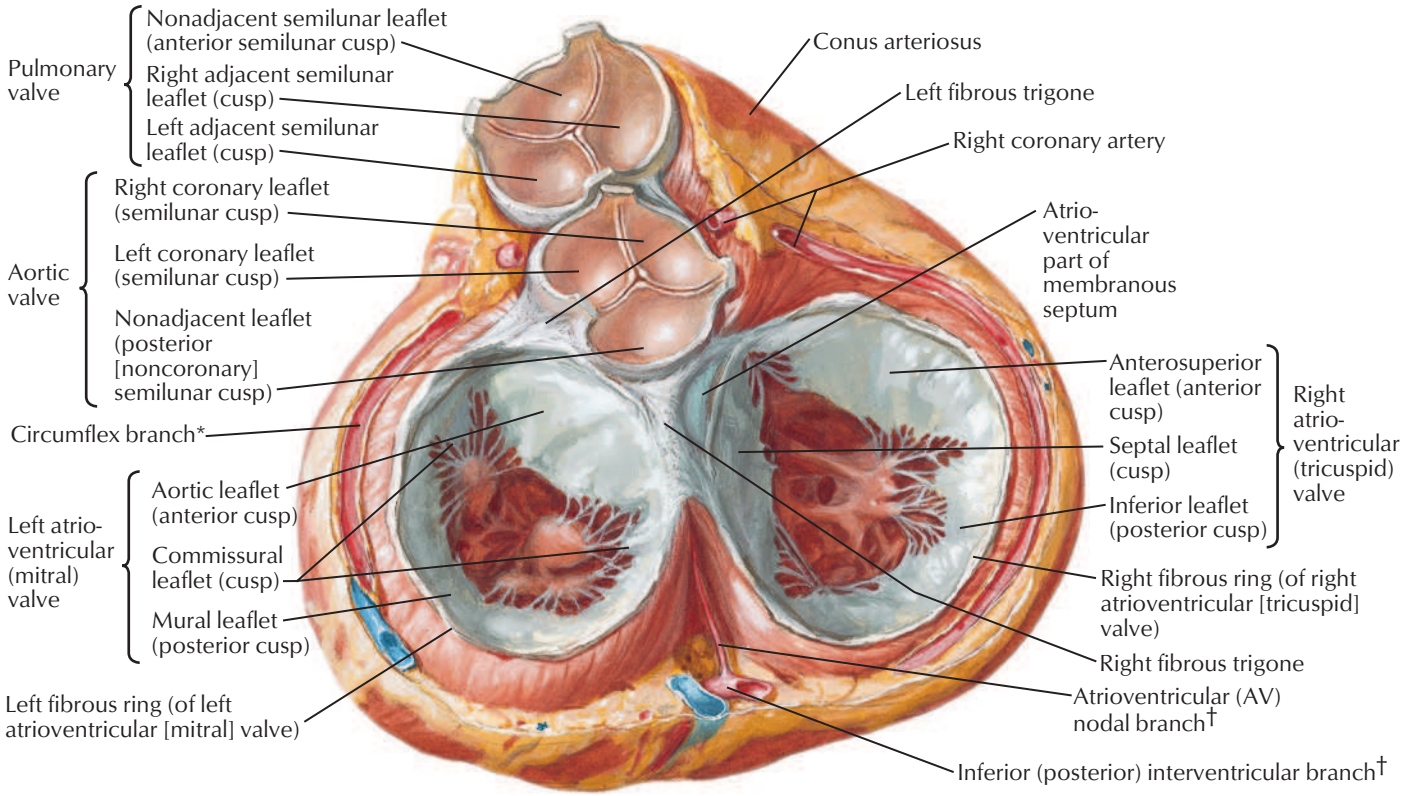
////// facebook : Booksmedicos06



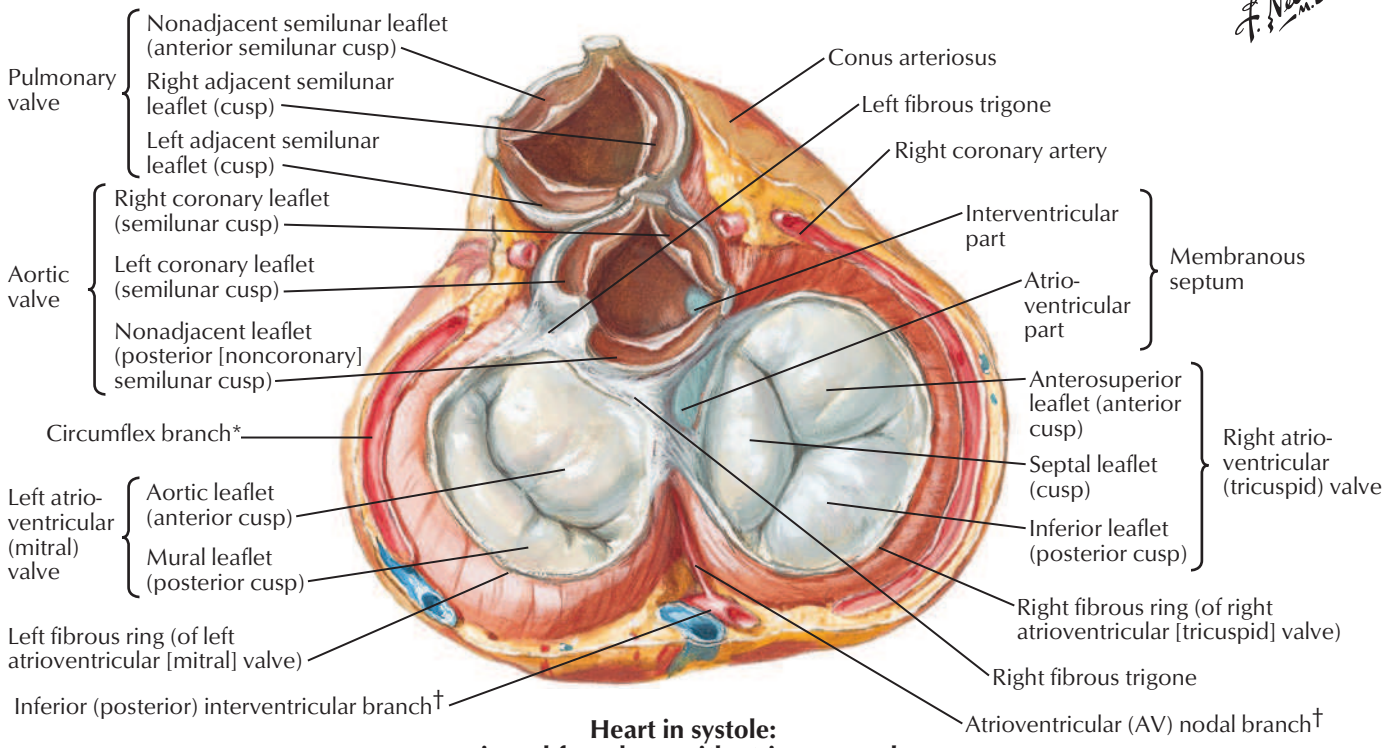
Flap opened in posterolateral wall of left ventricle



Section through left atrium and ventricle with left atrioventricular (mitral) valve cut away



Heart in diastole:
viewed from base with atria removed

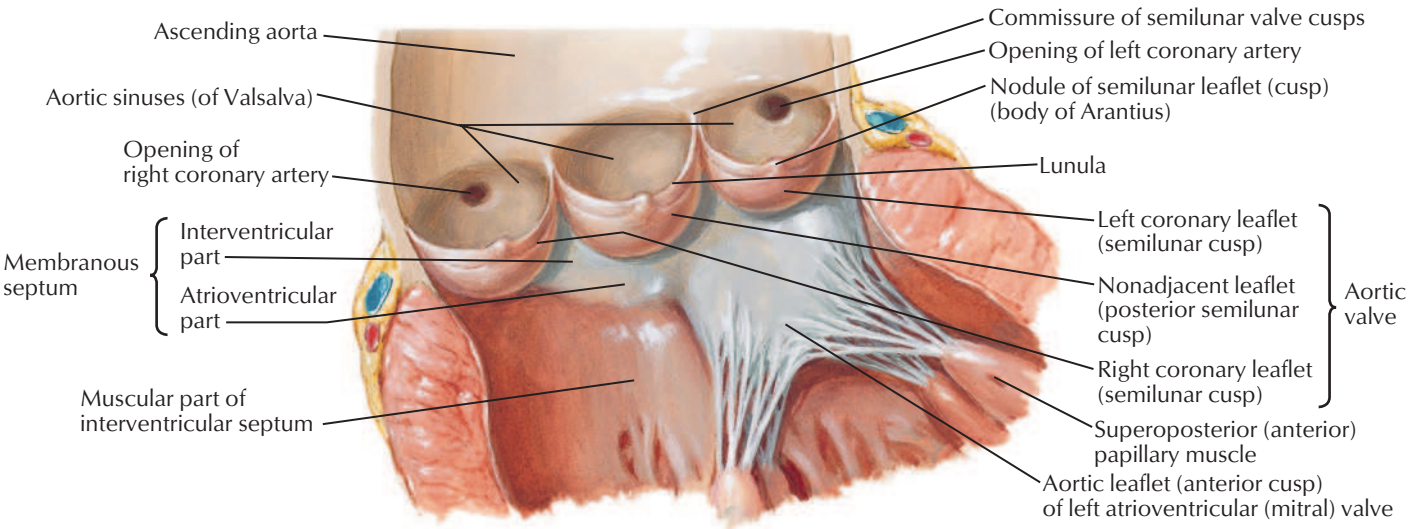


Heart in systole:
viewed from base with atria removed

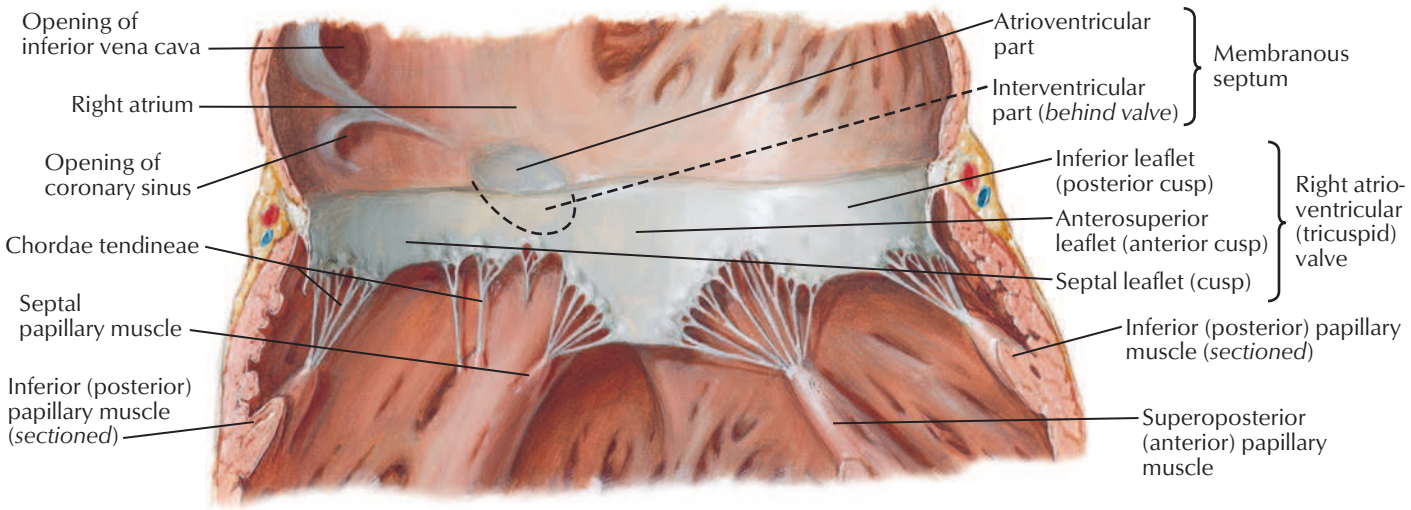
*Of left coronary artery
†Of right coronary artery

www.Booksmedicos06.com

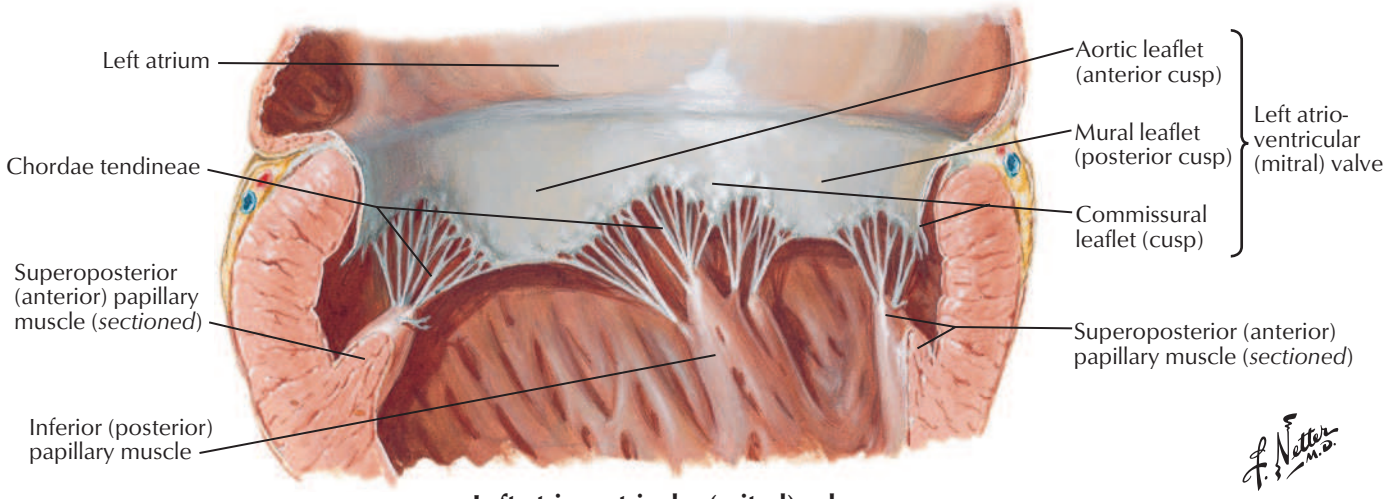
////// facebook : Booksmedicos06



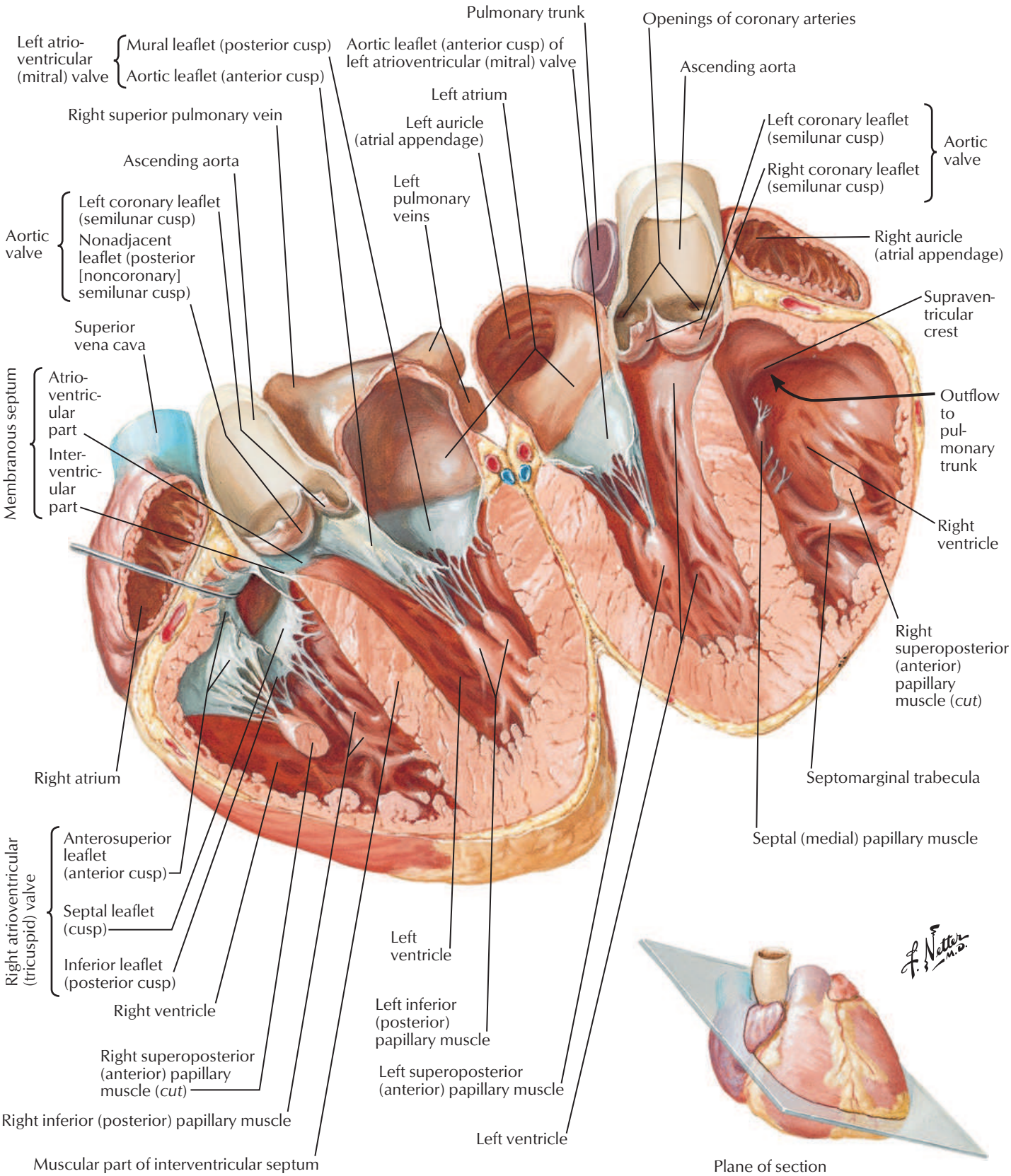
Aortic valve



Right atrioventricular (tricuspid) valve



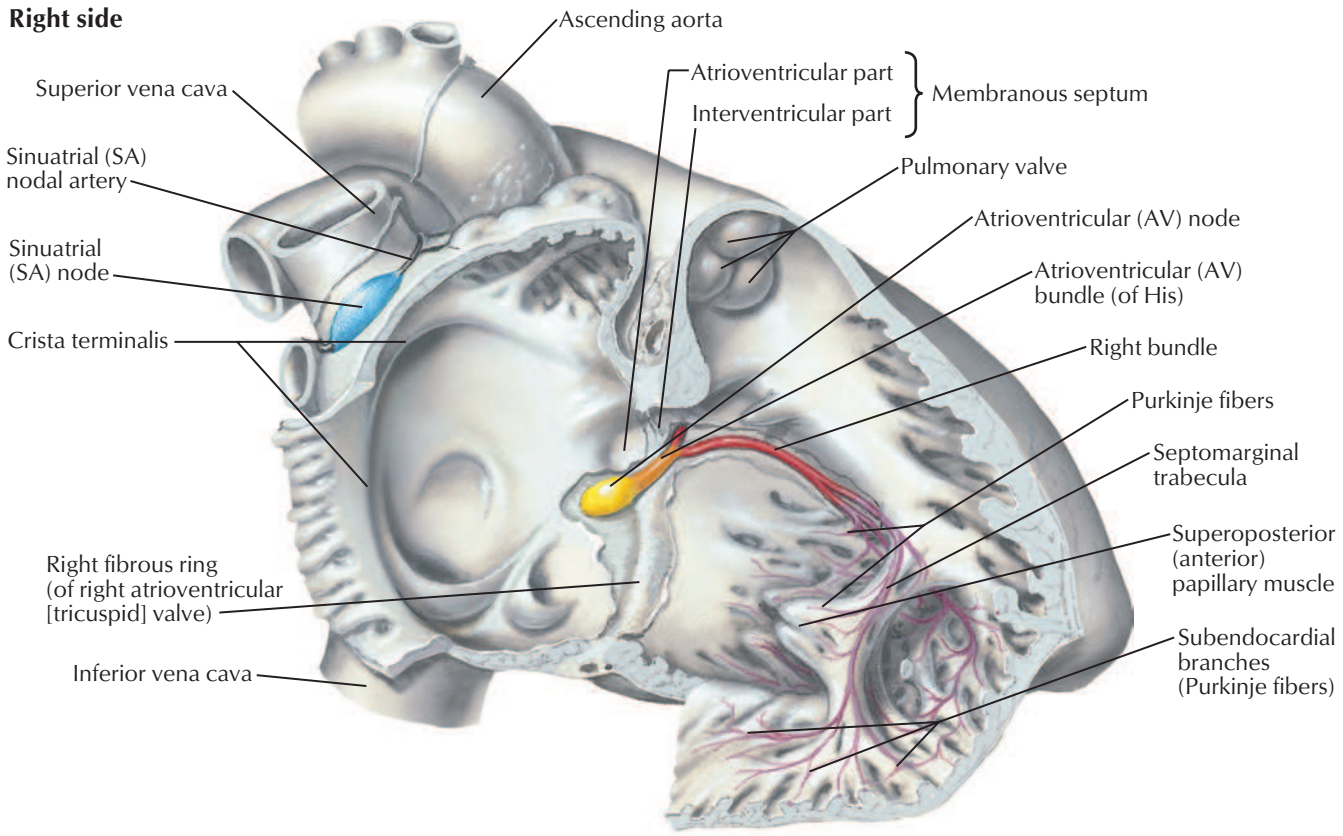
Left atrioventricular (mitral) valve



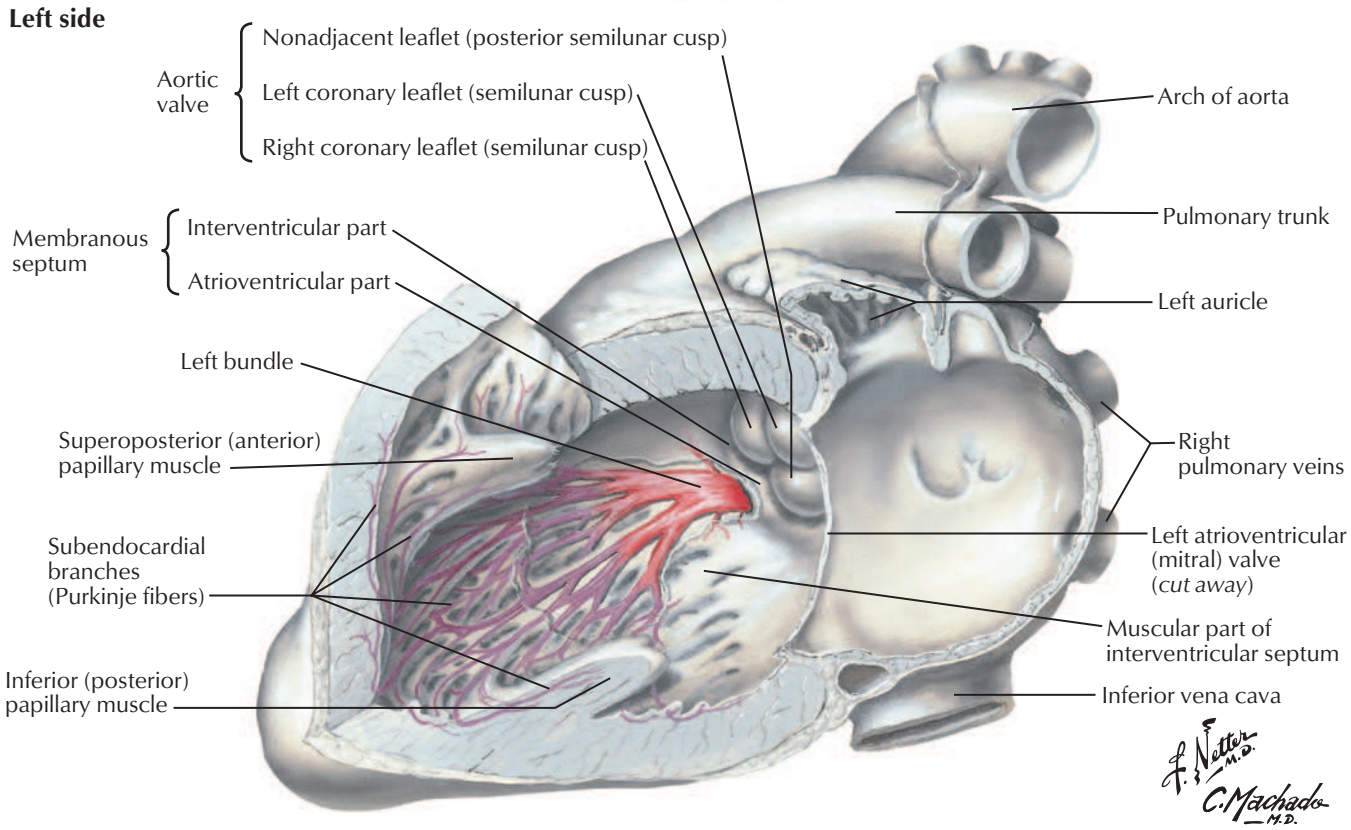
www.Booksmedicos06.com

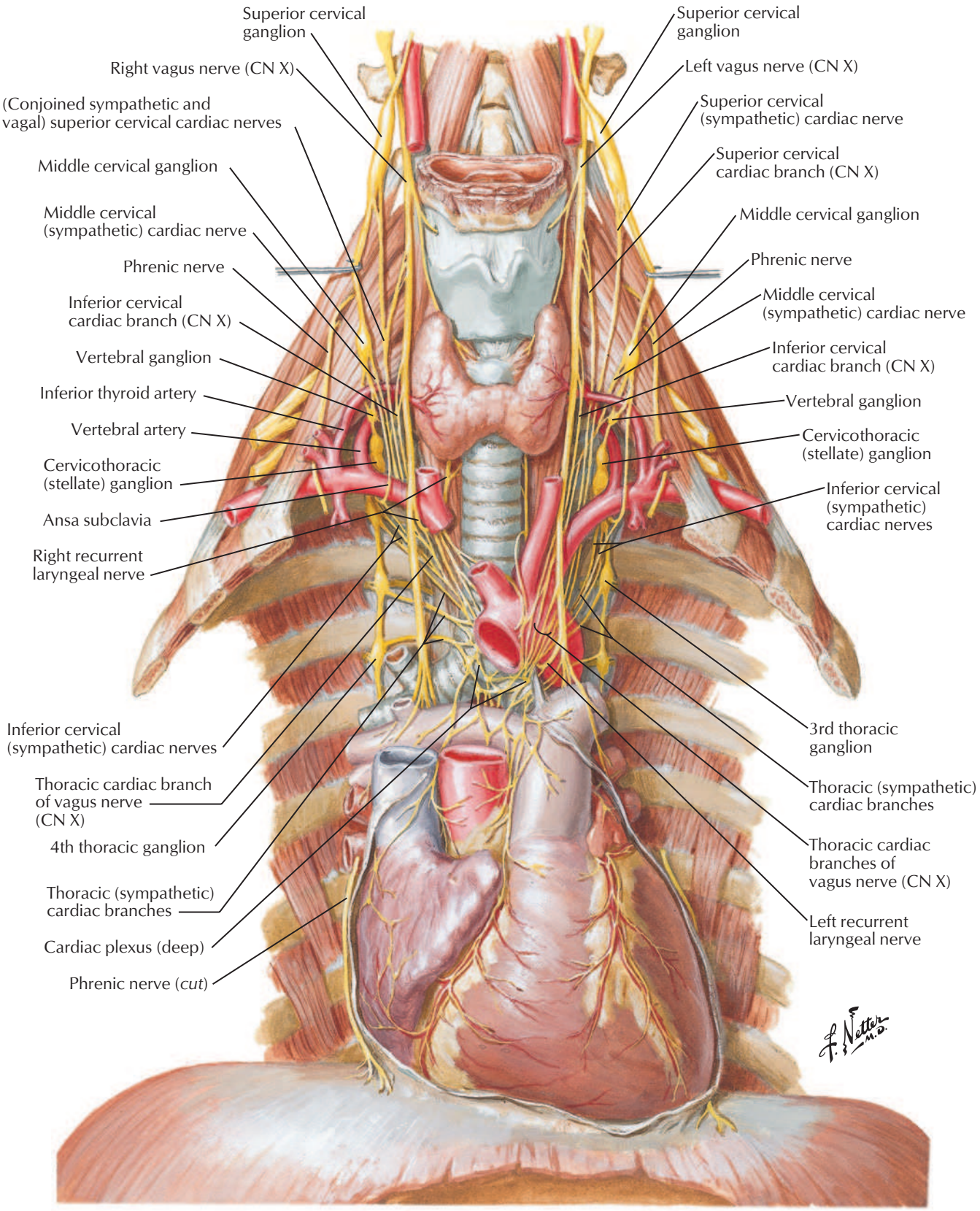
////// facebook : Booksmedicos06

Right side

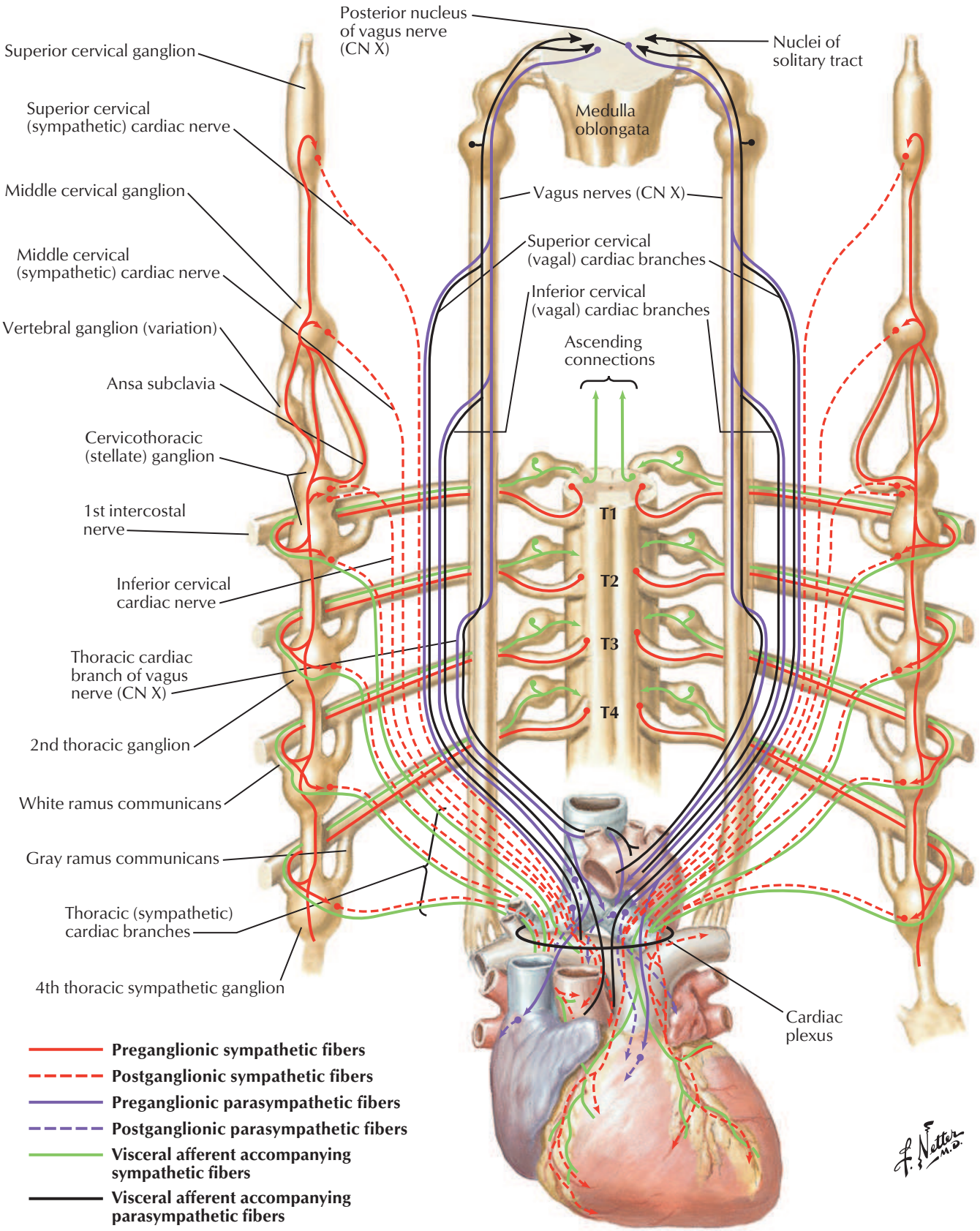


Left side

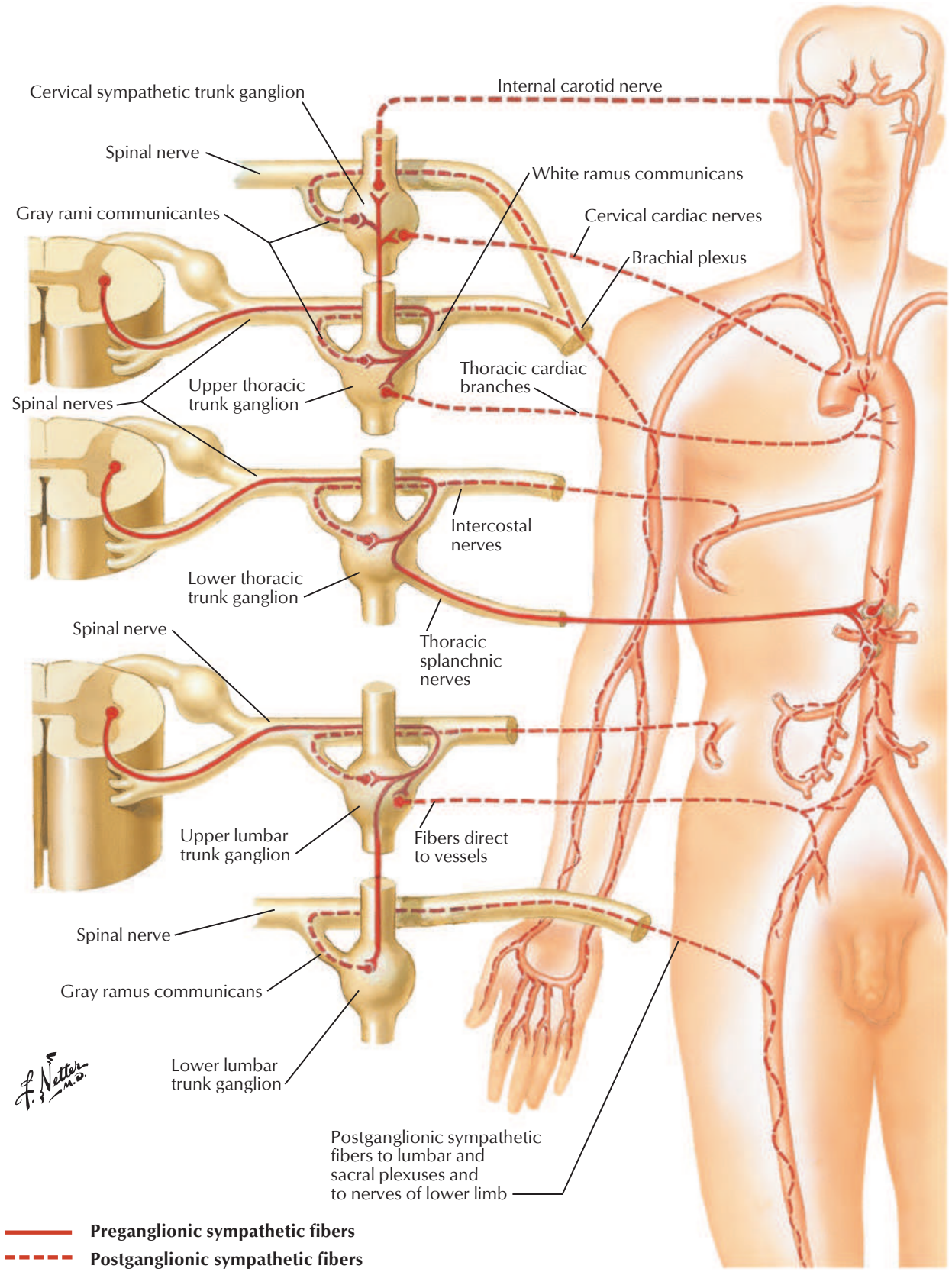




www.Booksmedicos06.com

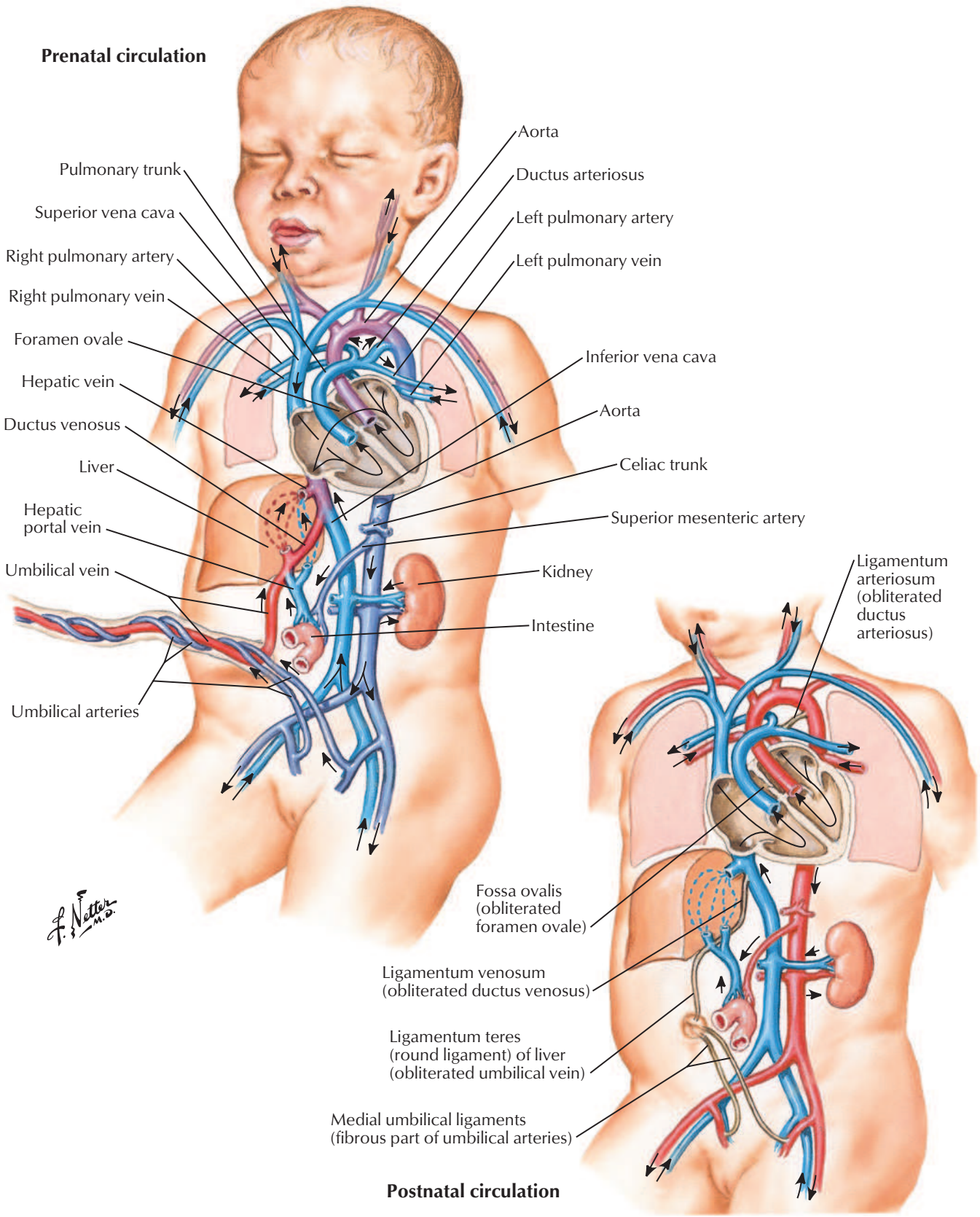


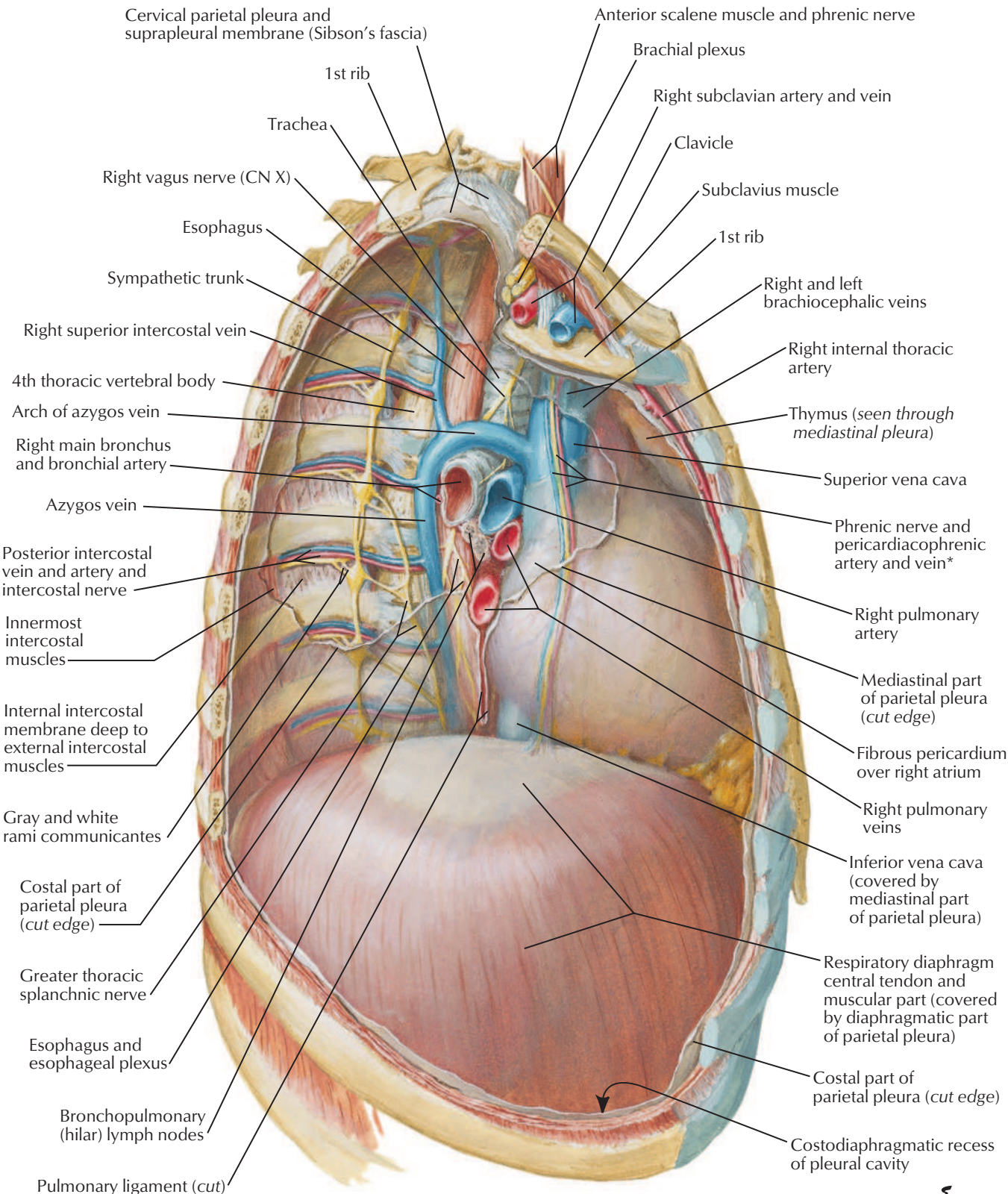
////// facebook : Booksmedicos06



www.Booksmedicos06.com

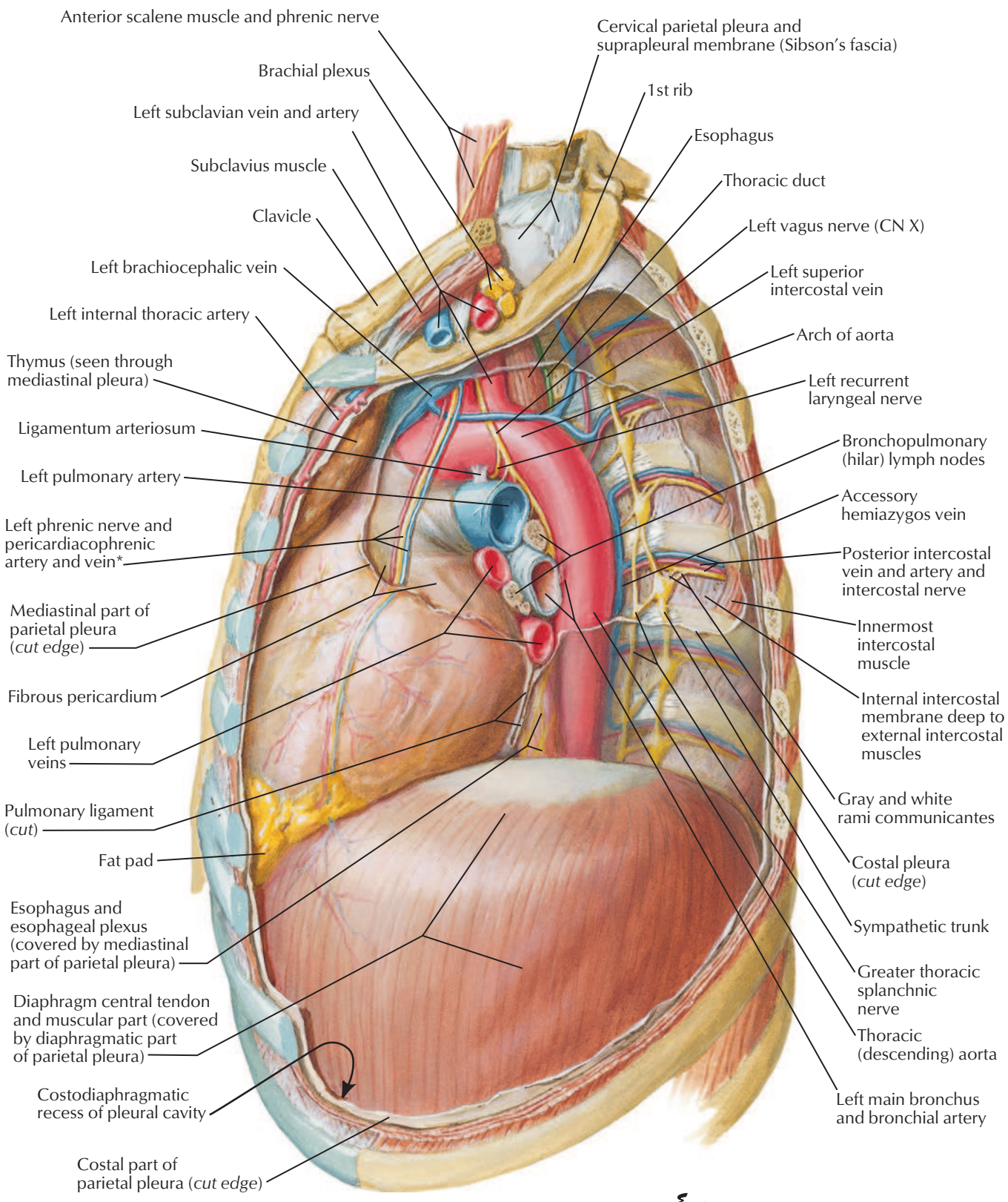
////// facebook : Booksmedicos06





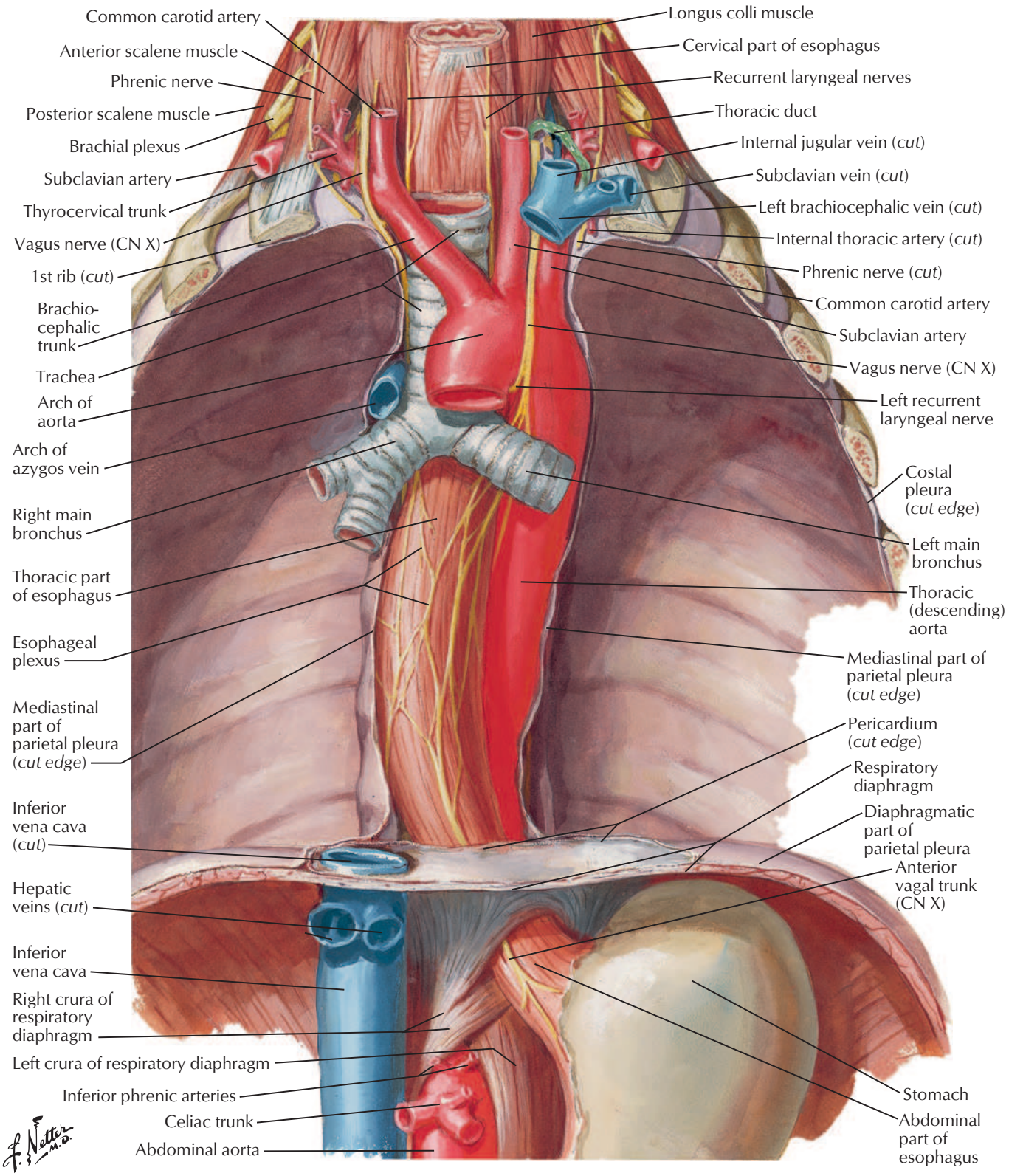
*Nerve and vessels commonly run independently.

www.Booksmedicos06.com

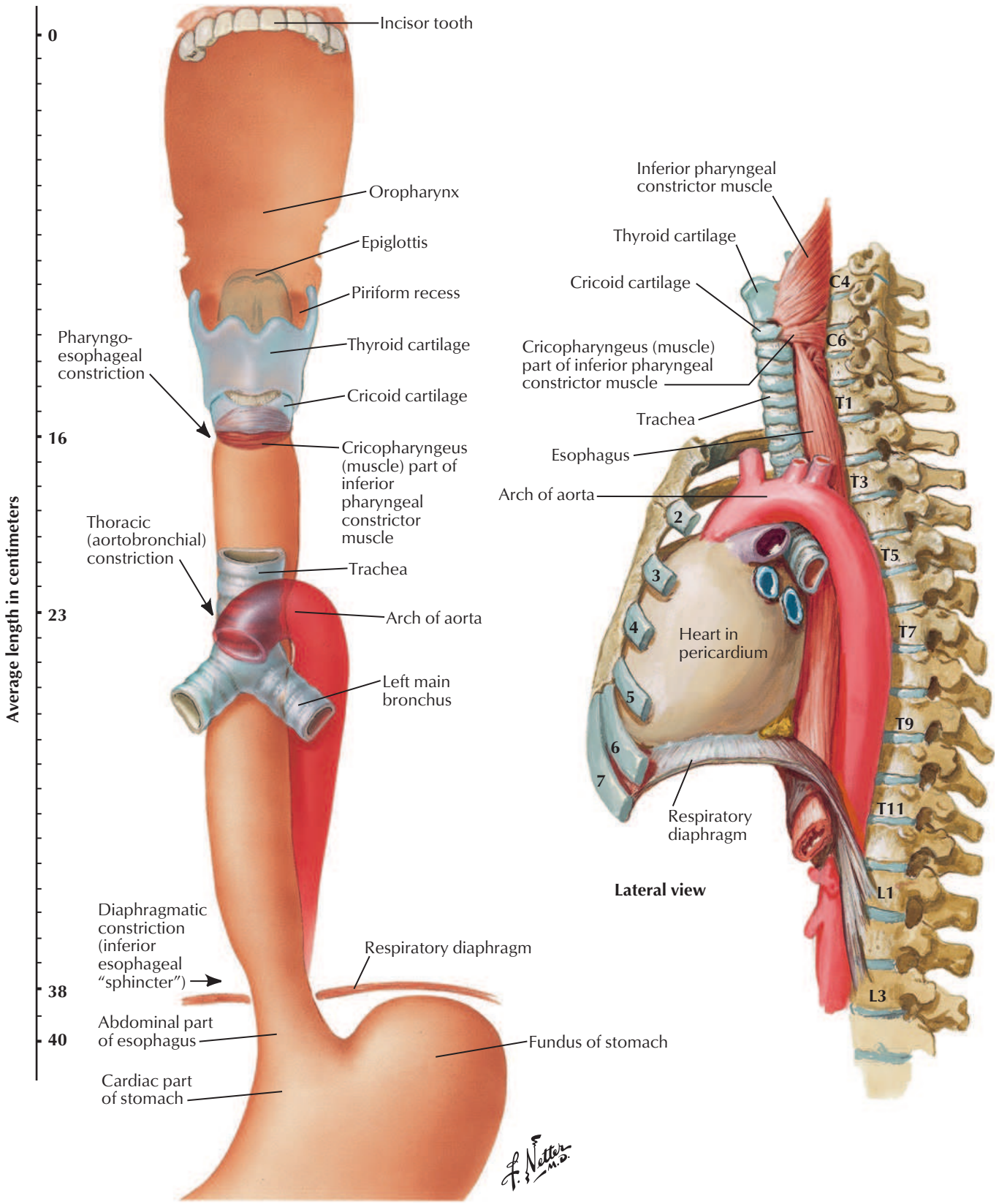


*Nerve and vessels commonly run independently.

////// facebook : Booksmedicos06

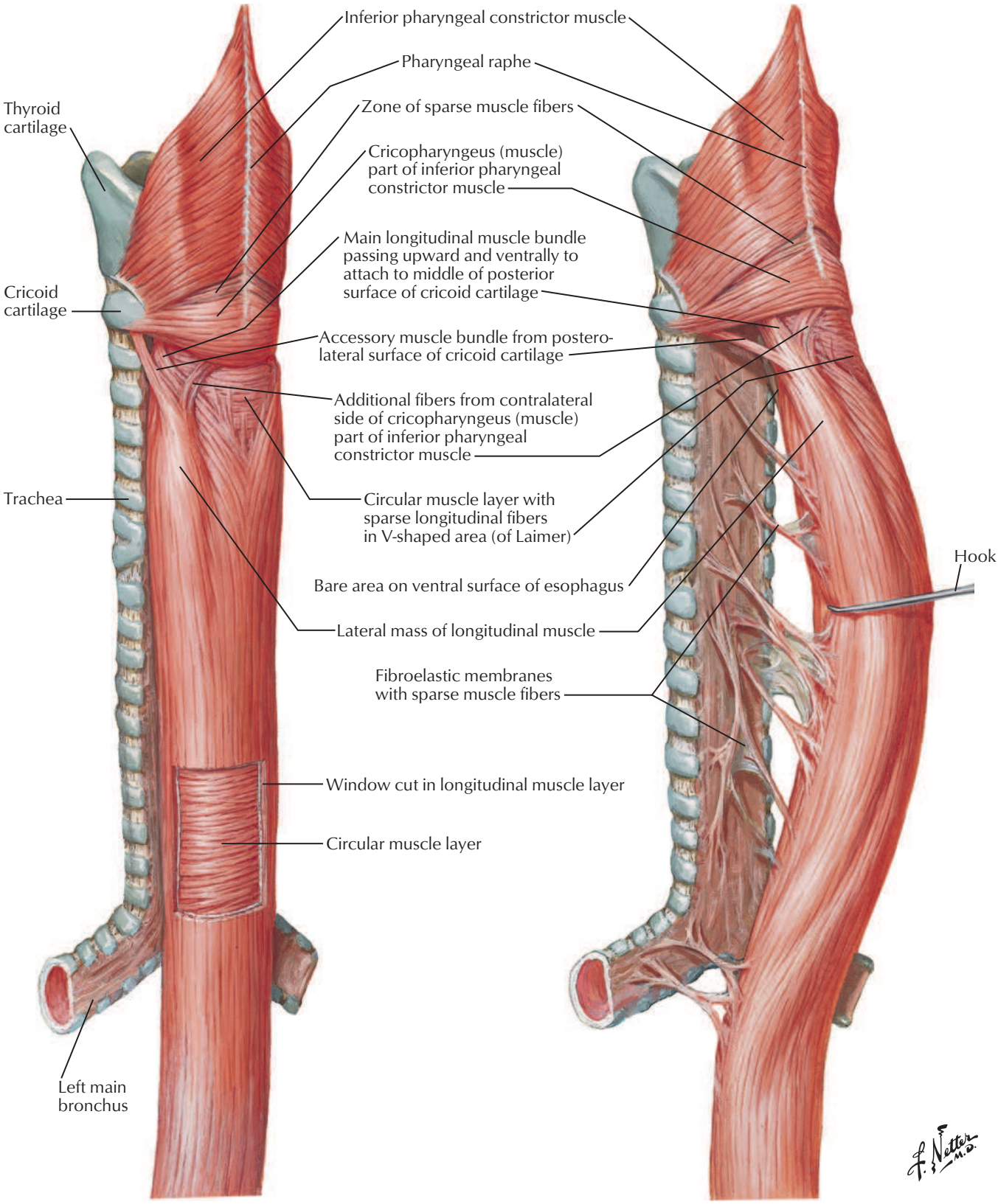


www.Booksmedicos06.com



////// facebook : Booksmedicos06

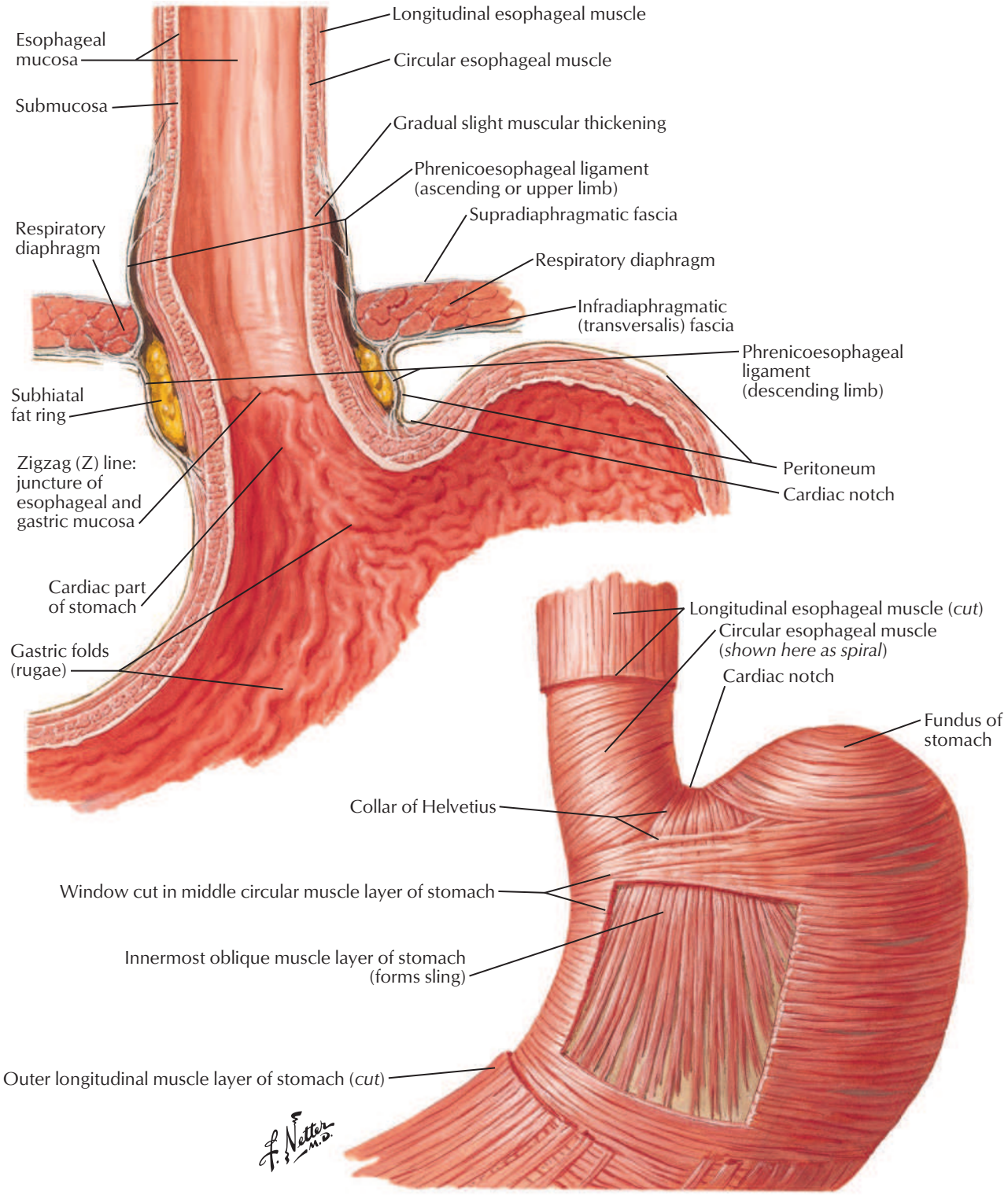
See also Plates 75, 81



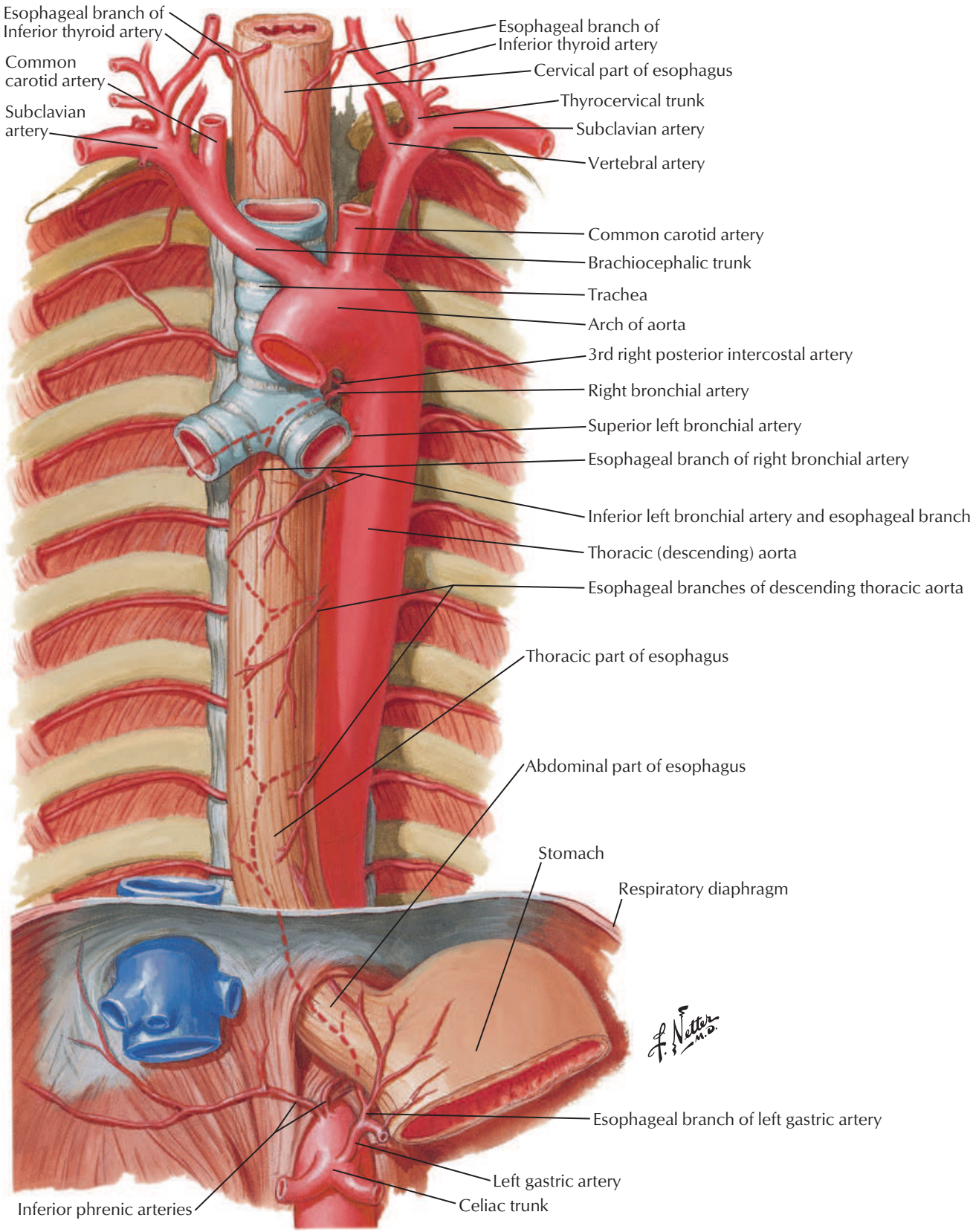
Posterolateral view

www.Booksmedicos06.com

////// facebook : Booksmedicos06



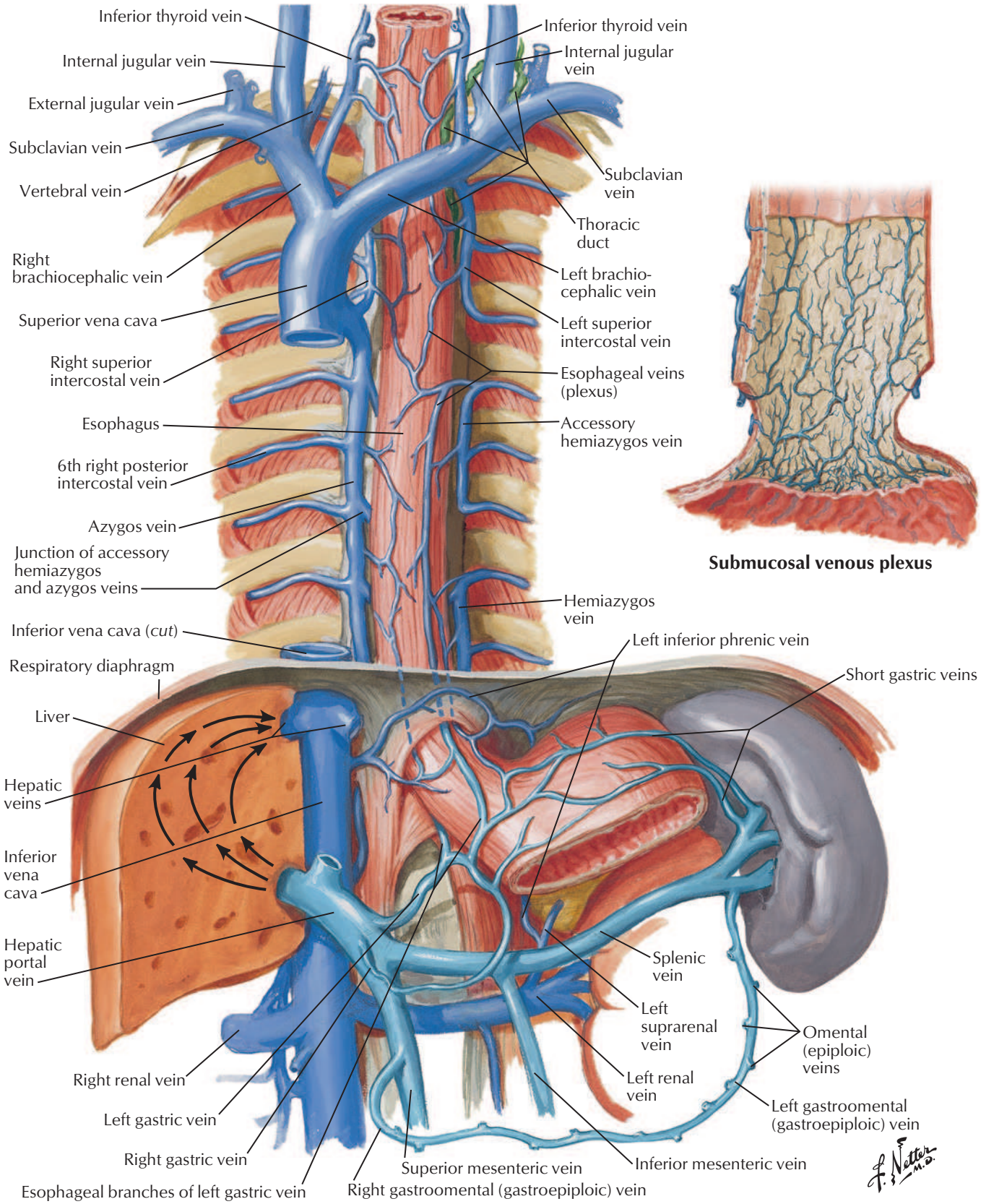
See also Plates 211, 291



www.Booksmedicos06.com

See also Plate 198

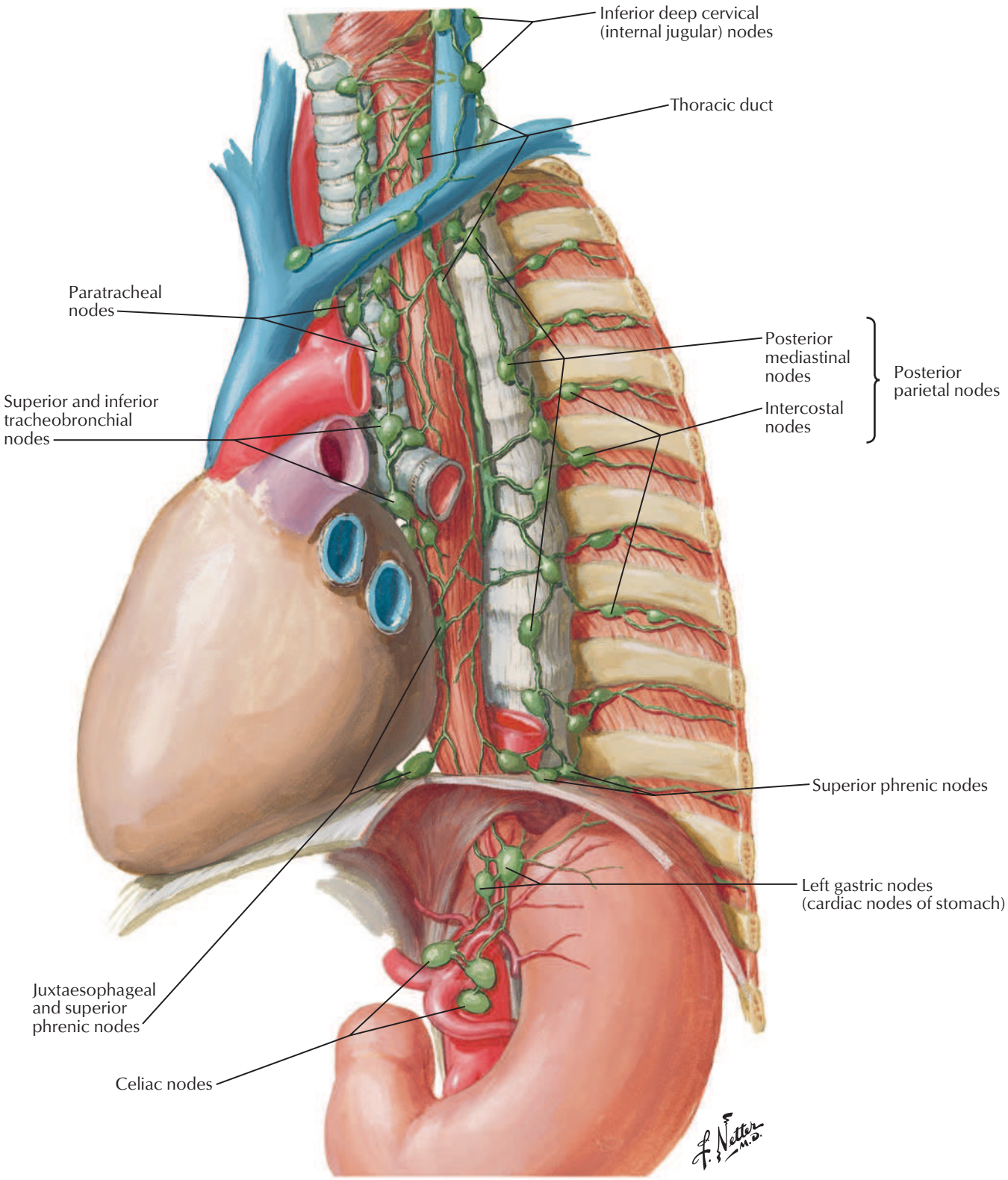
////// facebook : Booksmedicos06



Submucosal venous plexus

Lymph Vessels and Nodes of Esophagus

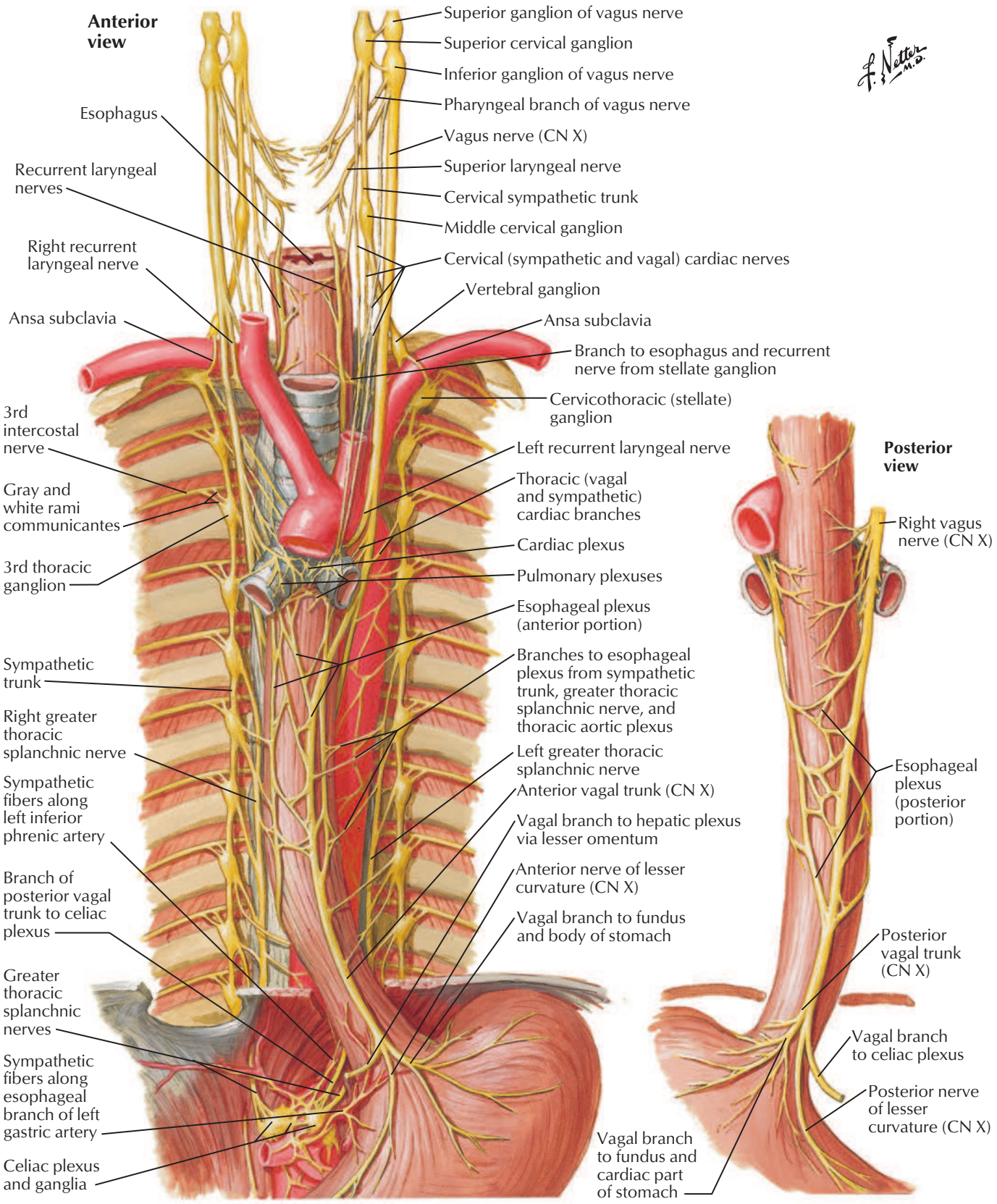
See also Plate 212



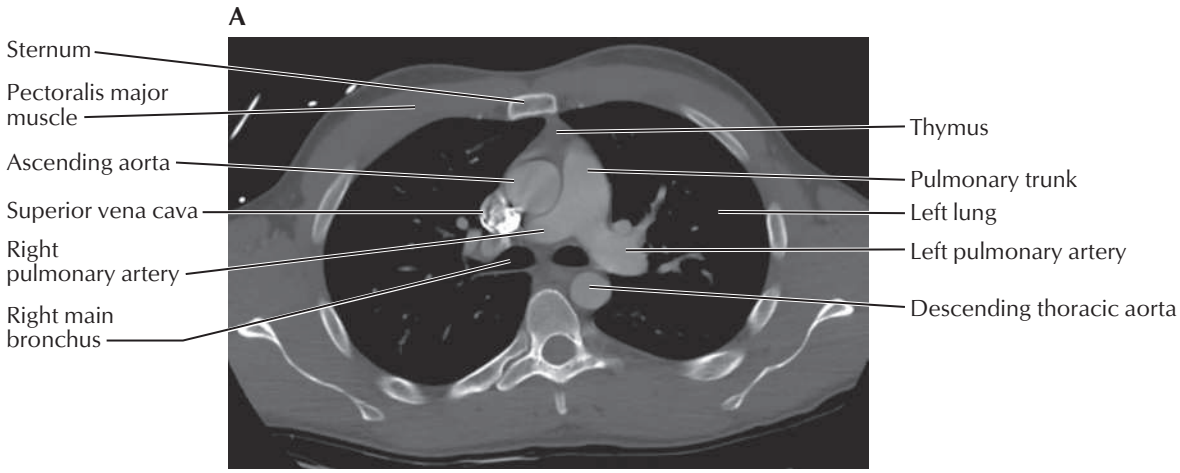
www.Booksmedicos06.com

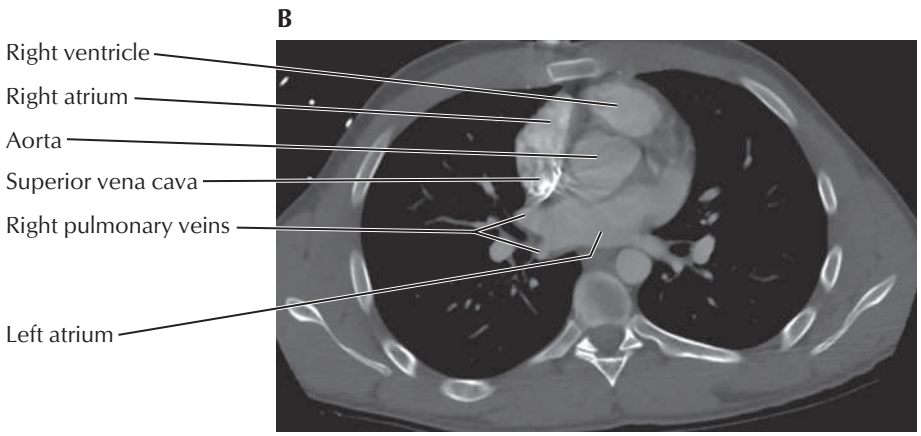
See also Plates 301, 302

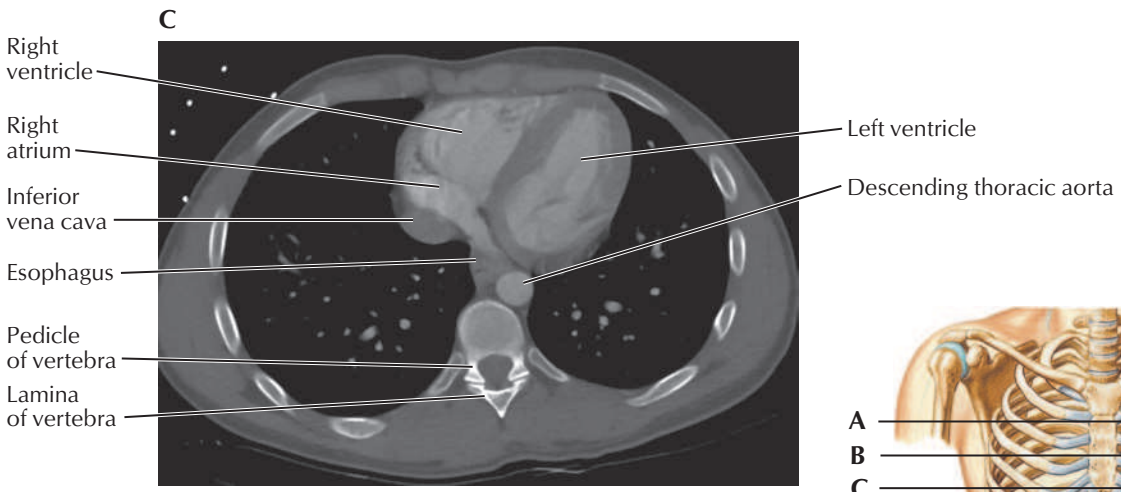
////// facebook : Booksmedicos06

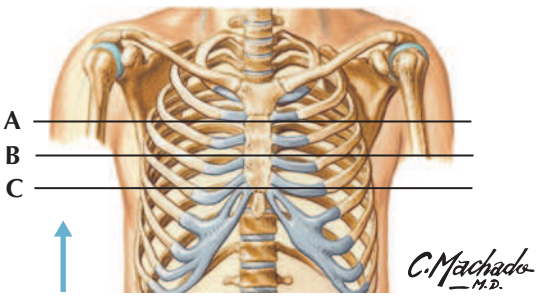


Axial CT images of the thorax from superior (A) to inferior (C)





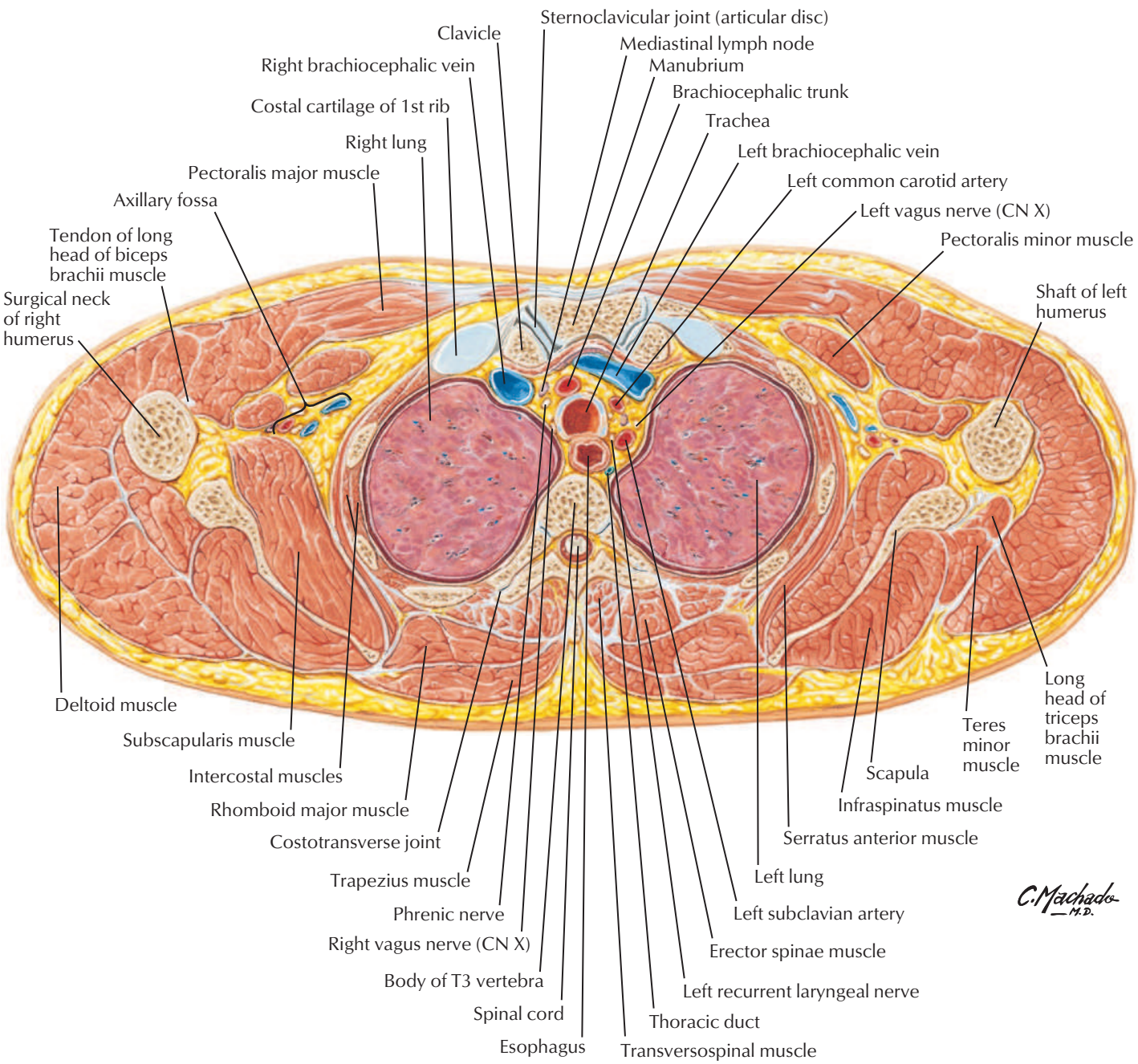


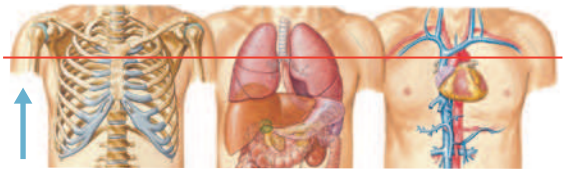


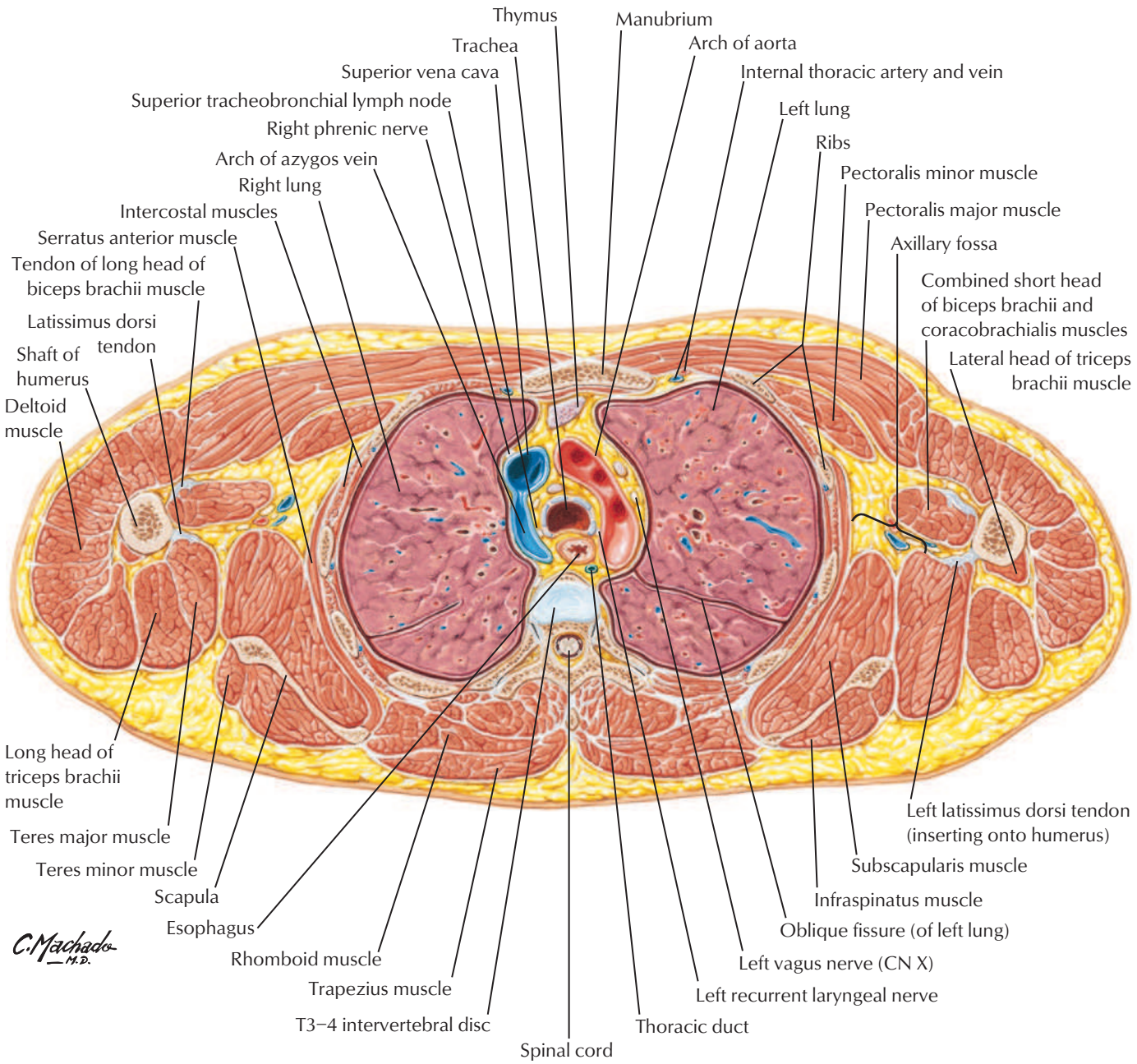
www.Booksmedicos06.com

////// facebook : Booksmedicos06







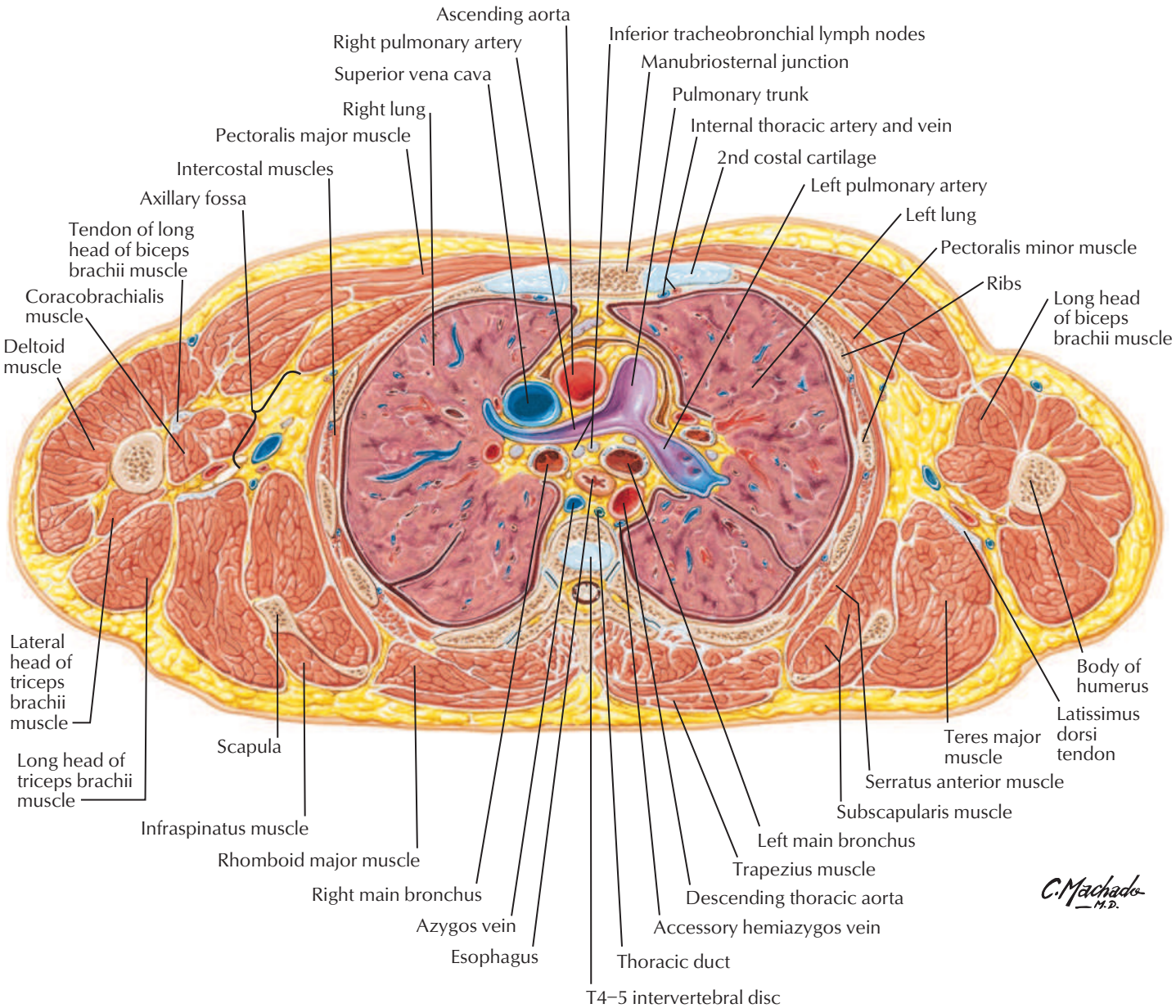


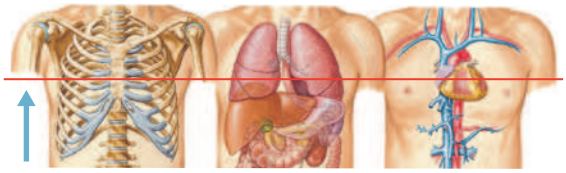
C. Machado M.D.

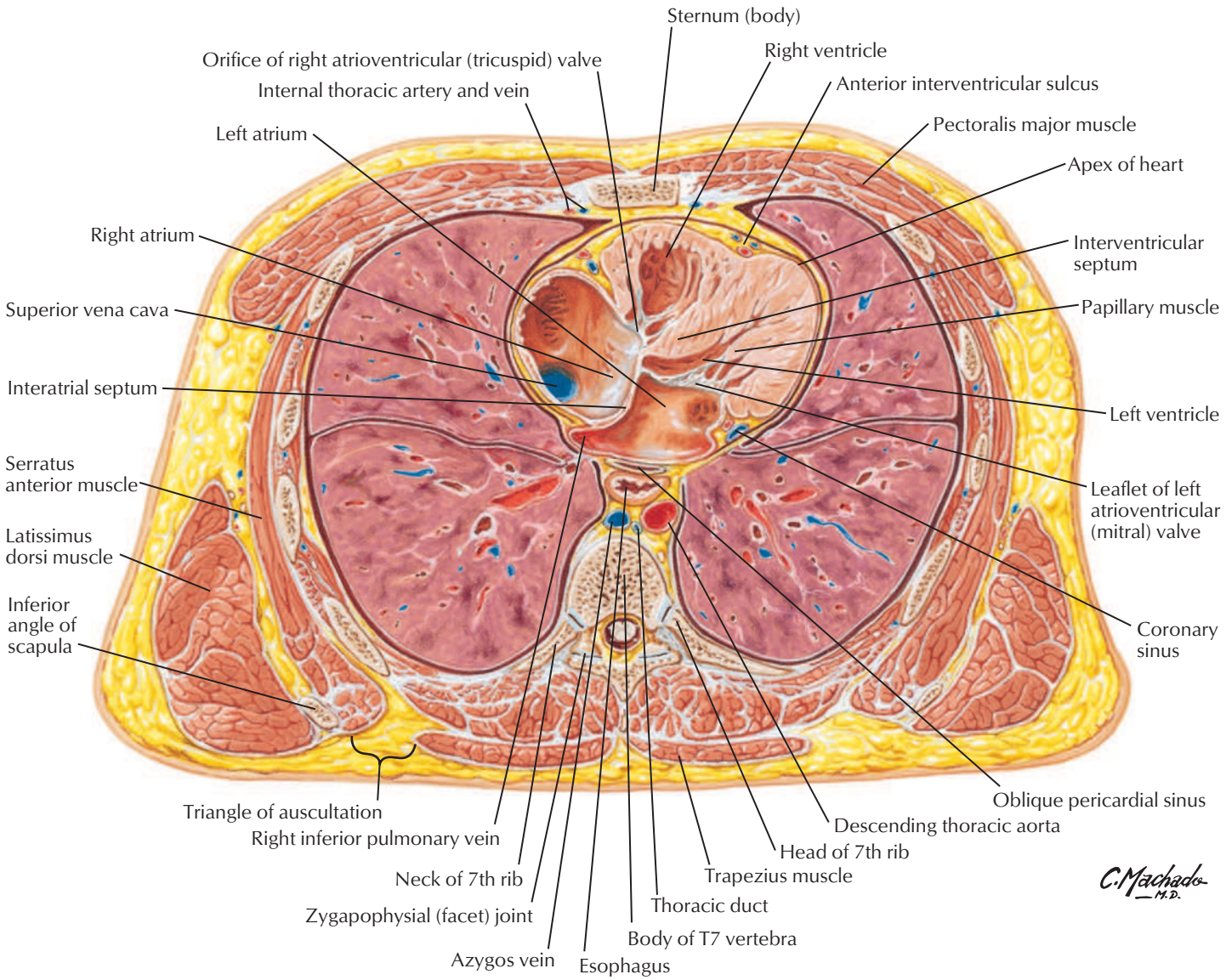
www.Booksmedicos06.com

////// facebook : Booksmedicos06









www.Booksmedicos06.com

////// facebook : Booksmedicos06

ANATOMICAL STRUCTURES	CLINICAL IMPORTANCE	PLATE NUMBERS
INTEGUMENTARY SYSTEM		
Mammary gland	Breast cancer is most common malignancy in women; movement of breast with pectoral muscles indicates invasion of retromammary space	188
SKELETAL SYSTEM		
Ribs	Rib fractures may breach pleural space and cause pneumothorax; flail chest occurs when multiple rib fractures lead to thoracic cage instability	192
Sternal angle (of Louis)	Surface landmark for counting ribs (2nd pair of ribs articulate here) and intercostal spaces; divides superior from inferior mediastinum	192
Chest wall (ribs and intercostal spaces)	Knowledge of relationships between chest wall and underlying organs is necessary for thoracotomy	194, 202, 204
Left ribs (ribs 9, 10, 11)	If fractured, may cause injury to underlying spleen	202
Superior thoracic aperture	Compression of neurovascular structures traversing superior thoracic aperture may produce thoracic outlet syndrome	198
MUSCULAR SYSTEM		
Intercostal spaces	Important relationship of intercostal neurovascular bundle to ribs when placing chest drainage tube to relieve pneumothorax or hemothorax	195, 221
Respiratory diaphragm	Widening of esophageal hiatus or congenital defect allows for protrusion of stomach into thorax (hiatal hernia)	201, 239
RESPIRATORY SYSTEM		
Lines of pleural reflection	Knowledge of location of lung and pleura with respect to chest wall is necessary for chest tube thoracostomy	202, 203
Pleura of lungs	Air or gas (spontaneous or traumatic) can leak into pleural space between visceral and parietal pleura and compress lung	202, 204
Cervical pleura	Extends into neck superior to 1st rib; it may therefore be punctured during neck procedures, producing pneumothorax	202
Tracheal bifurcation	Right main bronchus is shorter, more vertical, and wider; aspirated objects are therefore often in right lung	208
Apex of lung	Pancoast syndrome (bronchiogenic carcinoma) of apex invades sympathetic trunk, resulting in Horner's syndrome (ipsilateral miosis, ptosis, anhidrosis, facial flushing)	202, 234
NERVOUS SYSTEM		
Long thoracic nerve	May be damaged during chest tube placement or mastectomy, resulting in winged scapula (denervation of serratus anterior muscle)	189, 194
Intercostal nerve	Site of local anesthetic nerve block for procedures such as thoracostomy or to alleviate pain caused by shingles	196, 197
Posterior root (spinal) ganglion	Can house dormant varicella zoster virus, which, when activated, can result in herpes zoster (shingles)	197
Phrenic nerve and respiratory diaphragm	Ipsilateral injury to phrenic nerve may cause ipsilateral paralysis of hemidiaphragm Diaphragmatic irritation may manifest as shoulder pain because of referral to C3-5 spinal levels	199, 201 199, 216
Recurrent laryngeal branch of vagus nerve (CN X)	Pathologic findings in aorticopulmonary window may compress this nerve and produce hoarseness of voice	235, 236

ANATOMICAL STRUCTURES	CLINICAL IMPORTANCE	PLATE NUMBERS
NERVOUS SYSTEM—Continued		
Visceral pain afferents from heart	Pain of myocardial ischemia referred to upper thoracic dermatomes; may be perceived as somatic pain in chest and medial upper limb	231
CARDIOVASCULAR SYSTEM		
Internal thoracic artery	Commonly used for coronary artery bypass grafts	196, 197
Pulmonary arteries	Thromboemboli may obstruct pulmonary vasculature, leading to infarction	205, 210
Pericardium	Pericardial effusion (accumulation of fluid or blood) may compromise heart function (cardiac tamponade)	215, 219
Coronary arteries	Atherosclerotic blockage may cause myocardial ischemia and/or infarct; anterior interventricular (left anterior descending) artery most commonly diseased	222
Interventricular septum of heart	Ventricular septal defect is most common congenital cardiac defect; most often involves membranous part of septum	225, 228
Heart valves	Congenital variations of valve anatomy or valvular disease (e.g., rheumatic heart disease) can cause valvular stenosis	226
Sinuatrial node	Aging, previous heart surgery, and some medications can cause cardiac arrhythmias	229
Ligamentum arteriosum	Abnormal closure of ductus arteriosus can produce aortic coarctation; lack of closure produces patent ductus arteriosus; if not closed, may cause exertional dyspnea, pulmonary vascular disease, or heart failure	233
Thoracic aorta	Congenital coarctation of aorta can compromise systemic blood flow; collateral vascular connections can alleviate this condition	240
Azygos venous system	Drains posterior thorax and provides important collateral channel between inferior vena cava and superior vena cava	241
LYMPHATIC SYSTEM		
Mammary gland lymphatics	Metastatic spread of cancer cells to axilla and chest via lymphatics draining breast	191
Axillary lymph nodes	Primary nodes that receive lymphatic drainage from upper limb, thoracic wall, and breast; commonly enlarged in patients with breast cancer	190, 191

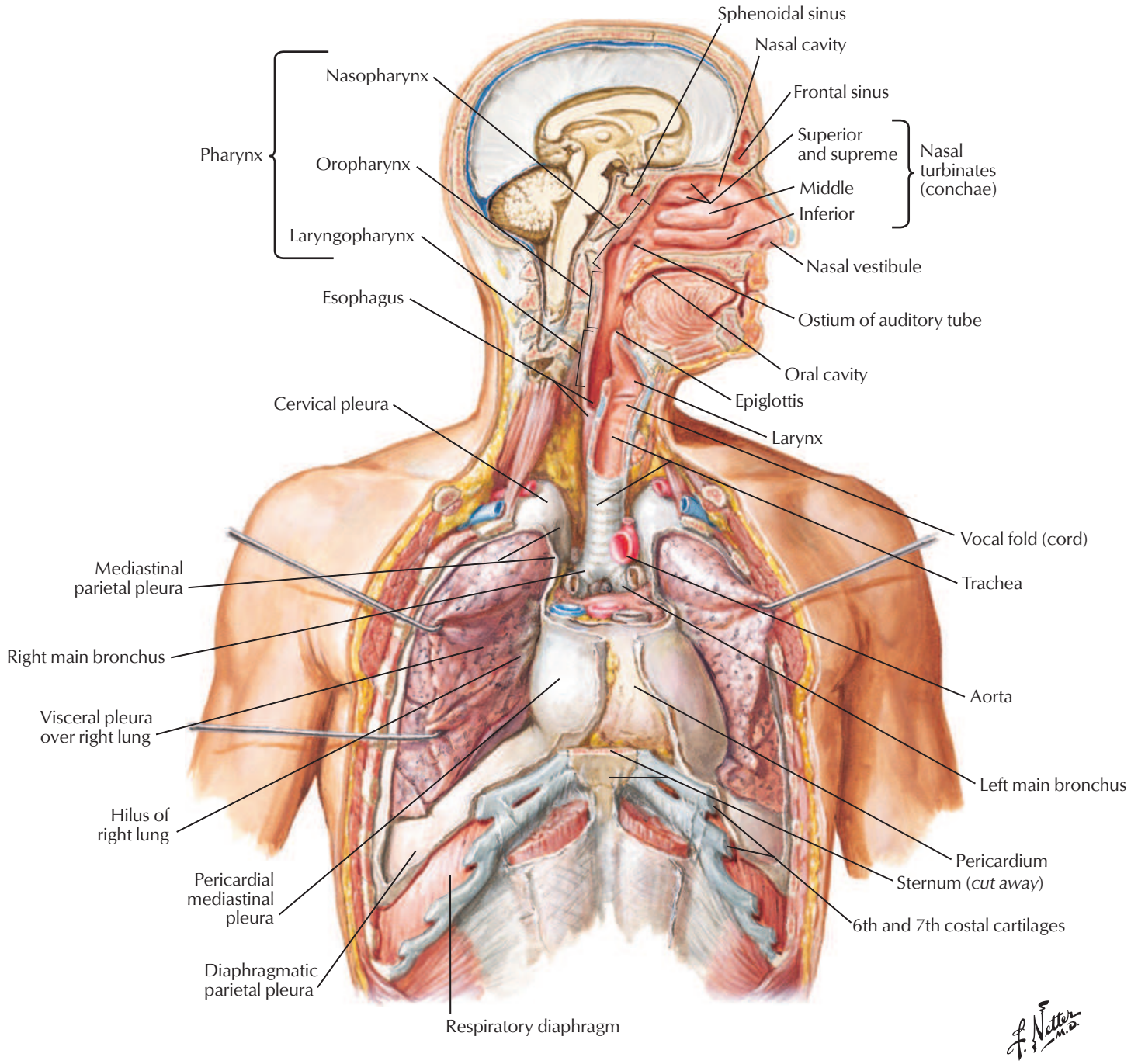
*Selections were based largely on clinical data as well as commonly covered clinical correlations in gross anatomy courses.

www.Booksmedicos06.com

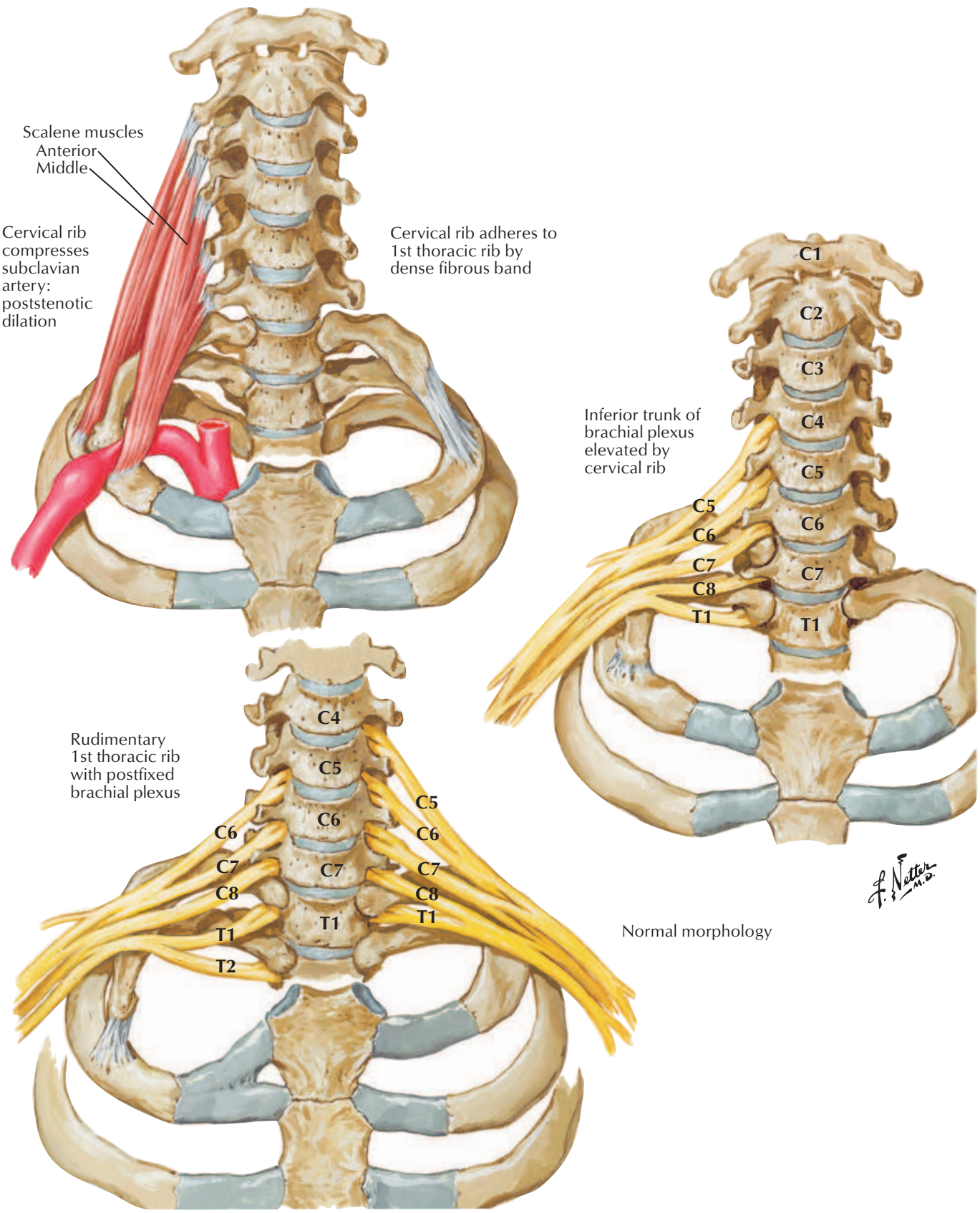
////// facebook : Booksmedicos06

MUSCLE	MUSCLE GROUP	PROXIMAL ATTACHMENT (ORIGIN)	DISTAL ATTACHMENT (INSERTION)	INNERVATION	BLOOD SUPPLY	MAIN ACTIONS
Respiratory diaphragm	Posterior abdominal wall	Xiphoid process, lower six costal cartilages, L1–L3 vertebrae	Converge into central tendon	Phrenic nerve	Pericardiacophrenic, musculophrenic, superior and inferior phrenic arteries	Draws central tendon down and forward during inspiration
External intercostal	Thoracic wall	Lower border of ribs	Upper border of rib below rib of origin	Intercostal nerves	Posterior intercostal arteries, collateral branches of posterior intercostal arteries, costocervical trunk, anterior intercostal branches of internal thoracic artery, musculophrenic artery	Supports intercostal spaces in inspiration and expiration, elevates ribs in inspiration
Innermost intercostal	Thoracic wall	Lower border of ribs	Upper border of rib below rib of origin	Intercostal nerves	Muscular branches of anterior intercostal arteries, muscular branches of posterior intercostal arteries, intercostal branches of internal thoracic and musculophrenic arteries, costocervical trunk branches	Elevates ribs
Internal intercostal	Thoracic wall	Lower border of ribs	Costal cartilage and edge of costal groove of rib above rib of origin	Intercostal nerves	Muscular branches of anterior intercostal arteries, muscular branches of posterior intercostal arteries, intercostal branches of internal thoracic and musculophrenic arteries, costocervical trunk branches	Prevents pushing out or drawing in of intercostal spaces in inspiration and expiration, lowers ribs in forced expiration
Levator costarum	Thoracic wall	Transverse processes of C7 and T1–T11	Subjacent ribs between tubercle and angle	Posterior ramus of lower thoracic nerves	Posterior intercostal arteries	Elevates ribs
Pectoralis major	Pectoral/ axillary regions	Sternal half of clavicle, sternum to 7th rib, cartilages of true ribs, aponeurosis of external abdominal oblique muscle	Lateral lip of intertubercular sulcus of humerus	Medial and lateral pectoral nerves	Pectoral branch of thoracoacromial artery, perforating branches of internal thoracic artery	Flexes, adducts, and medially rotates arm
Pectoralis minor	Pectoral/ axillary regions	Outer surface of upper margin of ribs 3–5	Coracoid process of scapula	Medial pectoral nerve	Pectoral branch of thoracoacromial artery, and superior and lateral thoracic arteries	Lowers lateral angle of scapula and protracts scapula
Serratus anterior	Shoulder	Lateral surfaces of upper 8–9 ribs	Costal surface of medial border of scapula	Long thoracic nerve	Lateral thoracic artery	Protracts and rotates scapula and holds it against thoracic wall
Serratus posterior inferior	Intermediate back	Spinous processes of T11–L2	Inferior aspect of ribs 9–12	Anterior rami of lower thoracic nerves	Posterior intercostal arteries	Depresses ribs
Serratus posterior superior	Intermediate back	Nuchal ligament, spinous processes of C7–T3	Superior aspect of ribs 2–5	Anterior rami of upper thoracic nerves	Posterior intercostal arteries	Elevates ribs
Subcostal	Thoracic wall	Internal surface of lower ribs near their angles	Superior borders of 2nd or 3rd rib below	Intercostal nerves 2nd–5th	Posterior intercostal artery, musculophrenic artery	Depresses ribs
Transversus thoracis	Thoracic wall	Internal surfaces of costal cartilages 2–6	Posterior surface of lower sternum	Intercostal nerves	Anterior intercostal arteries, internal thoracic artery	Depresses ribs and costal cartilages

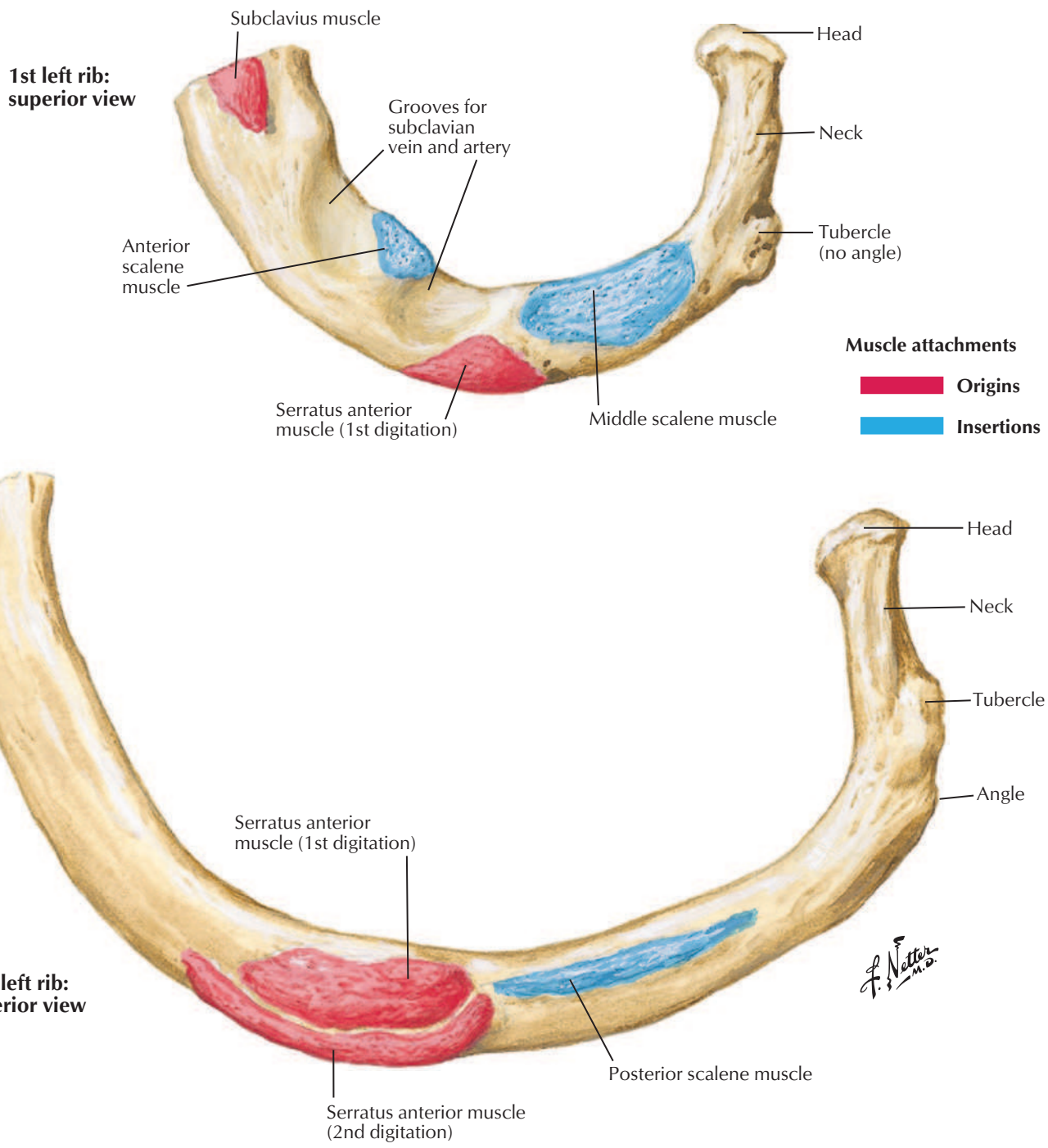
Variations in spinal nerve contributions to the innervation of muscles, their arterial supply, their attachments, and their actions are common themes in human anatomy. Therefore, expect differences between texts and realize that anatomical variation is normal.



www.Booksmedicos06.com



/////// facebook : Booksmedicos06



www.Booksmedicos06.com ////////

/////// facebook : Booksmedicos06

Muscles of inspiration

Accessory

Sternocleidomastoid (elevates sternum)

Scalene muscles
- Anterior
- Middle
- Posterior

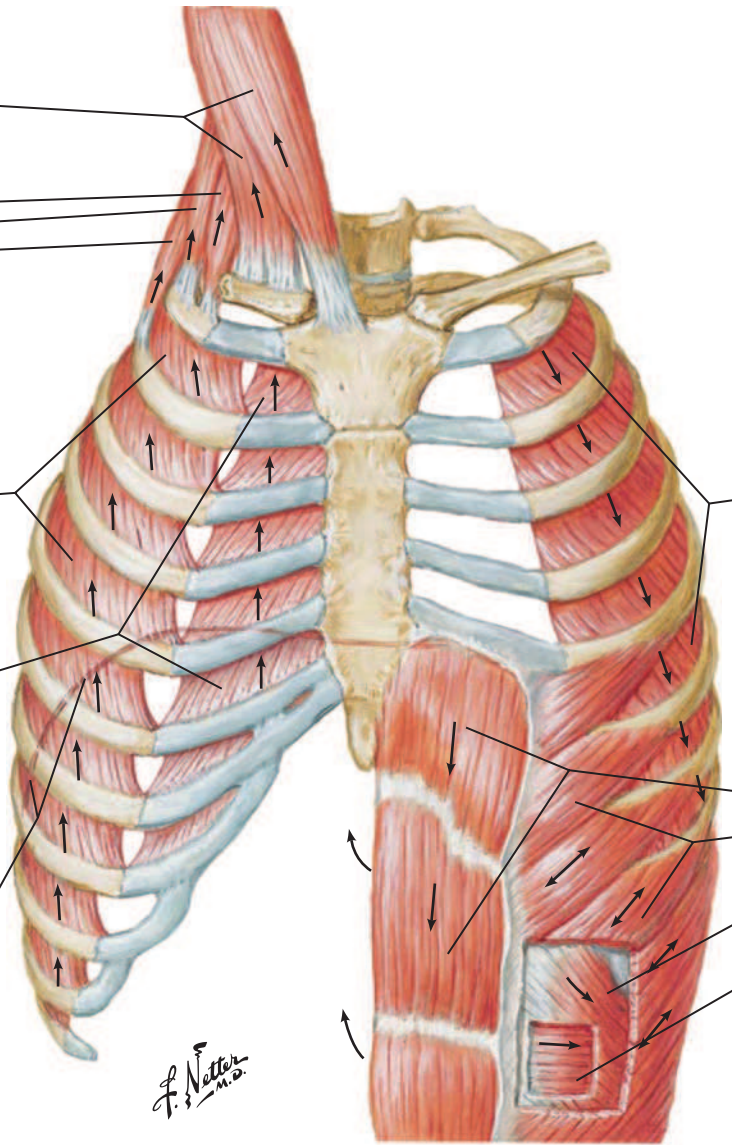
(elevate and fix upper ribs)

Principal

External intercostals, most superficial (elevate ribs, thus increasing width of thoracic cavity and aiding deep inspiration)

Interchondral parts of internal intercostals are deep to external intercostals (also elevate ribs and aid external intercostals with deep inspiration)

Respiratory diaphragm (domes descend, thus increasing vertical dimension of thoracic cavity; also elevates lower ribs)



Muscles of expiration

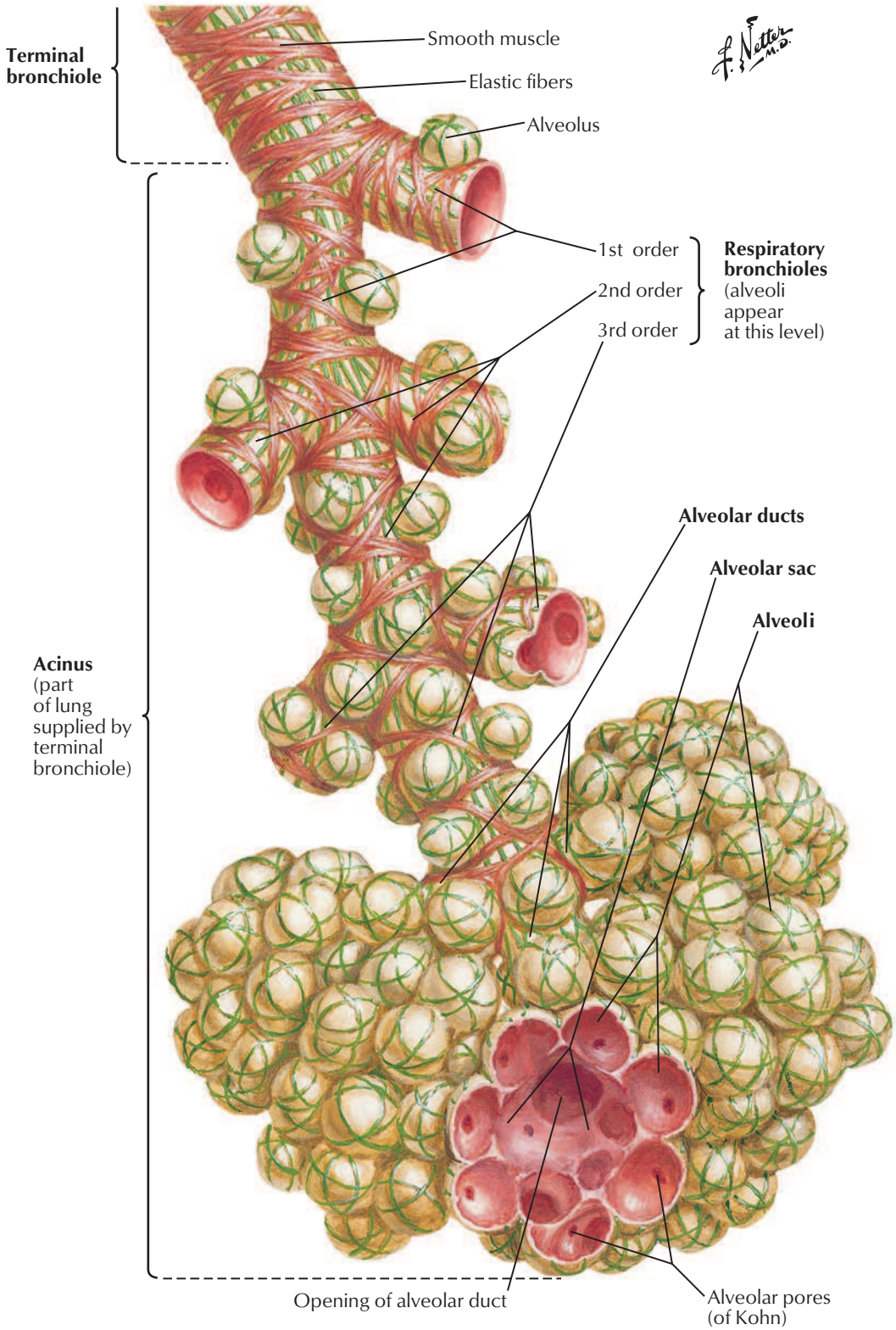
Quiet breathing

Expiration results from passive recoil of lungs and rib cage

Active breathing

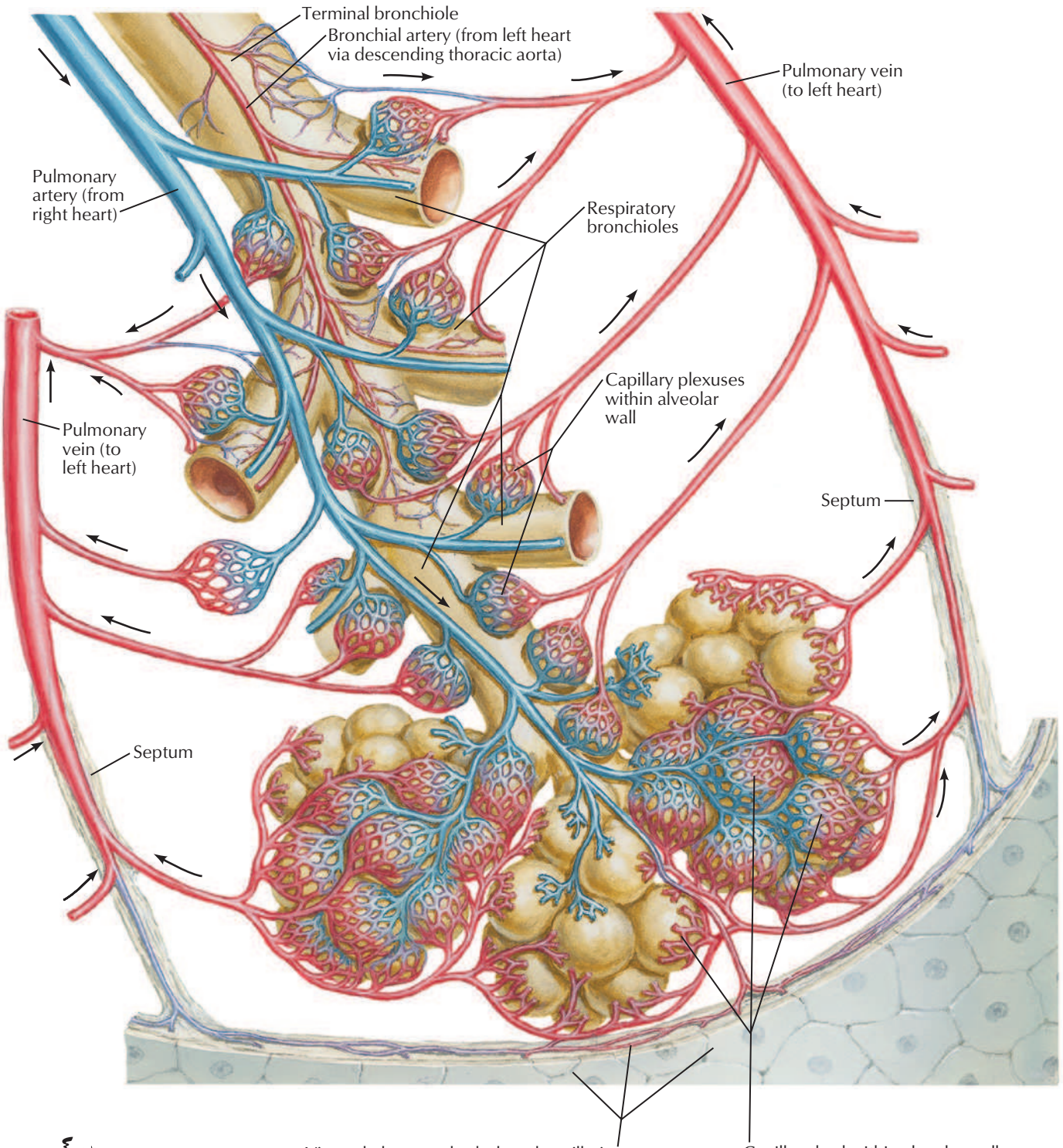
Internal intercostal muscles, except interchondral part (aid forced expiration)

Abdominals (depress lower ribs, compress abdominal contents, thus pushing up respiratory diaphragm, aiding forced expiration)
- Rectus abdominis
- External abdominal oblique muscle
- Internal abdominal oblique muscle
- Transversus abdominis muscle



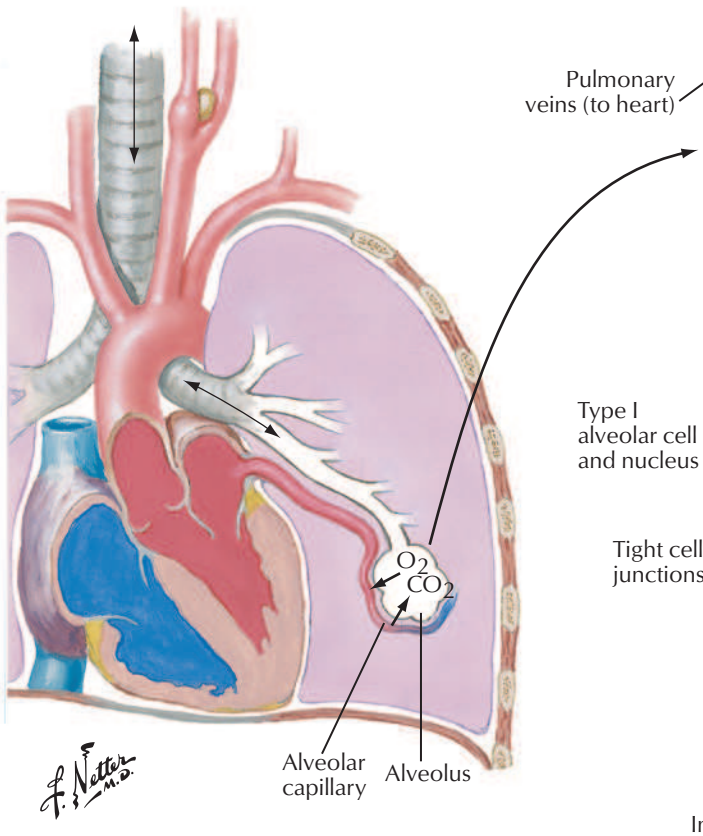
Structure of intrapulmonary airways

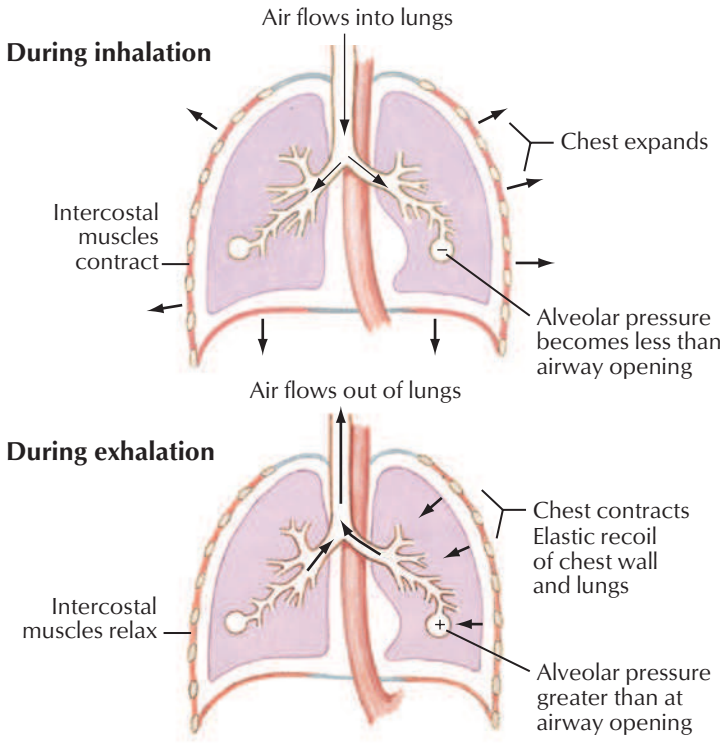
www.Booksmedicos06.com

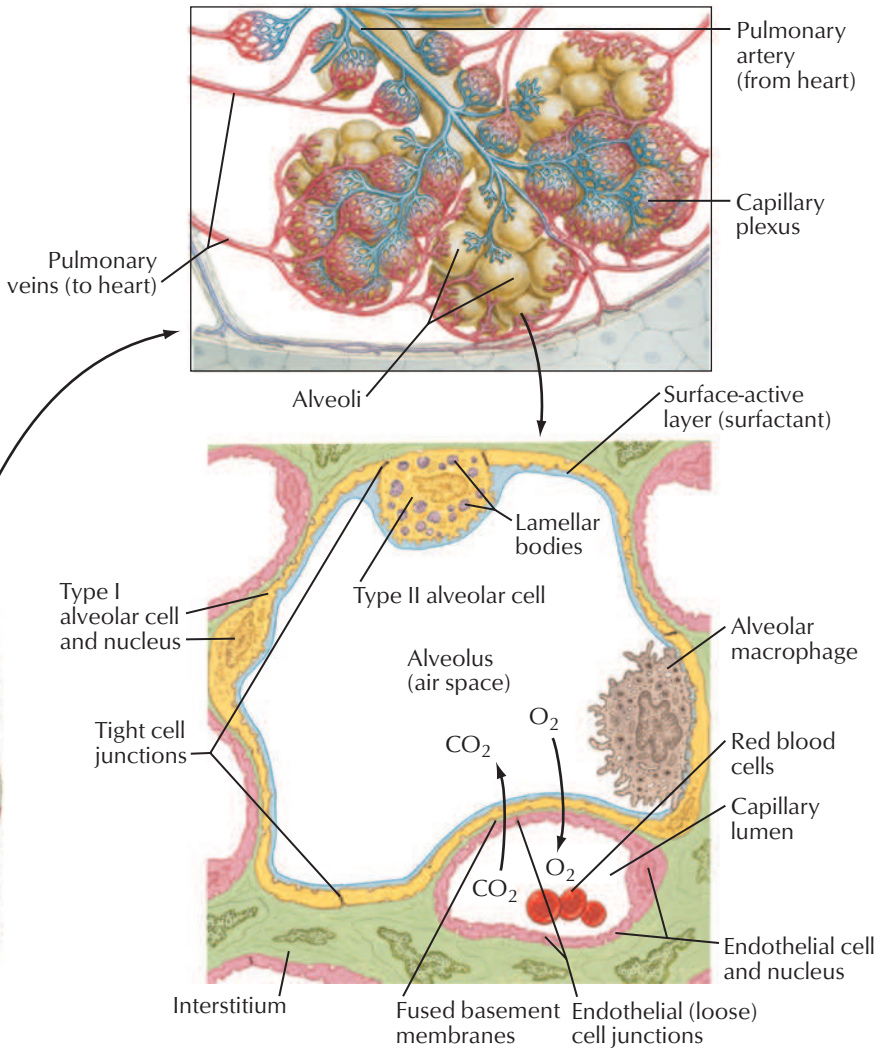


Pulmonary arteries and their branches distribute segmentally with the bronchi. Pulmonary veins and their tributaries drain intersegmentally.

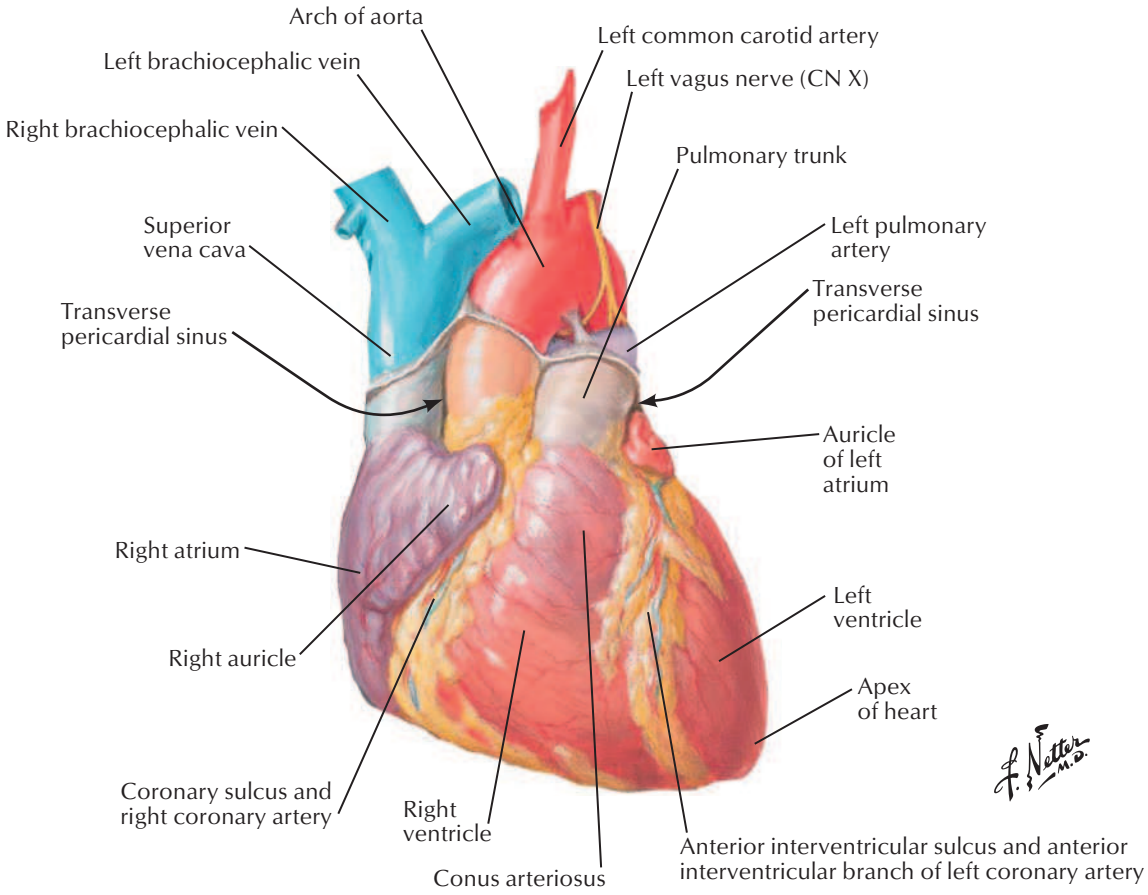
////// facebook : Booksmedicos06



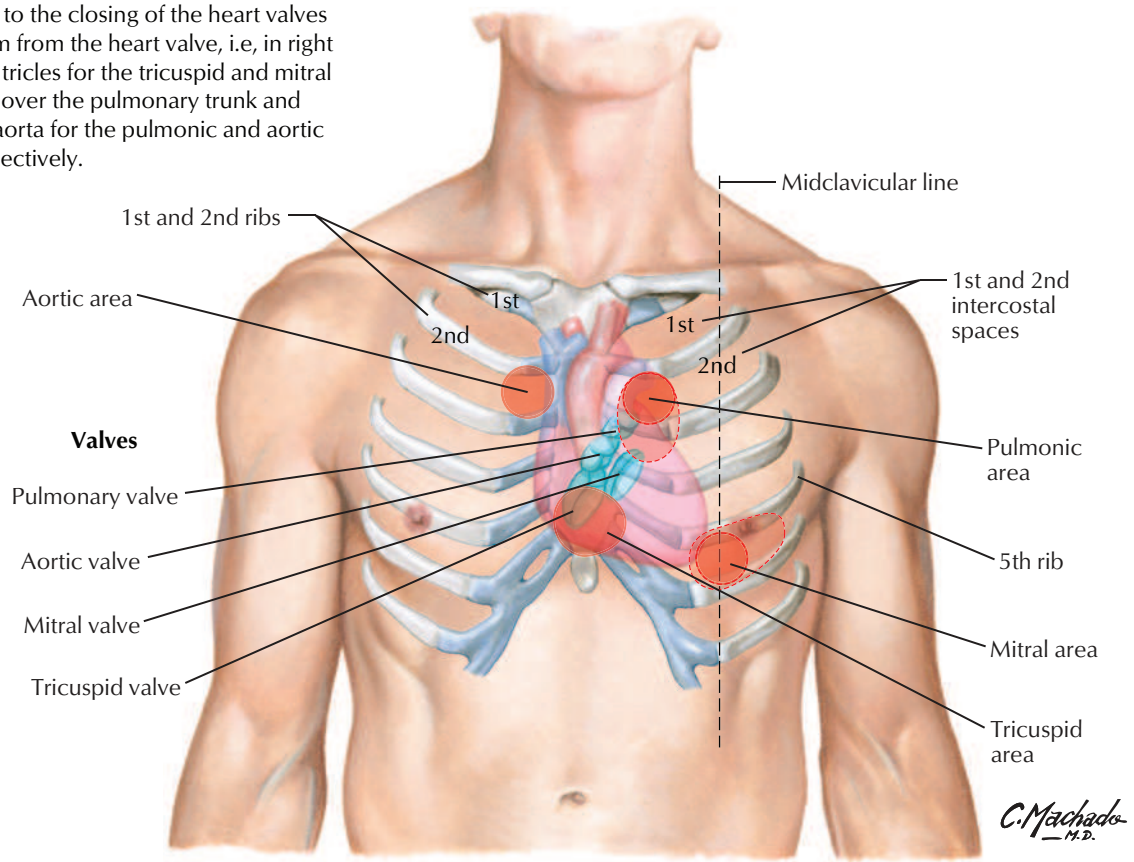




www.Booksmedicos06.com

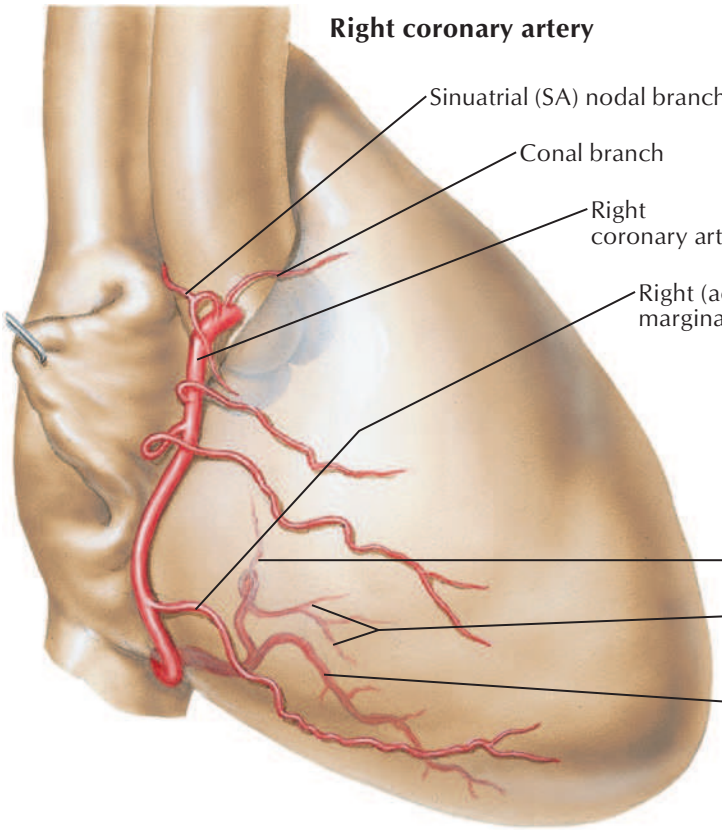


Precordial areas of auscultation:
One listens to the closing of the heart valves downstream from the heart valve, i.e, in right and left ventricles for the tricuspid and mitral valves, and over the pulmonary trunk and ascending aorta for the pulmonic and aortic valves, respectively.



////// facebook : Booksmedicos06

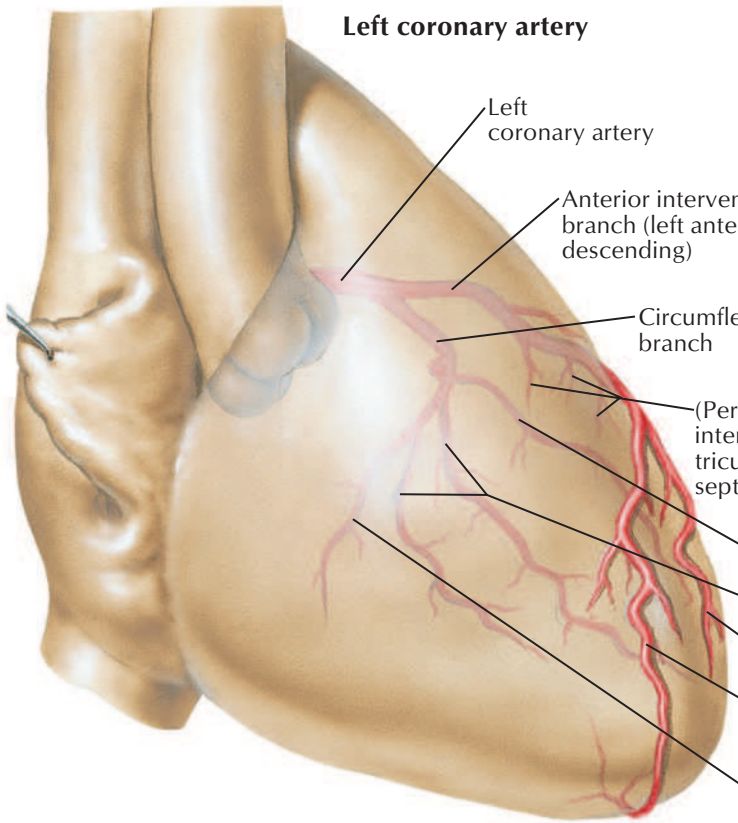
Right coronary artery

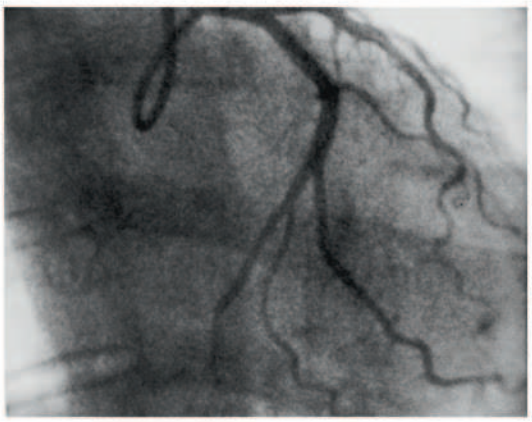




Arteriogram

Left coronary artery

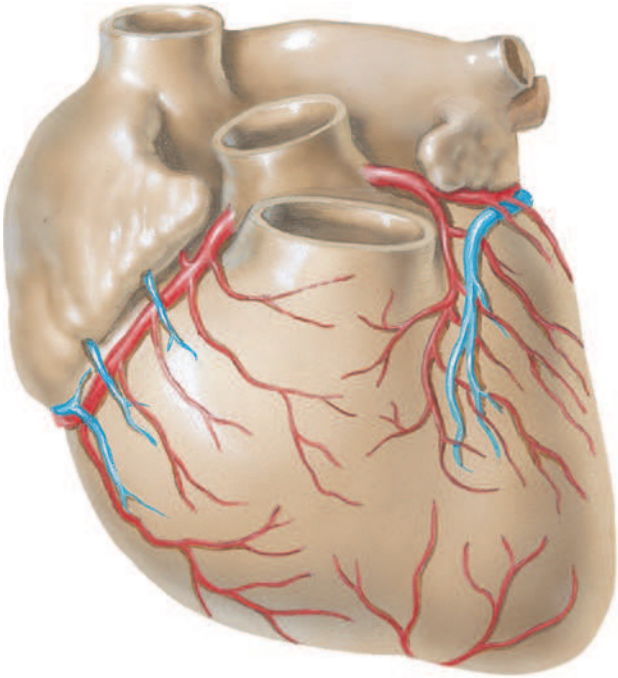




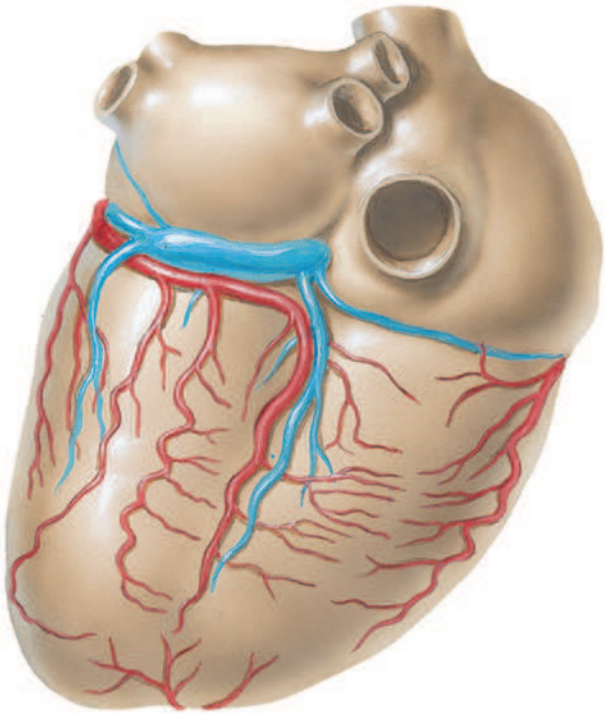
Arteriogram

F. Netter M.D.

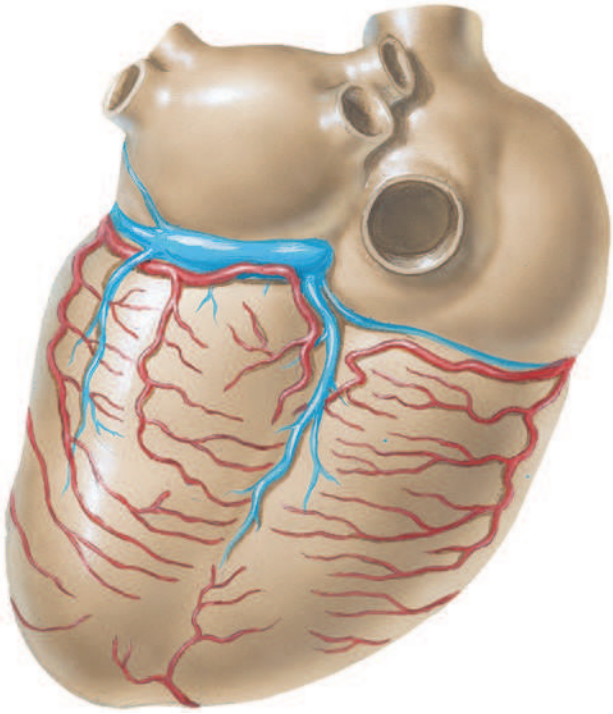
www.Booksmedicos06.com



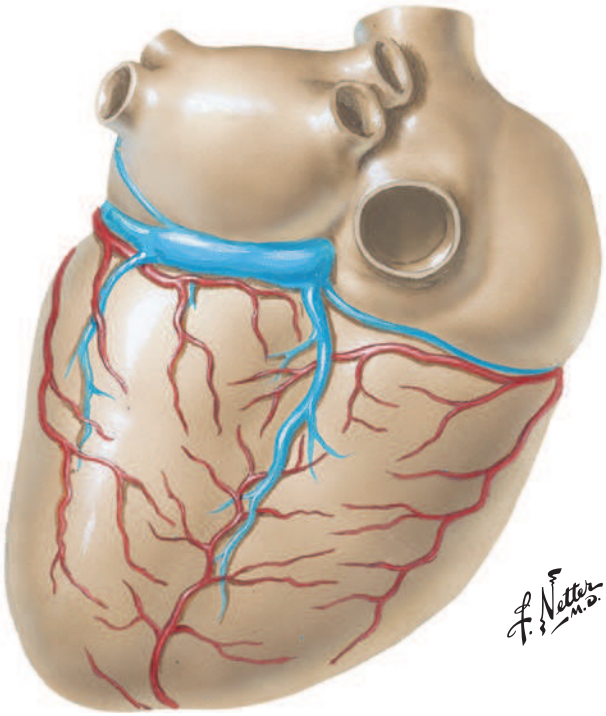
Anterior interventricular (left anterior descending) branch of left coronary artery is very short. Apical part of anterior (sternocostal) surface is supplied by branches from inferior interventricular (posterior descending) branch of right coronary artery curving around apex.



Inferior interventricular (posterior descending) branch is derived from circumflex branch of left coronary artery instead of from right coronary artery.

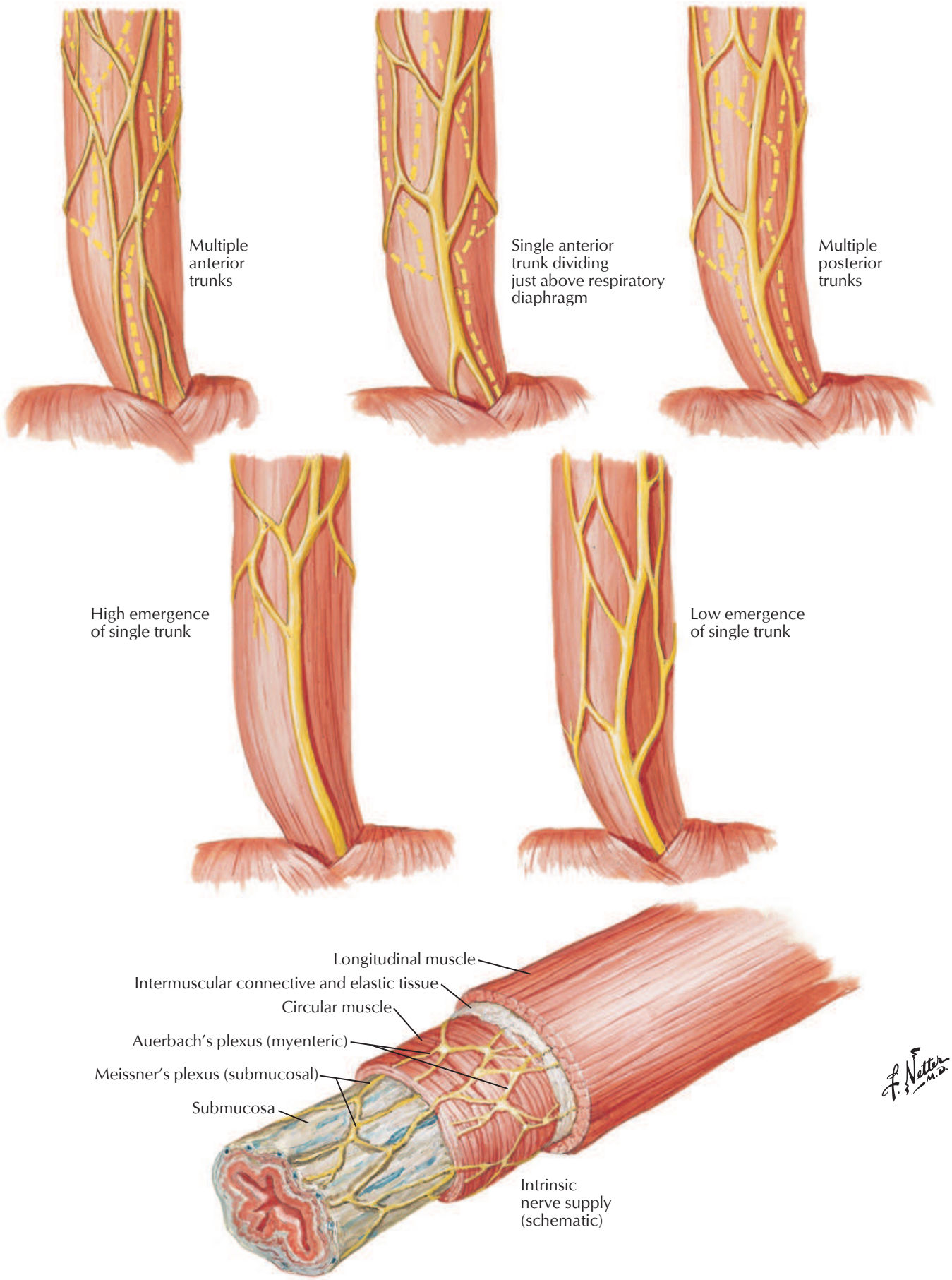


Inferior interventricular (posterior descending) branch is absent. Area is supplied chiefly by small branches from circumflex branch of left coronary artery and from right coronary artery.

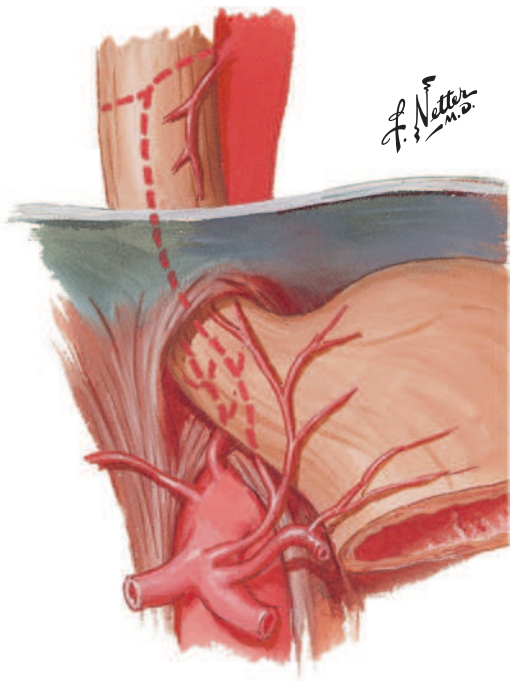


Inferior interventricular (posterior descending) branch is absent. Area is supplied chiefly by elongated anterior interventricular (left anterior descending) branch curving around apex.

////// facebook : Booksmedicos06

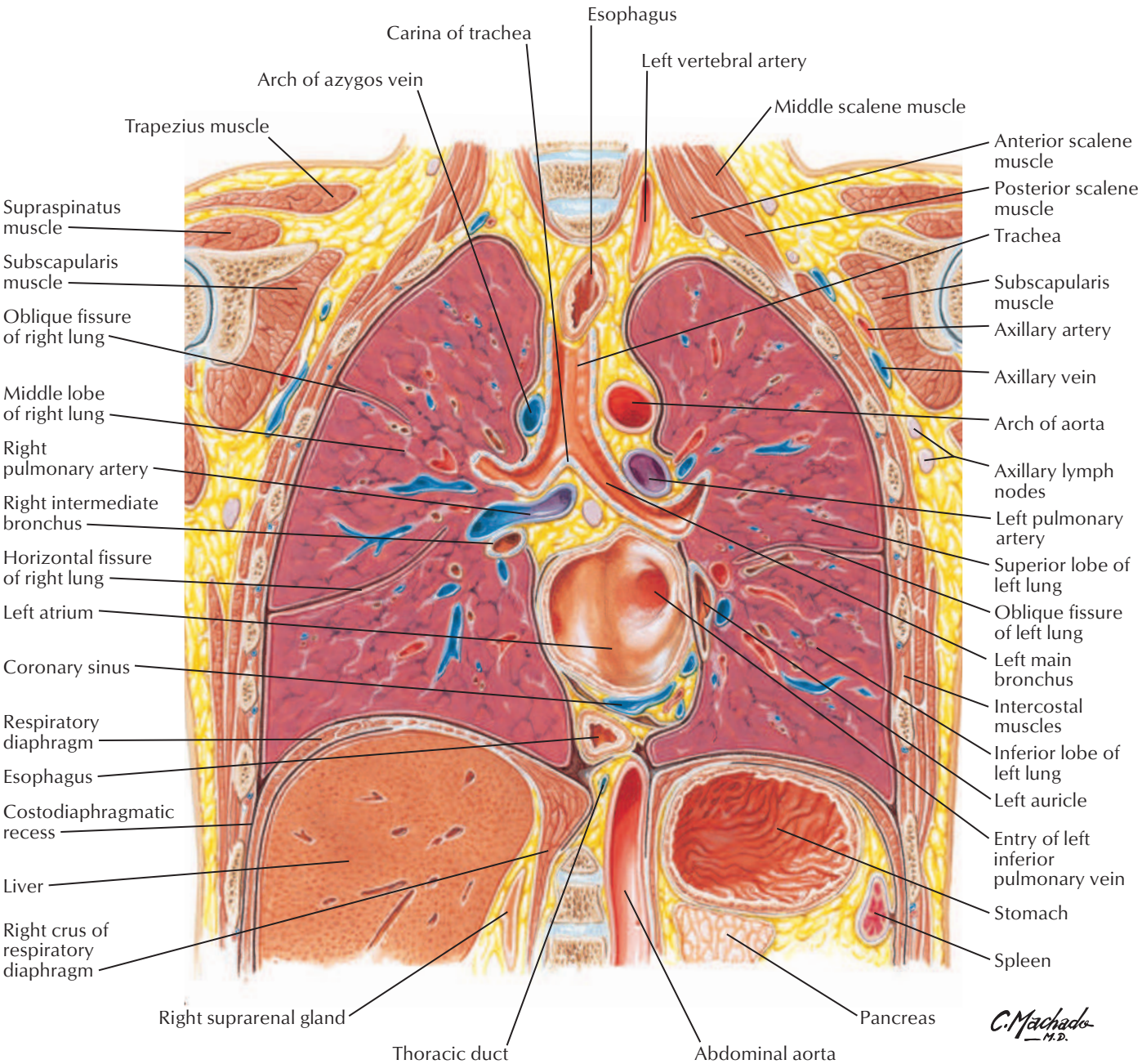


www.Booksmedicos06.com



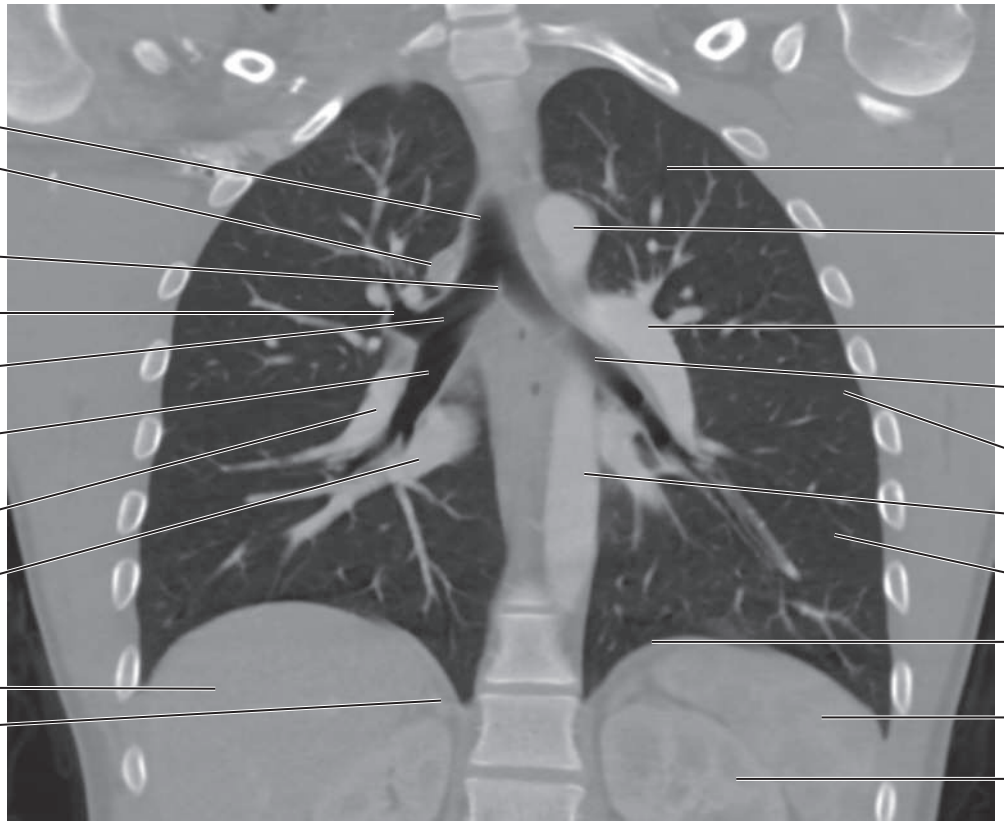
Common variations: Esophageal branches may originate from left inferior phrenic artery and/or directly from celiac trunk. Branches to abdominal esophagus may also come from splenic or short gastric arteries.

/////// facebook : Booksmedicos06



www.Booksmedicos06.com

Contrast windowed to accentuate lungs and bones



Contrast windowed to accentuate lungs and bones



////// facebook : Booksmedicos06

This page intentionally left blank

www.Booksmedicos06.com ///////

ABDOMEN

5

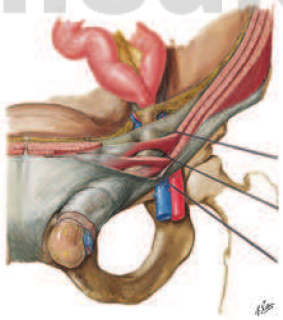
Surface Anatomy	249	**Lymphatics**	325
Body Wall	250-269	**Regional Scans**	326-327
Peritoneal Cavity	270-275	**Cross-Sectional Anatomy**	328-332
Viscera (Gut)	276-283	**Structures with High Clinical Significance**	Tables 5.1-5.2
Viscera (Accessory Organs)	284-289	**Muscle Table**	Table 5.3
Visceral Vasculature	290-299	**Electronic Bonus Plates**	BP58-BP87
Innervation	300-310		
Kidneys and Suprarenal Glands	311-324		

ELECTRONIC BONUS PLATES

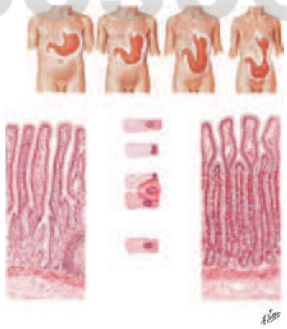
Booksmedicos06.com



BP58 Inguinal and Femoral Regions



BP59 Indirect Inguinal Hernia



BP60 Variations in Position and Contour of Stomach in Relation to Body Habitus



BP61 Layers of Duodenal Wall



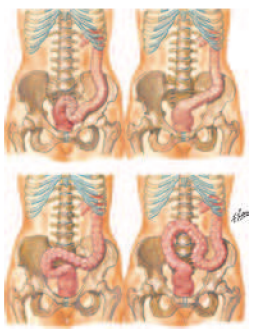
BP62 CT and MRCP Showing Appendix, Gallbladder, and Ducts; Nerve Branches of Hepatic Artery



BP63 Topography of Liver



BP64 Variations in Form of Liver



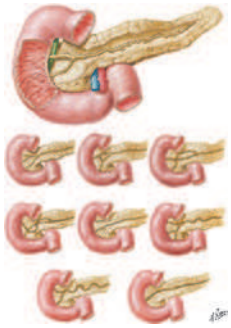
BP65 Sigmoid Colon: Variations in Position

////// facebook : Booksmedicos06

ELECTRONIC BONUS PLATES—*cont'd*



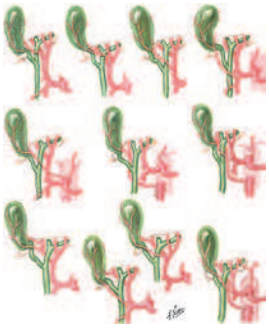
BP66 Variations in Arterial Supply to Cecum and Posterior Peritoneal Attachment of Cecum



BP67 Variations in Pancreatic Duct



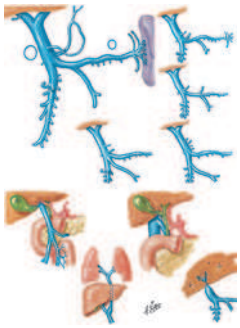
BP68 Variations in Cystic, Hepatic, and Pancreatic Ducts



BP69 Variations in Cystic Arteries



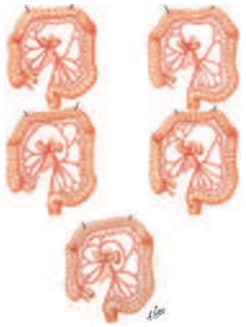
BP70 Variations in Hepatic Arteries



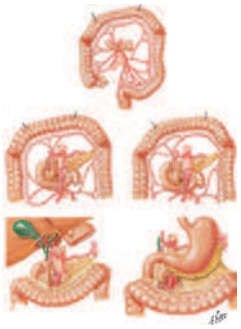
BP71 Variations and Anomalies of Hepatic Portal Vein



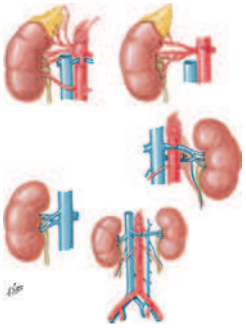
BP72 Variations in Celiac Trunk



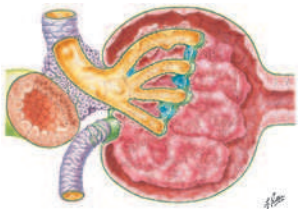
BP73 Variations in Colic Arteries



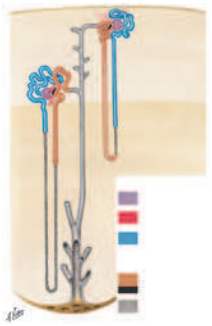
BP74 Variations in Colic Arteries (continued)



BP75 Variations in Renal Artery and Vein



BP76 Histology of Renal Corpuscle

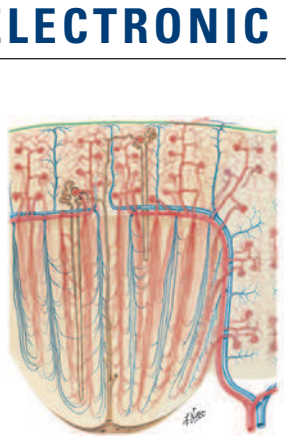


BP77 Nephron and Collecting Tubule: Schema

www.Booksmedicos06.com ////////

////// facebook : Booksmedicos06

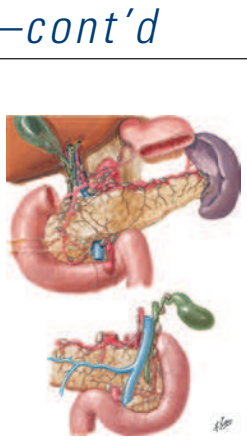
ELECTRONIC BONUS PLATES—*cont'd*



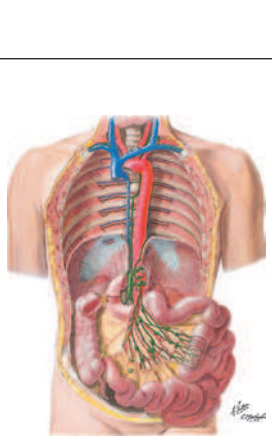
BP78 Blood Vessels in Parenchyma of Kidney: Schema



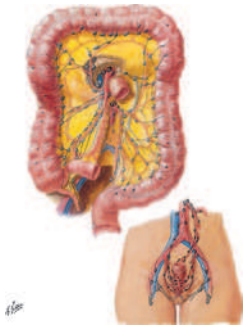
BP79 Lymph Vessels and Nodes of Stomach



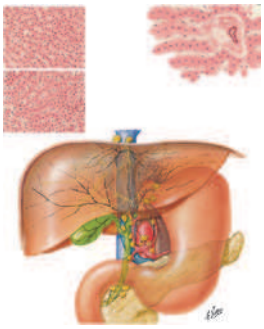
BP80 Lymph Vessels and Nodes of Pancreas



BP81 Lymph Vessels and Nodes of Small Intestine



BP82 Lymph Vessels and Nodes of Large Intestine



BP83 Lymph Vessels and Nodes of Liver



BP84 Schematic Cross Section of Abdomen at Middle T12



BP85 Transverse Section of Abdomen: Level of L5, Near Transtubercular Plane



BP86 Transverse Section of Abdomen: Level of S1, Anterior Superior Iliac Spine



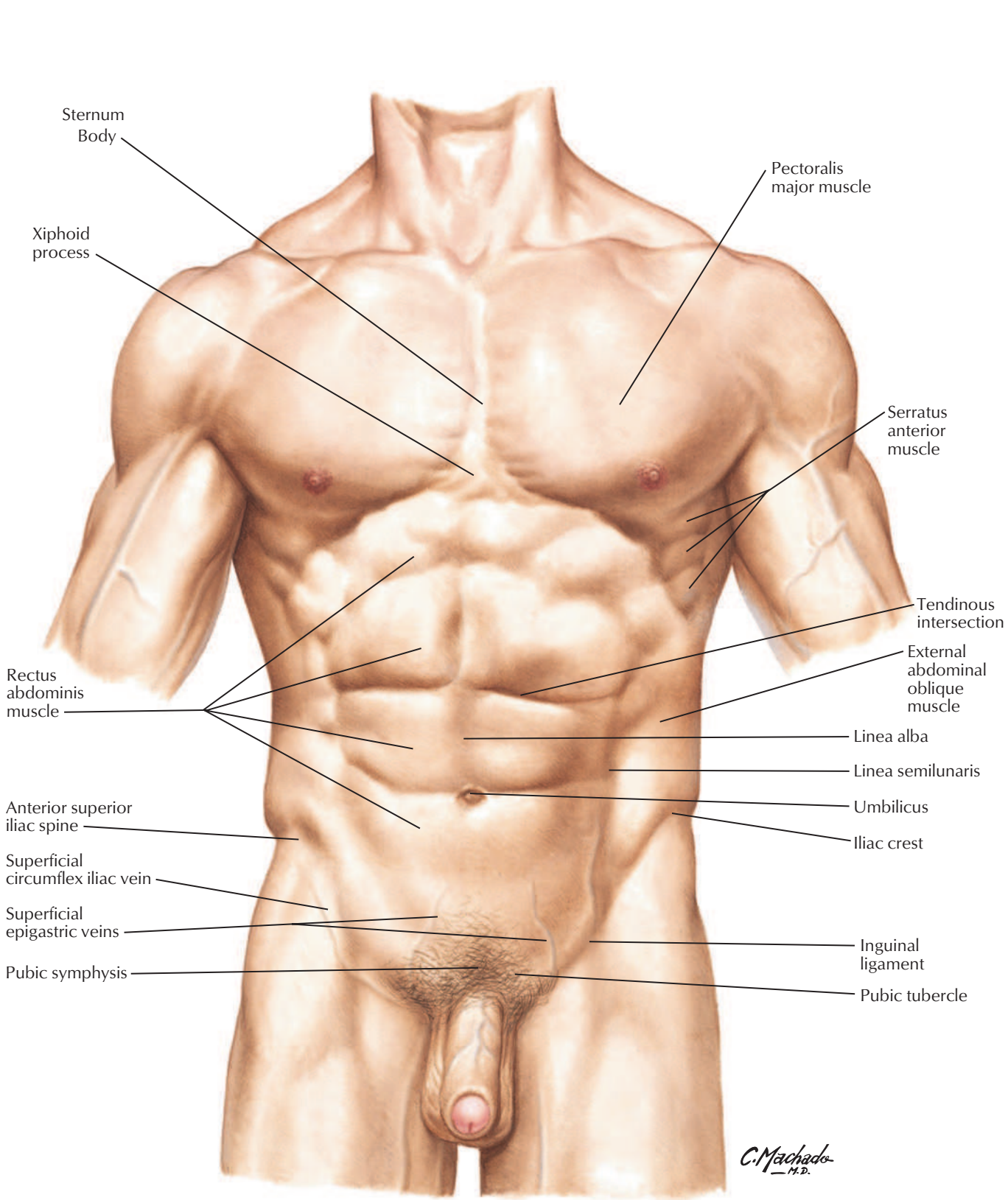
BP87 Axial CT Image of Upper Abdomen

This page intentionally left blank

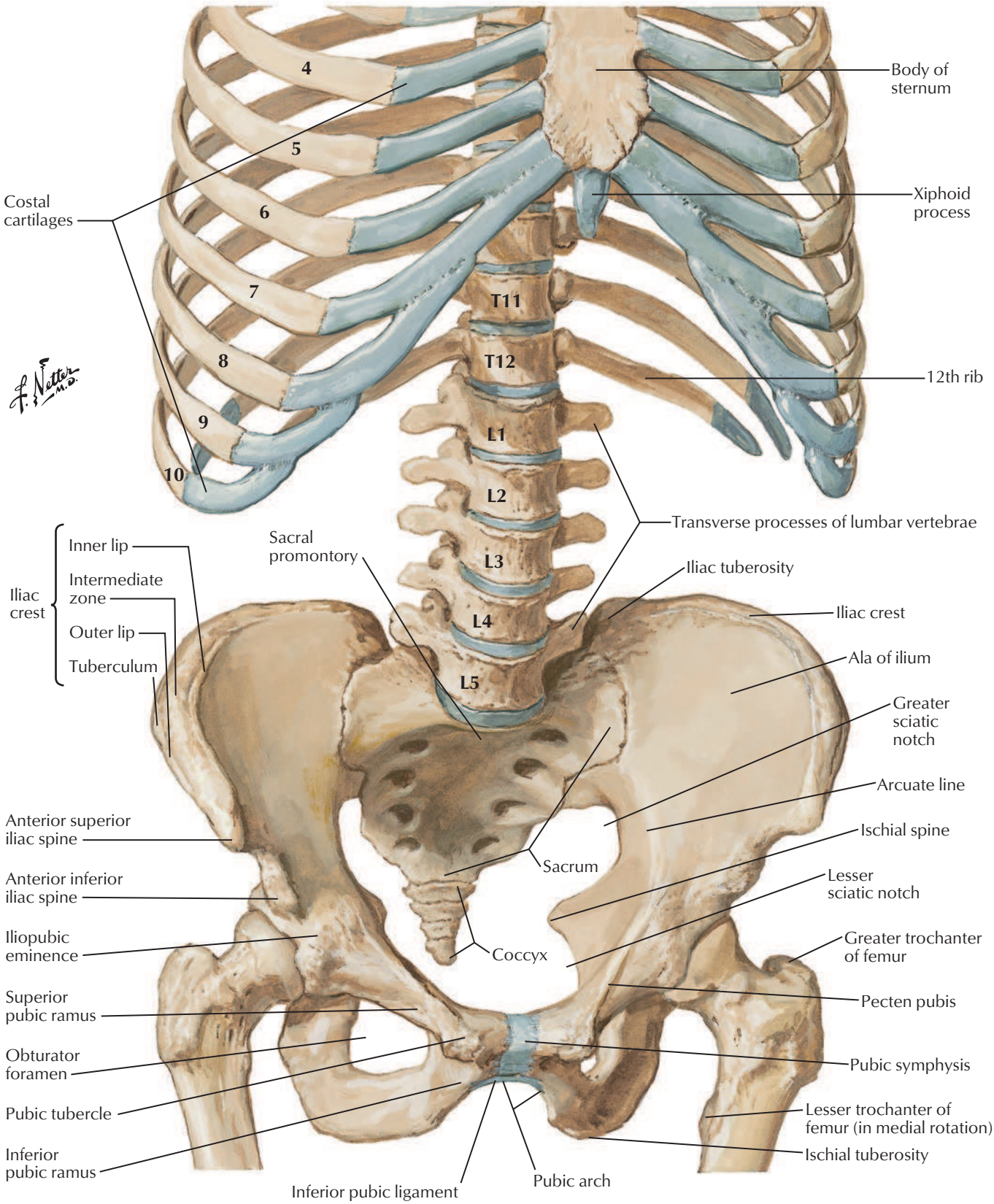
www.Booksmedicos06.com ///////

See also Plates 171, 252

////// facebook : Booksmedicos06



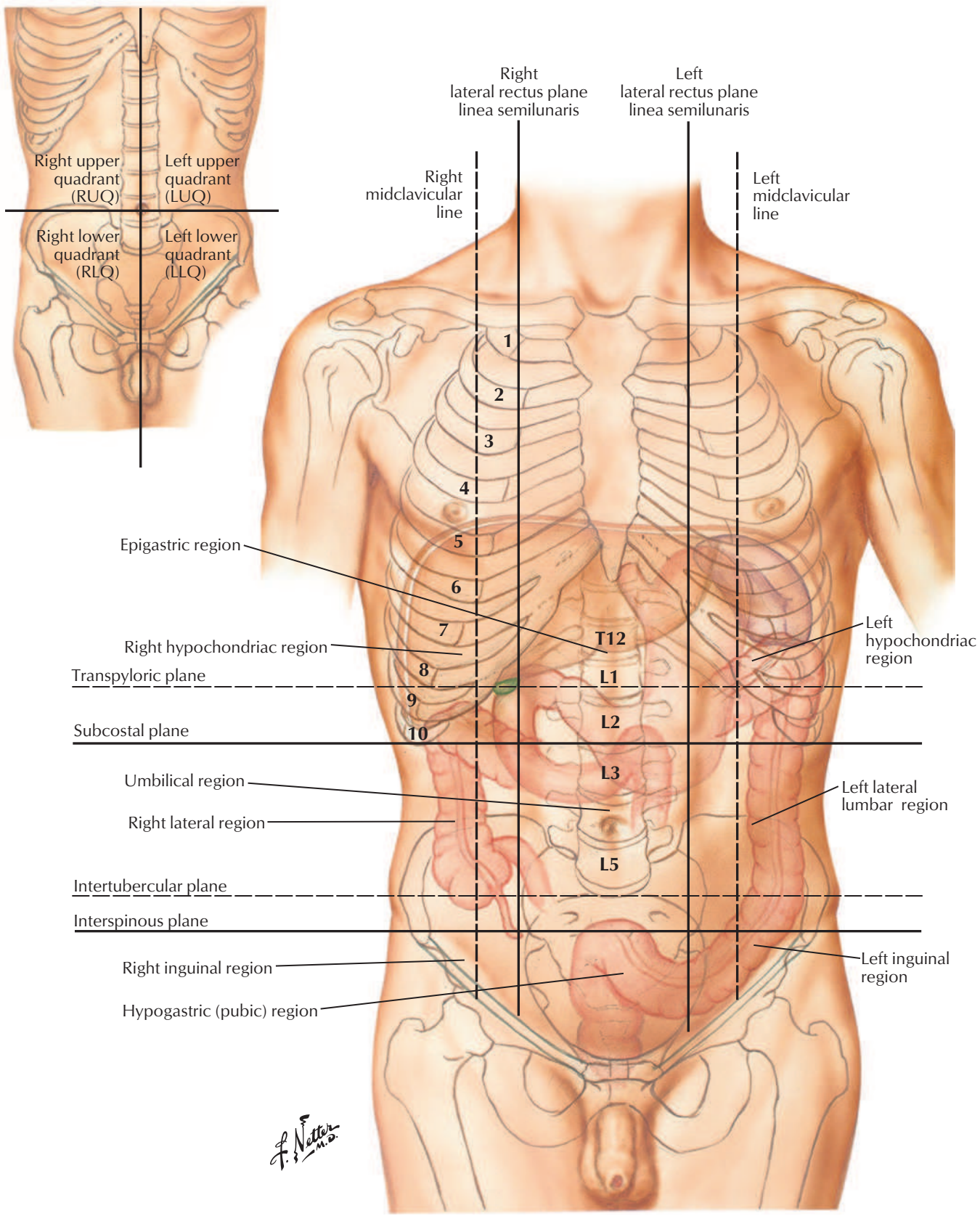
See also Plates 192, 334



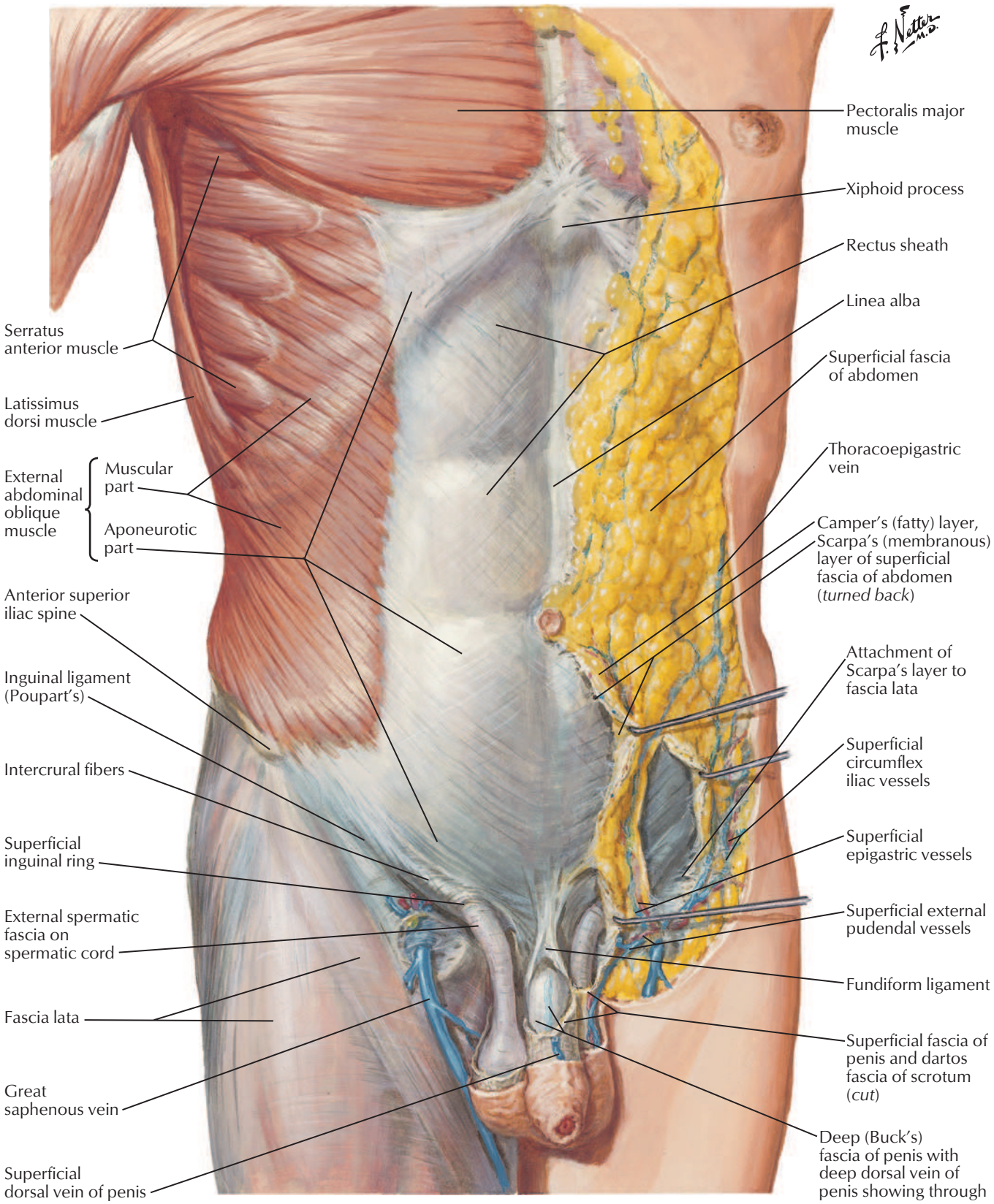
www.Booksmedicos06.com

See also Plate 202

////// facebook : Booksmedicos06



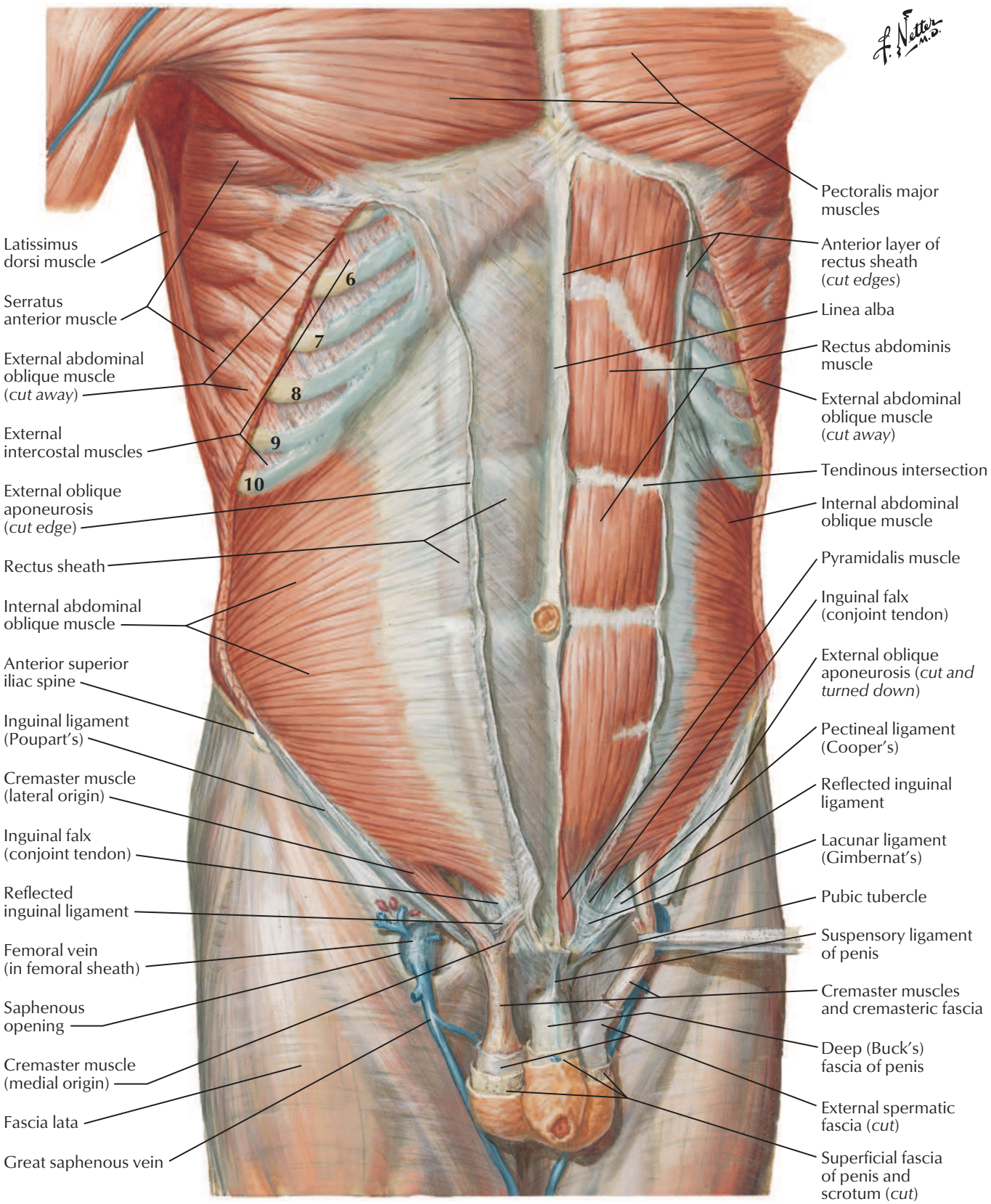
See also Plates 259, 333



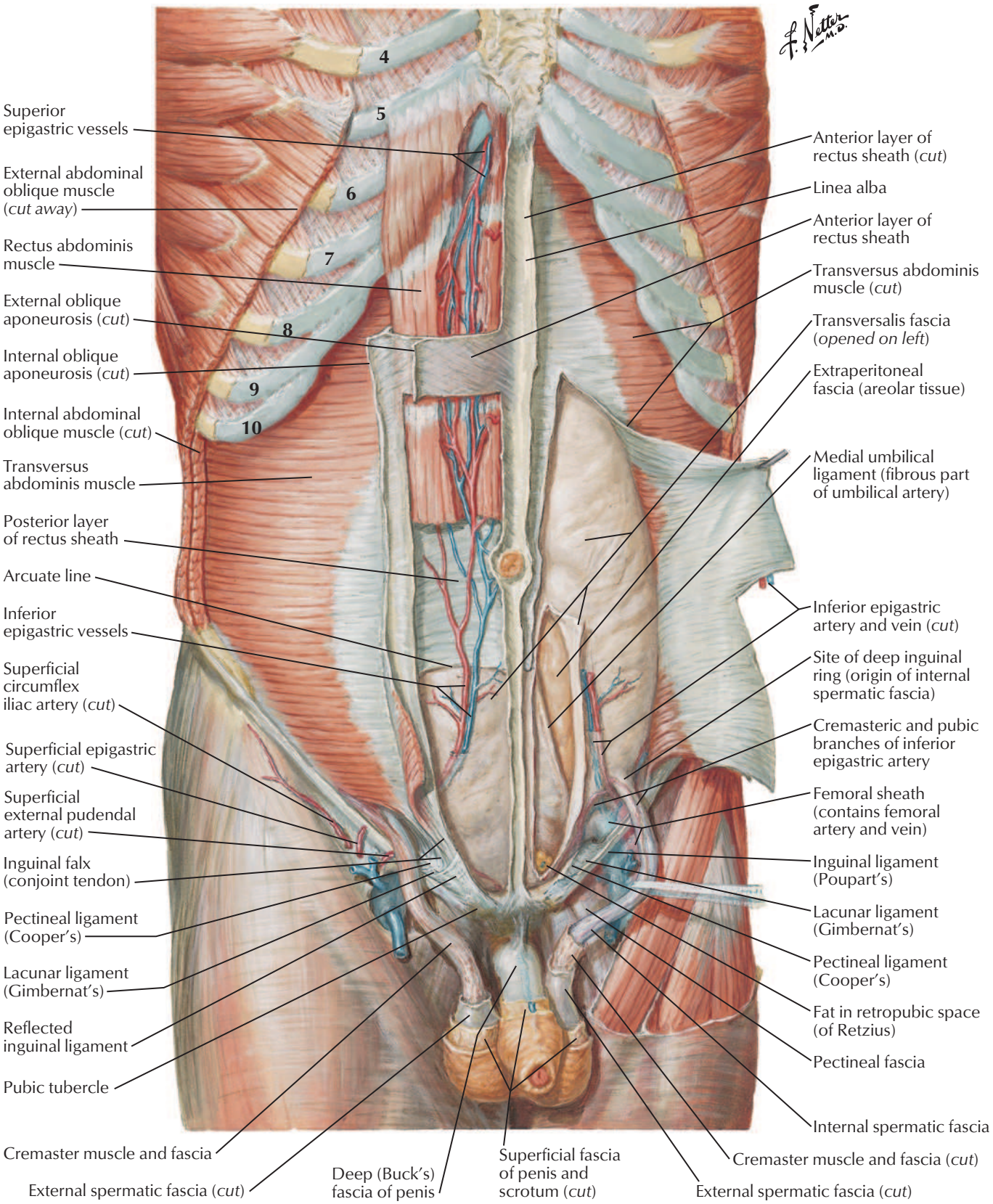
www.Booksmedicos06.com

See also Plates 194, 195

////// facebook : Booksmedicos06



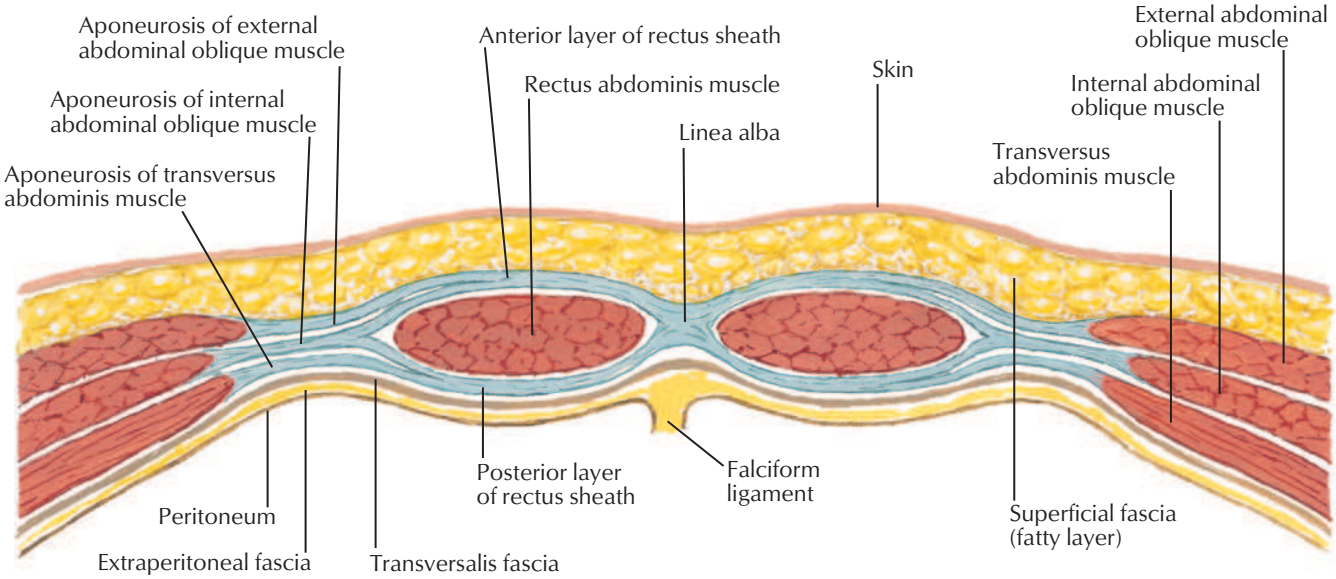
See also Plates 195, 258



www.Booksmedicos06.com

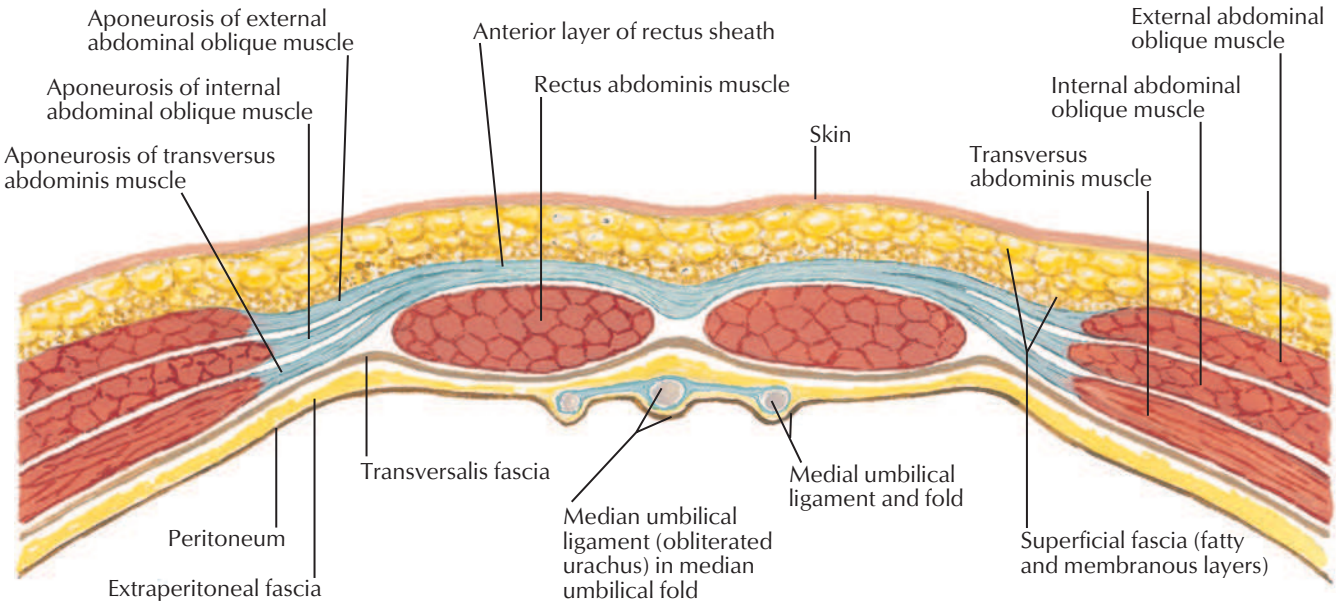
////// facebook : Booksmedicos06

Section above arcuate line



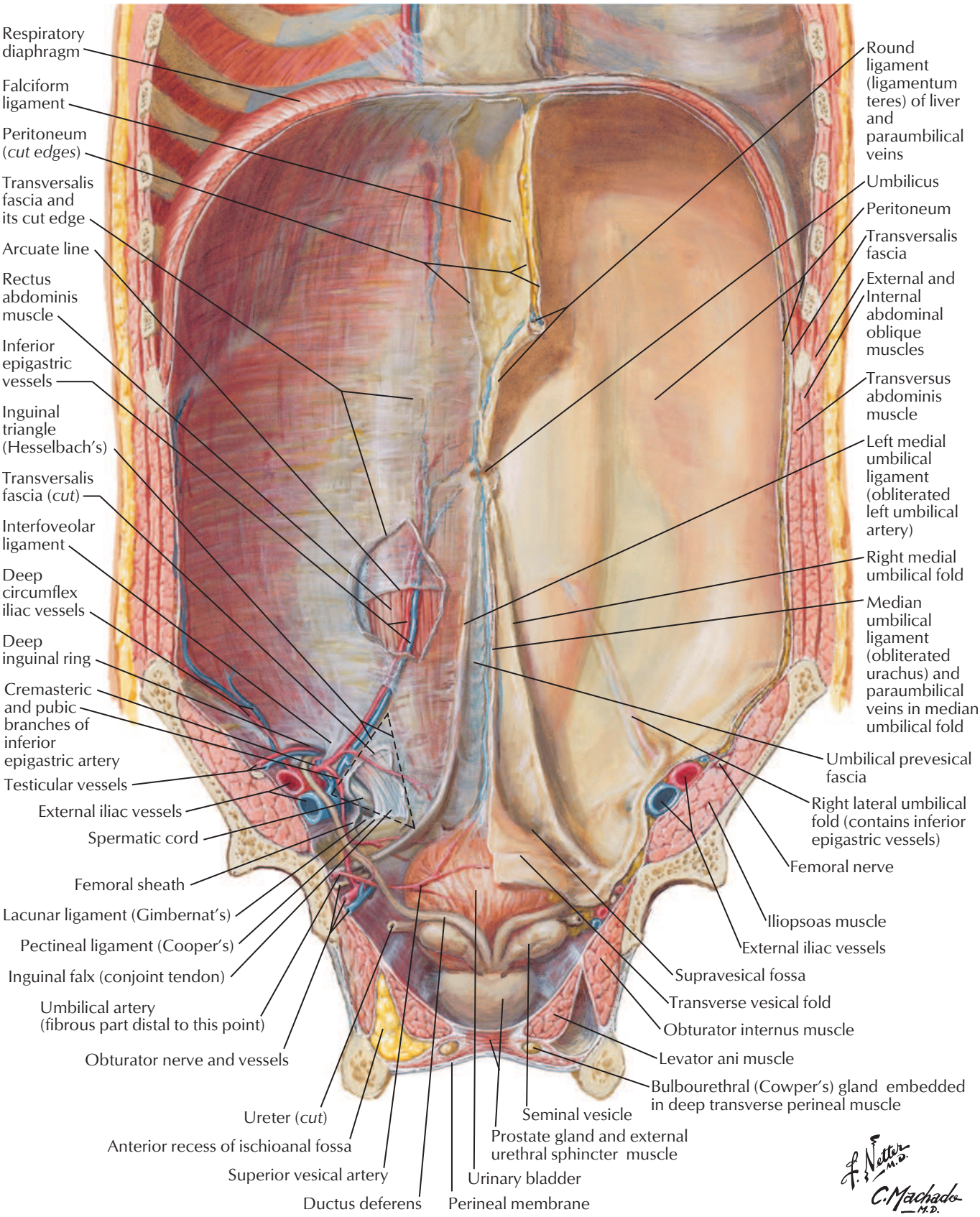
Aponeurosis of internal abdominal oblique muscle splits to form anterior and posterior layers of rectus sheath. Aponeurosis of external abdominal oblique muscle joins anterior layer of sheath; aponeurosis of transversus abdominis muscle joins posterior layer. Anterior and posterior layers of rectus sheath unite medially to form linea alba.

Section below arcuate line



Aponeurosis of internal abdominal oblique muscle does not split at this level but passes completely anterior to rectus abdominis muscle and is fused there with both aponeurosis of external abdominal oblique muscle and that of transversus abdominis muscle. Thus, posterior wall of rectus sheath is absent below arcuate line, leaving only transversalis fascia.

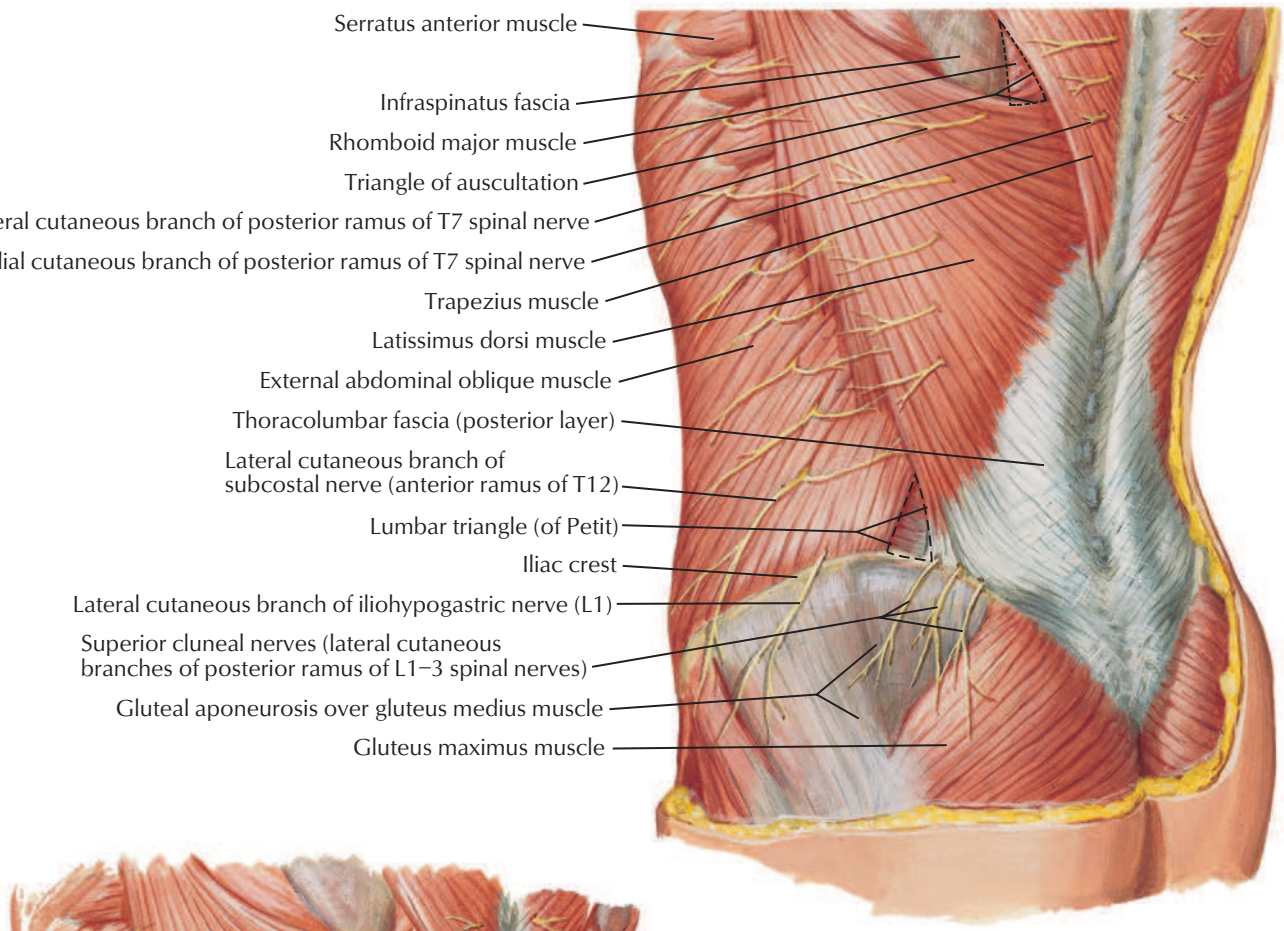
See also Plate 366

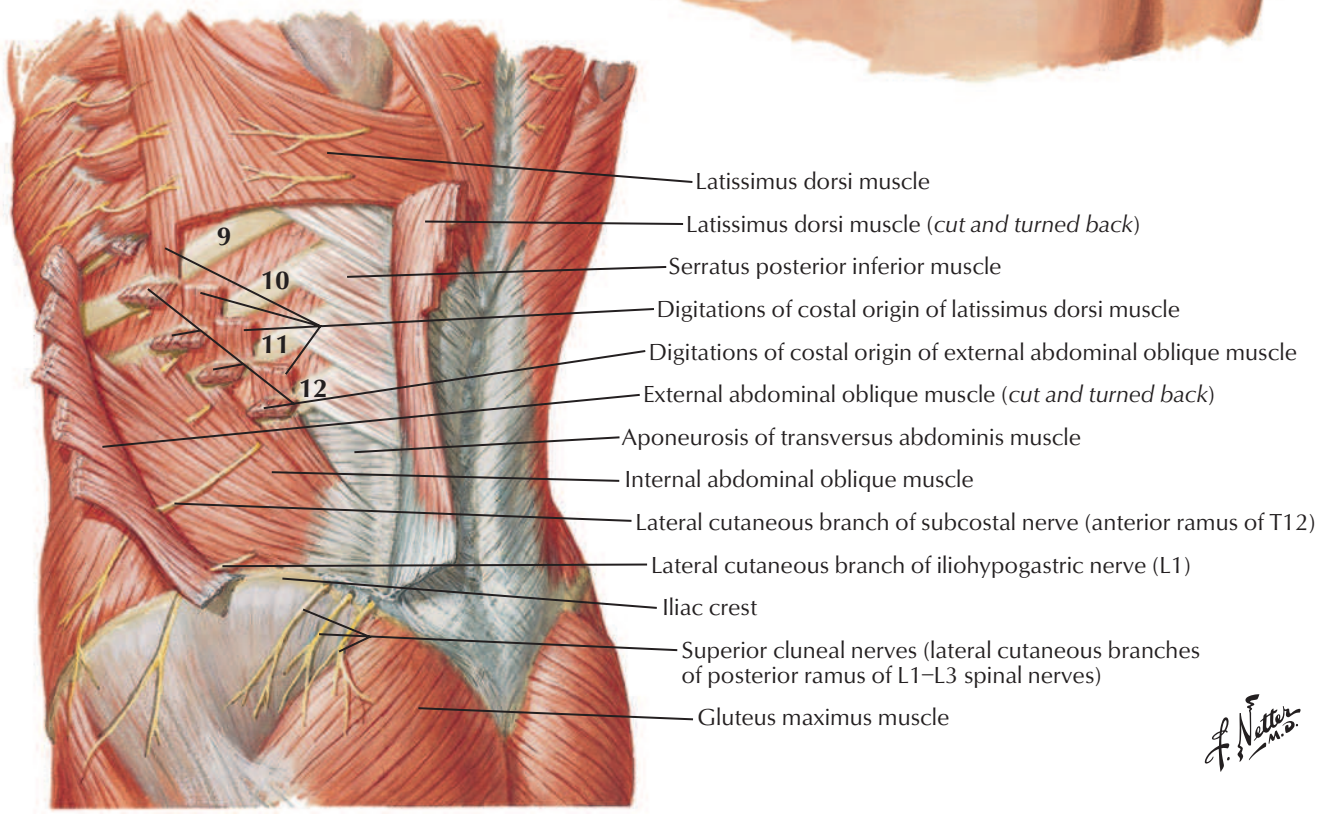


F. Netter M.D.
C. Machado M.D.

www.Booksmedicos06.com

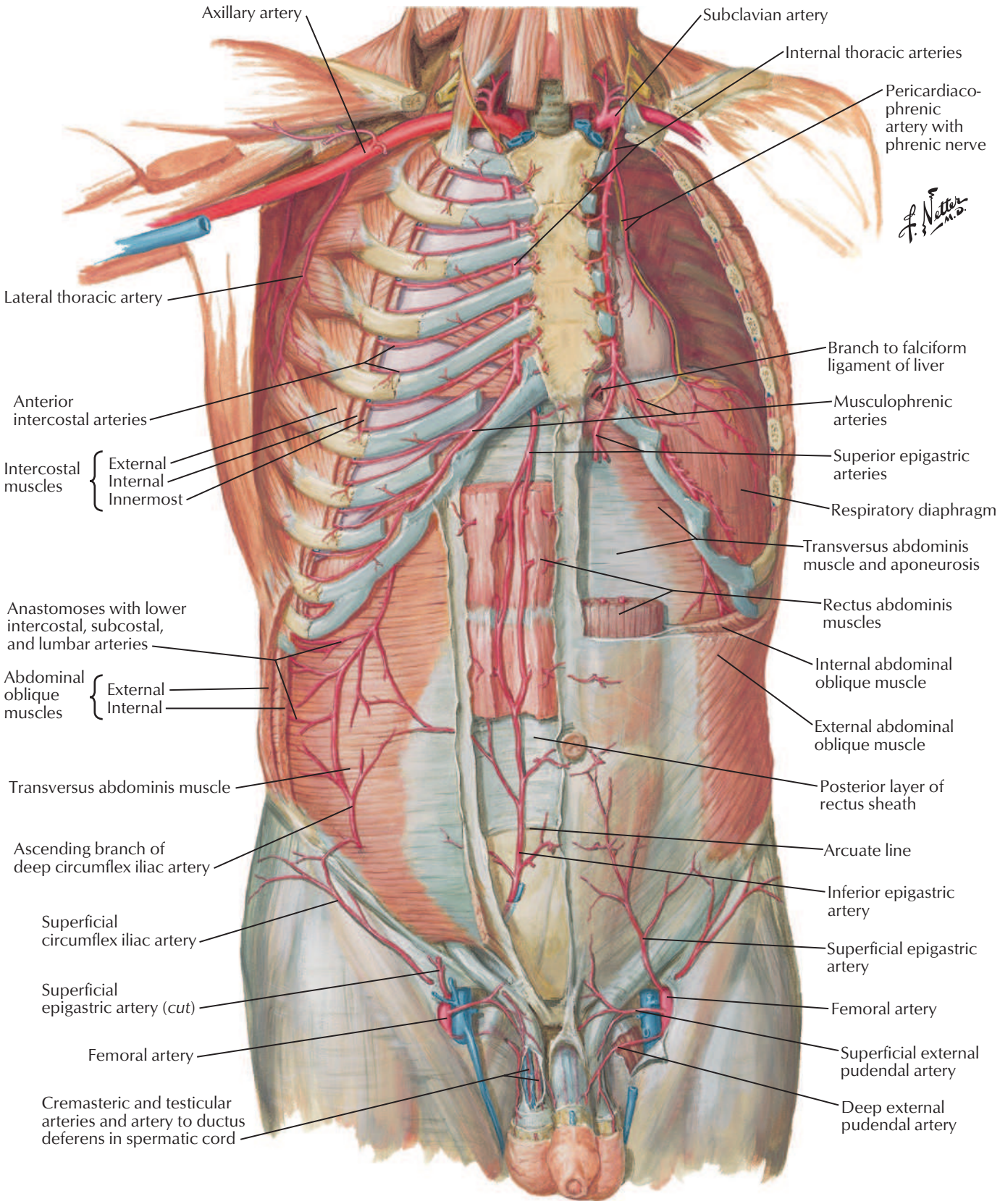
////// facebook : Booksmedicos06





Arteries of Anterior Abdominal Wall

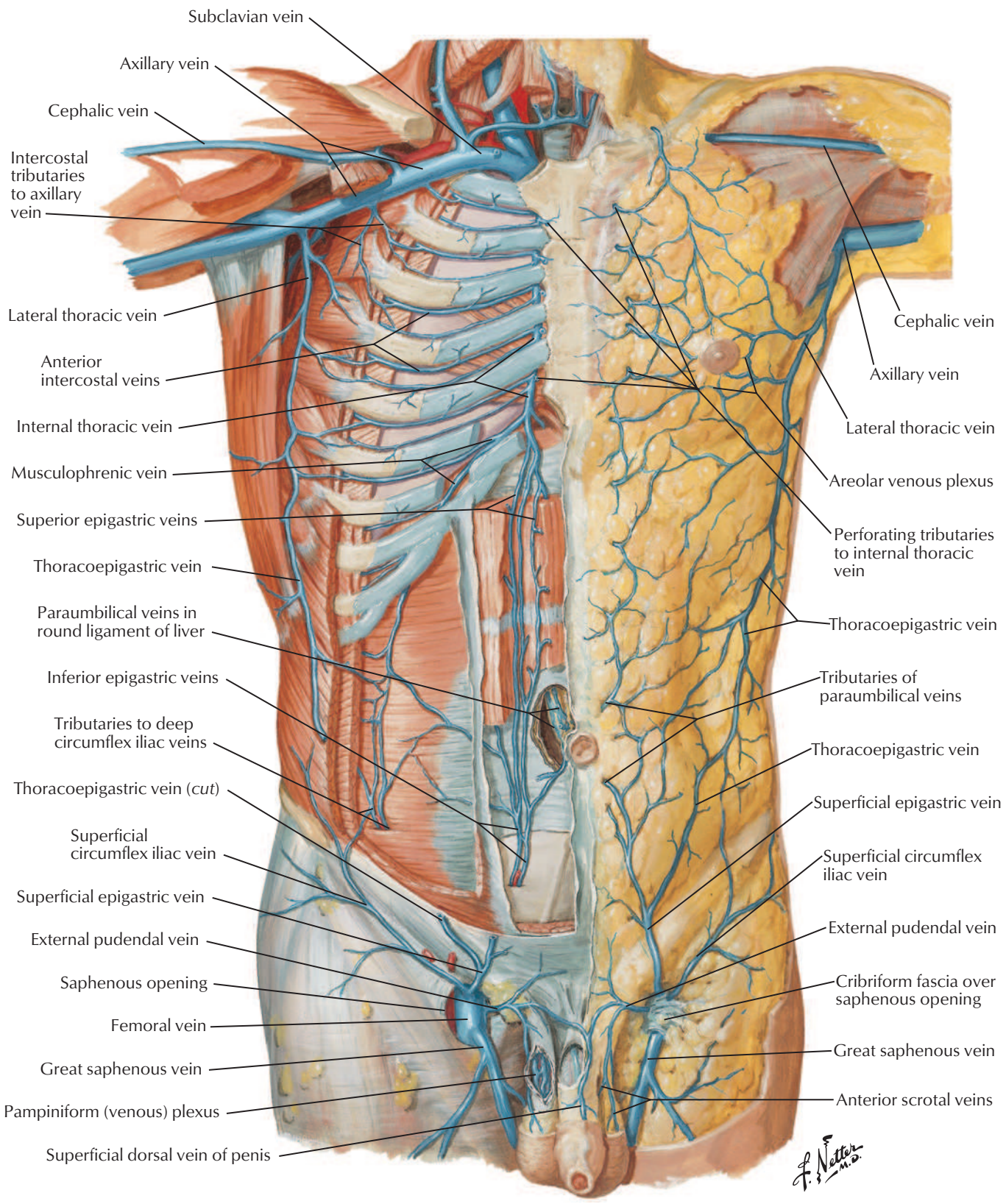
See also Plate 254



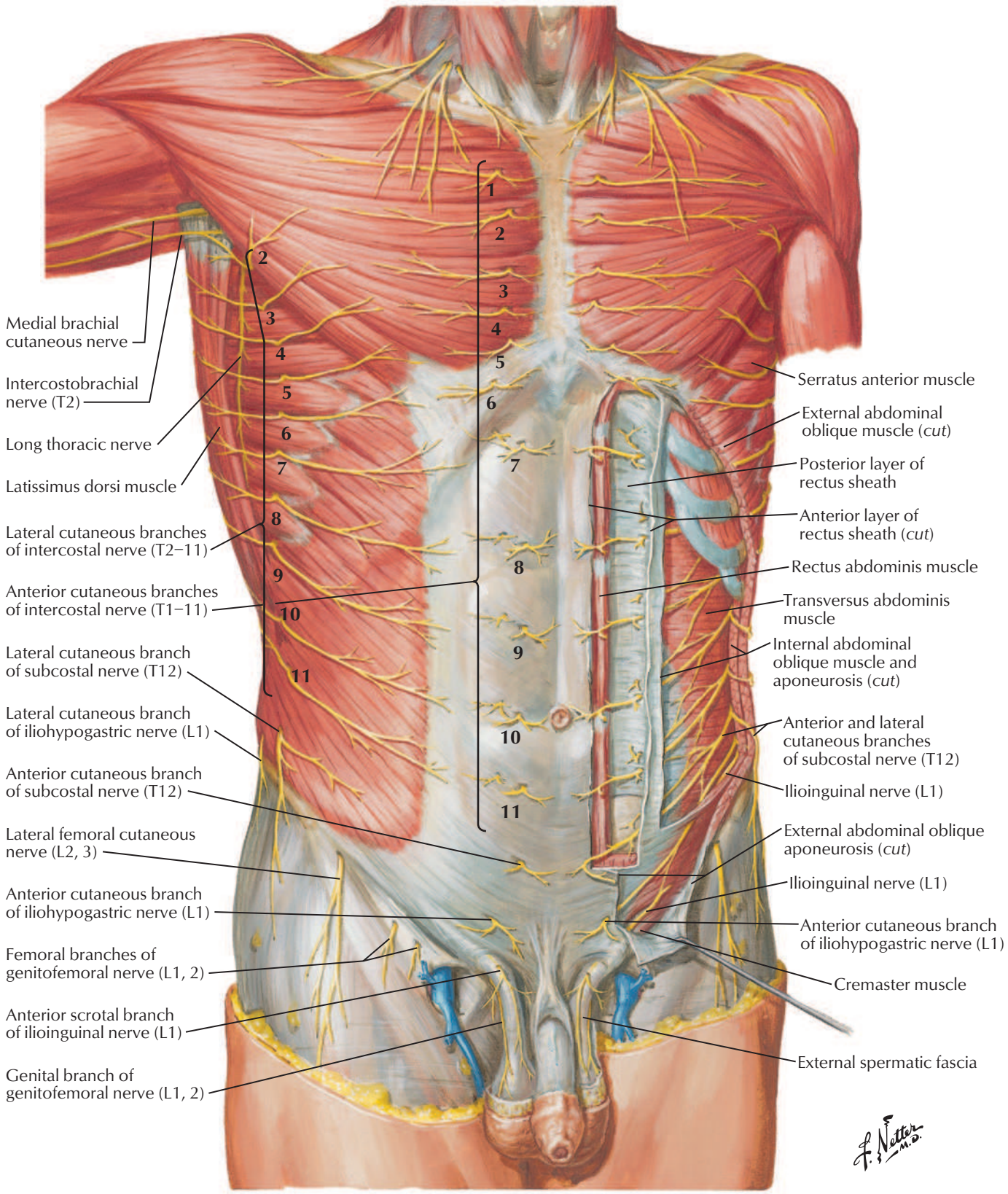
www.Booksmedicos06.com

See also Plates 252, 254

////// facebook : Booksmedicos06

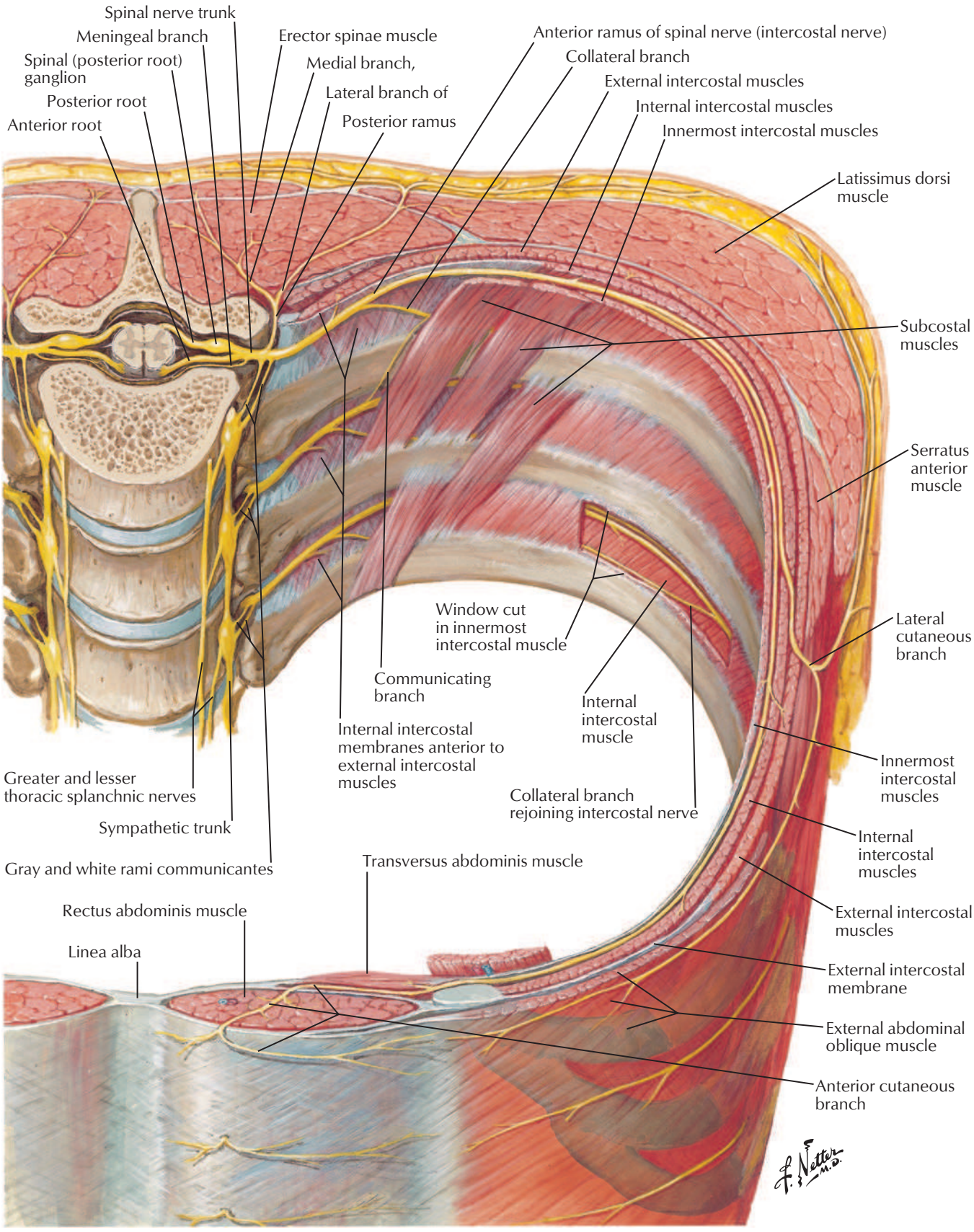


See also Plates 186, 194, 261



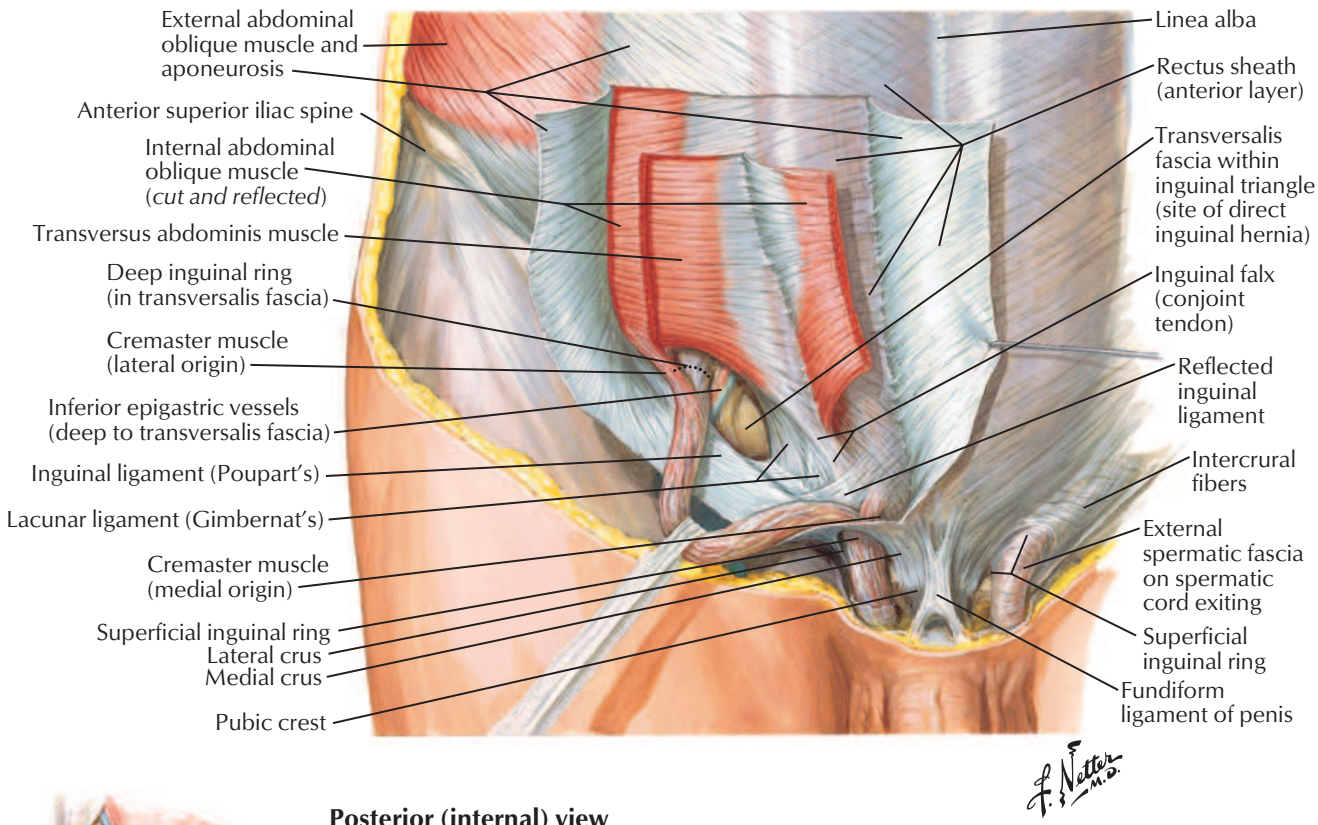
www.Booksmedicos06.com

////// facebook : Booksmedicos06

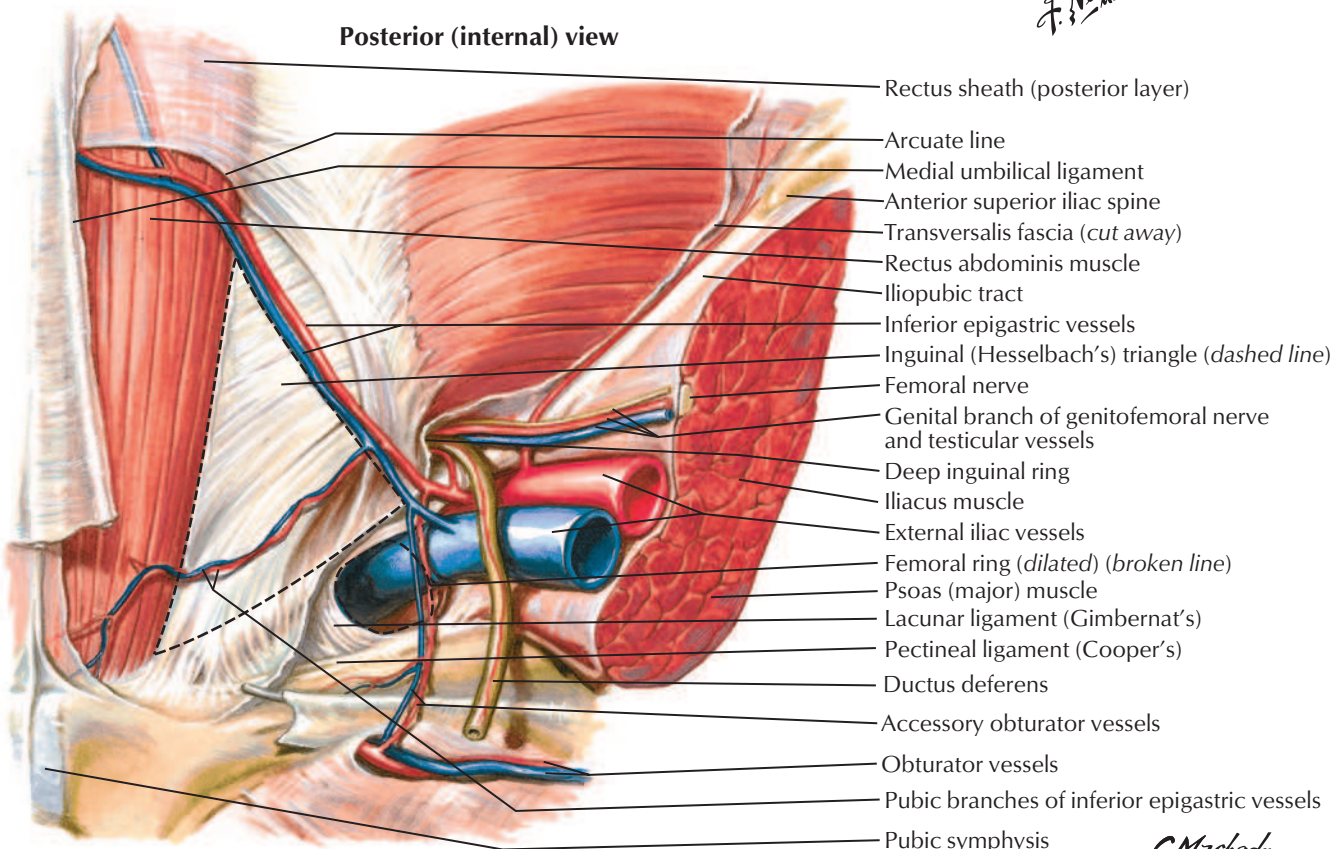


See also Plates 254, 256

Anterior view



Posterior (internal) view

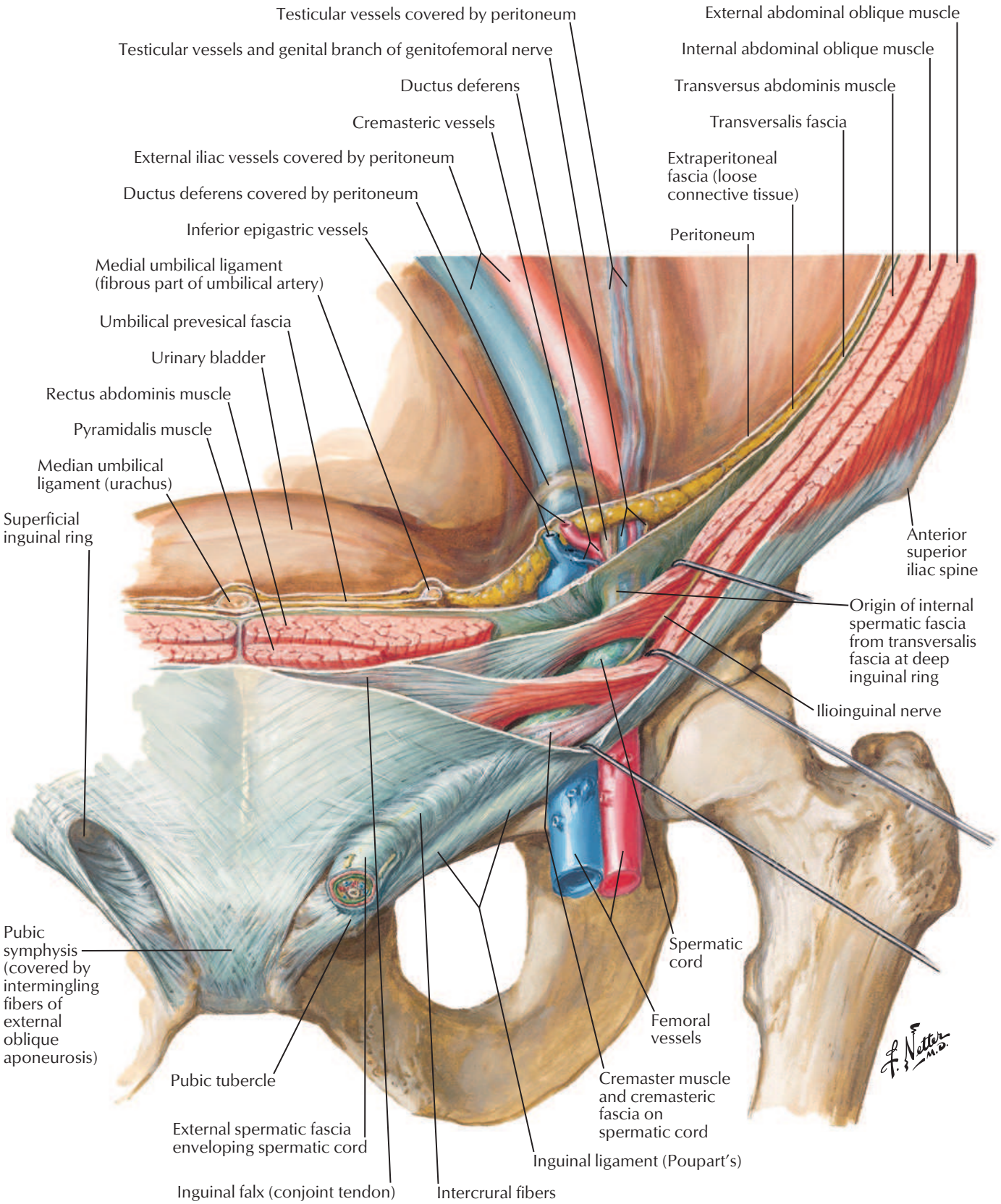


Hesselbach's triangle by Carlos Machado after Frank Netter

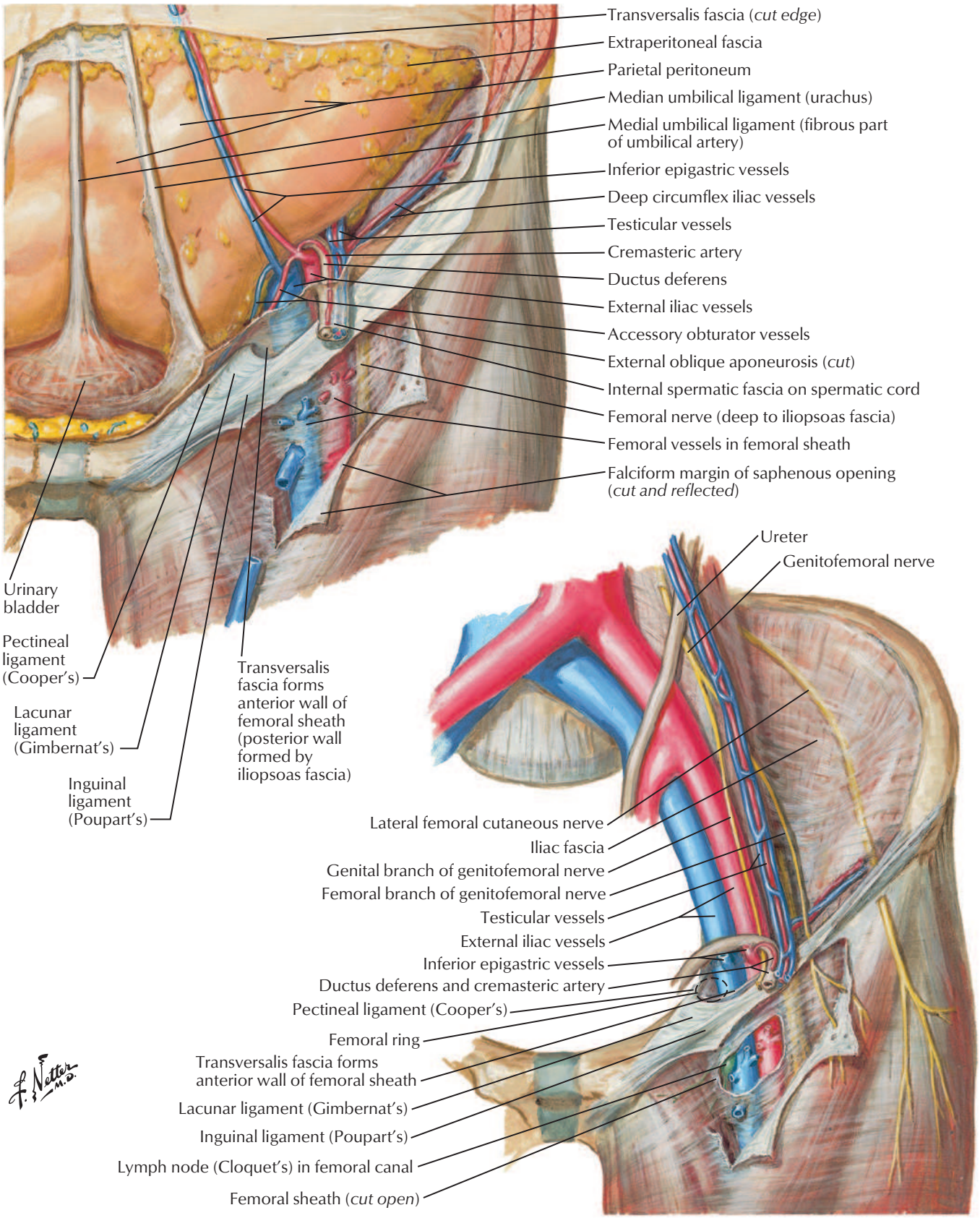
www.Booksmedicos06.com

See also Plates 252, 260

////// facebook : Booksmedicos06

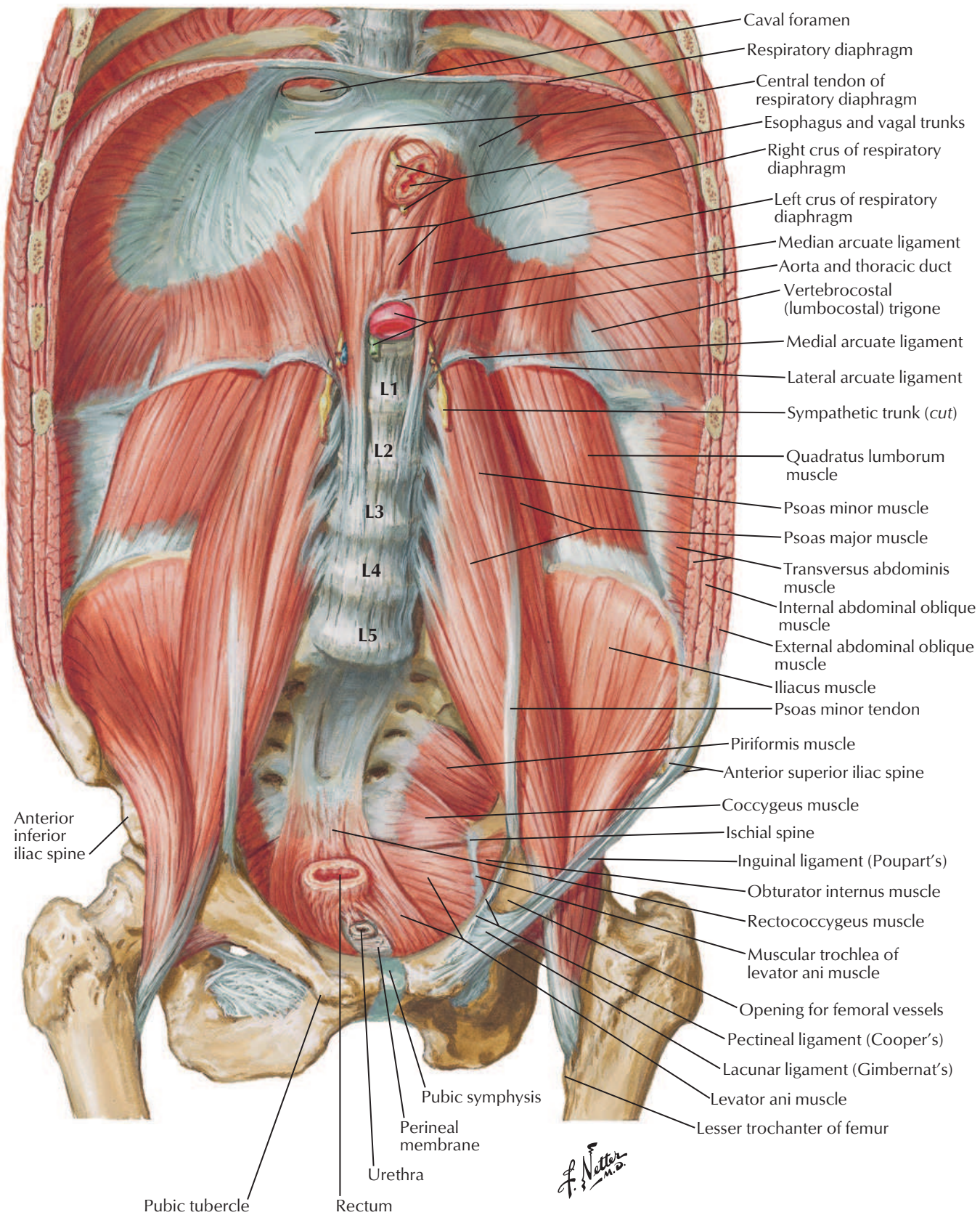


See also Plates 253, 254, 256



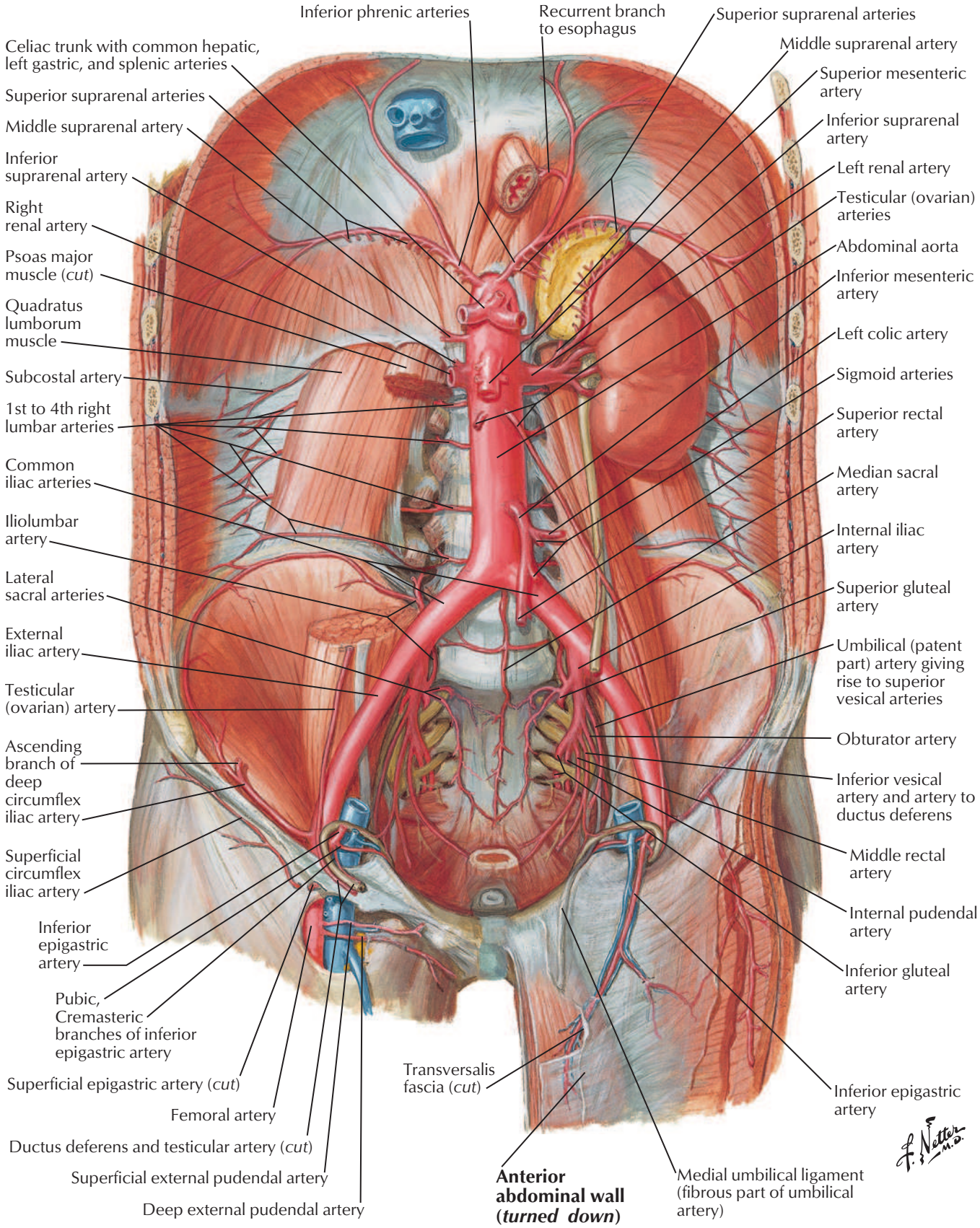
www.Booksmedicos06.com

////// facebook : Booksmedicos06



Arteries of Posterior Abdominal Wall

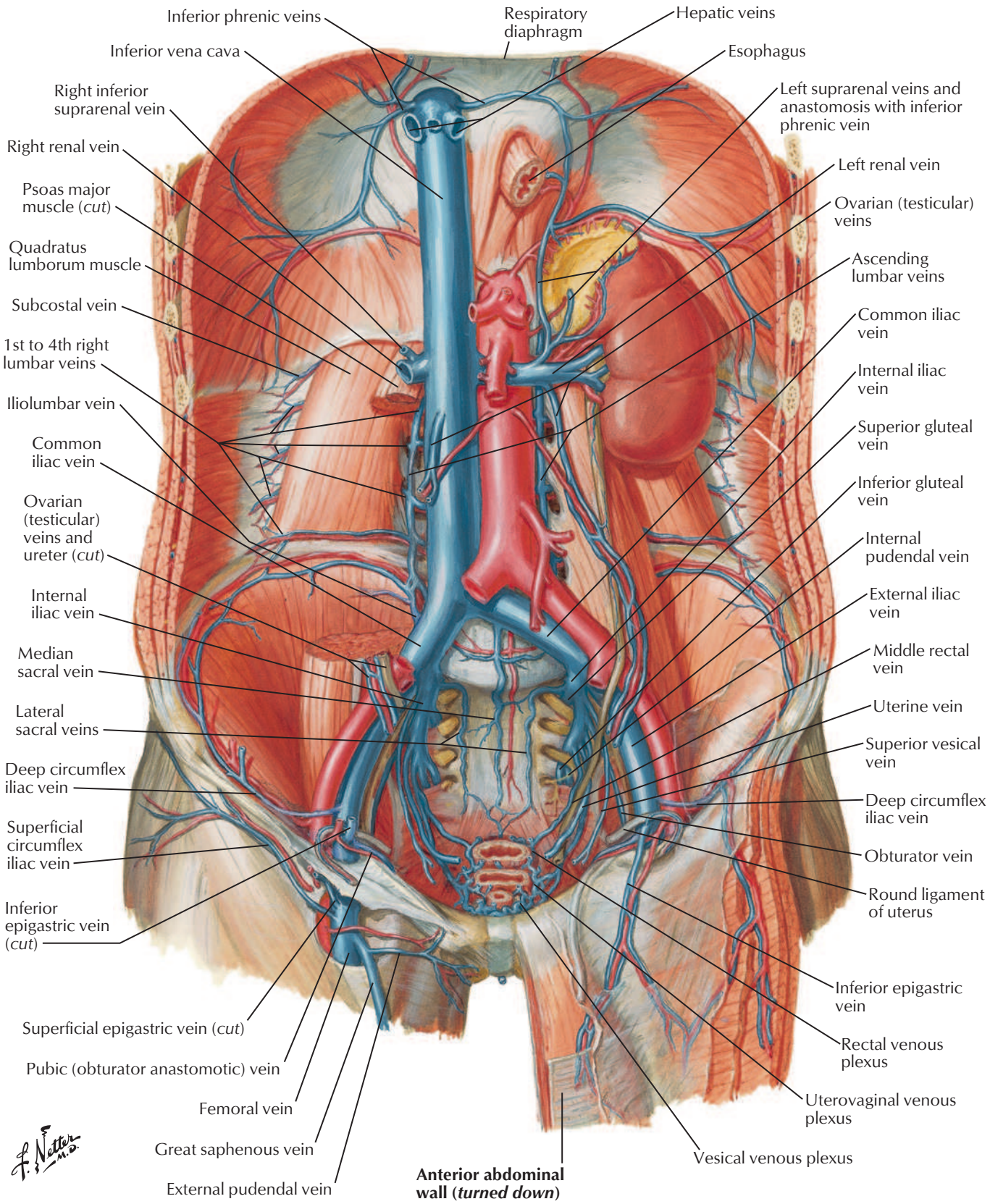
See also Plates 201, 383, 384



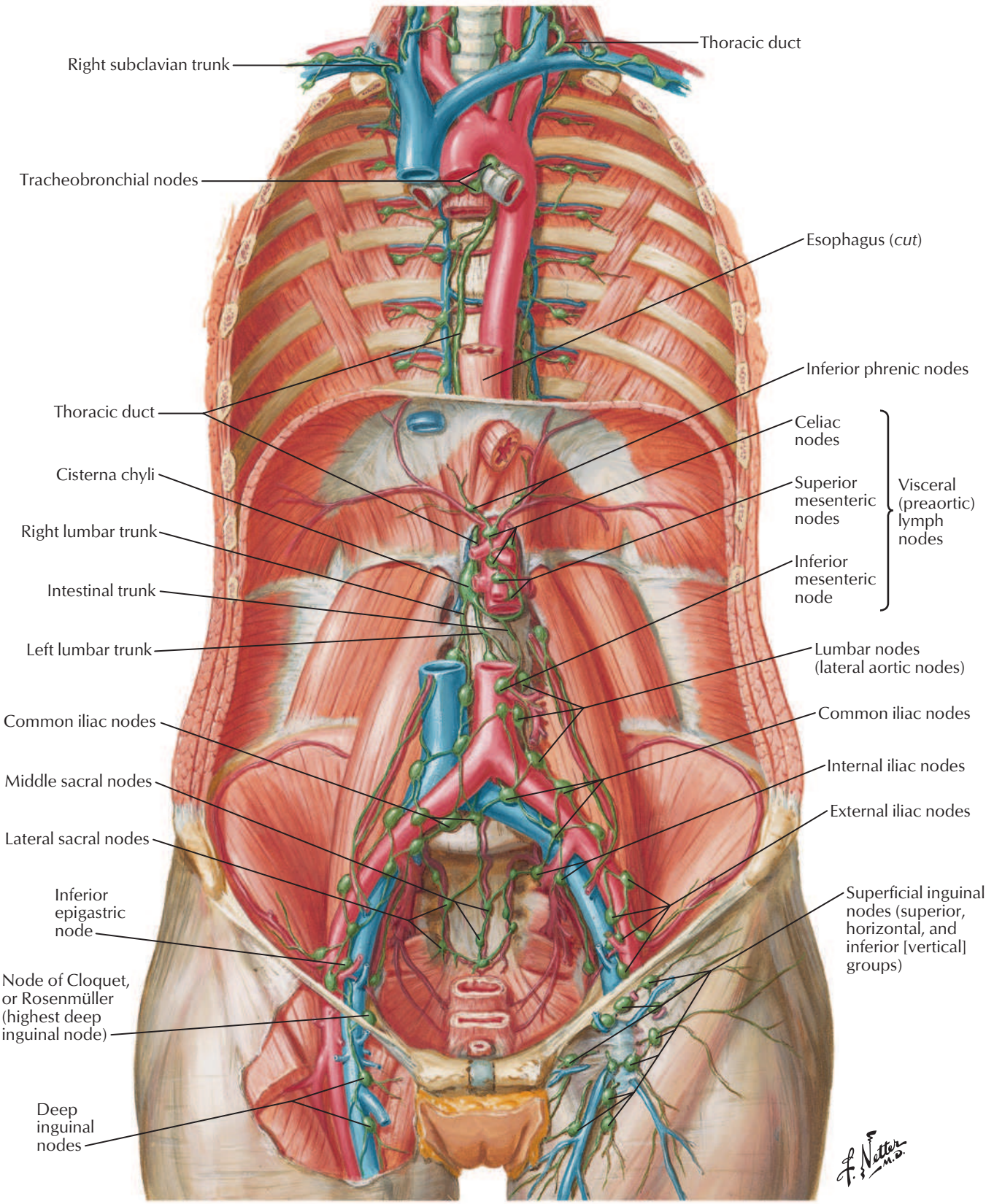
www.Booksmedicos06.com

See also Plates 382, 383

////// facebook : Booksmedicos06



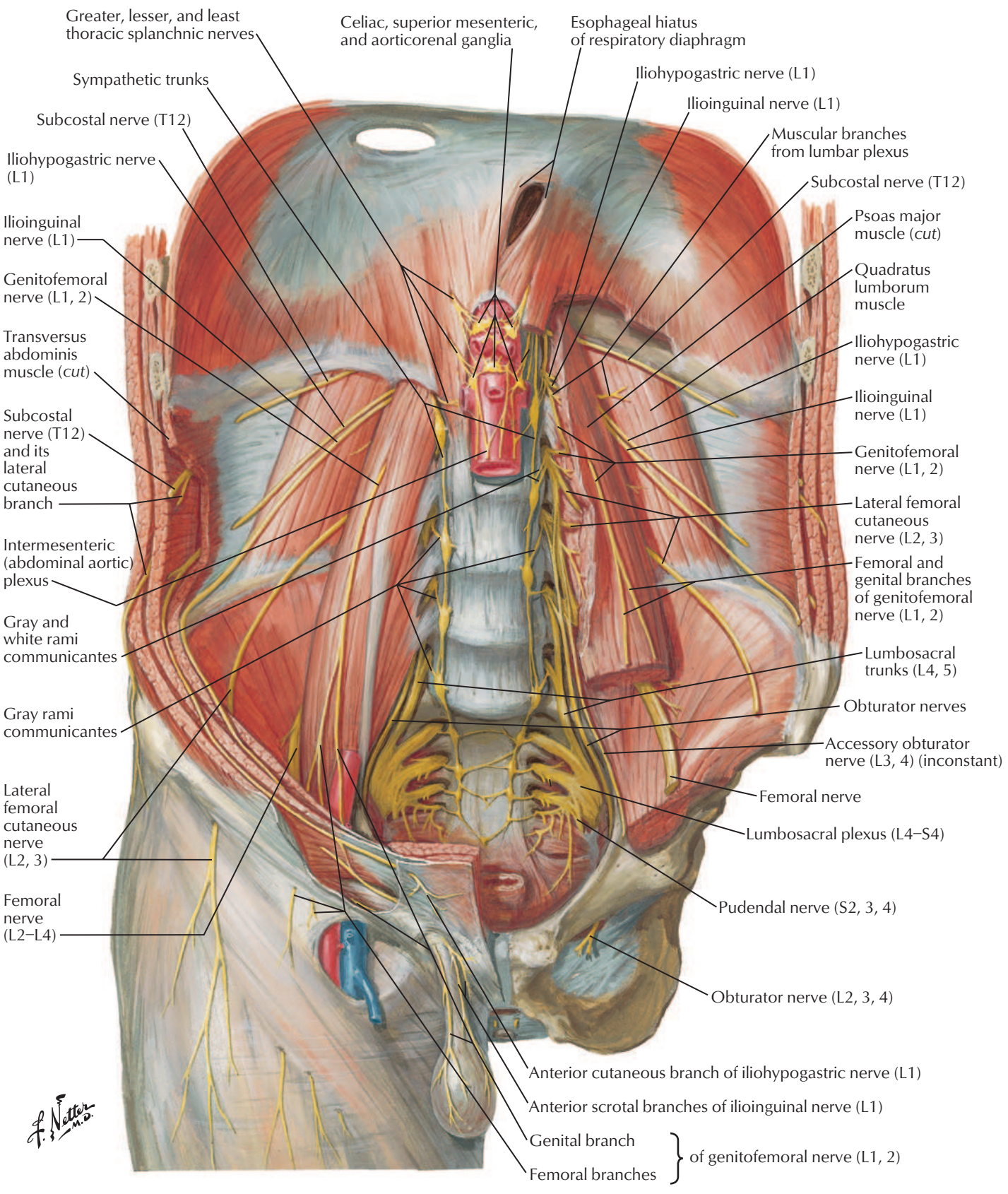
See also Plates 319, 388

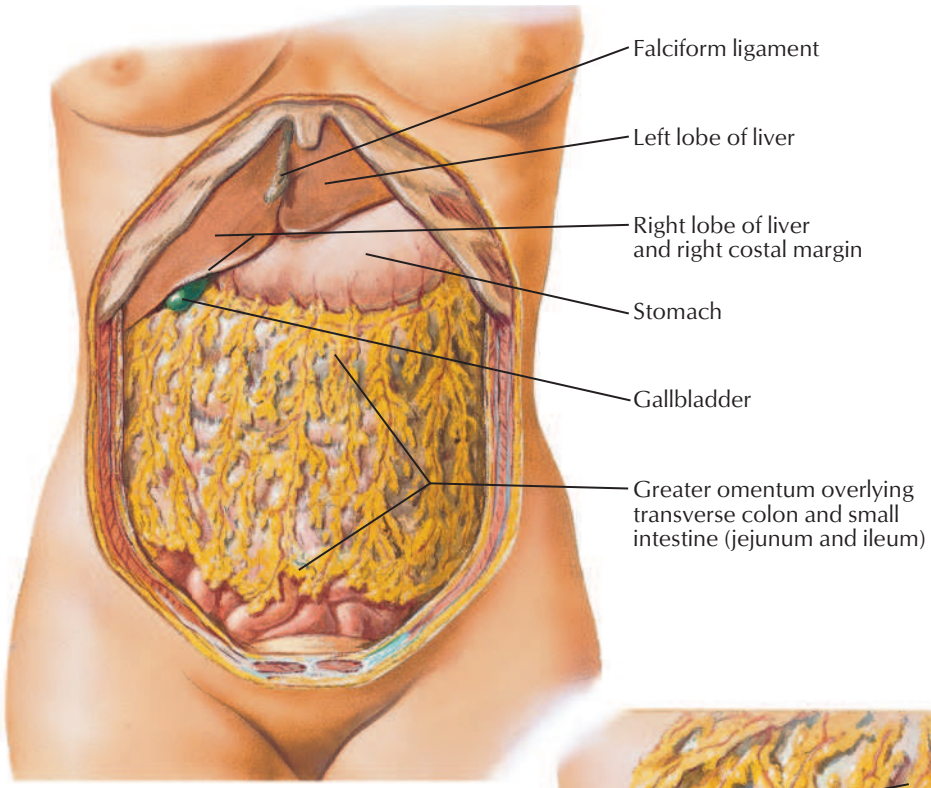


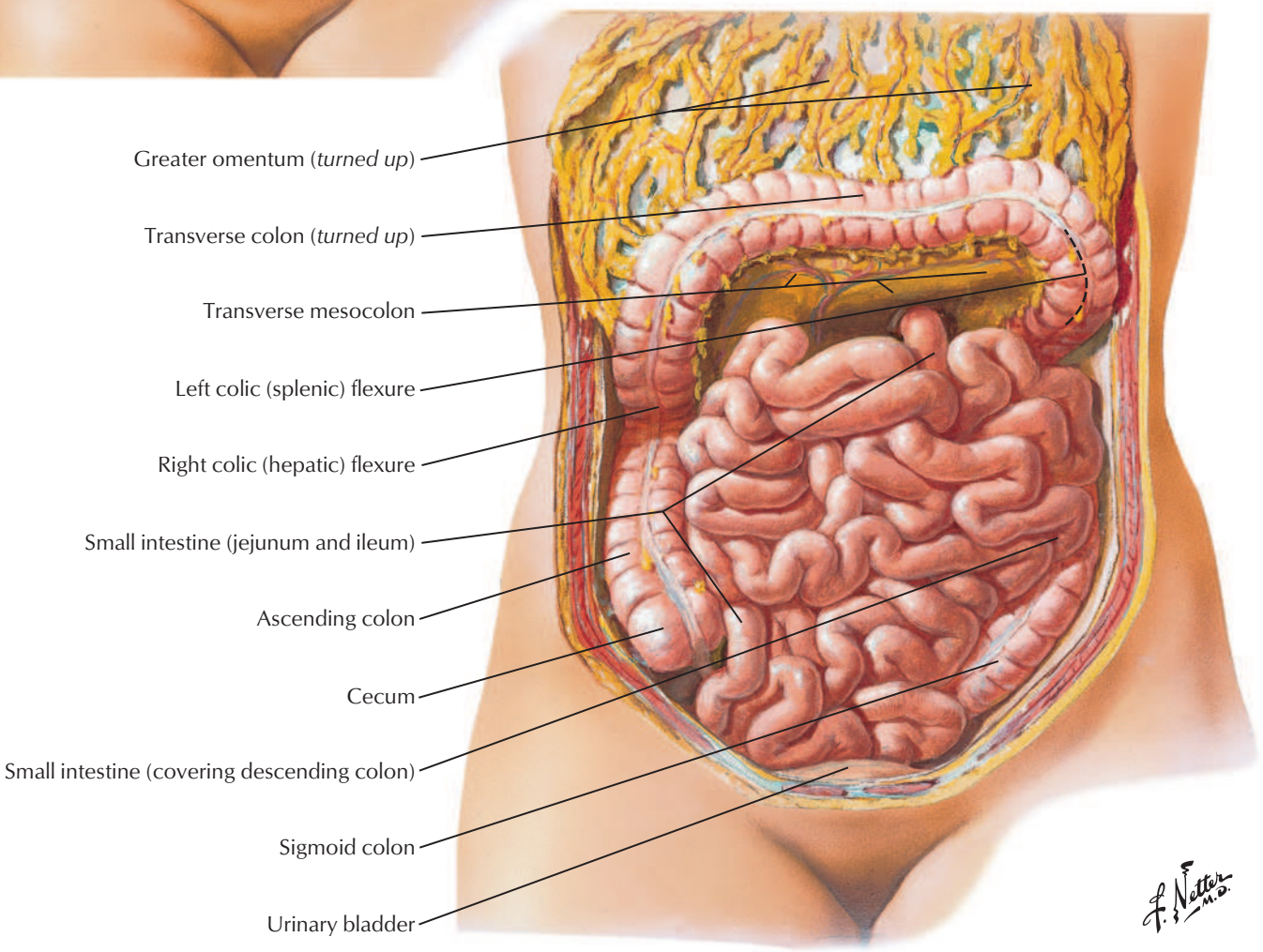
www.Booksmedicos06.com

See also Plates 201, 392

////// facebook : Booksmedicos06

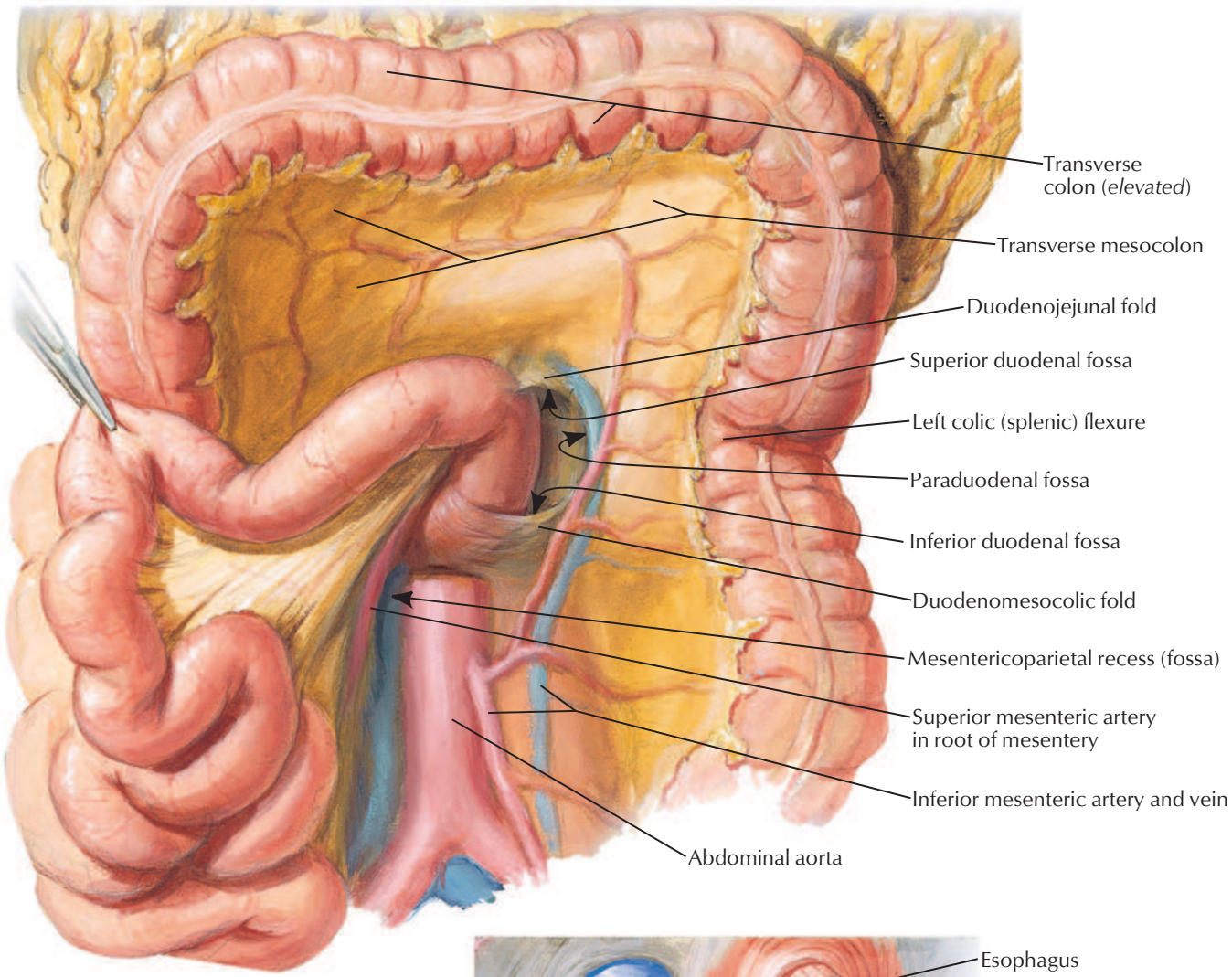




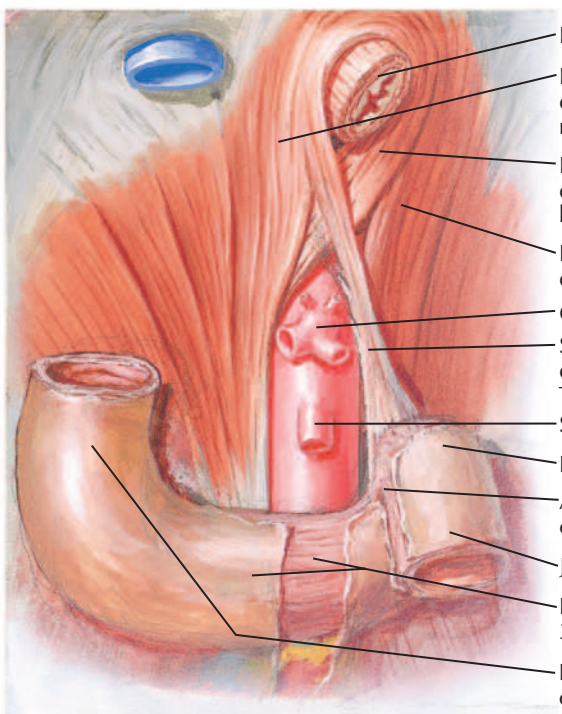


www.Booksmedicos06.com

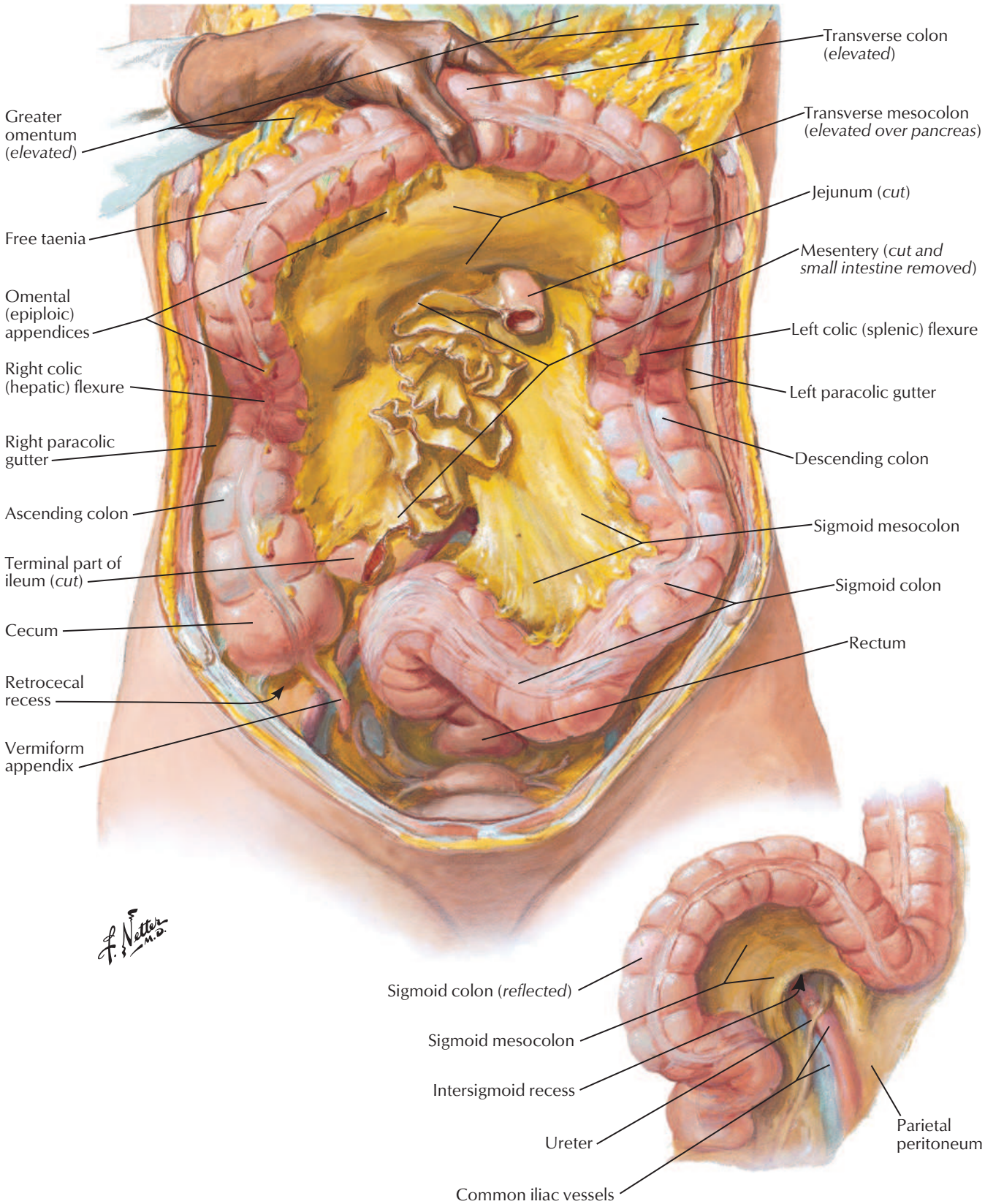
////// facebook : Booksmedicos06



Exposure of suspensory muscle of duodenum (ligament of Treitz)



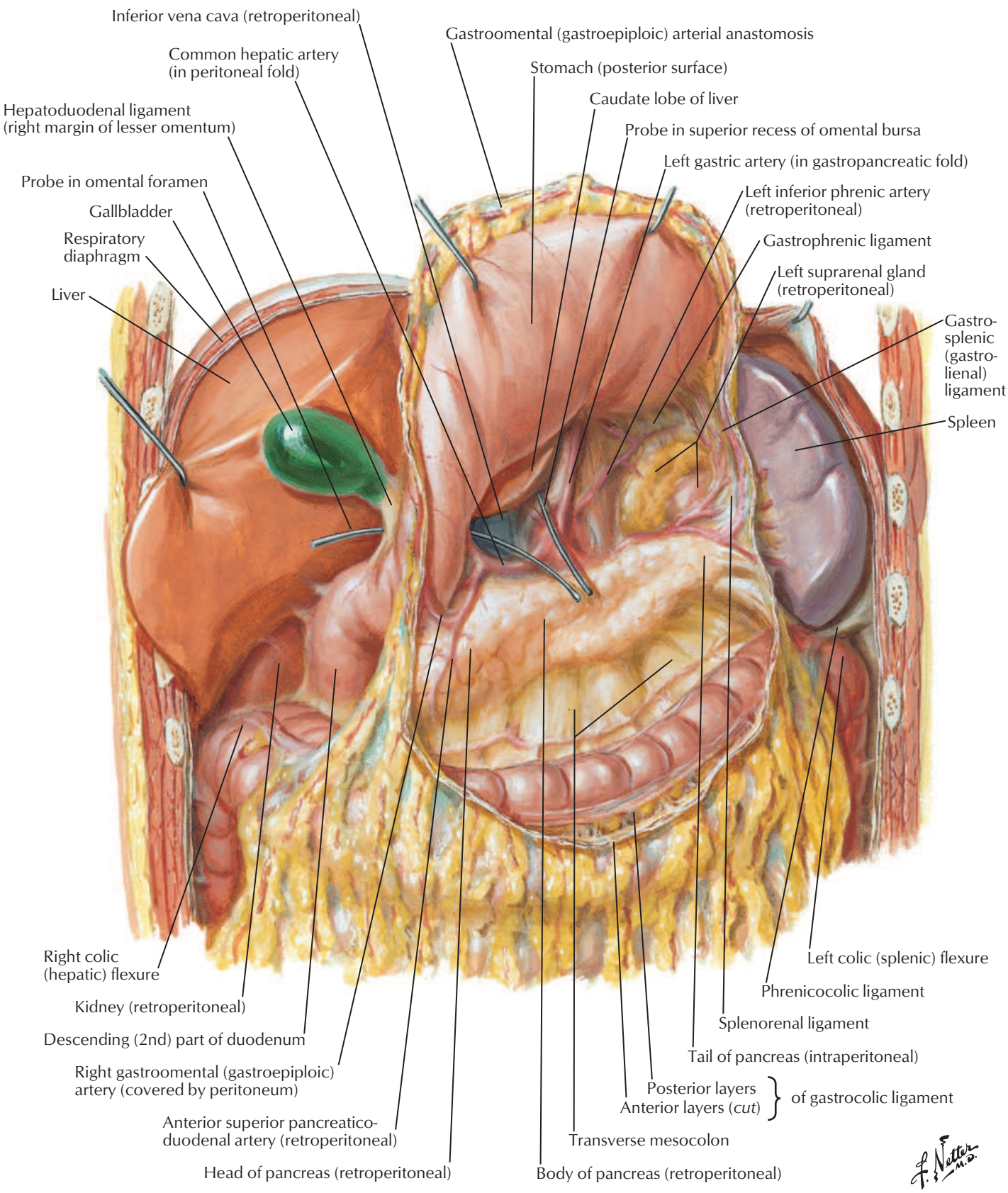
See also Plate 295



www.Booksmedicos06.com

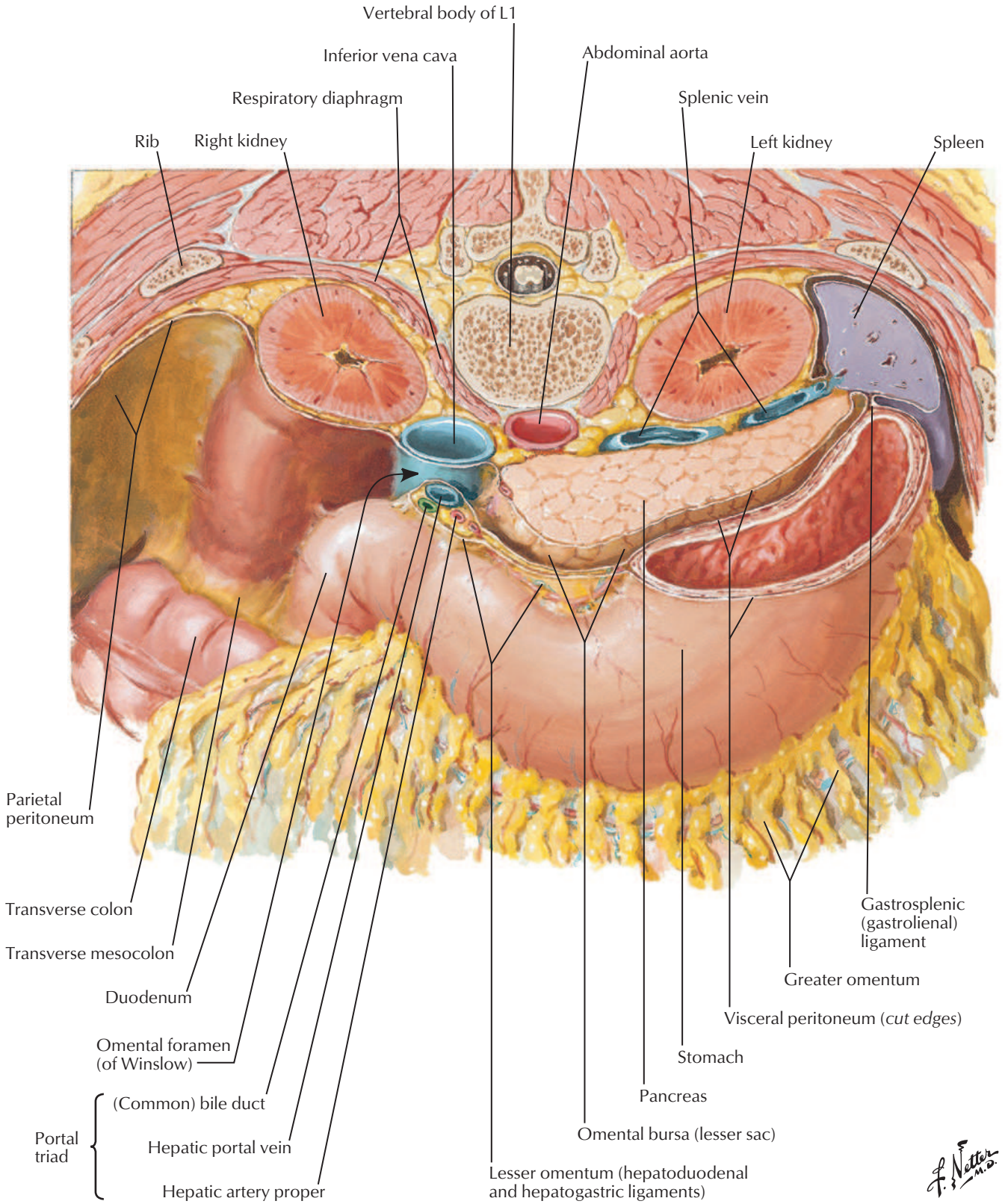
See also Plates 288, 291

////// facebook : Booksmedicos06



Omental Bursa: Cross Section

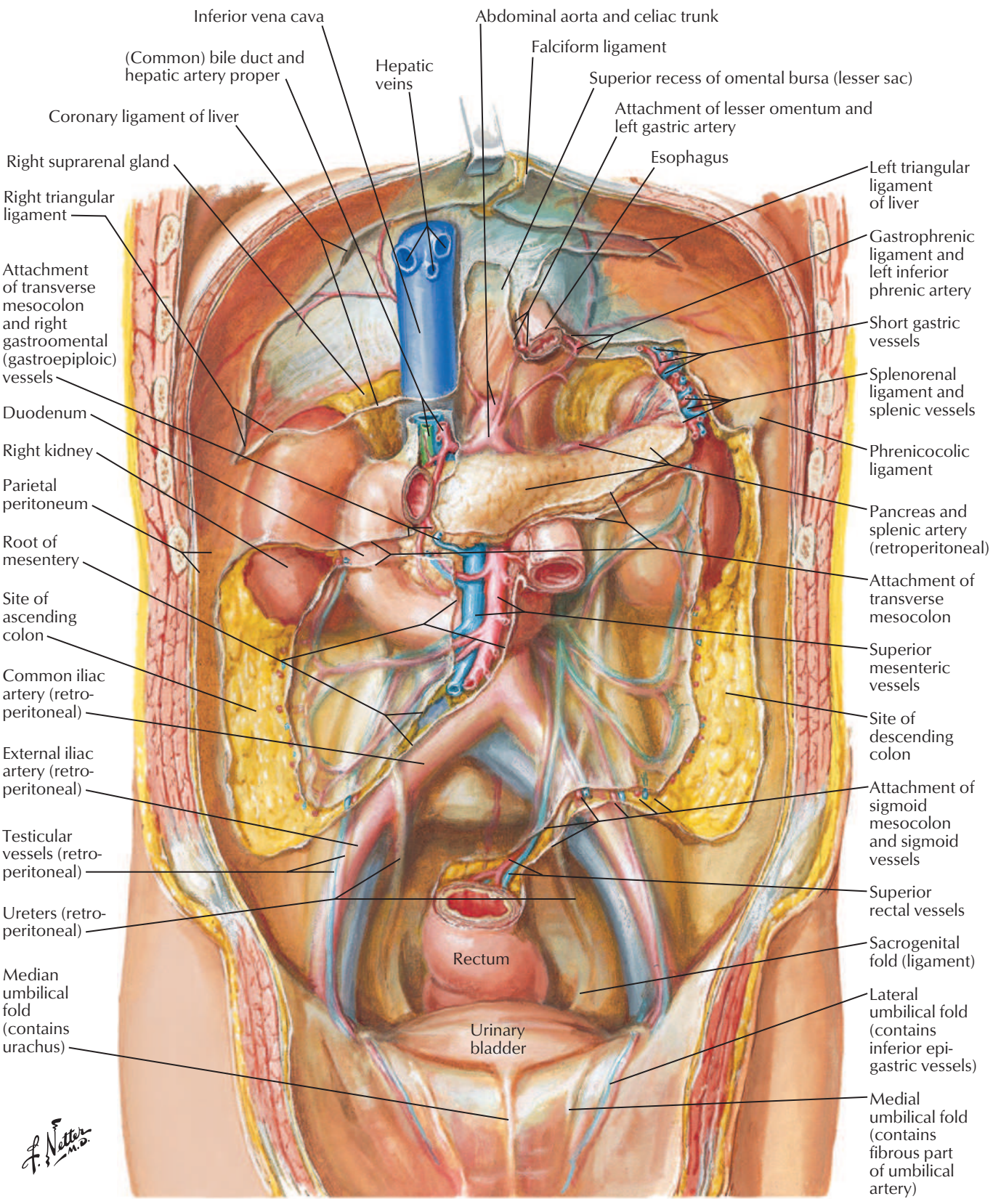
See also Plate 276

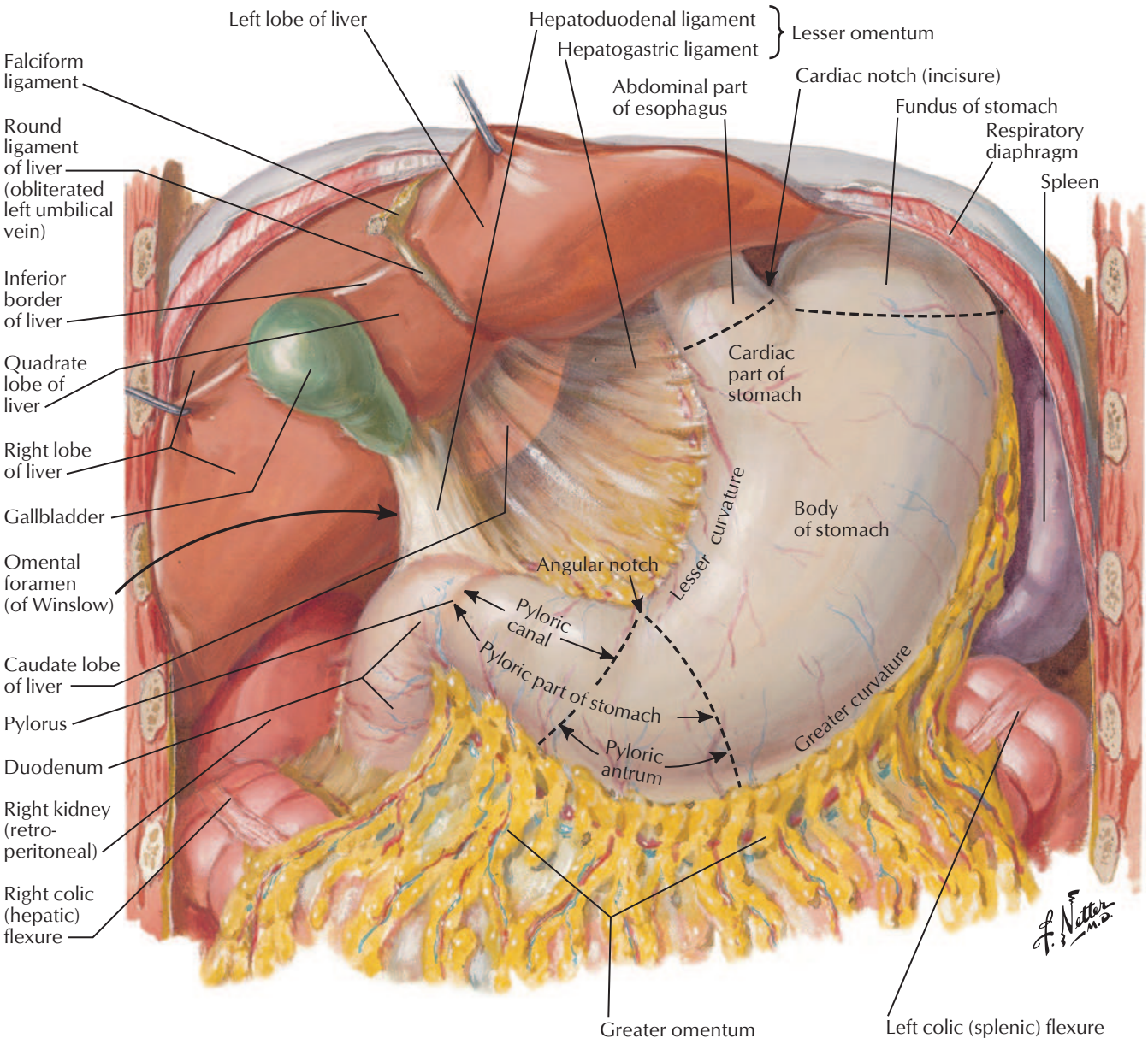


www.Booksmedicos06.com

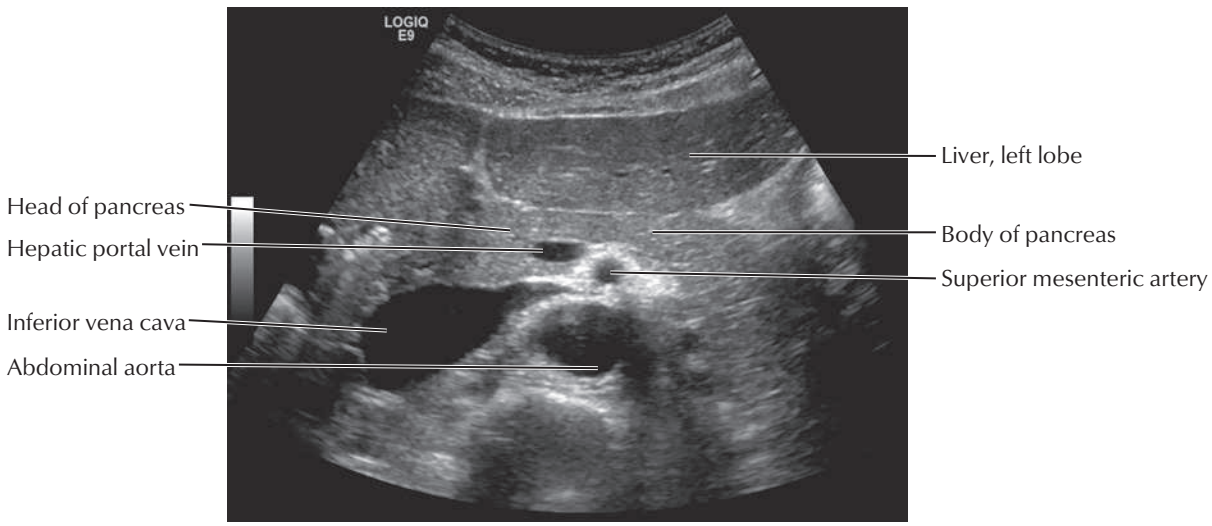
See also Plate 278

////// facebook : Booksmedicos06



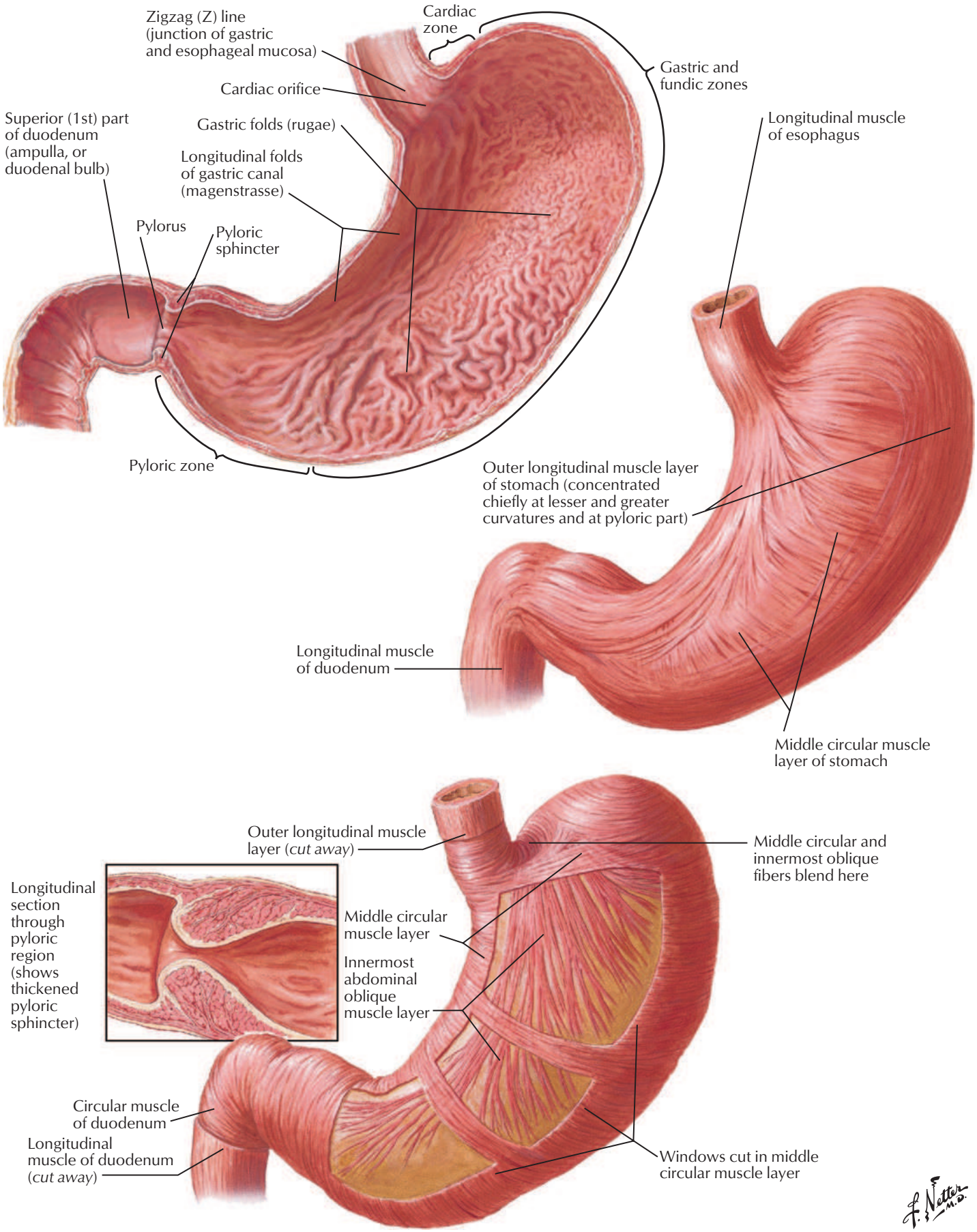


Transverse gray-scale ultrasound image of midabdomen



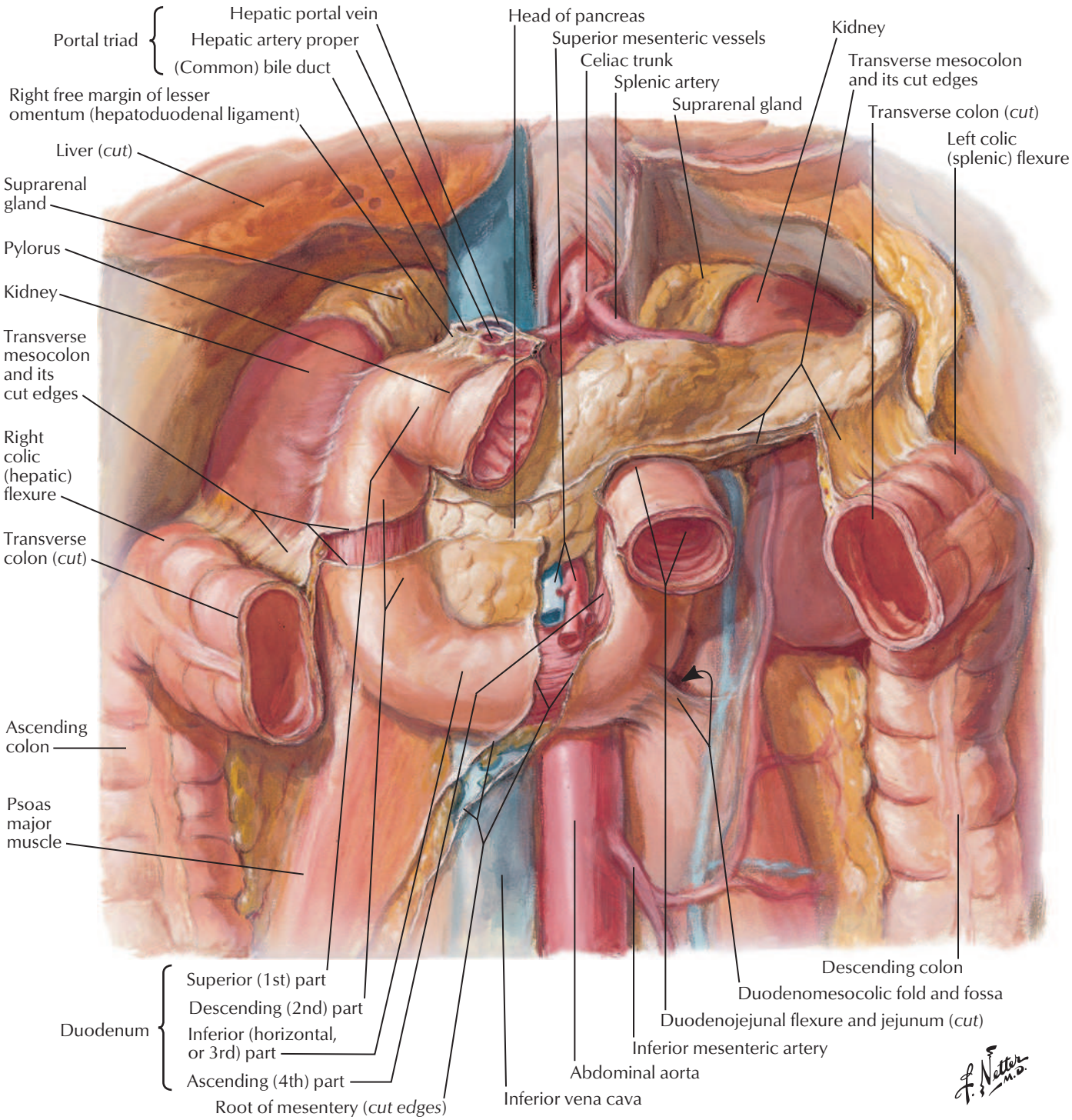
www.Booksmedicos06.com

////// facebook : Booksmedicos06

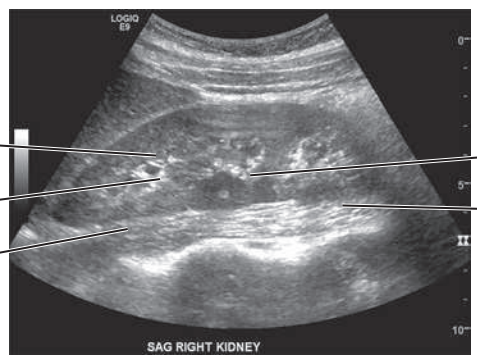


Duodenum in Situ

See also Plate 275



Gray-scale ultrasound image of right kidney, sagittal view

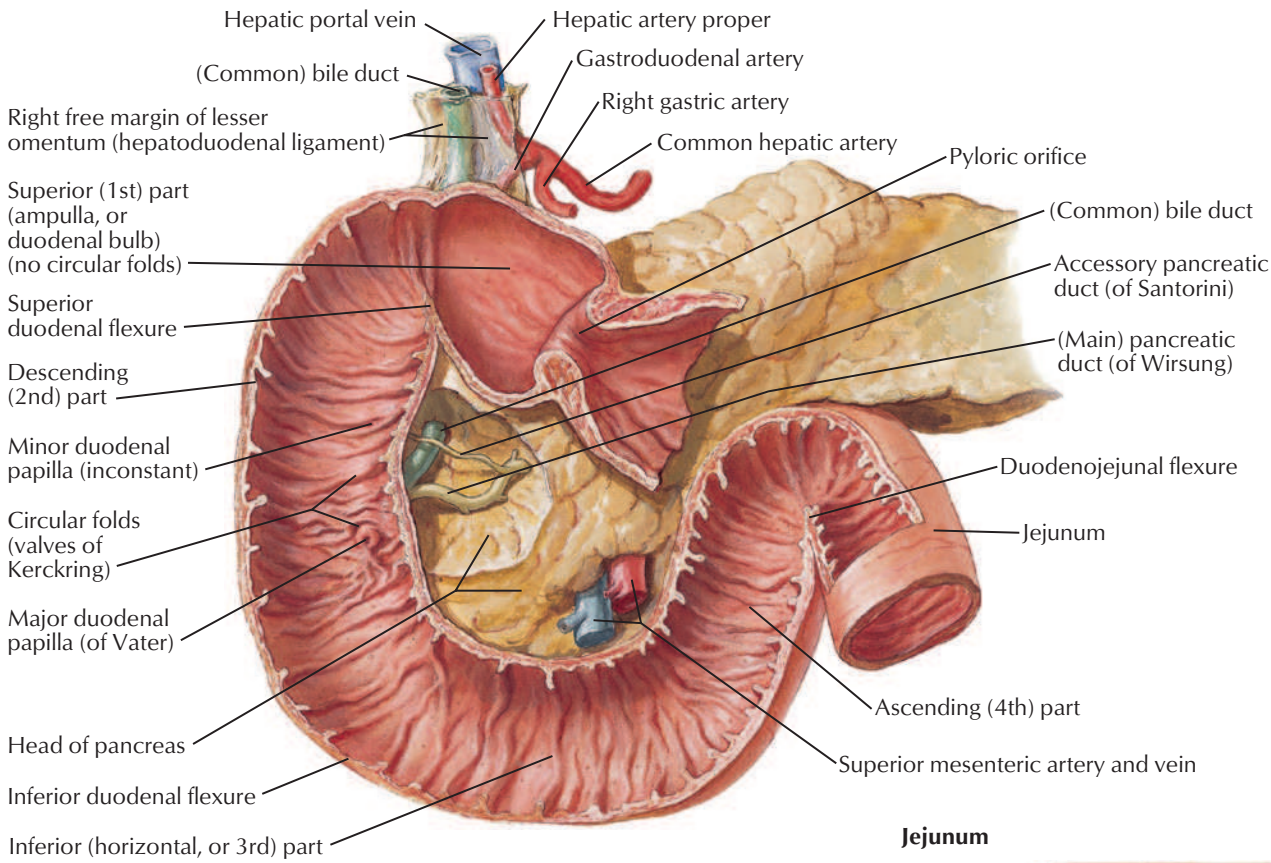


Liver
Hepatorenal space (of Morrison)
Superior pole of kidney
Renal cortex
Lower pole of kidney

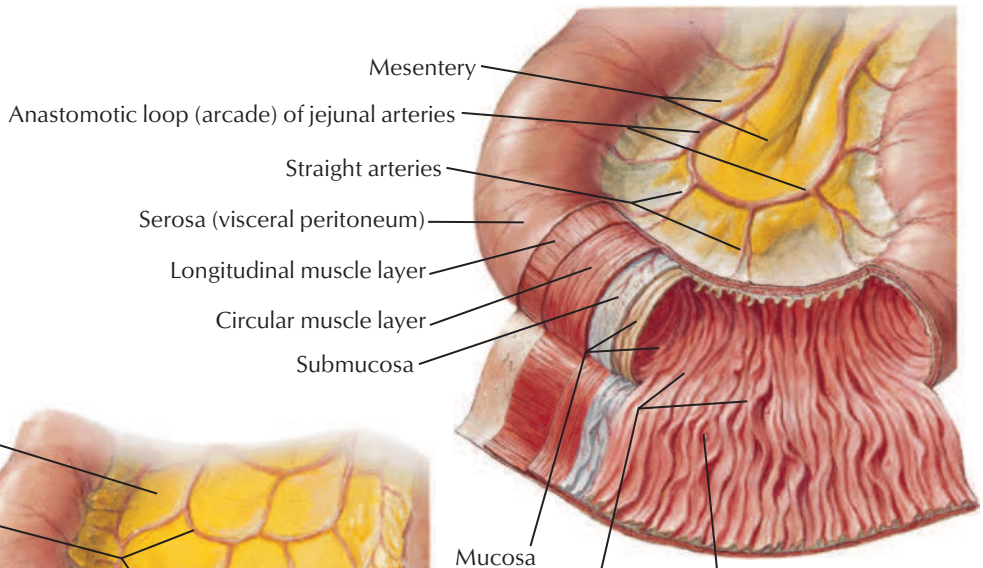
www.Booksmedicos06.com

See also Plate 277

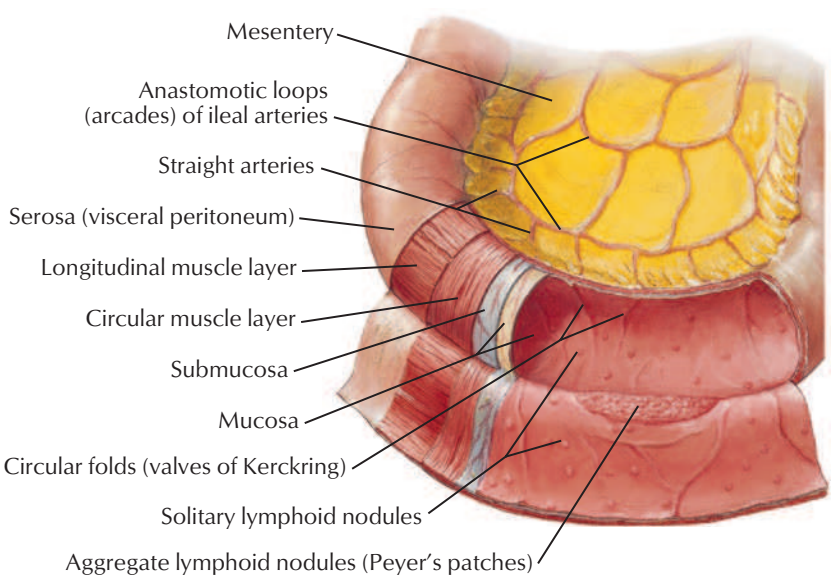
////// facebook : Booksmedicos06



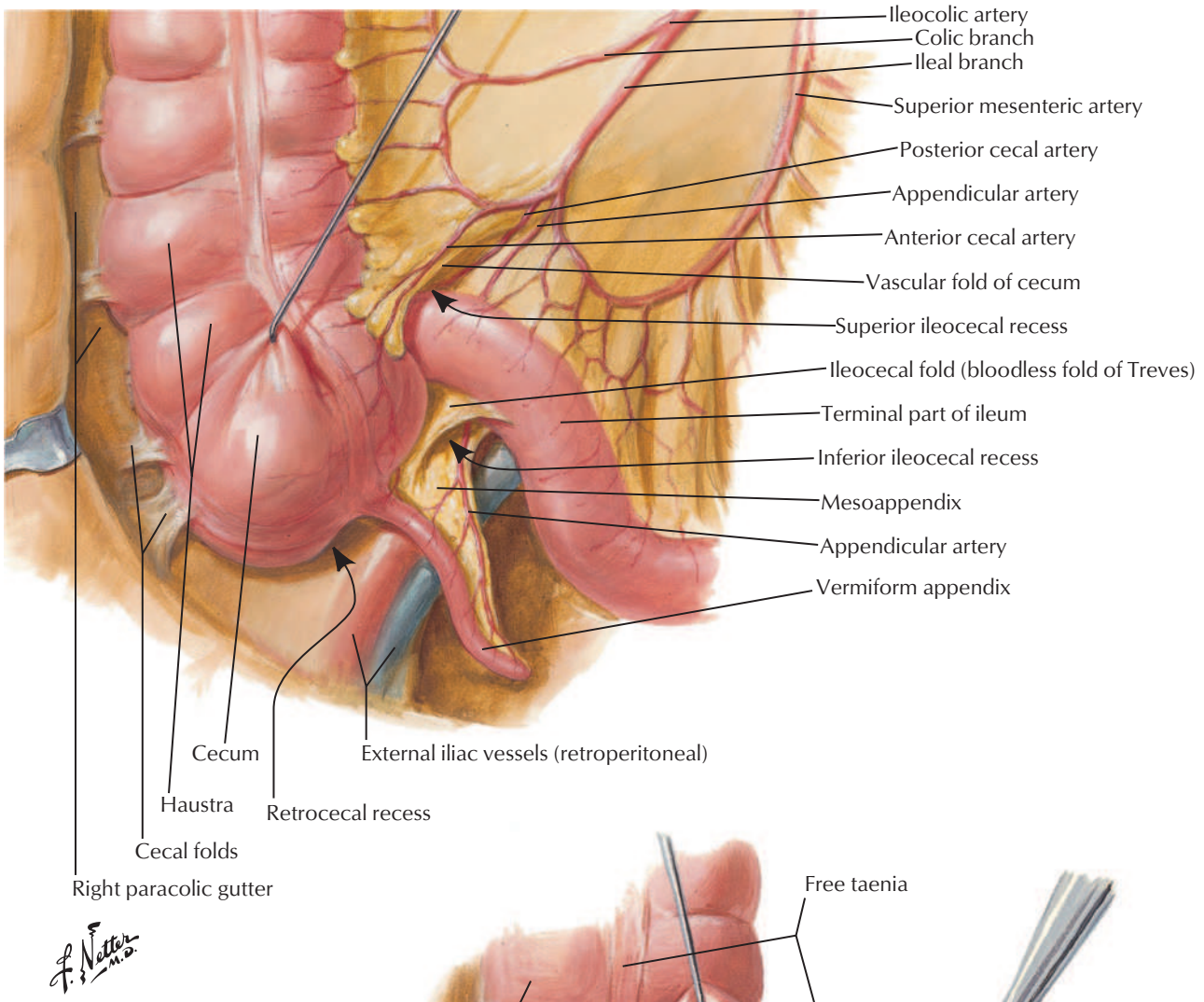
Jejunum

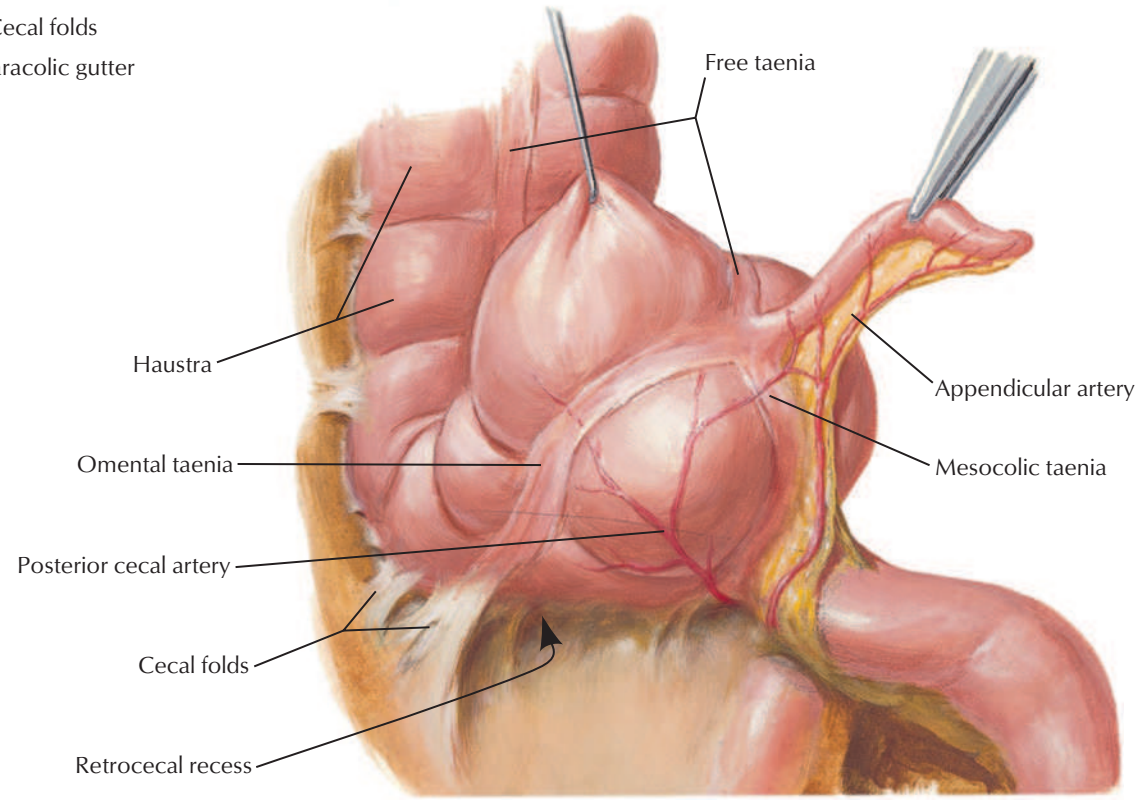


Ileum



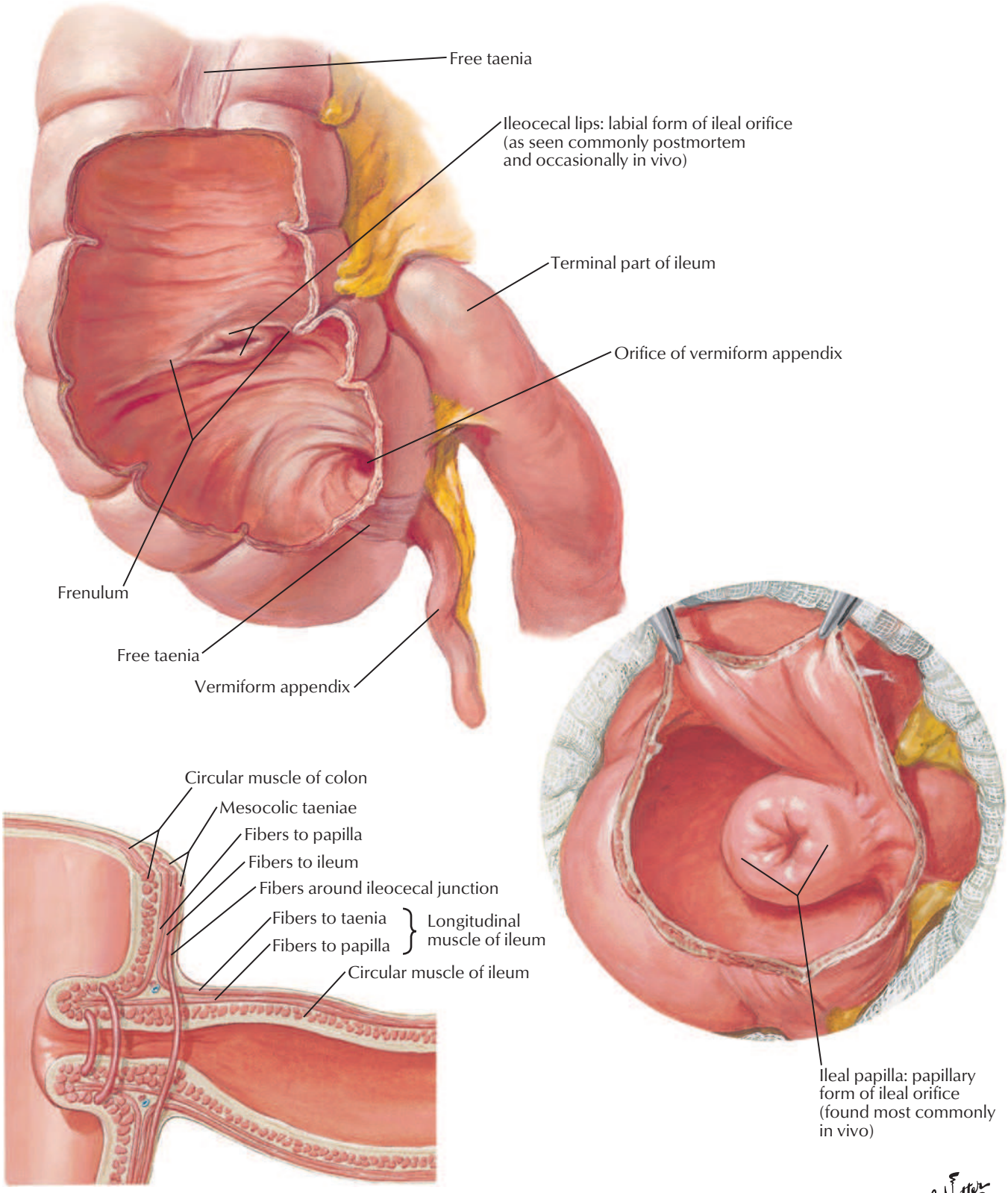
See also Plates 294, 295



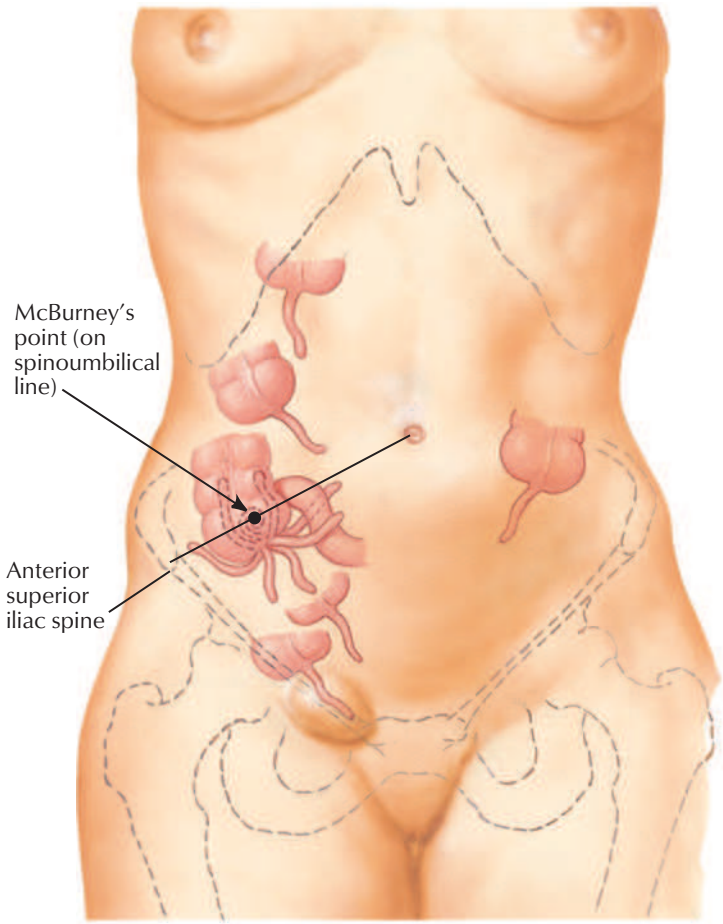


www.Booksmedicos06.com

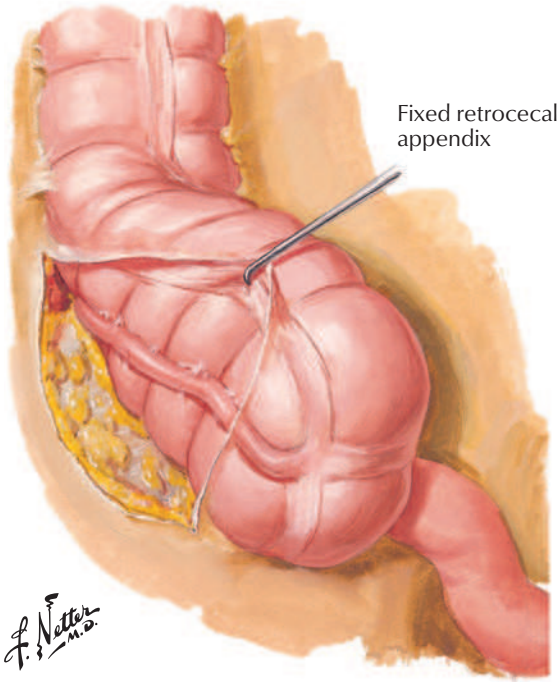
////// facebook : Booksmedicos06



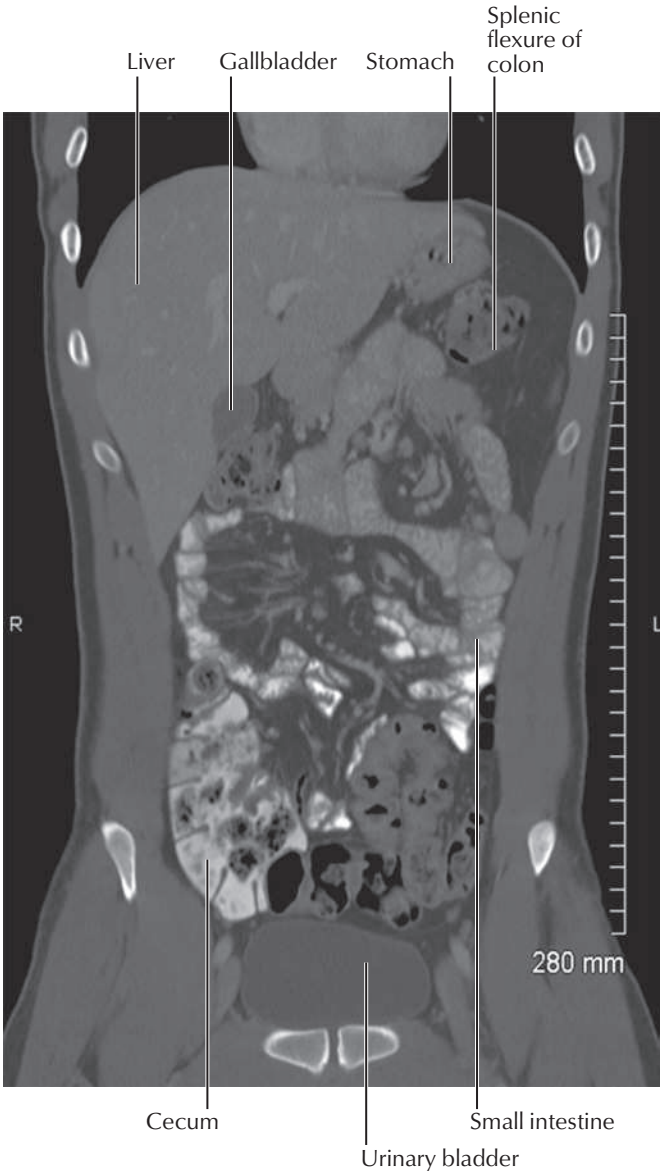
Schema of muscle fibers at ileal orifice



Variations in position of appendix



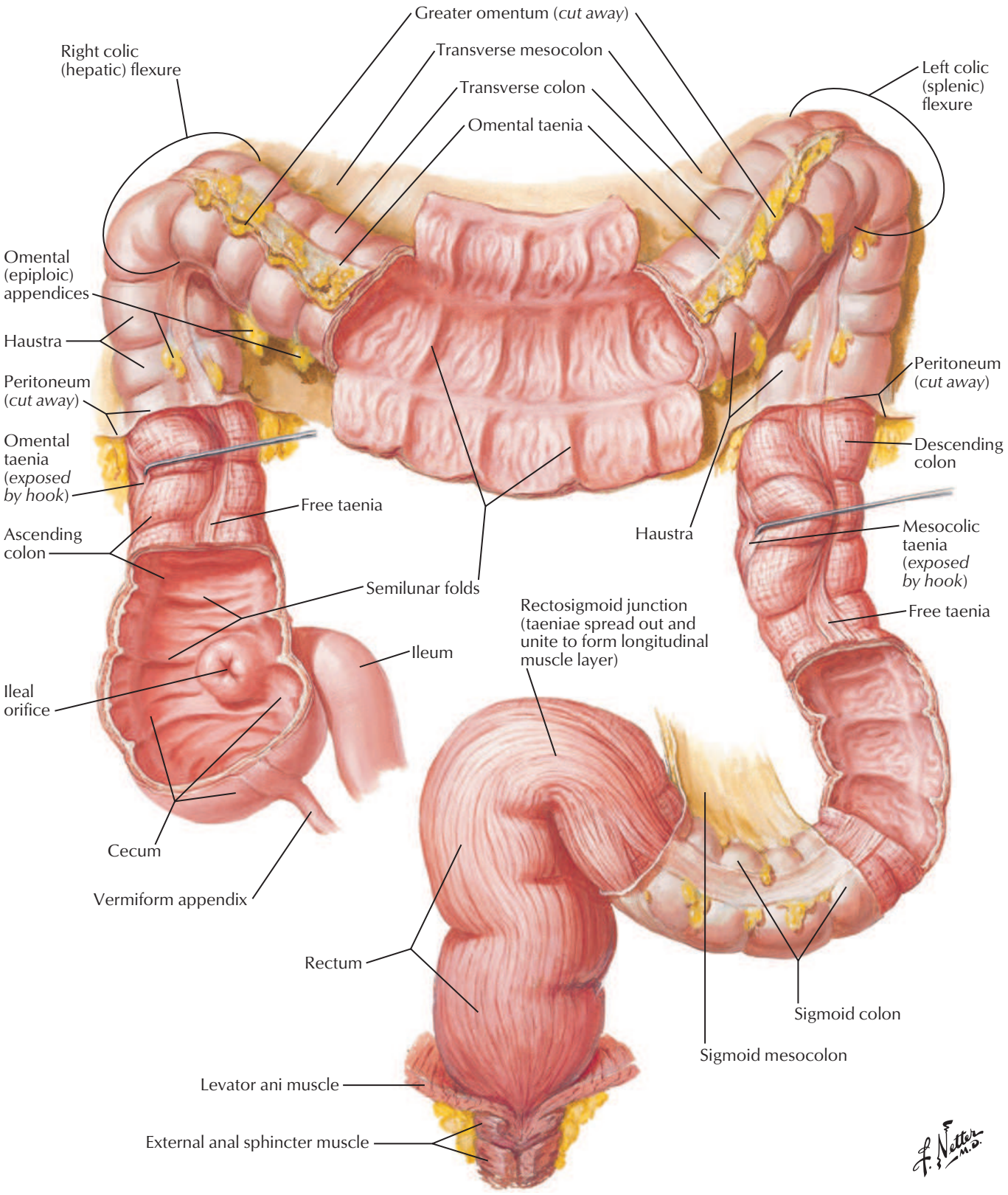
Coronal CT image with oral and intravenous contrast



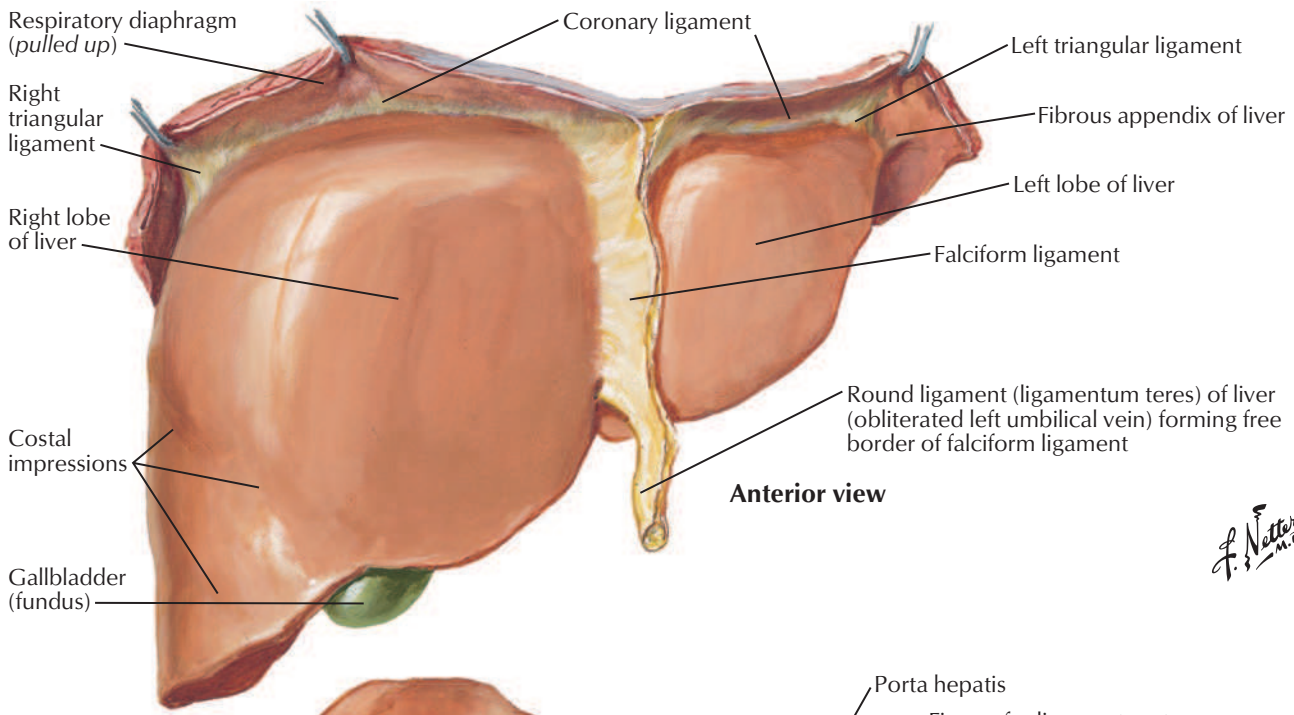
www.Booksmedicos06.com

See also Plate 295

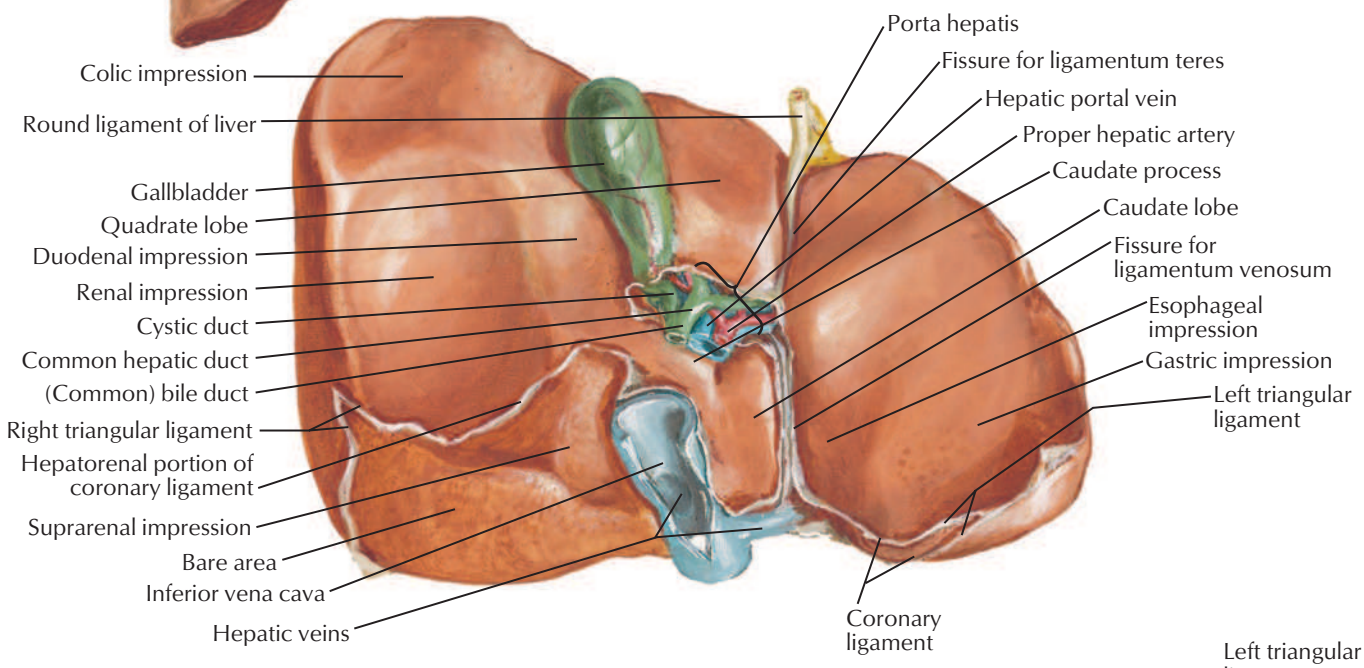
////// facebook : Booksmedicos06



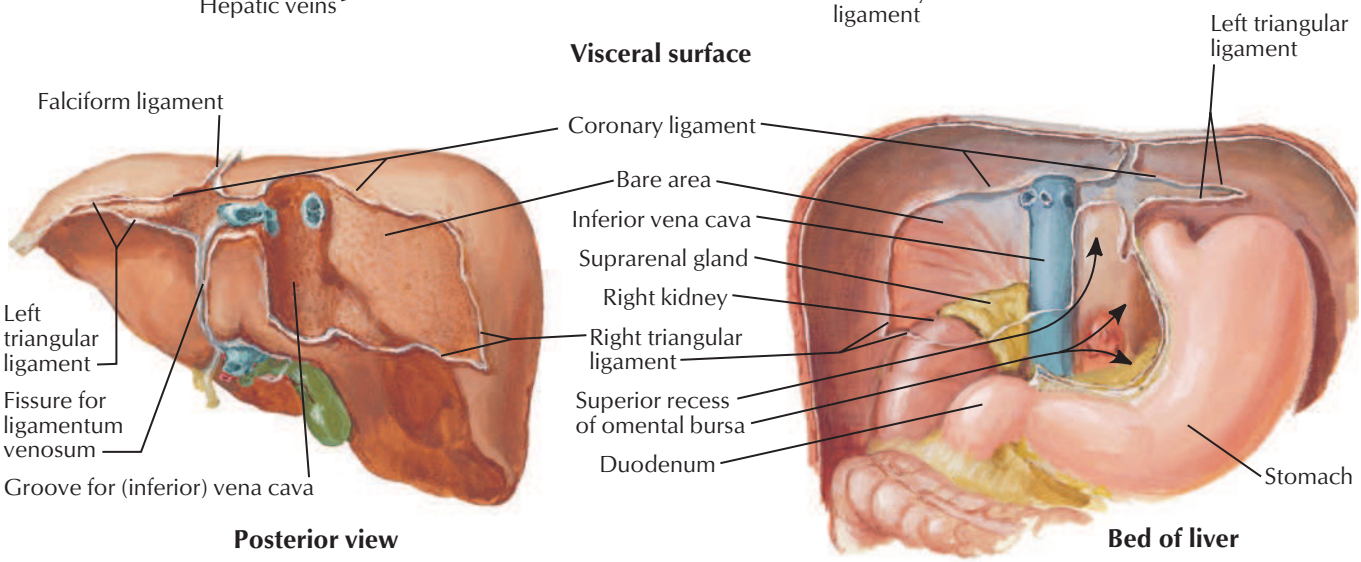
See also Plate 275



Anterior view



Visceral surface

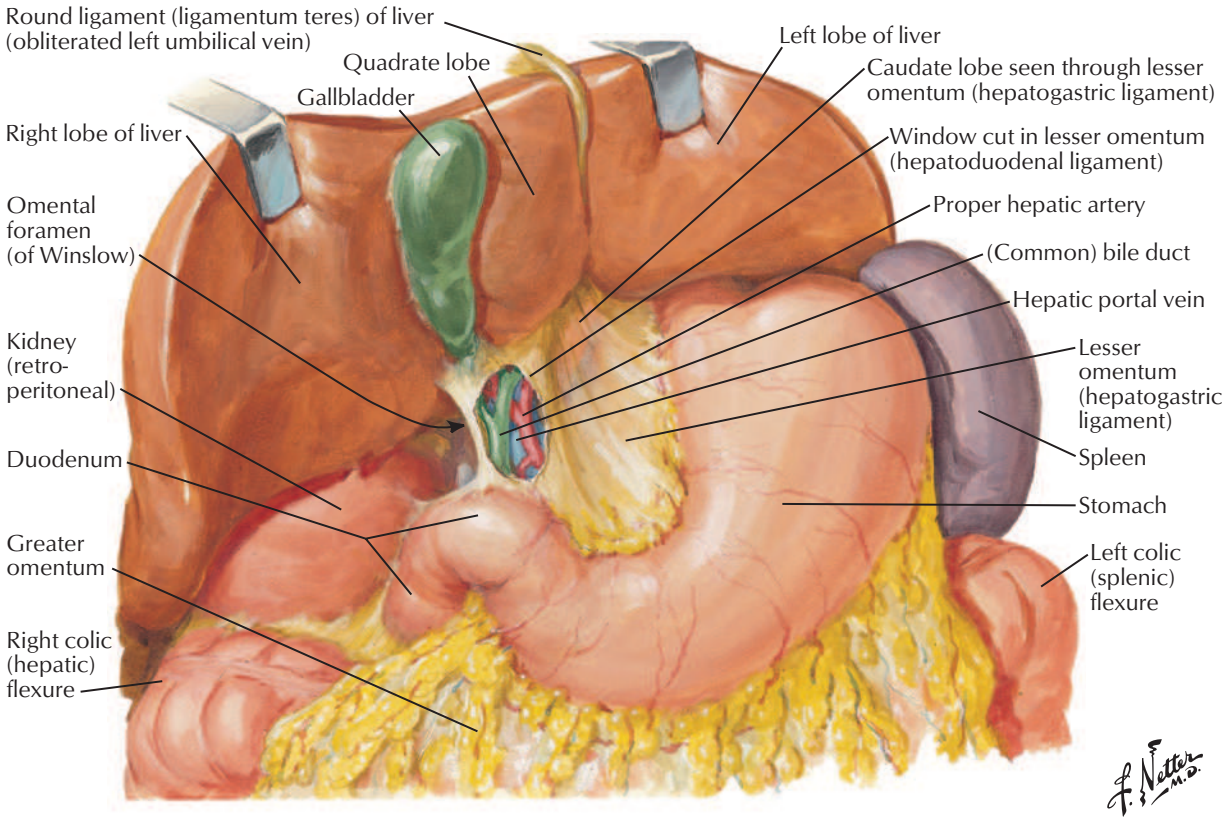


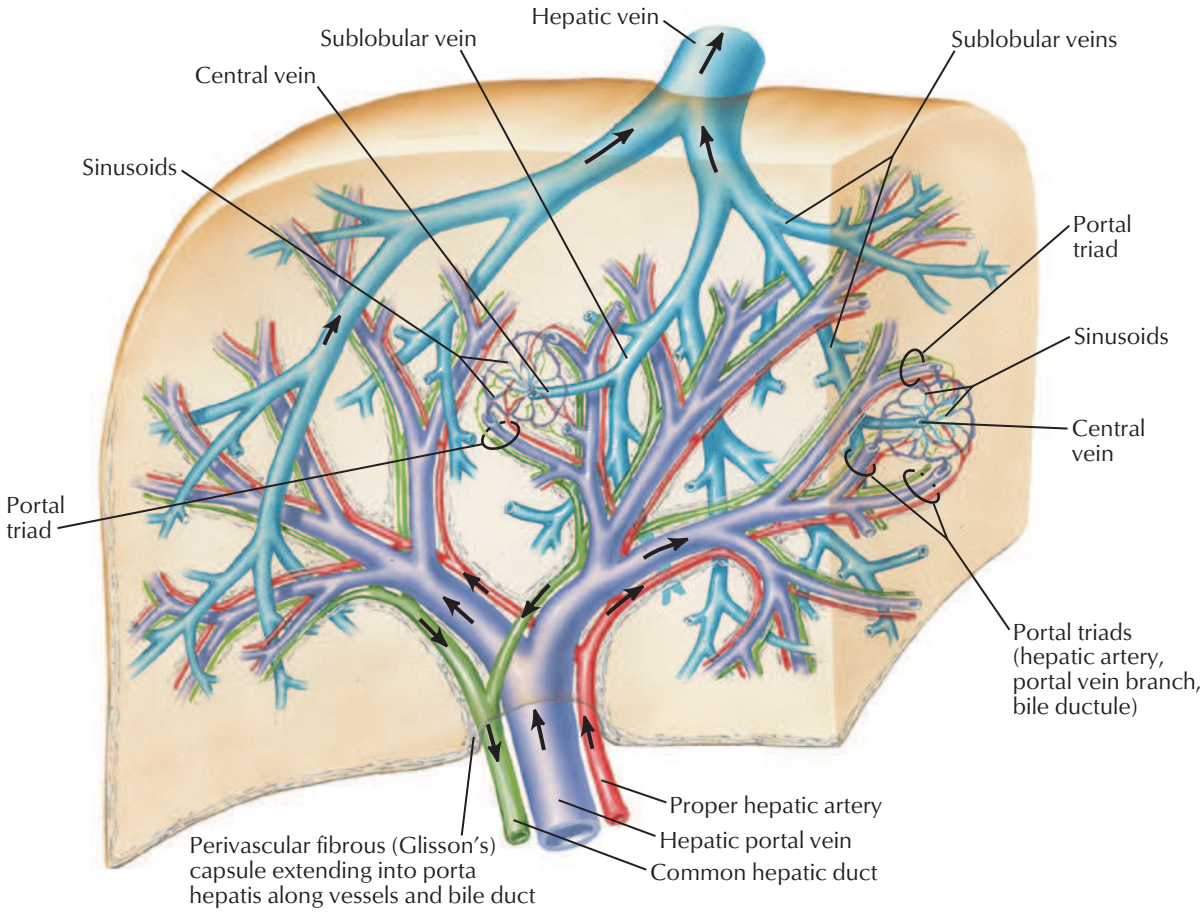
Posterior view **Bed of liver**

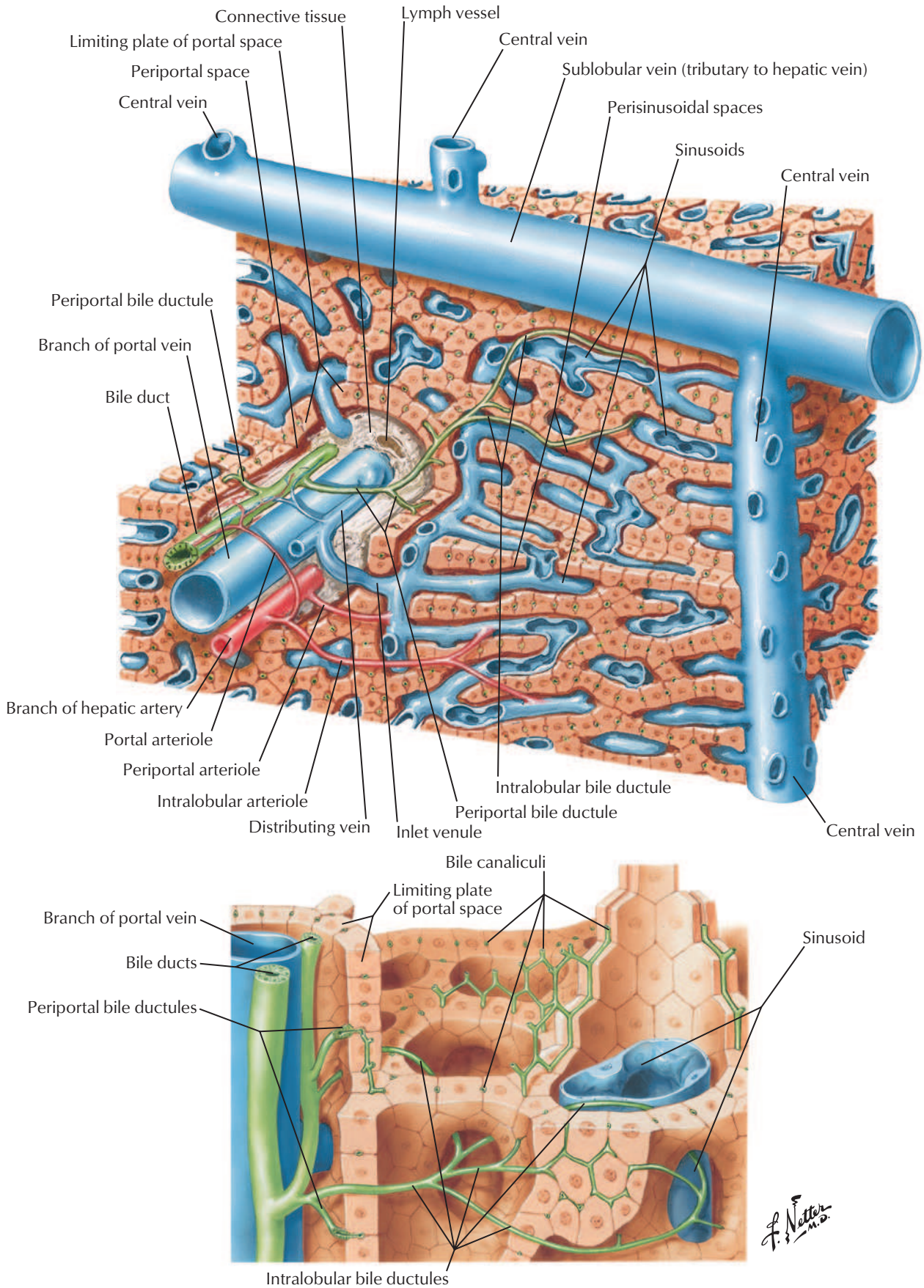
www.Booksmedicos06.com

See also Plate 274

////// facebook : Booksmedicos06

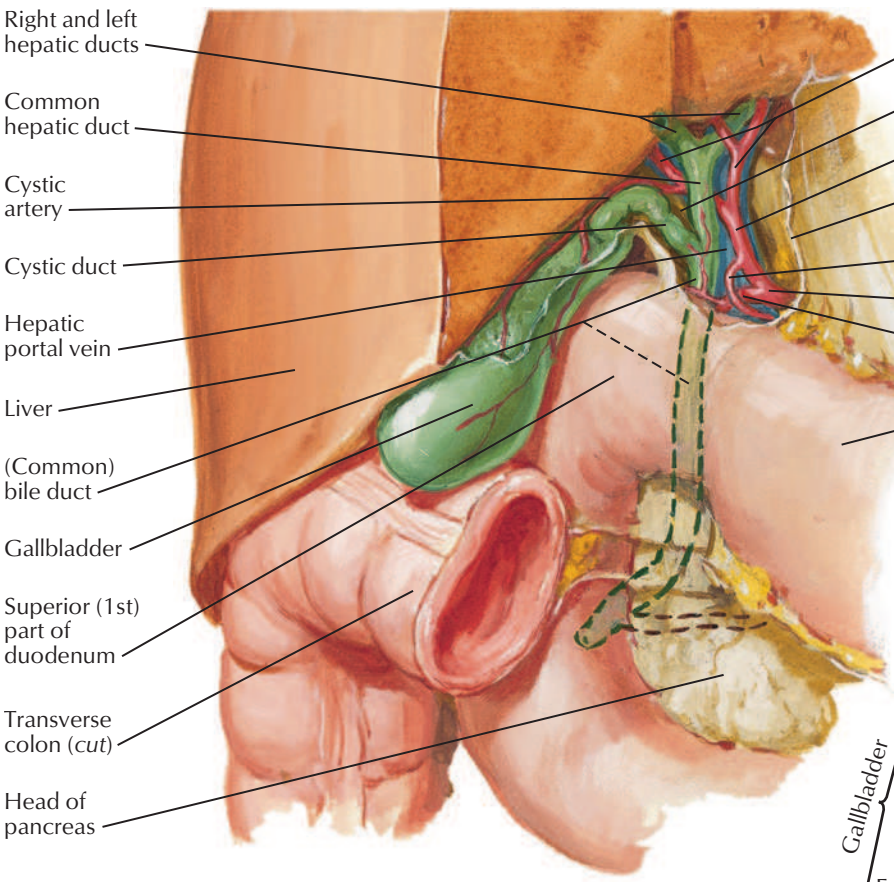


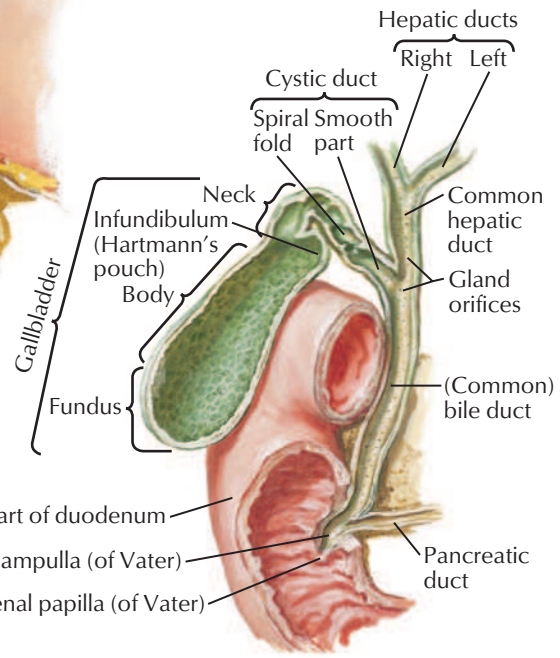


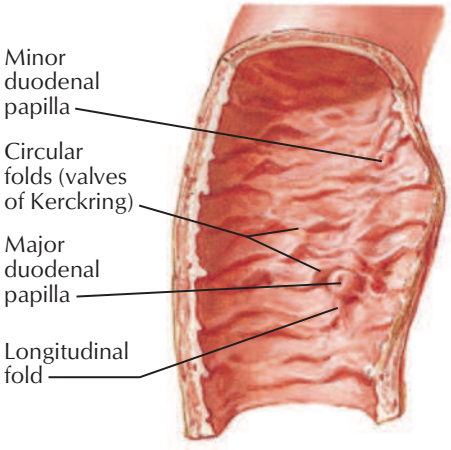


www.Booksmedicos06.com

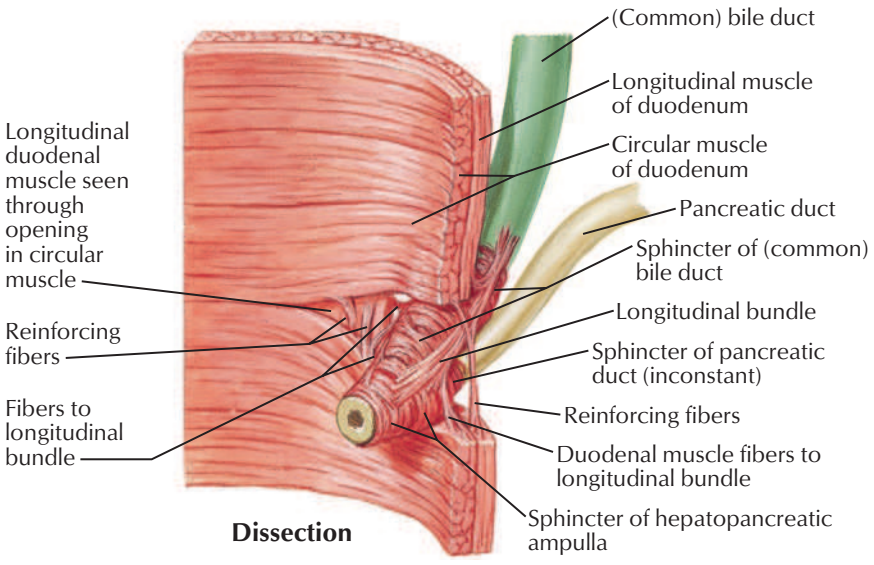
////// facebook : Booksmedicos06



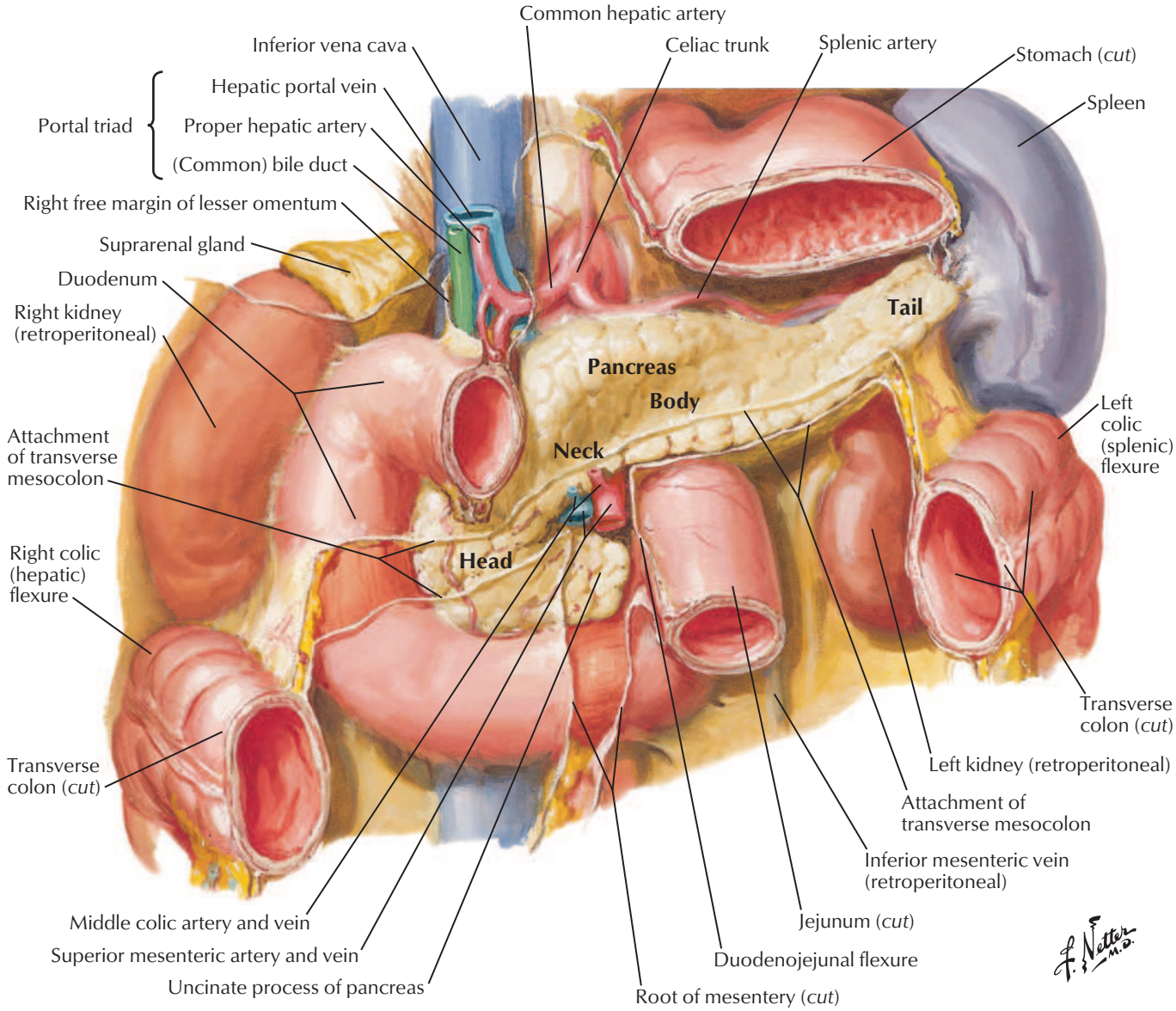




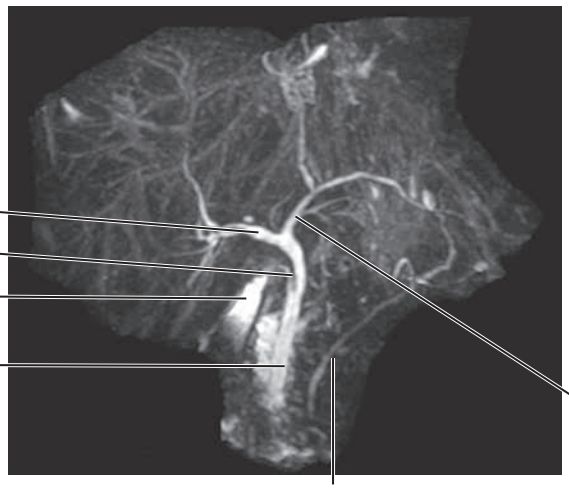
Interior of descending (2nd) part of duodenum

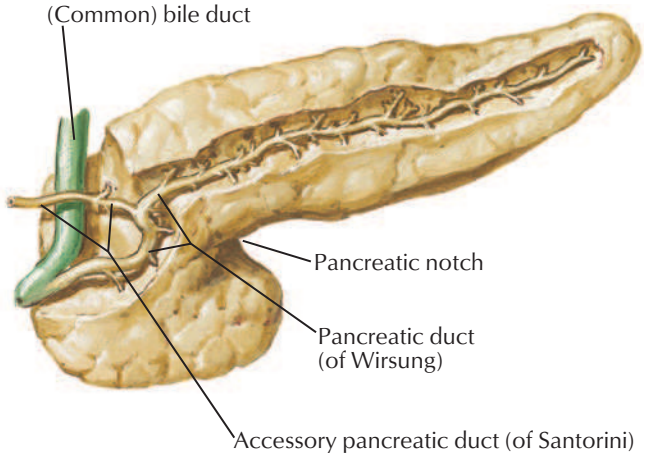


Dissection



Magnetic resonance cholangiopancreatography (MRCP)

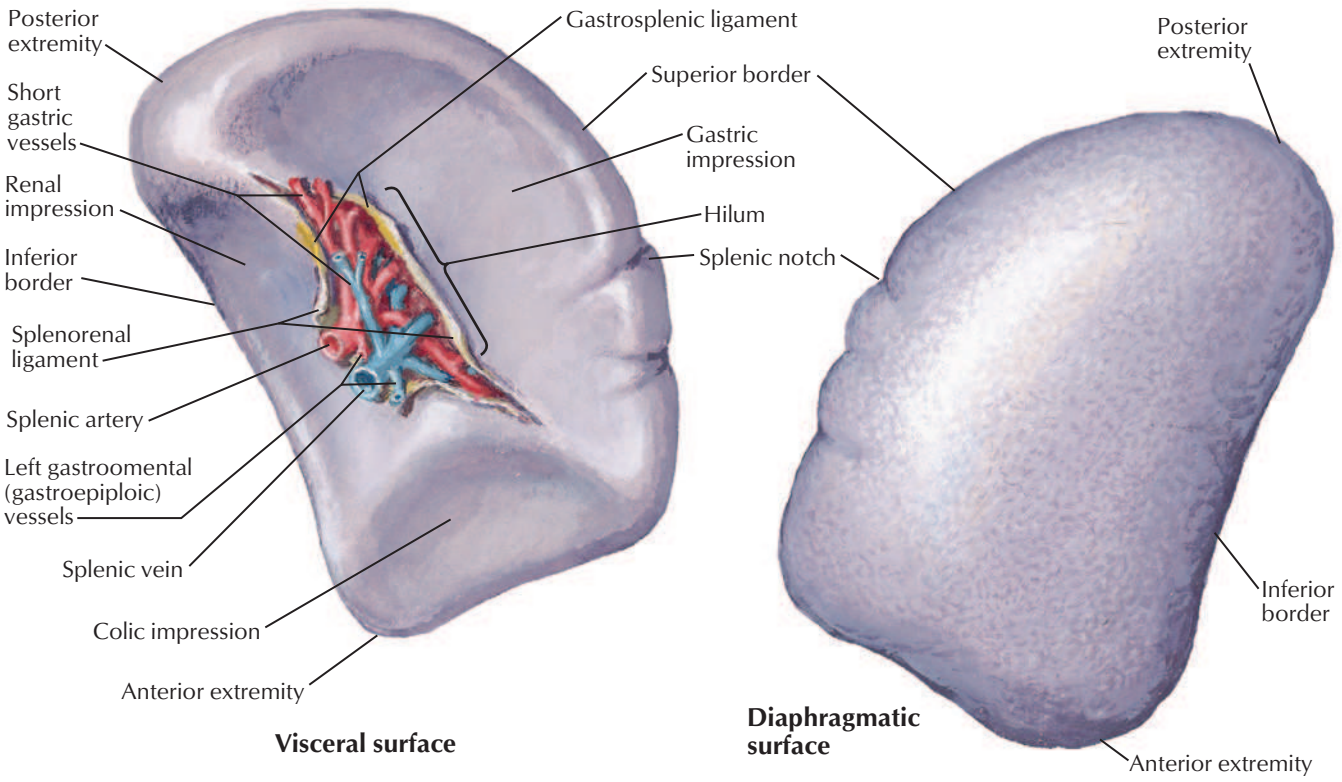


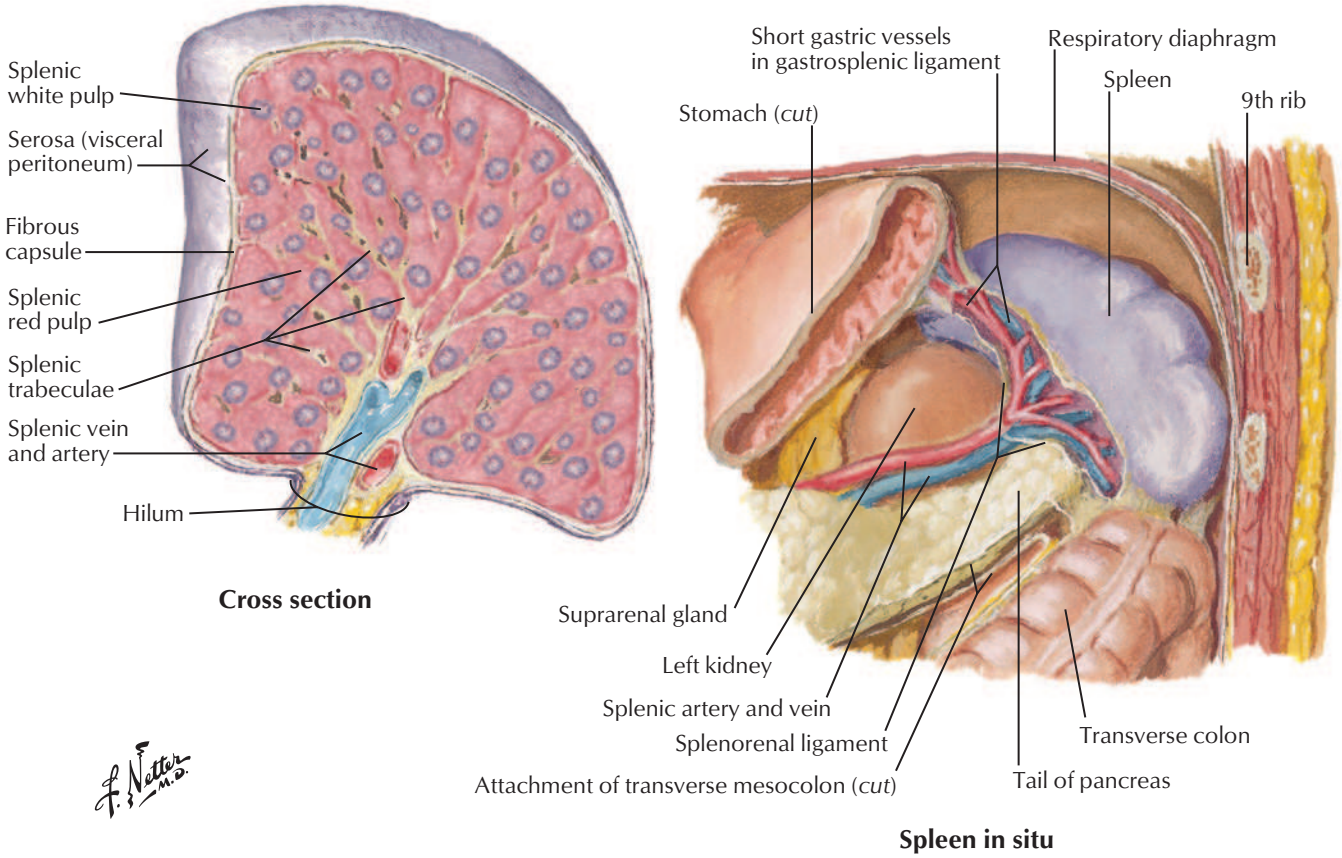


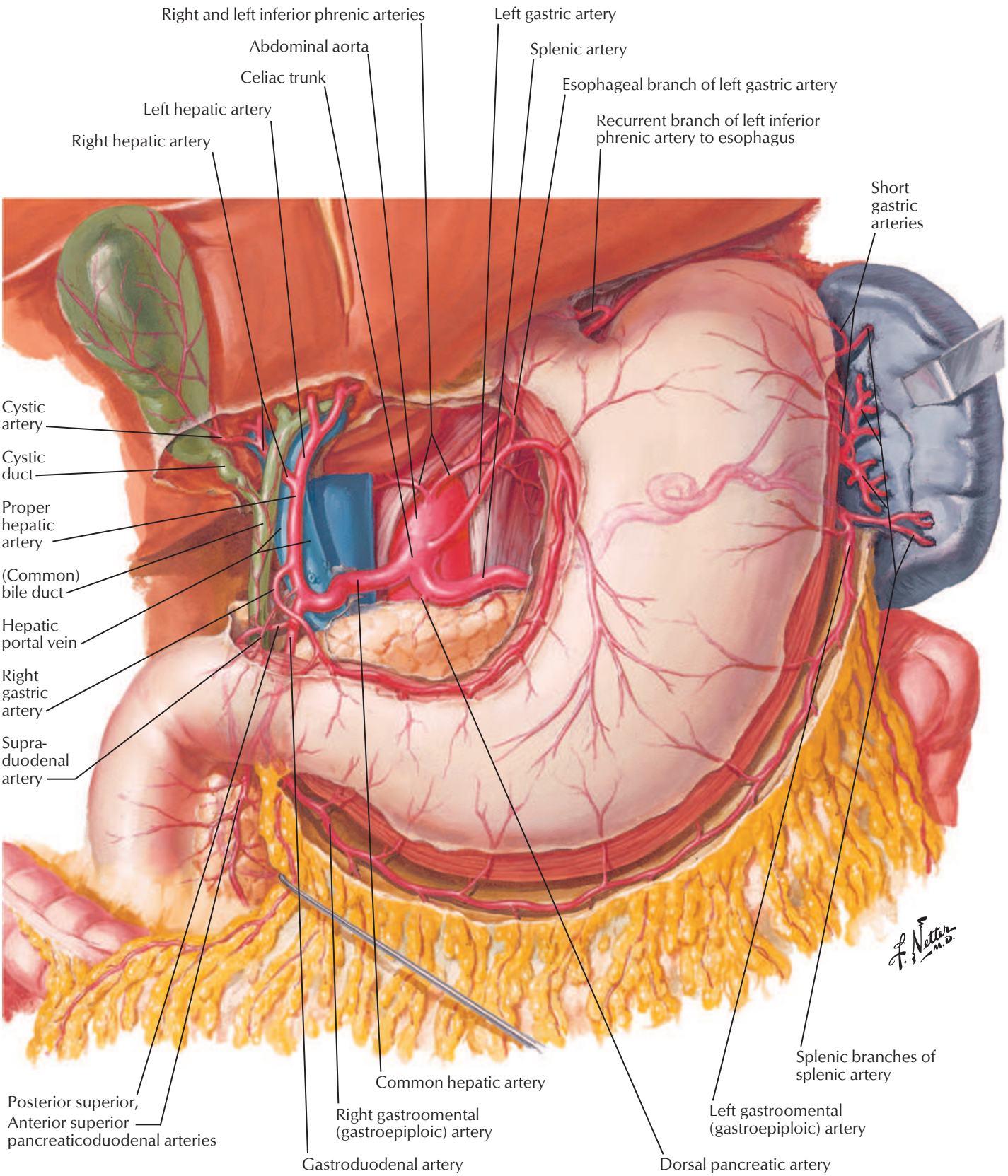
www.Booksmedicos06.com

See also Plate 273

////// facebook : Booksmedicos06

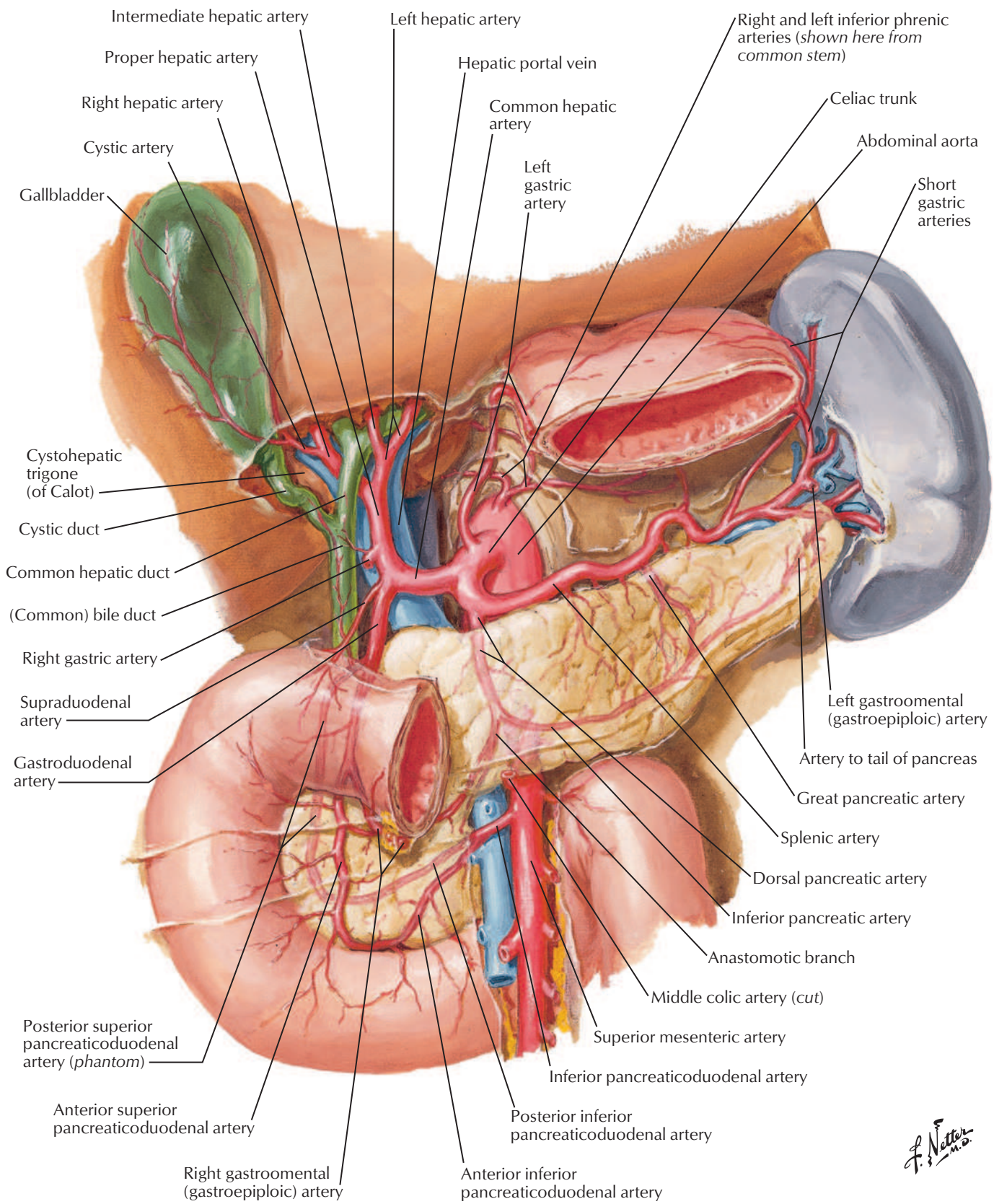






www.Booksmedicos06.com

////// facebook : Booksmedicos06



See also Plates 290, 291

3D volume-rendered CT image with intravenous contrast enhancement



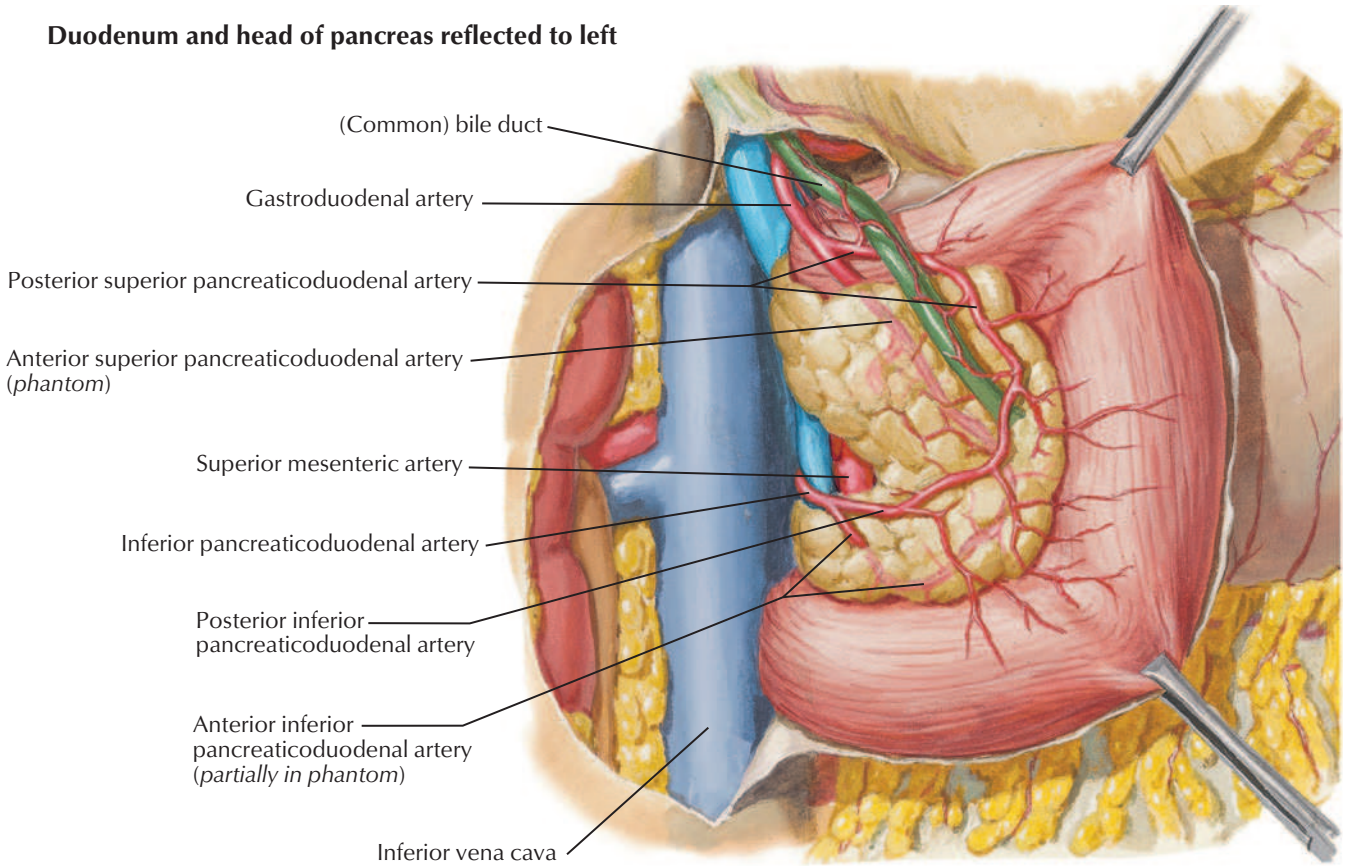
Selective digital subtraction angiogram, celiac trunk

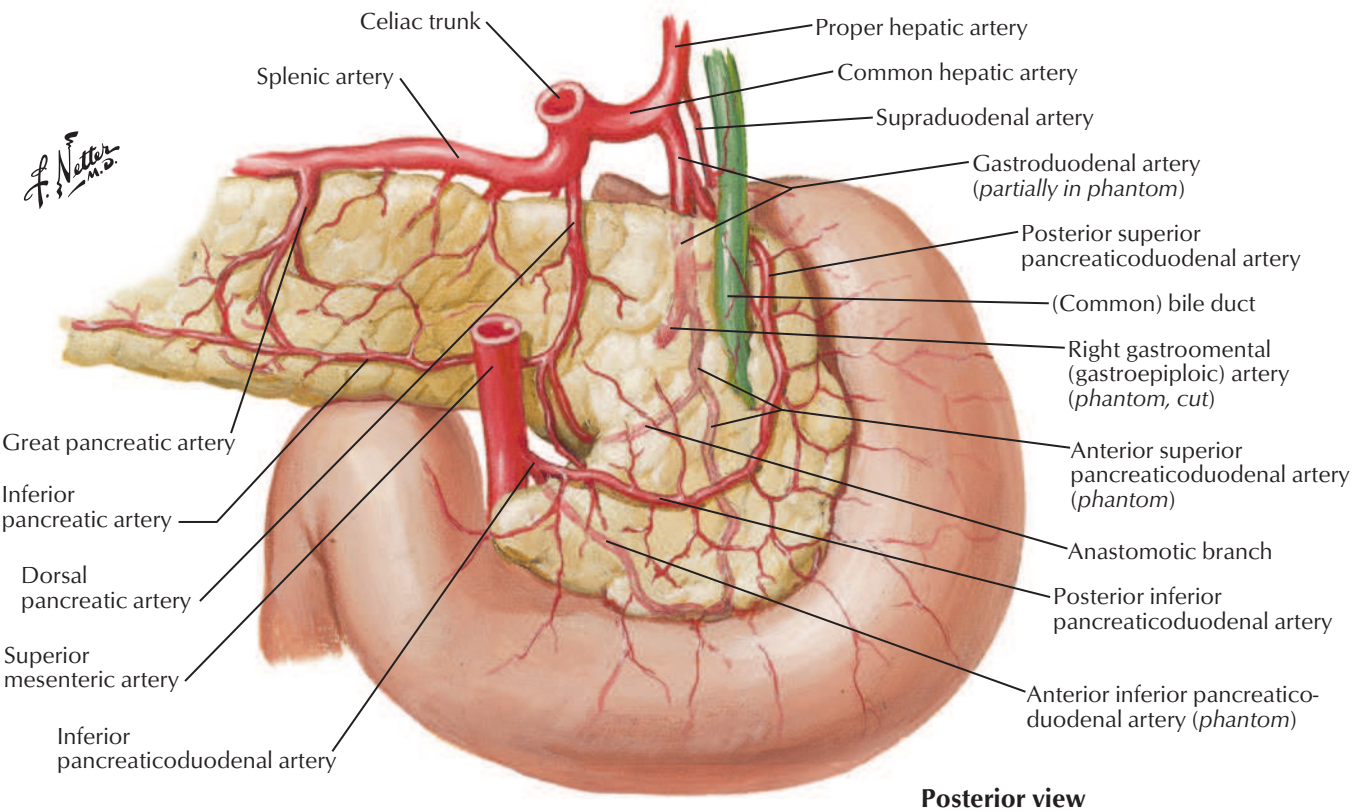


www.Booksmedicos06.com ////////

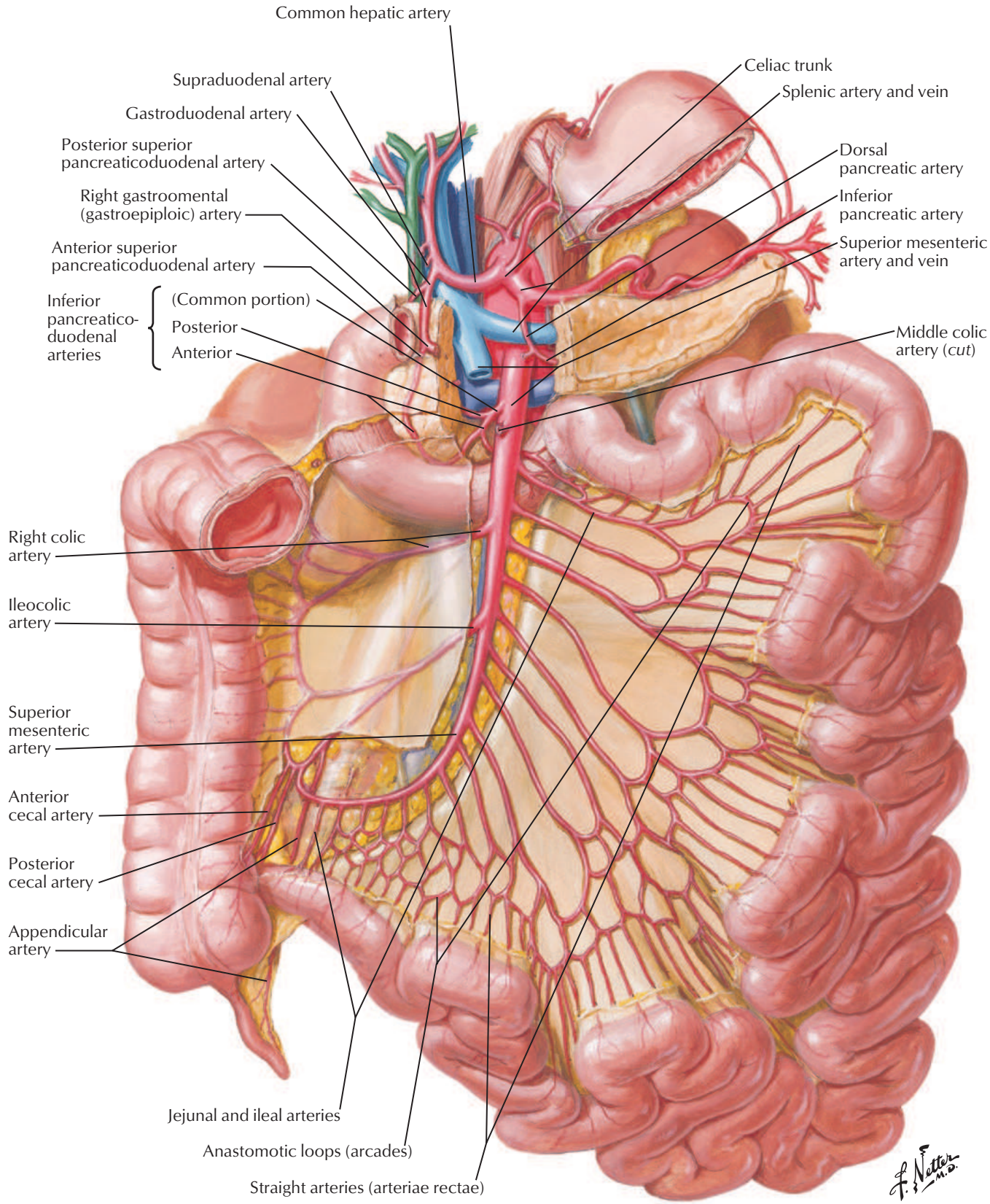
////// facebook : Booksmedicos06

Duodenum and head of pancreas reflected to left





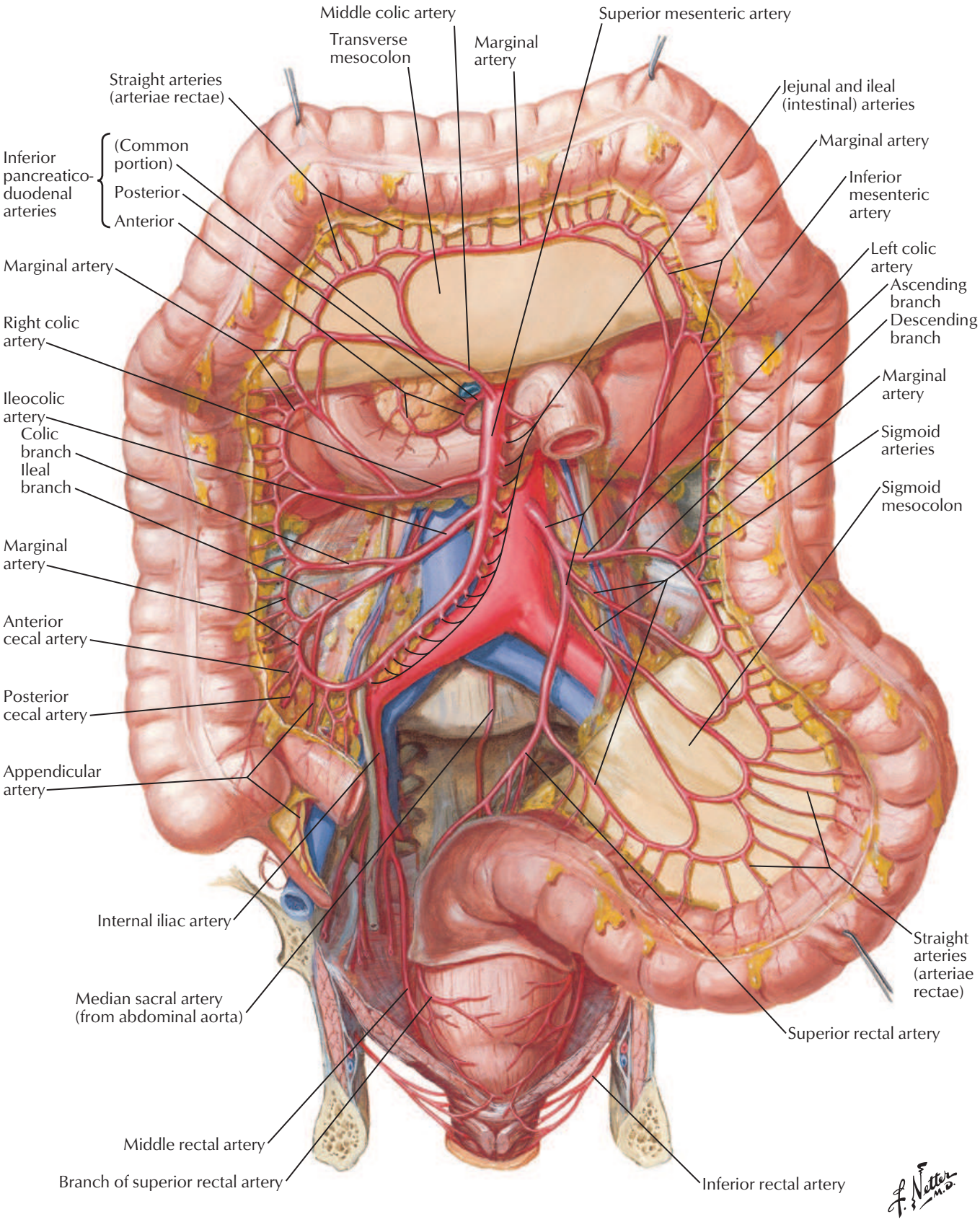
Posterior view

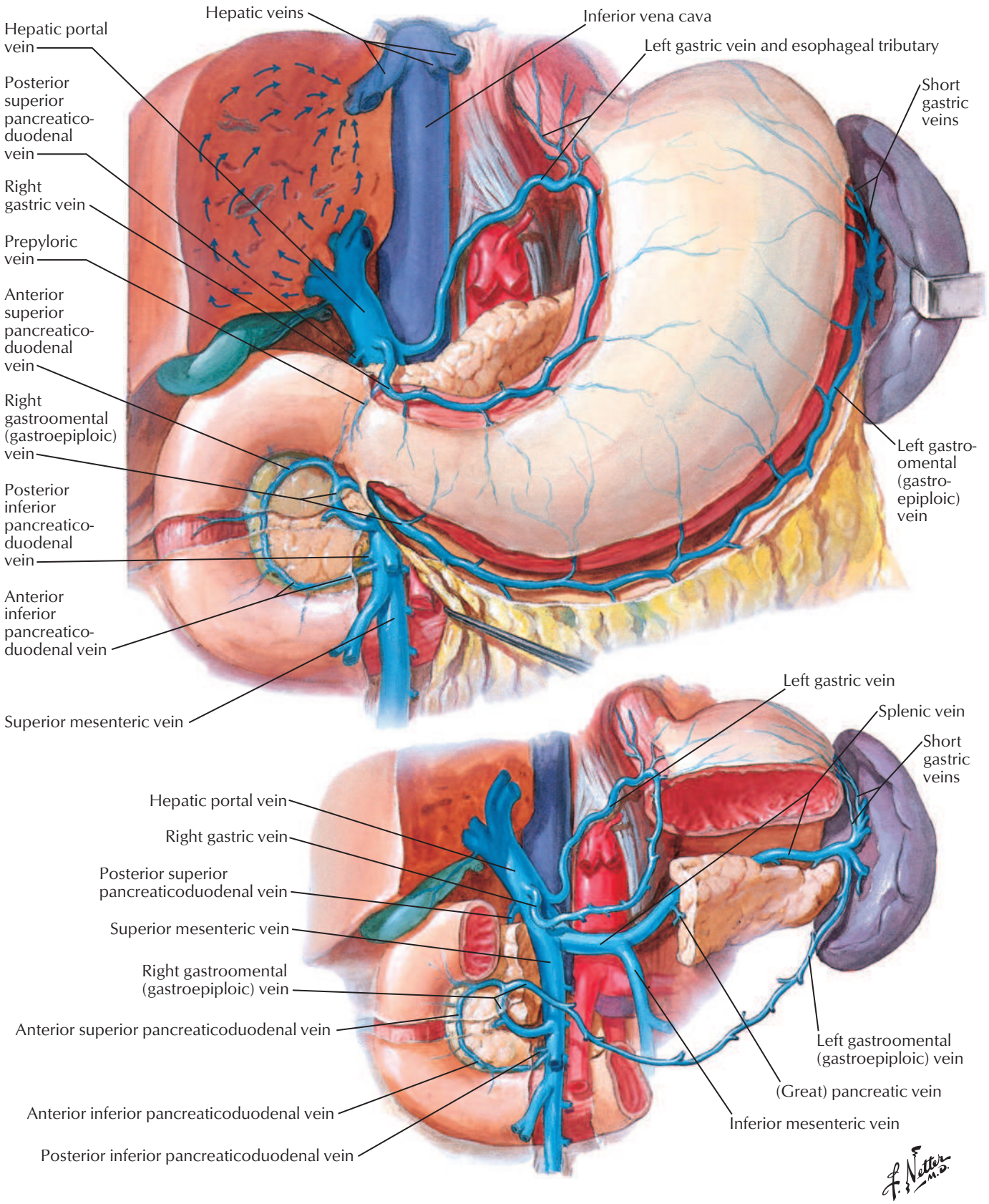


www.Booksmedicos06.com

See also Plate 380

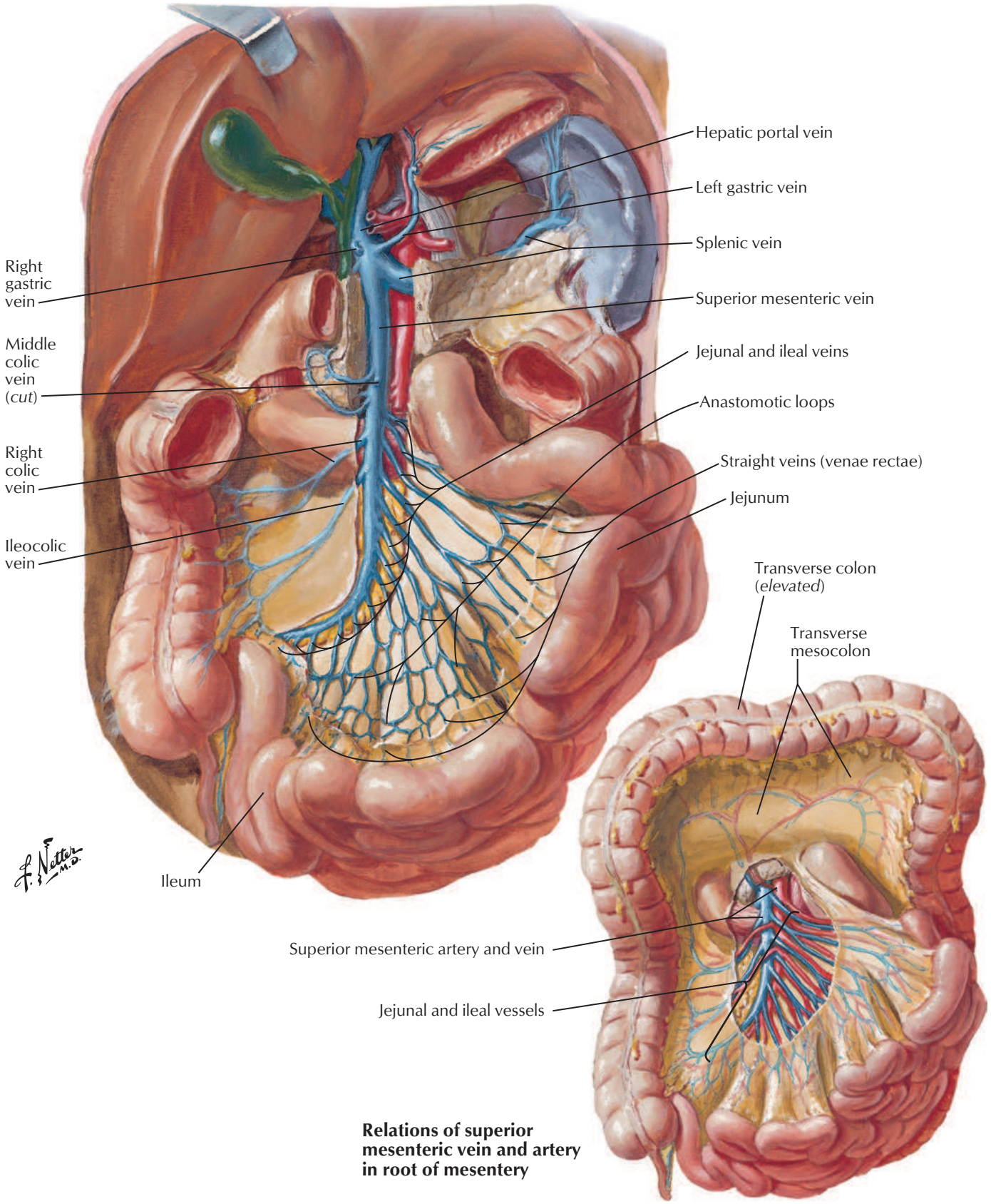
////// facebook : Booksmedicos06





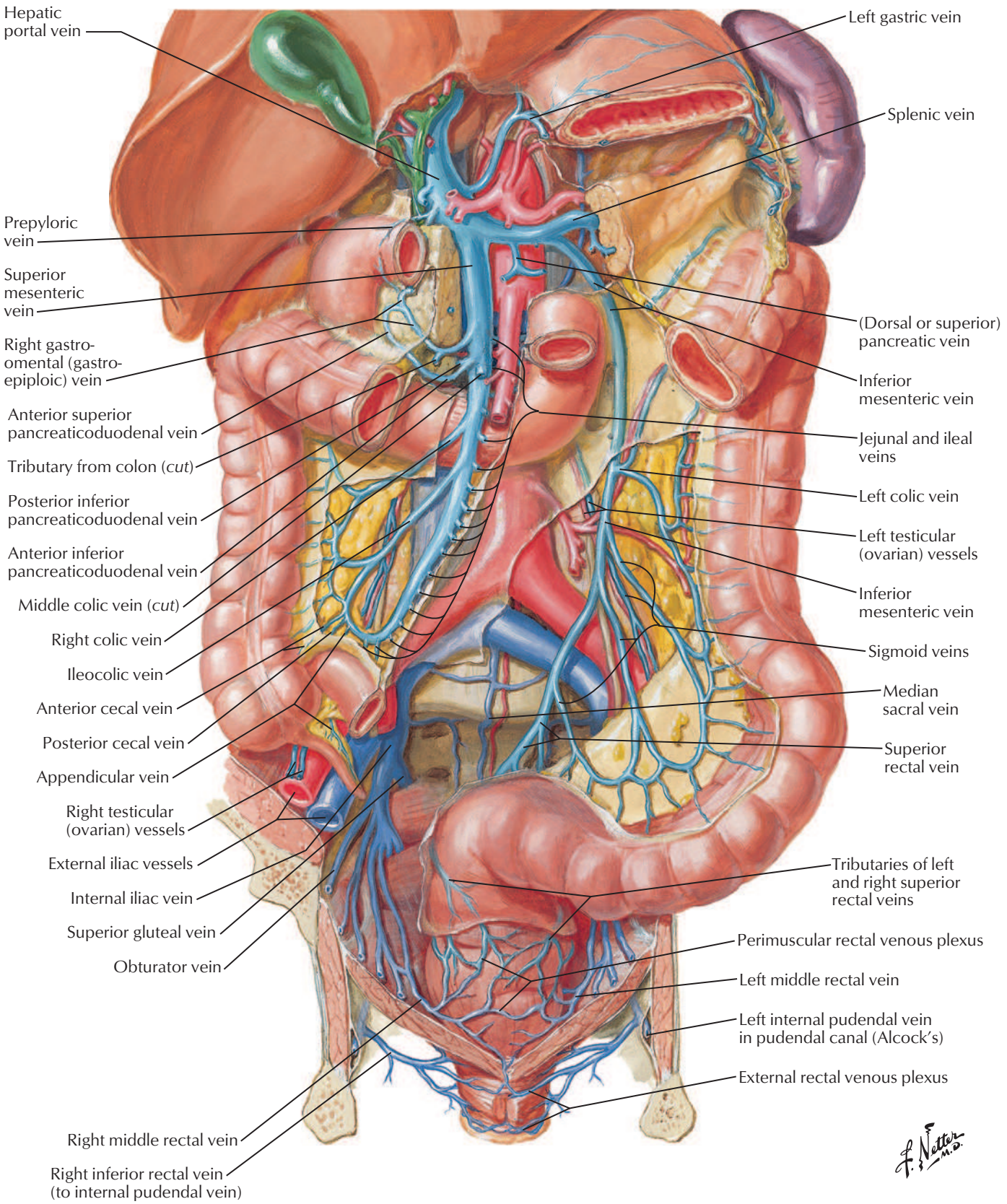
www.Booksmedicos06.com

////// facebook : Booksmedicos06



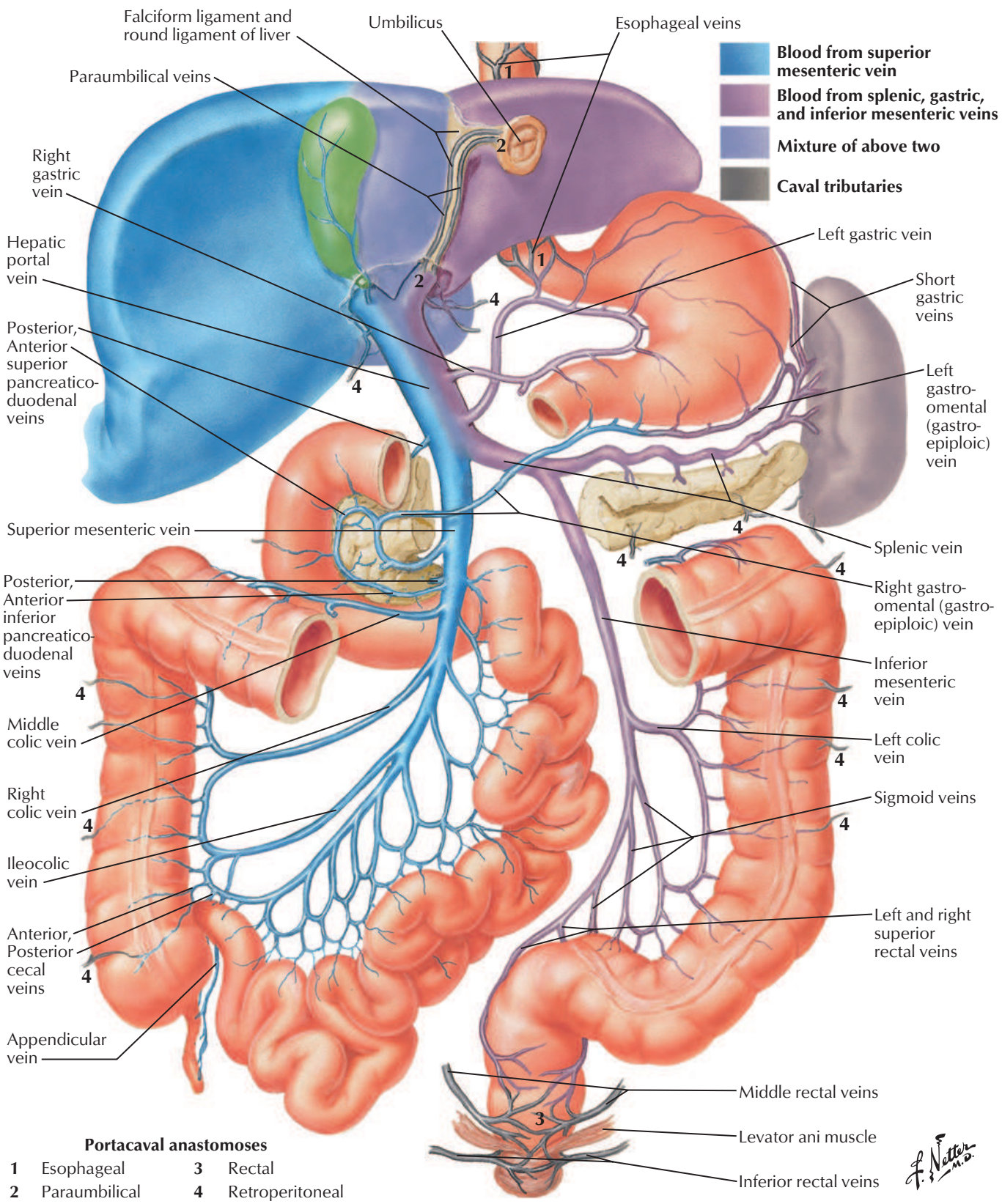
Relations of superior mesenteric vein and artery in root of mesentery

See also Plate 381

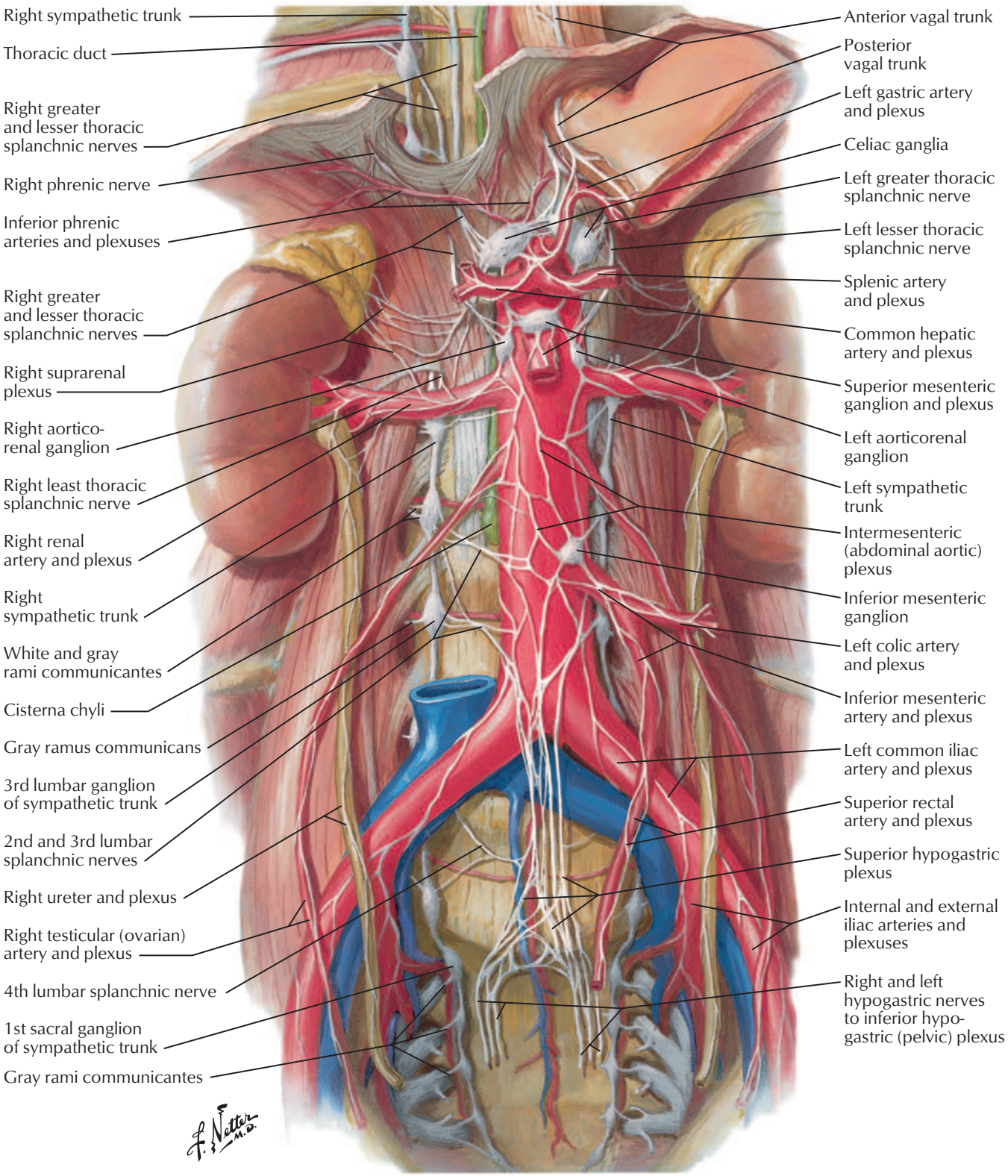


www.Booksmedicos06.com

////// facebook : Booksmedicos06



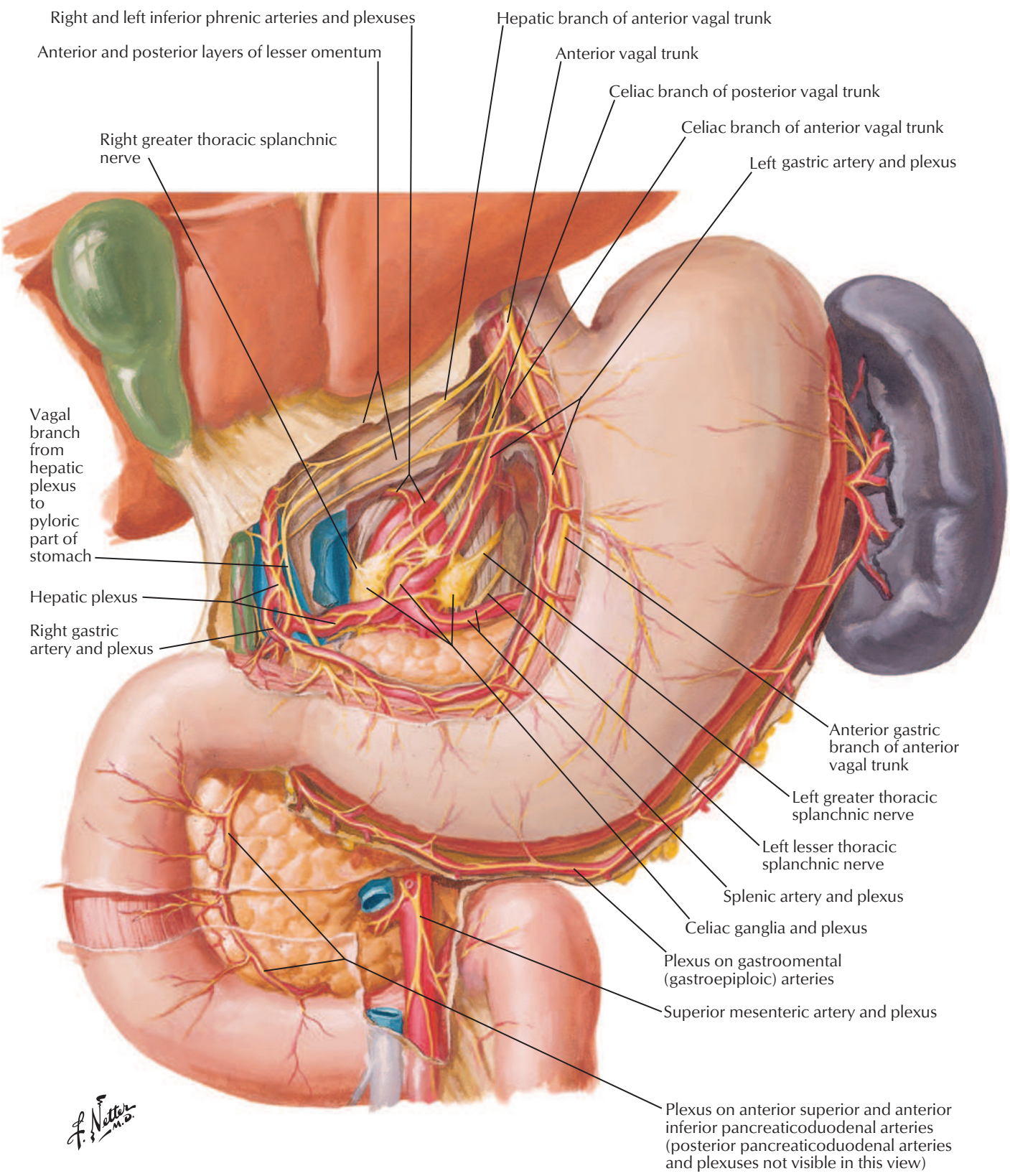
See also Plate 305

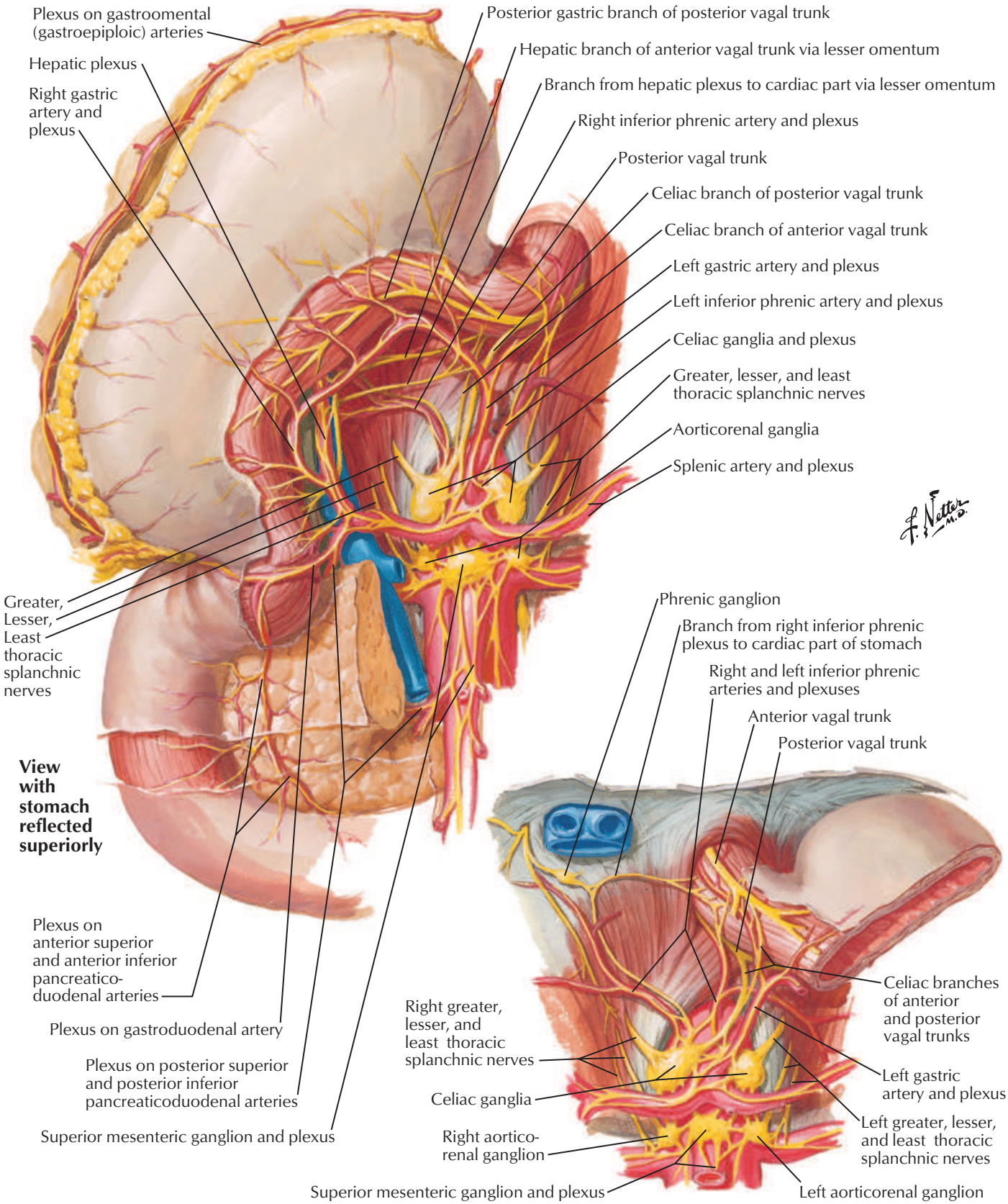


www.Booksmedicos06.com

See also Plate 243

////// facebook : Booksmedicos06

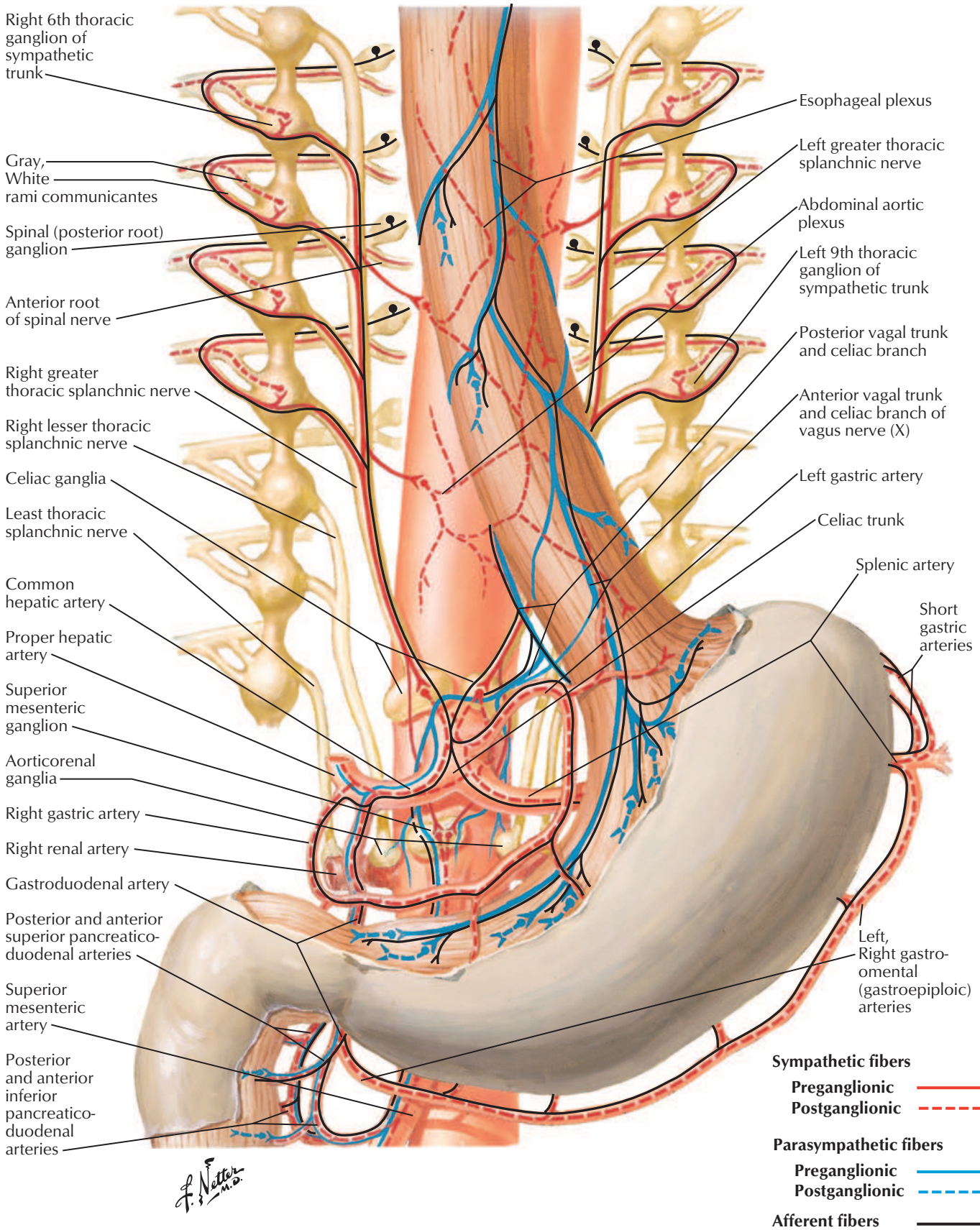


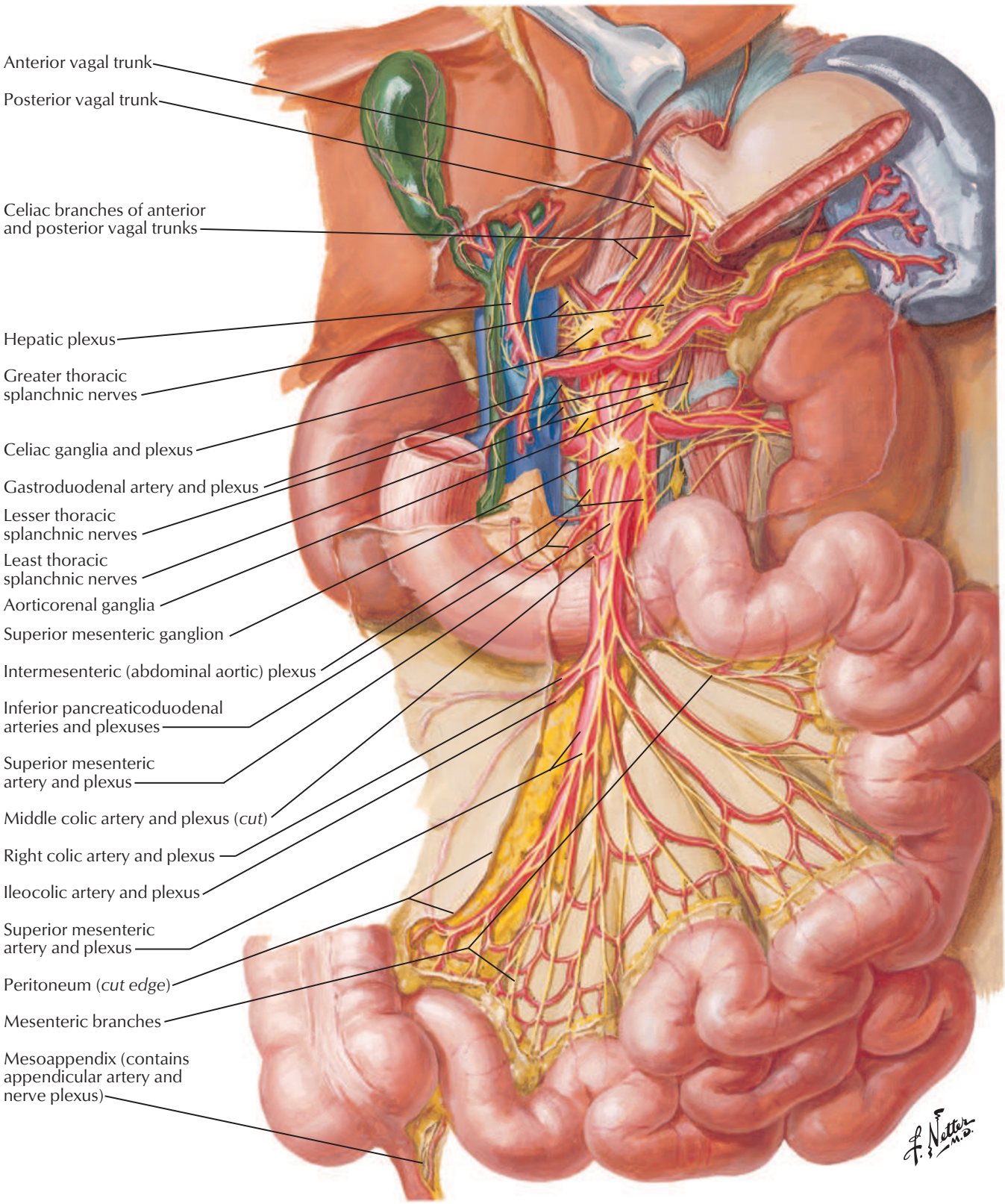


www.Booksmedicos06.com

See also Plates 172, 173

////// facebook : Booksmedicos06

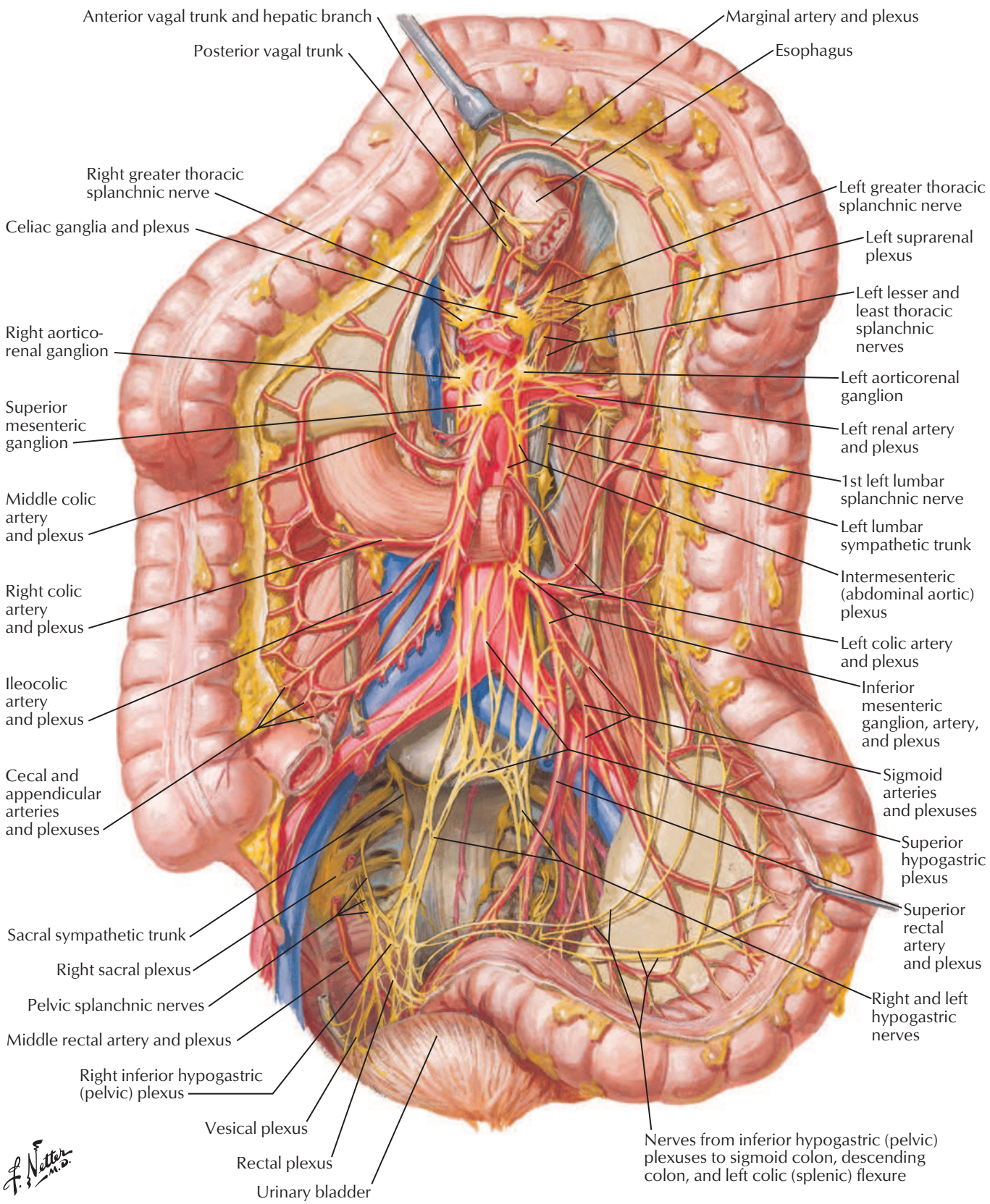




www.Booksmedicos06.com

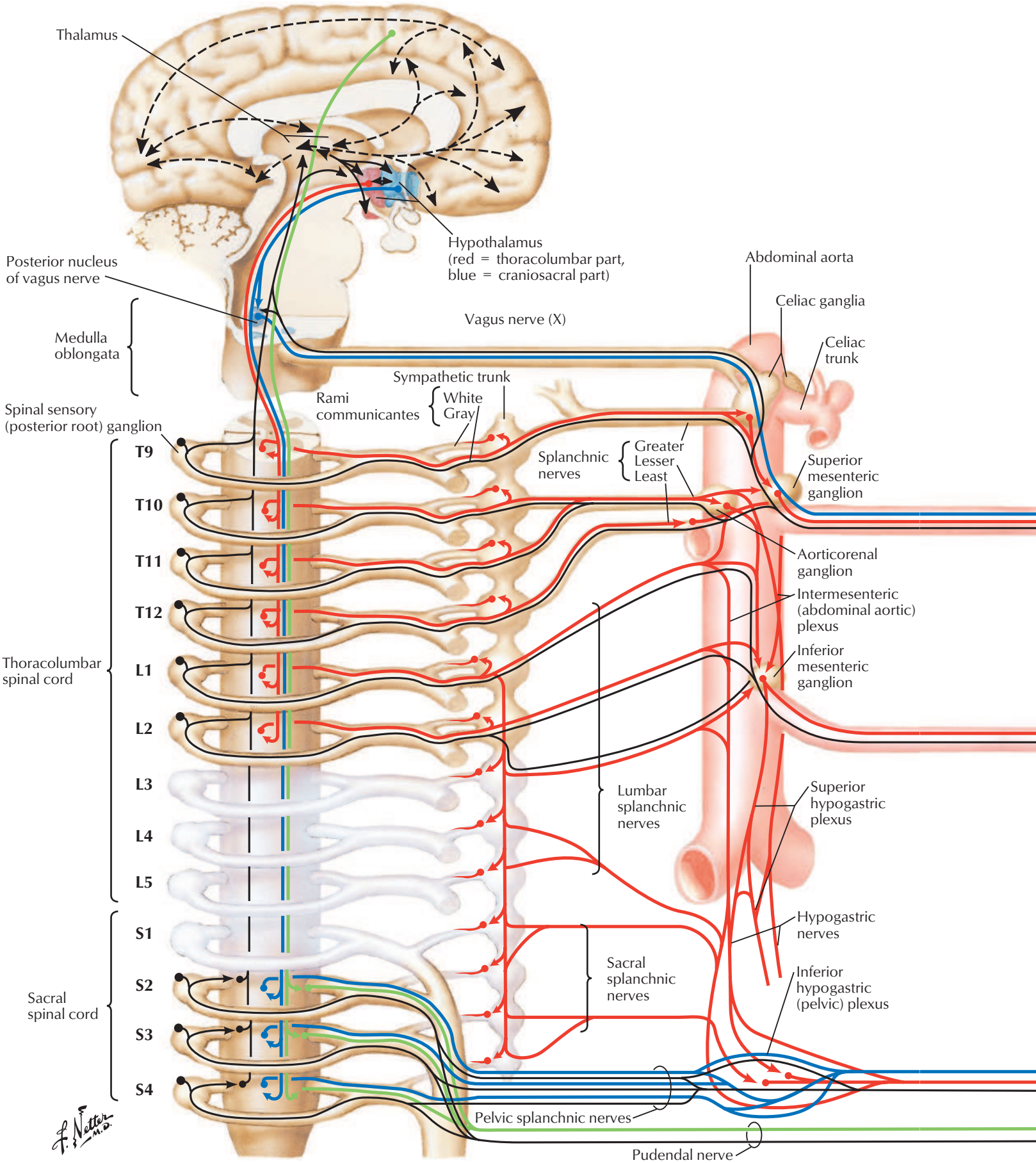
See also Plates 392, 393, 394

////// facebook : Booksmedicos06



Autonomic Innervation of Intestines: Schema

See also Plates 172, 173

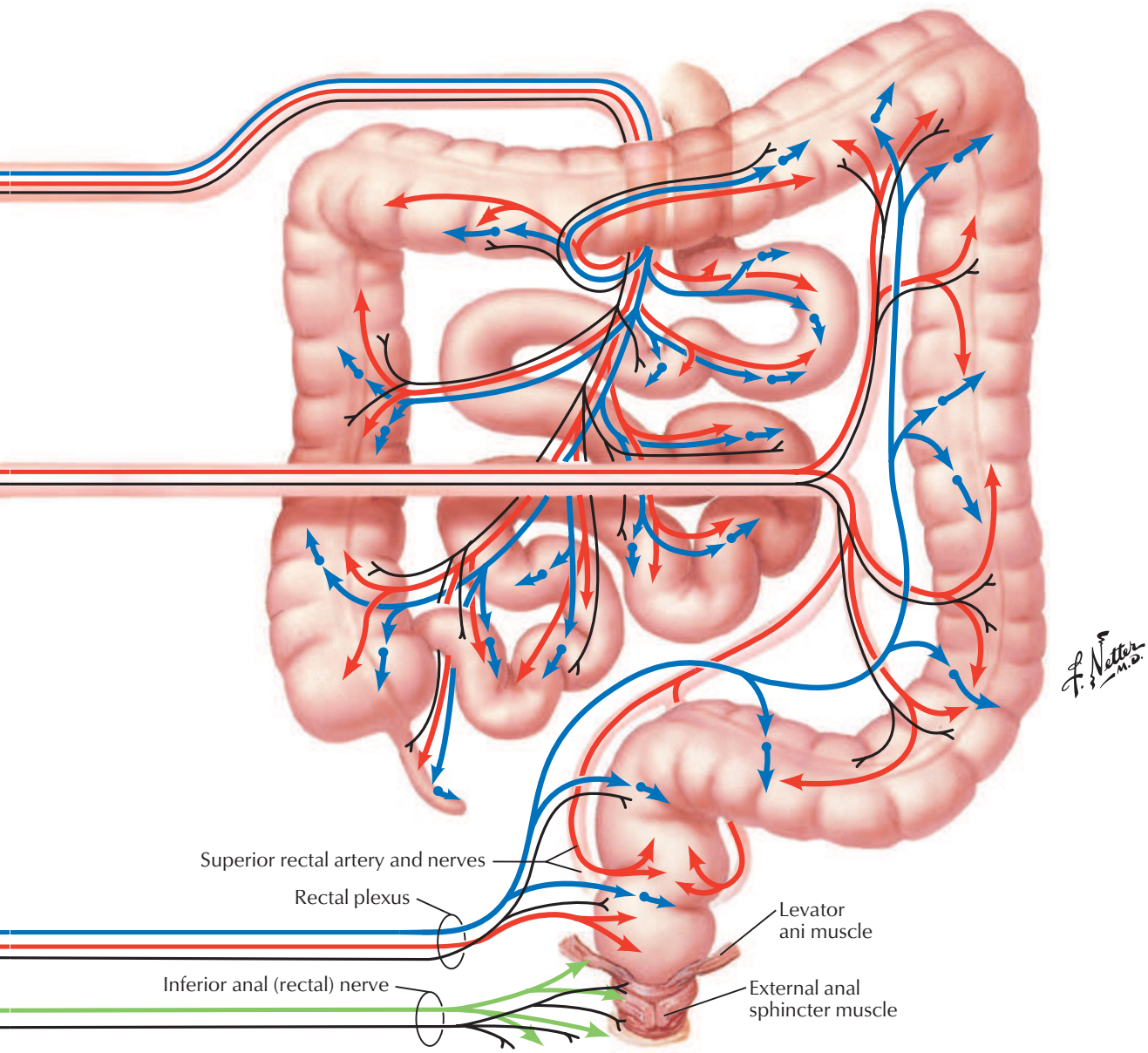


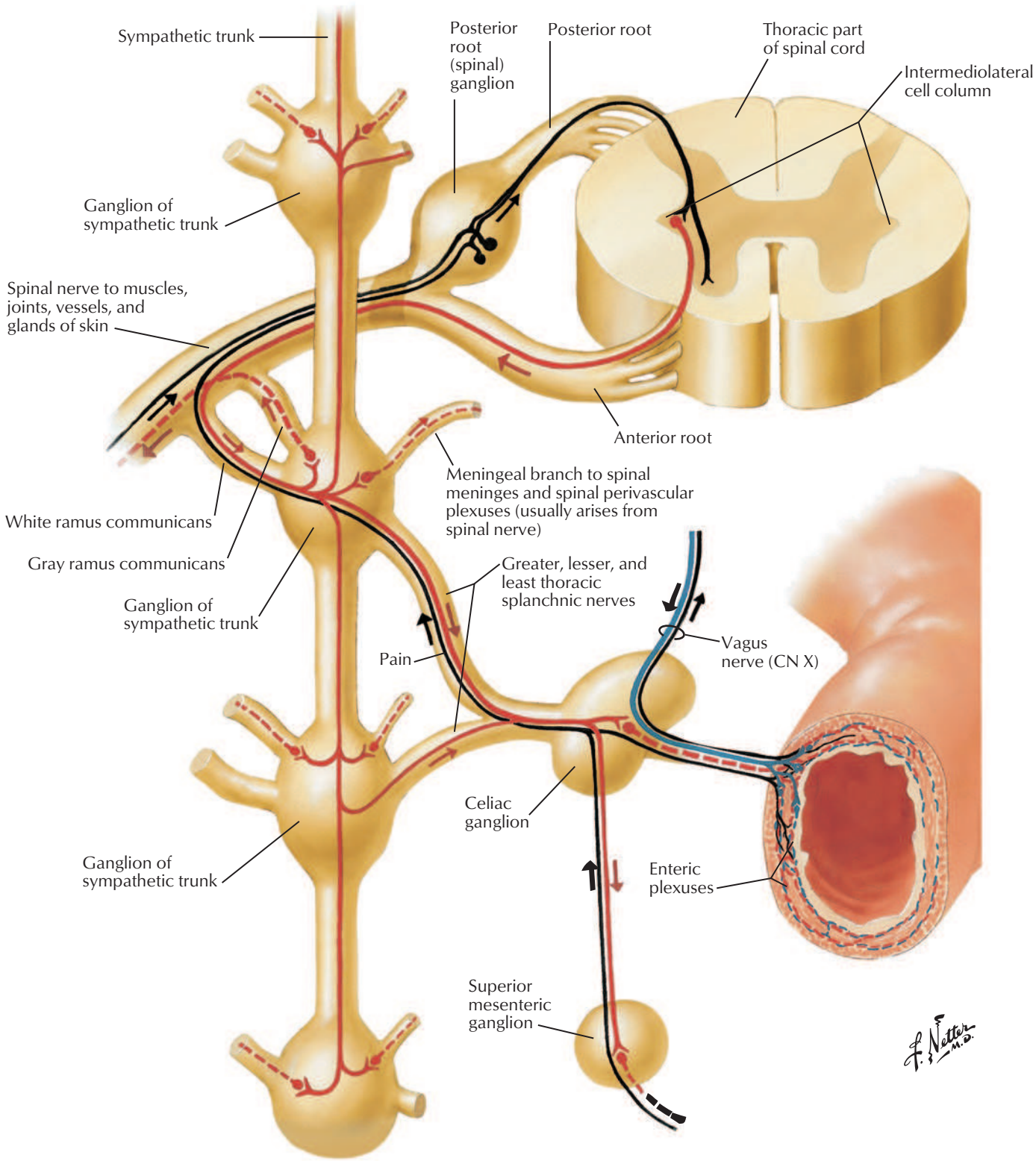
www.Booksmedicos06.com

See also **Plates 172, 173**

////// facebook : Booksmedicos06

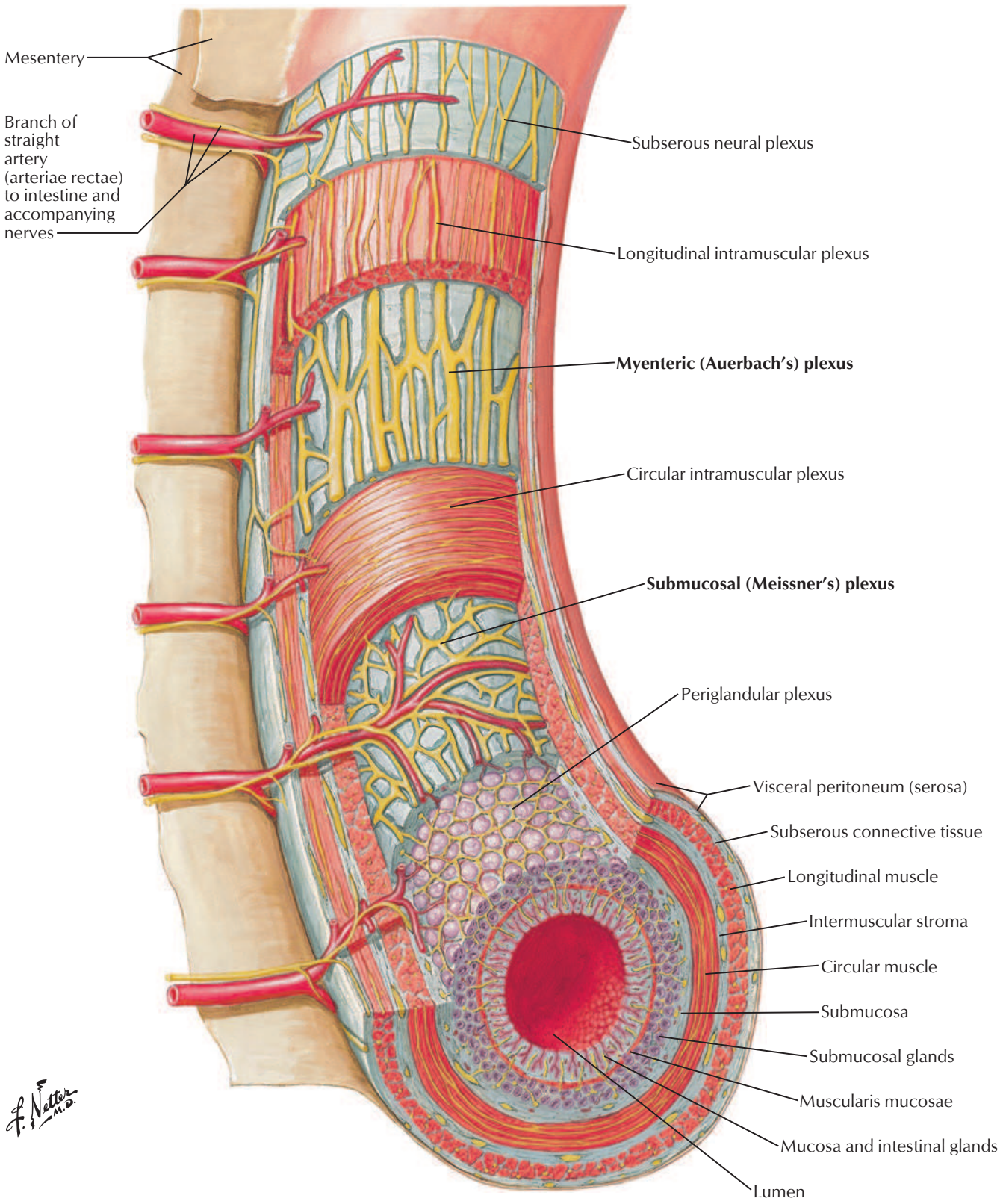
Sympathetic efferents
Parasympathetic efferents
Somatic efferents
Afferents and CNS connections
Indefinite paths





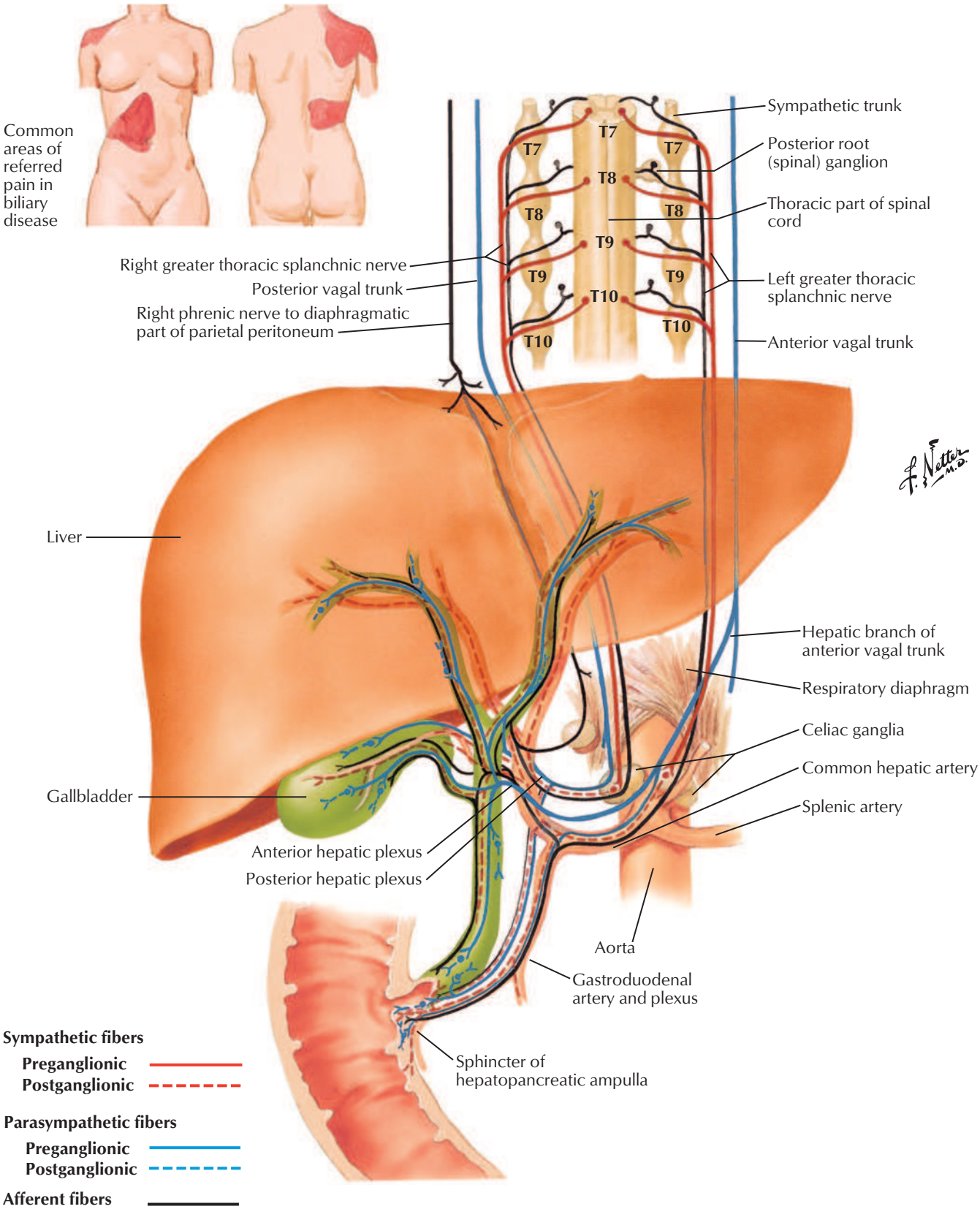
www.Booksmedicos06.com

////// facebook : Booksmedicos06



Note: Intestinal wall is shown much thicker than in actuality.

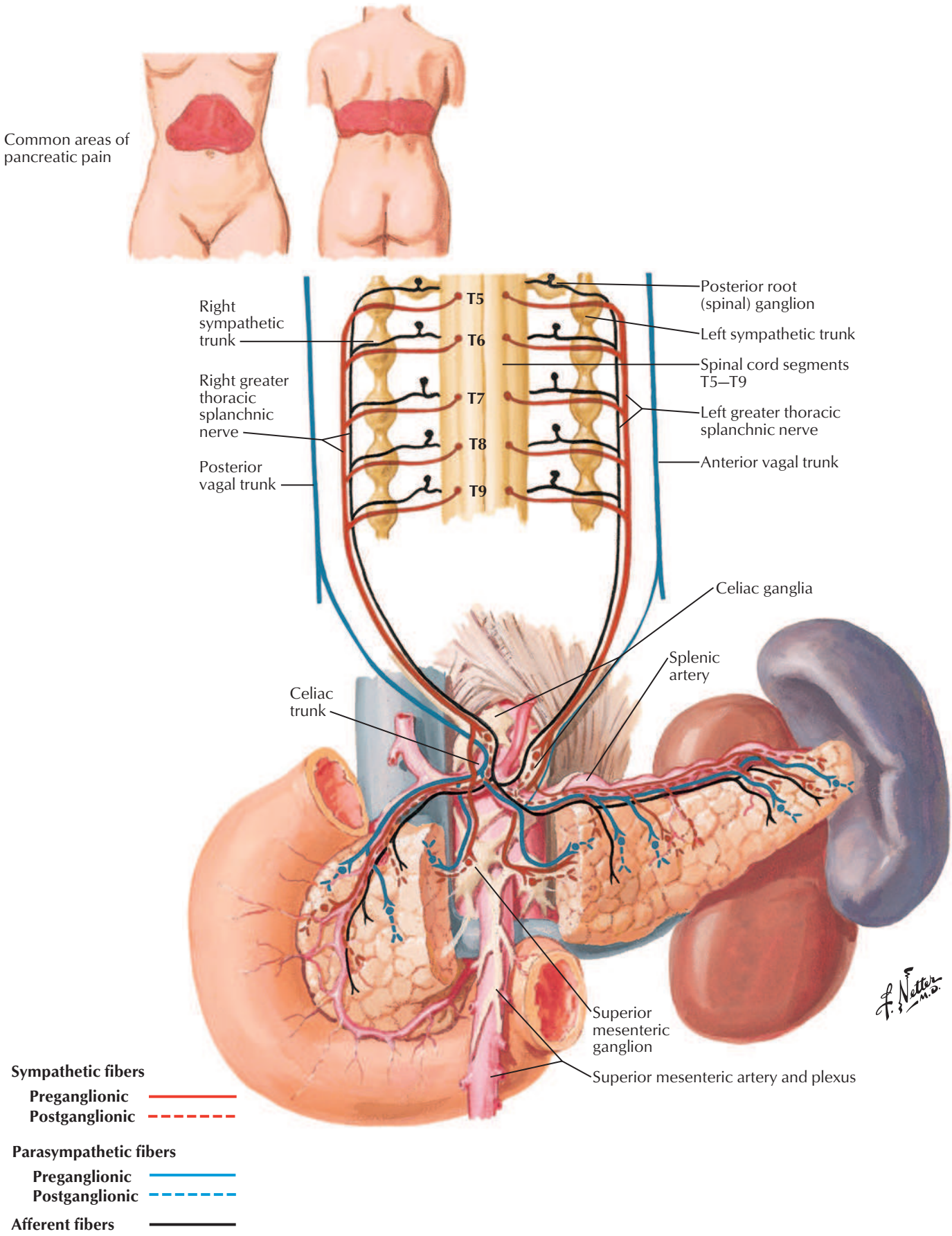
See also Plates 172, 173

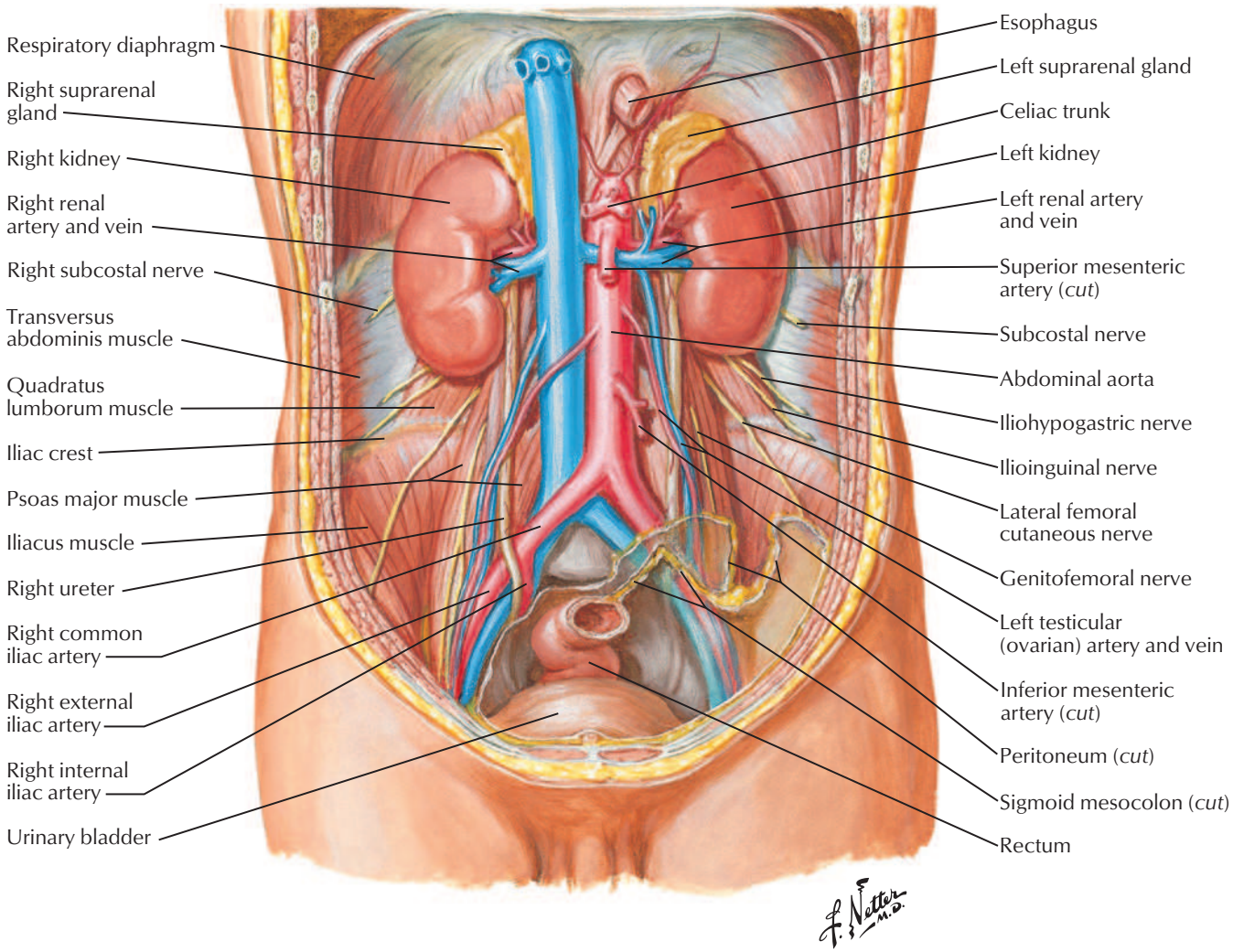


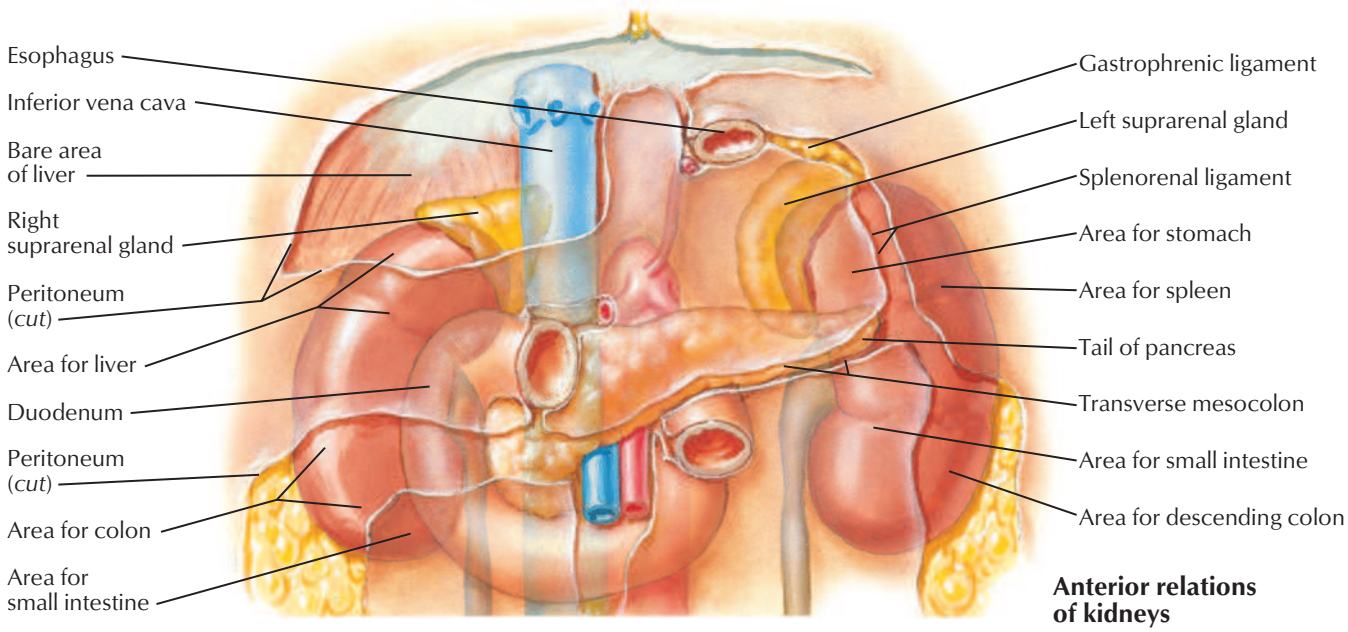
www.Booksmedicos06.com

See also Plates 172, 173

////// facebook : Booksmedicos06



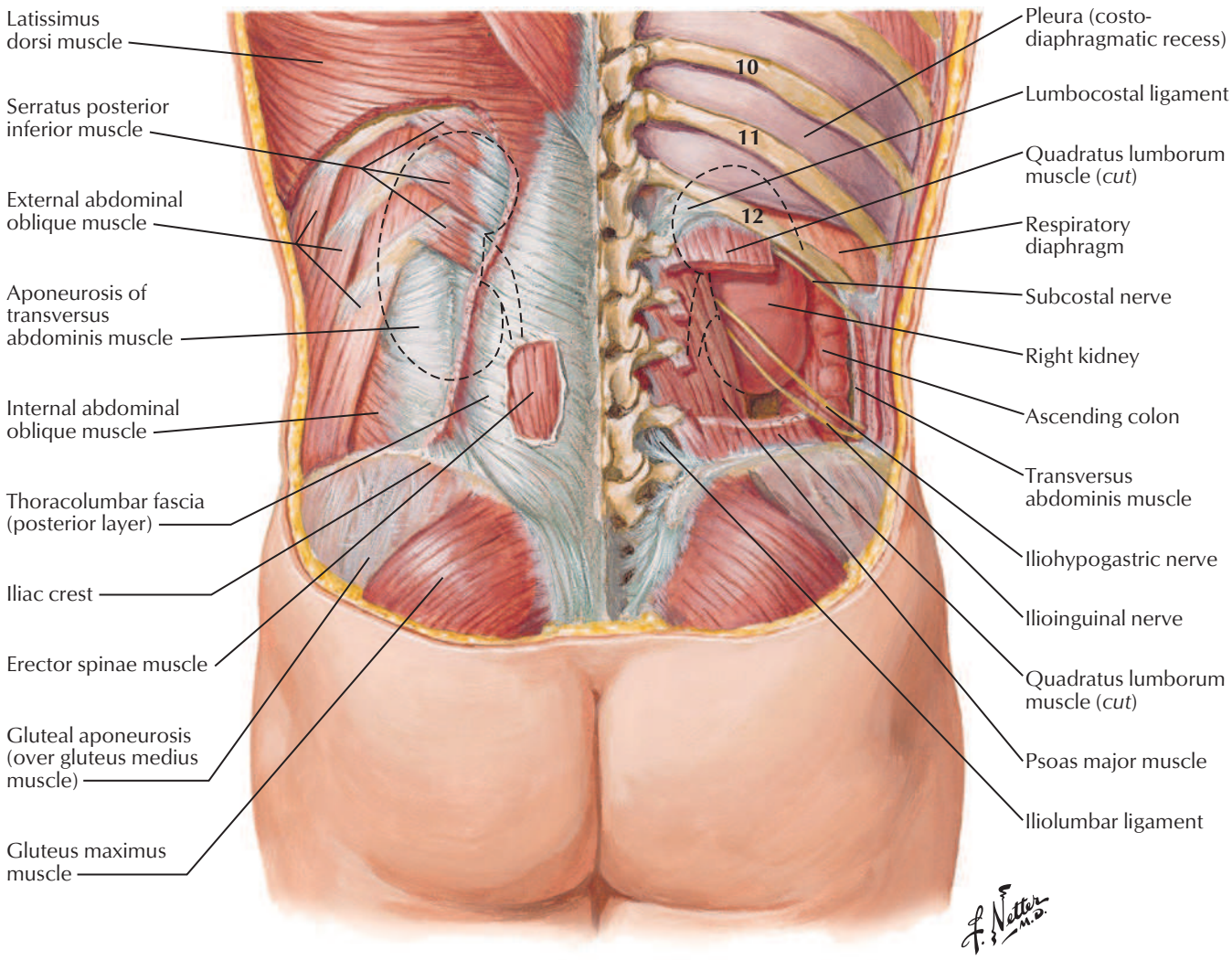


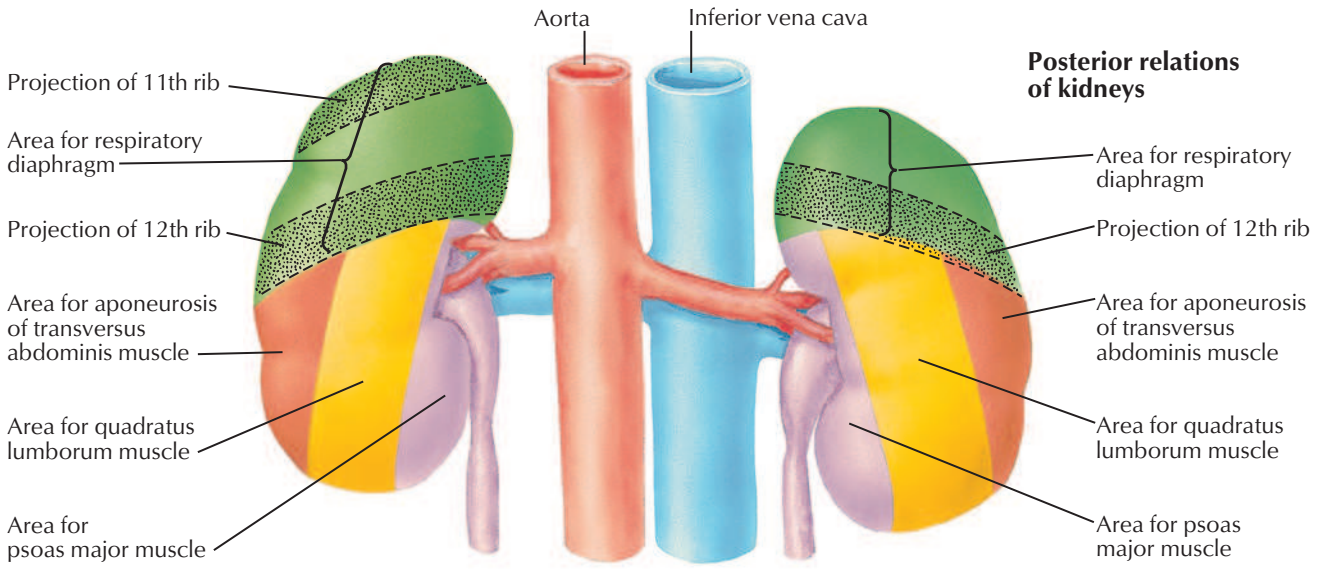


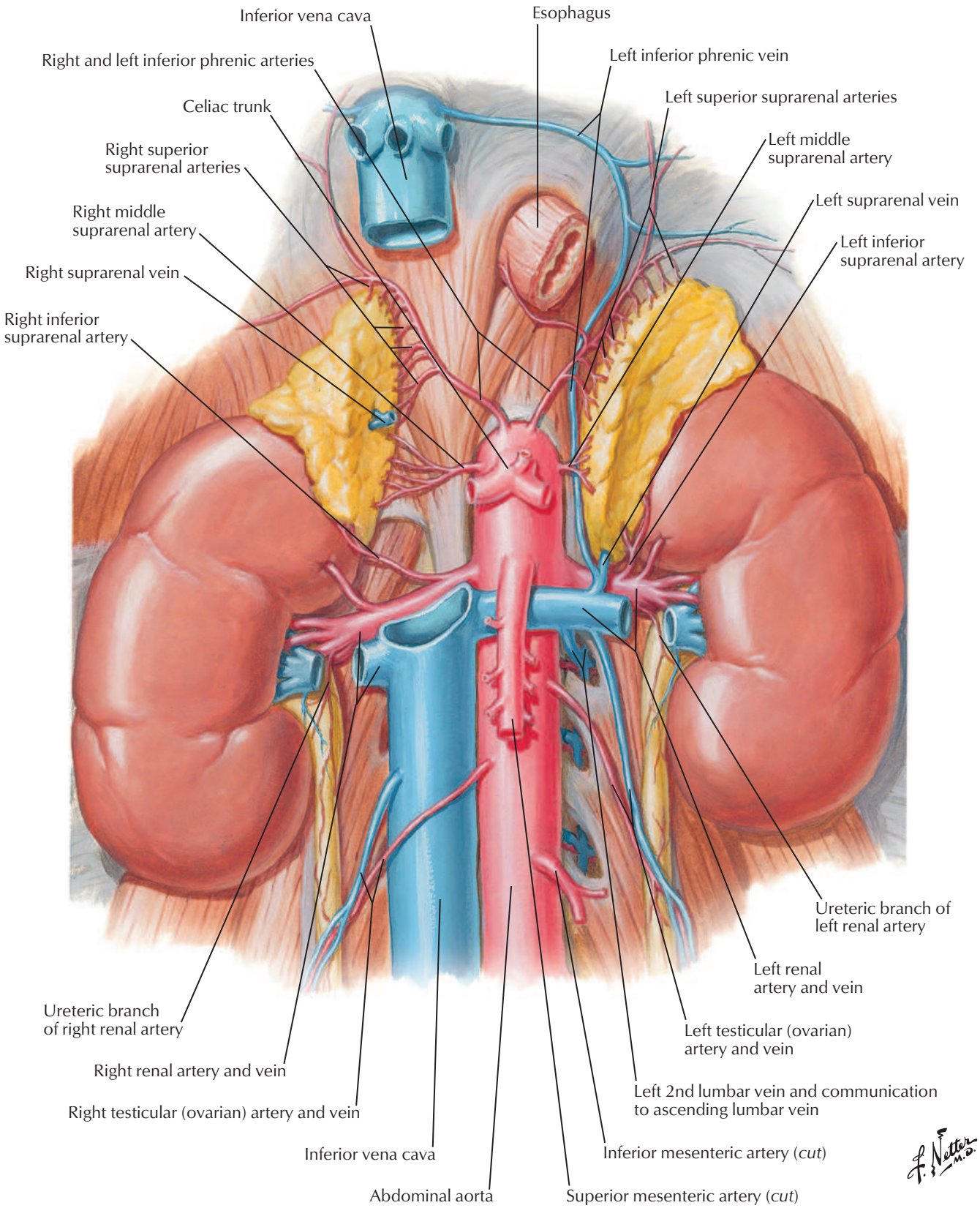
Anterior relations of kidneys

www.Booksmedicos06.com

////// facebook : Booksmedicos06

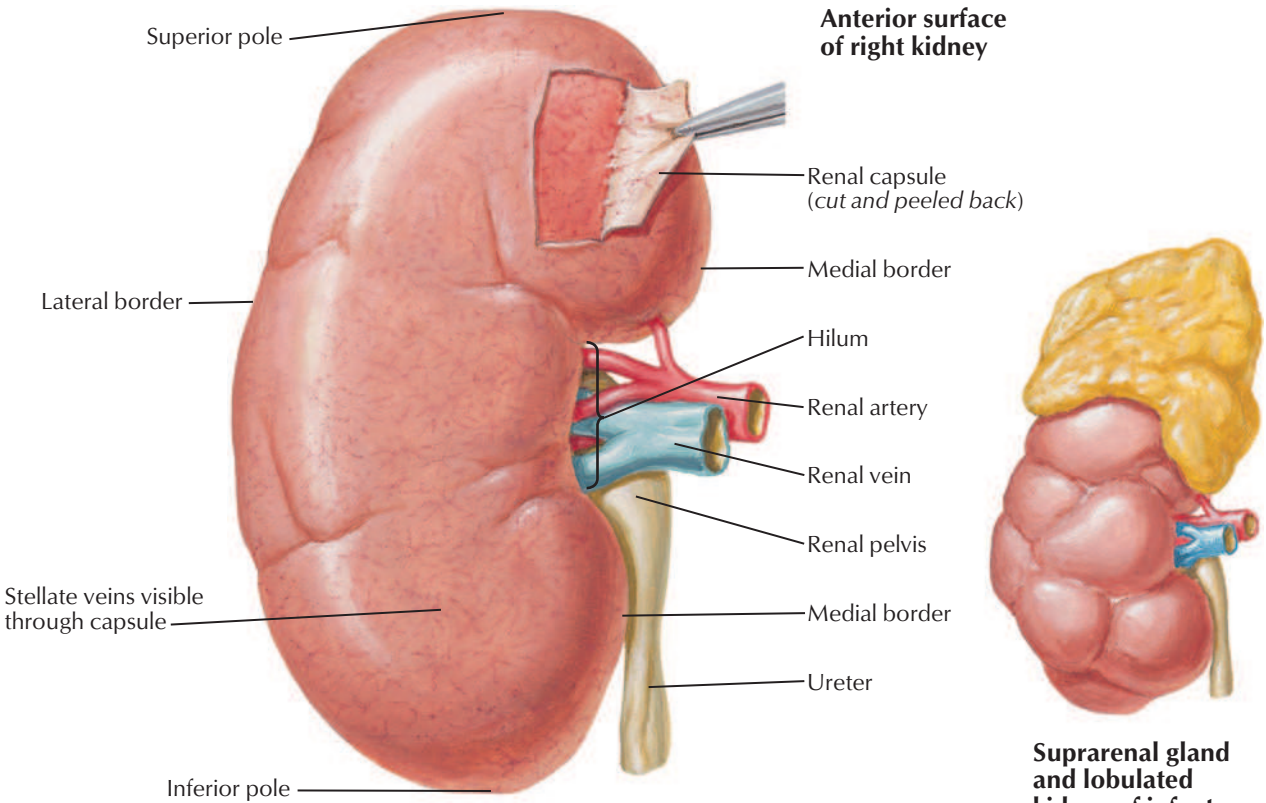




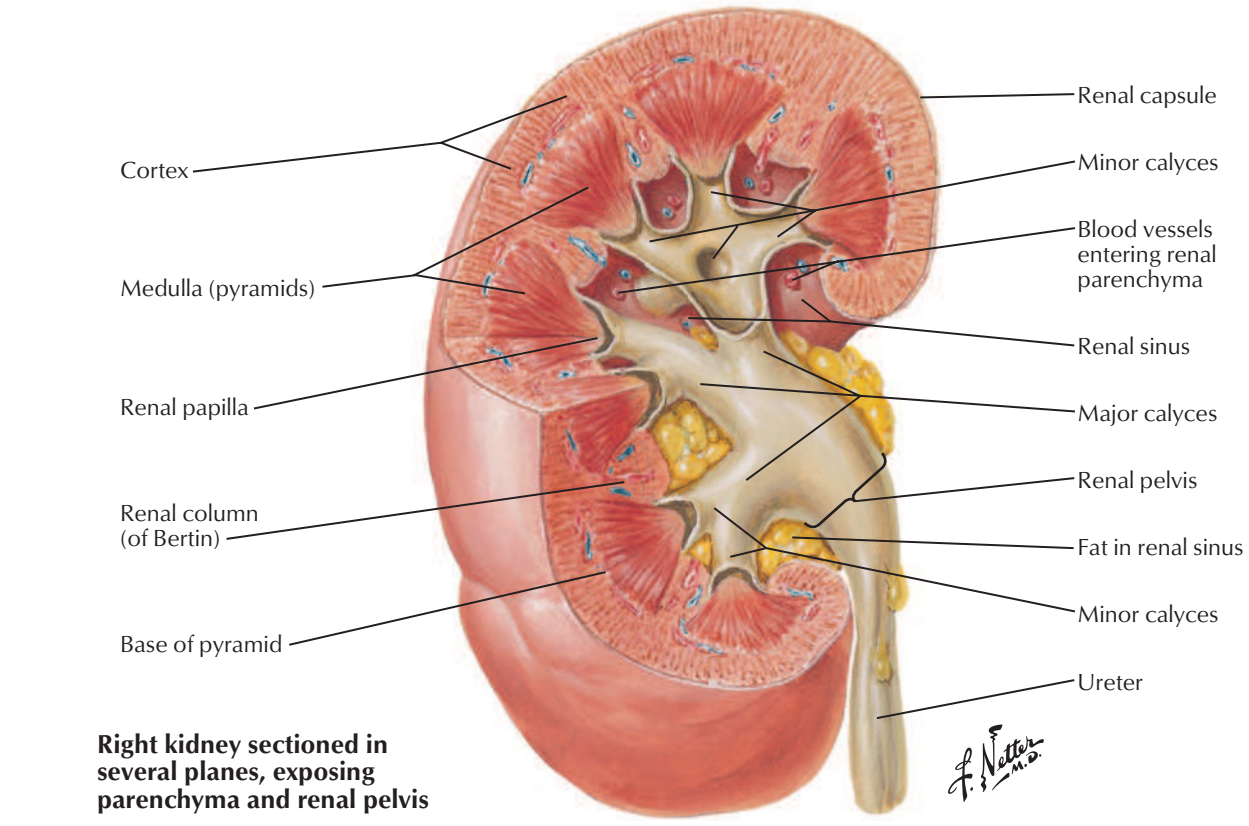


www.Booksmedicos06.com

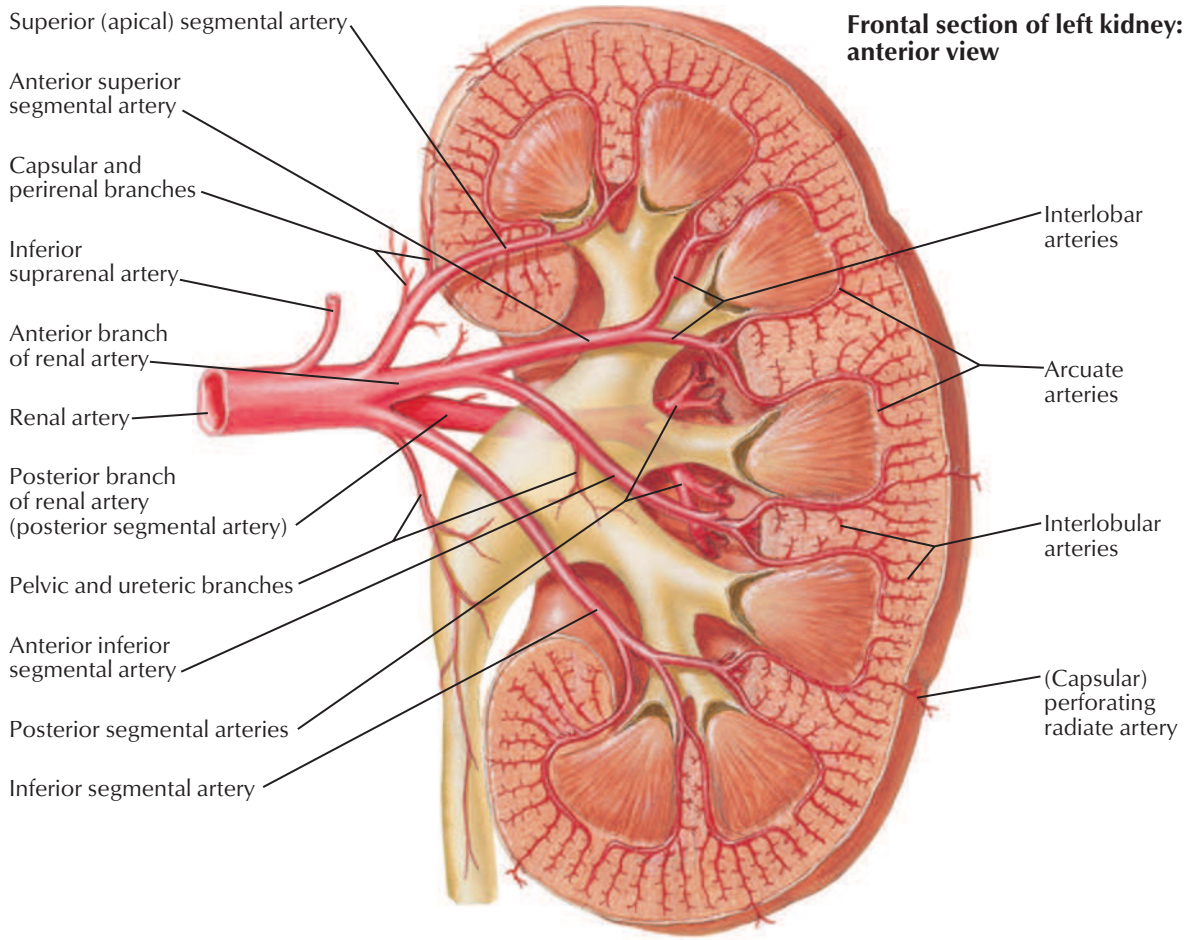
////// facebook : Booksmedicos06

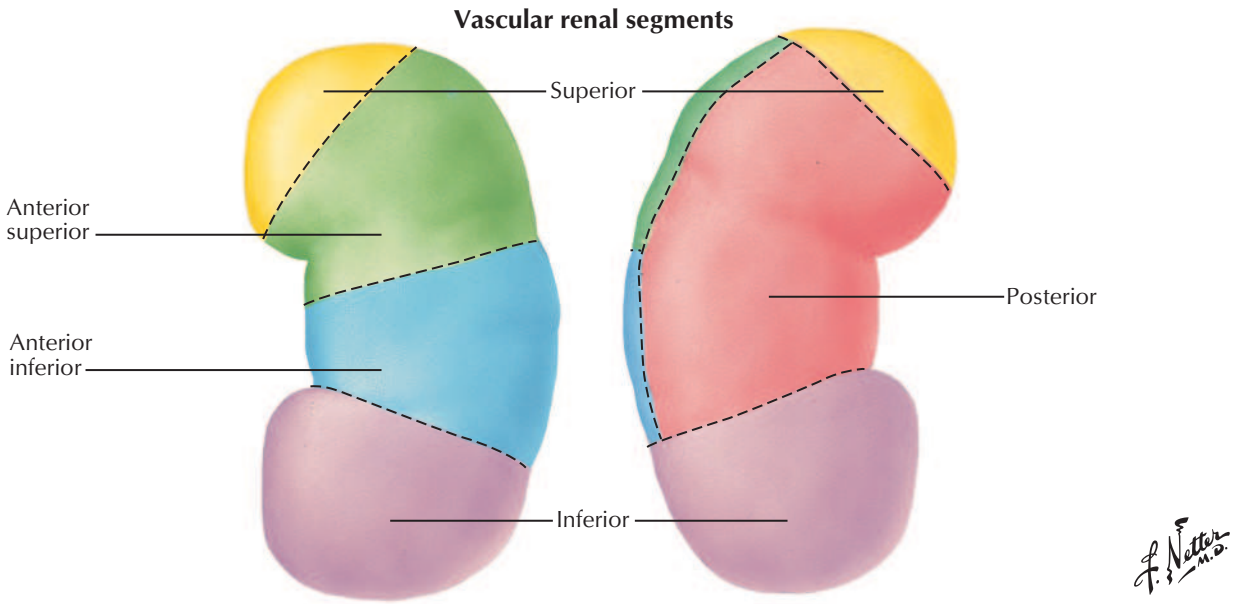


Suprarenal gland and lobulated kidney of infant



Right kidney sectioned in several planes, exposing parenchyma and renal pelvis

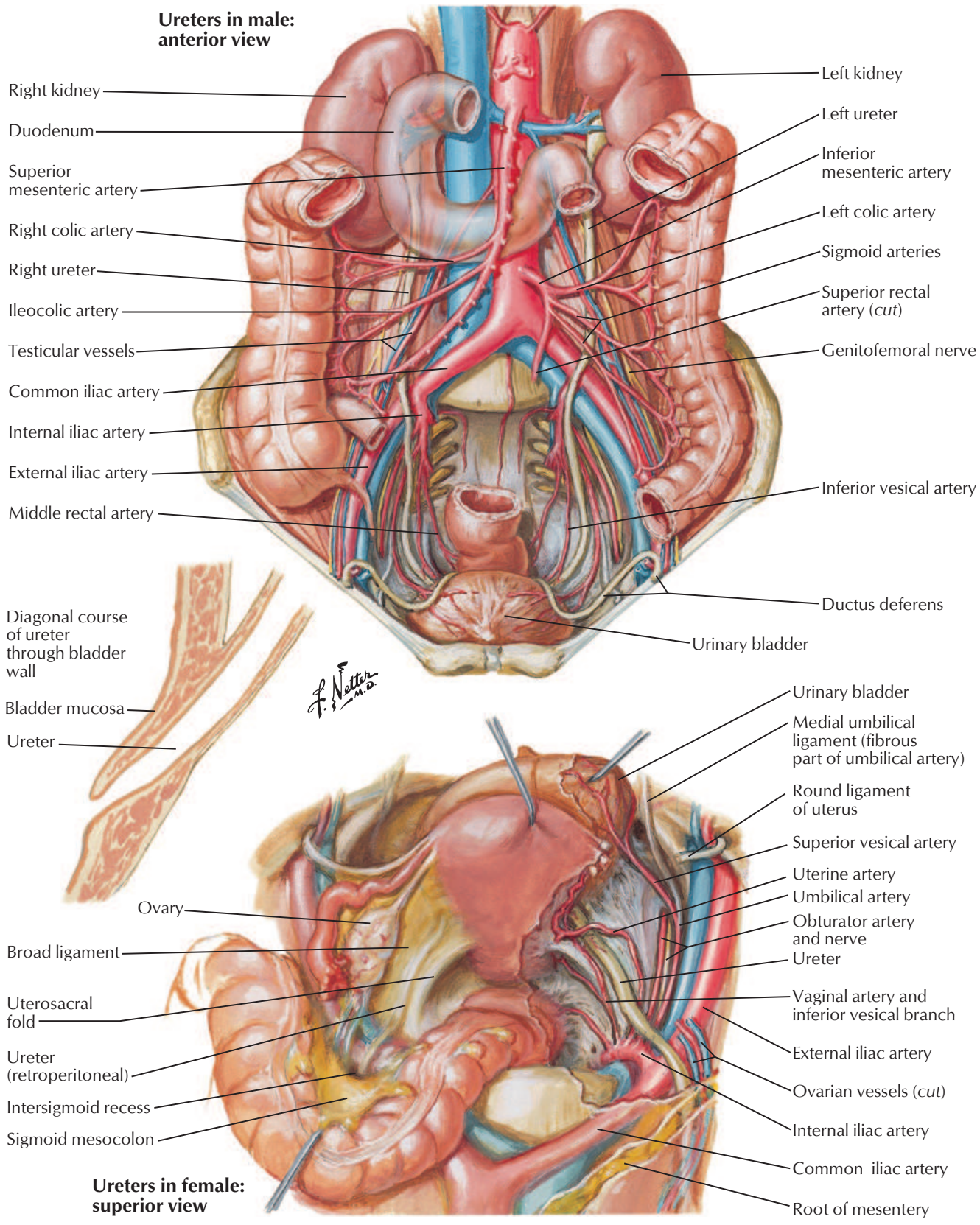


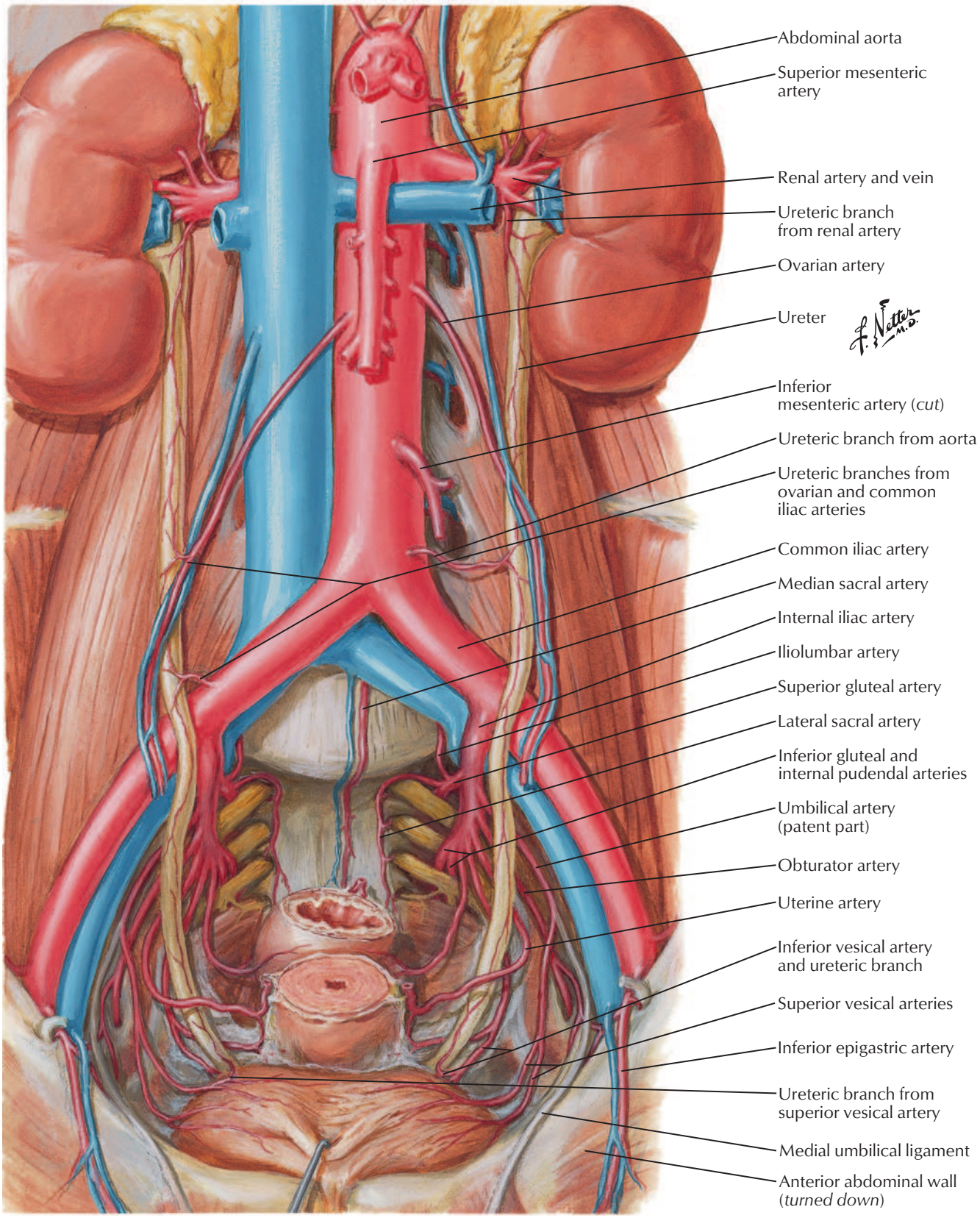


www.Booksmedicos06.com

See also Plates 344, 346, 348

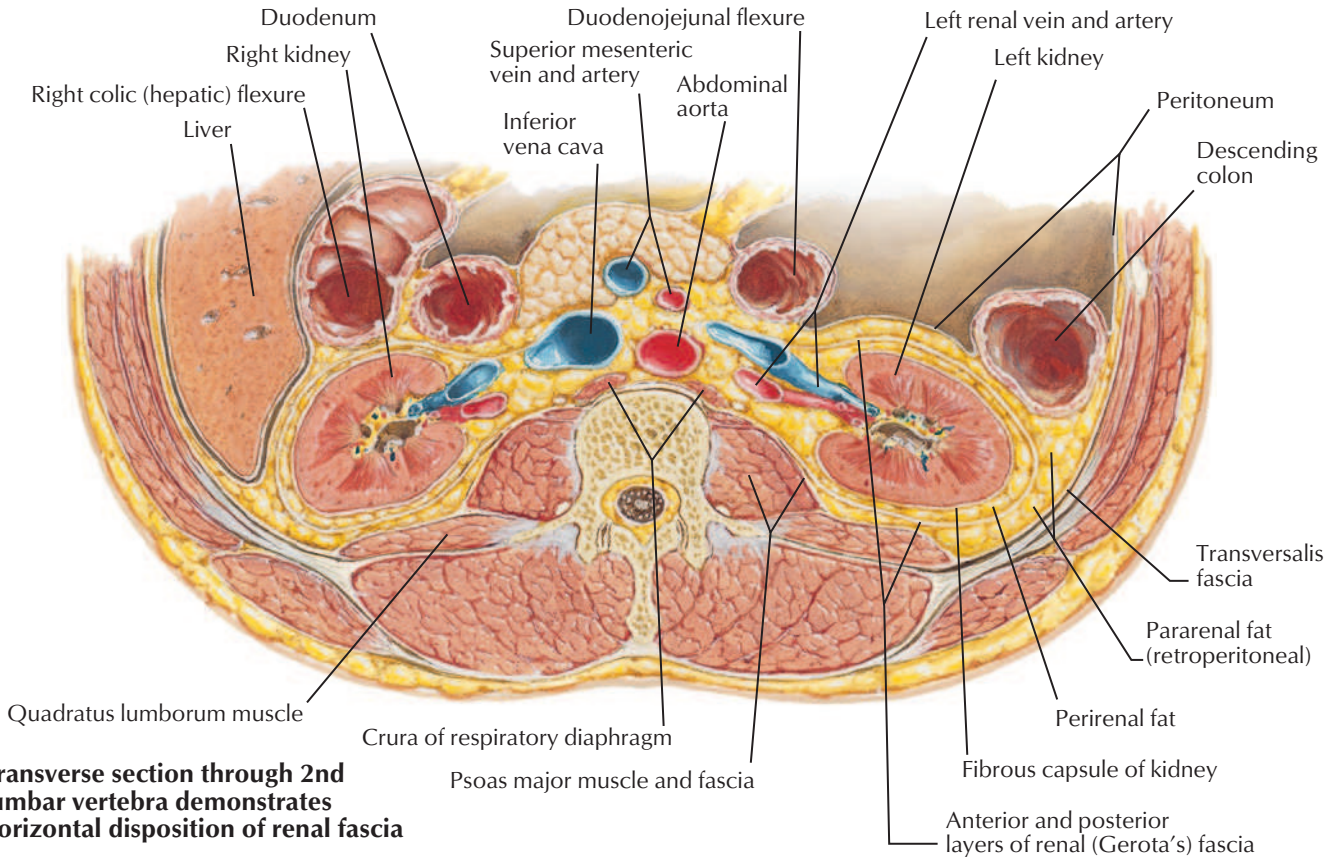
////// facebook : Booksmedicos06



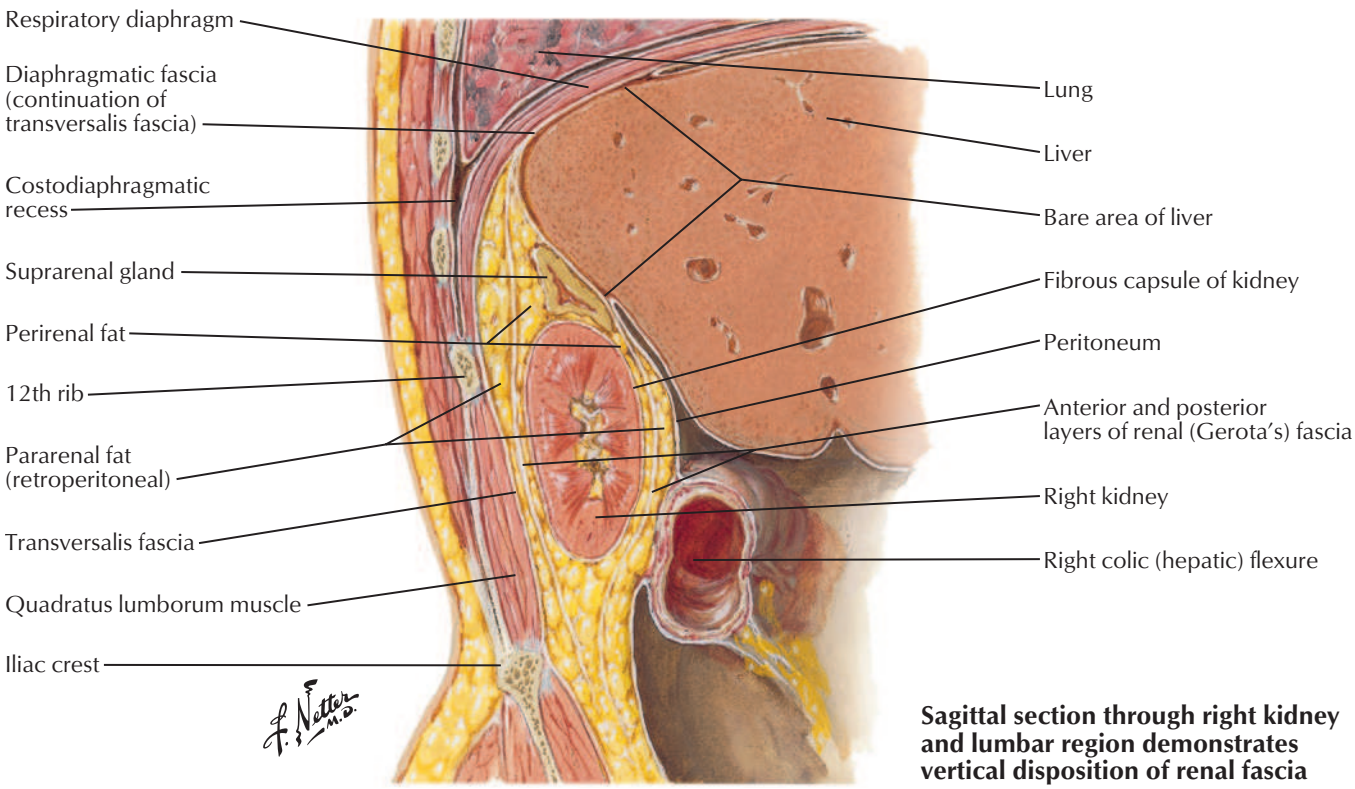


www.Booksmedicos06.com

////// facebook : Booksmedicos06



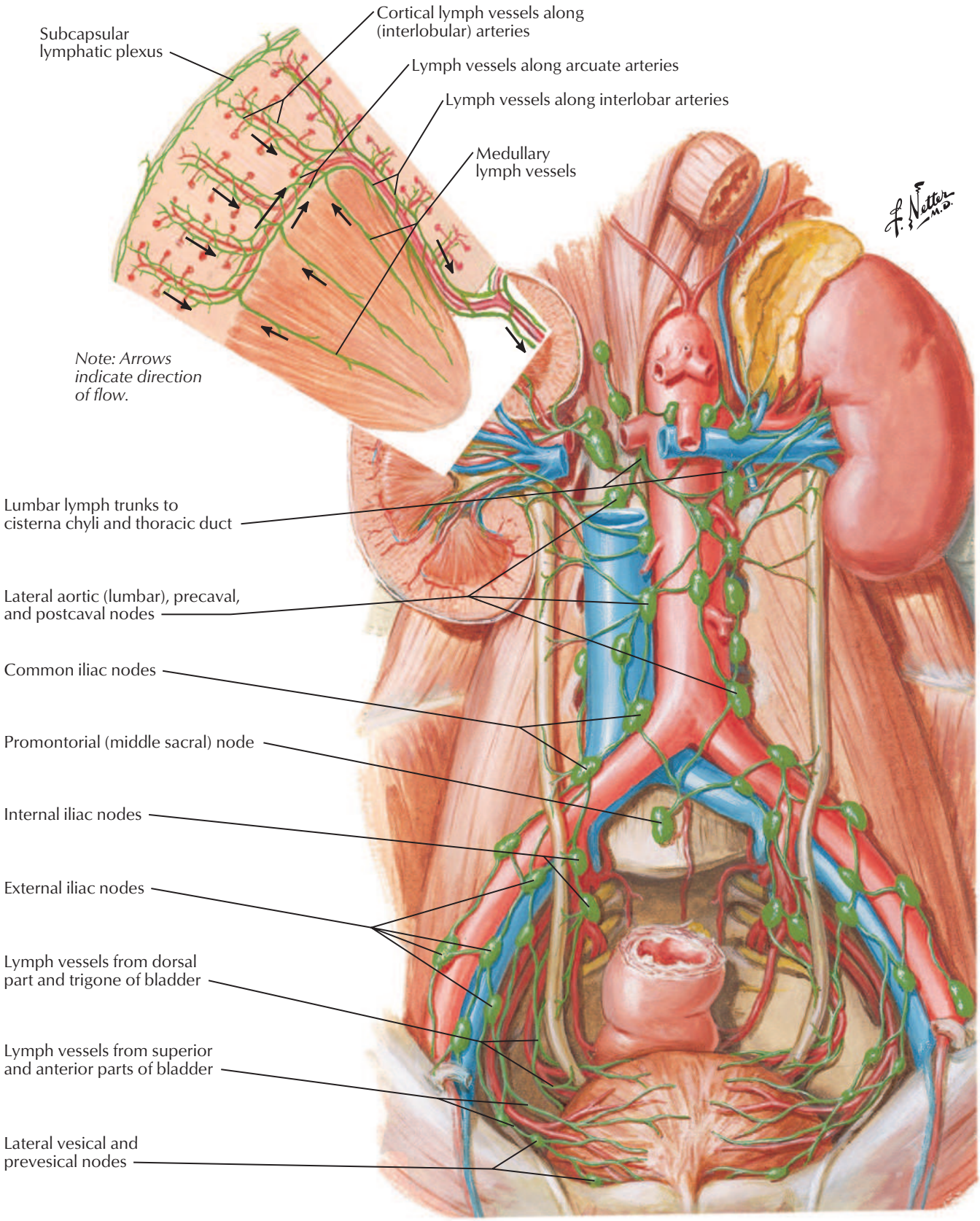
Transverse section through 2nd lumbar vertebra demonstrates horizontal disposition of renal fascia



Sagittal section through right kidney and lumbar region demonstrates vertical disposition of renal fascia

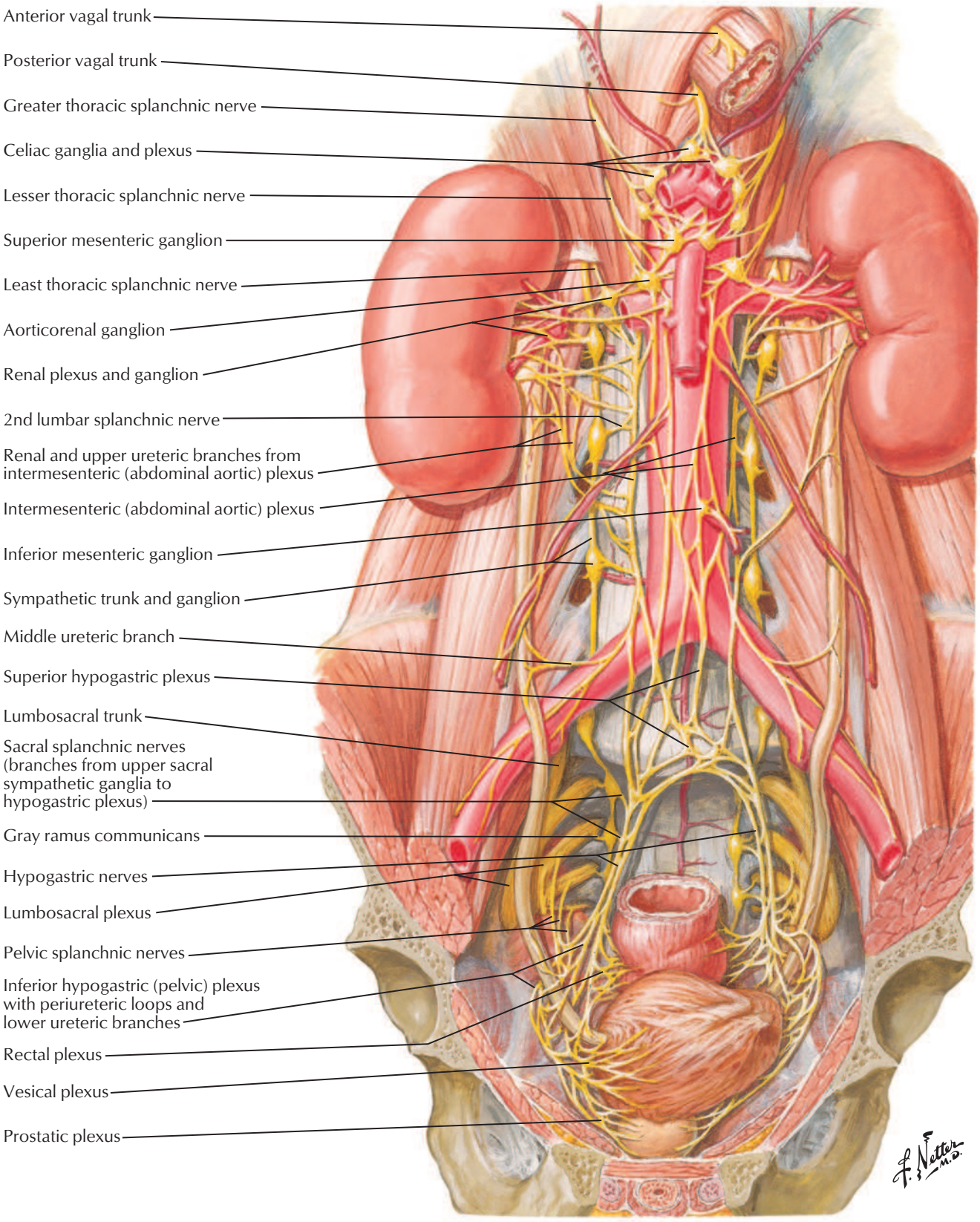
Lymph Vessels and Nodes of Kidneys and Urinary Bladder

See also Plates 388, 390



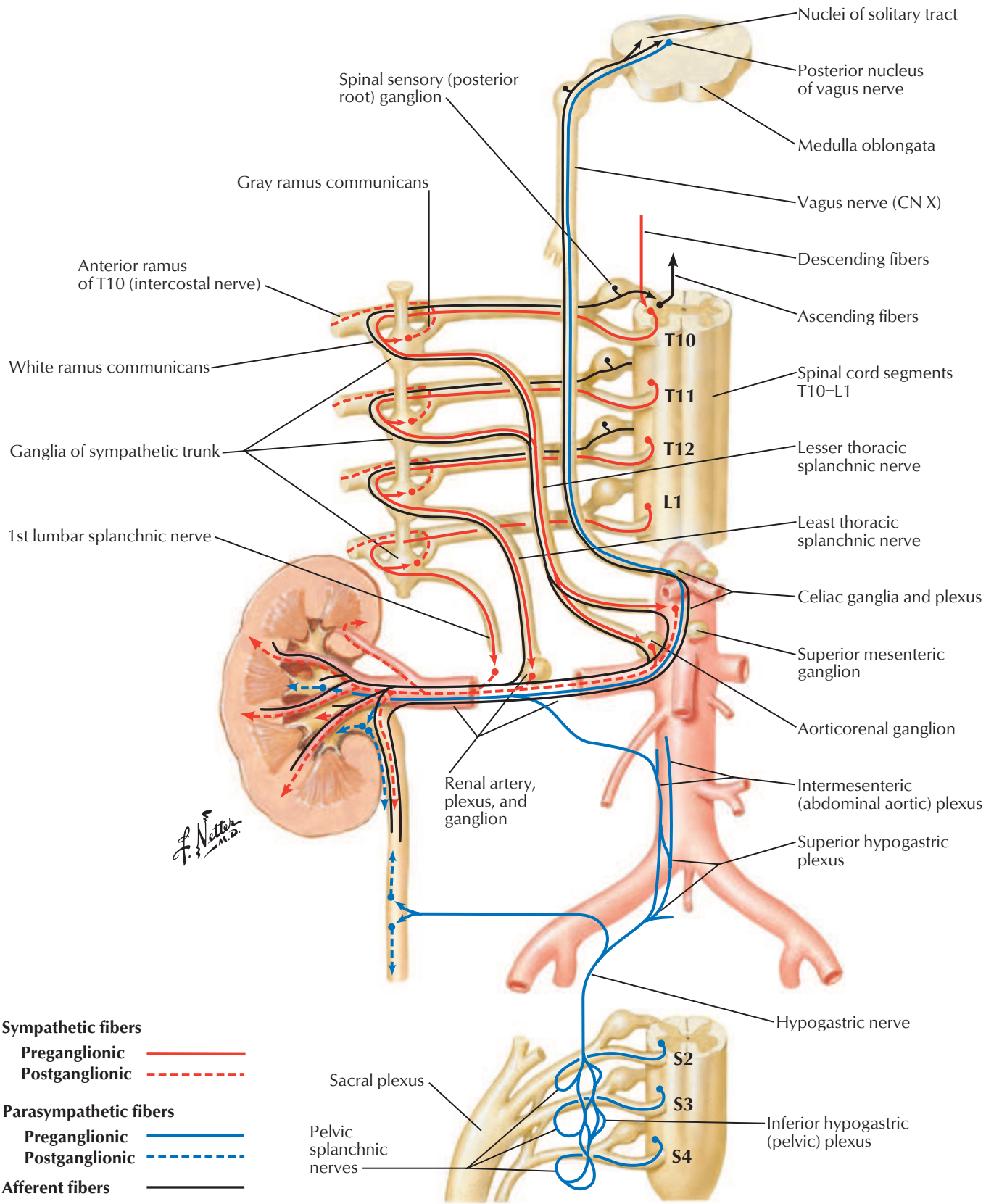
www.Booksmedicos06.com

////// facebook : Booksmedicos06



Autonomic Innervation of Kidneys and Upper Ureters: Schema

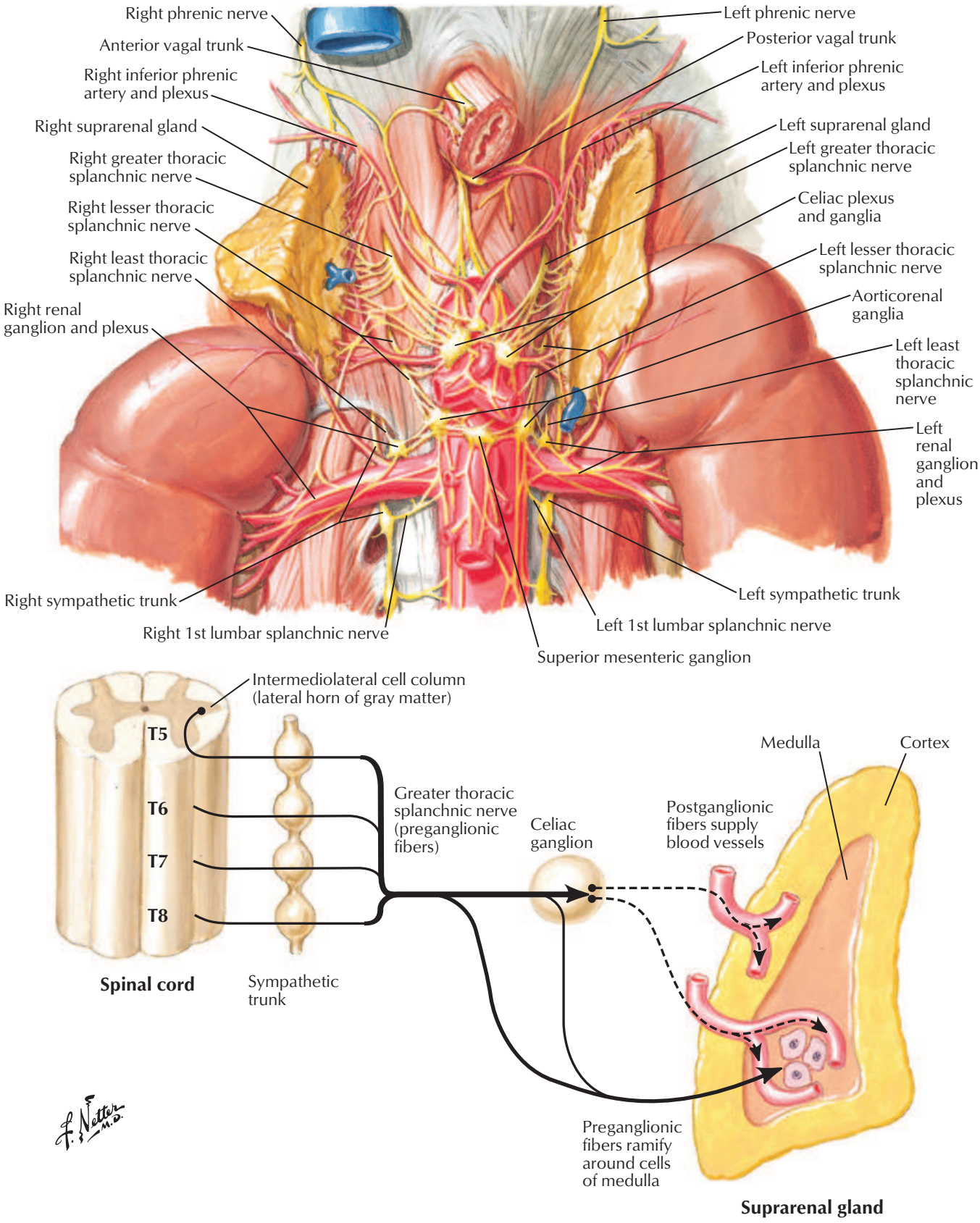
See also Plates 172, 173, 399

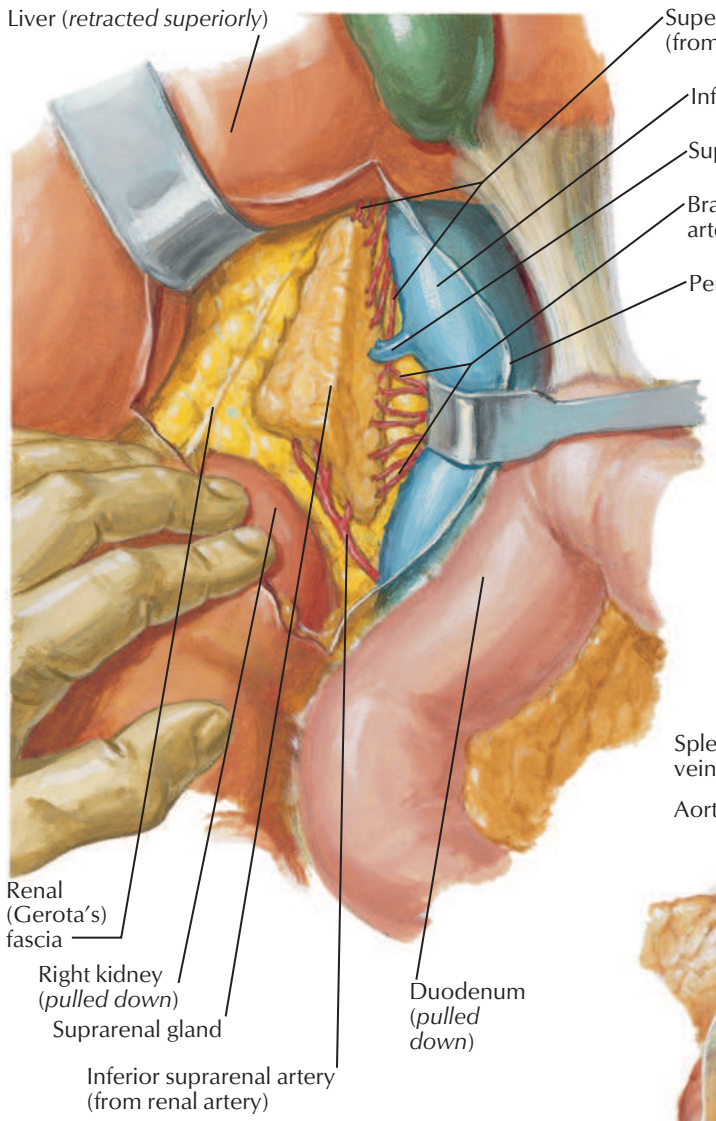


www.Booksmedicos06.com

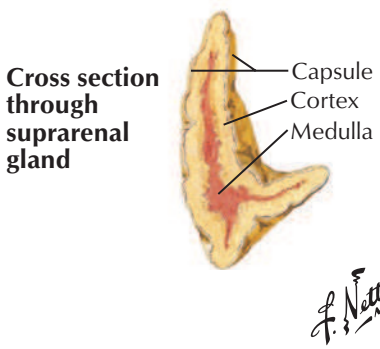
See also Plates 172, 173

////// facebook : Booksmedicos06

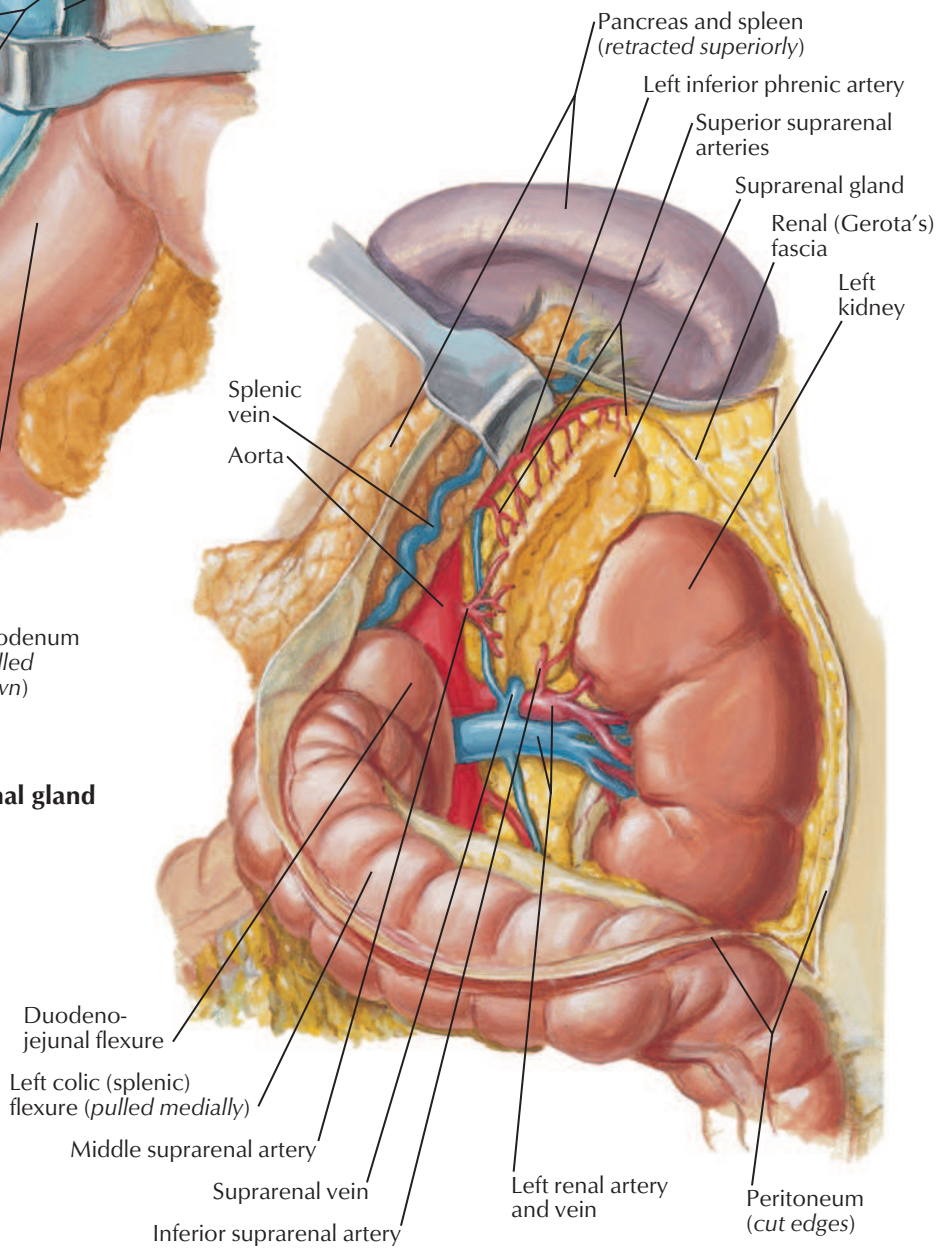




Abdominal exposure of right suprarenal gland



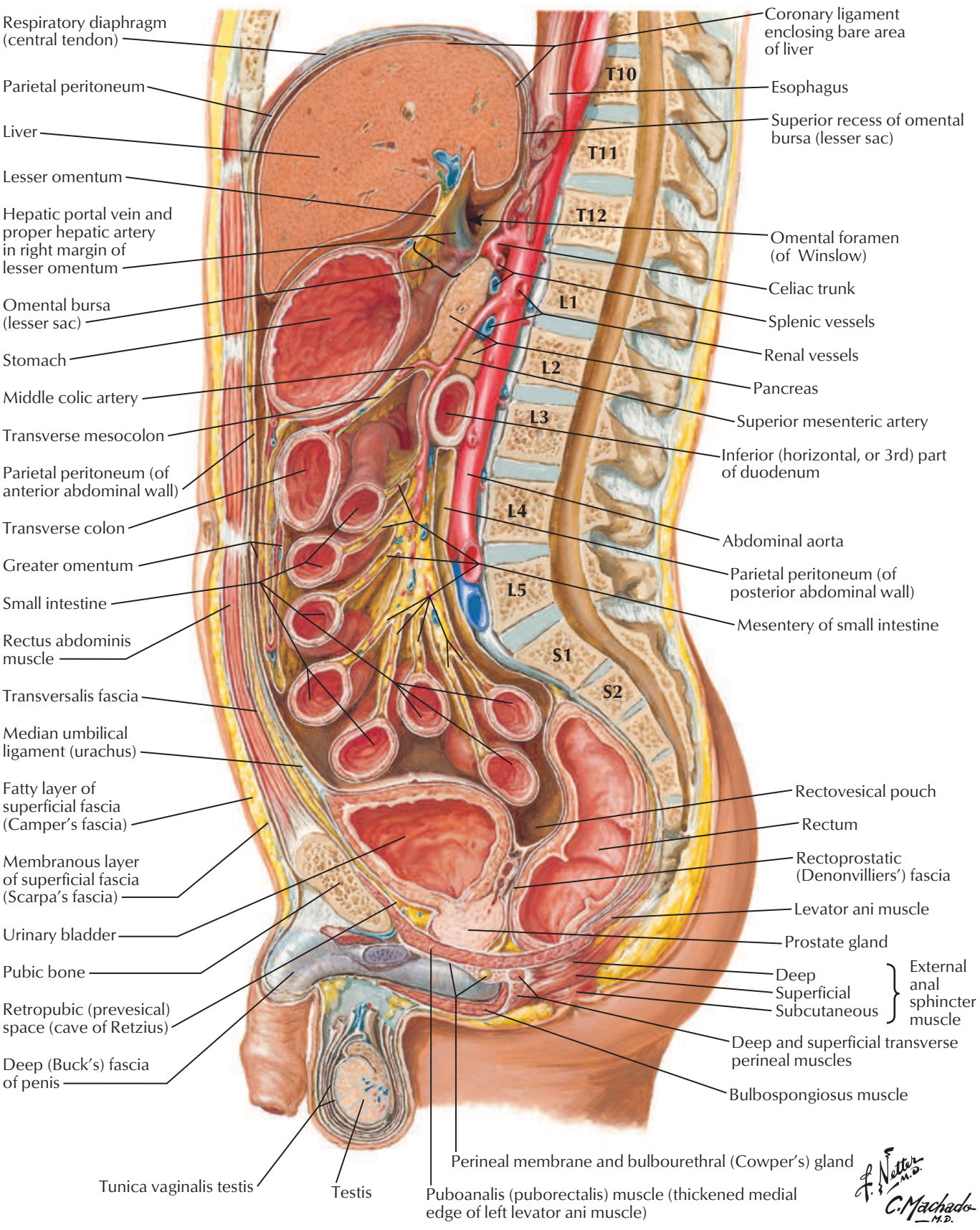
Cross section through suprarenal gland



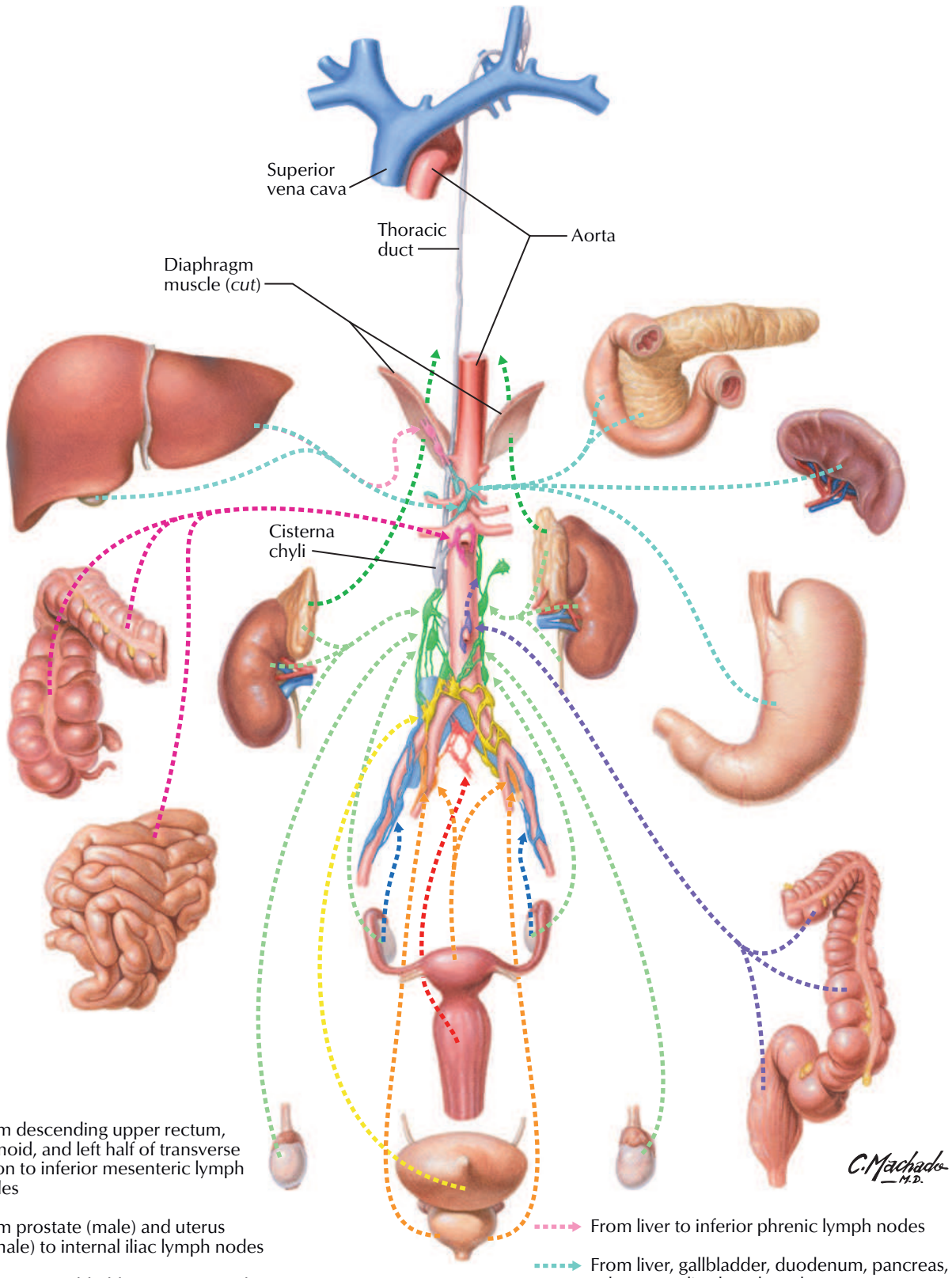
Abdominal exposure of left suprarenal gland

www.Booksmedicos06.com

////// facebook : Booksmedicos06



Abdominal and Pelvic Lymphatics: Schema

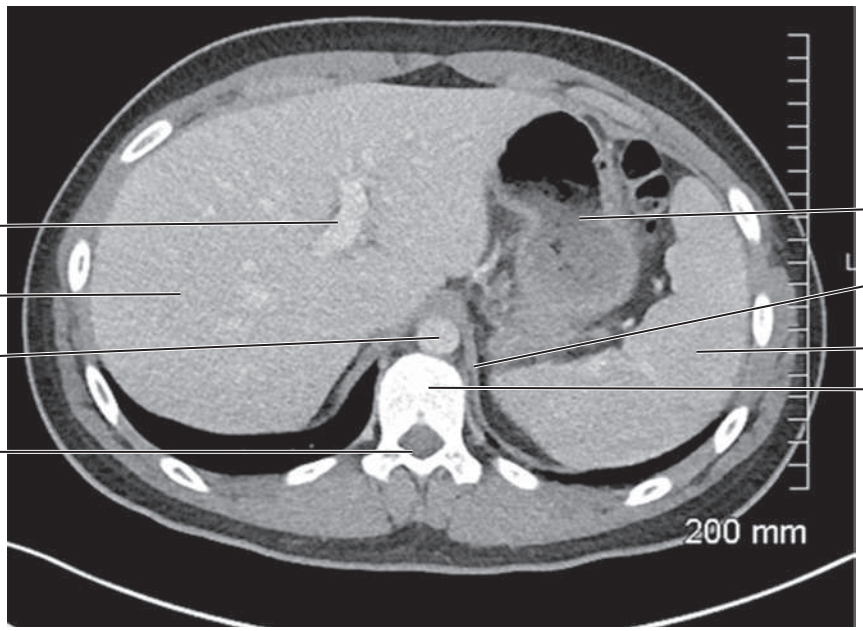


- From descending upper rectum, sigmoid, and left half of transverse colon to inferior mesenteric lymph nodes
- From prostate (male) and uterus (female) to internal iliac lymph nodes
- From urinary bladder to common iliac lymph nodes (internal iliac nodes)
- From vagina to sacral lymph nodes
- From ovaries to external iliac lymph nodes
- From suprarenal glands to posterior mediastinal nodes
- From liver to inferior phrenic lymph nodes
- From liver, gallbladder, duodenum, pancreas, and spleen to celiac lymph nodes
- From cecum, ascending and right half of transverse colon, jejunum, and ileum to superior mesenteric lymph nodes
- From kidneys, suprarenal glands, ureters, testis (male), and ovaries (female) to lateral aortic lymph nodes

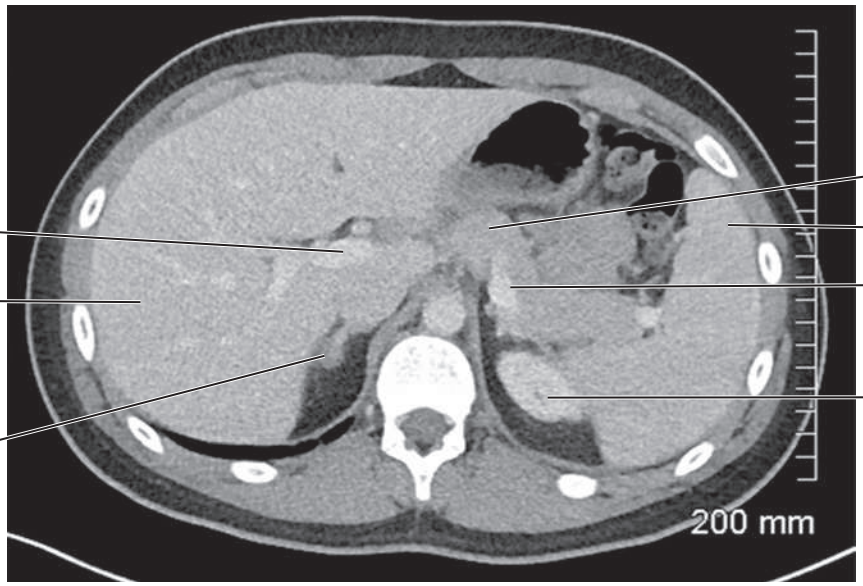
www.Booksmedicos06.com

////// facebook : Booksmedicos06

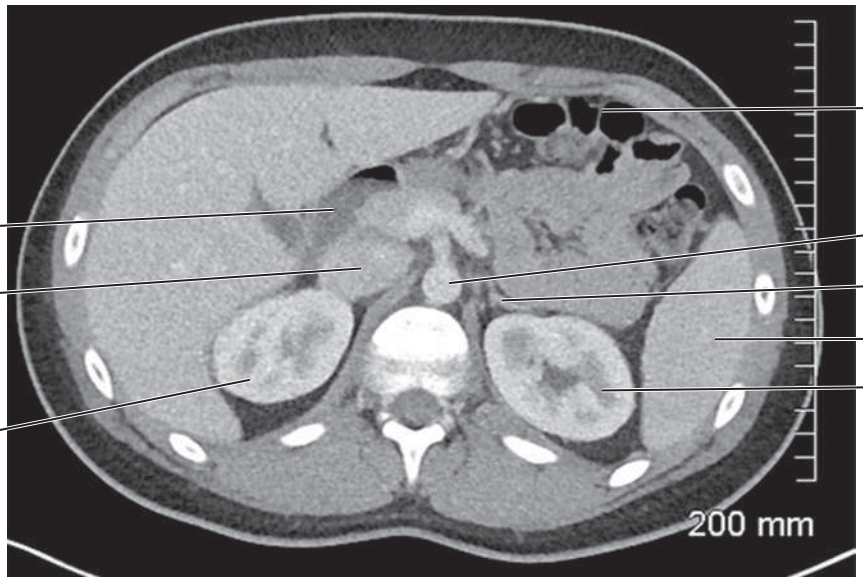
Axial CT image of abdomen with intravenous contrast enhancement



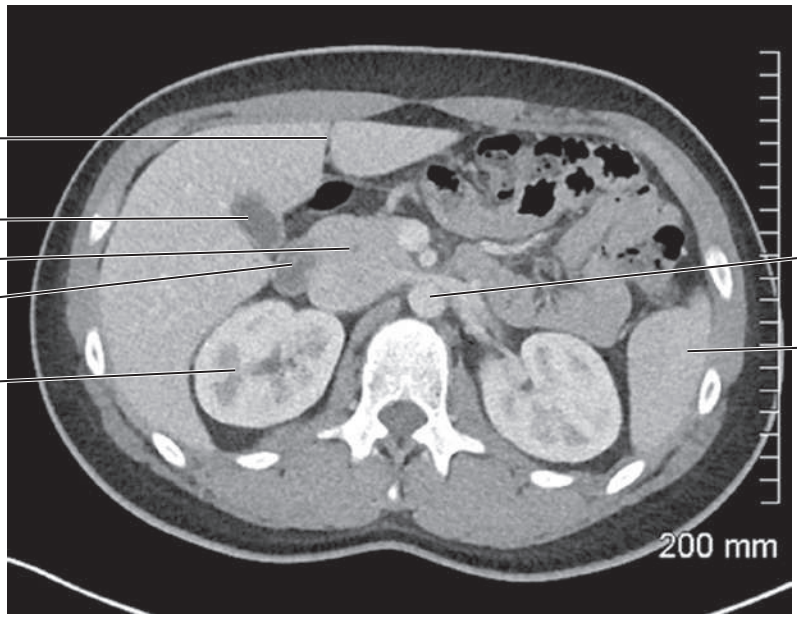
Axial CT image of upper abdomen with intravenous contrast enhancement



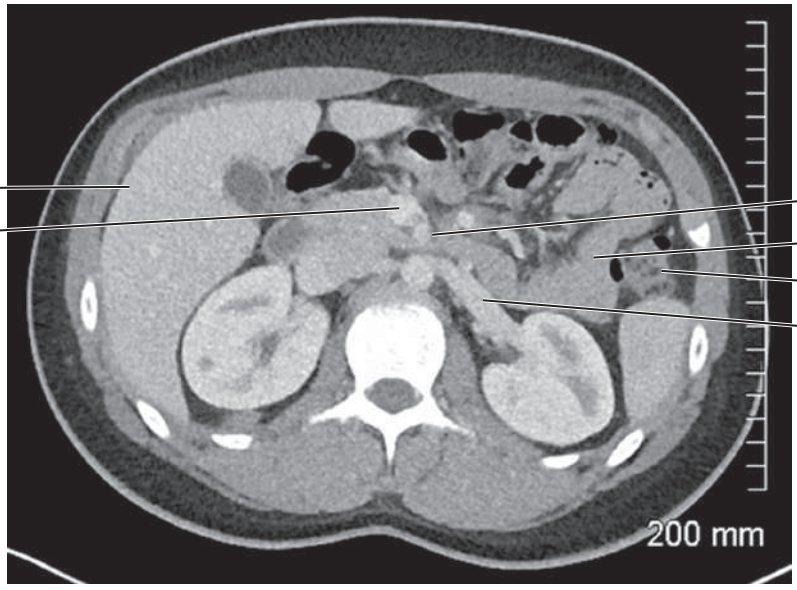
Axial CT image of midabdomen with intravenous contrast enhancement



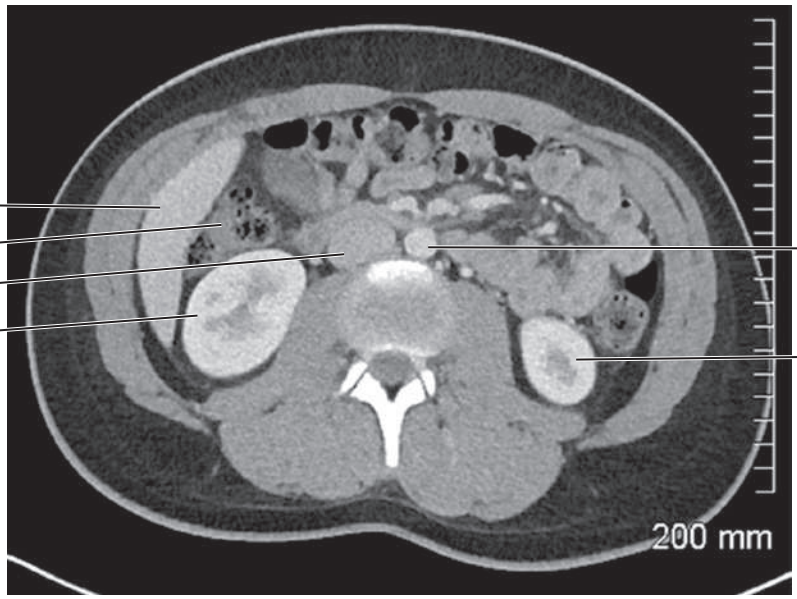
Axial CT image of midabdomen with intravenous contrast enhancement



Axial CT image of abdomen with intravenous contrast enhancement

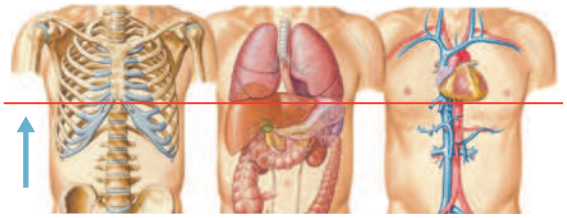


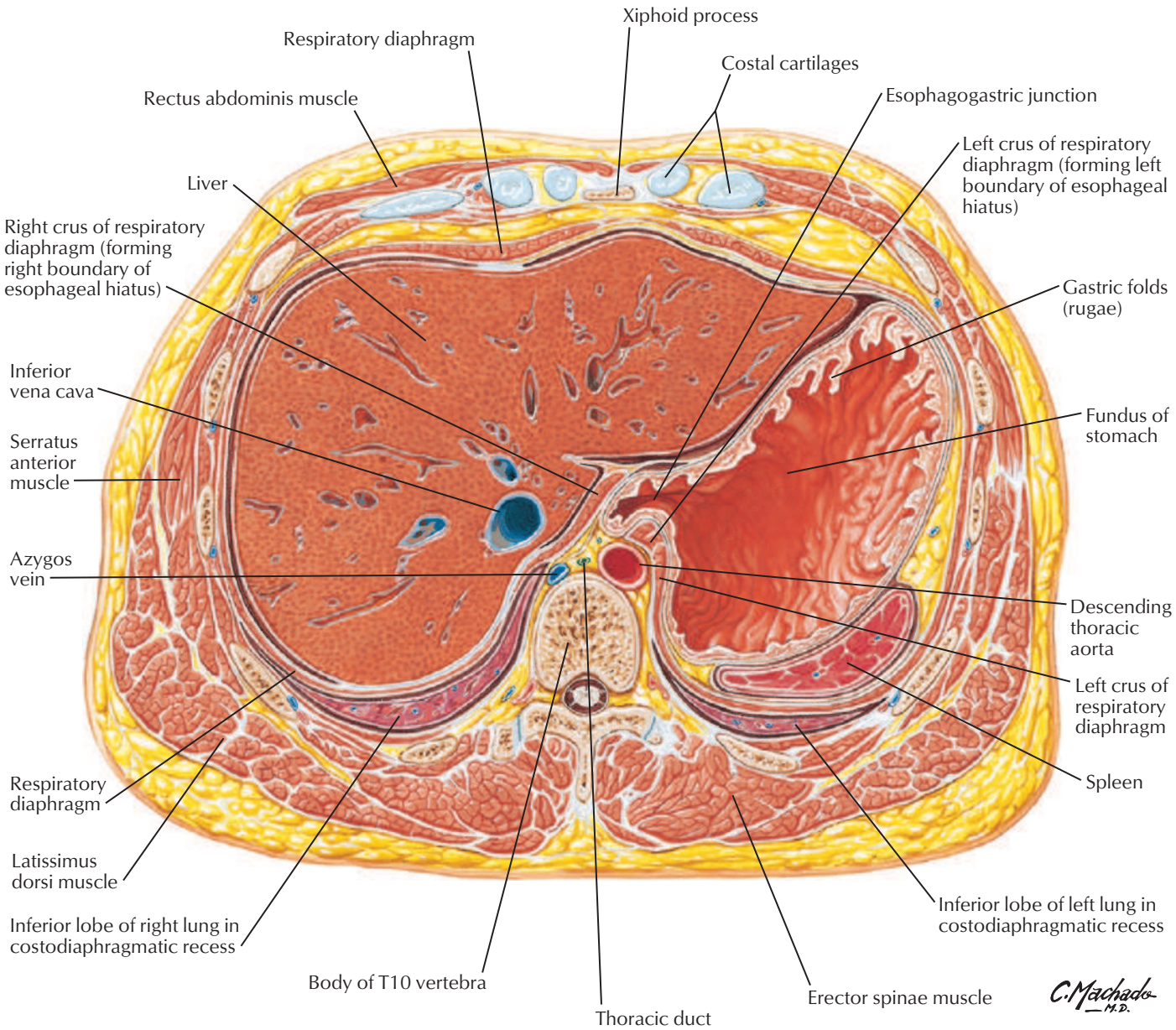
Axial CT image of abdomen with intravenous contrast enhancement

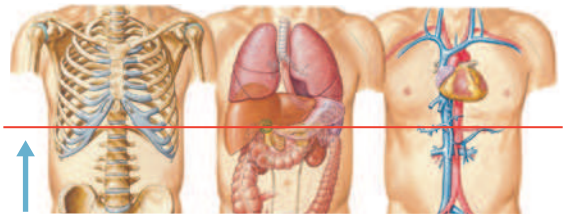


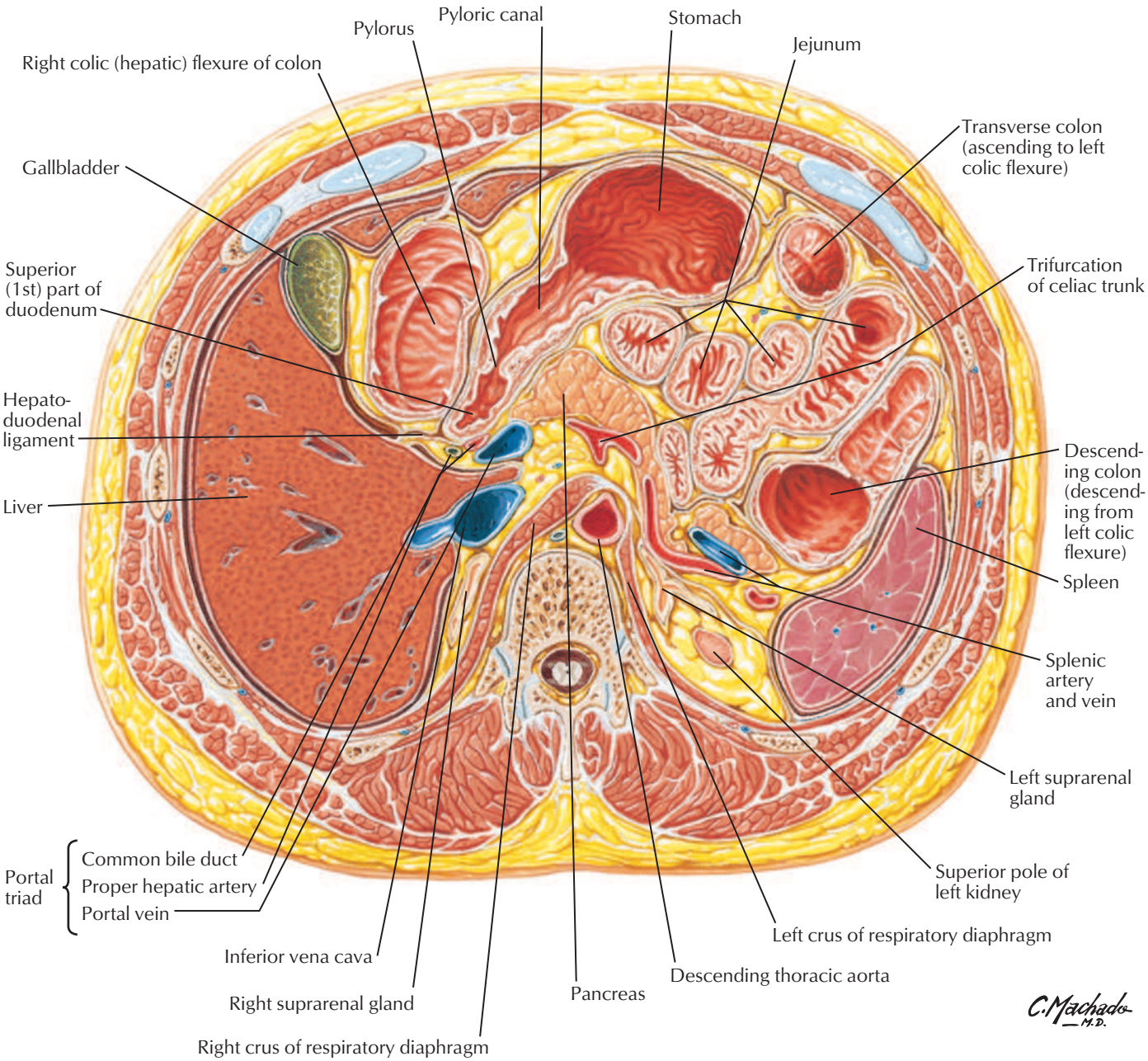
www.Booksmedicos06.com

////// facebook : Booksmedicos06



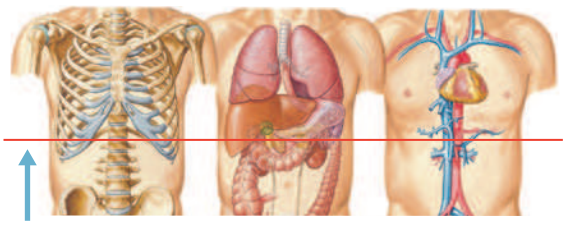


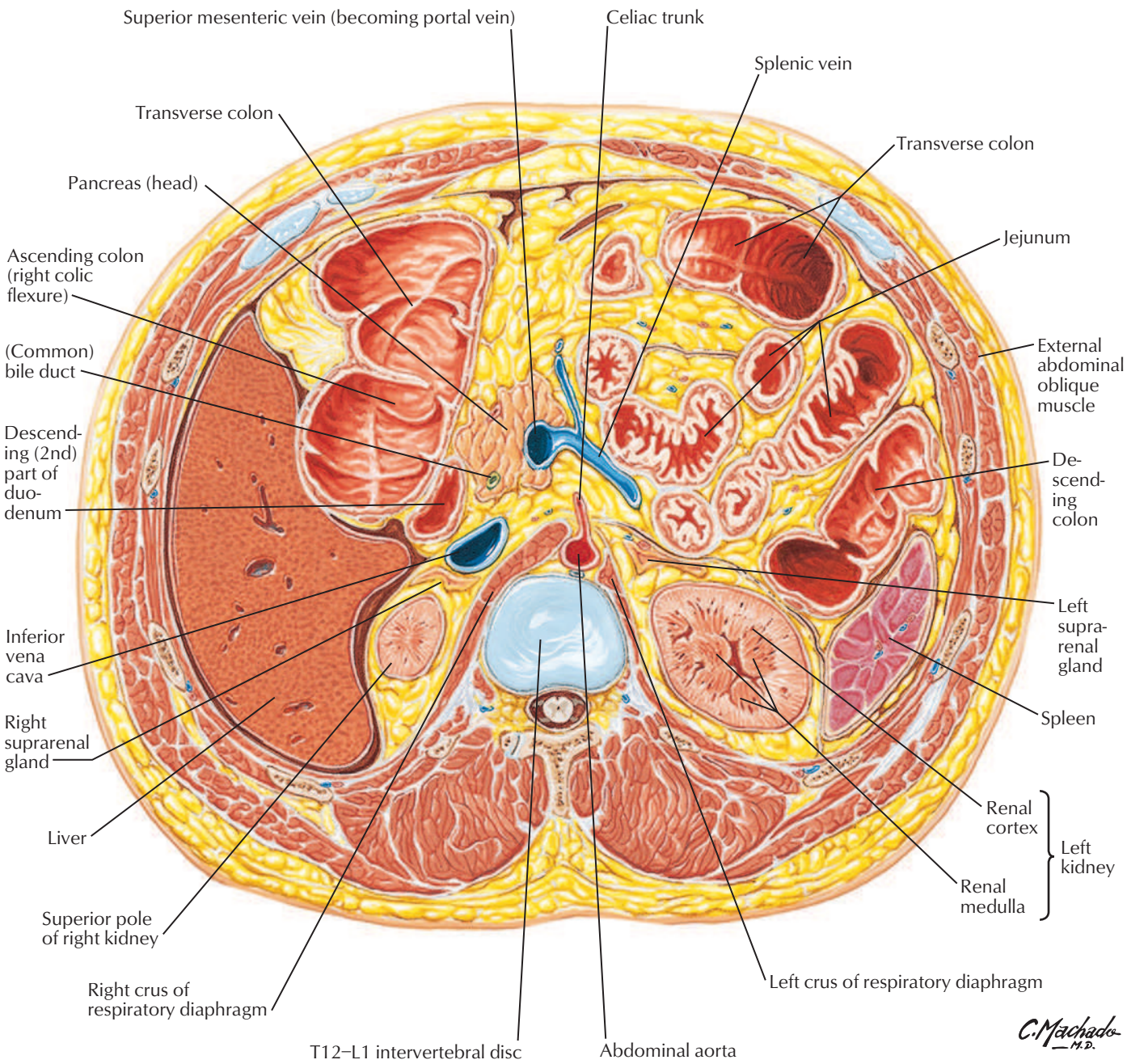


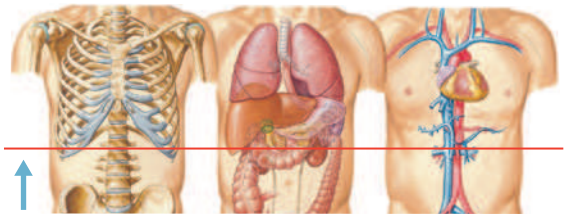


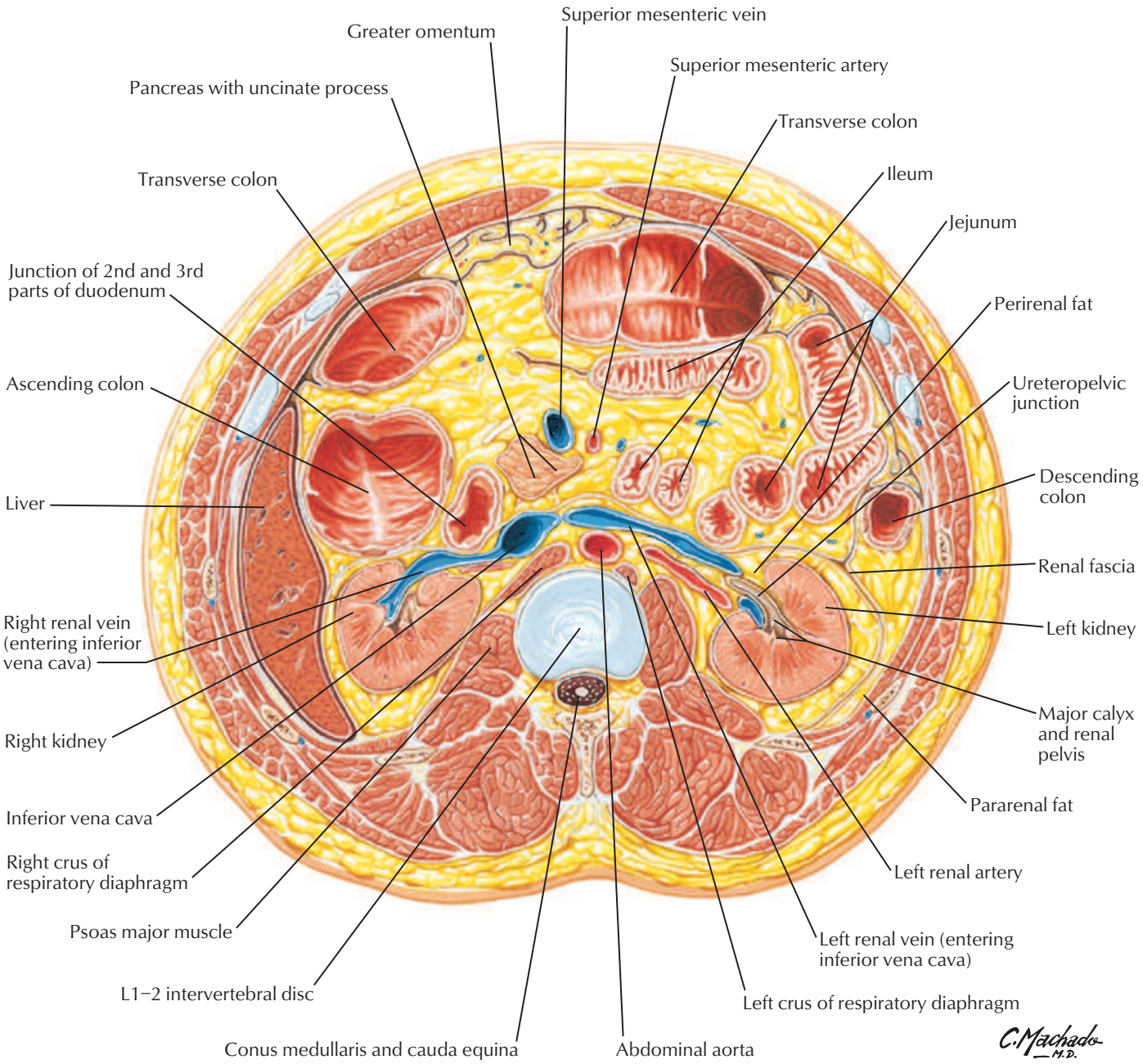
www.Booksmedicos06.com

////// facebook : Booksmedicos06



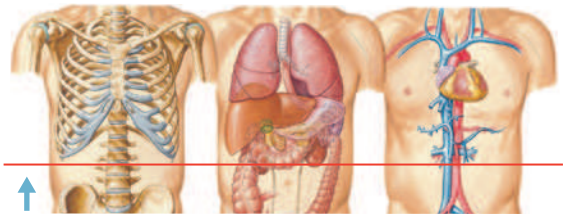


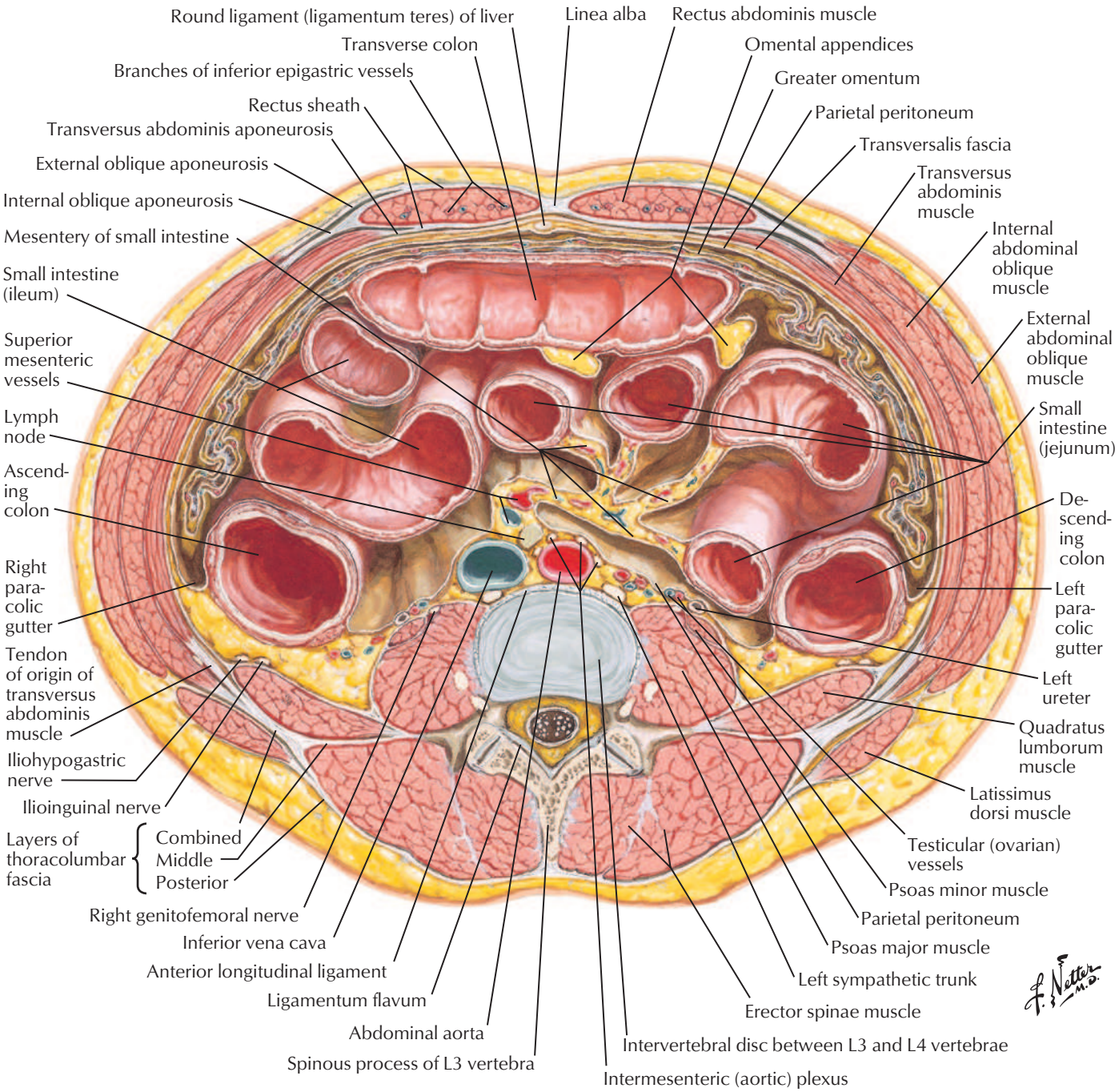




www.Booksmedicos06.com

////// facebook : Booksmedicos06





ANATOMICAL STRUCTURES	CLINICAL IMPORTANCE	PLATE NUMBERS
INTEGUMENTARY SYSTEM		
Umbilicus	Landmark for locating transumbilical plane, which is used to divide abdomen into quadrants; marks position of T10 dermatome; used to locate McBurney's point; common site for hernias in abdominal wall	249, 251
SKELETAL SYSTEM		
Xiphoid process, pubic symphysis	Palpable landmarks used to locate median plane, which is used to divide abdomen into quadrants	249
Anterior superior iliac spine (ASIS)	Palpable landmark used to located McBurney's point; tenderness over McBurney's point is indication of appendicitis	250, 282
MUSCULAR SYSTEM		
Linea alba	Site used for abdominal wall incisions because there is lack of significant neurovascular branches in this region	249, 254
Inguinal ligament	Surface landmark that marks division between abdominal wall and thigh	249, 253
Inguinal (Hesselbach's) triangle	Weak area on anterior abdominal wall where abdominal contents may herniate, producing direct inguinal hernia	256, 262
Deep (internal) inguinal ring	Opening on anterior abdominal wall where abdominal contents may herniate, producing indirect inguinal hernia	262, 263
Femoral ring	Opening medial to external iliac vessels where abdominal contents may herniate, producing femoral hernia	264
Esophageal hiatus of diaphragm	Widening of this opening allows stomach to protrude into mediastinum, causing gastroesophageal reflux	269, 271
DIGESTIVE SYSTEM		
Liver	Palpable inferior to right costal margin	270, 276
Gastroesophageal junction	Transient relaxations or decreased tone of lower esophageal sphincter can cause gastric esophageal reflux disease (GERD)	277, 328
Stomach, duodenum	Site of peptic ulcer formation	276, 277
Appendix	Prone to inflammation and rupture	280, 282
Colon	Common site of diverticula; colonoscopy is performed to screen for colon cancer	283
Gallbladder	Palpable at junction of right costal margin and midclavicular line; may become inflamed (cholecystitis) and cause pain; gallstones can block biliary ducts	284, 309
URINARY SYSTEM		
Kidney	Maintain fluid and electrolyte balance; may develop renal calculi (kidney stones)	314
ENDOCRINE SYSTEM		
Pancreas	Due to its retroperitoneal position, pain from pancreas is typically referred to the back; cancer of head of pancreas can compress common bile duct	288, 310

www.Booksmedicos06.com

////// facebook : Booksmedicos06

ANATOMICAL STRUCTURES	CLINICAL IMPORTANCE	PLATE NUMBERS
NERVOUS SYSTEM		
Ilioinguinal and genitofemoral nerves	Mediate cremasteric reflex, which tests integrity of L1 spinal nerve	269
Intercostal, subcostal, and iliohypogastric nerves	Convey well-localized pain sensations from abdominal wall and parietal peritoneum; pain in dermatomal distribution indicates problem with spinal nerves (e.g., herpes zoster infection)	260
Renal artery sympathetic fibers	Medically resistant hypertension can be treated in some patients by denervating sympathetic fibers traveling along renal arteries	300, 321
Celiac ganglion	Some patients with medically intractable pain from chronic pancreatitis undergo celiac ganglion block	301, 310
Sympathetic splanchnic nerves	Convey pain sensations from abdominal viscera that are often referred to other sites; quadrant in which pain is located and site of radiation provide clues to source of pain	303, 306
Iliohypogastric nerve	Nephrectomy through quadratus lumborum can damage iliohypogastric nerve, with resultant anesthesia above pubis	312
CARDIOVASCULAR SYSTEM		
Arterial anastomoses of anterior abdominal wall	Anastomosis between epigastric arteries and internal thoracic arteries and between circumflex arteries and intercostal and lateral thoracic arteries	258
Venous anastomoses of anterior abdominal wall	Anastomosis between epigastric veins and internal thoracic veins and between circumflex and thoracoepigastric veins and lateral thoracic veins	259
Paraumbilical veins	May become dilated in patients with portal hypertension, producing caput medusa	259, 299
Cystic artery	Ligated during cholecystectomy	291
Superior mesenteric artery	May compress 3rd part of duodenum in thin patient or patient who has recently lost a lot of weight	291, 294
Intestinal arteries	Areas without significant collateral circulation between major vessels (watershed areas) are at risk for ischemia	294, 295
Marginal artery anastomosis	Marginal artery connects right, middle, and left colic arteries, providing important anastomosis for collateral circulation	295
Esophageal veins	May become dilated with portal hypertension, resulting in esophageal varices	296, 299
Hepatic portal vein	Reduced blood flow through liver (e.g., due to cirrhosis) may produce portal hypertension and dilation of tributaries of portal vein; blood may return to heart at sites of portosystemic anastomosis	298, 299
Superior rectal vein	Has anastomoses with systemic rectal veins that may become dilated with portal hypertension	298, 299
Abdominal aorta	Common site for aneurysm in abdomen, especially inferior to renal arteries	317
LYMPHATIC SYSTEM		
Spleen	May be ruptured by fracture of ribs 9 to 11; splenic enlargement is assessed by palpation	273, 289

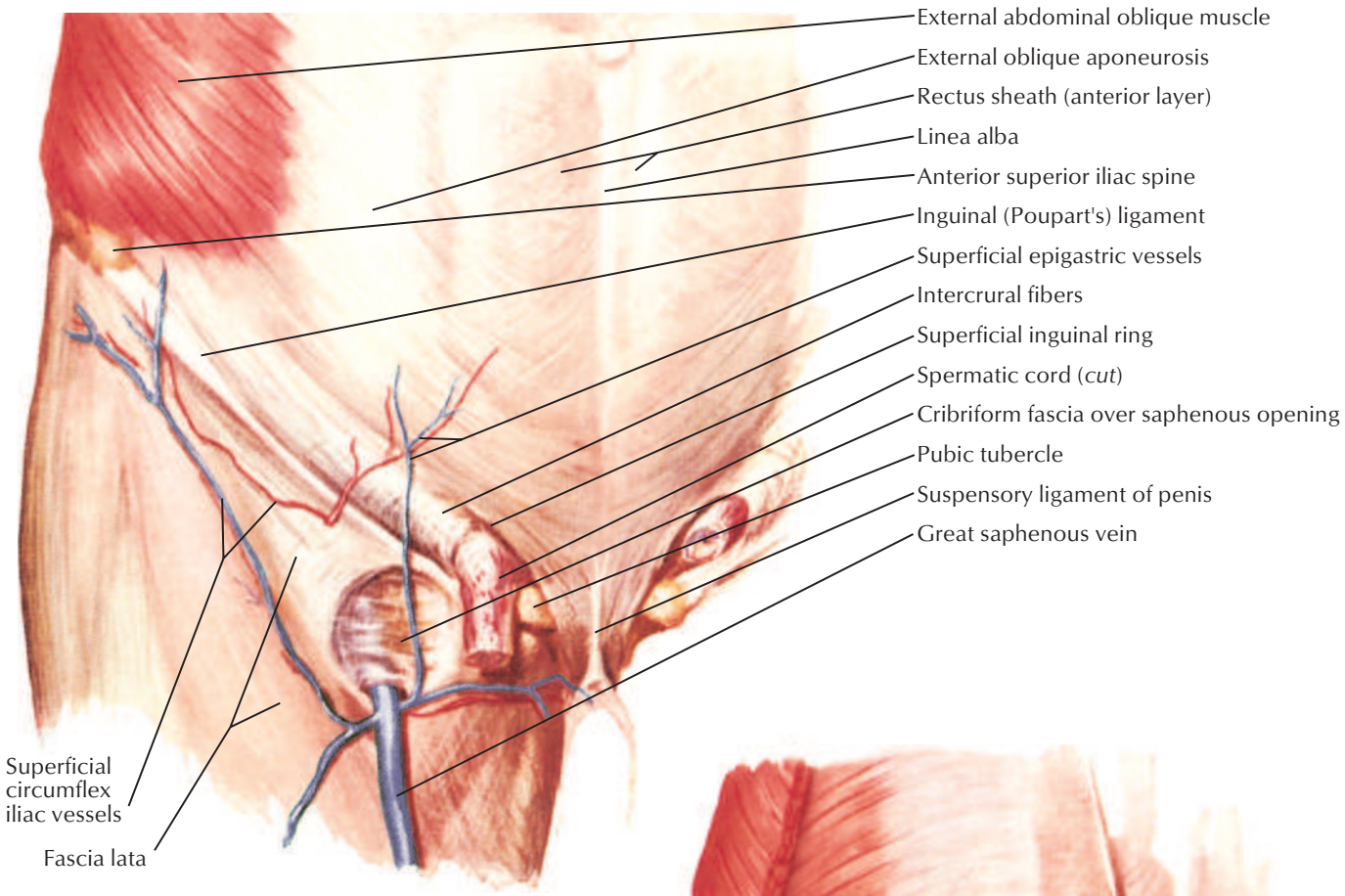
*Selections were based largely on clinical data as well as commonly covered clinical correlations in gross anatomy courses.

MUSCLE	MUSCLE GROUP	PROXIMAL ATTACHMENT (ORIGIN)	DISTAL ATTACHMENT (INSERTION)	INNERVATION	BLOOD SUPPLY	MAIN ACTIONS
Respiratory diaphragm	Posterior abdominal wall	Xiphoid process, lower six costal cartilages, L1–L3 vertebrae	Converges into central tendon	Phrenic nerve	Pericardiacophrenic, musculophrenic, superior and inferior phrenic arteries	Draws central tendon down and forward during inspiration
External abdominal oblique	Anterior abdominal wall	External surfaces of ribs 5–12	Linea alba, pubic tubercle, anterior half of iliac crest	Anterior rami of six inferior thoracic nerves	Superior and inferior epigastric arteries	Compresses and supports abdominal viscera, flexes and rotates trunk
Internal abdominal oblique	Anterior abdominal wall	Thoracolumbar fascia, anterior 2/3 of iliac crest, lateral half of inguinal ligament	Inferior borders of ribs 10–12, linea alba, pubis via conjoint tendon	Anterior rami of six inferior thoracic and first lumbar nerves	Superior and inferior epigastric and deep circumflex iliac arteries	Compresses and supports abdominal viscera, flexes and rotates trunk
Psoas major	Posterior abdominal wall	Transverse processes of lumbar vertebrae, sides of bodies of T12–L5 vertebrae, intervening intervertebral discs	Lesser trochanter of femur	Anterior rami of first three lumbar nerves	Lumbar branches of iliolumbar artery	Acting superiorly with iliacus, flexes hip; acting inferiorly, flexes vertebral column laterally; used to balance trunk in sitting position; acting inferiorly with iliacus, flexes trunk
Psoas minor	Posterior abdominal wall	Vertebral margins of T12–L1 vertebrae, corresponding intervertebral disc	Pectineal line, iliopectineal eminence	Anterior rami of first lumbar nerve	Lumbar branch of iliolumbar artery	Flexes pelvis on vertebral column
Pyramidalis	Anterior abdominal wall	Body of pubis, anterior to rectus abdominis	Linea alba	Iliohypogastric nerve	Inferior epigastric artery	Tenses linea alba
Quadratus lumborum	Posterior abdominal wall	Medial half of inferior border of 12th rib, tips of lumbar transverse processes	Iliolumbar ligament, internal lip of iliac crest	Anterior rami of T12 and first four lumbar nerves	Iliolumbar artery	Extends and laterally flexes vertebral column, fixes 12th rib during inspiration
Rectus abdominis	Anterior abdominal wall	Pubic symphysis, pubic crest	Xiphoid process, costal cartilages 5–7	Anterior rami of six inferior thoracic nerves	Superior and interior epigastric arteries	Flexes trunk, compresses abdominal viscera
Transversus abdominis	Anterior abdominal wall	Internal surfaces of costal cartilages 7–12, thoracolumbar fascia, iliac crest, lateral third of inguinal ligament	Linea alba with aponeurosis of internal abdominal oblique, pubic crest, and pecten pubis via conjoint tendon	Anterior rami of six inferior thoracic and first lumbar nerves	Deep circumflex iliac and inferior epigastric arteries	Compresses and supports abdominal viscera

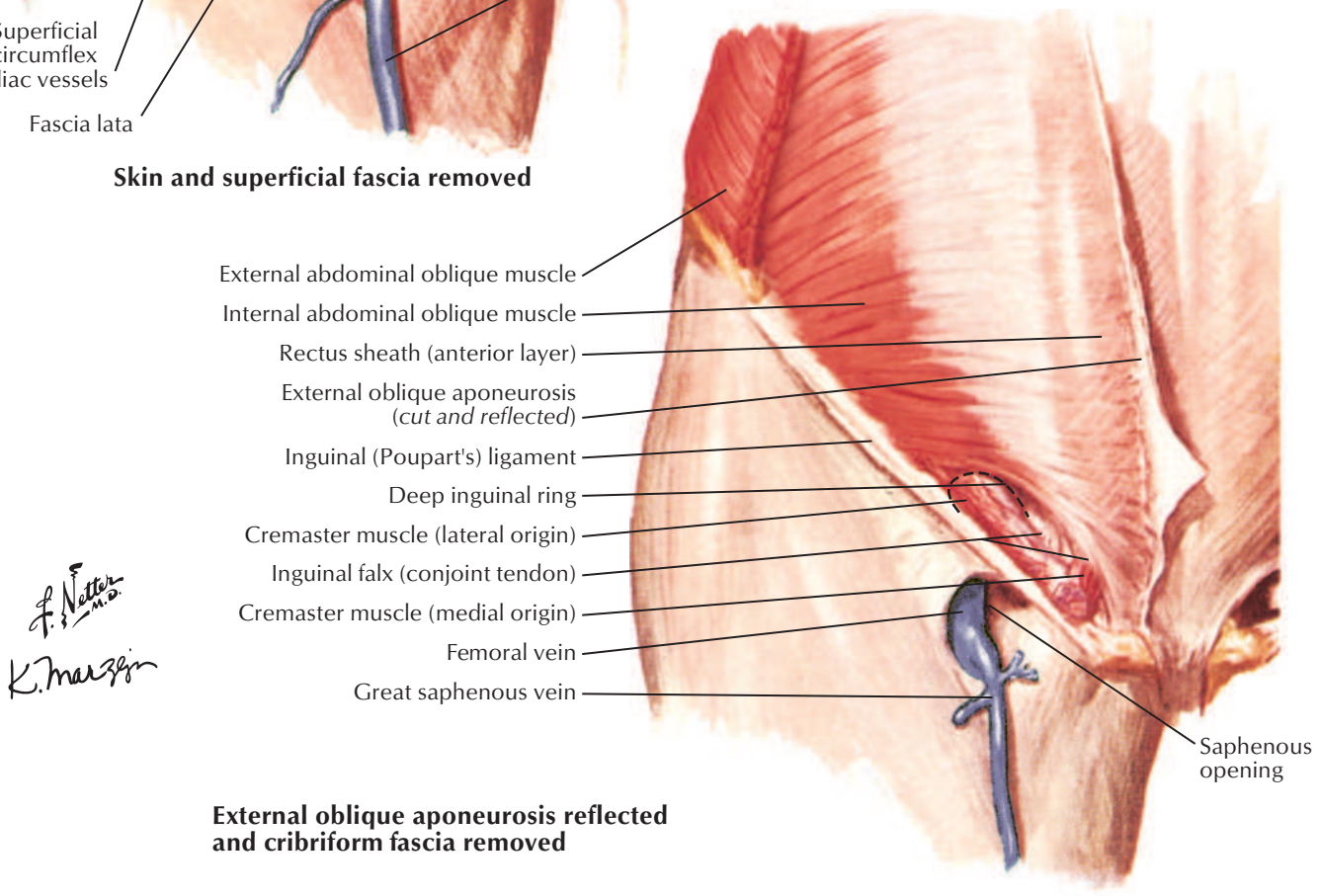
Variations in spinal nerve contributions to the innervation of muscles, their arterial supply, their attachments, and their actions are common themes in human anatomy. Therefore, expect differences between texts and realize that anatomical variation is normal.

www.Booksmedicos06.com

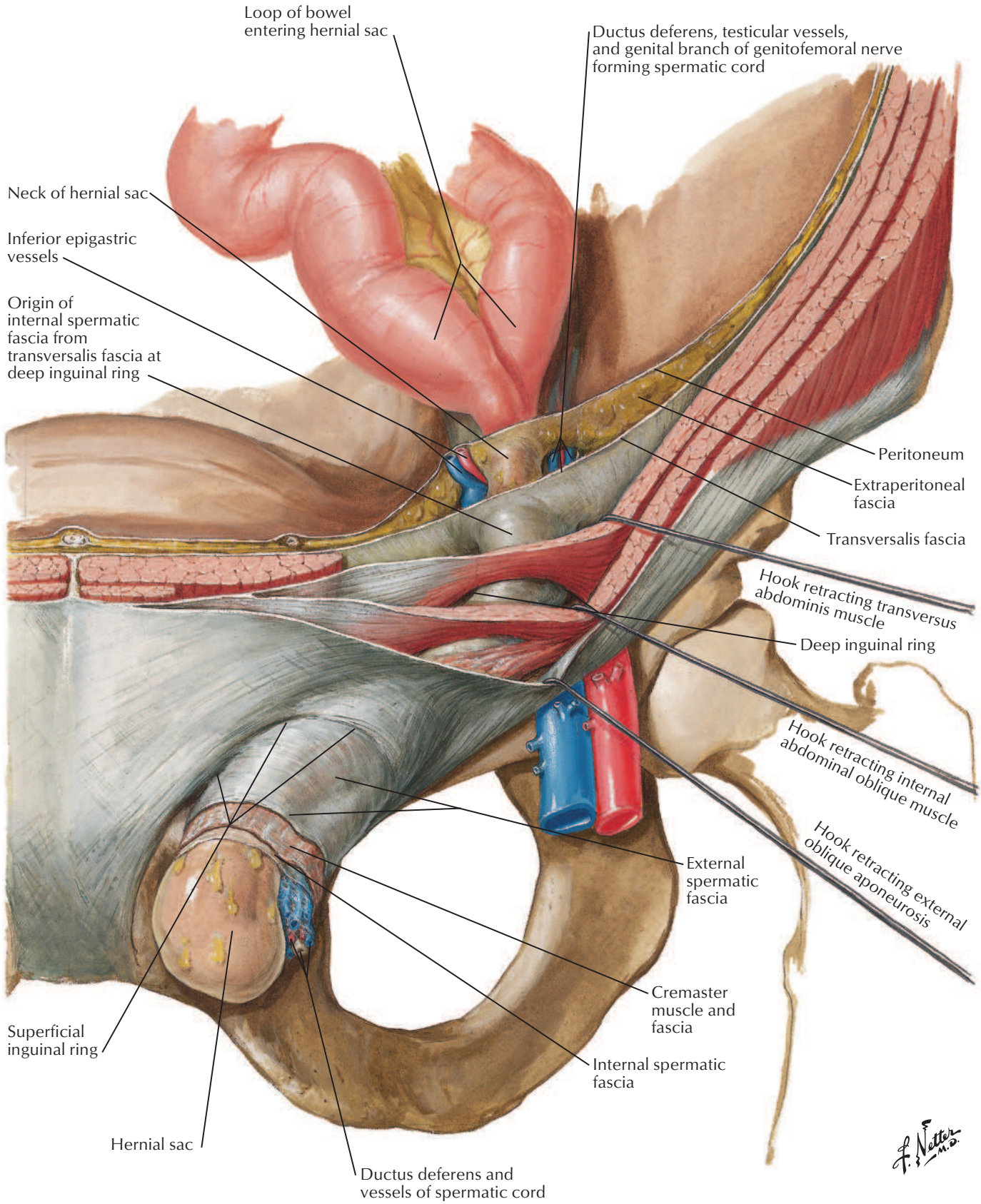
////// facebook : Booksmedicos06



Skin and superficial fascia removed



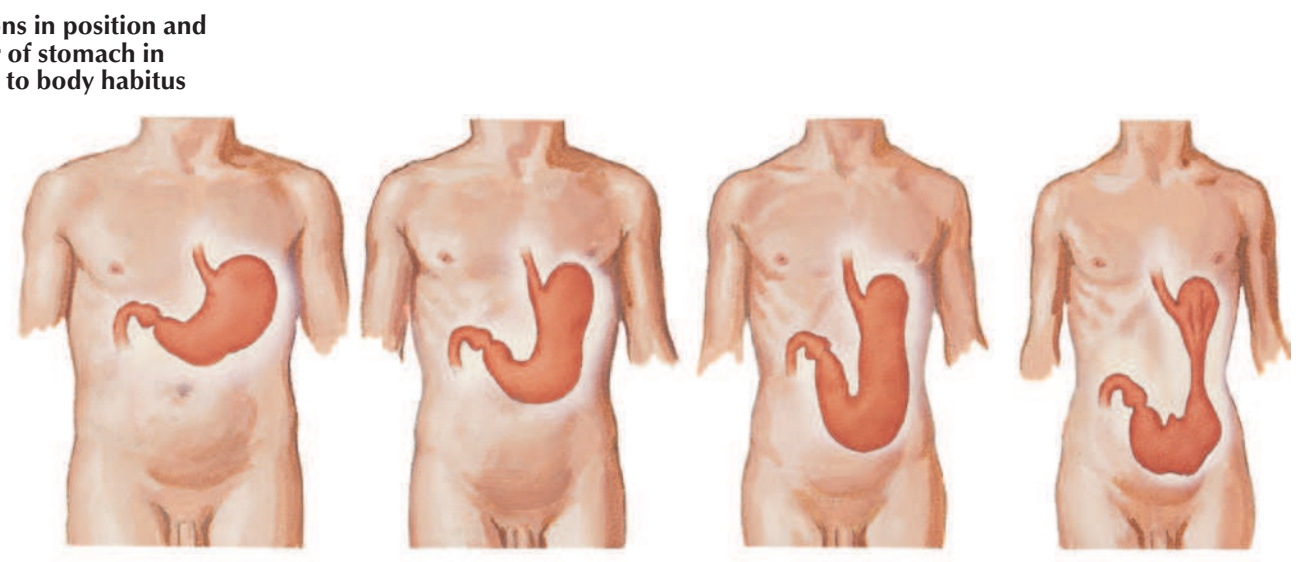
External oblique aponeurosis reflected and cribriform fascia removed

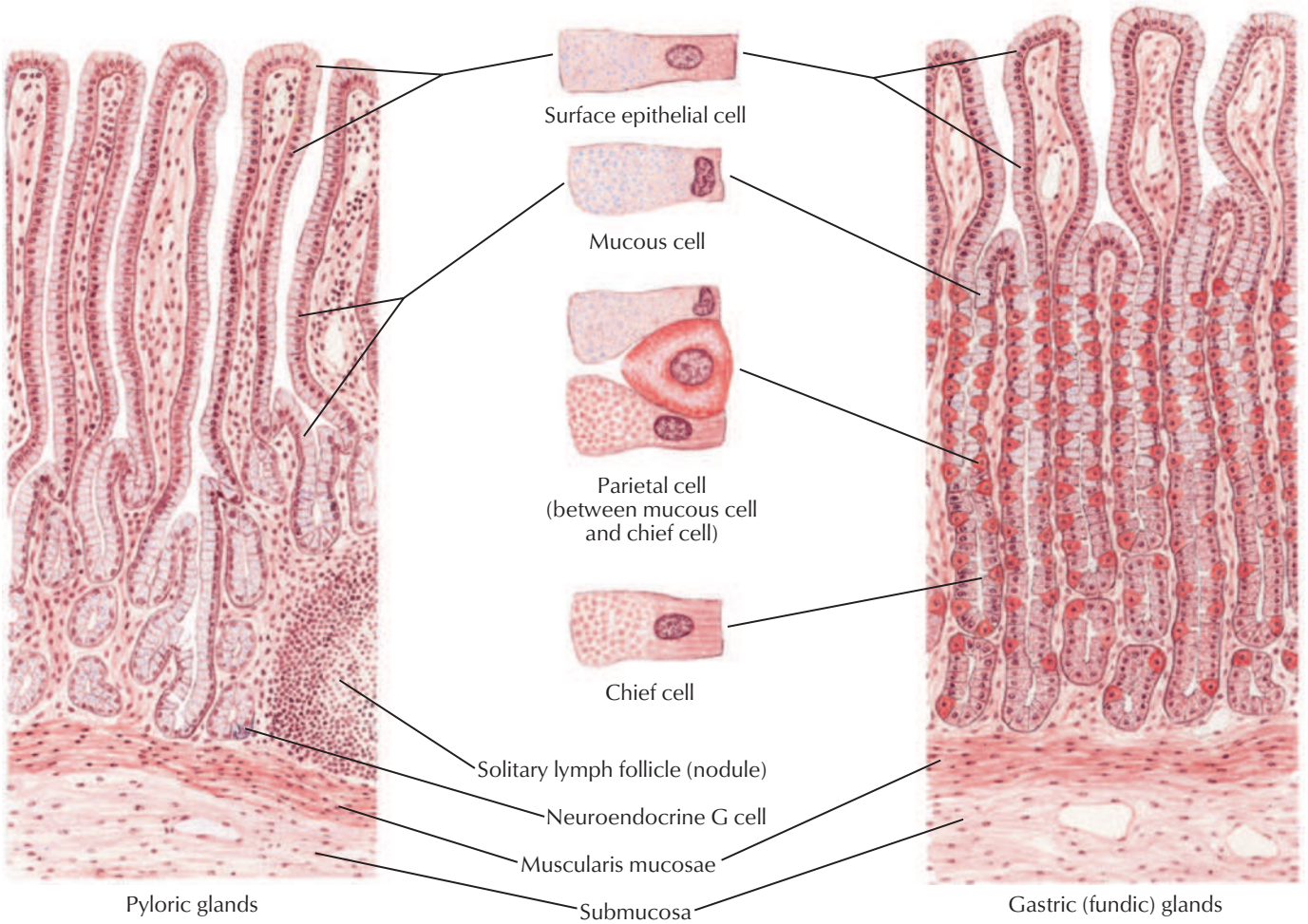


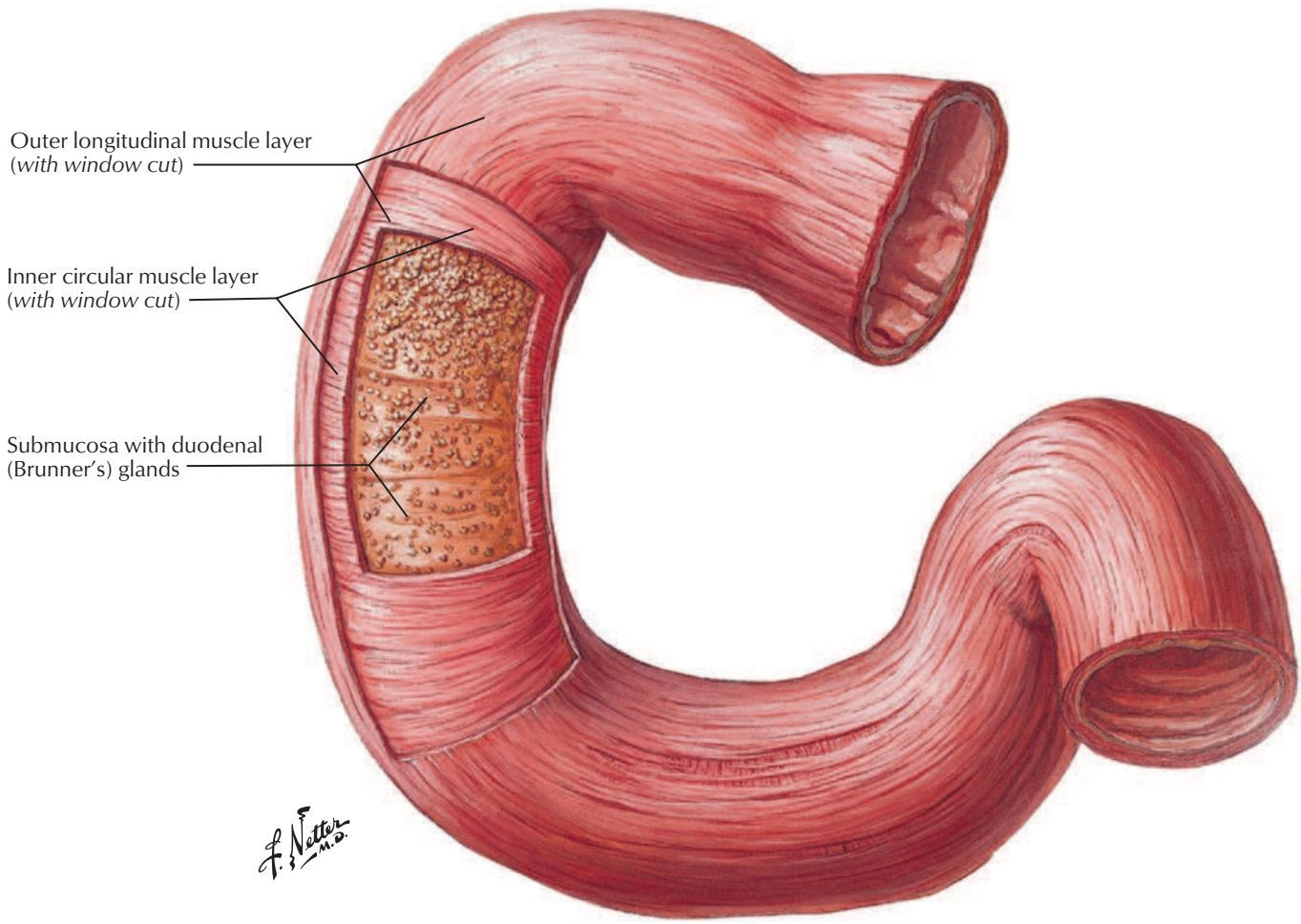
www.Booksmedicos06.com

////// facebook : Booksmedicos06

Variations in position and contour of stomach in relation to body habitus



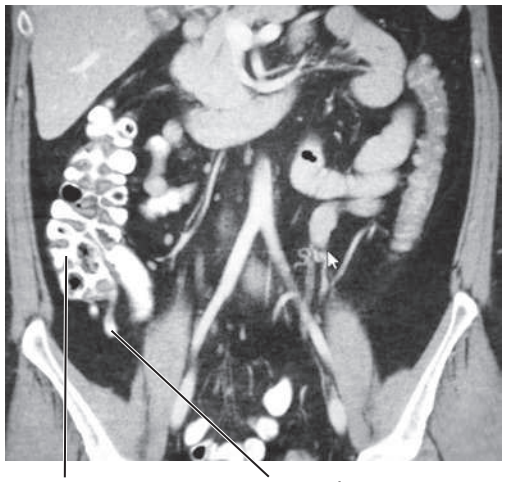




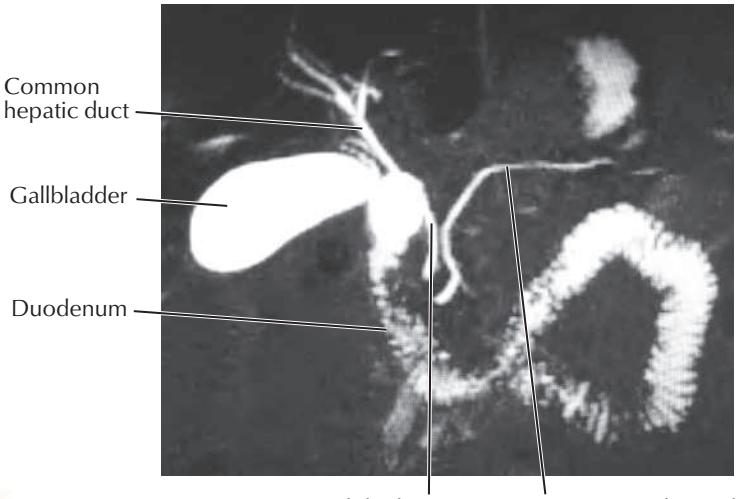
www.Booksmedicos06.com

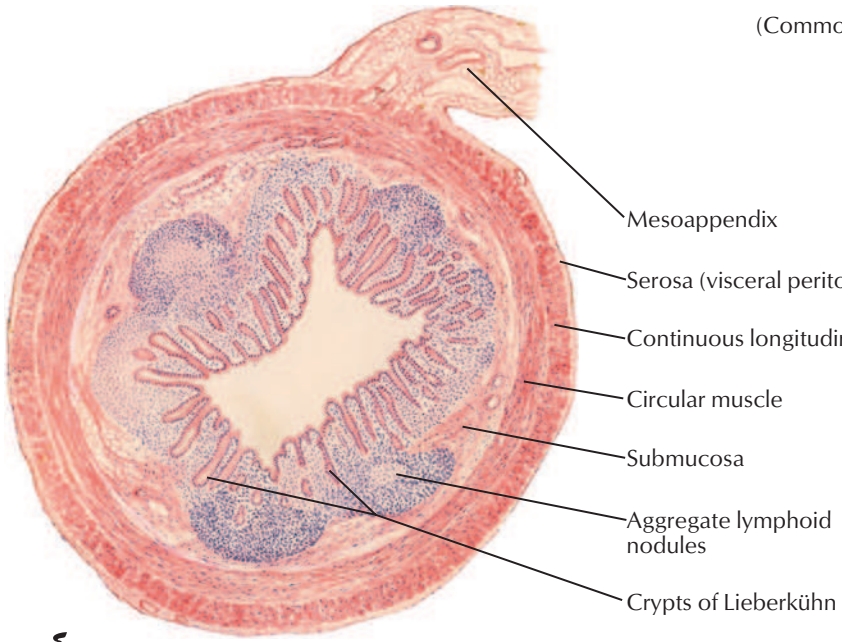
////// facebook : Booksmedicos06

Coronal CT image with contrast



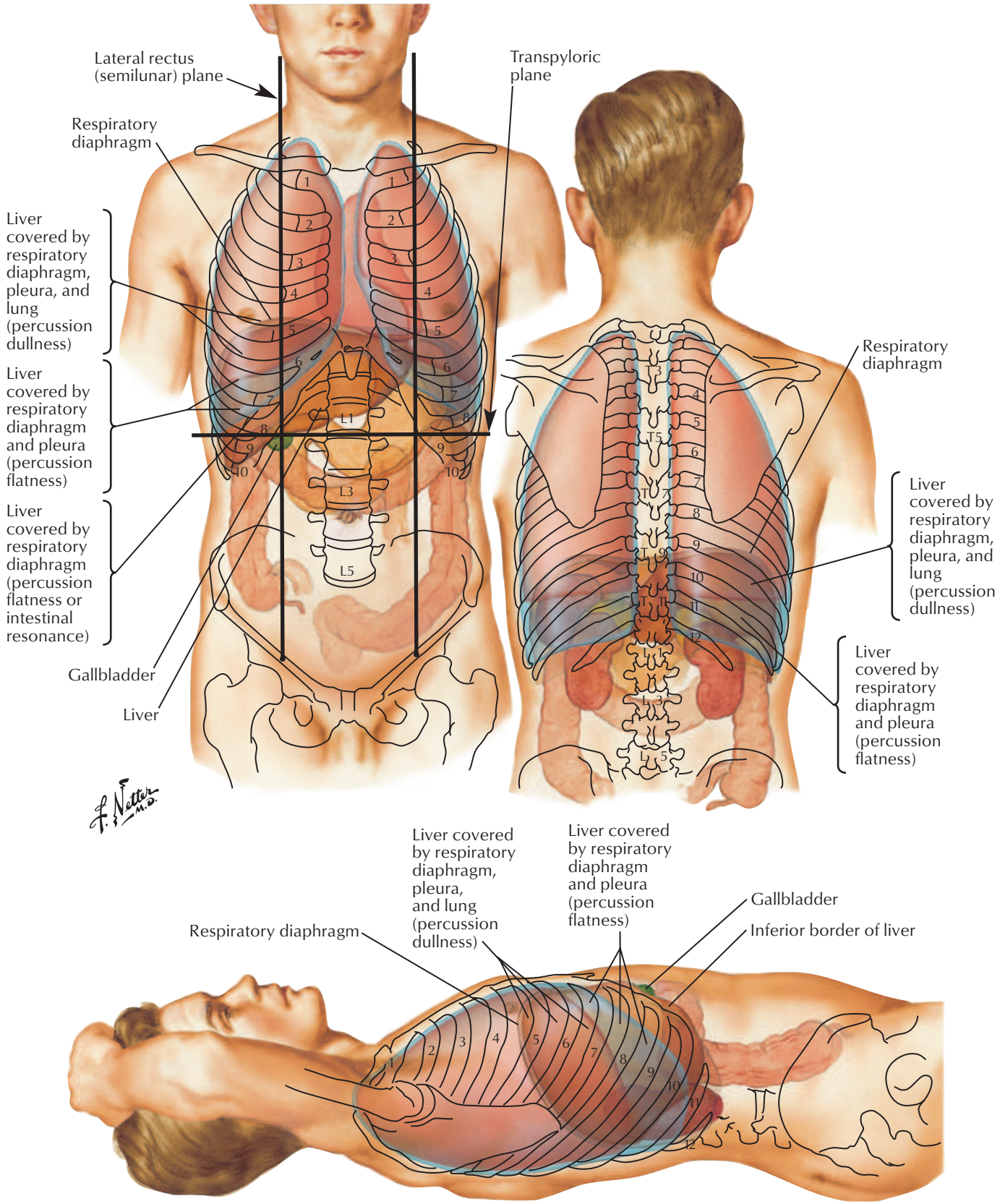
Magnetic resonance cholangiopancreatography (MRCP)





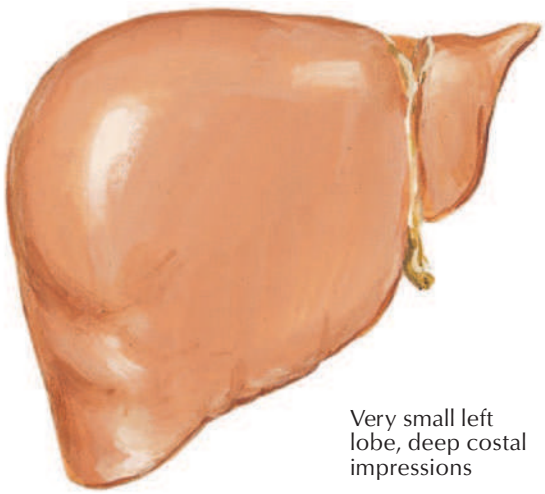


Ramification of nerve fibers around fine branch of hepatic artery

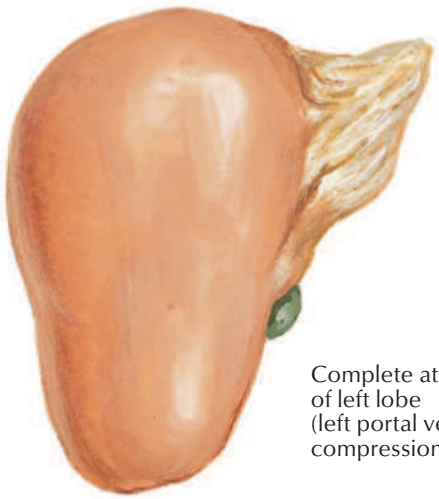


www.Booksmedicos06.com

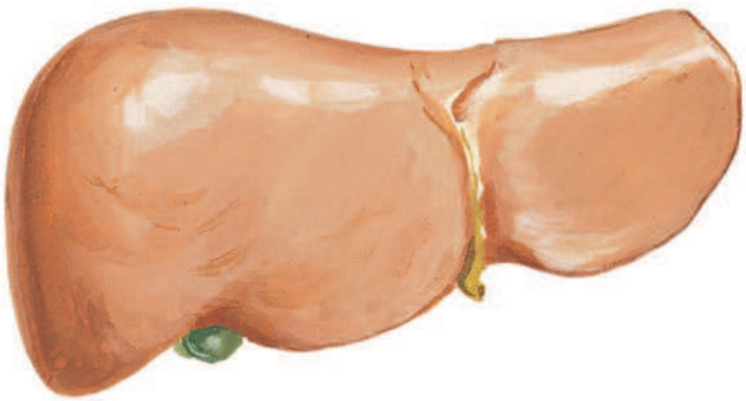
////// facebook : Booksmedicos06



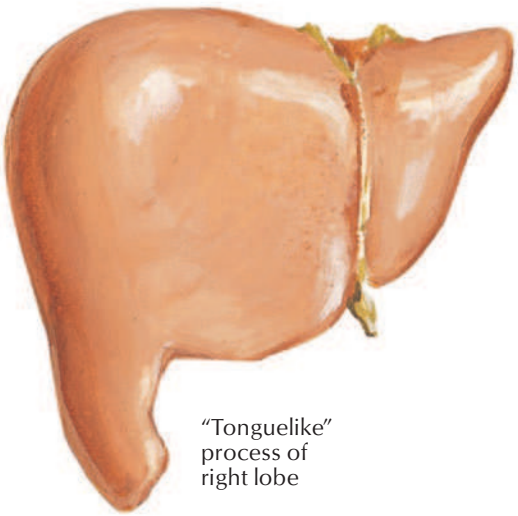
Very small left lobe, deep costal impressions



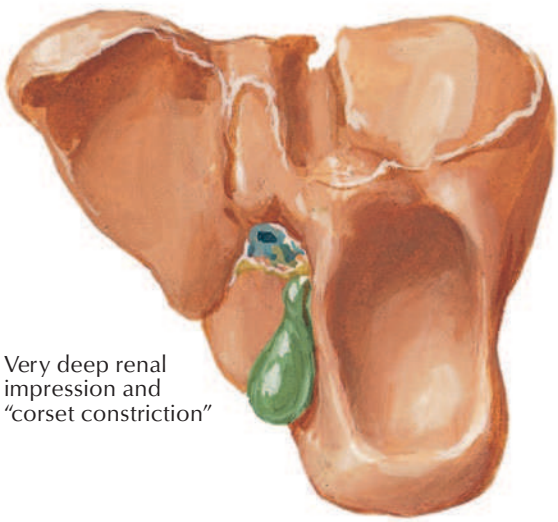
Complete atrophy of left lobe (left portal vein compression)



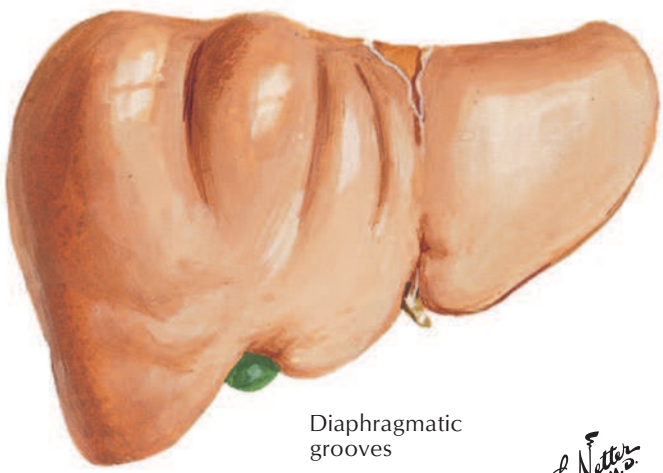
Transverse, "saddlelike" liver, relatively large left lobe



"Tonguelike" process of right lobe



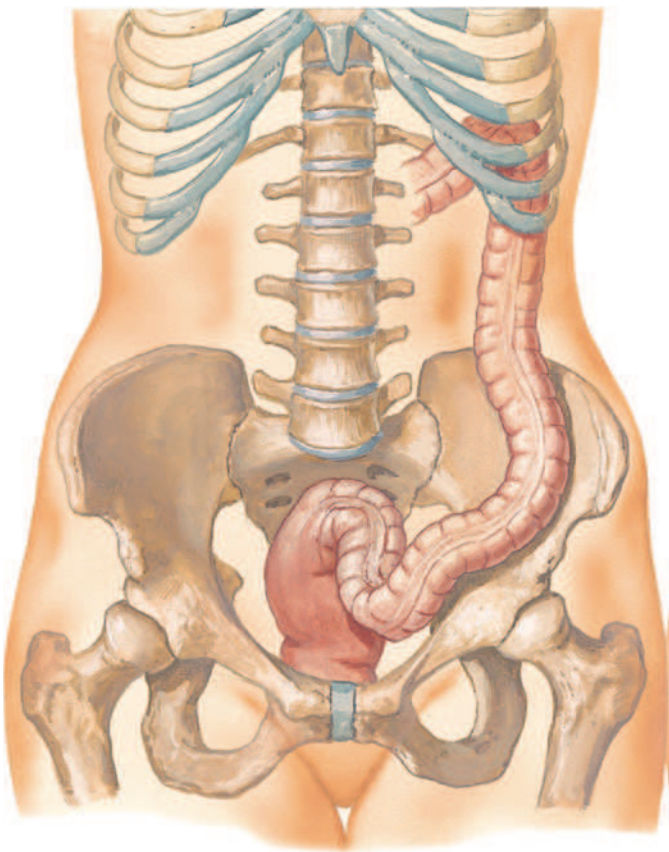
Very deep renal impression and "corset constriction"



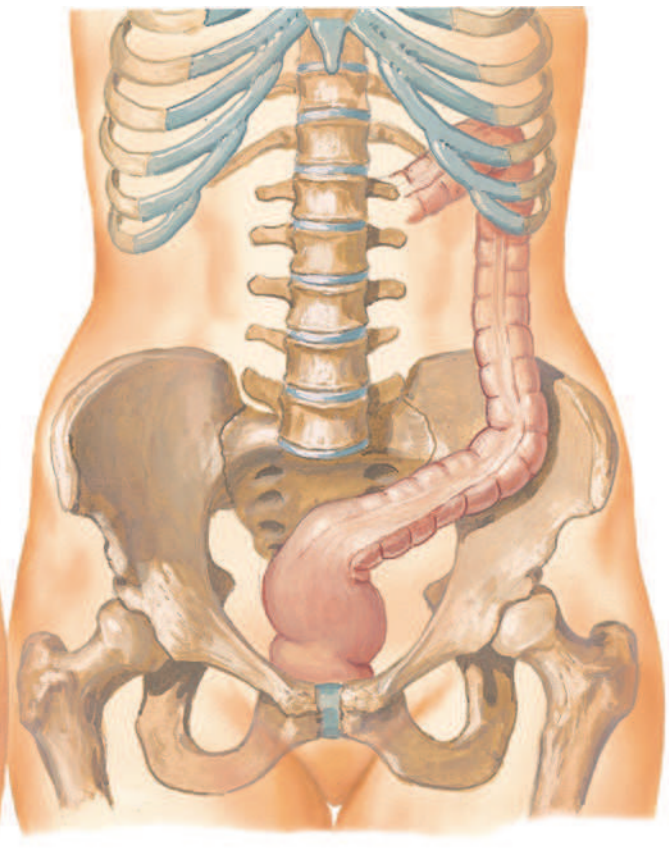
Diaphragmatic grooves

F. Netter M.D.

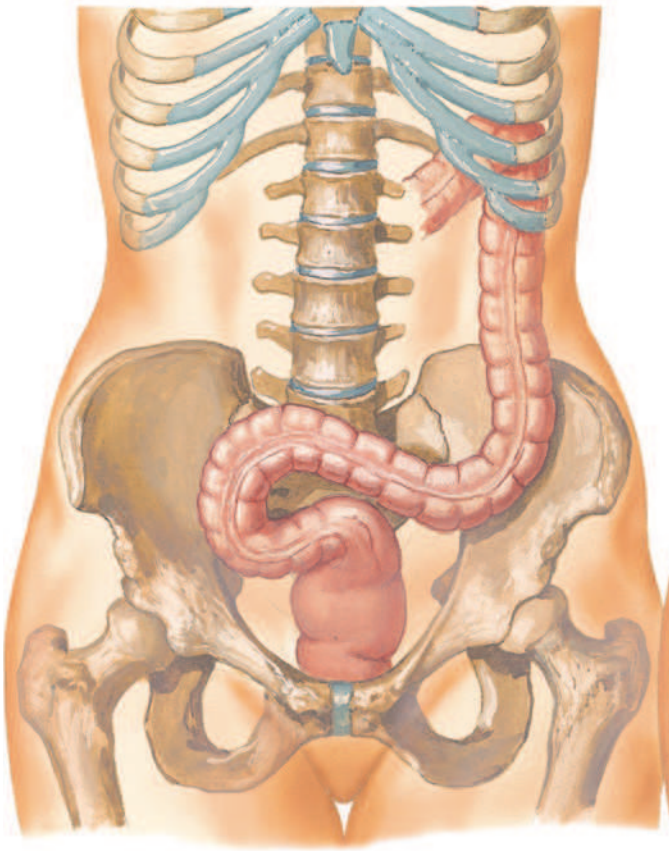
Sigmoid Colon: Variations in Position



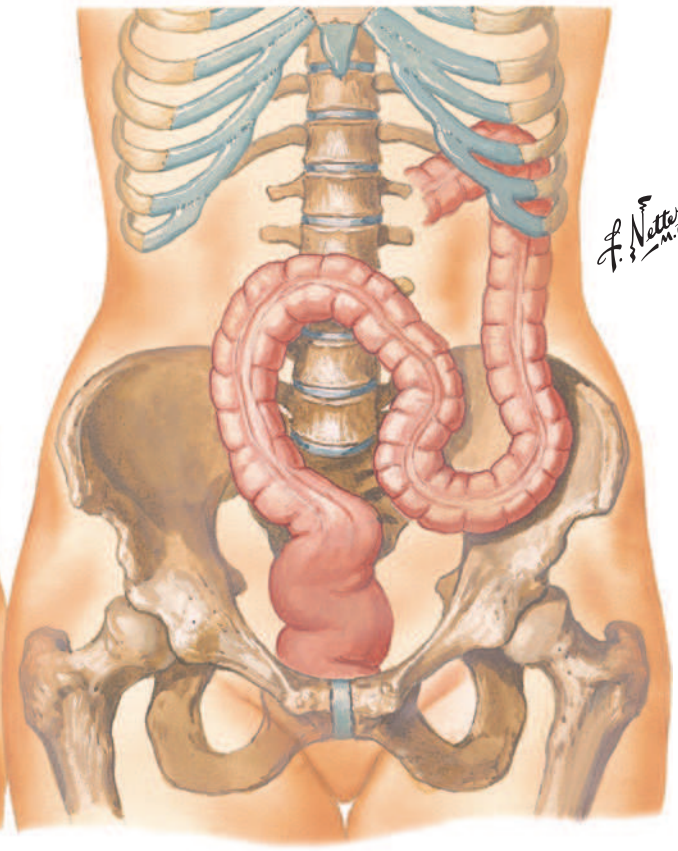
Typical



Short, straight, obliquely into pelvis



Looping to right side

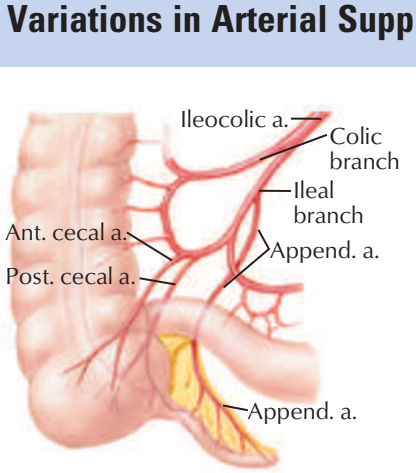


Ascending high into abdomen

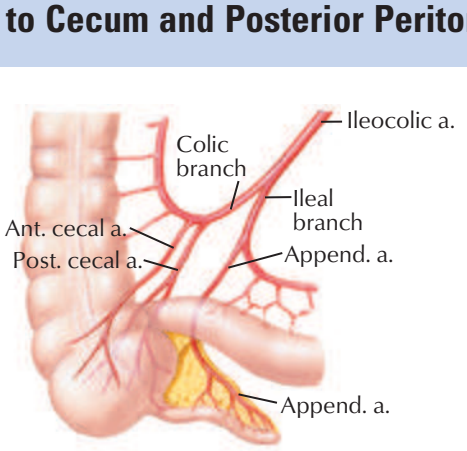
F. Netter M.D.

www.Booksmedicos06.com

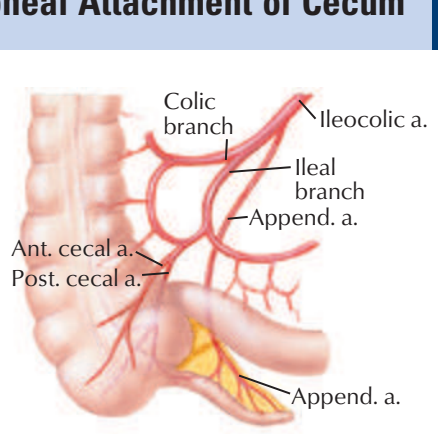
////// facebook : Booksmedicos06



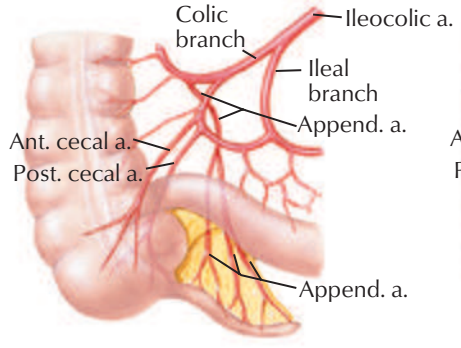
Anterior cecal and posterior cecal arteries originate from arcade between colic and ileal branches of ileocolic appendicular artery from ileal branch



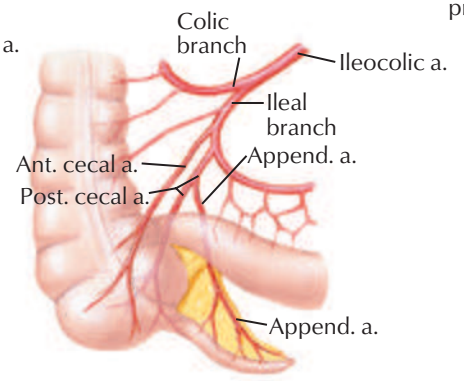
Anterior cecal and posterior cecal arteries originate from colic branch; appendicular artery from ileal branch of ileocolic artery



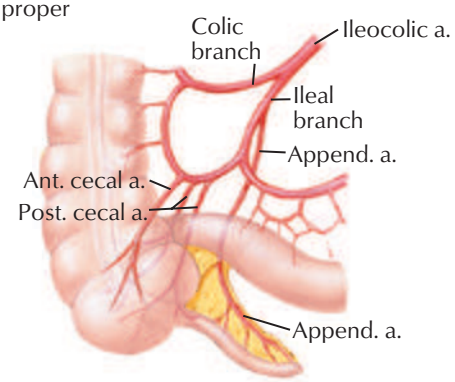
Anterior cecal and posterior cecal arteries have common origin from arcade; appendicular artery from ileocolic artery proper



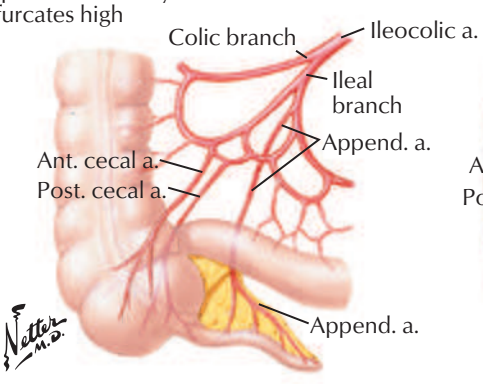
Anterior cecal and posterior cecal arteries originate from arcade between colic and ileal branches of ileocolic artery; appendicular artery from colic branch bifurcates high



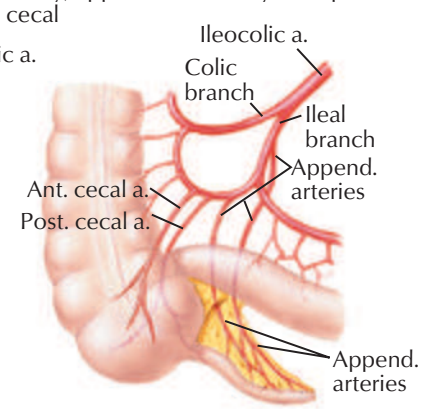
Anterior cecal and posterior cecal arteries originate from ileal branch of ileocolic artery; appendicular artery from posterior cecal



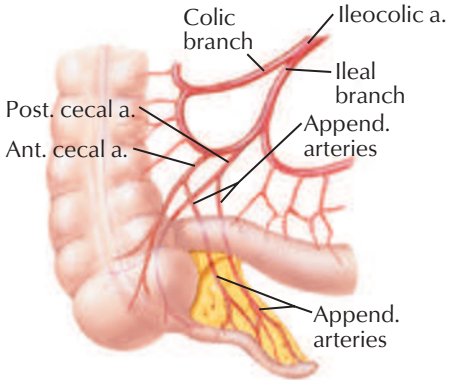
Anterior cecal and two posterior cecal arteries originate from arcade; appendicular artery from ileal branch of ileocolic artery



Multiple arcades between ileal branch and colic branch of ileocolic artery. Anterior cecal and posterior cecal arteries originate from these arcades; appendicular artery from ileal branch

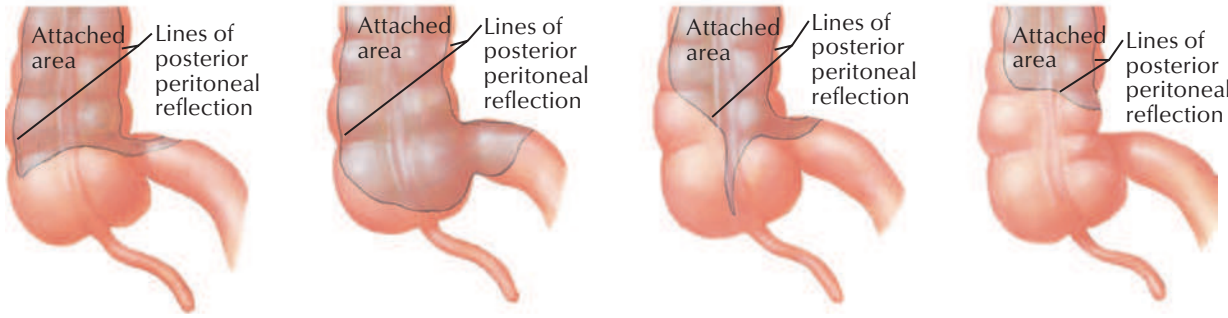


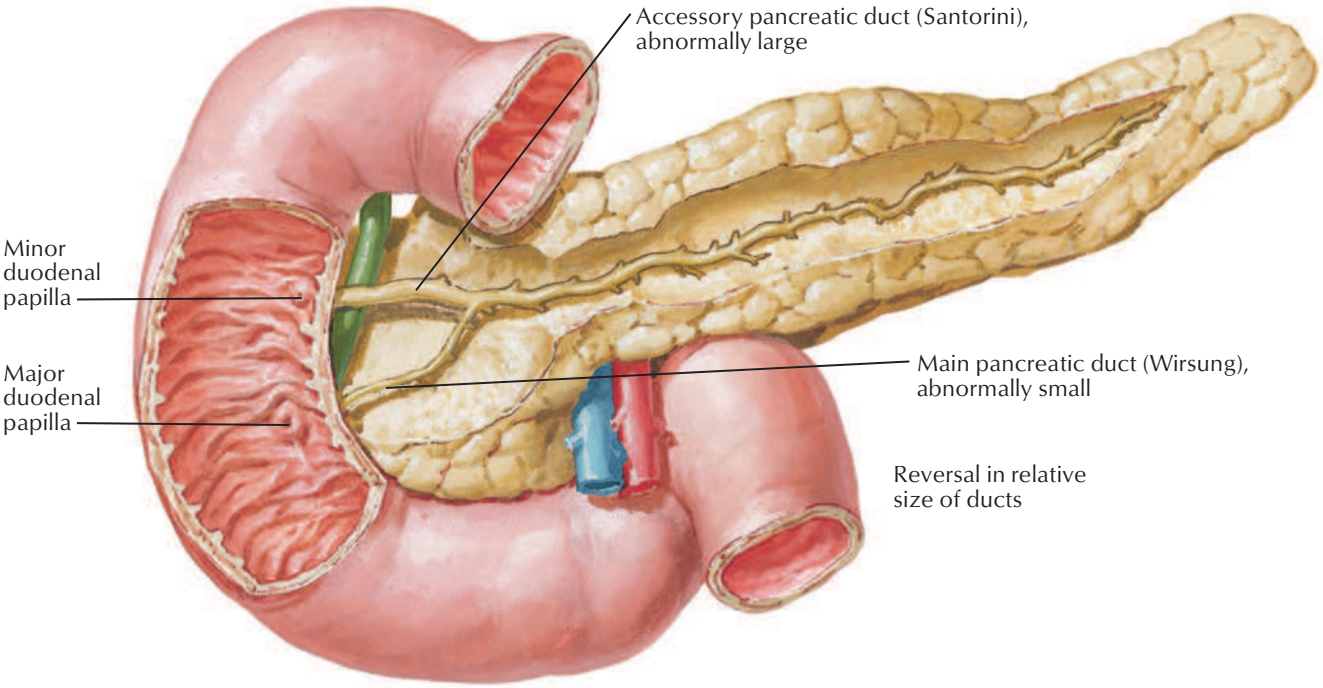
Anterior cecal and posterior cecal arteries originate from arcade between colic and ileal branches of ileocolic artery; two appendicular arteries, one deriving from arcade, the other from ileal branch, are present

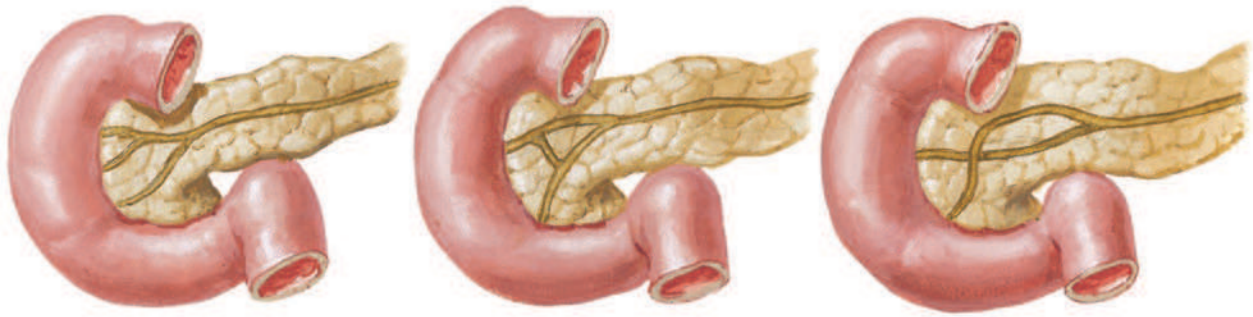


Anterior cecal and posterior cecal arteries originate from arcade; two appendicular arteries, one deriving from anterior cecal, the other from posterior cecal, are present

Some variations in posterior peritoneal attachment of cecum







Double accessory pancreatic duct (Santorini)

Anastomosis between ducts

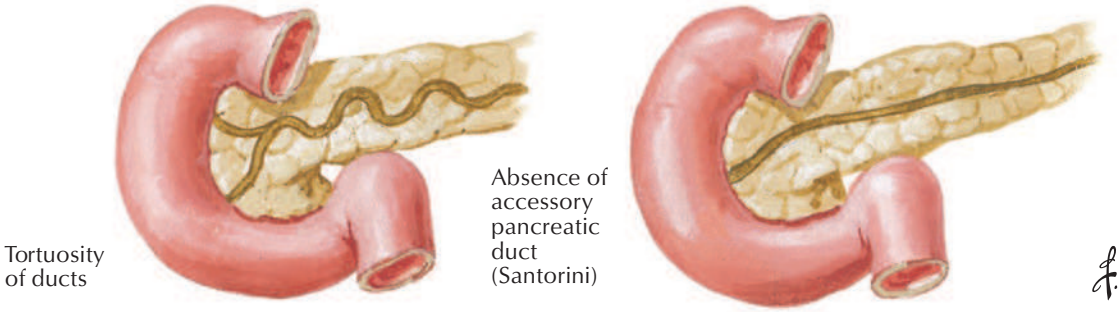
Crossing of ducts



Double crossing of ducts

No communication between ducts

Double main pancreatic duct (Wirsung)



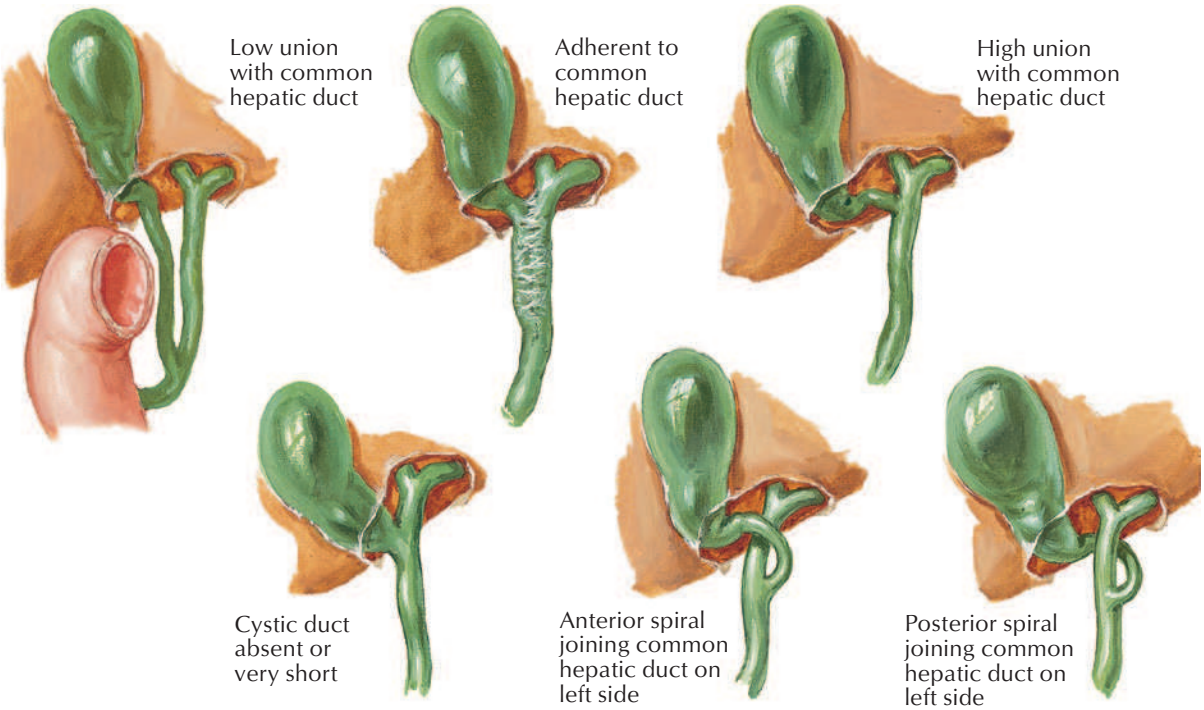
Tortuosity of ducts

Absence of accessory pancreatic duct (Santorini)

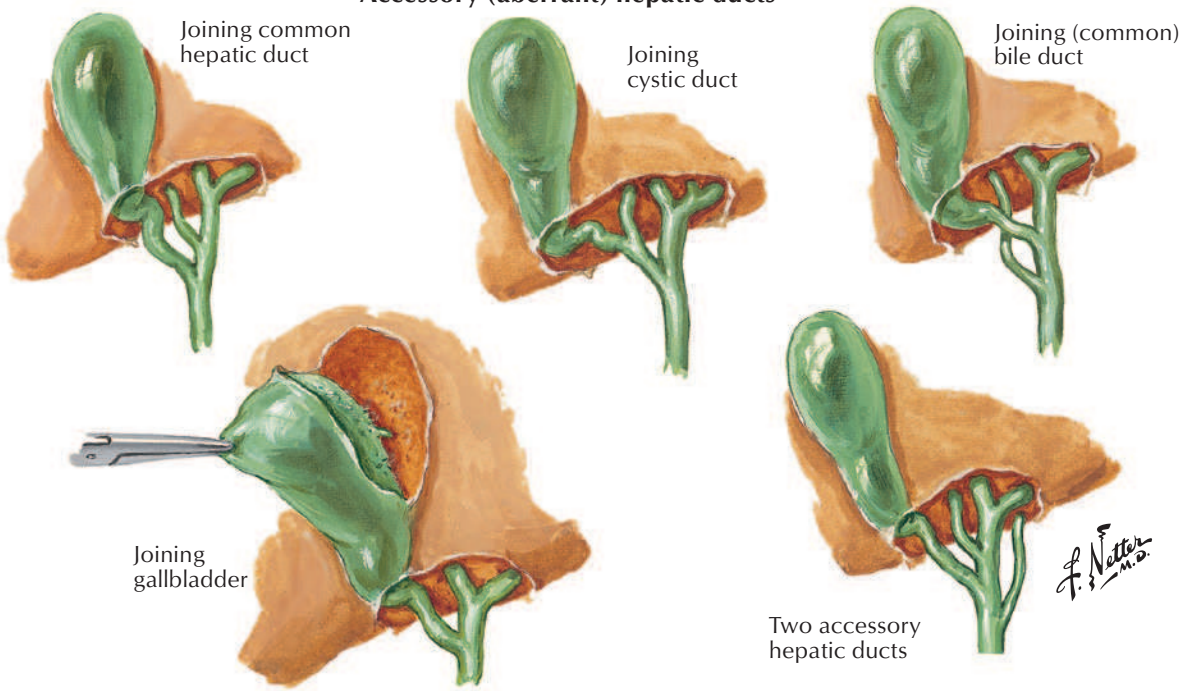
www.Booksmedicos06.com

////// facebook : Booksmedicos06

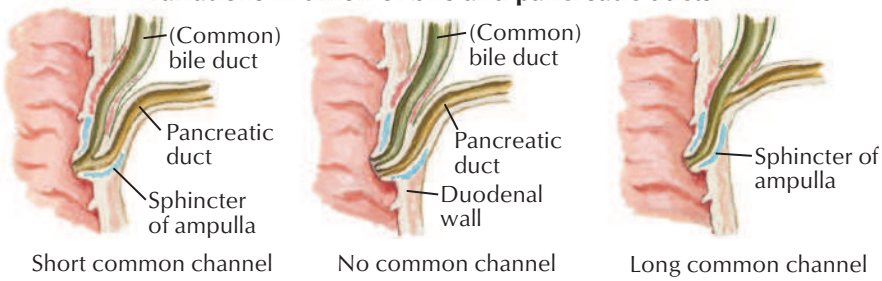
Variations in cystic duct

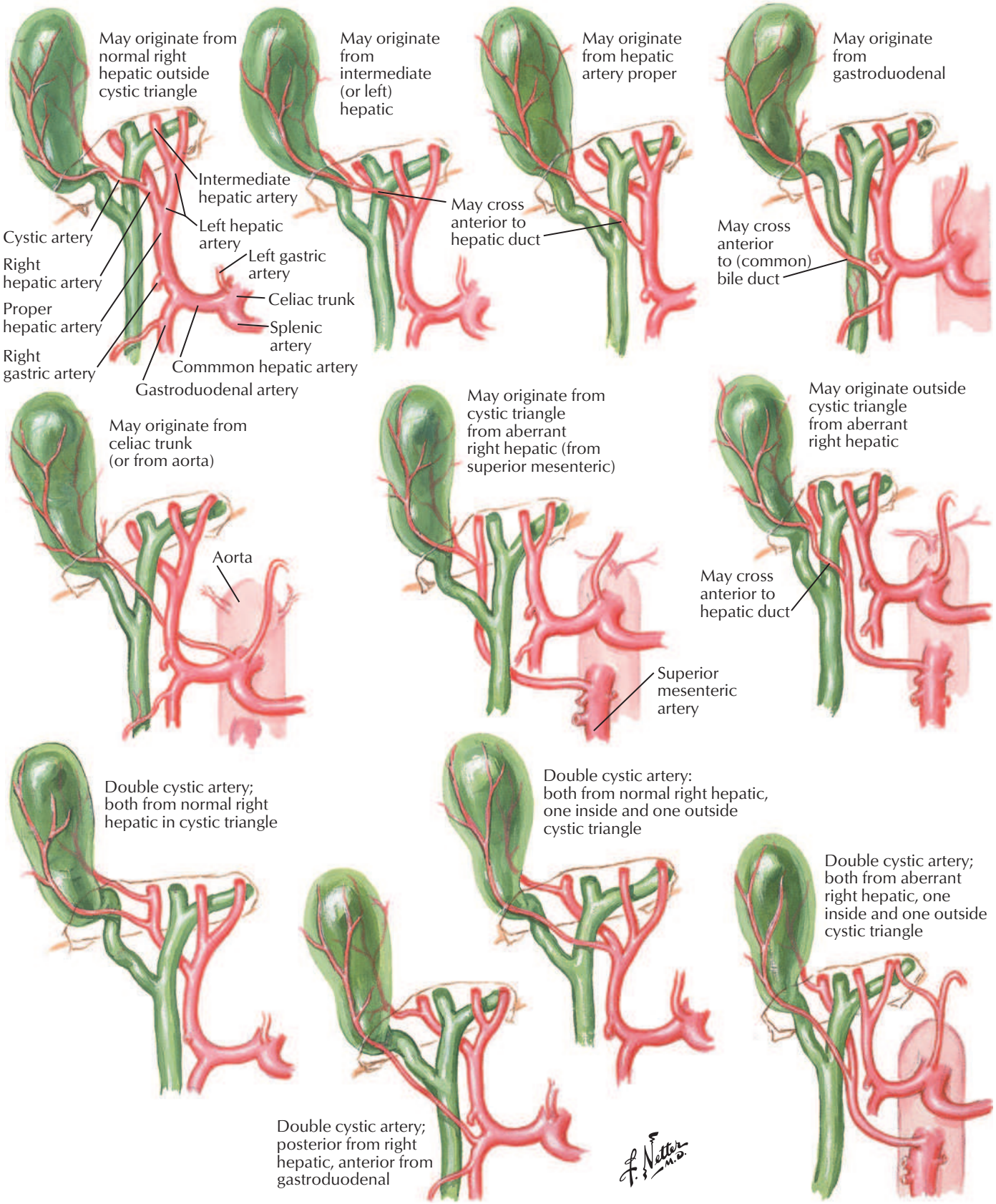


Accessory (aberrant) hepatic ducts



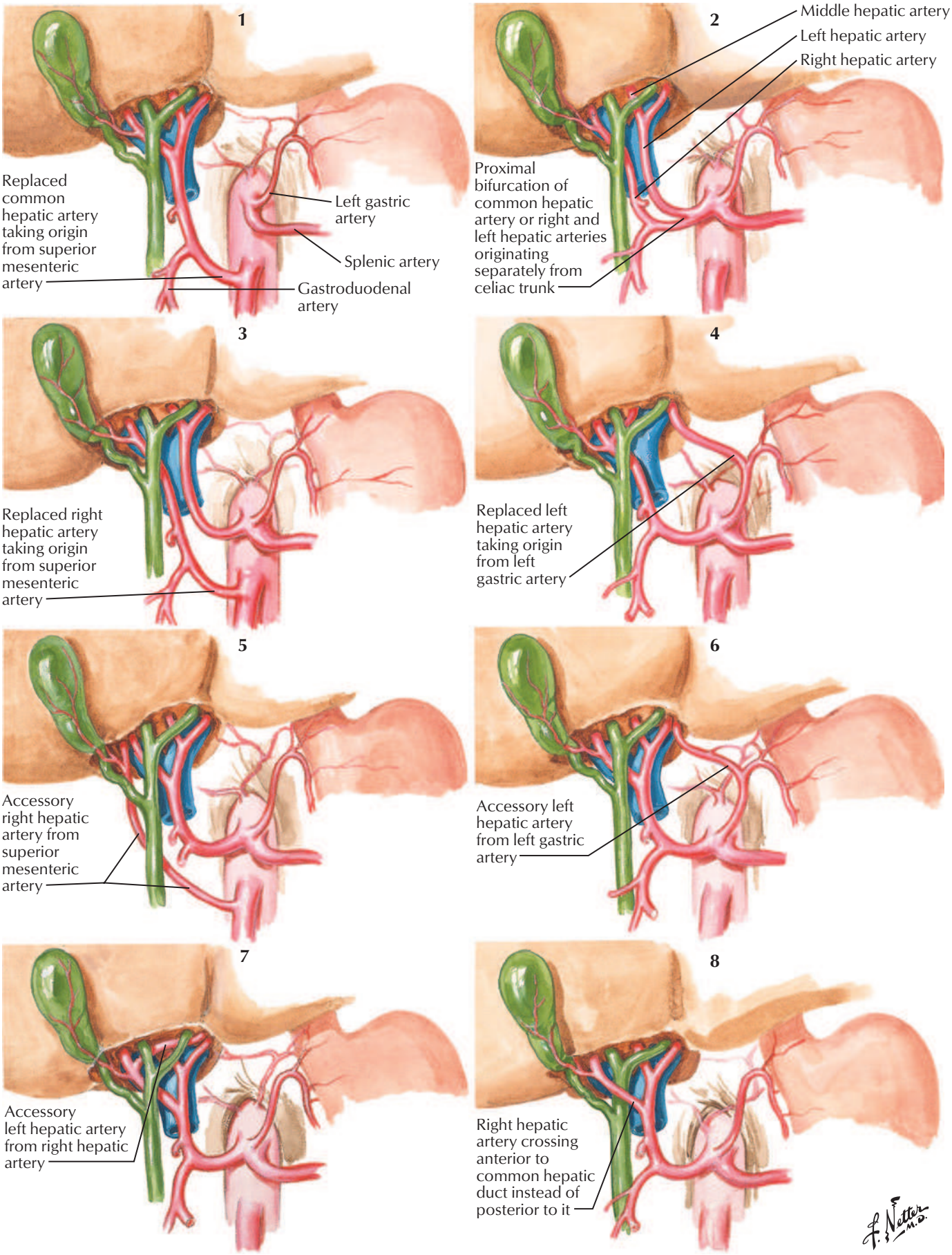
Variations in union of bile and pancreatic ducts



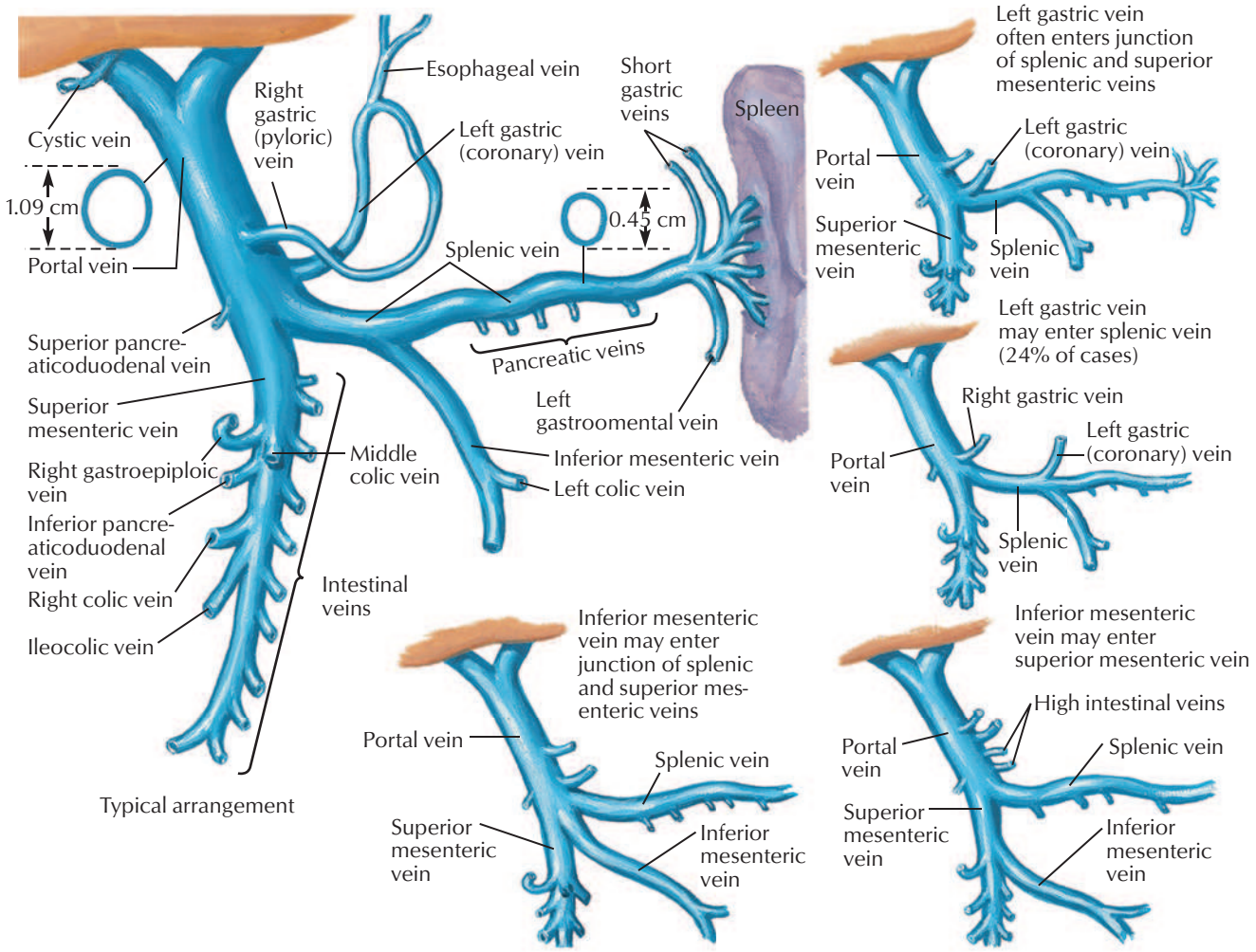


www.Booksmedicos06.com

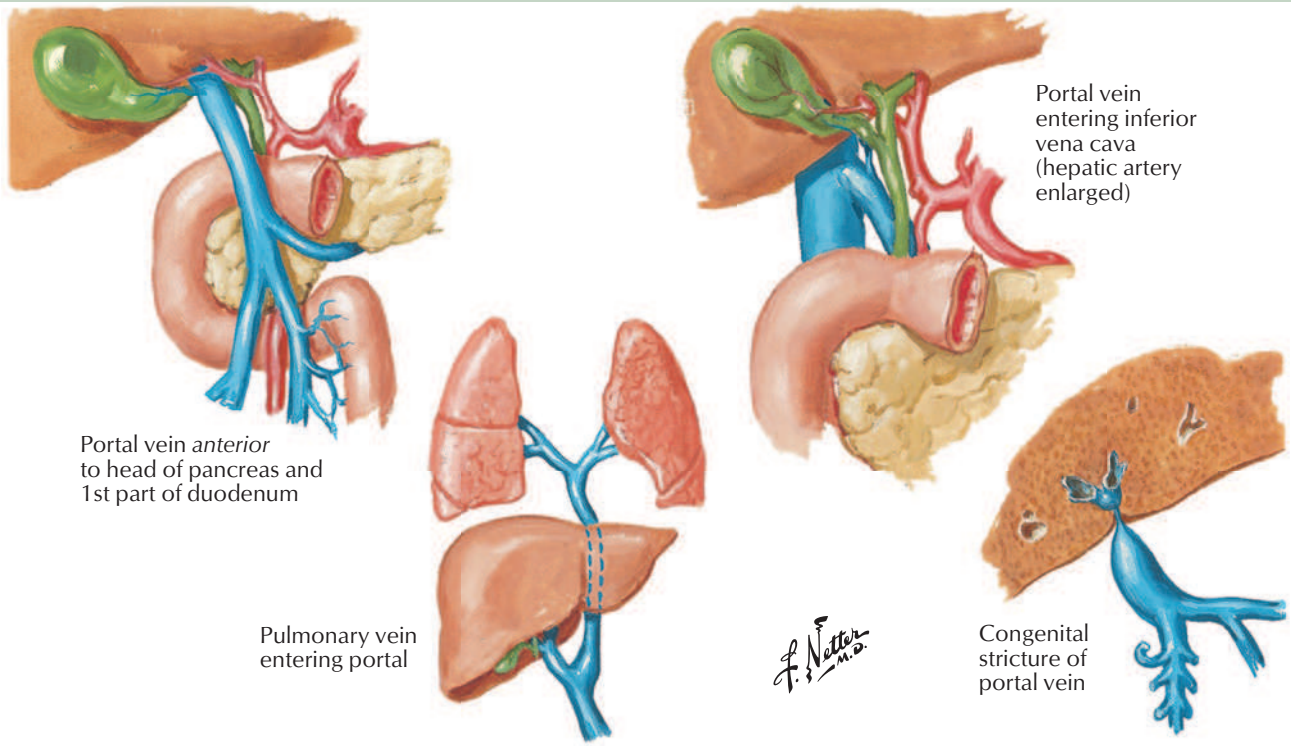
////// facebook : Booksmedicos06



Variations

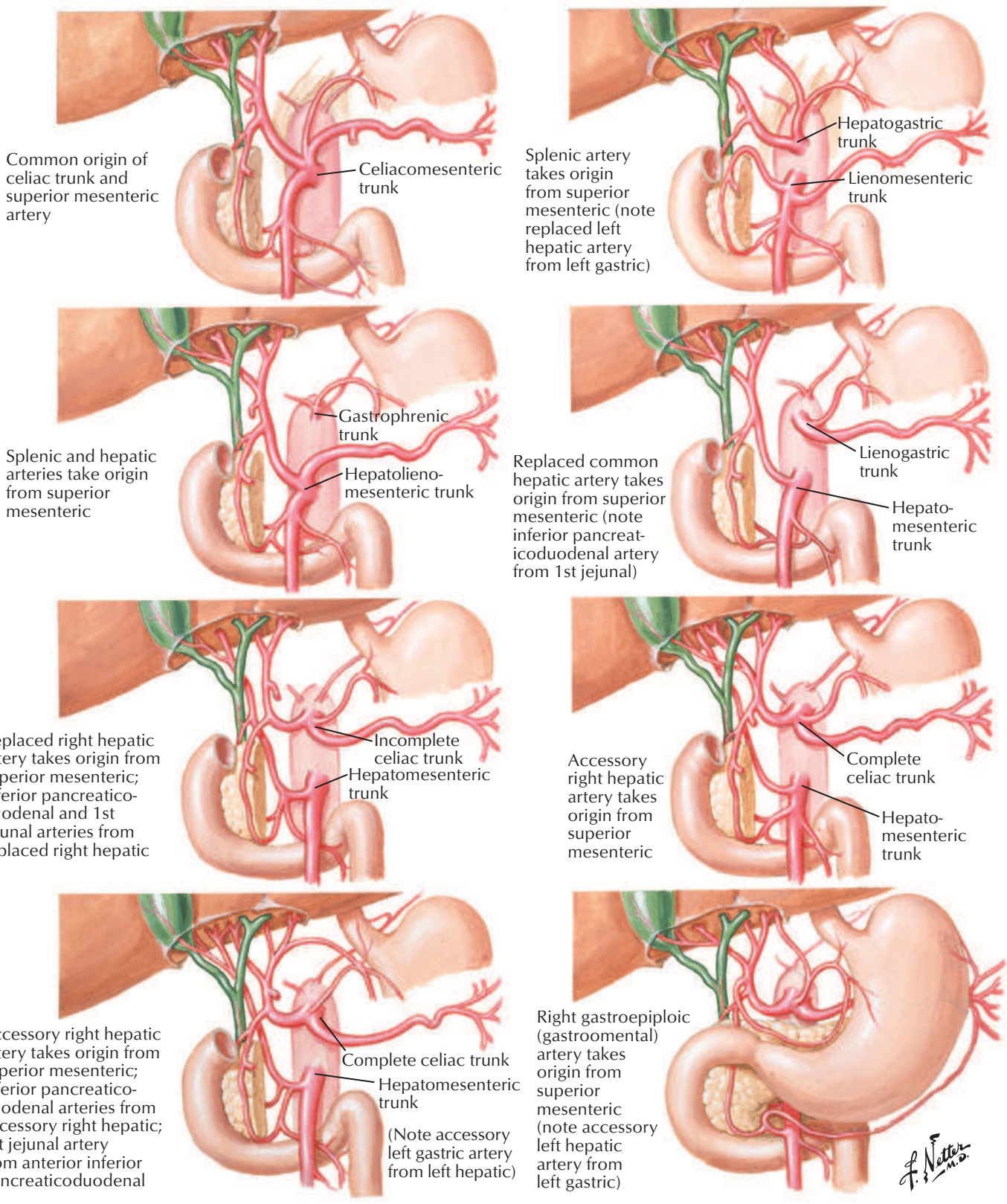


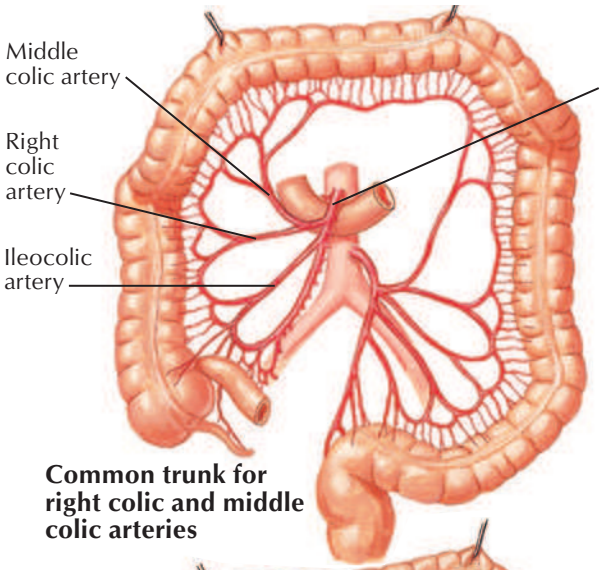
Anomalies



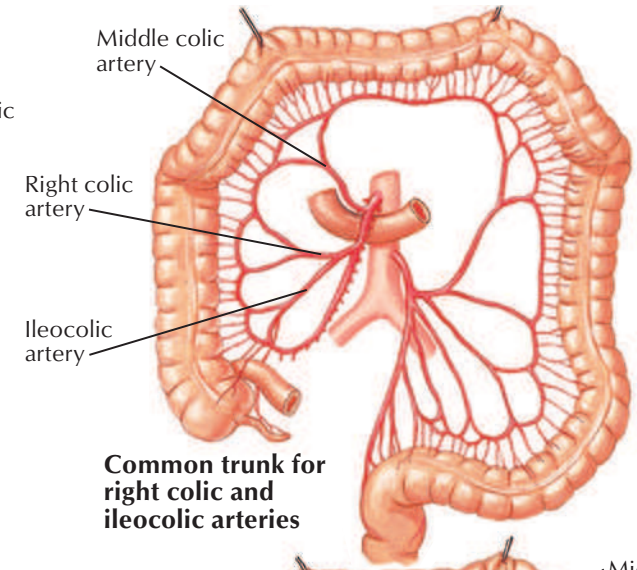
www.Booksmedicos06.com

////// facebook : Booksmedicos06

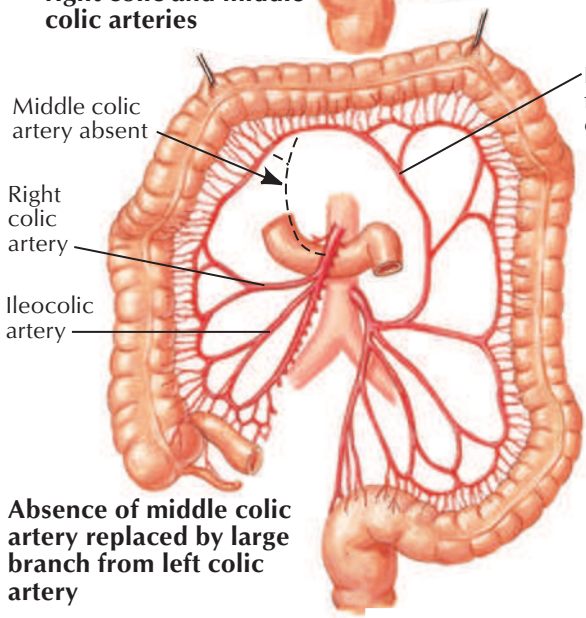




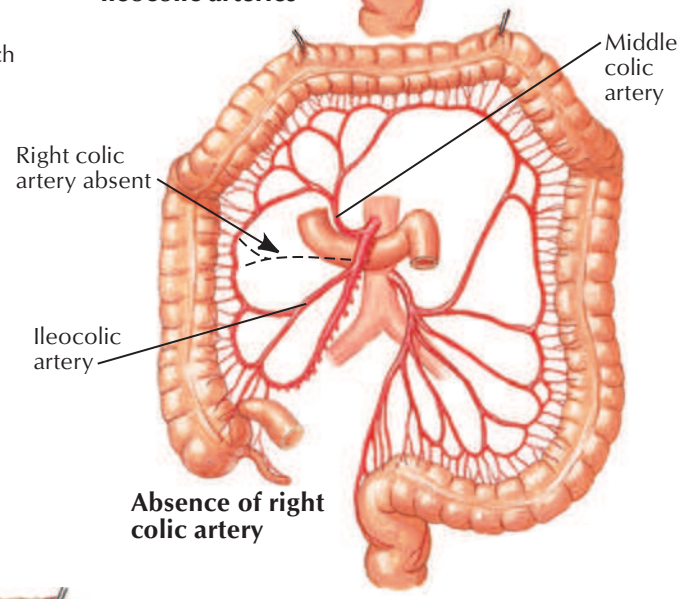
Common trunk for right colic and middle colic arteries



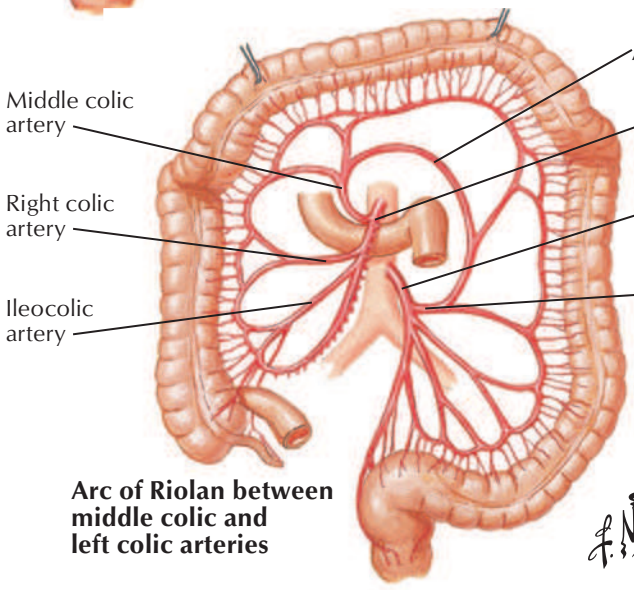
Common trunk for right colic and ileocolic arteries



Absence of middle colic artery replaced by large branch from left colic artery



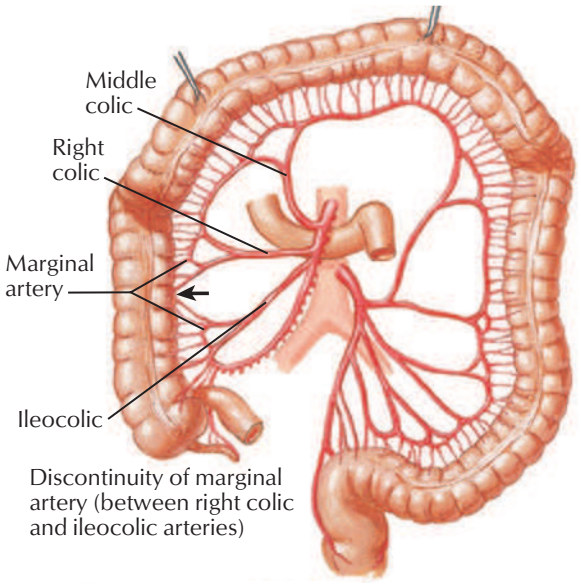
Absence of right colic artery



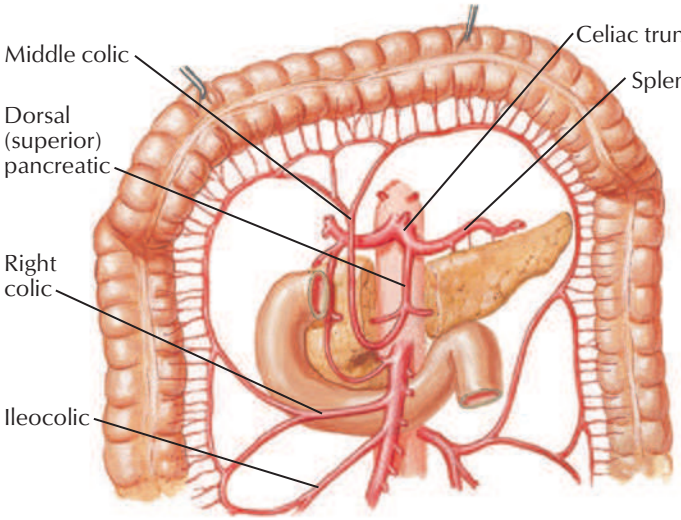
Arc of Riolan between middle colic and left colic arteries

www.Booksmedicos06.com

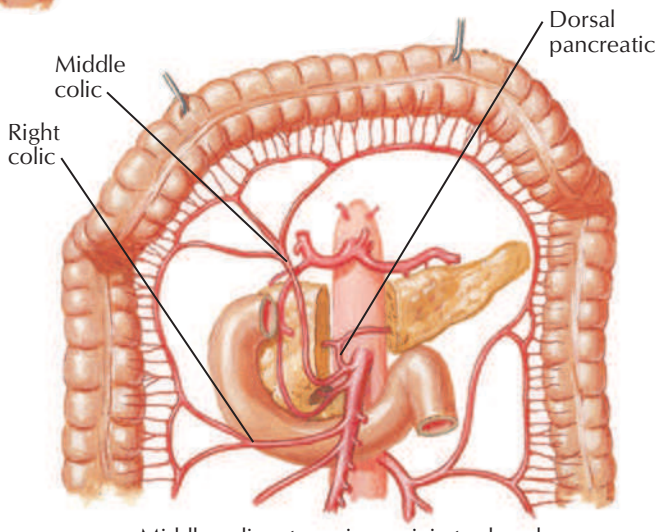
////// facebook : Booksmedicos06



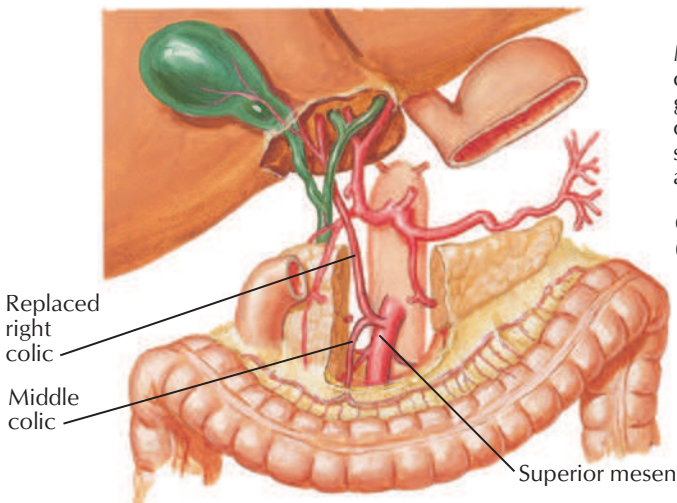
Discontinuity of marginal artery (between right colic and ileocolic arteries)



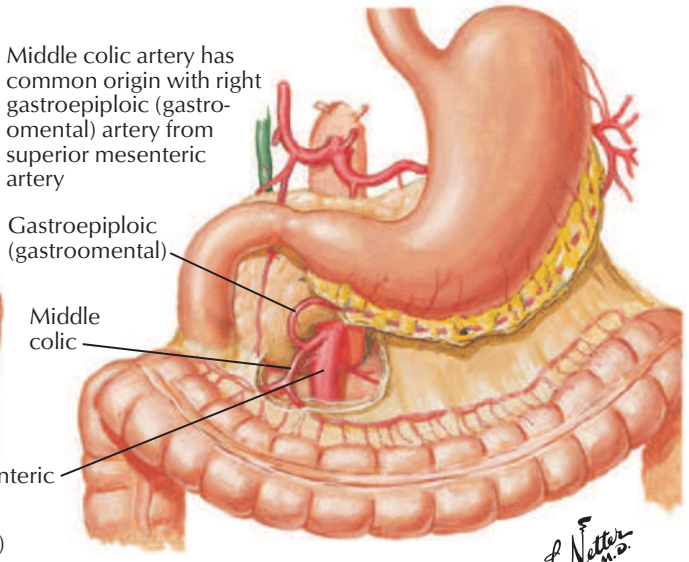
Middle colic artery originates from celiac trunk via dorsal pancreatic artery

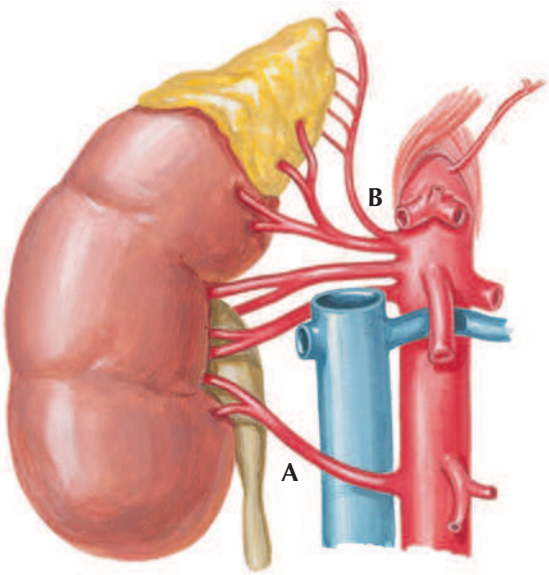


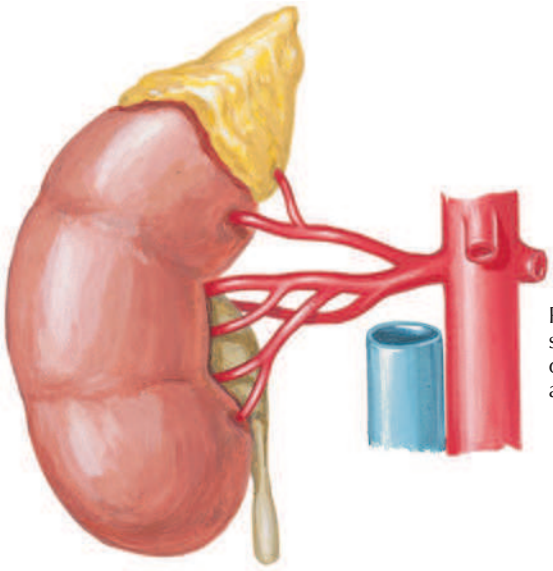
Middle colic artery gives origin to dorsal pancreatic artery



Middle colic artery originates from replaced right hepatic artery (from superior mesenteric artery)



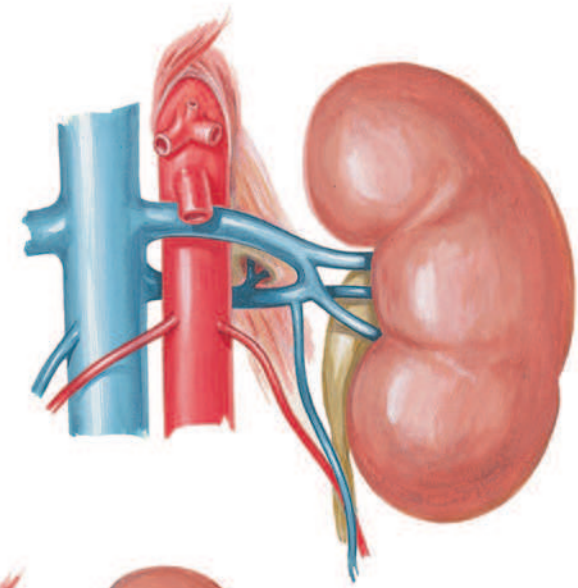




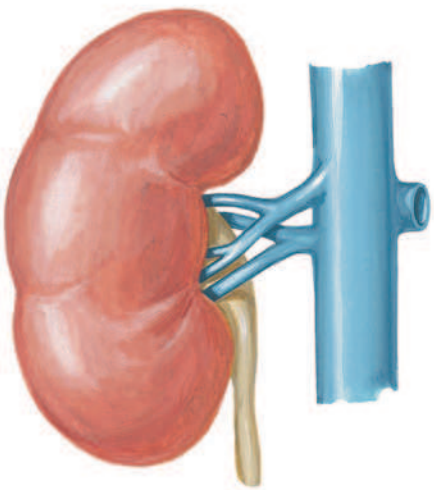
Proximal subdivision of renal artery

A Low accessory right renal artery may pass anterior to inferior vena cava instead of posterior to it

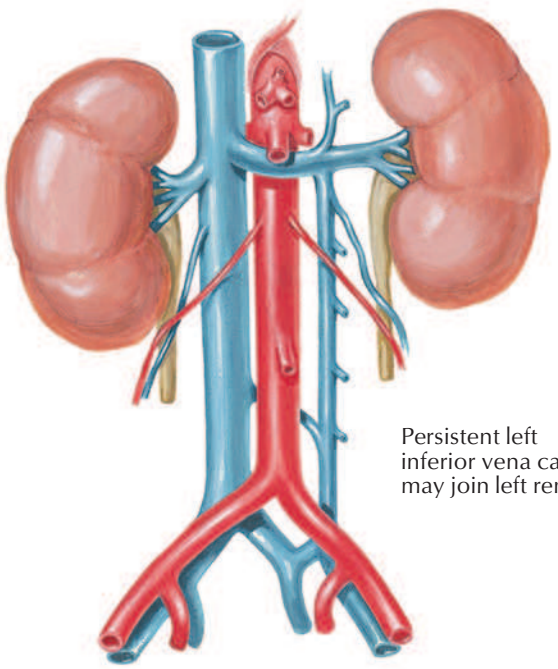
B Inferior phrenic artery with superior suprarenal arteries may arise from renal artery (middle suprarenal artery absent)



Double left renal vein may form ring around abdominal aorta



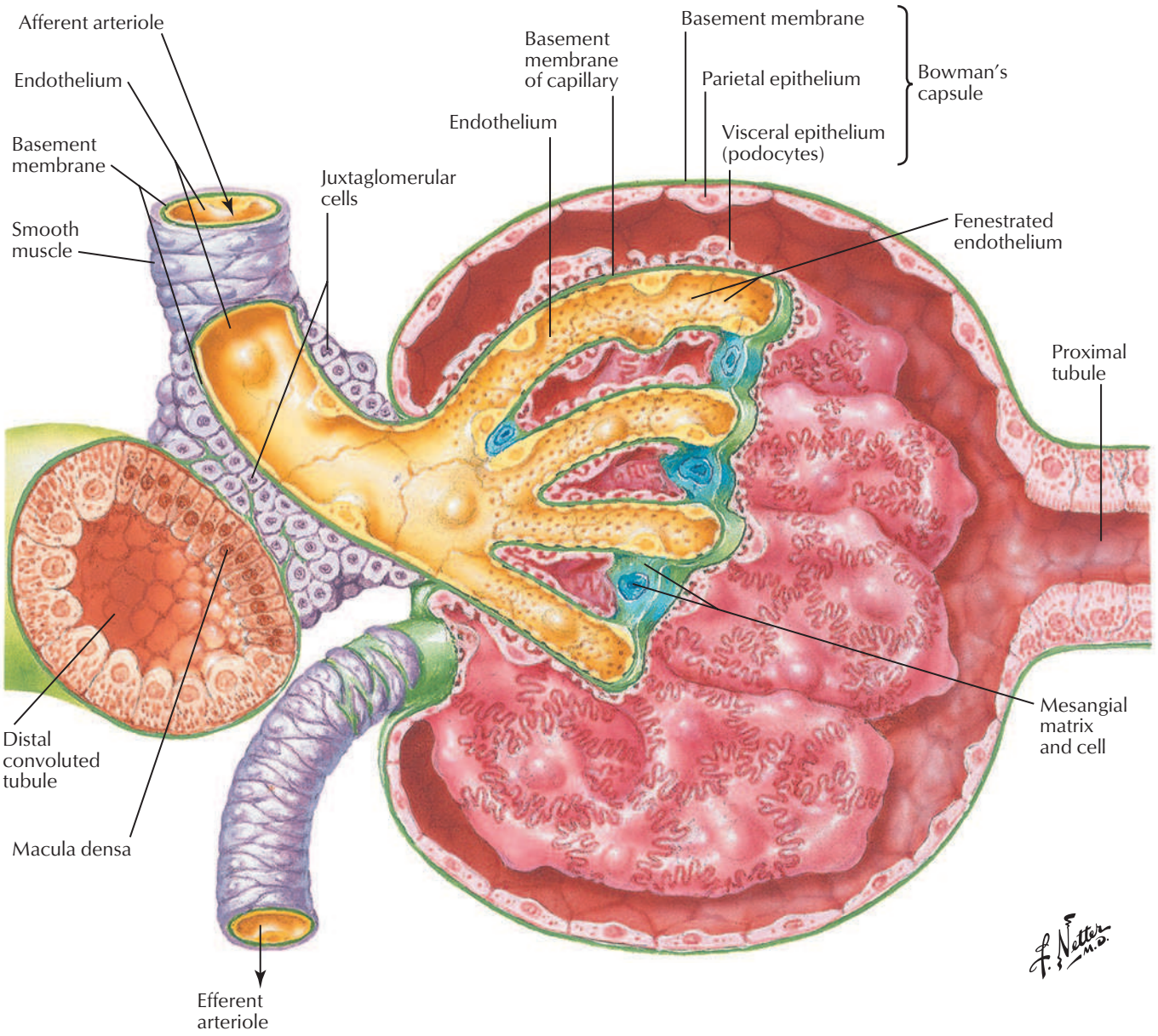
Multiple renal veins

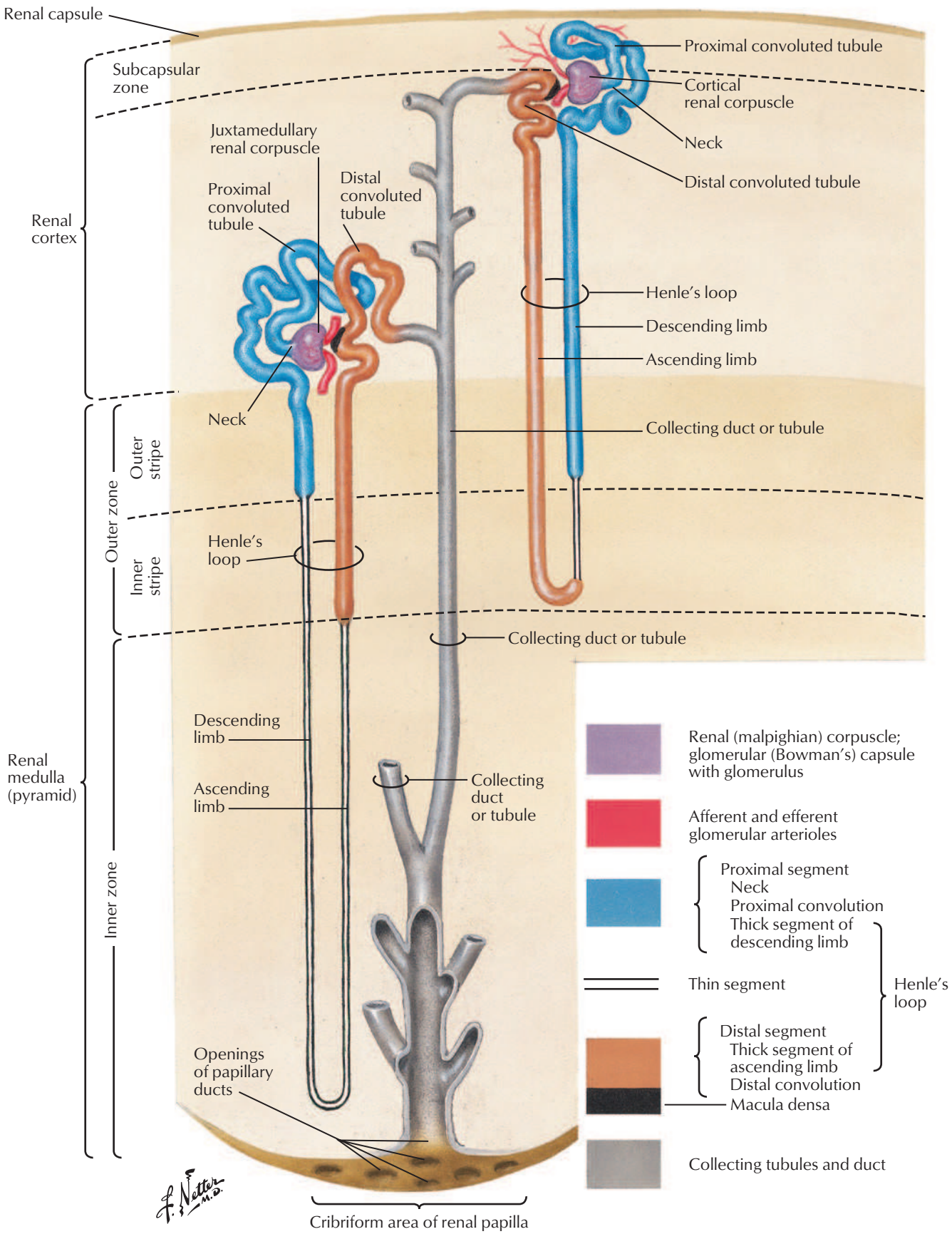


Persistent left inferior vena cava may join left renal vein

www.Booksmedicos06.com

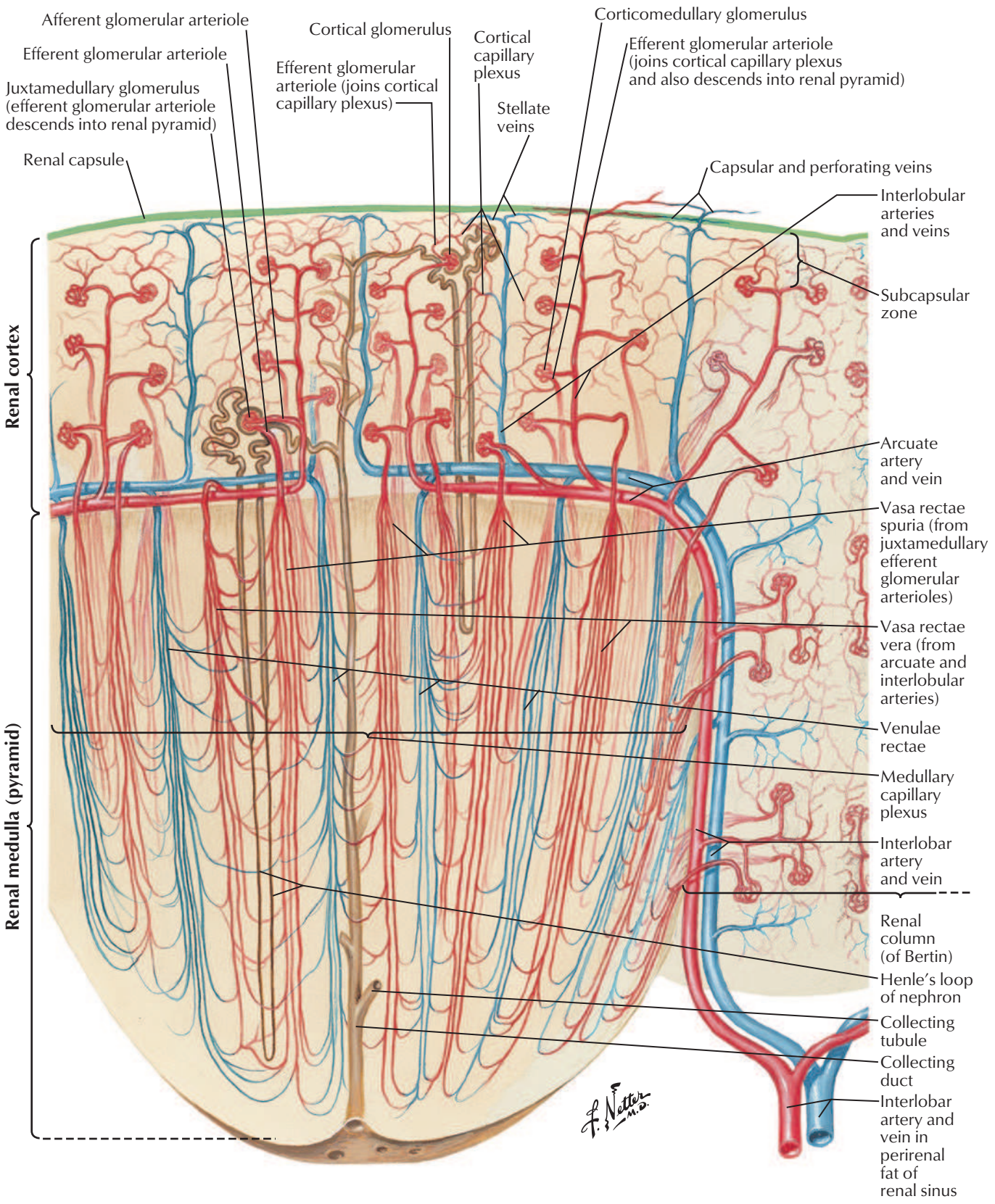
////// facebook : Booksmedicos06

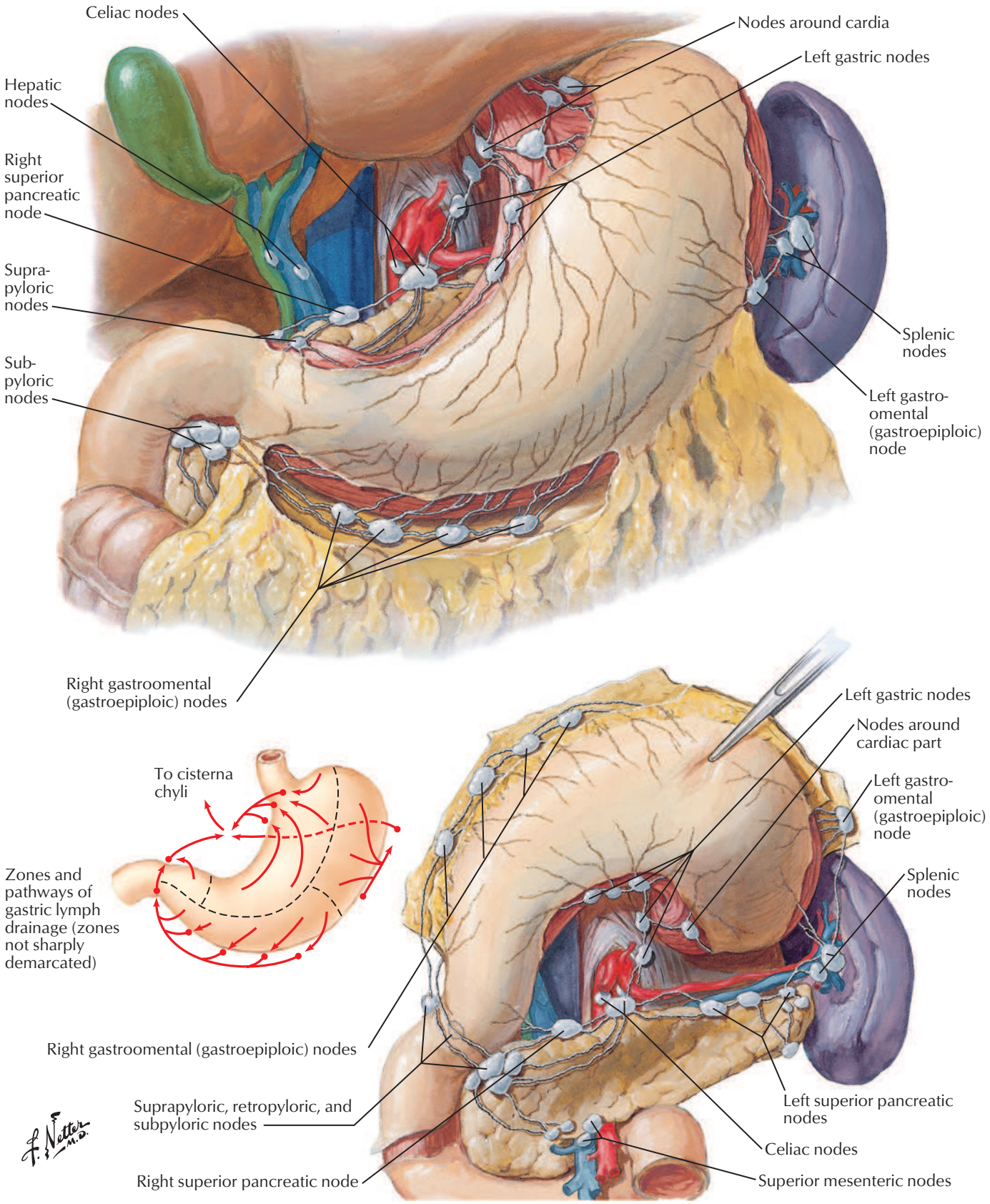




www.Booksmedicos06.com

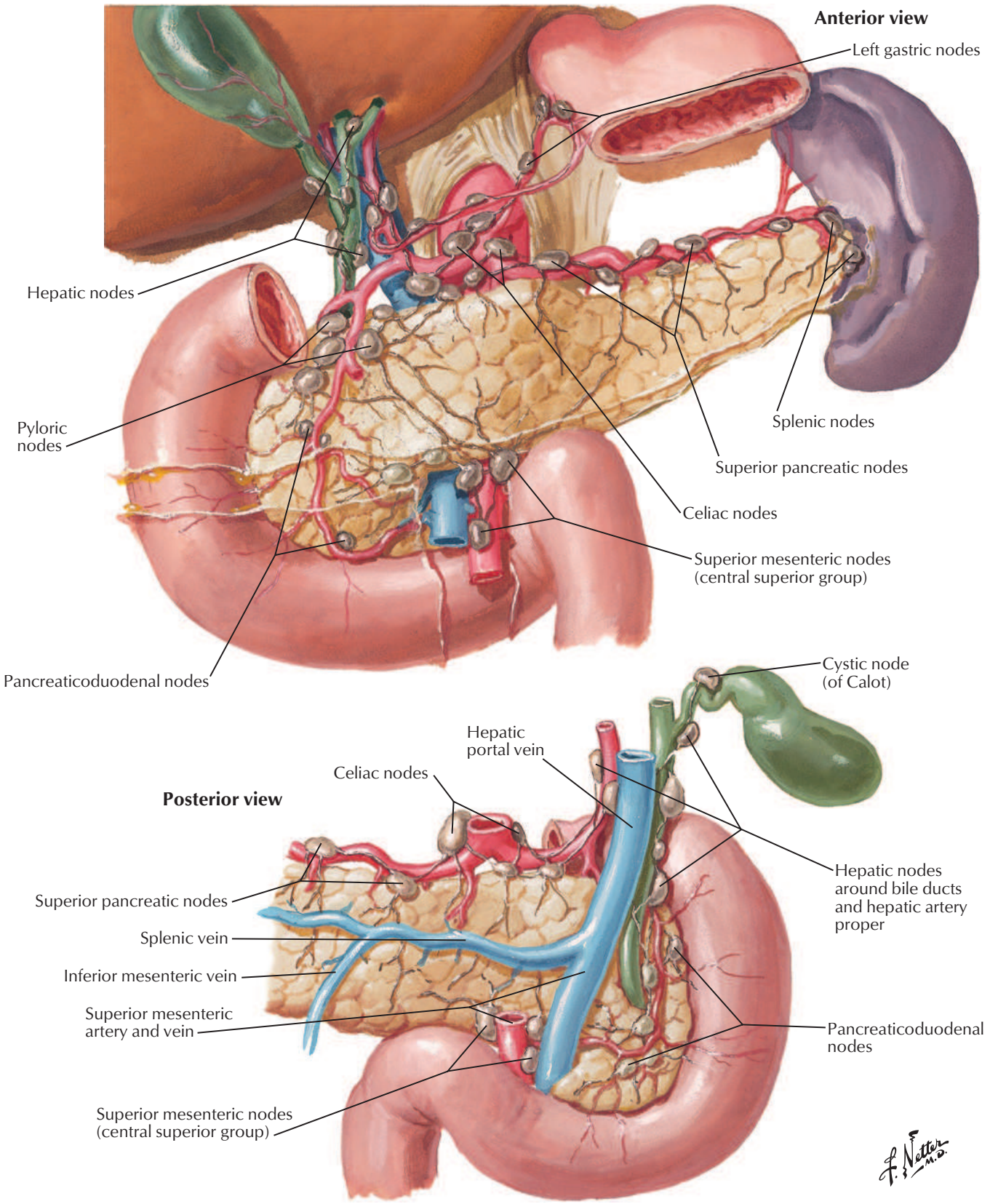
////// facebook : Booksmedicos06

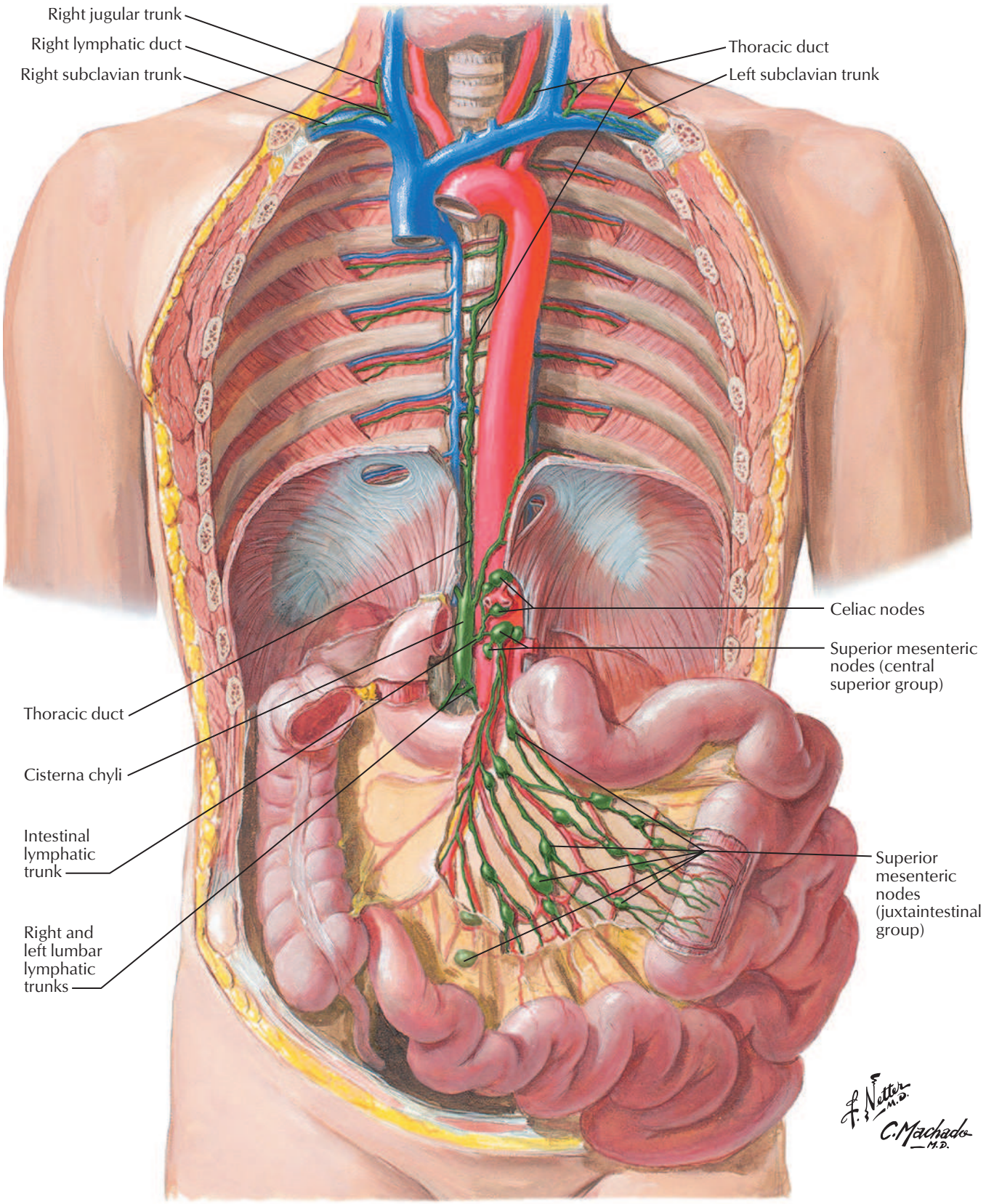




www.Booksmedicos06.com

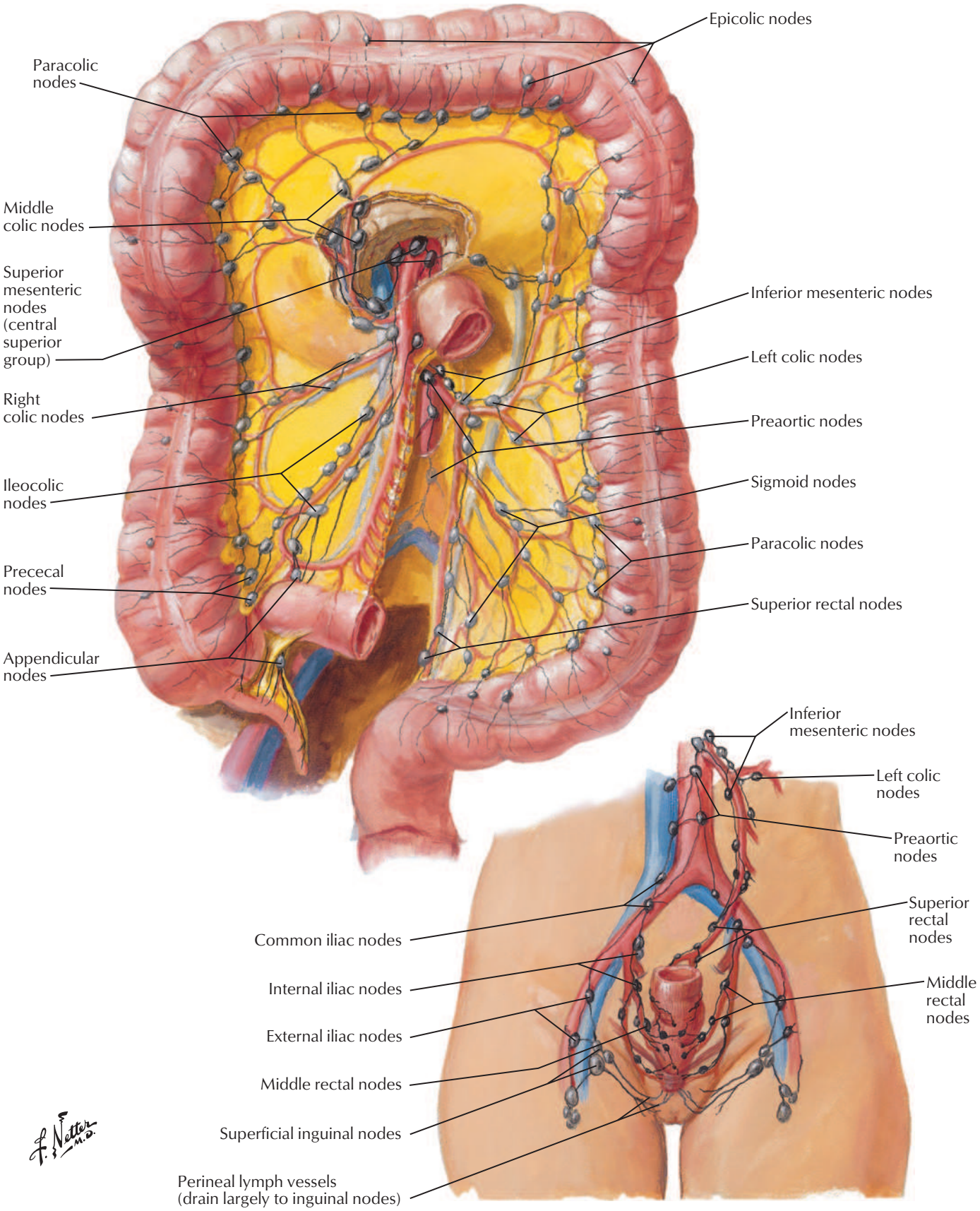
////// facebook : Booksmedicos06

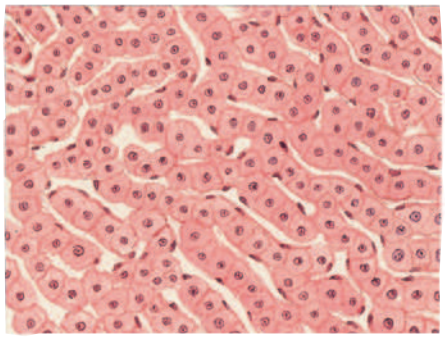




www.Booksmedicos06.com

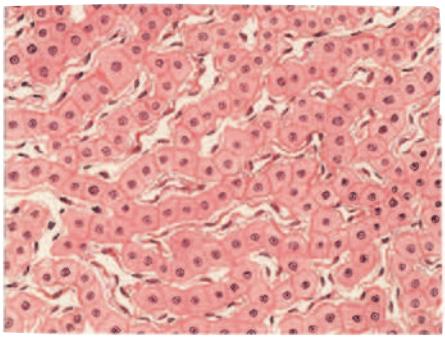
////// facebook : Booksmedicos06



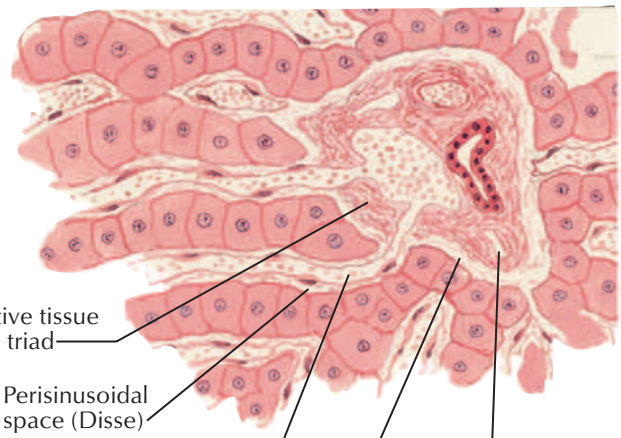


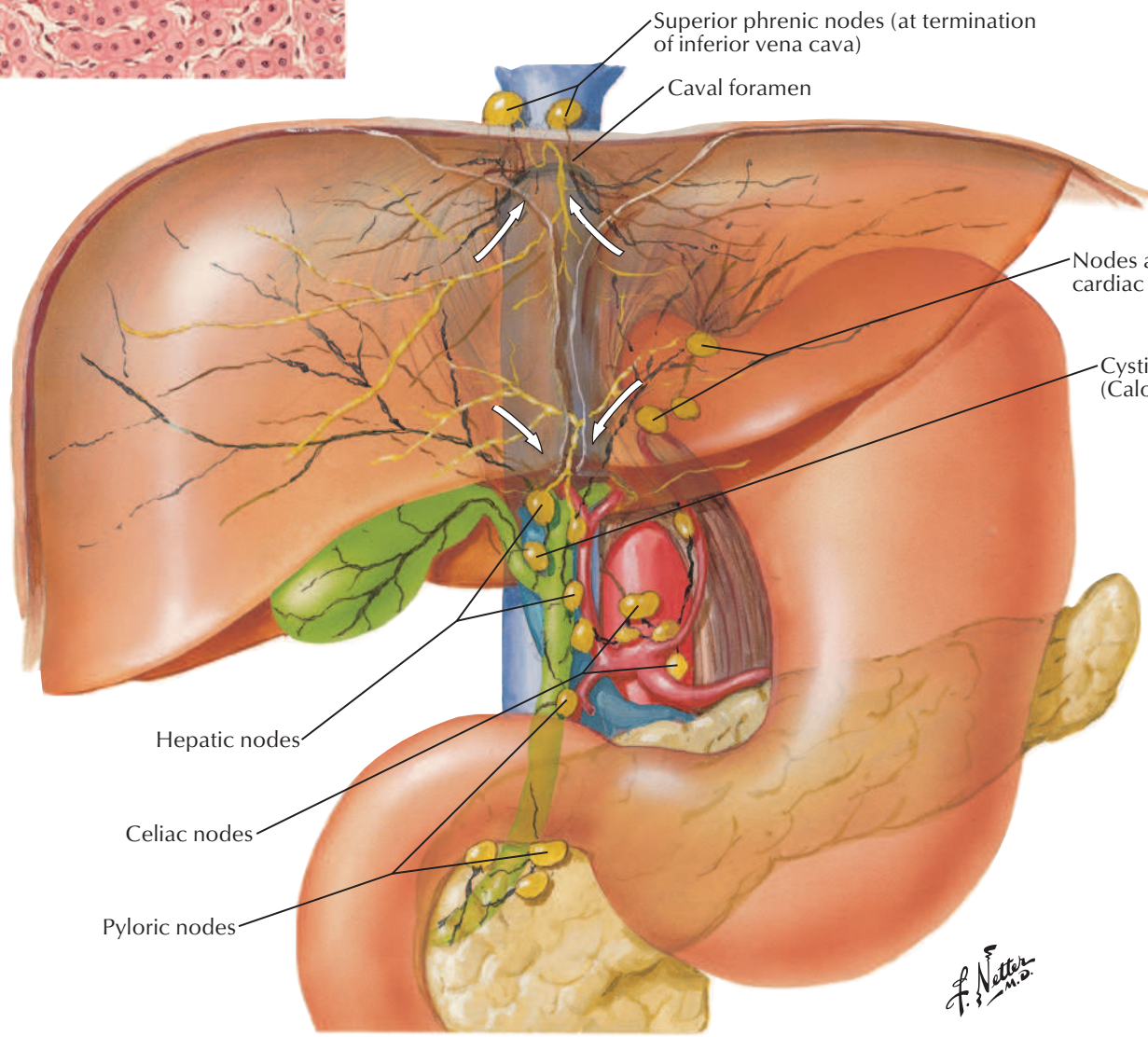
Low-power sections of liver

Perisinusoidal spaces (Disse) very narrow or obliterated



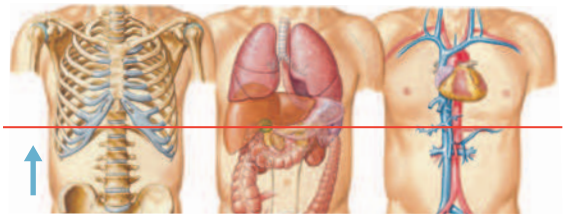
Perisinusoidal spaces (Disse) markedly widened





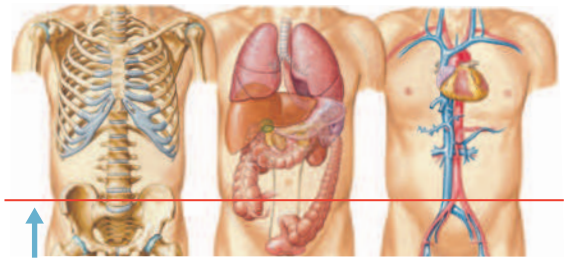
www.Booksmedicos06.com

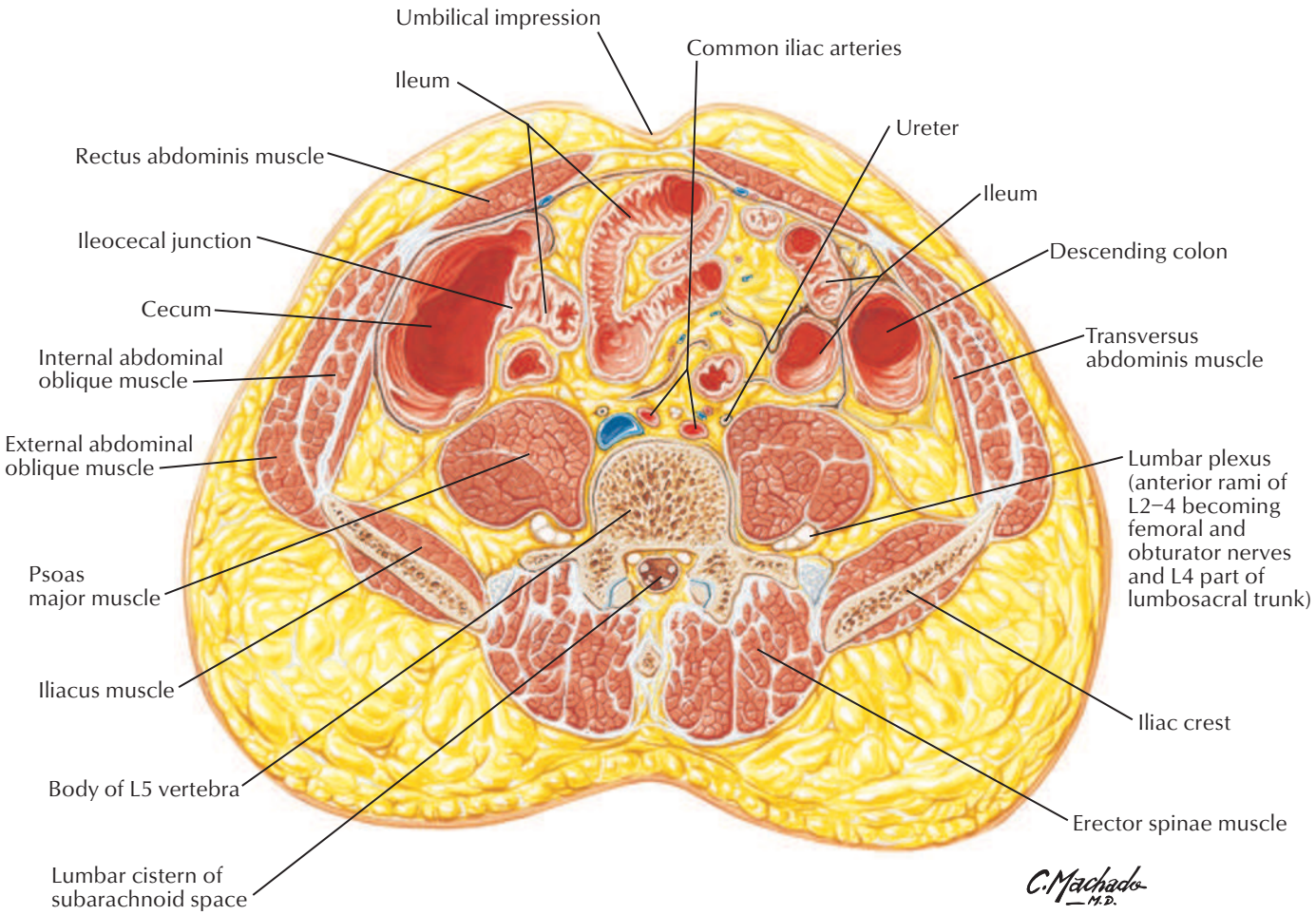
////// facebook : Booksmedicos06



Falciform ligament
Liver
Linea alba
Superior epigastric vessels
Rectus abdominis muscle
Transversalis fascia
Lesser omentum
Parietal peritoneum
Left gastric artery and vein
Visceral peritoneum of liver
7th costal cartilage
Proper hepatic artery (bifurcation)
External abdominal oblique muscle
Gallbladder (neck)
Respiratory diaphragm
Costodiaphragmatic recess of pleural cavity
Stomach
Common hepatic duct
Gastrosplenic ligament and short gastric vessels
Cystic duct
Intercostal vessels and nerve
Pleura
Hepatic portal vein
Spleen
Omental foramen (of Winslow)
Splenorenal ligament with splenic vessels
Common hepatic artery (retro-peritoneal)
Intercostal muscles
Hepatorenal recess (Morison's pouch)
Parietal peritoneum on posterior wall of omental bursa
Inferior vena cava
Left suprarenal gland
Omental bursa (lesser sac)
Right crus of respiratory diaphragm
Left kidney
Right sympathetic trunk
Azygos vein
Latissimus dorsi muscle
Thoracic duct
Iliocostalis
Longissimus
Spinalis
Erector spinae muscle
Anterior longitudinal ligament
Celiac ganglia
Abdominal aorta
Body of T12 vertebra

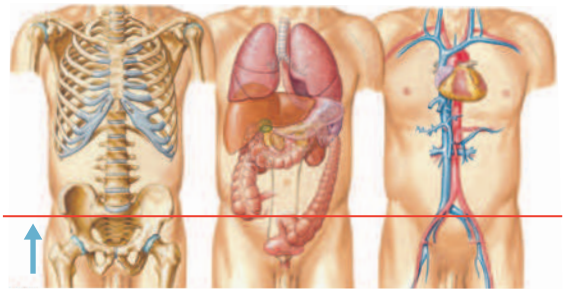
Transverse Section of Abdomen: Level of L5, Near Transtubercular Plane

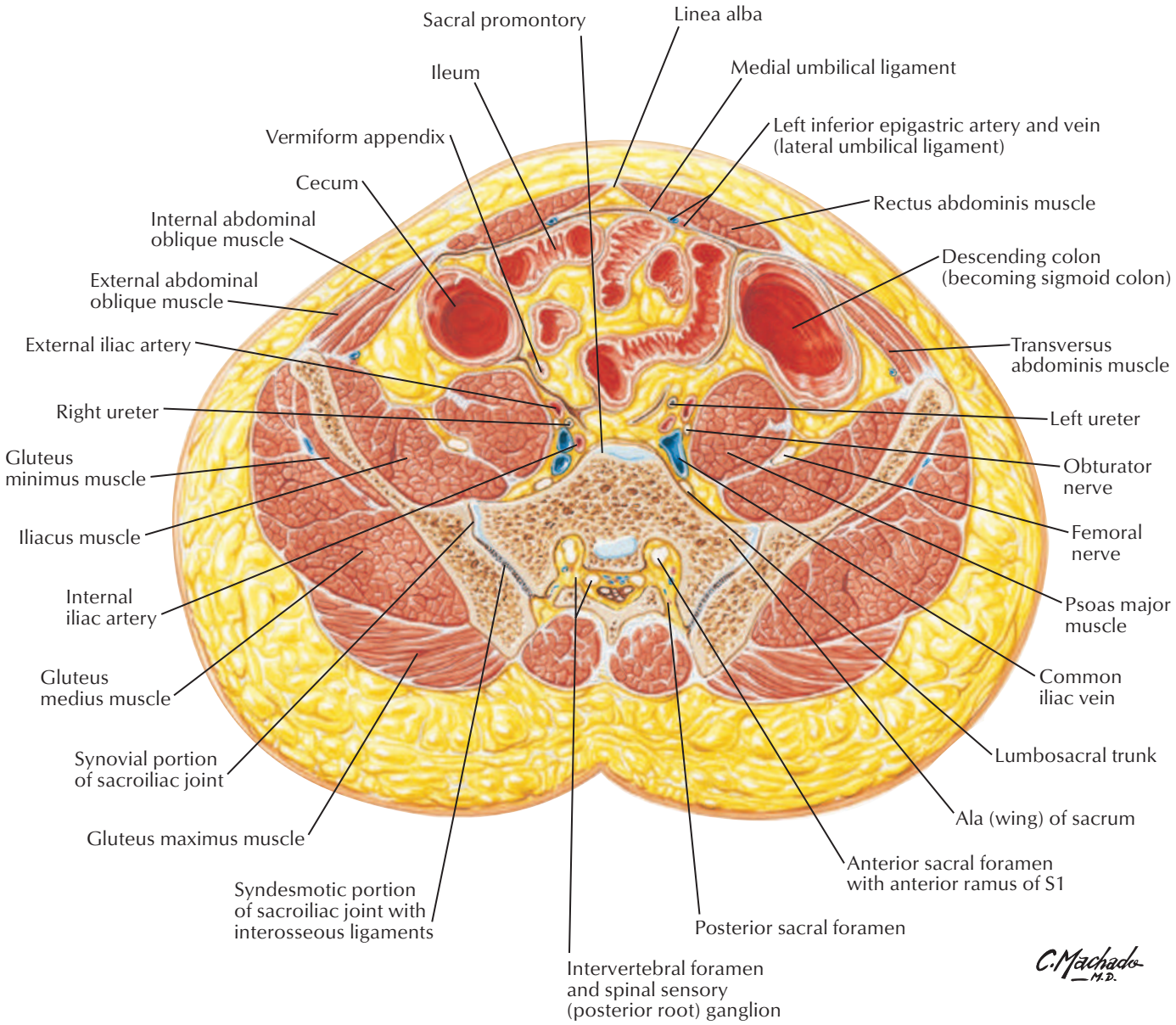




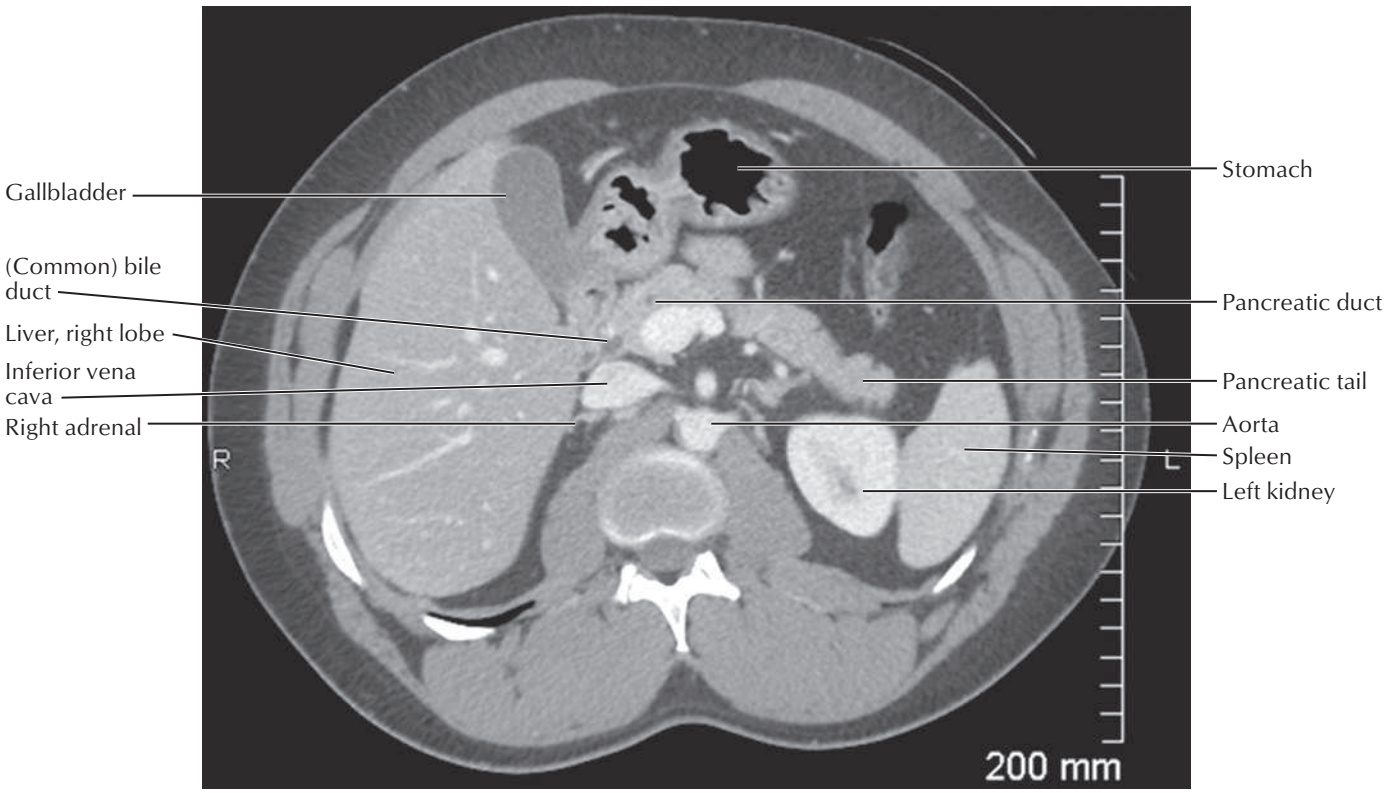
www.Booksmedicos06.com

////// facebook : Booksmedicos06





Axial CT image enhanced with intravenous contrast



www.Booksmedicos06.com ///////

PELVIS AND PERINEUM 6

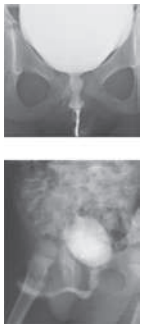
////// facebook : Booksmedicos06

Surface Anatomy	333	**Testis, Epididymis, and Ductus Deferens**	372
Bones and Ligaments	334-338	**Rectum**	373-378
Pelvic Floor and Contents	339-349	**Regional Scan**	379
Urinary Bladder	350-352	**Vasculature**	380-390
Uterus, Vagina, and Supporting Structures	353-357	**Innervation**	391-399
Perineum and External Genitalia: Female	358-361	**Cross-Sectional Anatomy**	400-401
Perineum and External Genitalia: Male	362-369	**Structures With High Clinical Significance**	Tables 6.1-6.2
Homologues of Genitalia	370-371	**Muscle Tables**	Tables 6.3-6.4
		Electronic Bonus Plates	BP88-BP98

ELECTRONIC BONUS PLATES



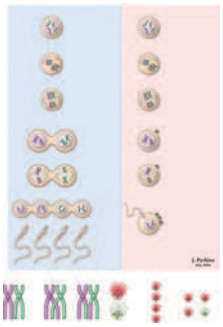
BP88 Fasciae of Male and Female Pelvis and Perineum



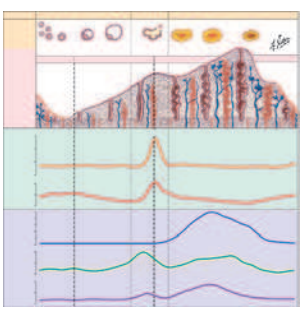
BP89 Male and Female Cystourethrograms



BP90 Female Urethra



BP91 Genetics of Reproduction



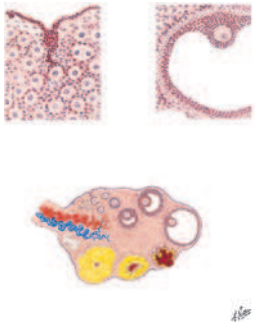
BP92 Menstrual Cycle



BP93 Testes



BP94 Uterine Development

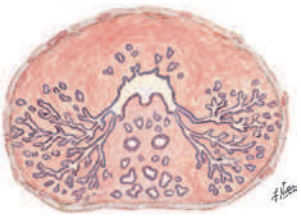


BP95 Ovary, Ova, and Follicles

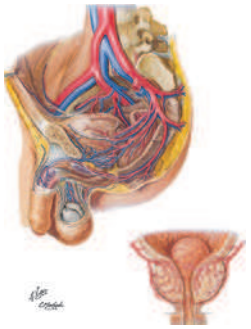
ELECTRONIC BONUS PLATES—*cont'd*



BP96 Variations in Hymen



BP97 Cross Section Through Prostate

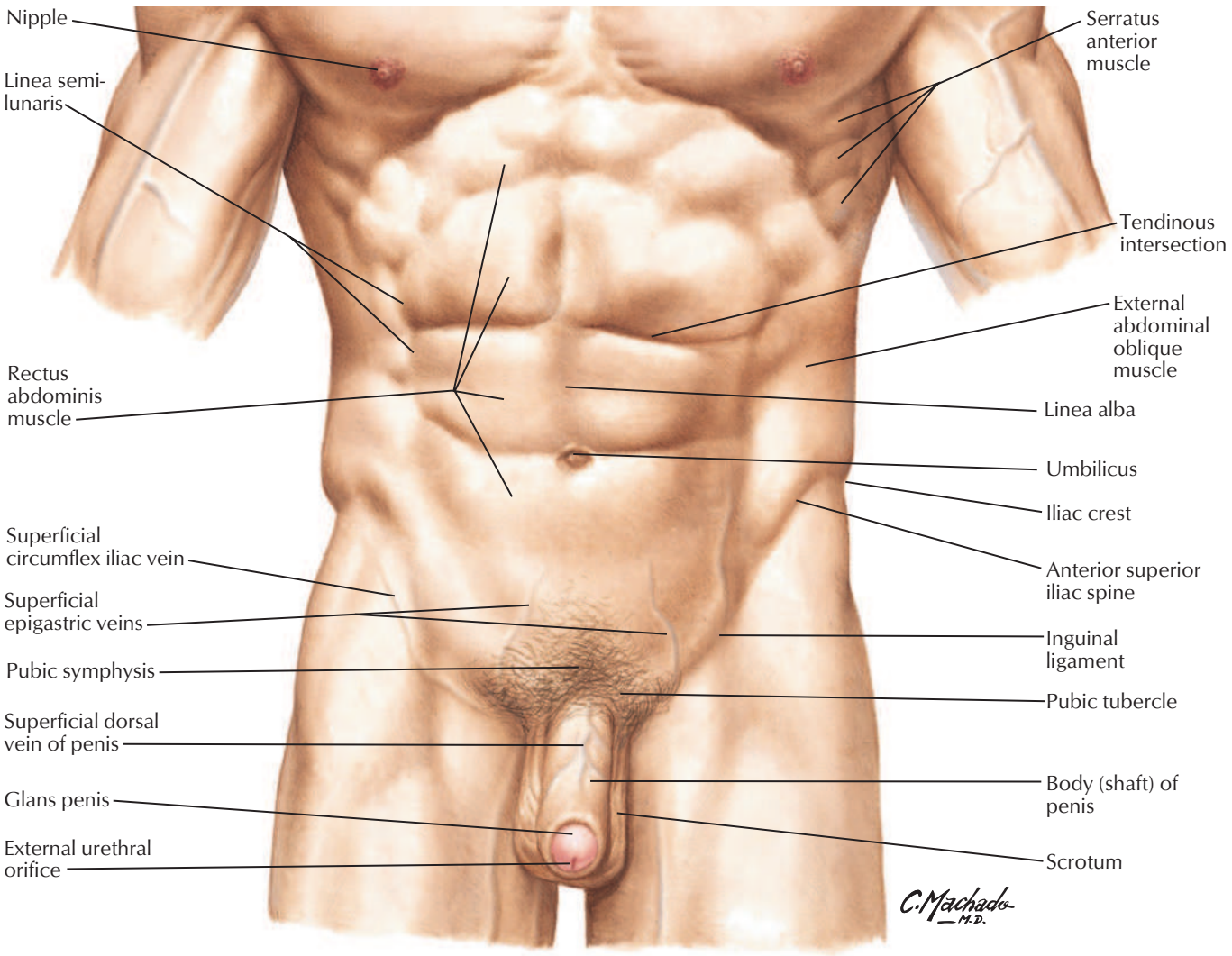


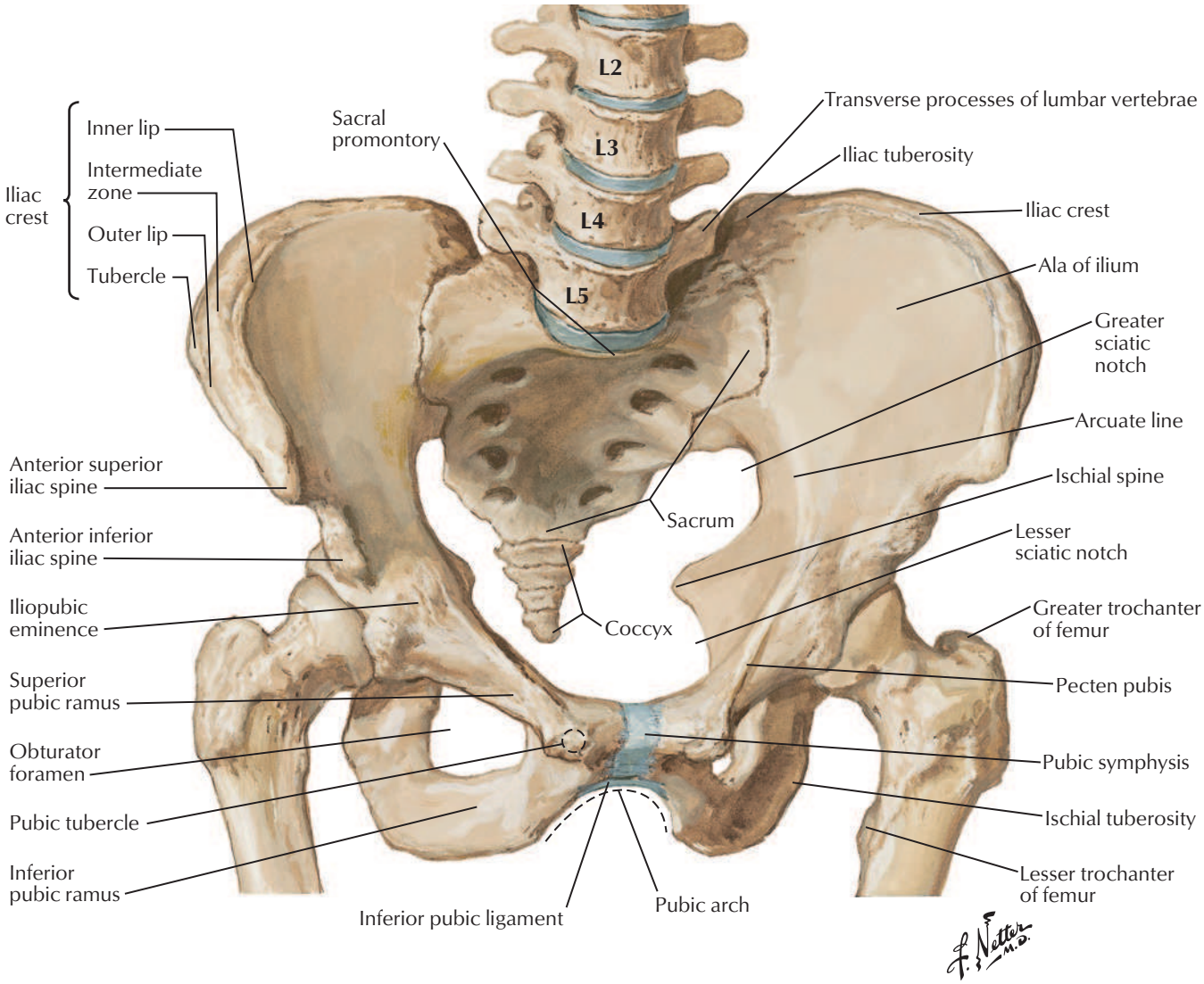
BP98 Arteries and Veins of Pelvis: Male

www.BooksMedicos66.com

See also Plates 171, 252

/////// facebook : Booksmedicos06

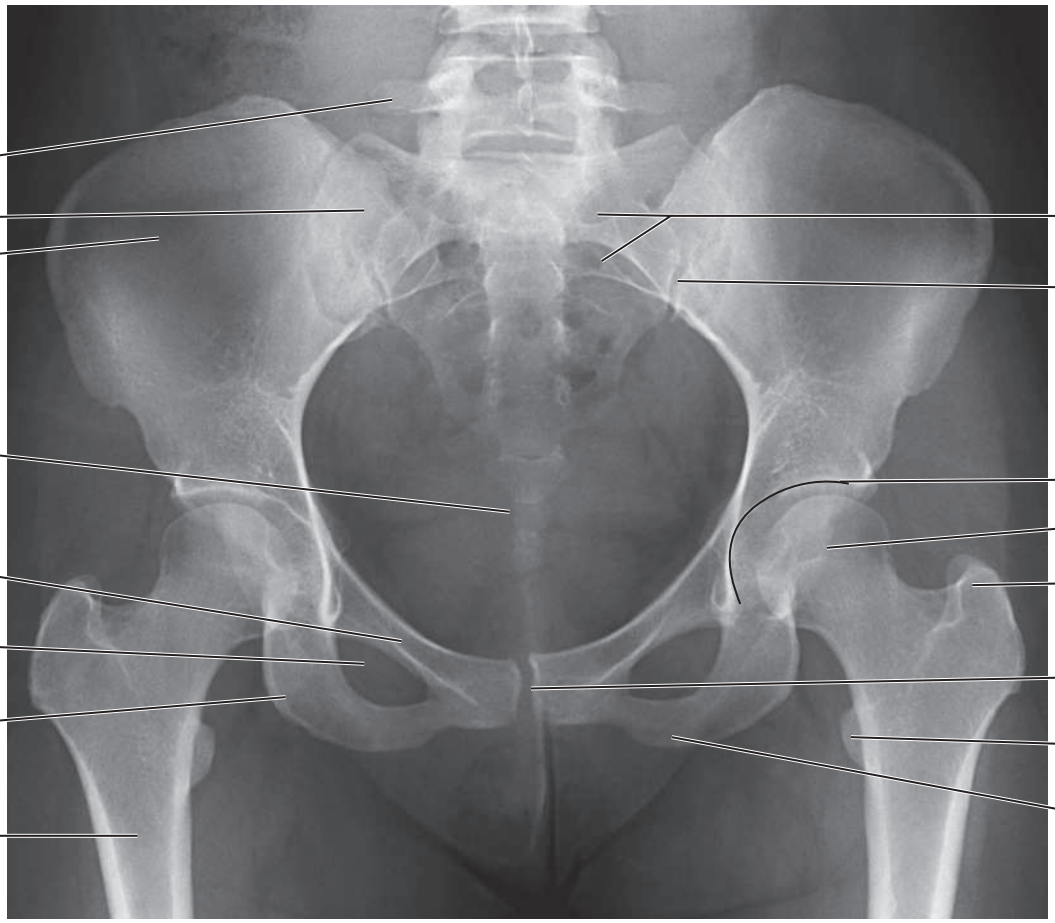




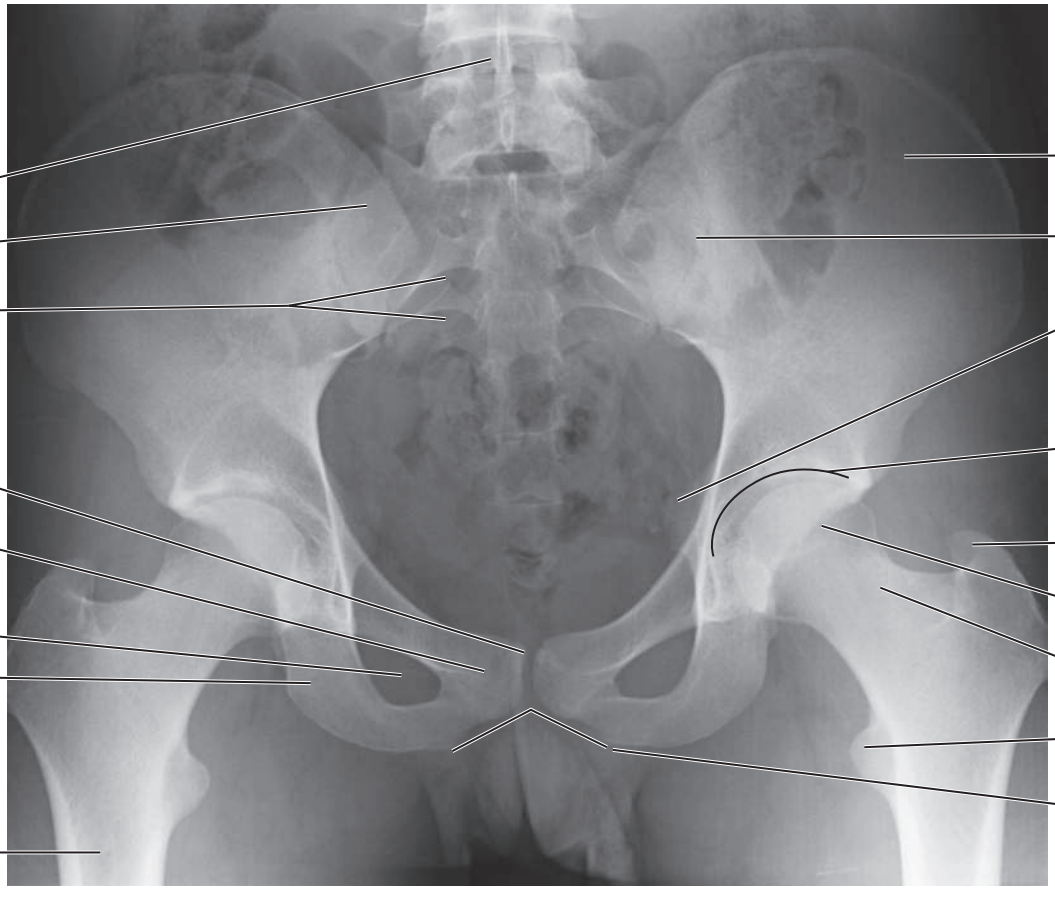
www.Booksmedicos06.com

////// facebook : Booksmedicos06

Female

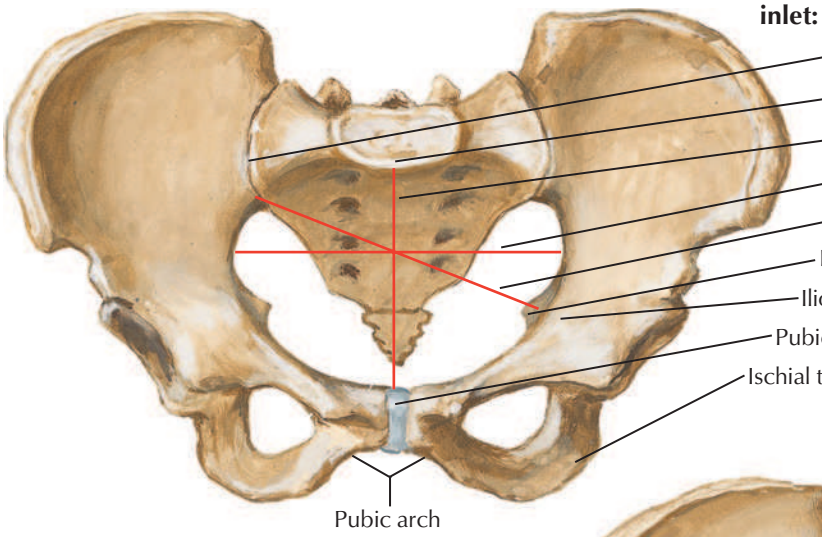


Male

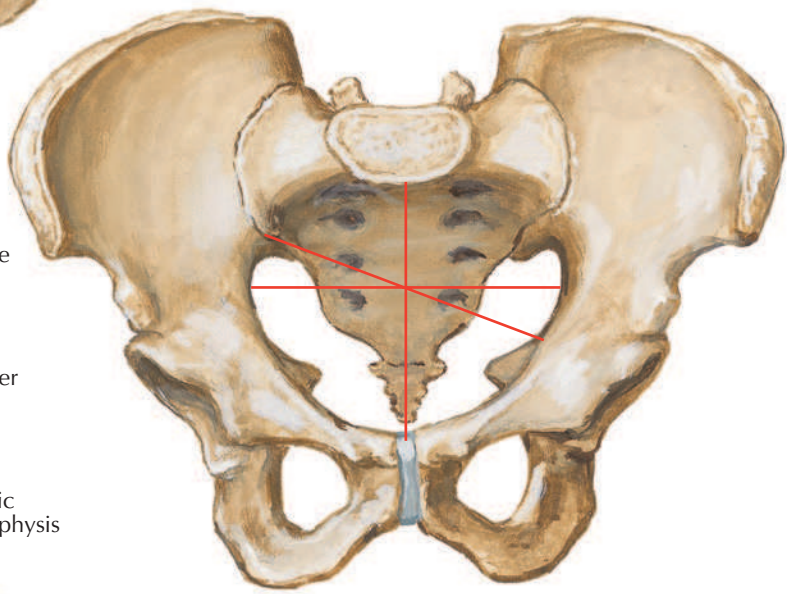


See also Plate 250

Female pelvis/female pelvic inlet: anterior view

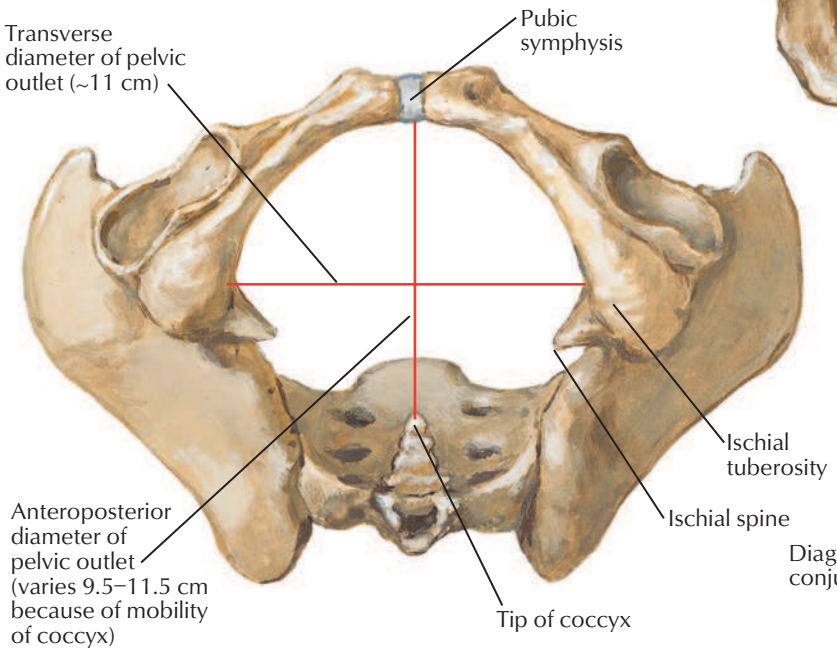


Male pelvis/male pelvic inlet: anterior view

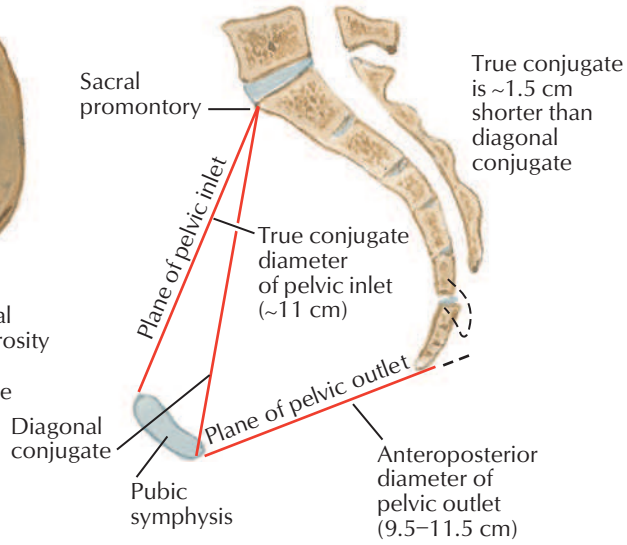


Diagonal conjugate is only diameter of pelvic inlet that can be measured clinically

- All measurements slightly shorter in relation to body size than in female
- Pelvic inlet oriented more antero-posteriorly than in female, where it tends to be transversely oval
- Pubic symphysis deeper (taller)
- Pubic arch (subpubic angle) narrower
- Ischial tuberosities less far apart
- Iliac wings less flared



Female pelvis/female pelvic outlet: inferior view



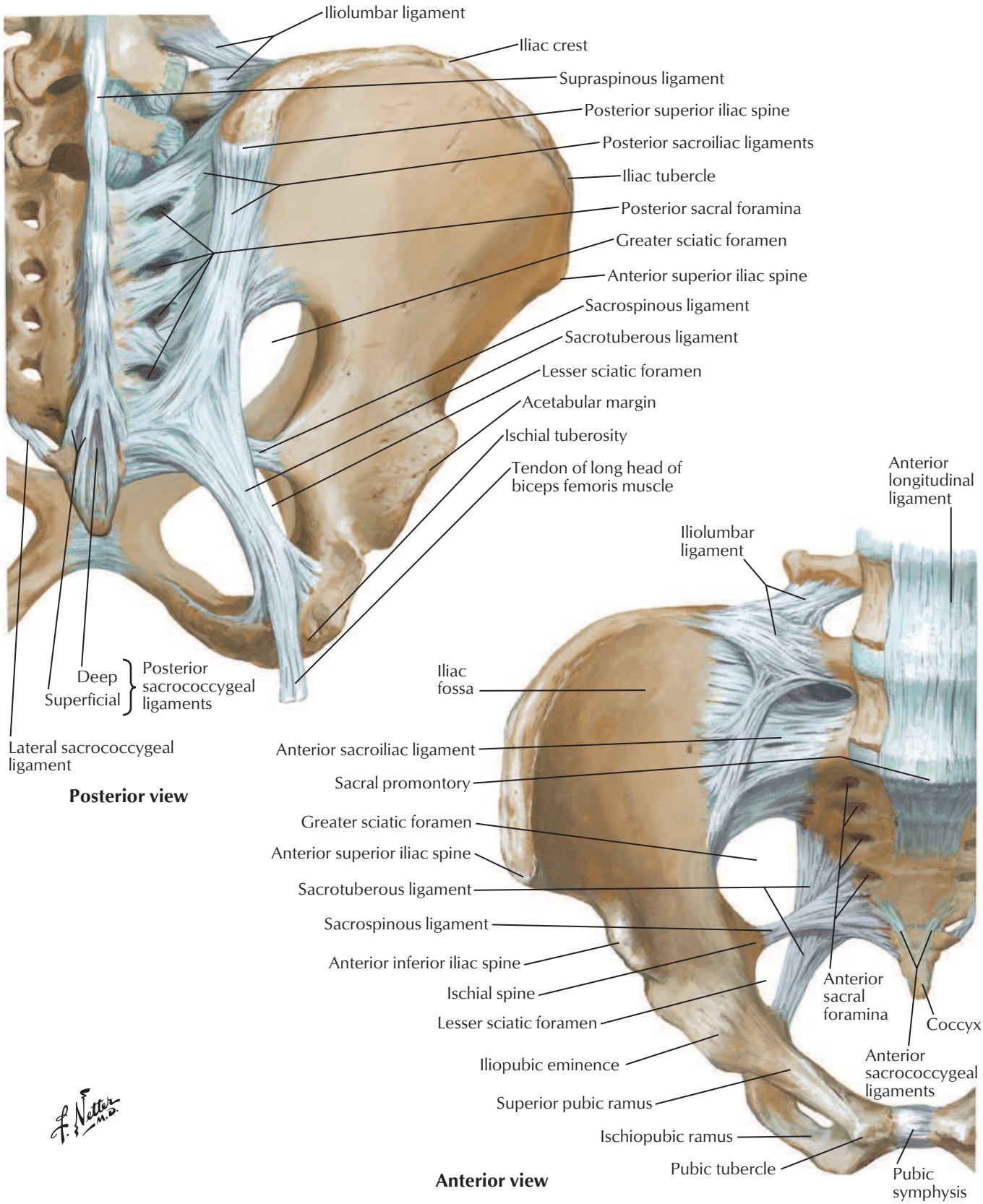
Transverse diameter is the widest distance of pelvic inlet

Female: sagittal section

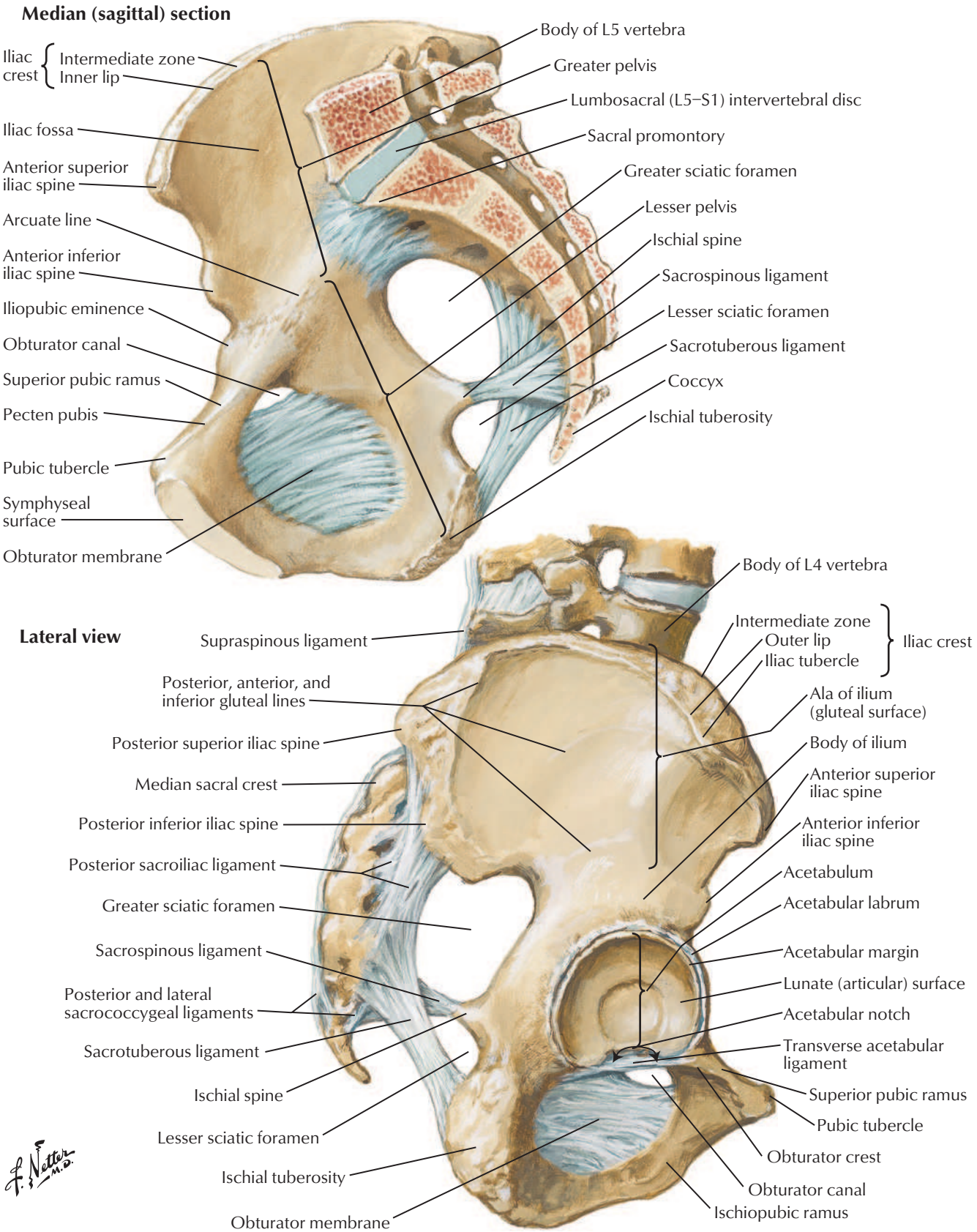
www.Booksmedicos06.com

See also Plate 167

////// facebook : Booksmedicos06



See also Plate 167

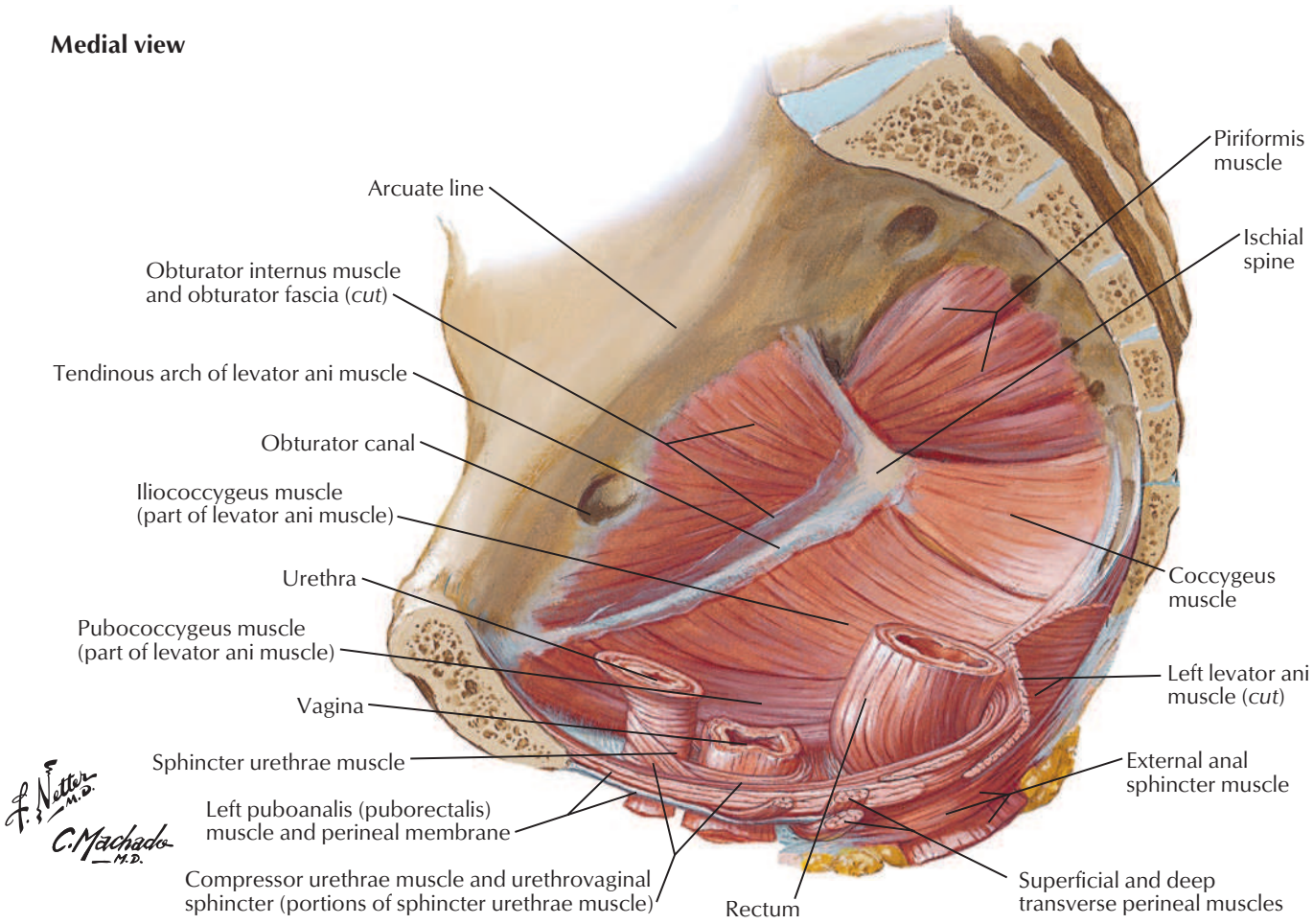


www.Booksmedicos06.com

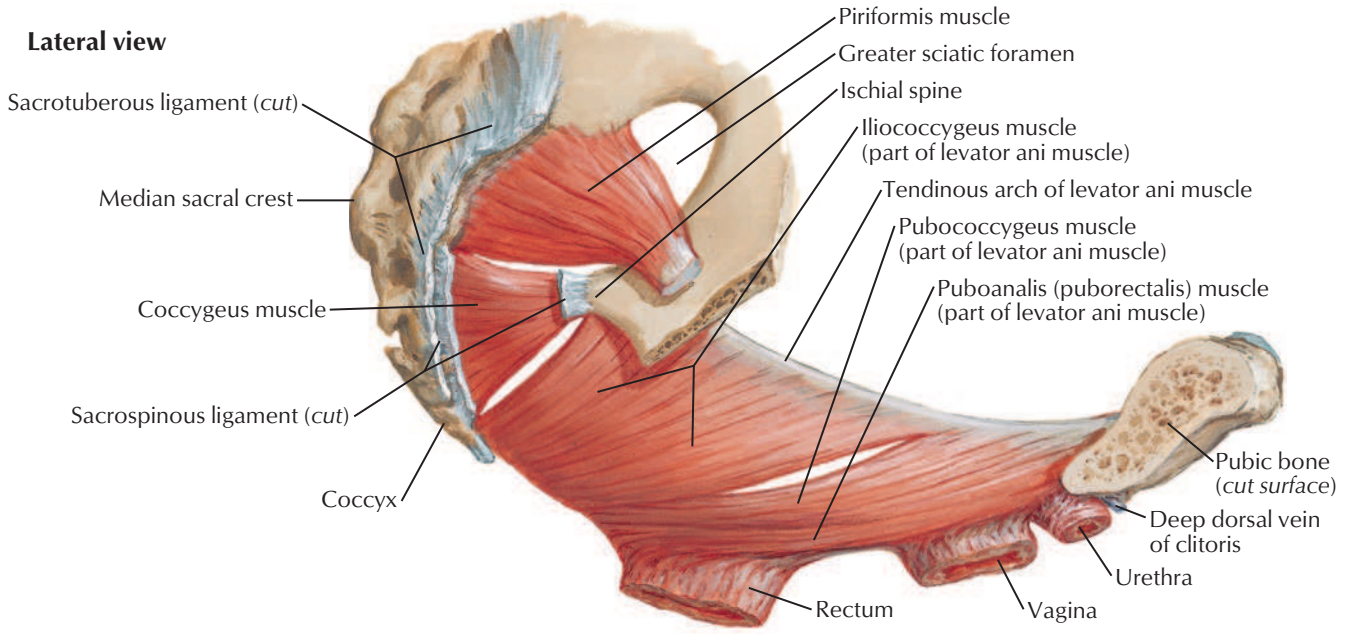
See also Plate 373

////// facebook : Booksmedicos06

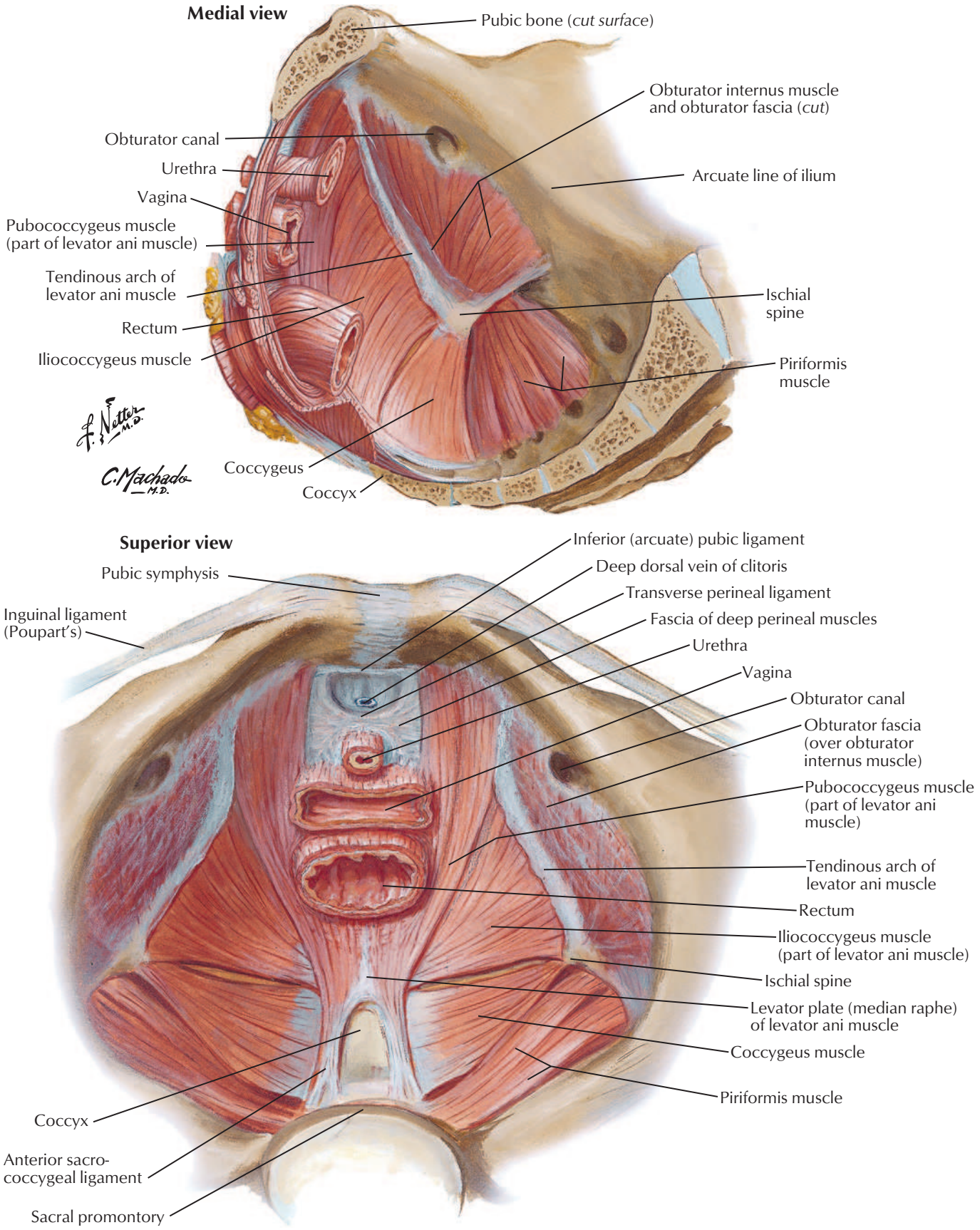
Medial view



Lateral view



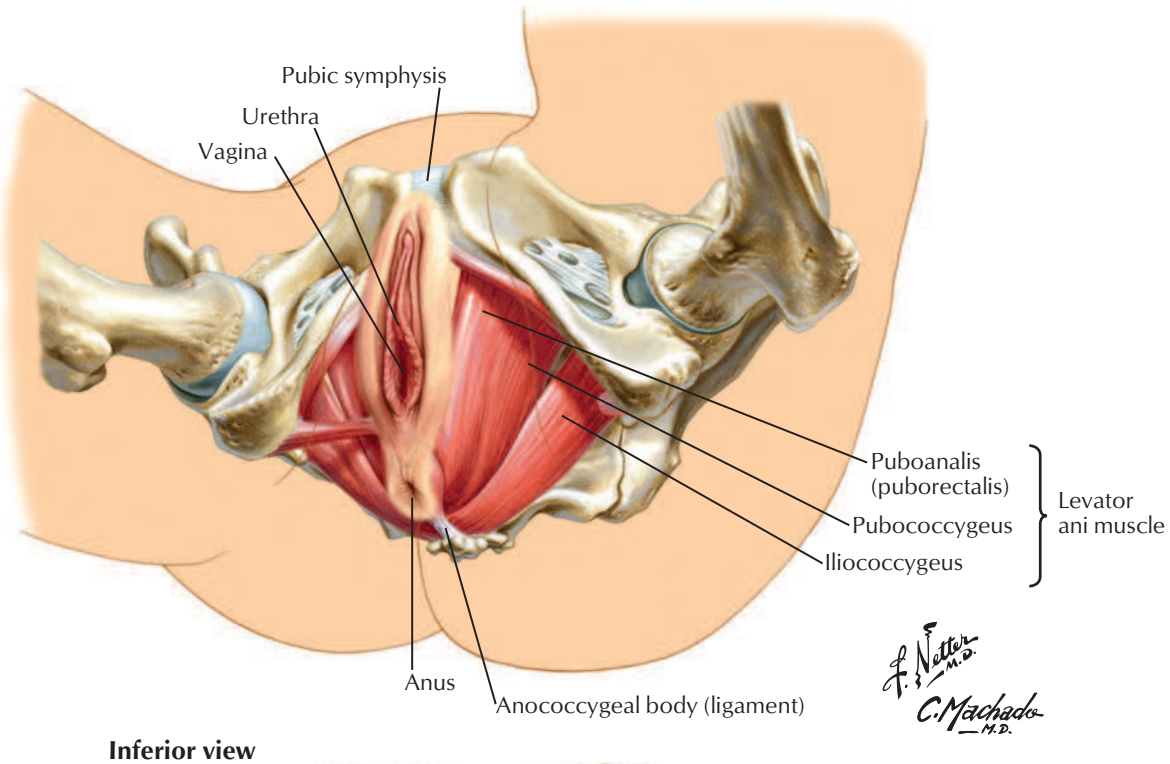
For urogenital diaphragm see Plate 360



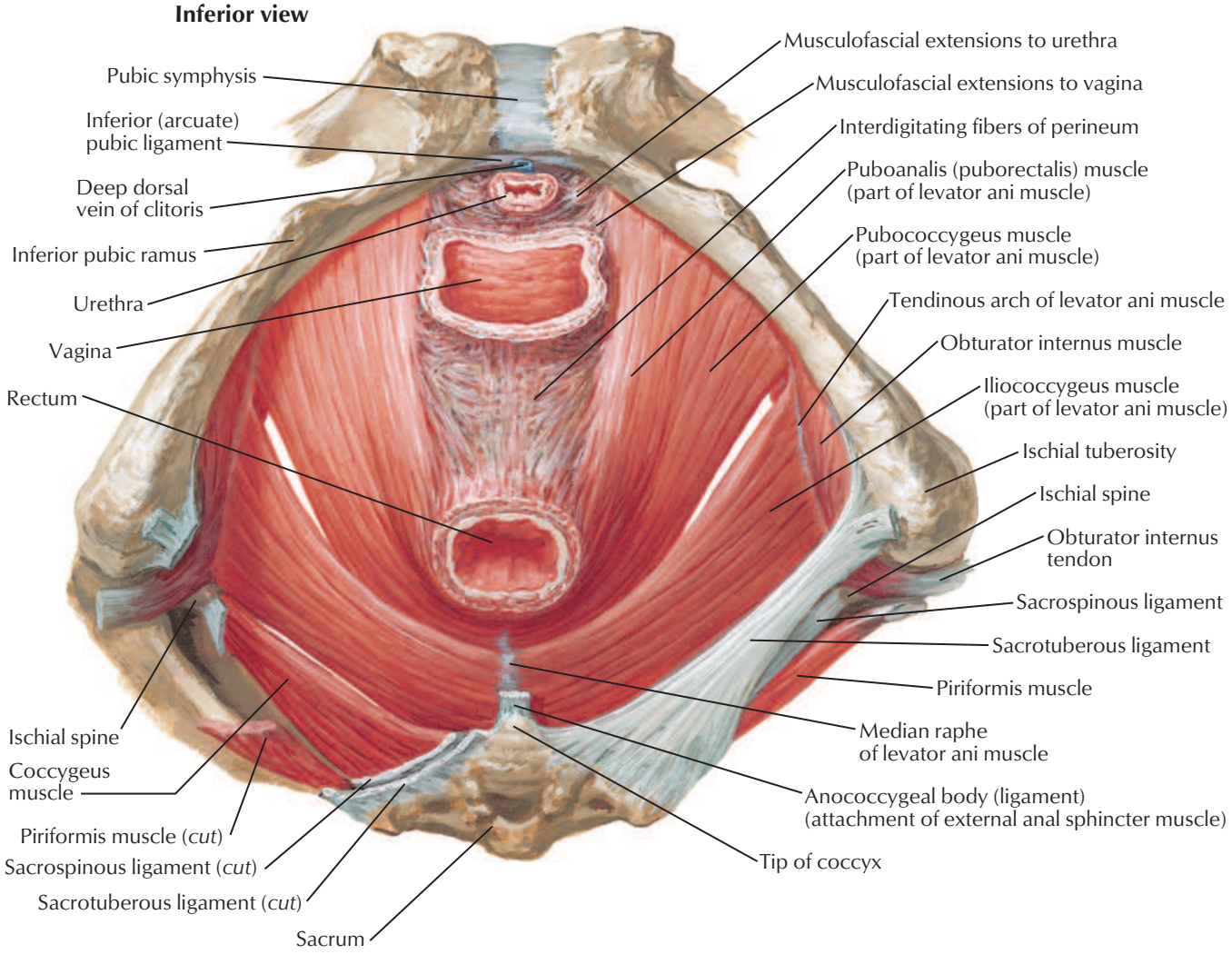
www.Booksmedicos06.com

See also Plate 361

////// facebook : BookSmedi.cos06

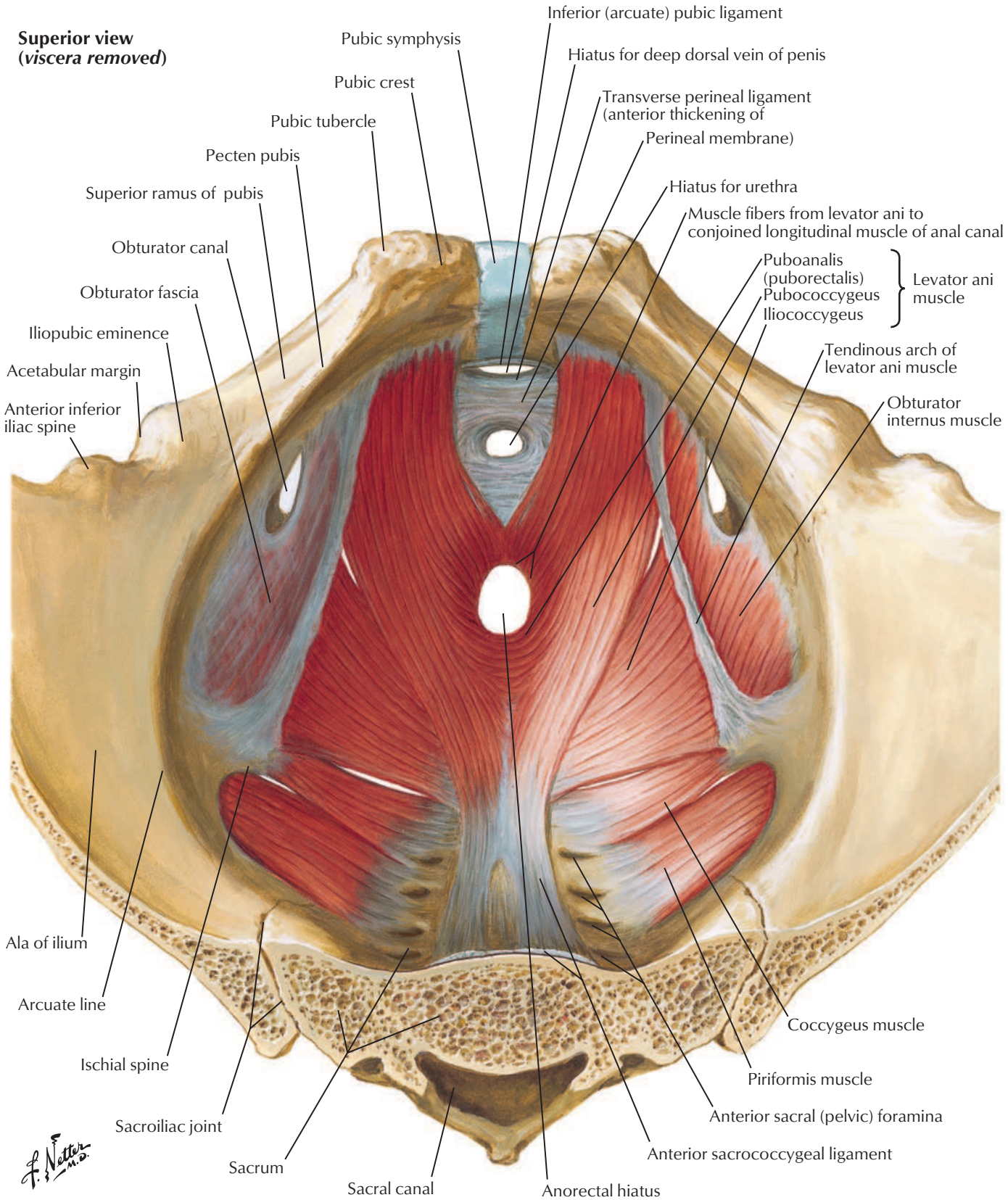


Inferior view



Pelvic Diaphragm: Male

See also Plate 343

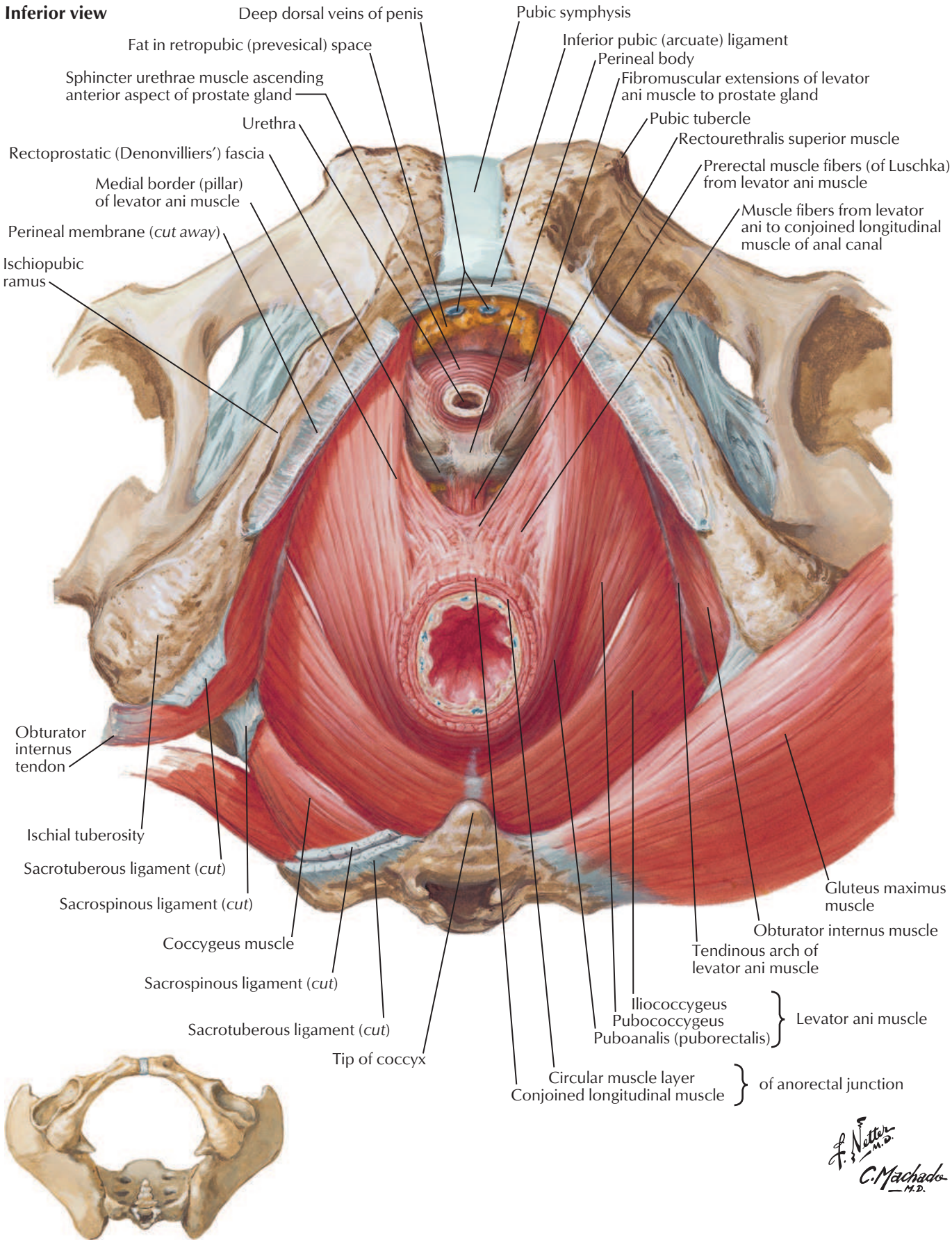


www.Booksmedicos06.com

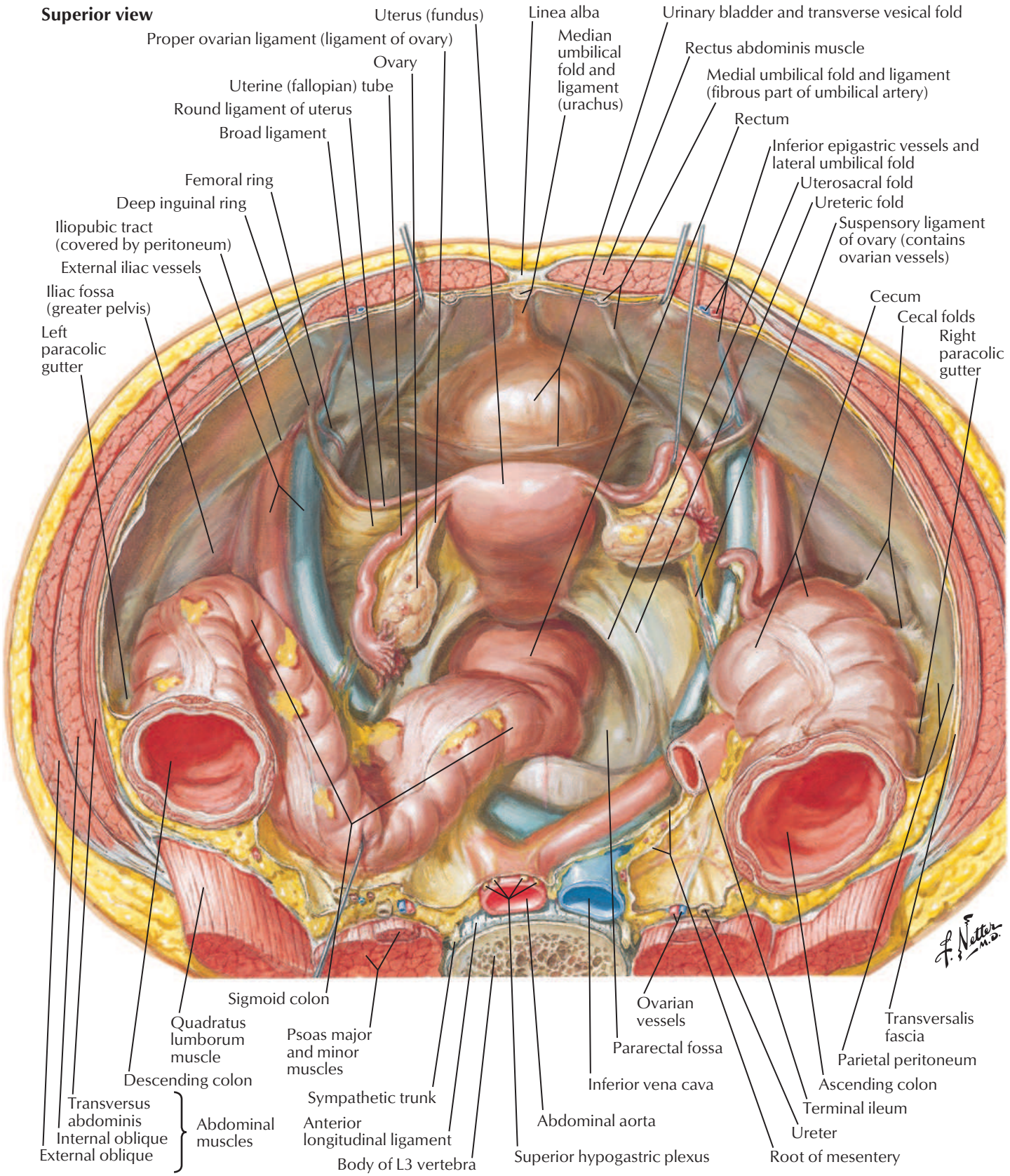
For urogenital diaphragm see Plate 365

////// facebook : Booksmedi.cos06

Inferior view



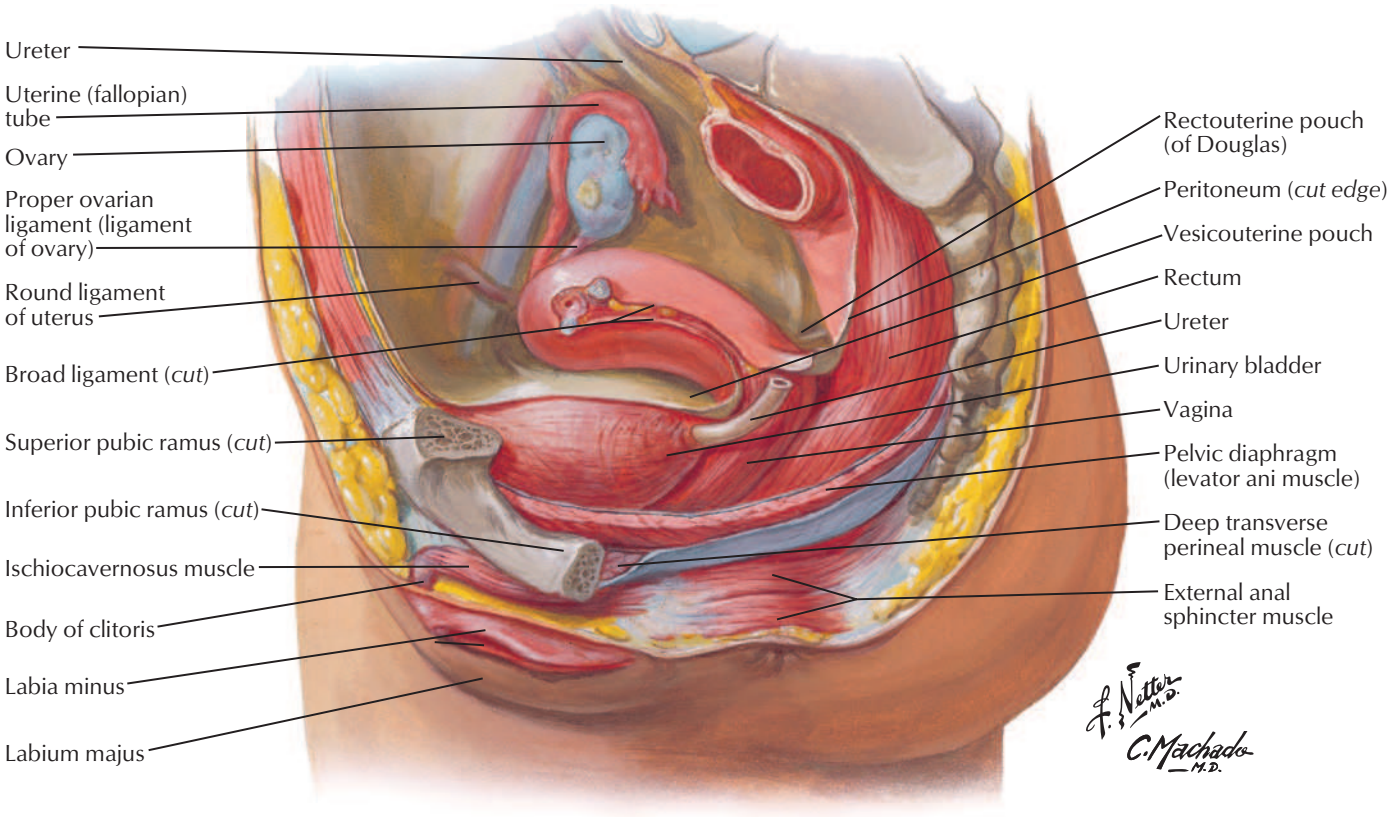
F. Netter M.D.
C. Machado M.D.



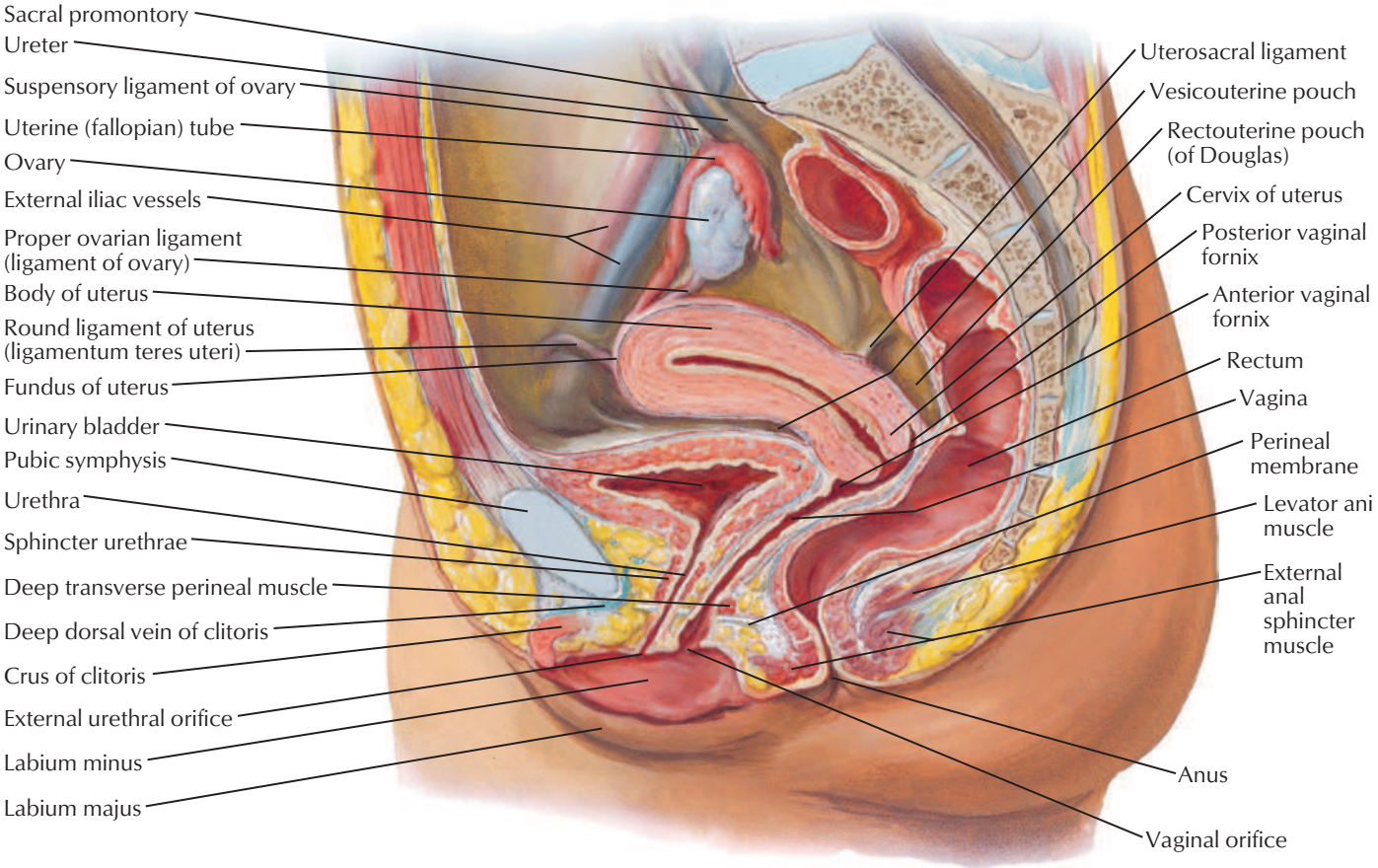
www.Booksmedicos06.com

////// facebook : Booksmedi.cos06

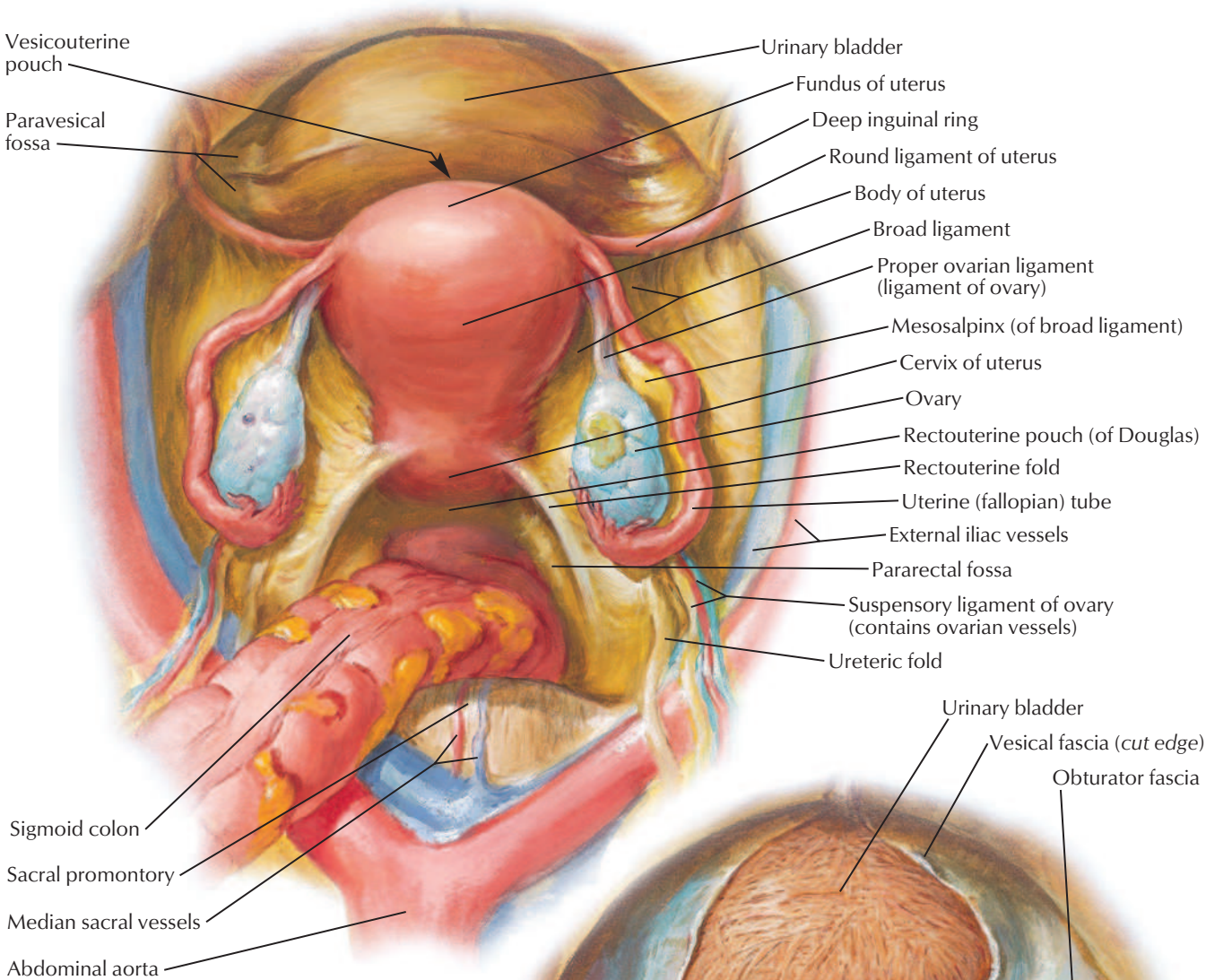
Paramedian (sagittal) dissection

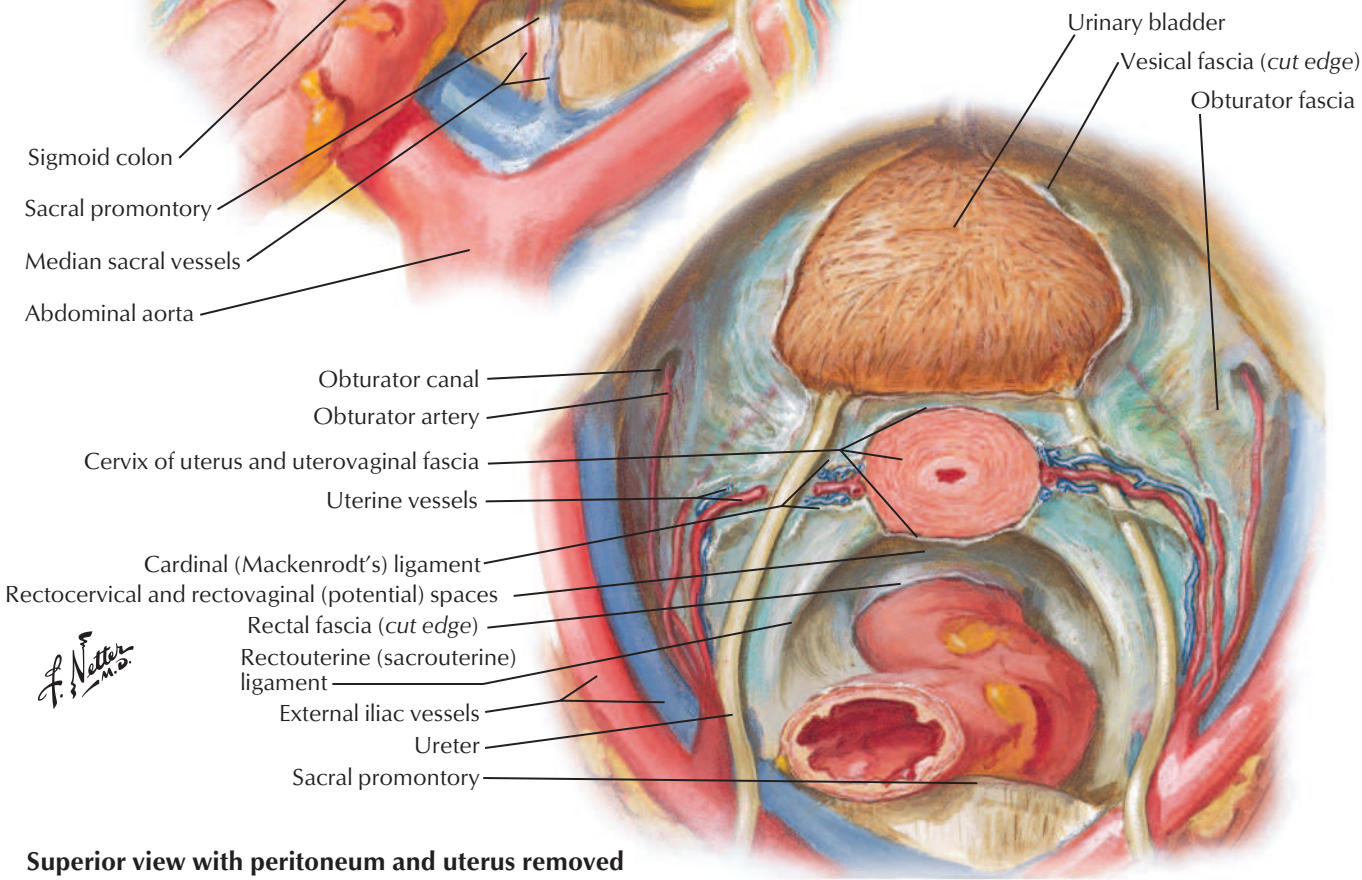


Median (sagittal) section



Superior view with peritoneum intact



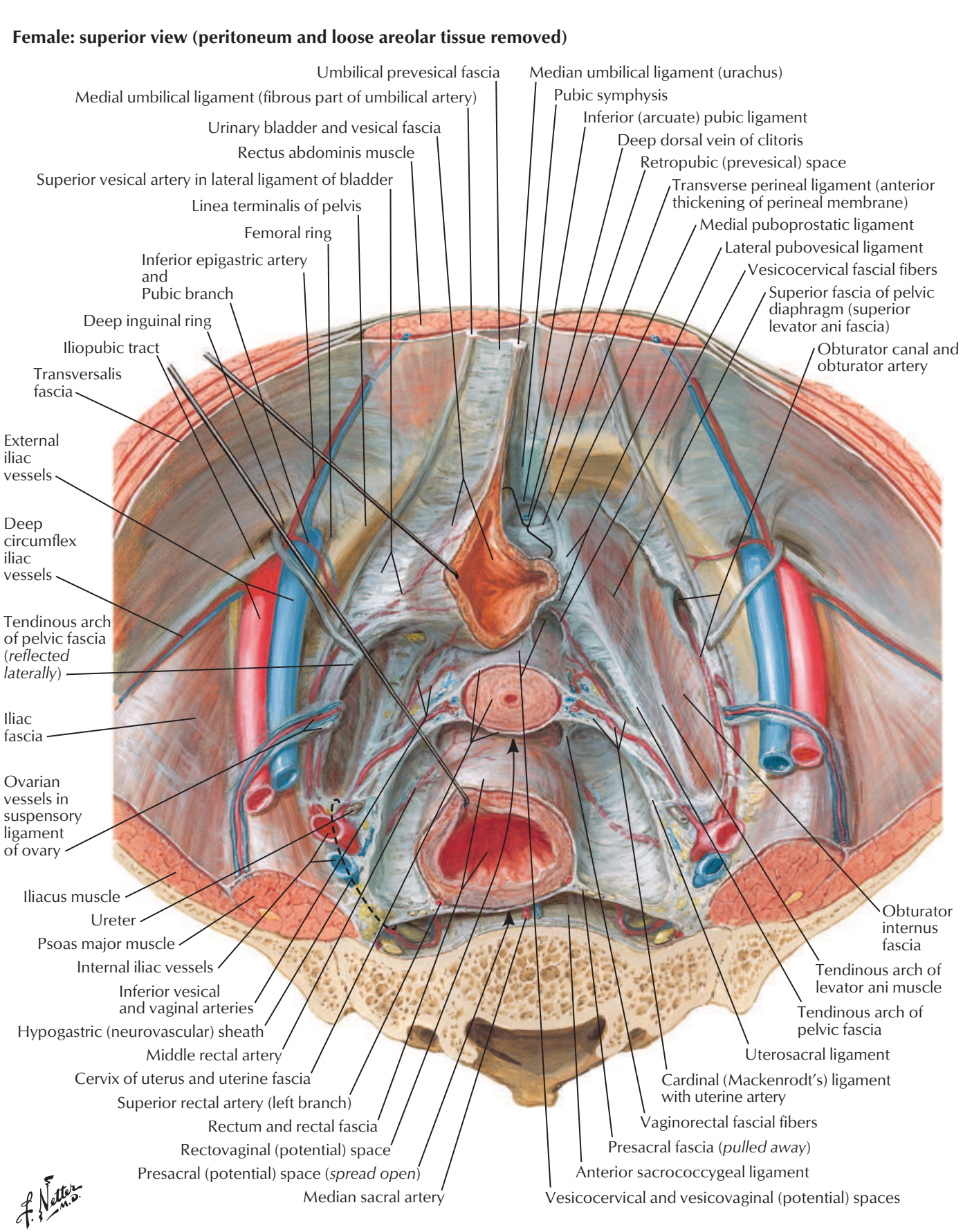


Superior view with peritoneum and uterus removed

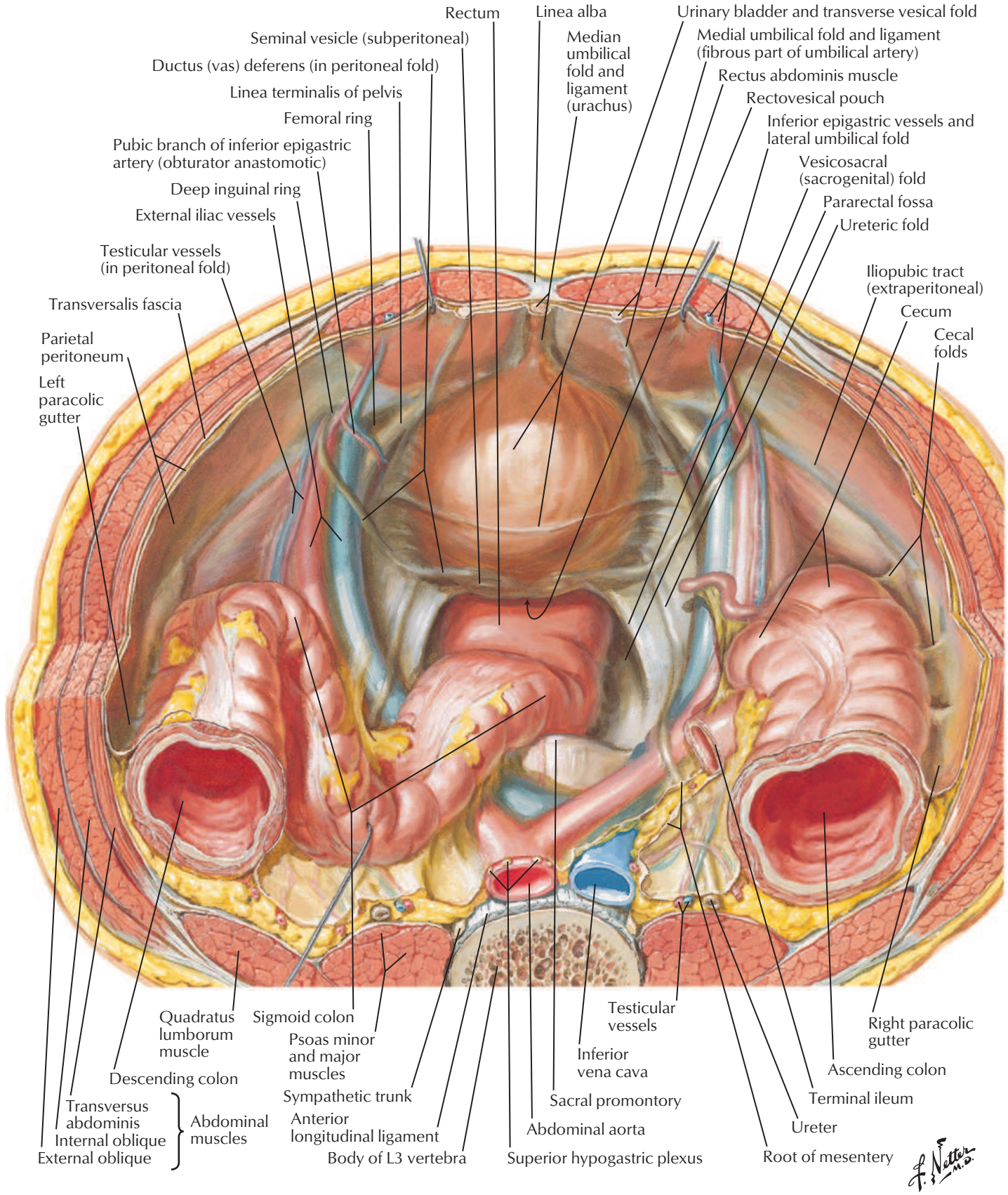
www.Booksmedicos06.com

////// facebook : Booksmedicos06

Female: superior view (peritoneum and loose areolar tissue removed)

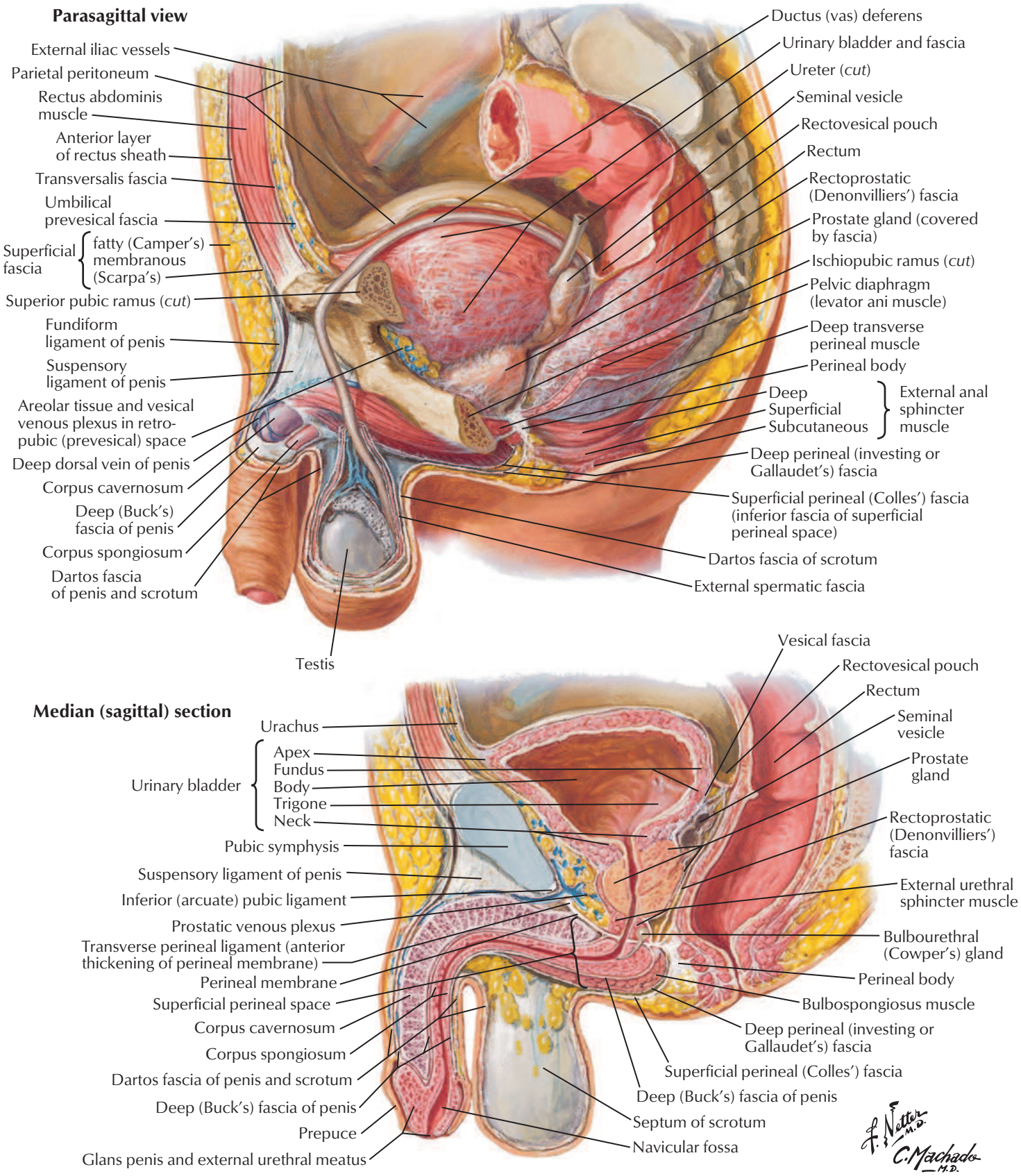


Superior view

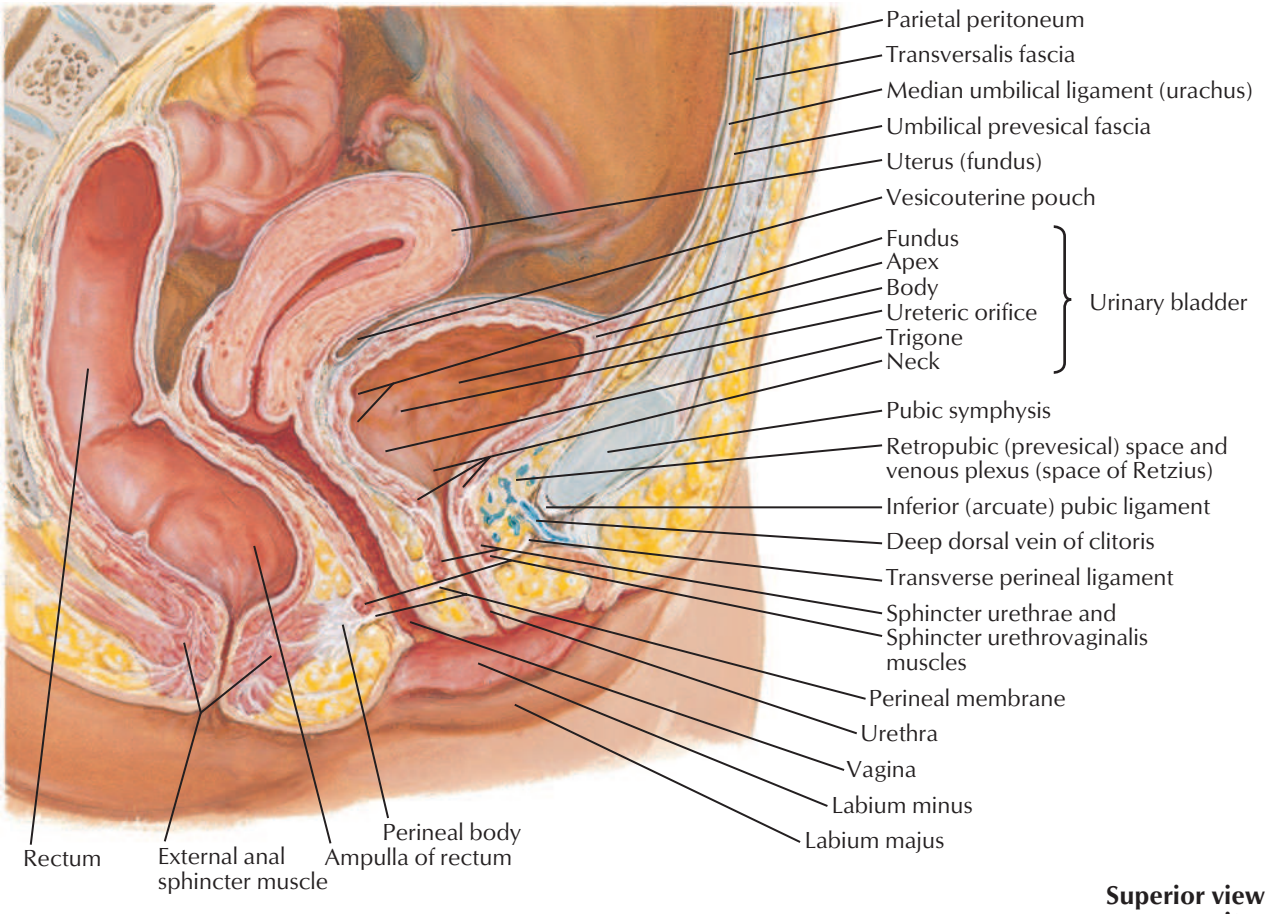


www.Booksmedicos06.com

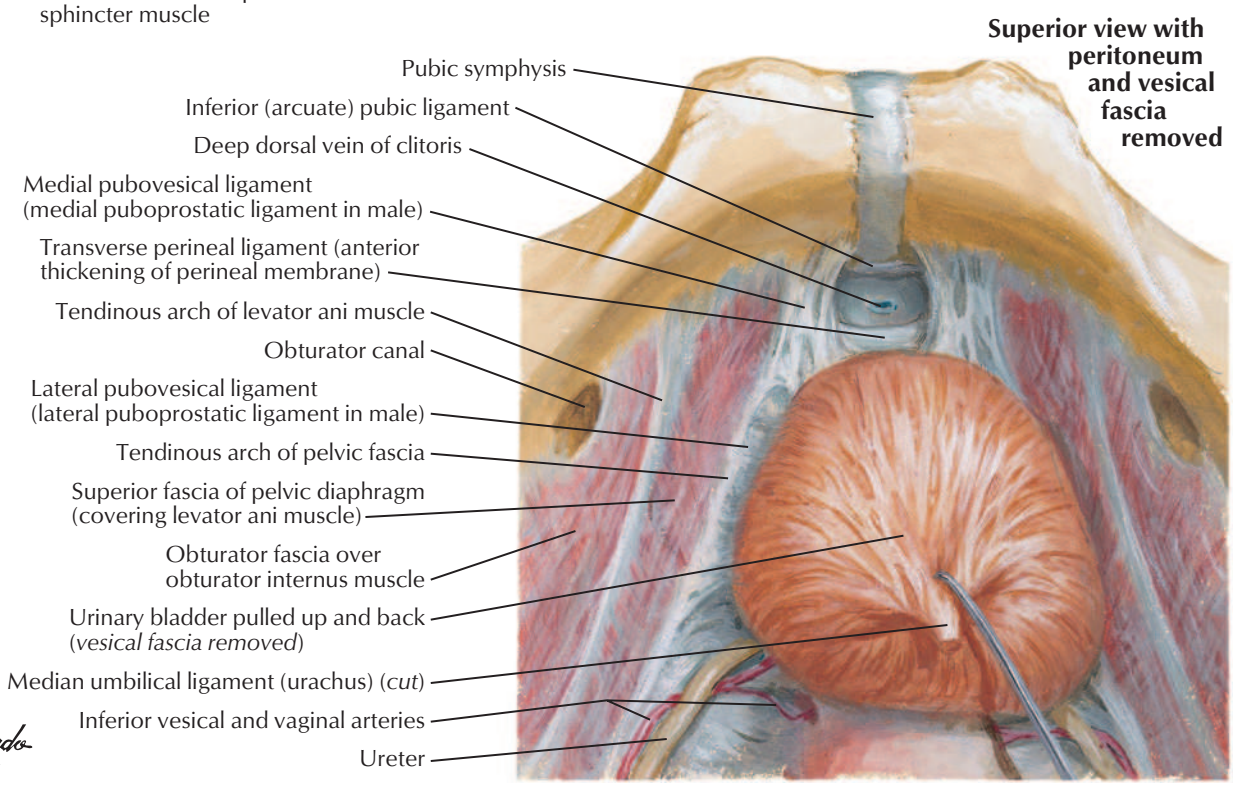
////// facebook : Booksmedicos06



Female: midsagittal section



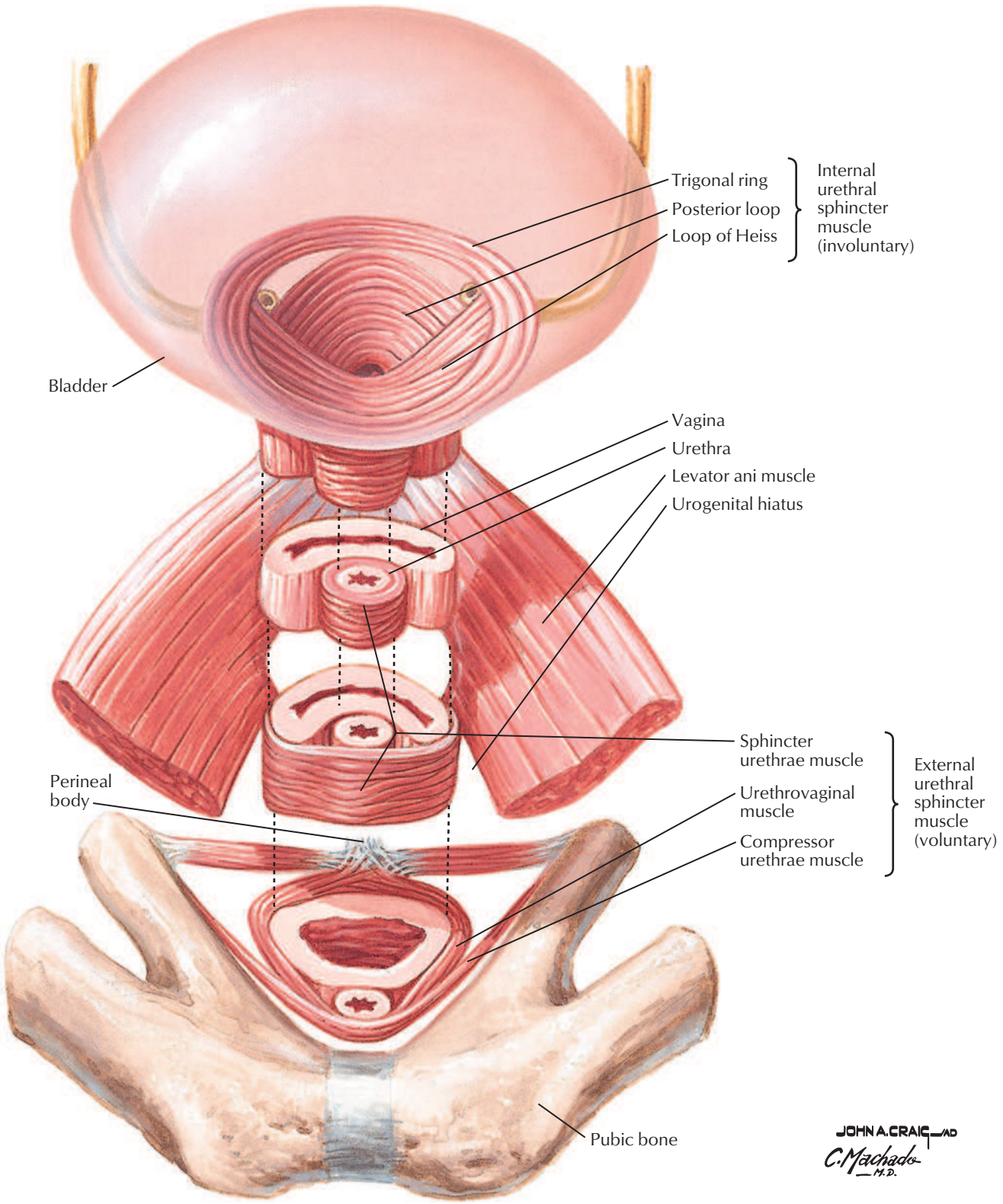
Superior view with peritoneum and vesical fascia removed



www.Booksmedicos06.com

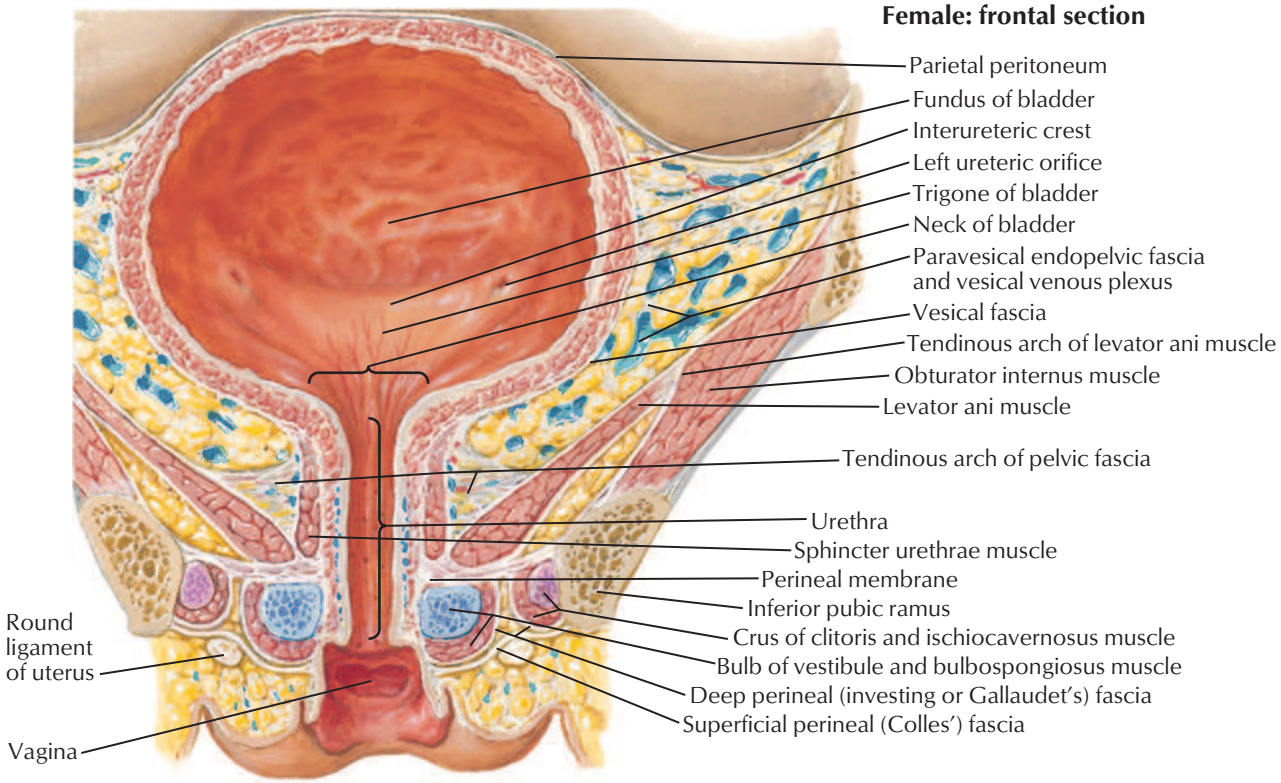
See also Plates 352, 360

////// facebook : Booksmedicos6

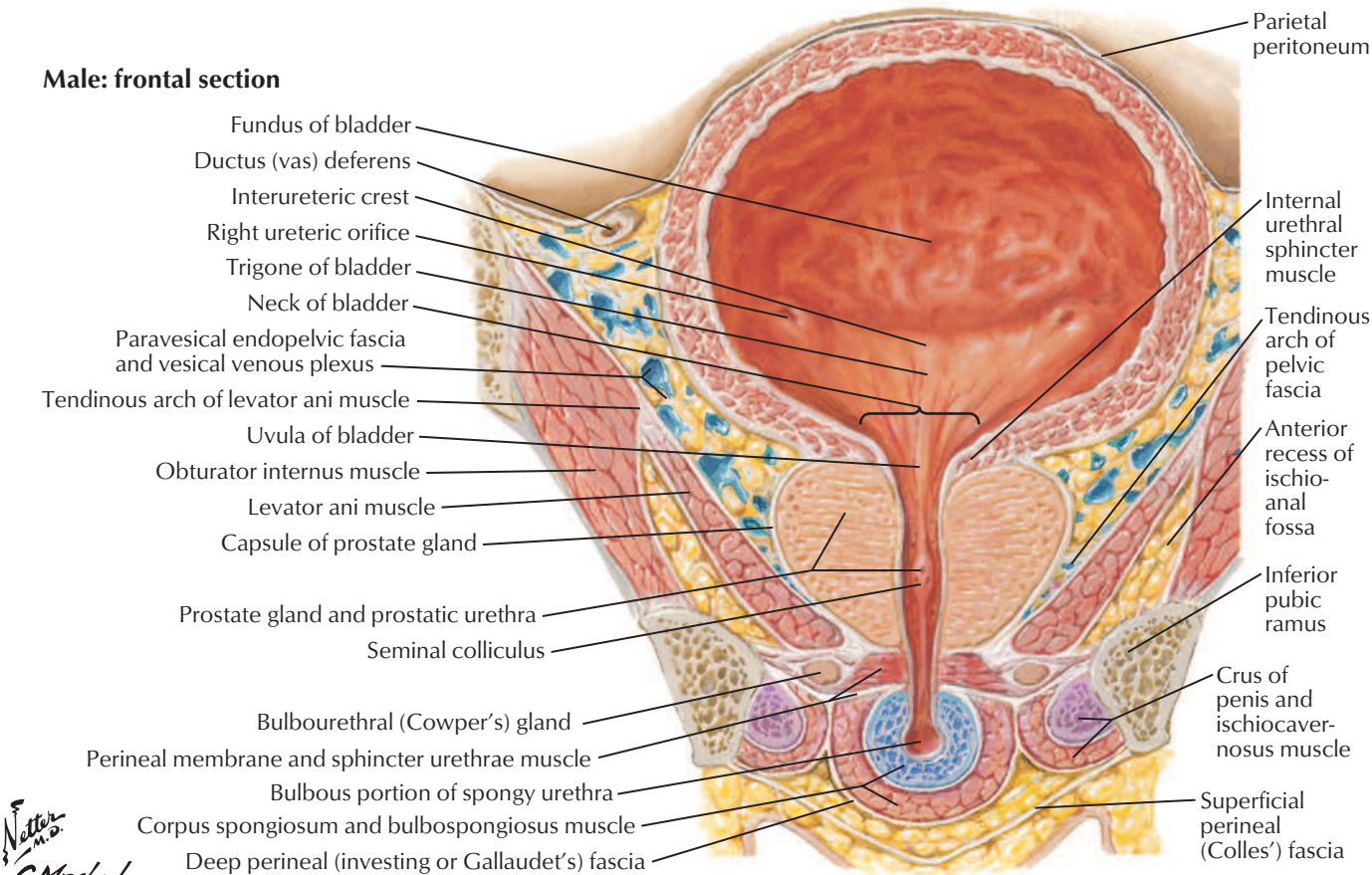


See also Plates 345, 349, 385

Female: frontal section



Male: frontal section

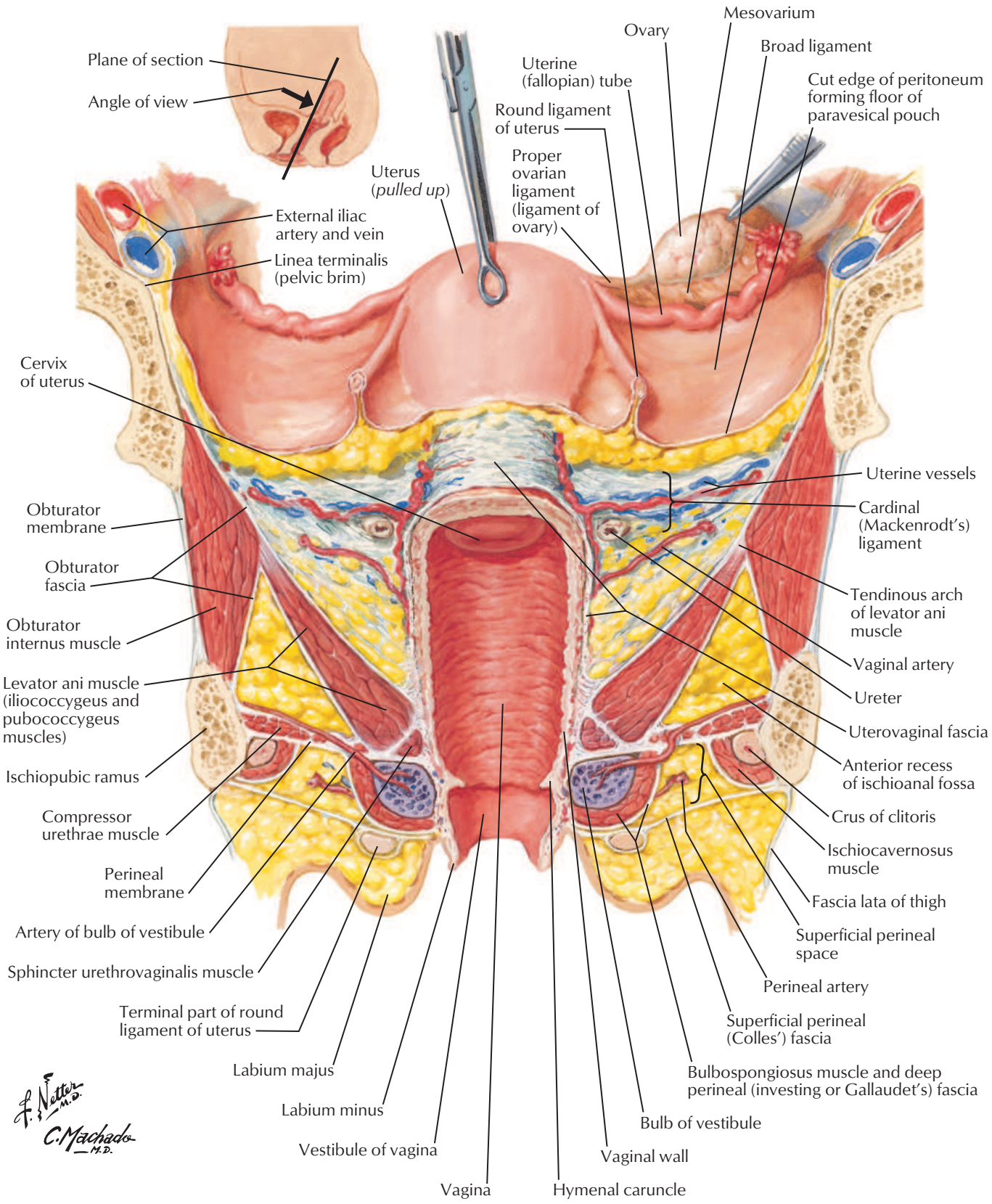


F. Netter M.D. C. Machado M.D.

www.Booksmedicos06.com

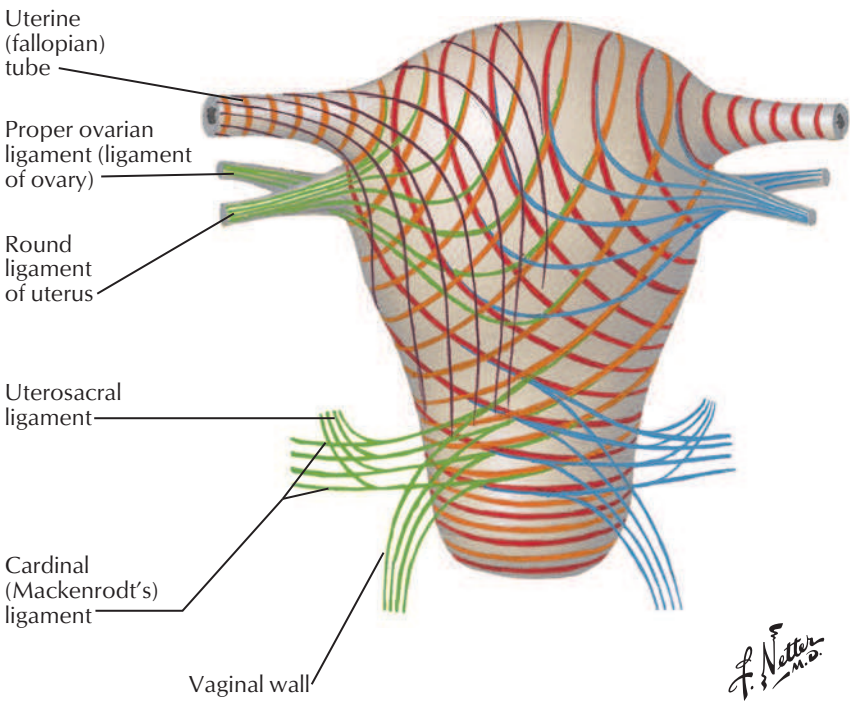
See also Plates 386, 388, 394

////// facebook : Booksmedicos06

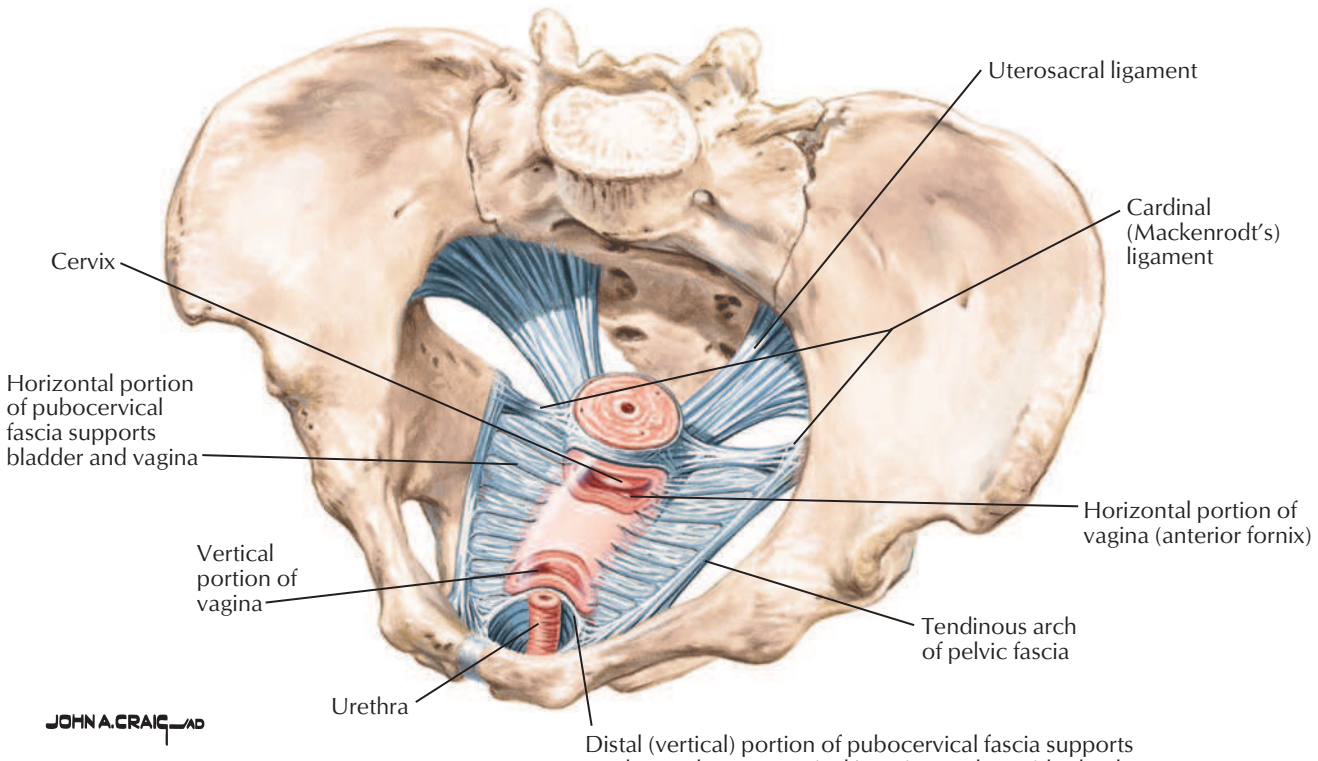


See also Plate 347

Fascial ligaments of uterus

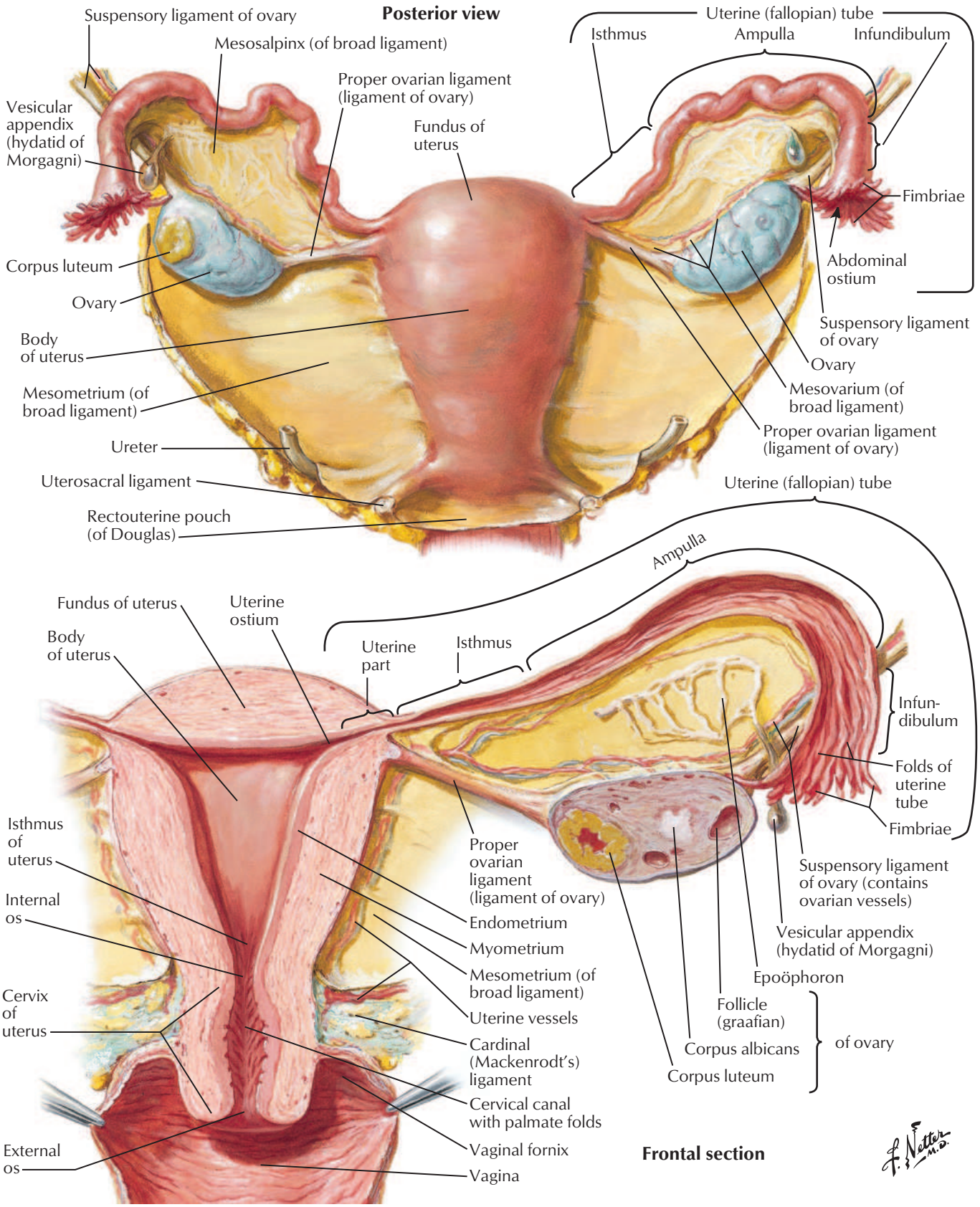


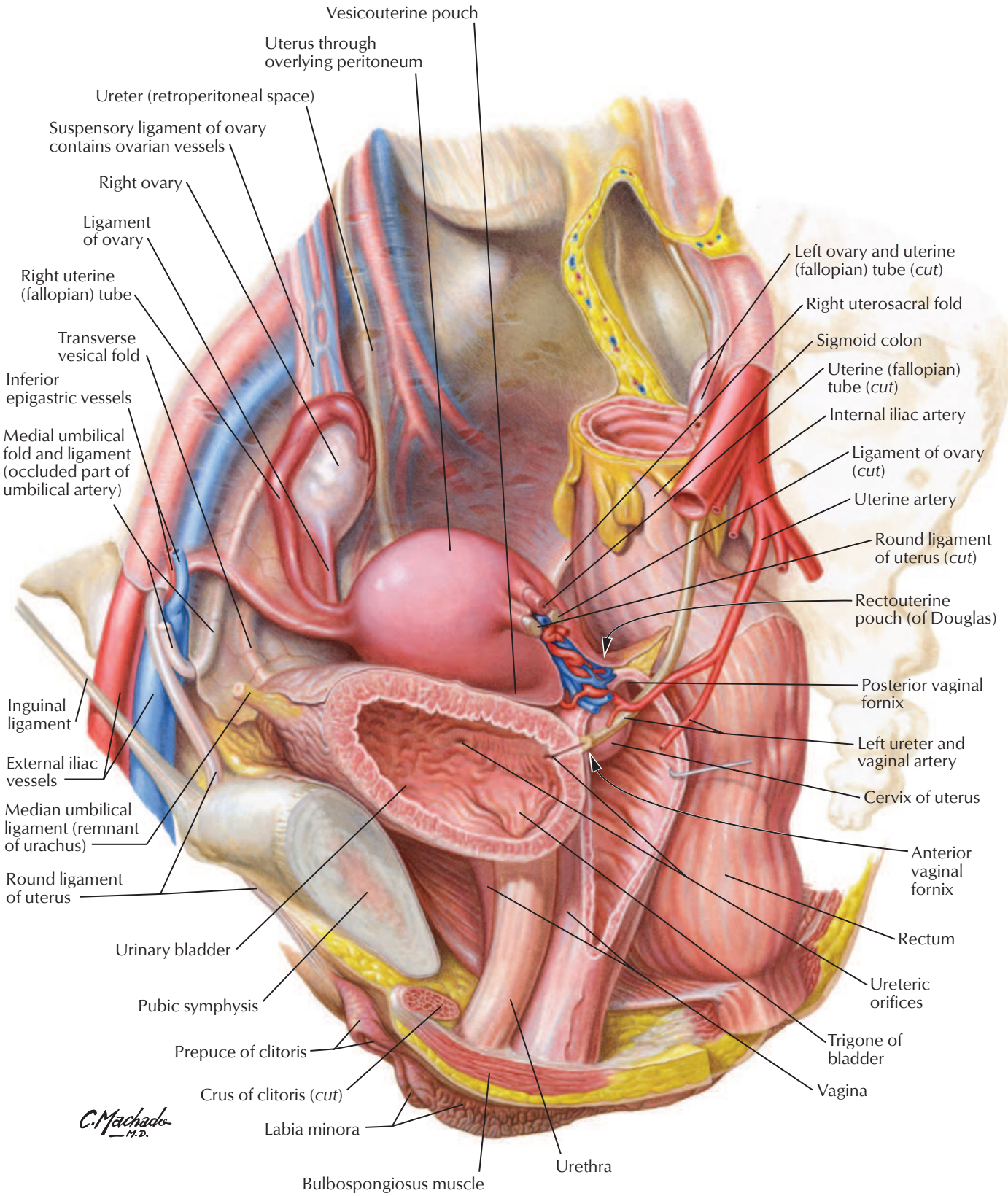
Pelvic fascia and ligaments



www.Booksmedicos06.com

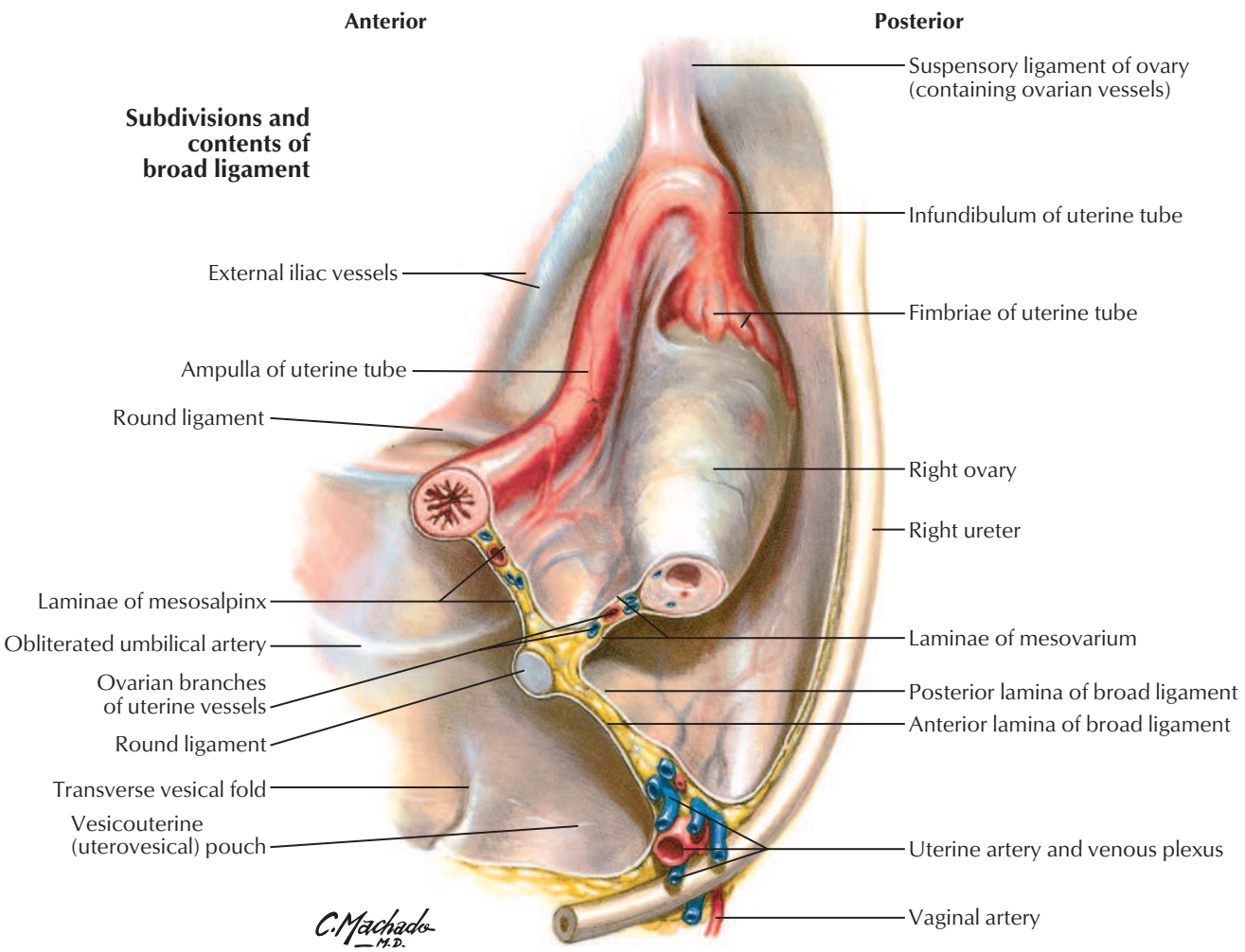
////// facebook : Booksmedi.com06



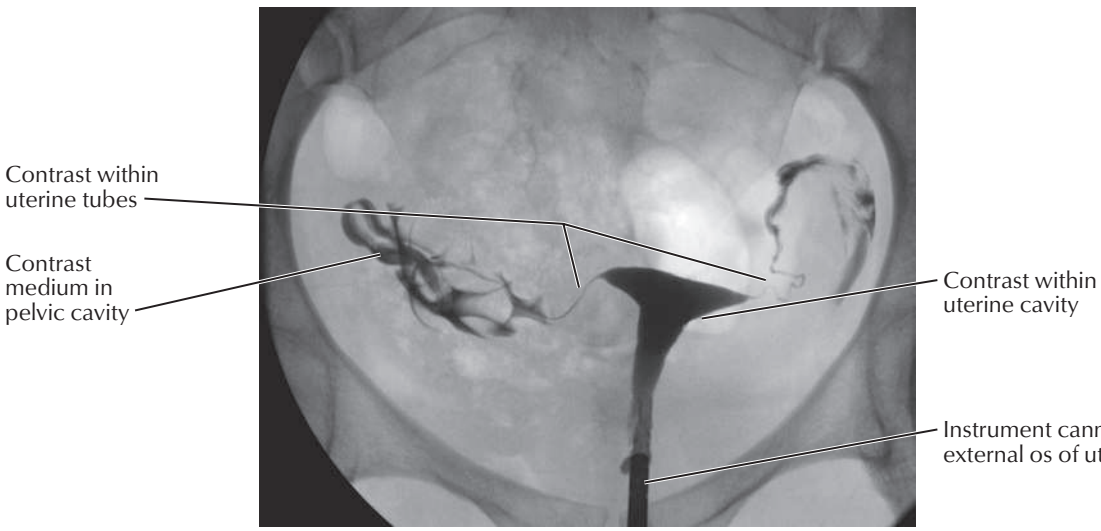


www.Booksmedicos06.com

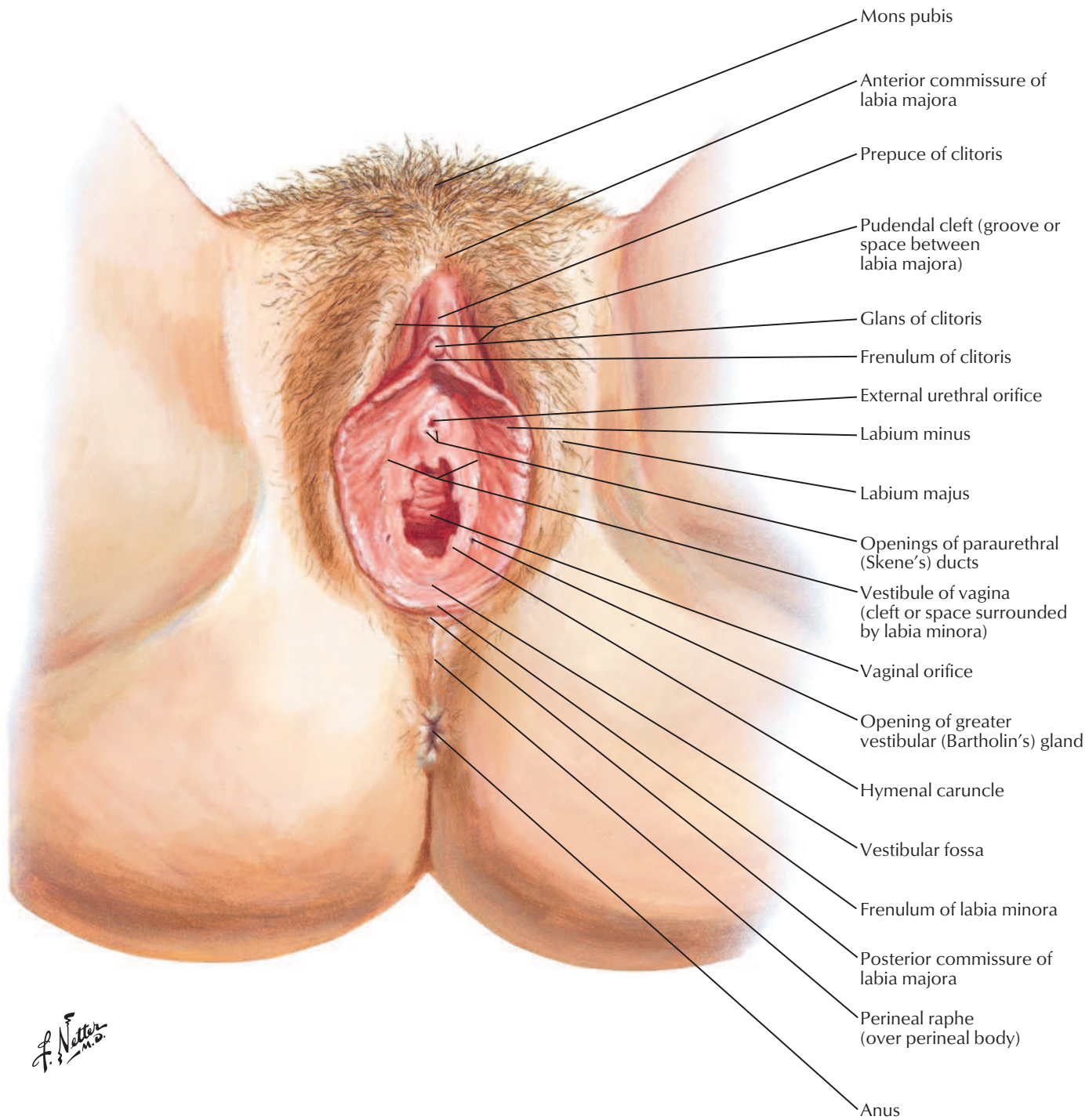
////// facebook : Booksmedicos06



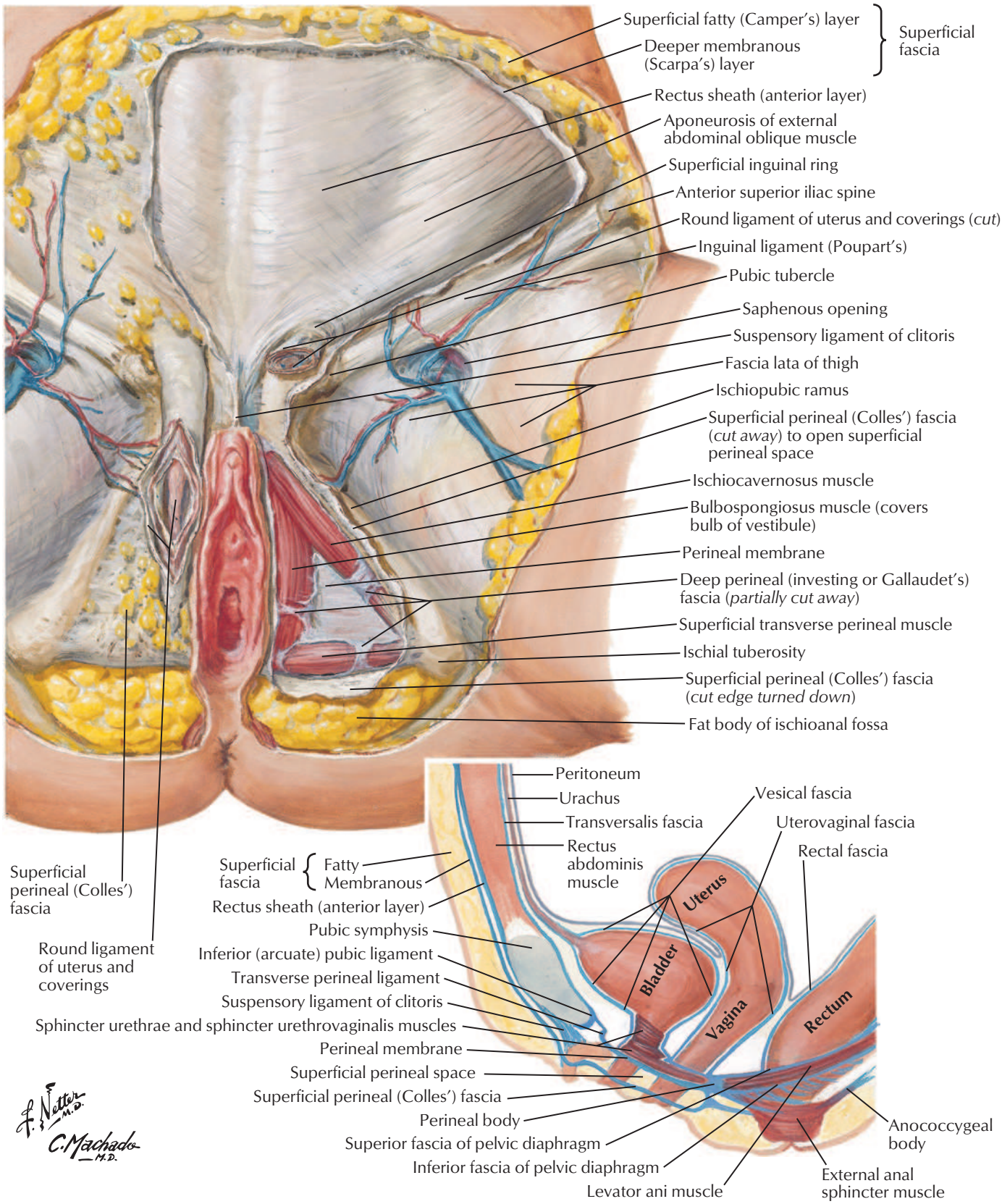
Anteroposterior fluoroscopic image obtained during hysterosalpingography



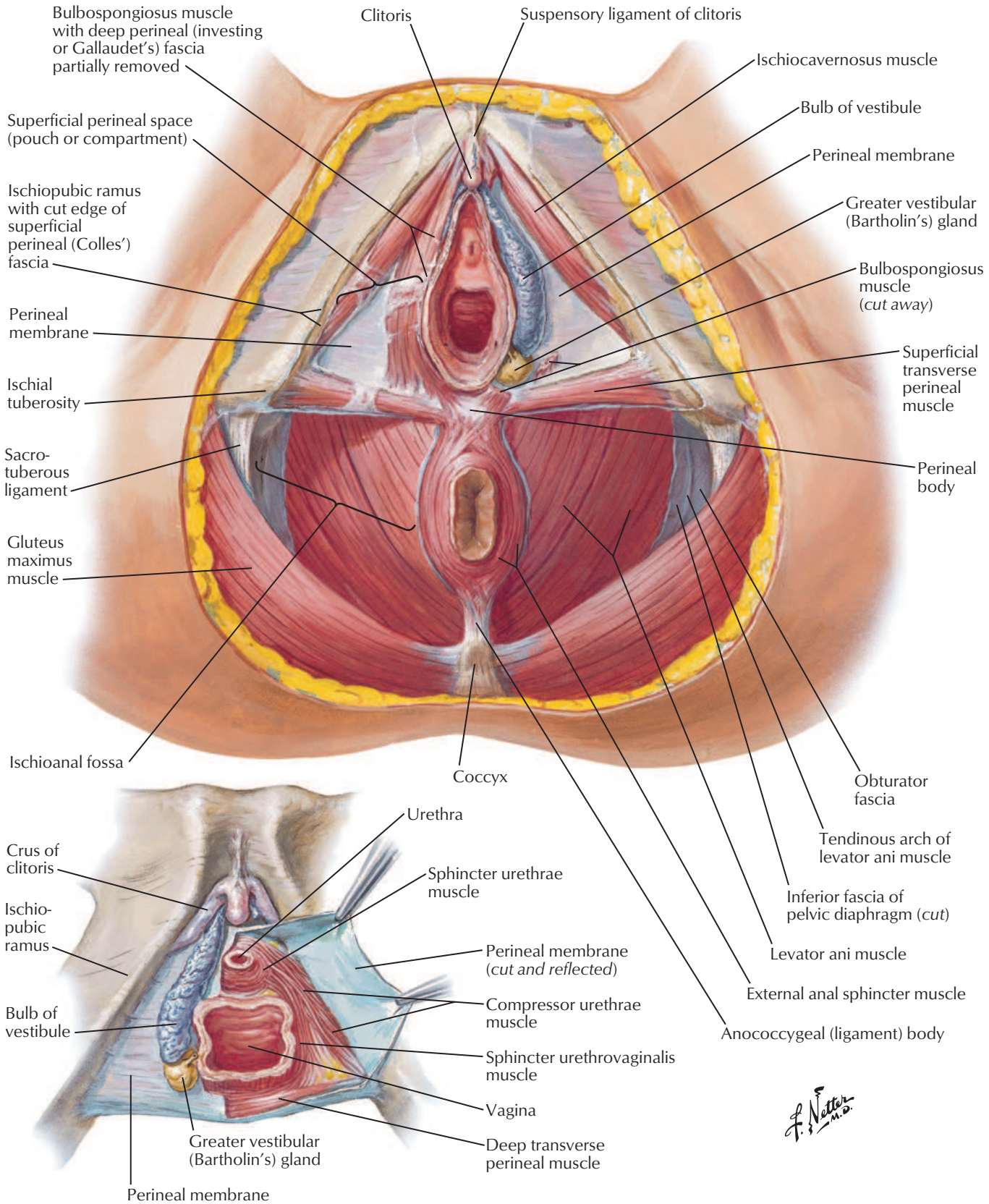
See also Plates 386, 389, 395



www.Booksmedicos06.com



////// facebook : Booksmedicos0

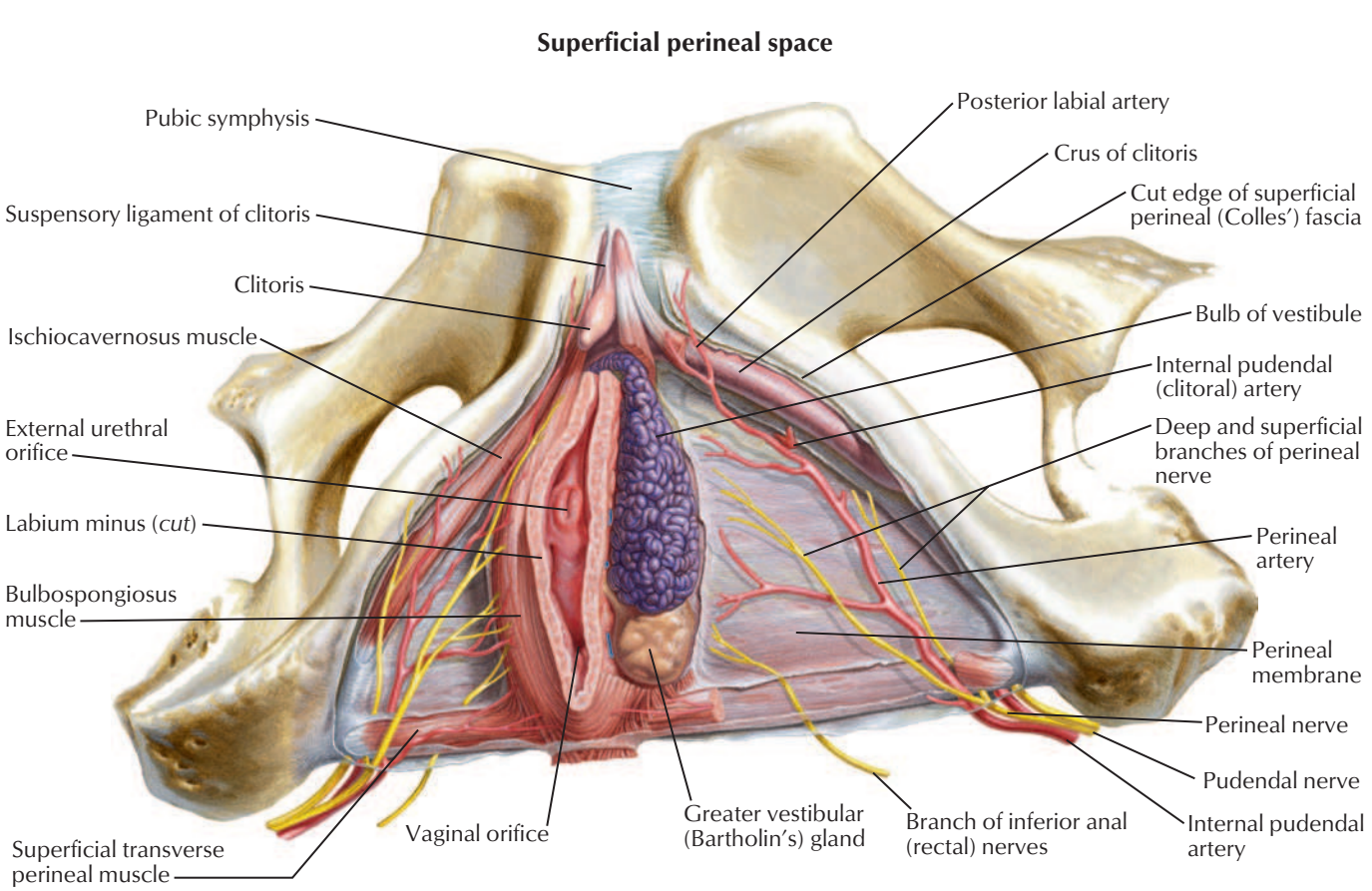


www.Booksmedicos06.com

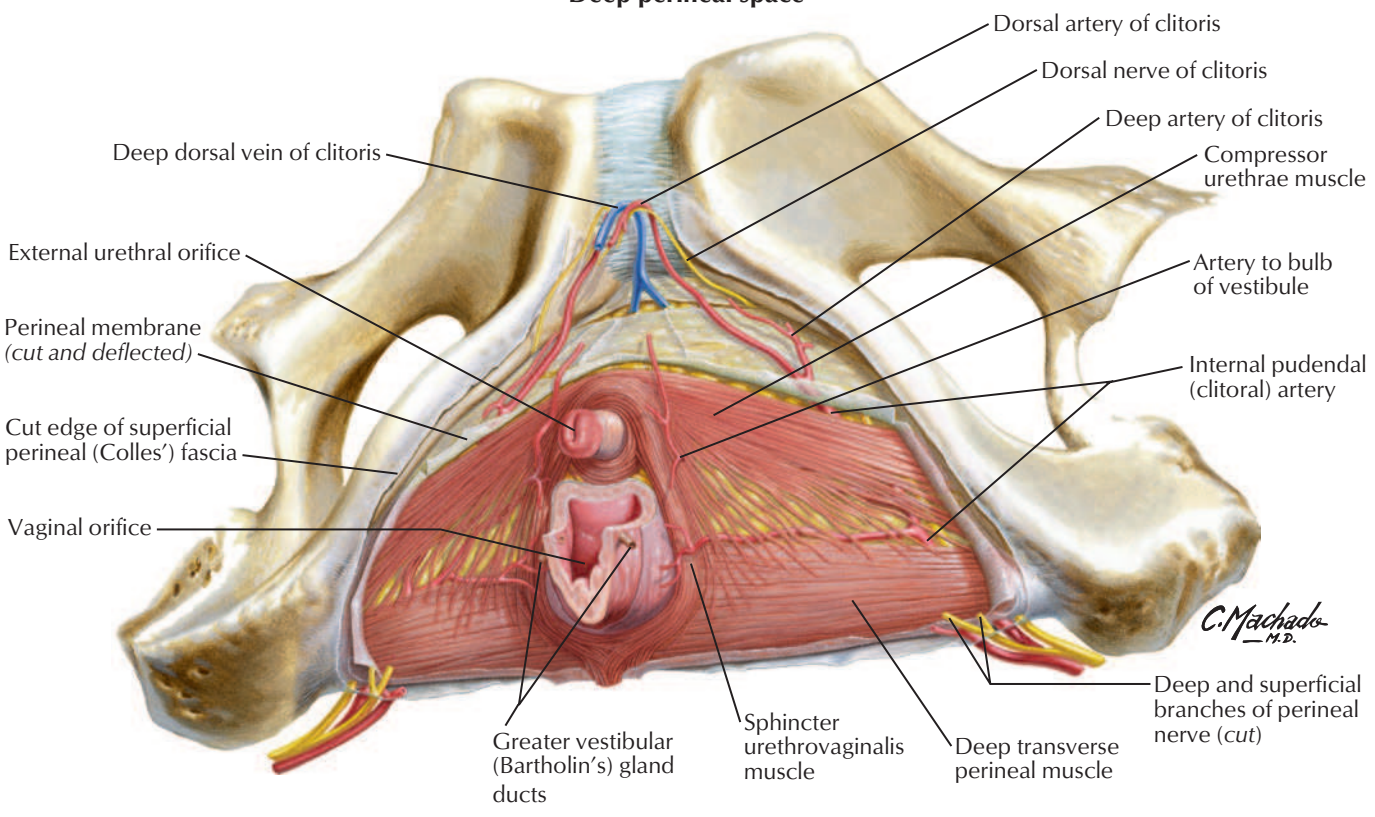
See also Plates 386, 395

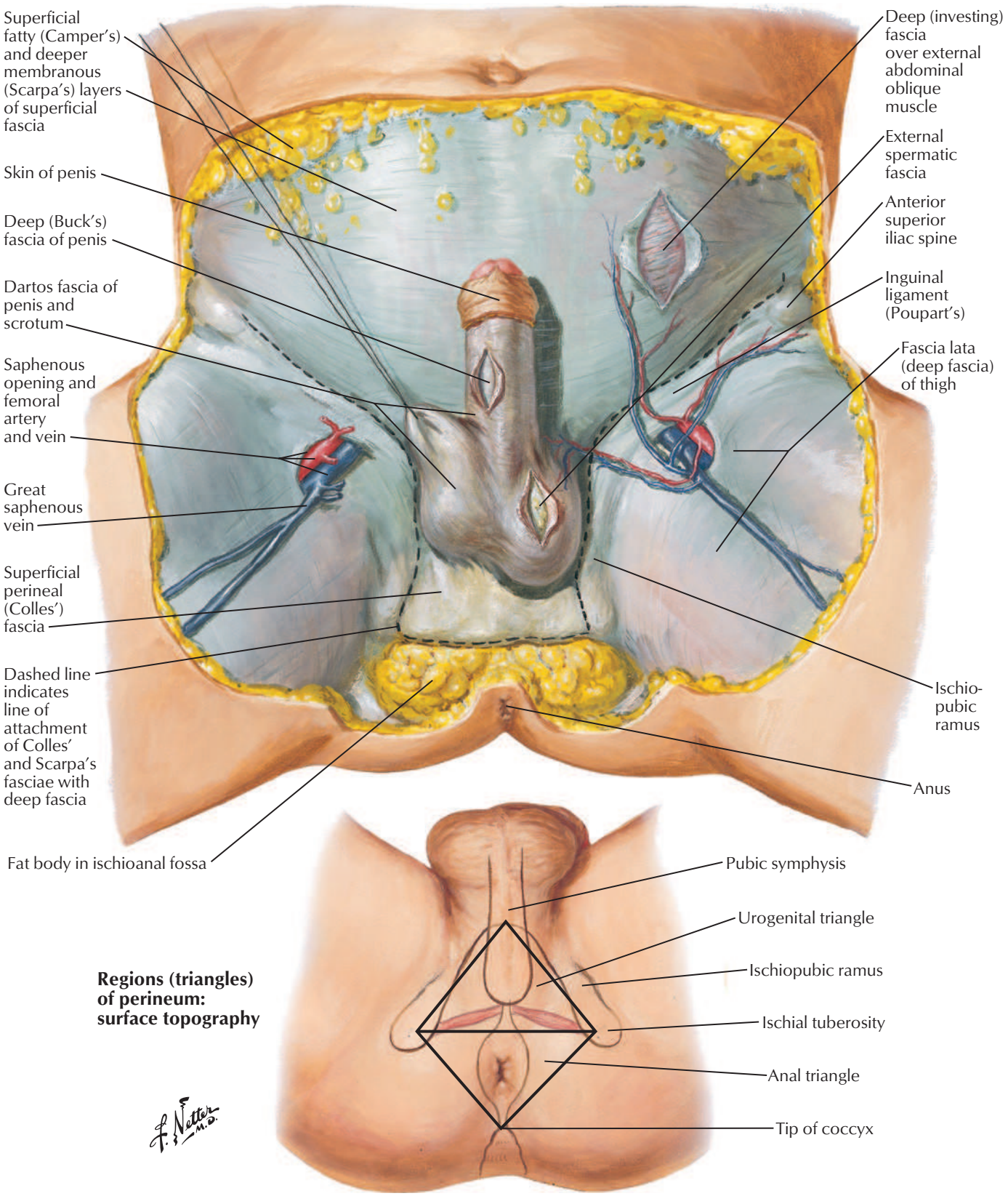
////// facebook : BooksMedicos06

Superficial perineal space



Deep perineal space

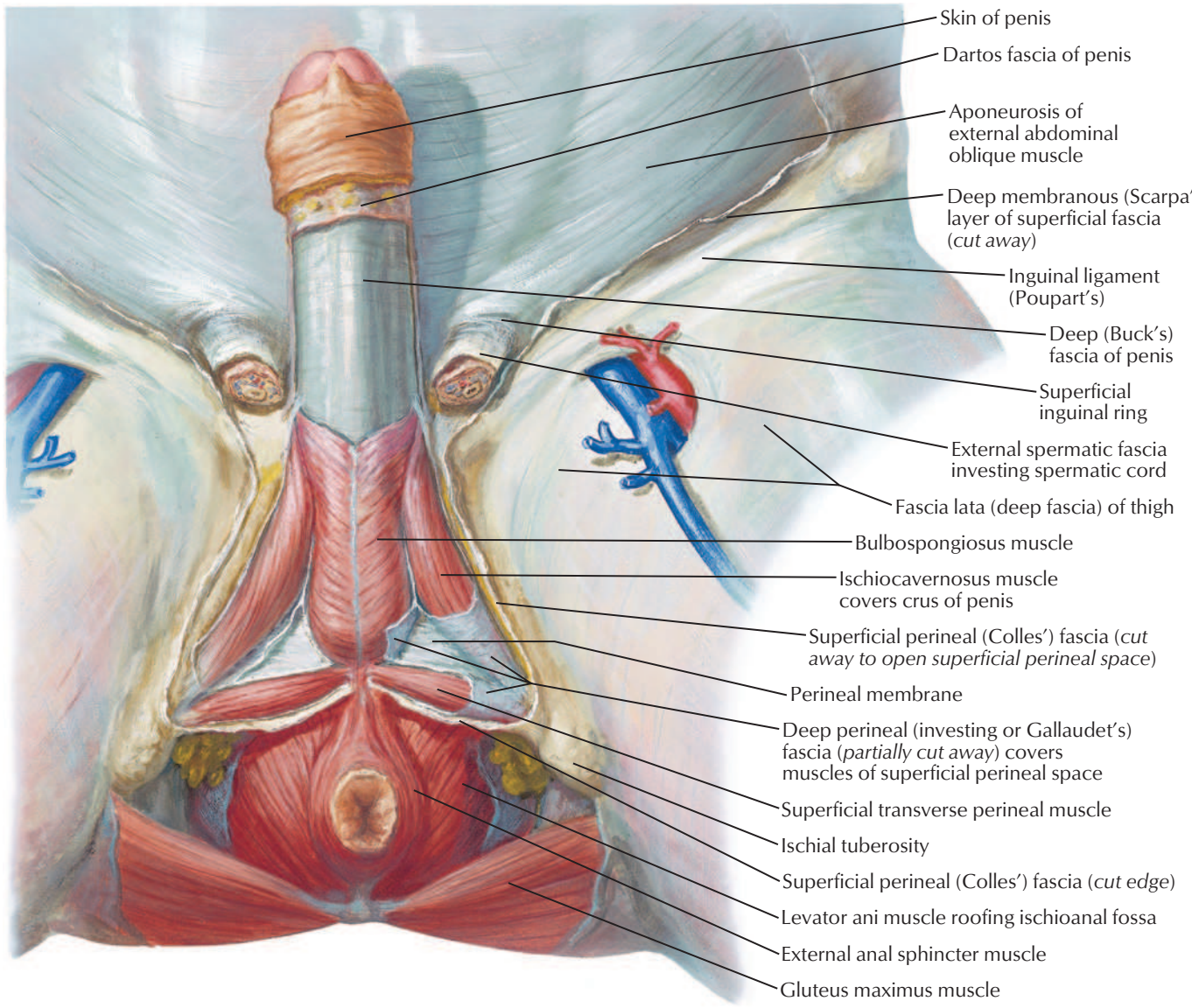


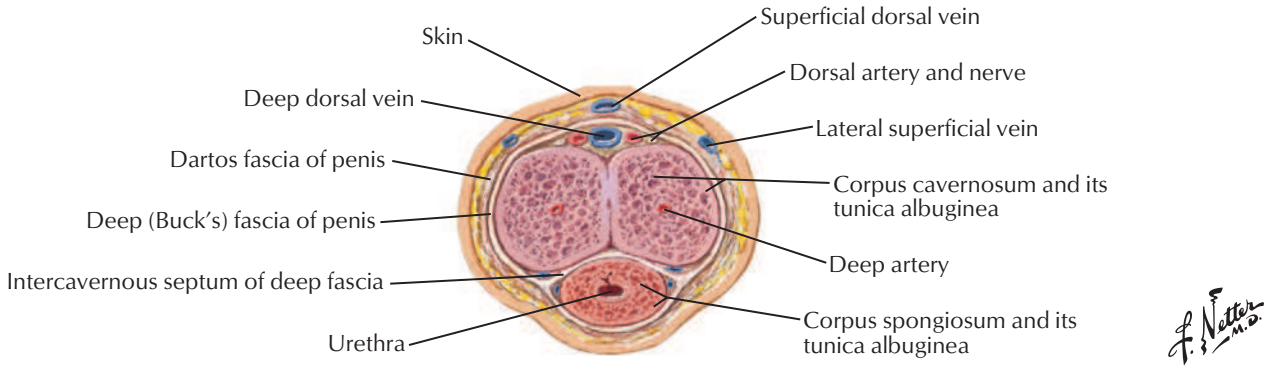


www.Booksmedicos06.com

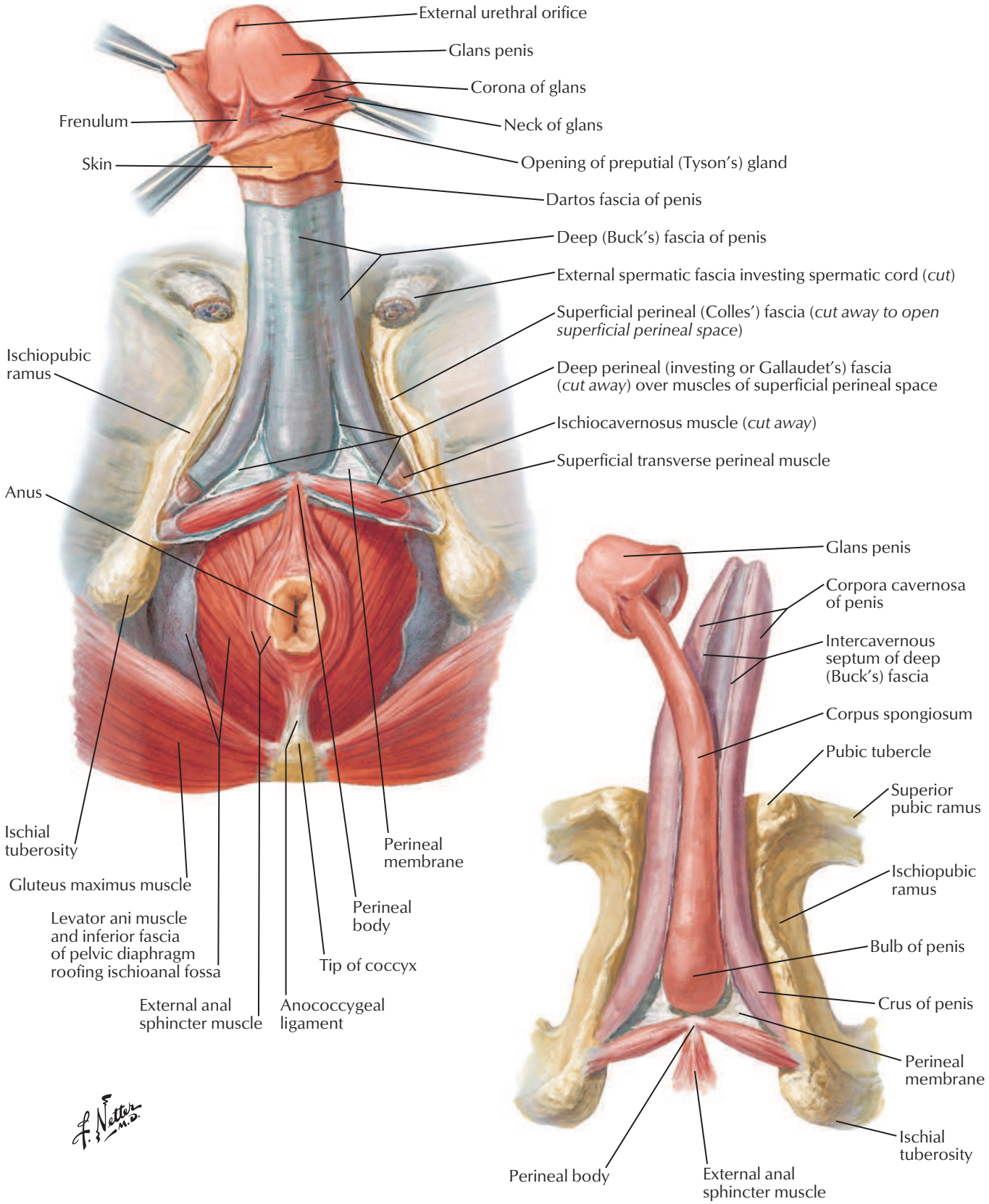
See also Plates 382, 384, 387

////// facebook : Booksmedicos06



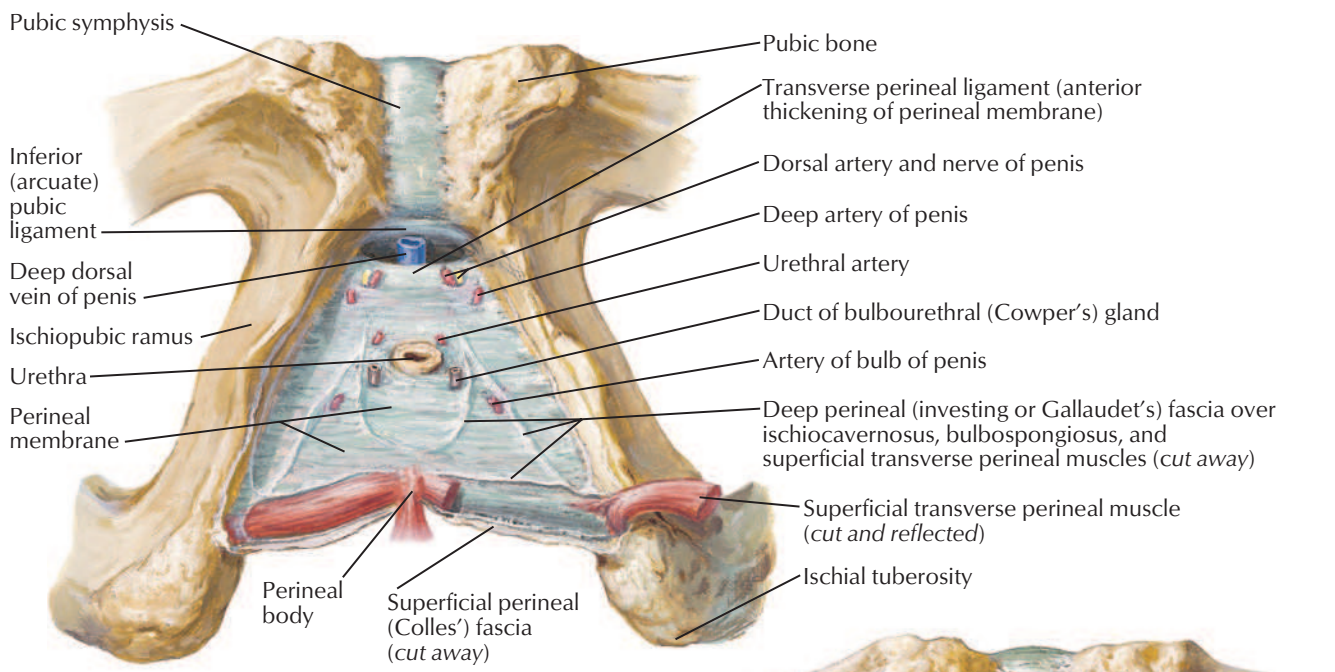


Transverse section through body of penis

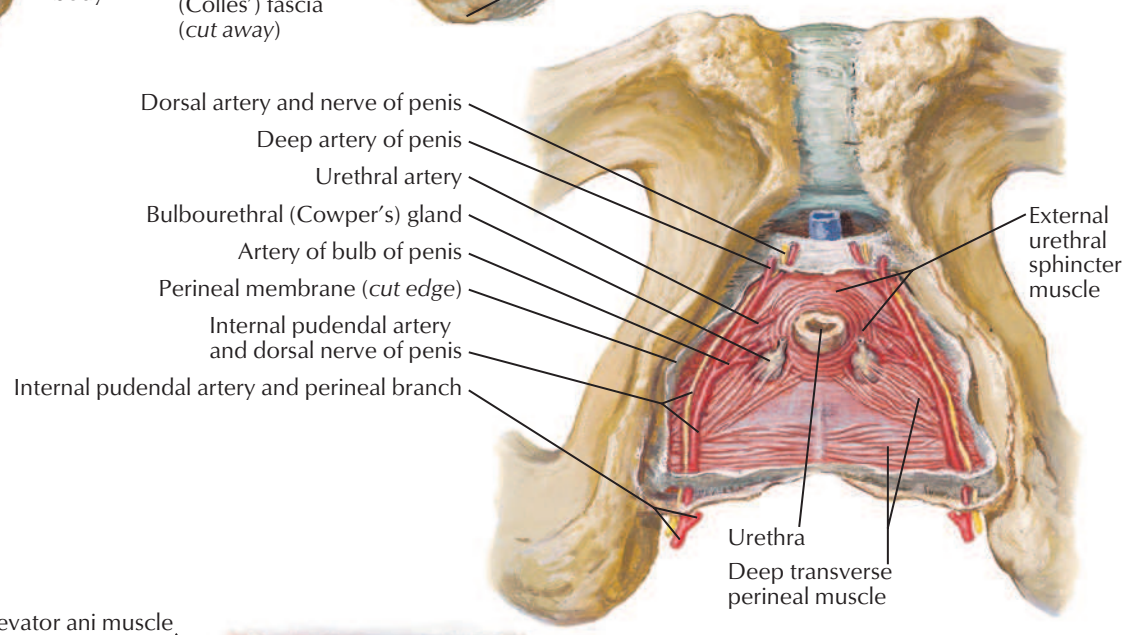


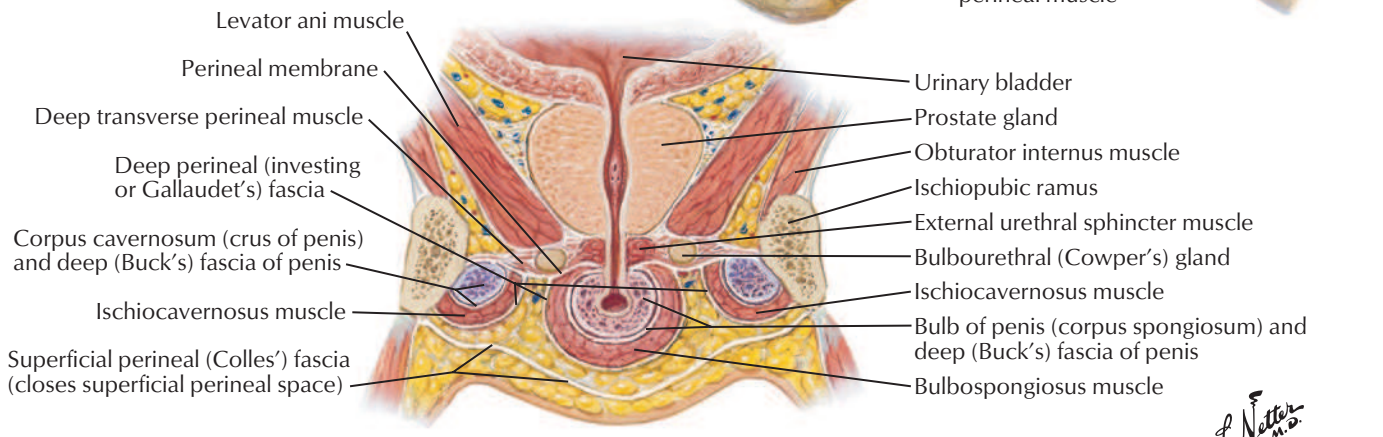
www.Booksmedicos06.com

////// facebook : Booksmedicos06



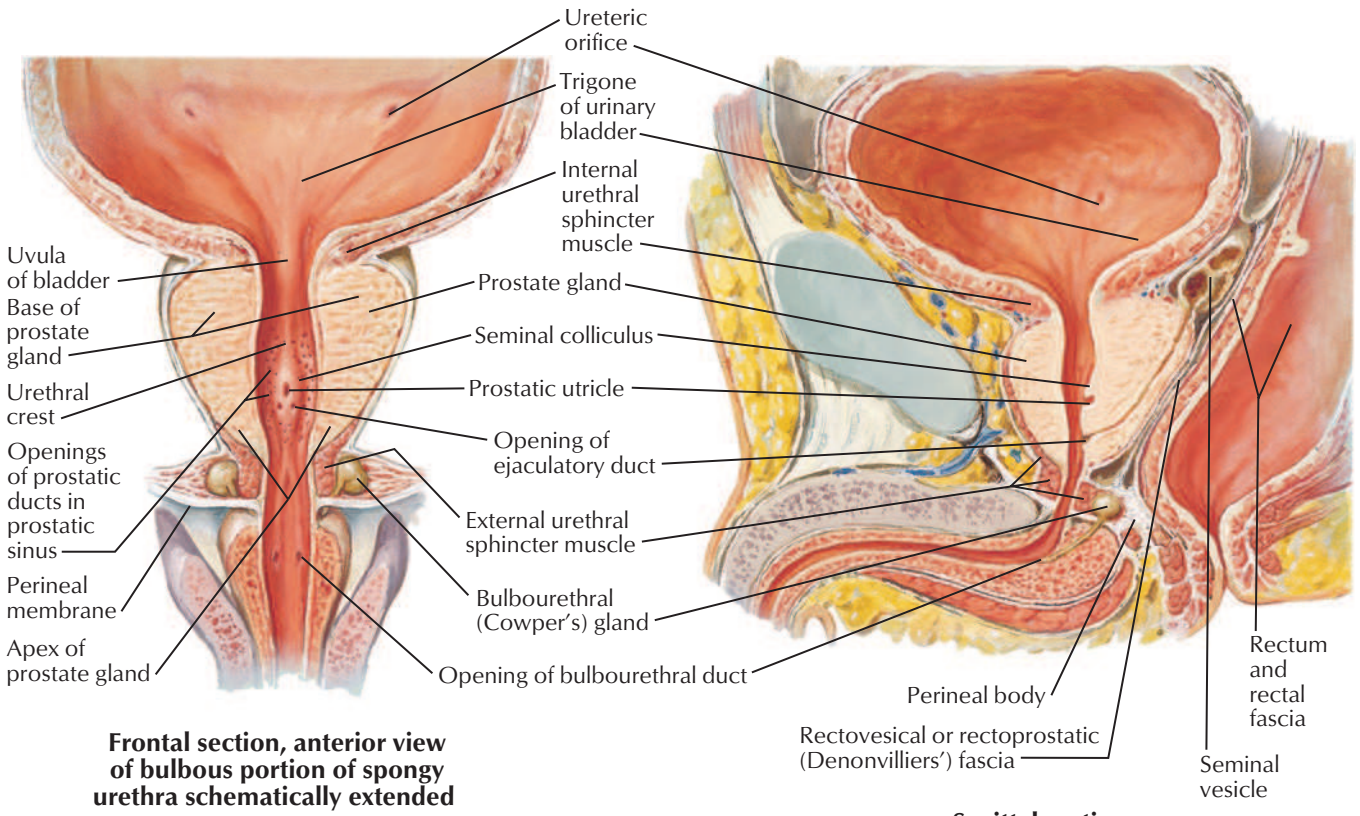
Inferior views





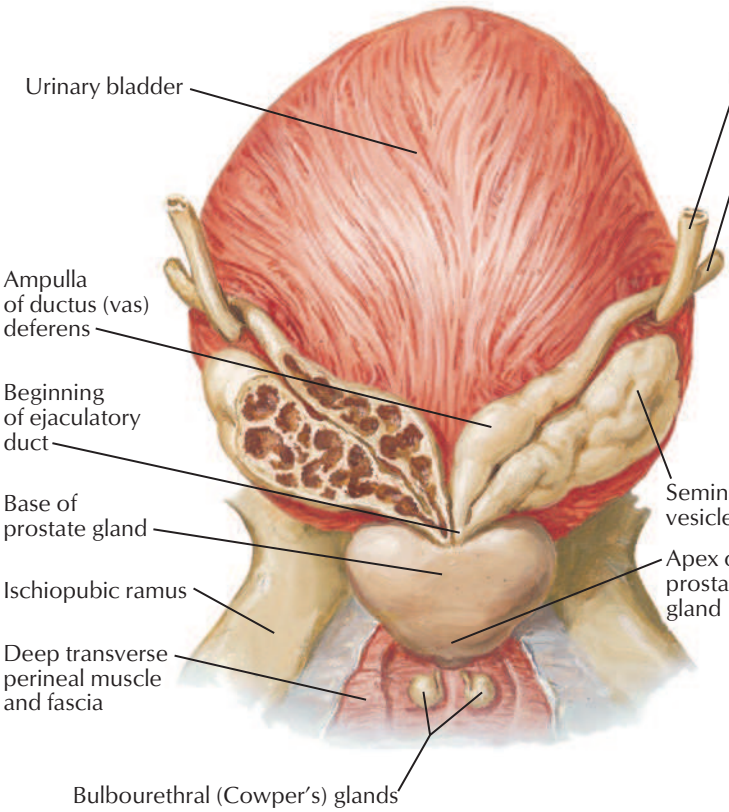
Frontal section, anterior view of perineum: schema

See also Plates 349, 352, 385

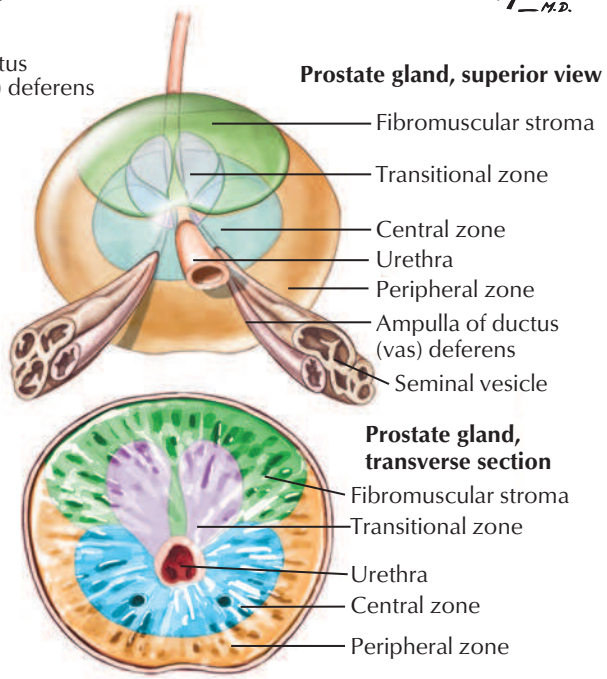


Frontal section, anterior view of bulbous portion of spongy urethra schematically extended

Sagittal section



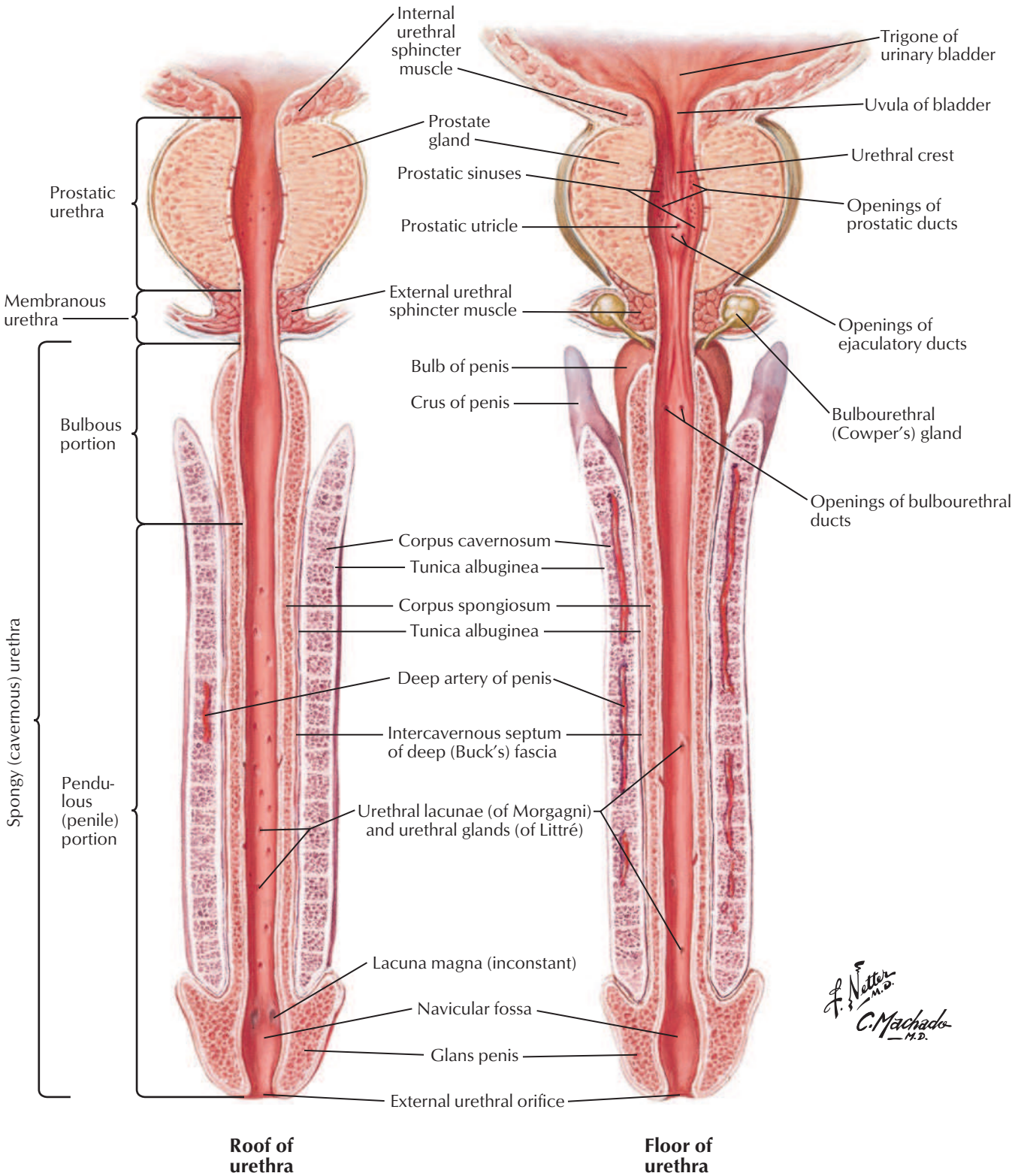
Posterior view

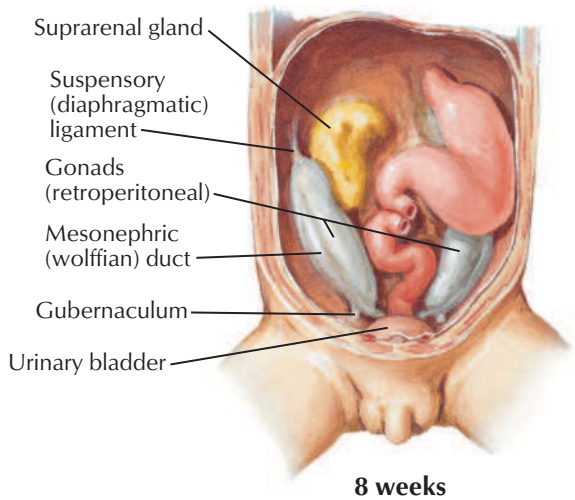


Posterior view

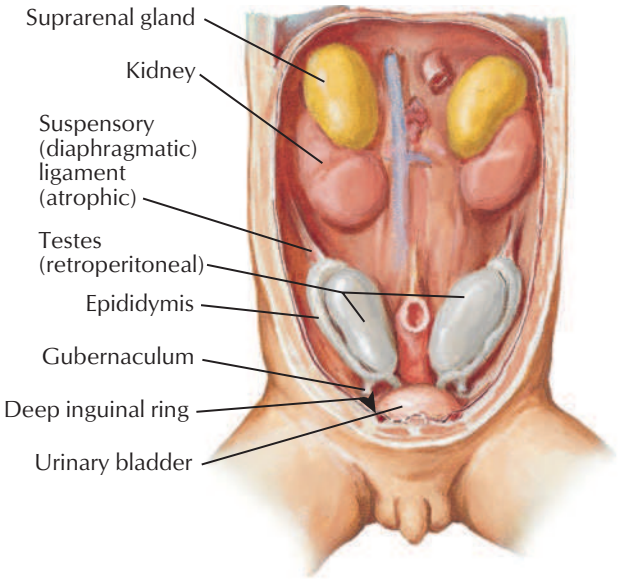
www.Booksmedicos06.com

////// facebook : Booksmedicos06

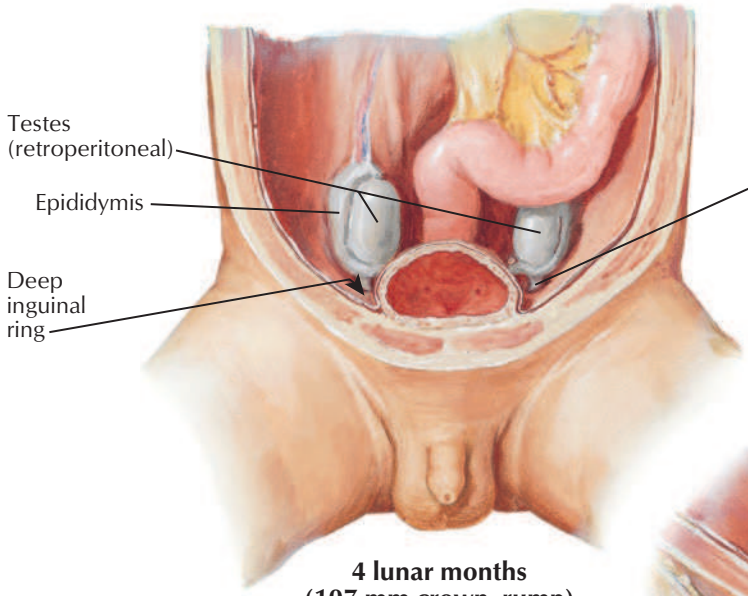




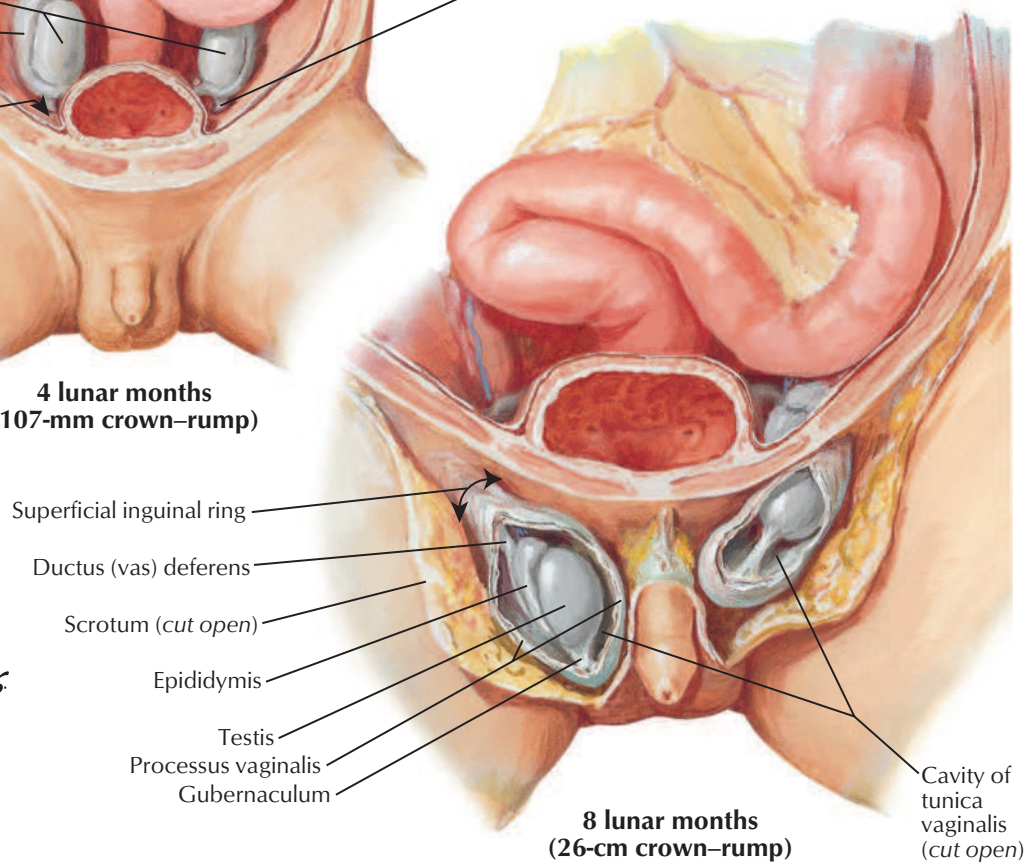
8 weeks
(22.5-mm crown–rump)



11 weeks
(43-mm crown–rump)



4 lunar months
(107-mm crown–rump)

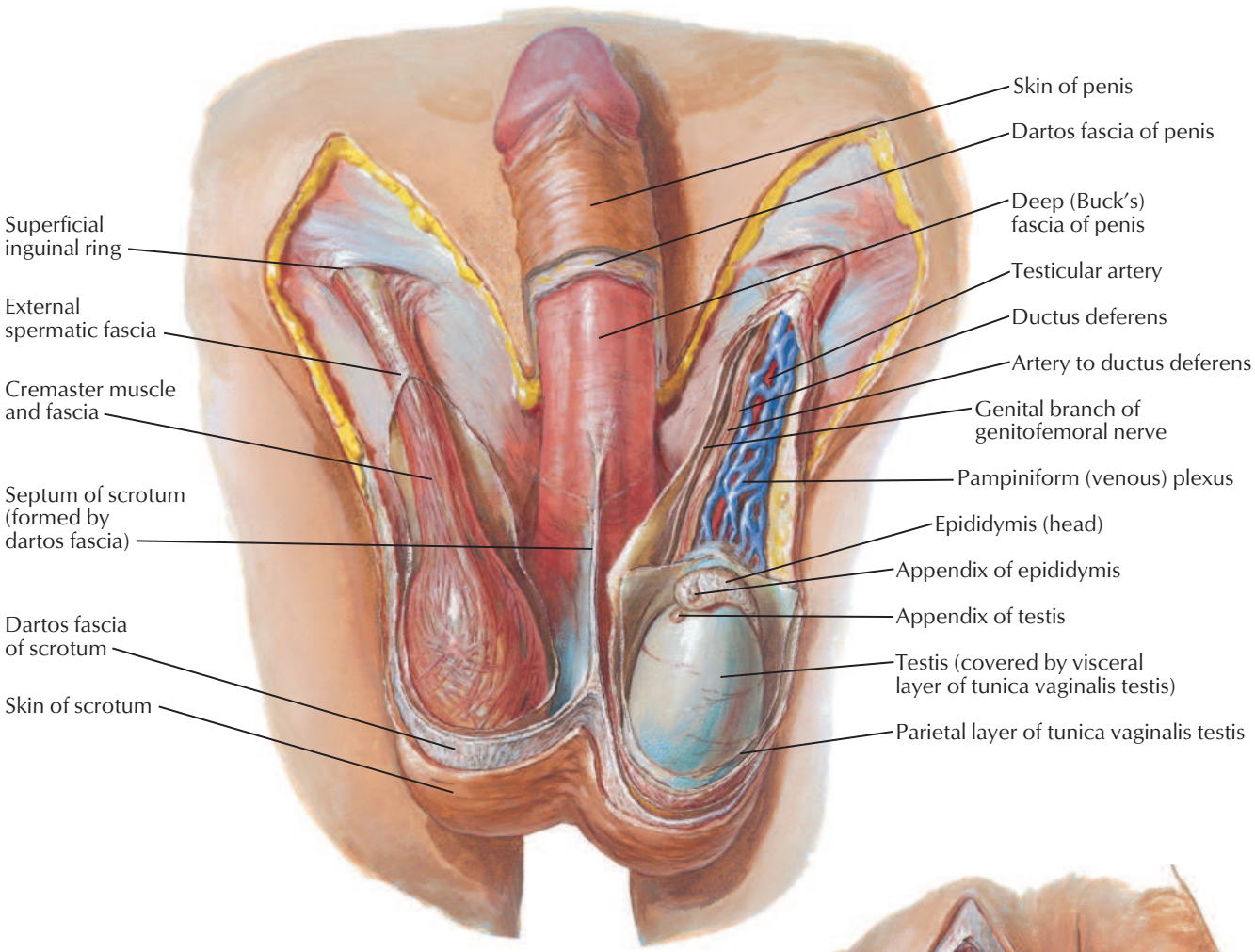


8 lunar months
(26-cm crown–rump)

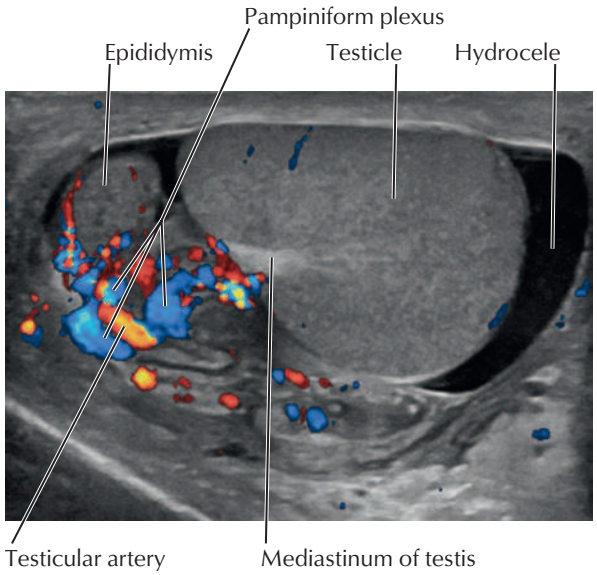
www.Booksmedicos06.com

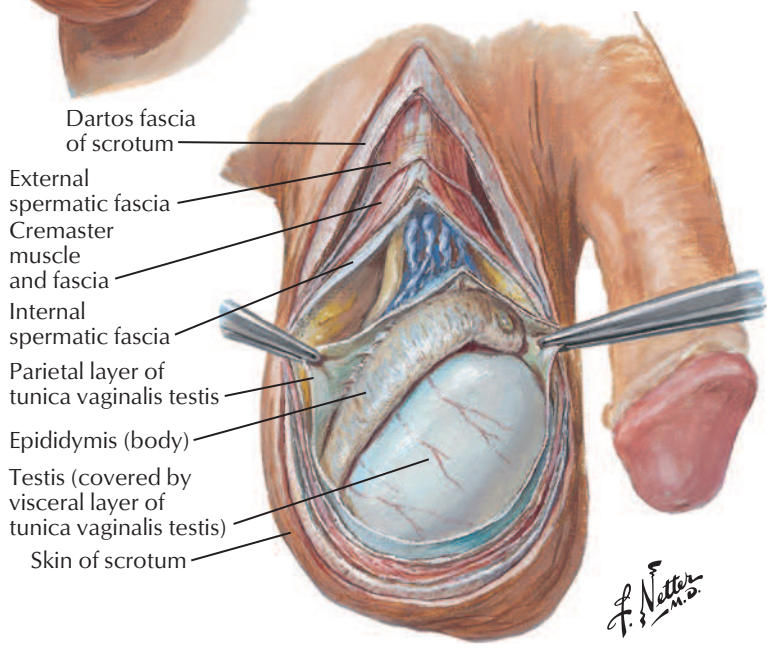
See also Plates 324, 349

////// facebook : Booksmedi.cos06

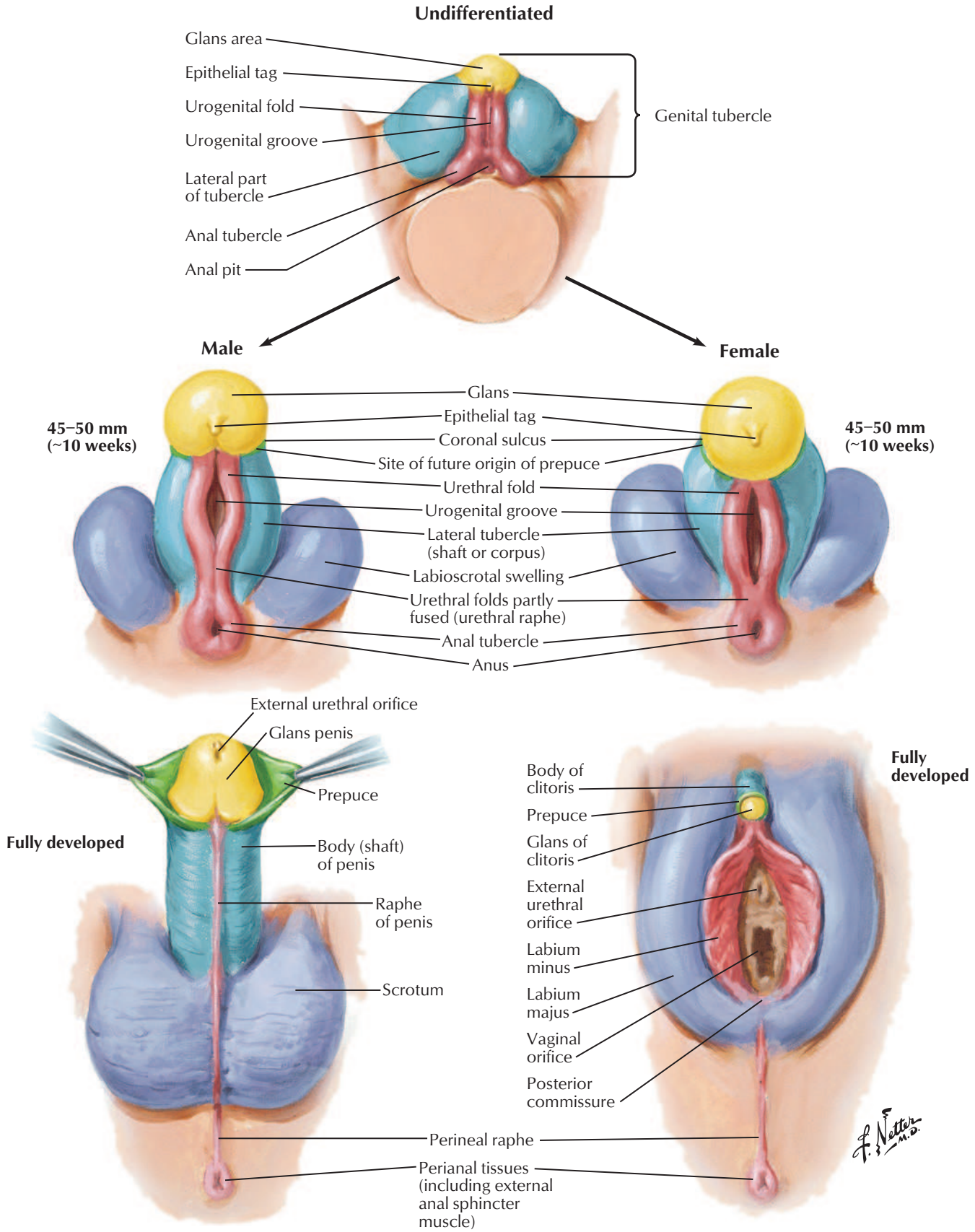


Color Doppler ultrasound: transverse view of testicle



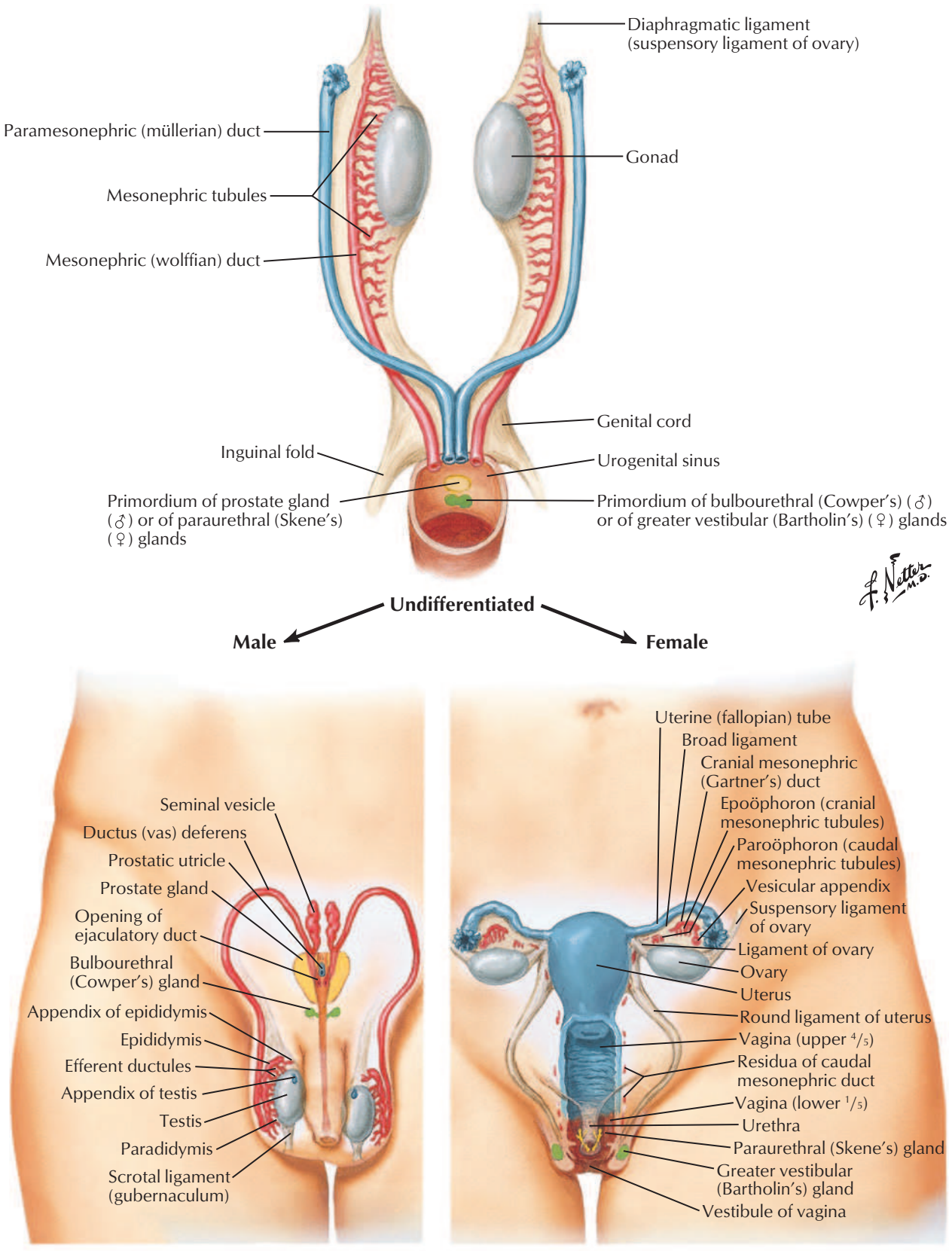


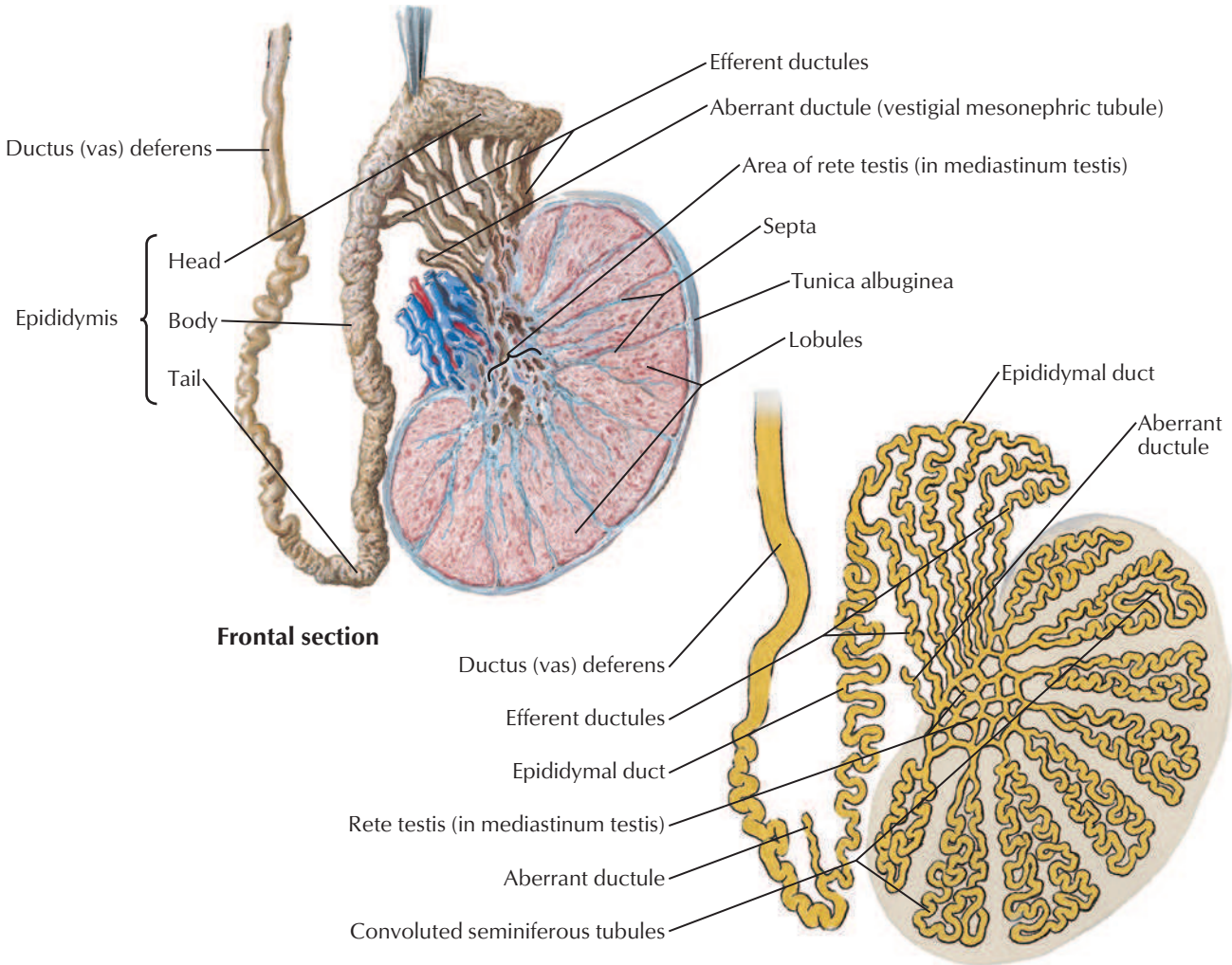
See also Plate 358

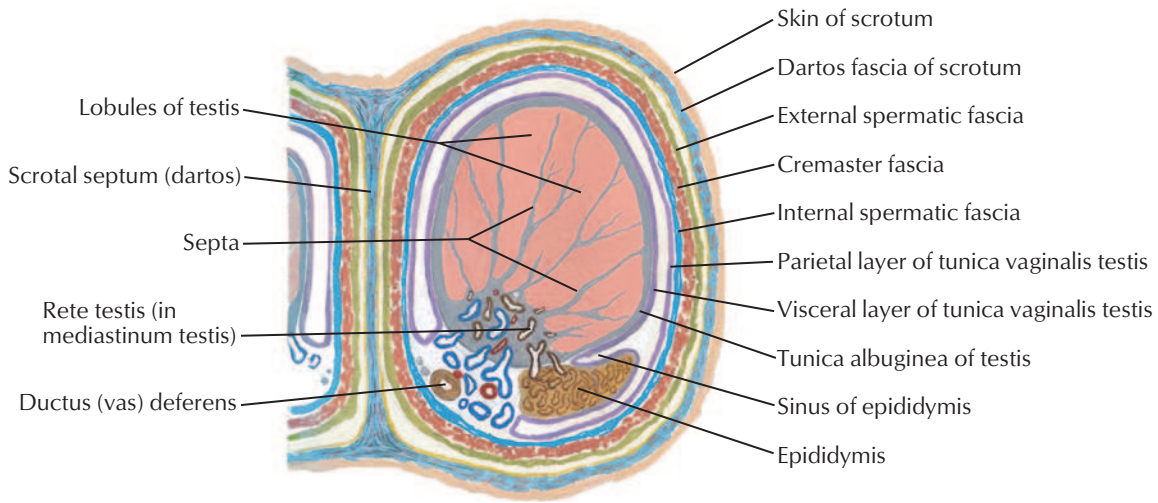


www.Booksmedicos06.com

////// facebook : Booksmedicos06



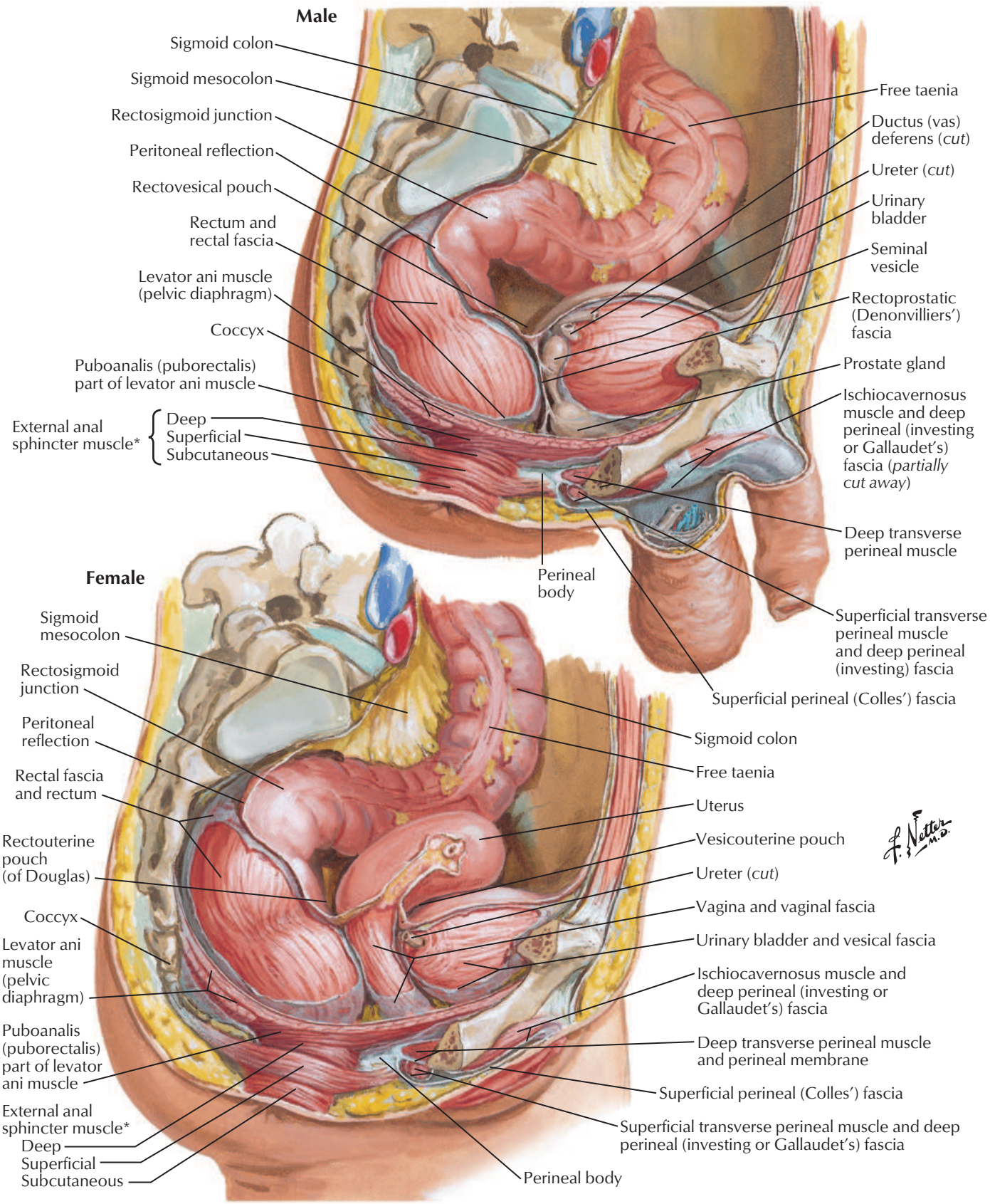




Cross section through scrotum and testis

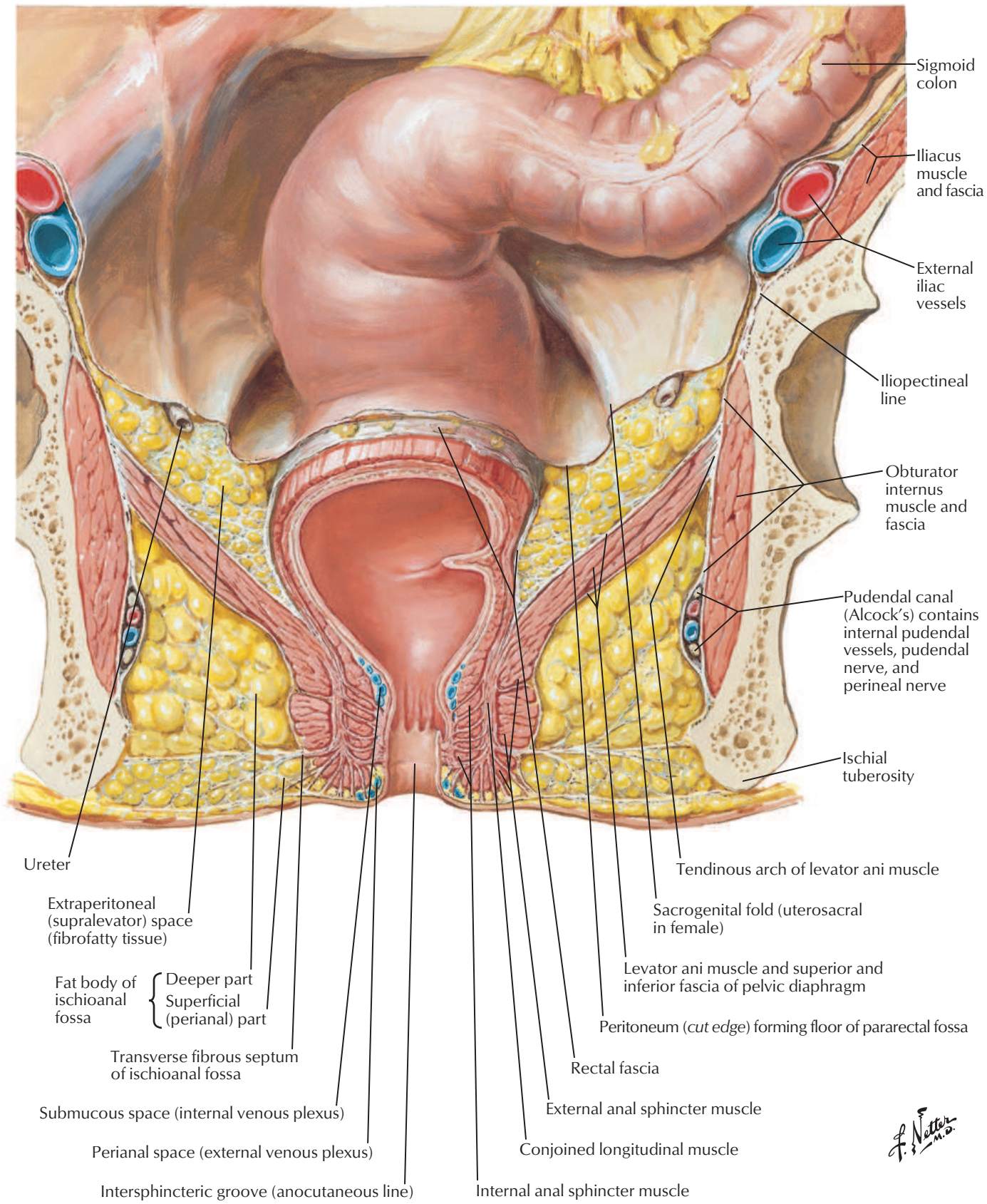
www.Booksmedicos06.com

////// facebook : Booksmedi.cos06



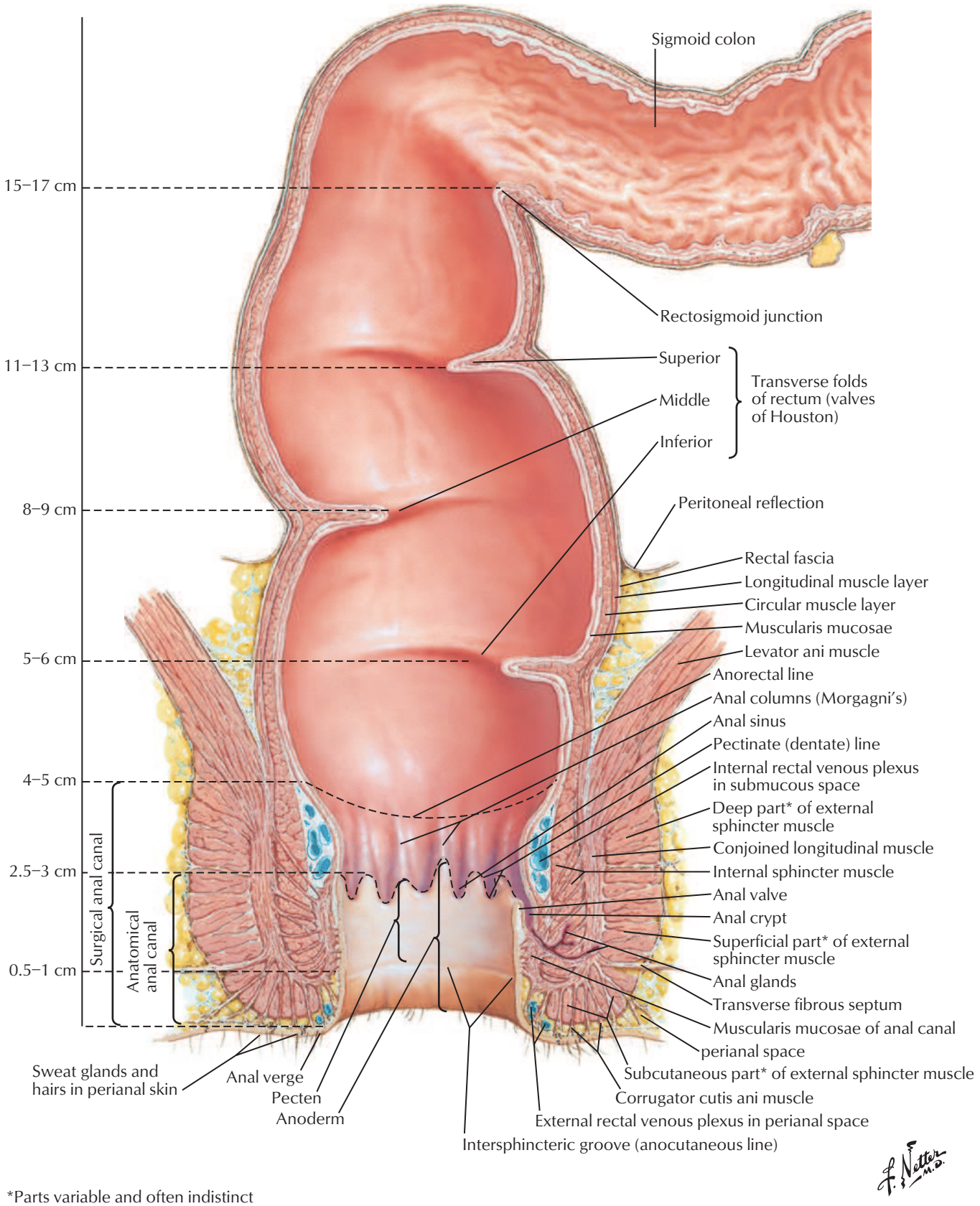
*Parts variable and often indistinct

See also Plate 392



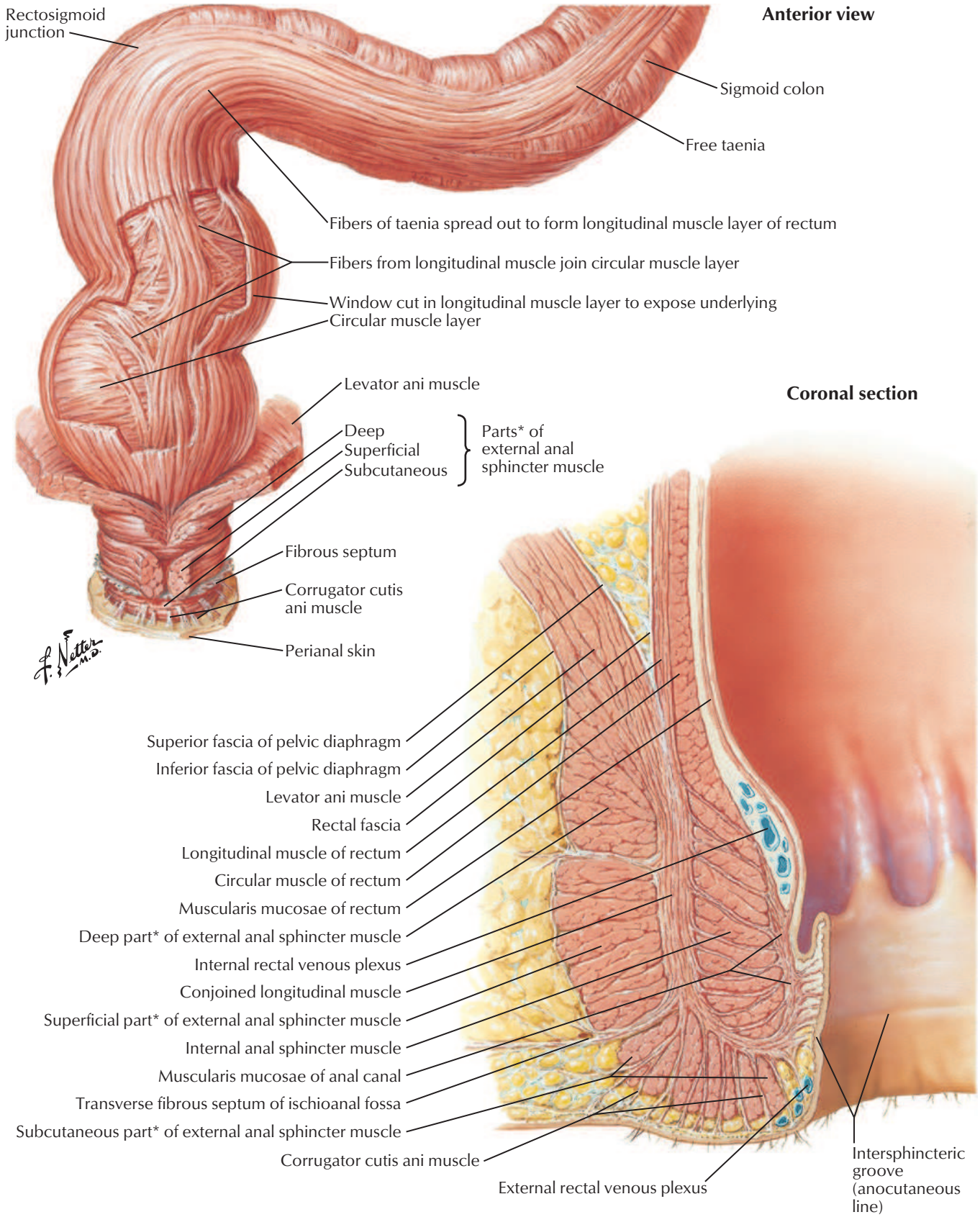
www.Booksmedicos06.com

////// facebook : Booksmedicos06



*Parts variable and often indistinct

See also Plate 381

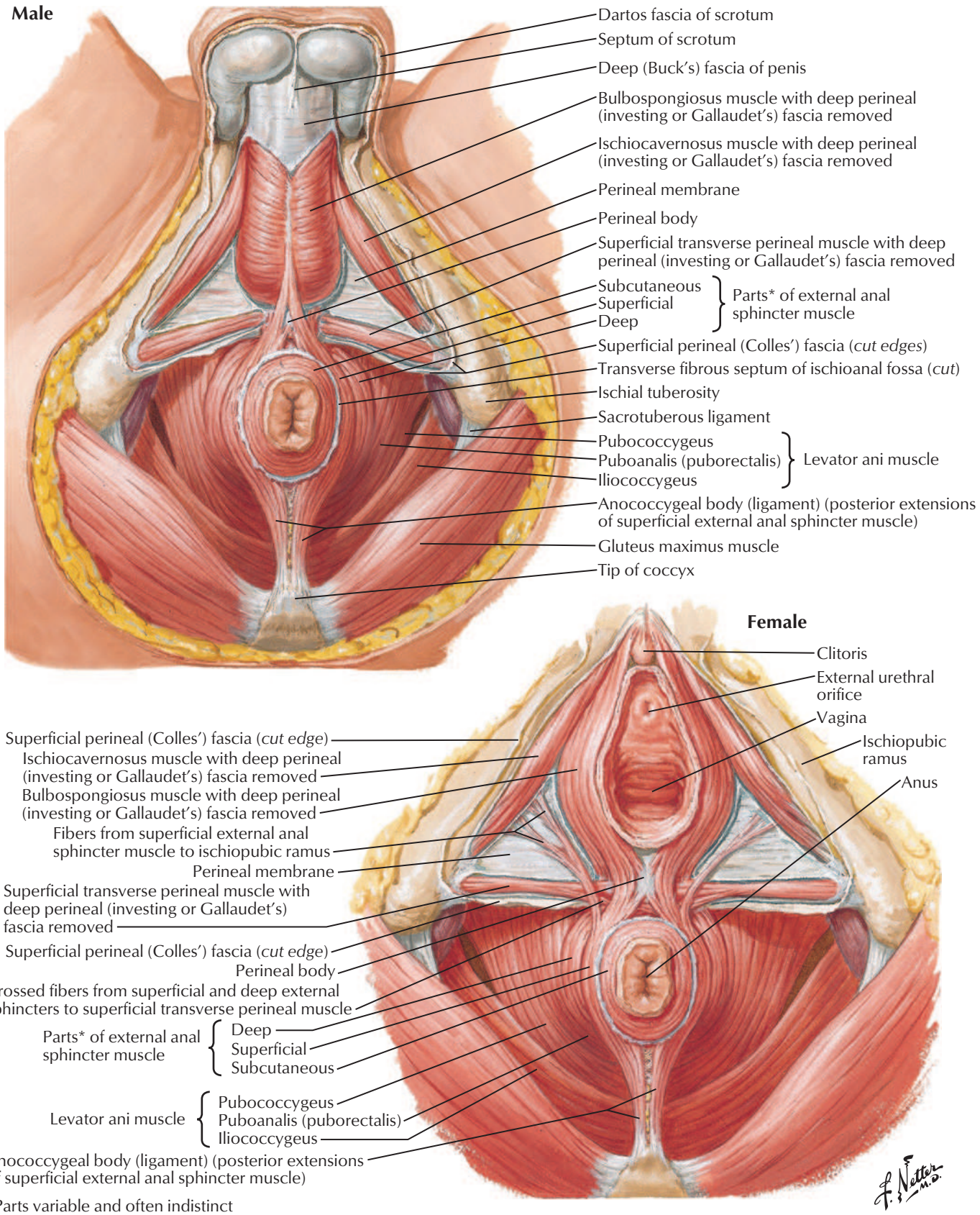


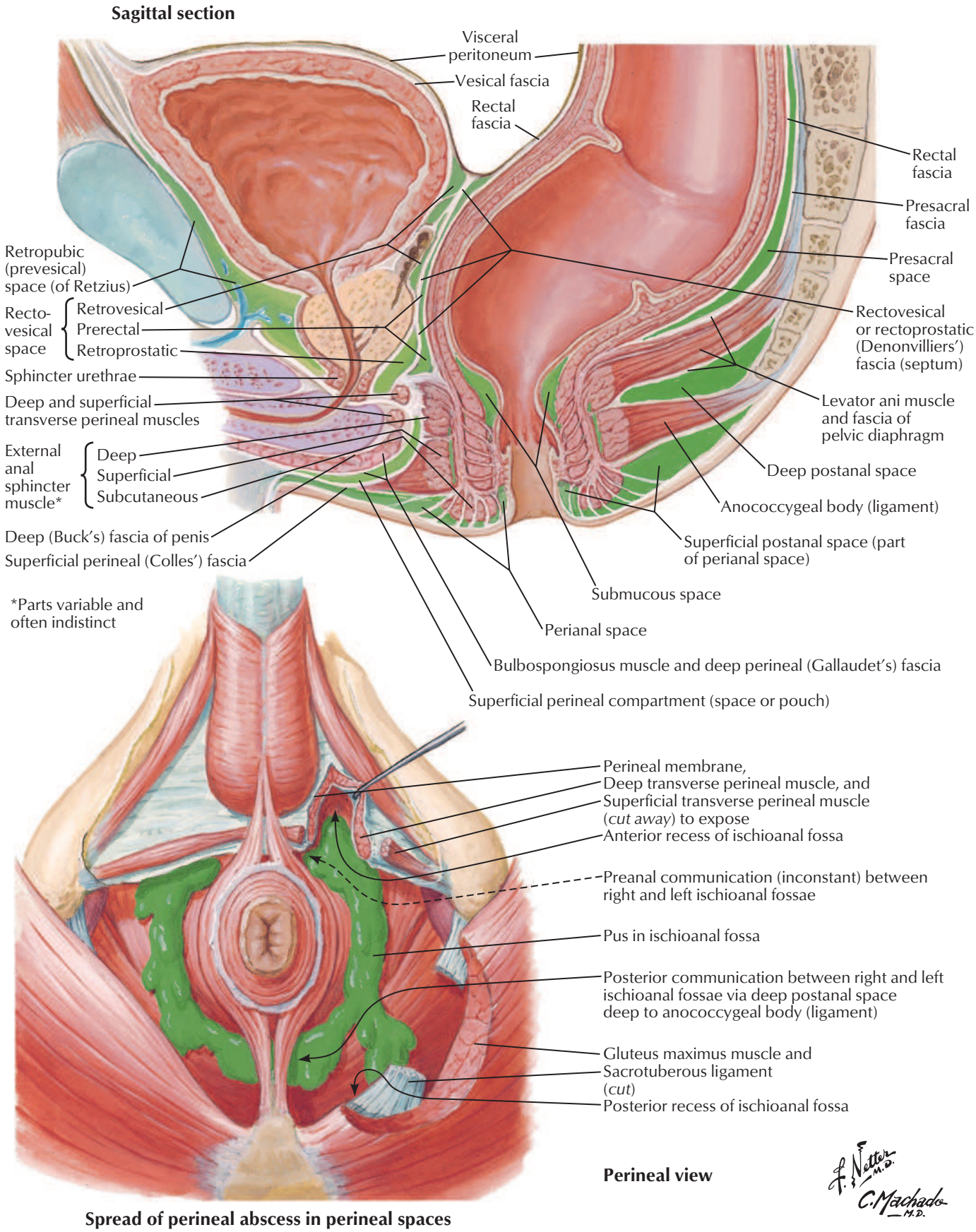
*Parts variable and often indistinct

www.Booksmedicos06.com

See also Plates 360, 365

////// facebook : BooksMedicos06



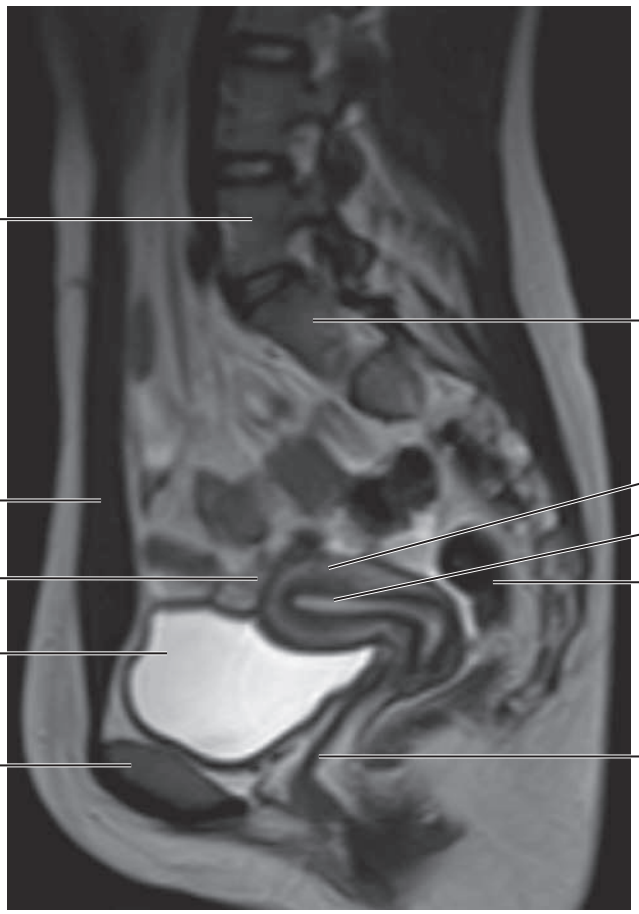


Spread of perineal abscess in perineal spaces

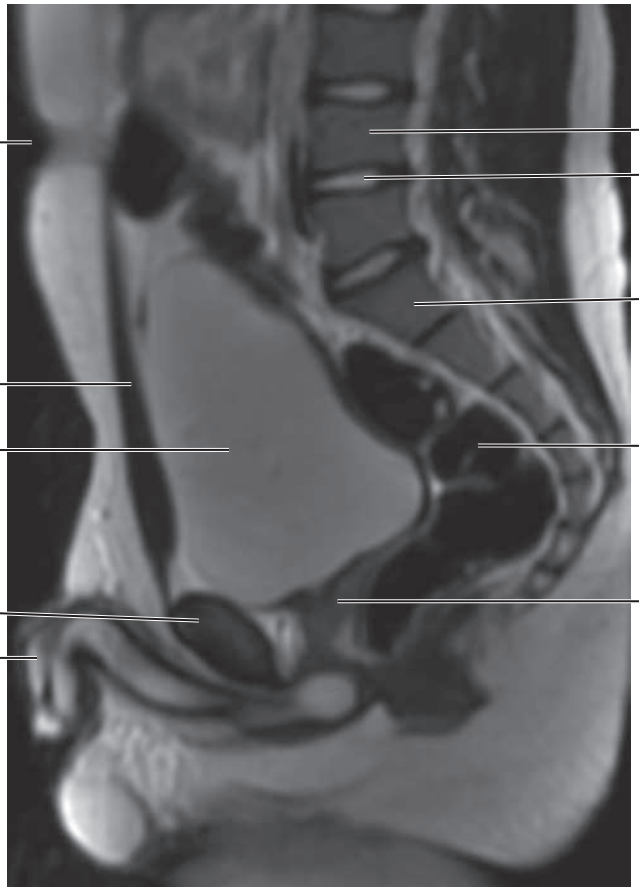
www.Booksmedicos06.com

////// facebook : Booksmedicos06

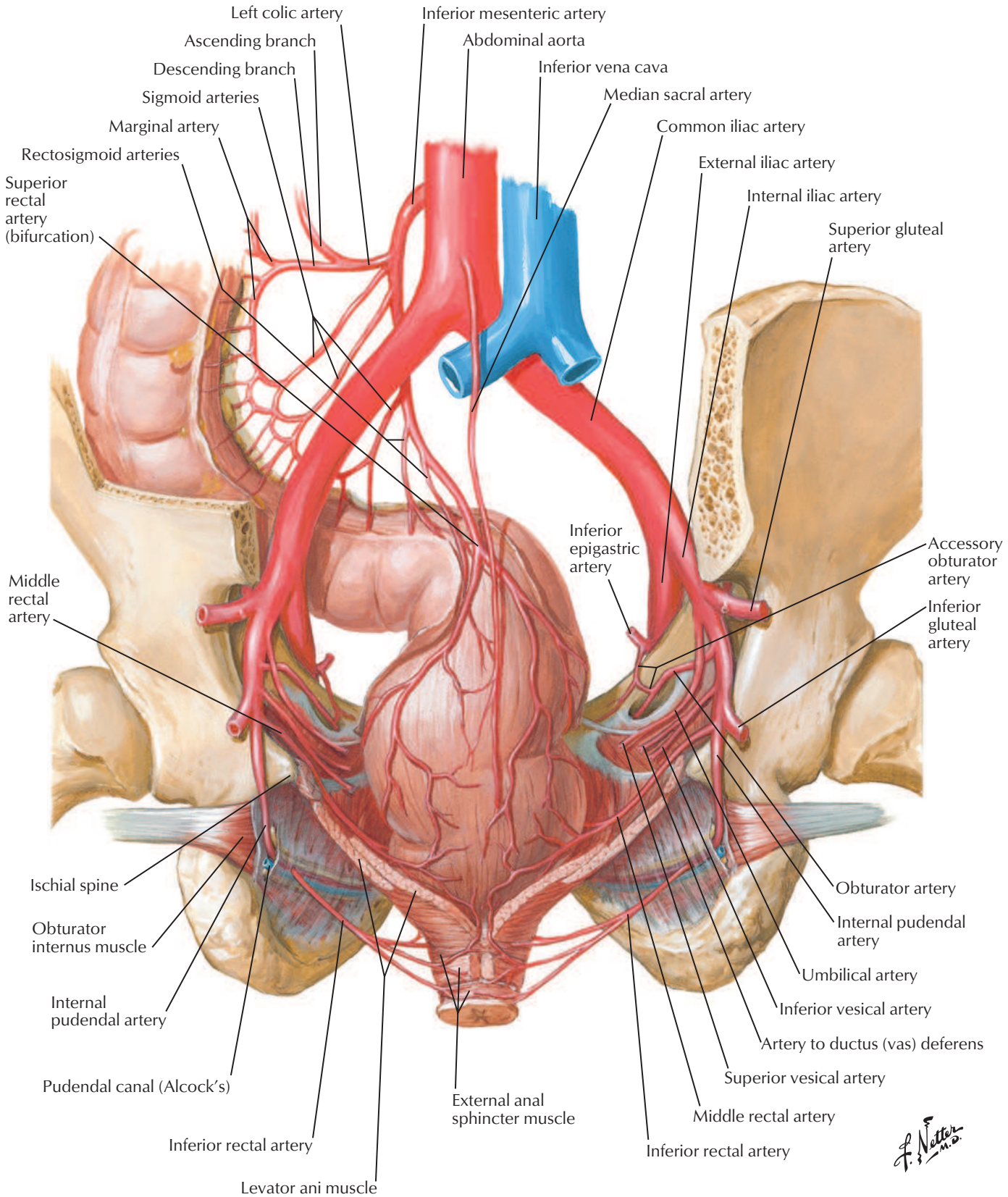
MRI of female pelvis (without intravenous contrast medium)



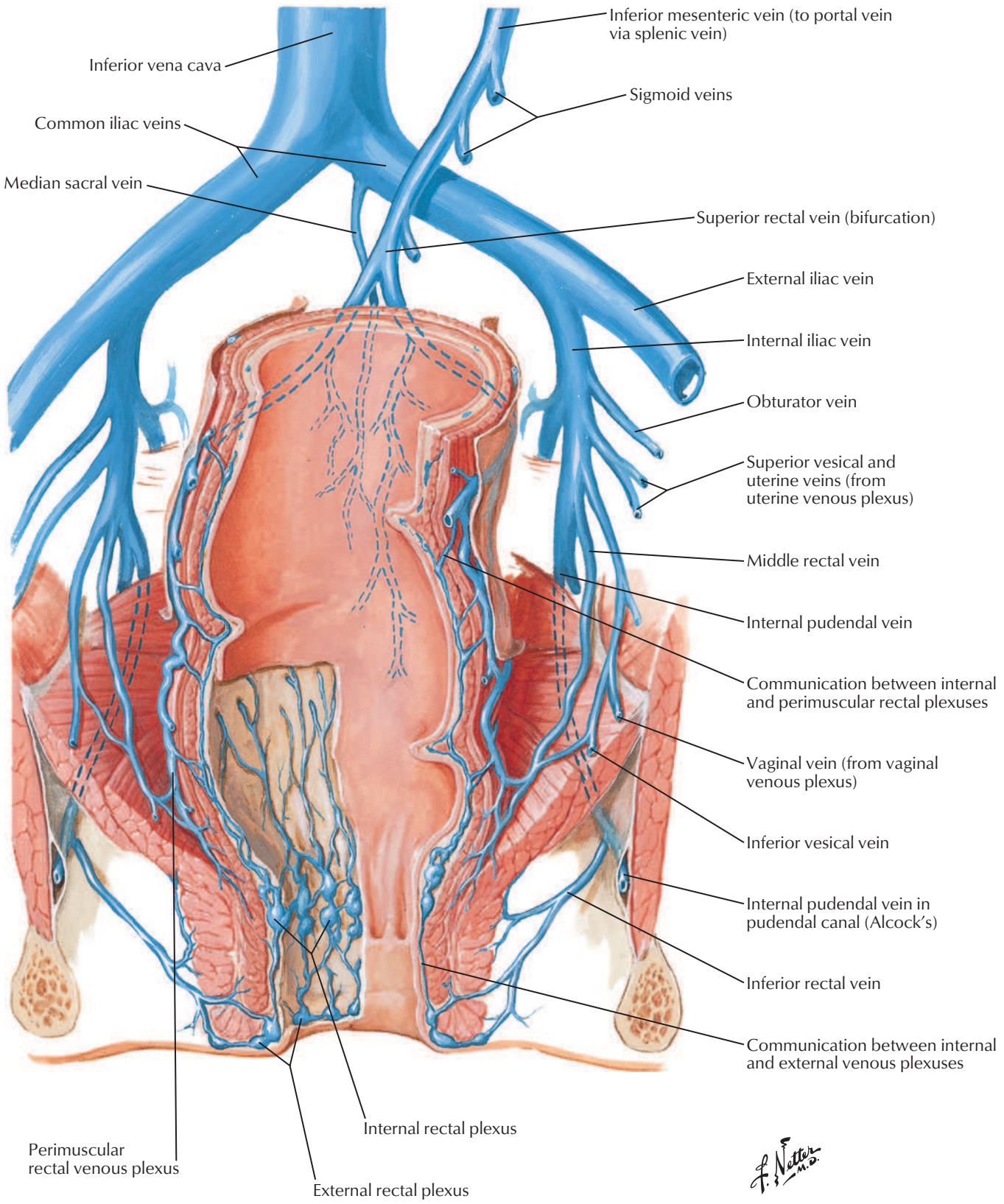
MRI of male pelvis (without intravenous contrast medium)



Arteries of Rectum and Anal Canal: Male Posterior View

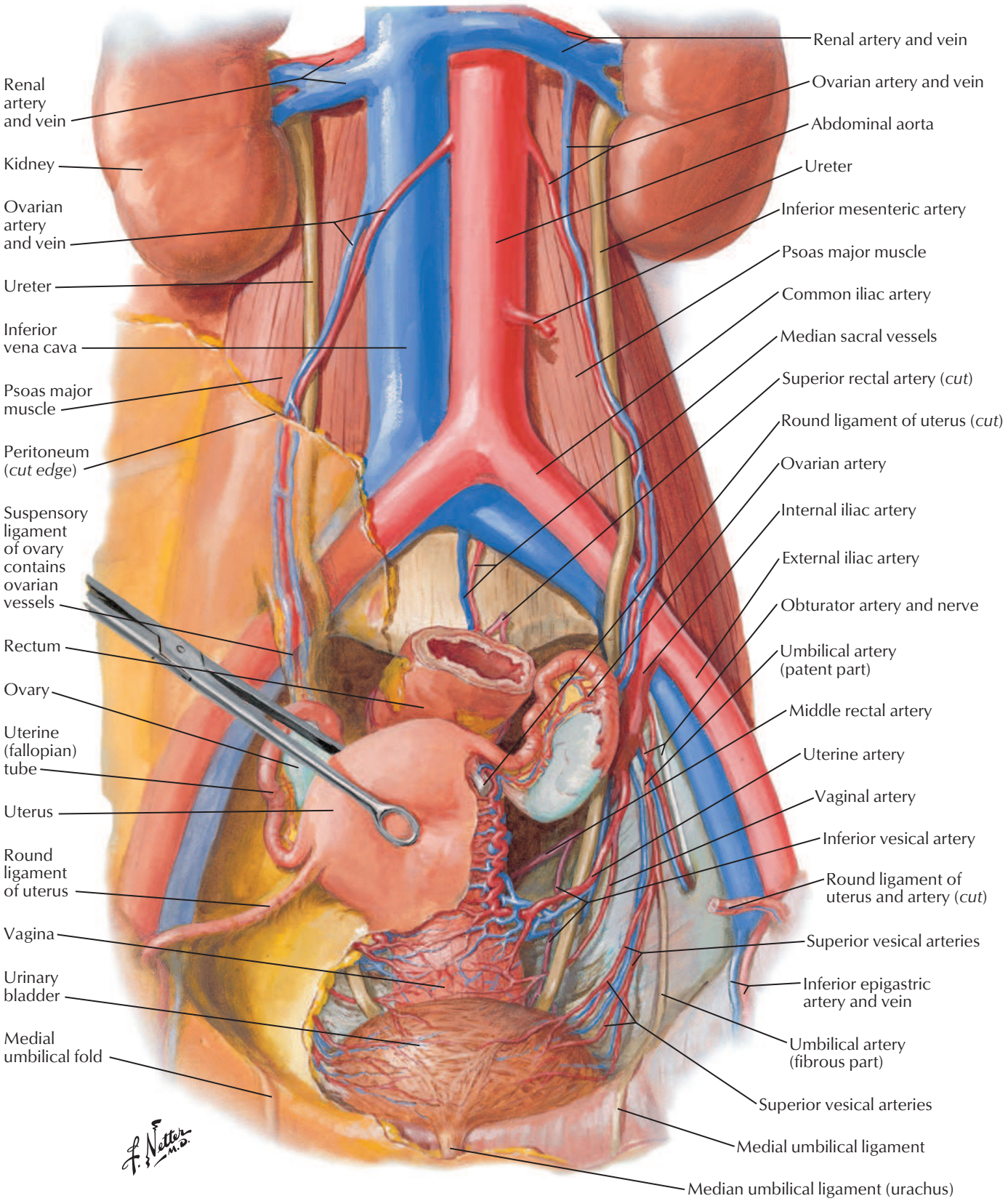


www.Booksmedicos06.com



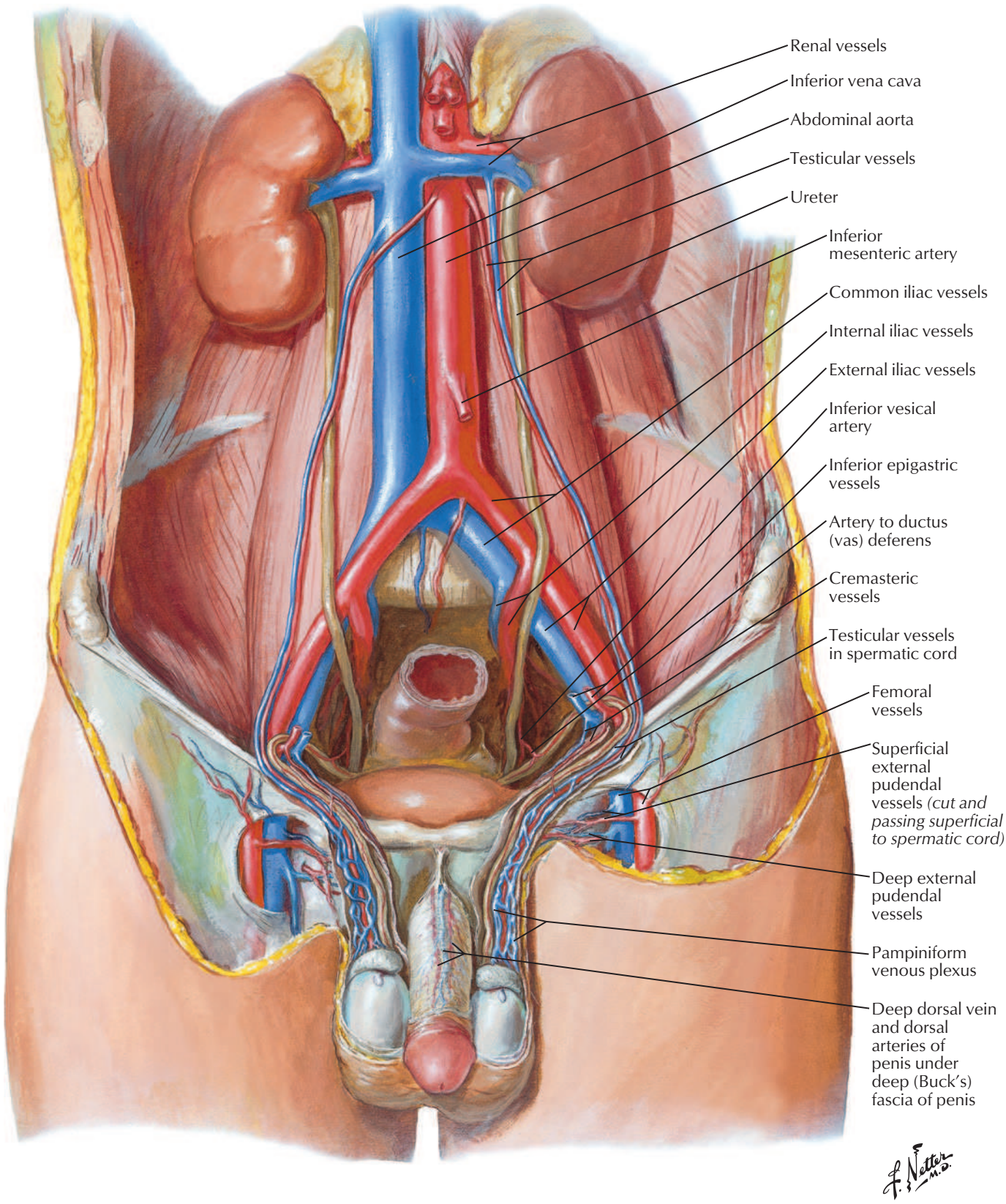
////// facebook : Booksmedicos06

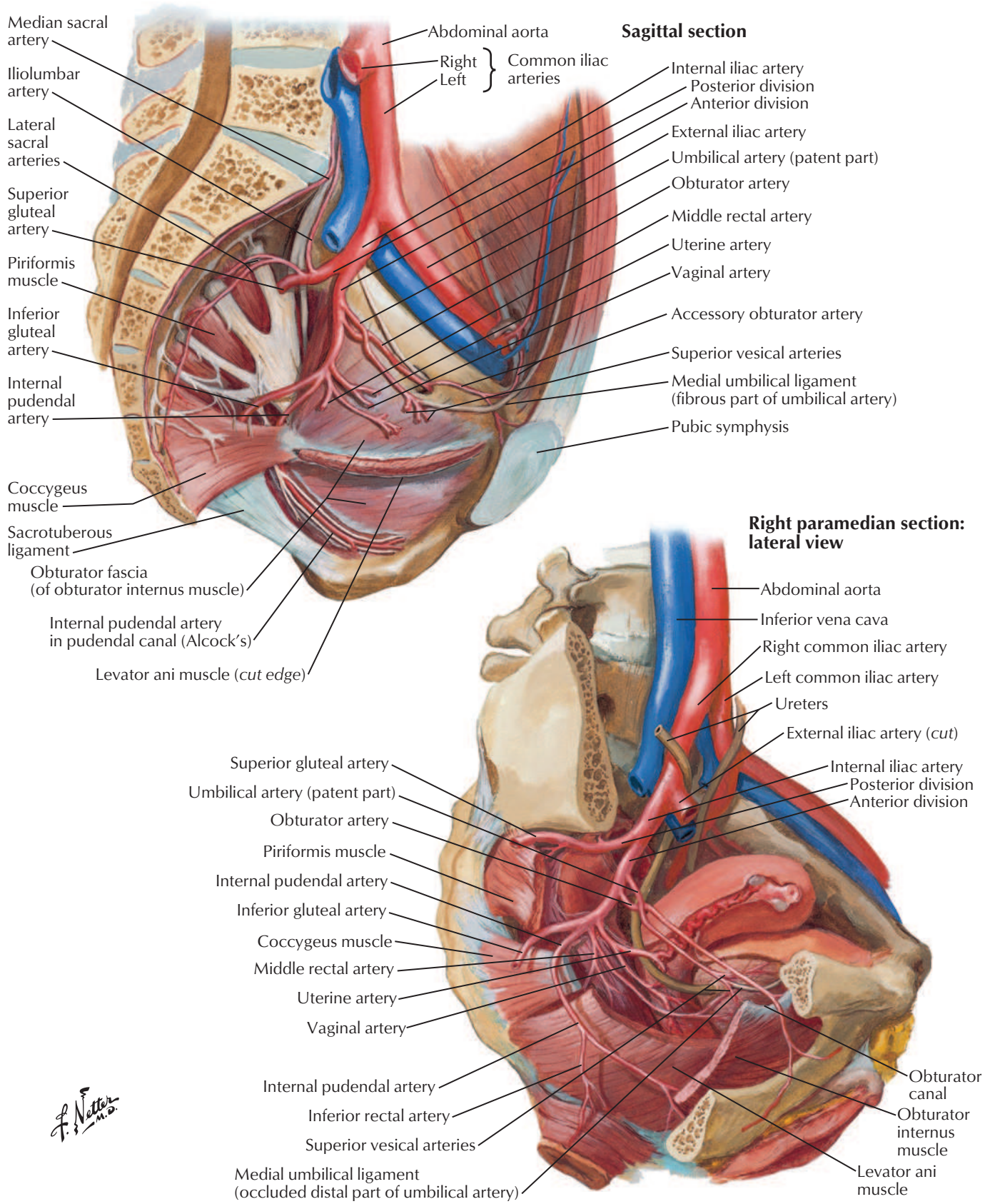
Arteries and Veins of Pelvic Organs: Female Anterior View



www.Booksmedicos06.com

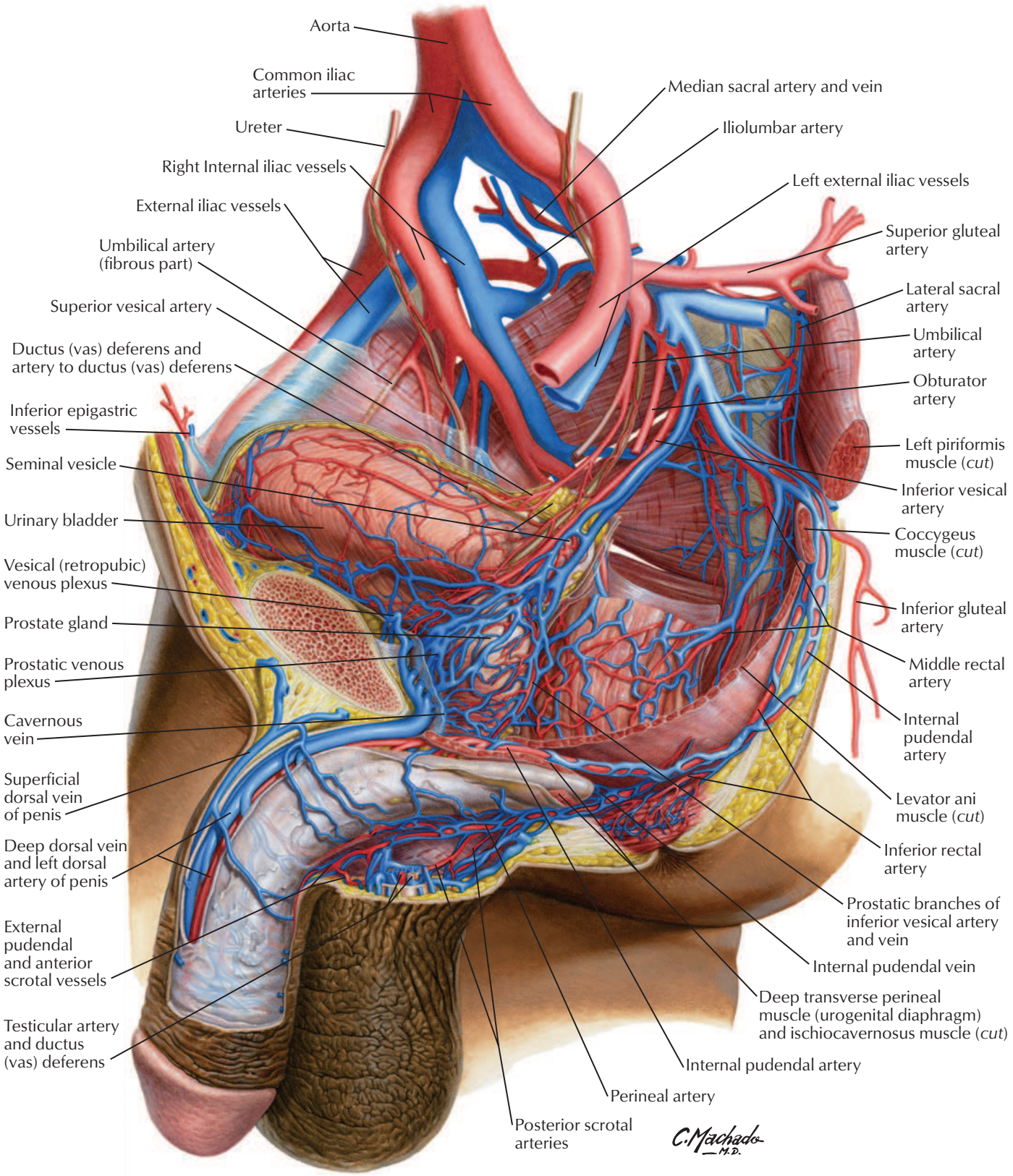
////// facebook : Booksmedicos0

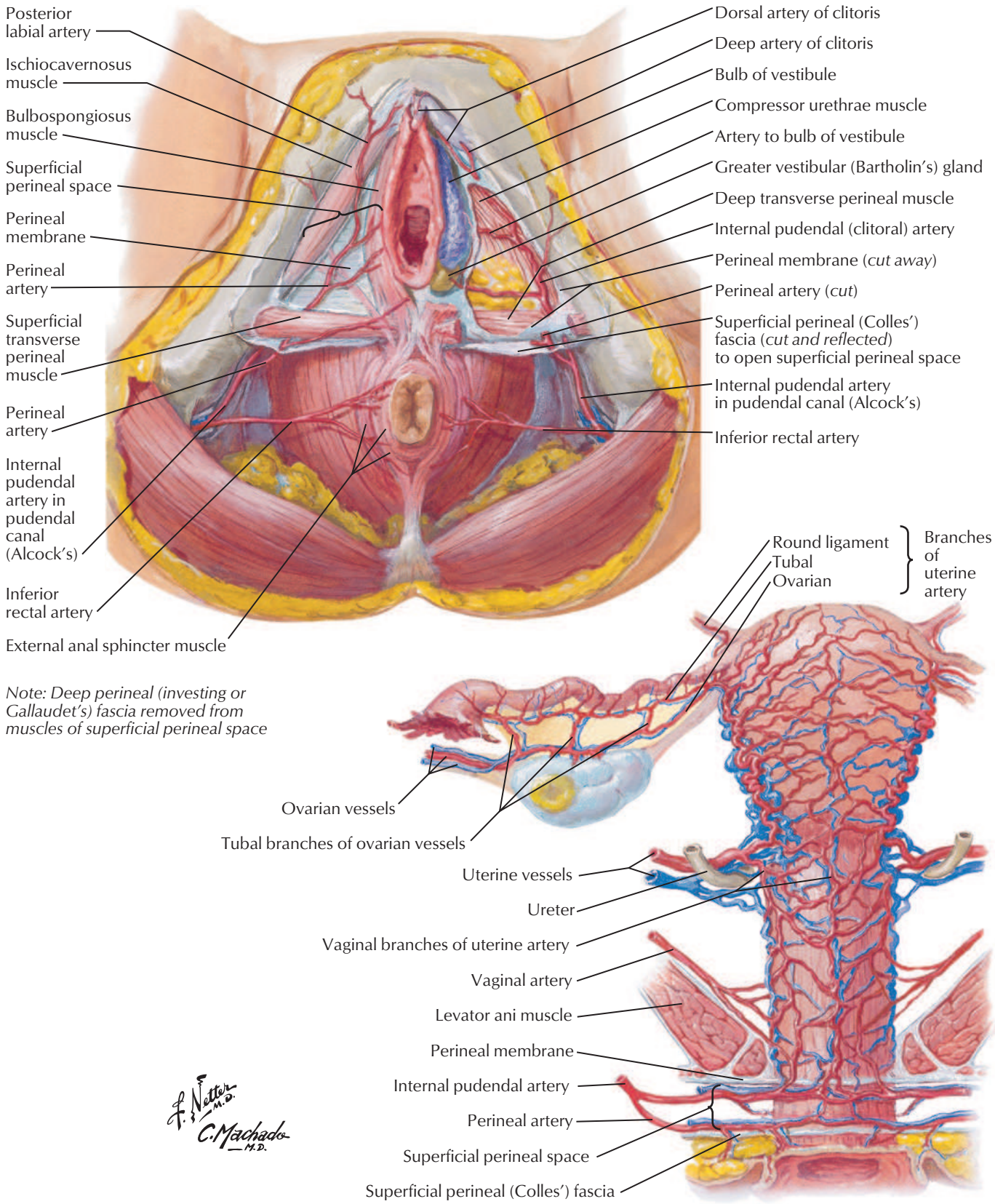




www.Booksmedicos06.com

////// facebook : Booksmedi.cos06



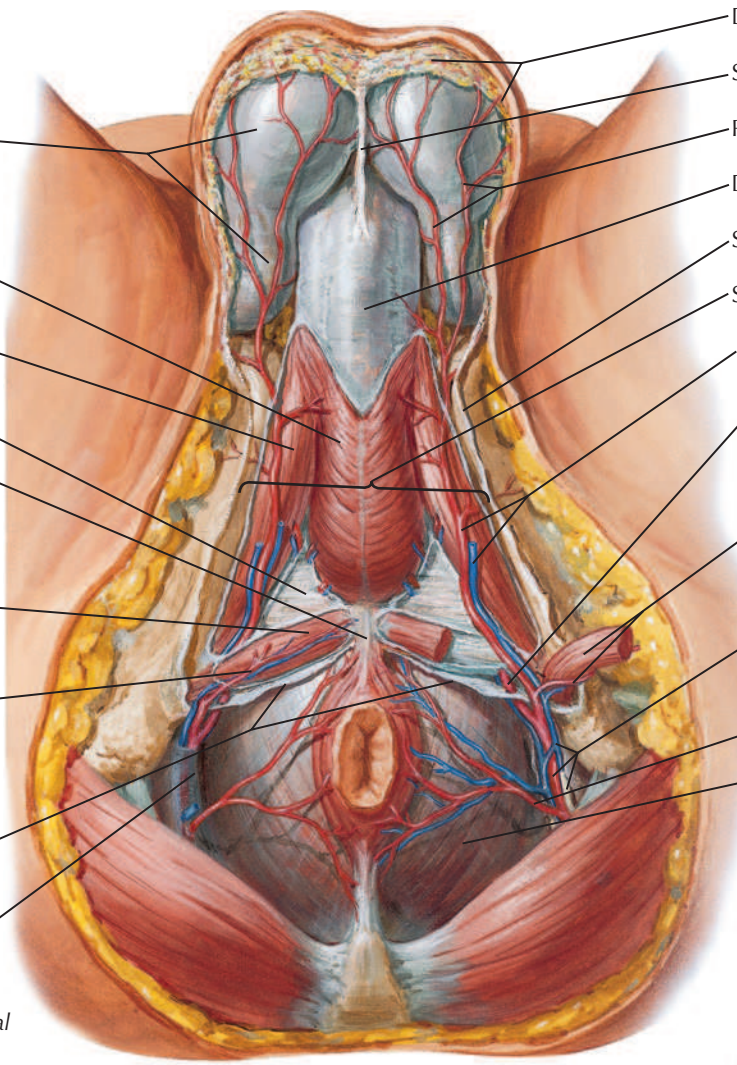


Note: Deep perineal (investing or Gallaudet's) fascia removed from muscles of superficial perineal space

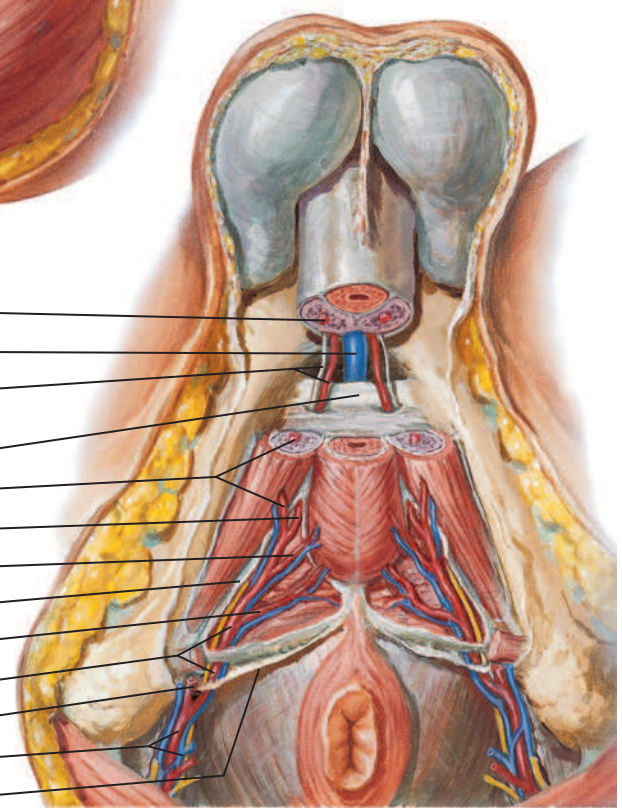
F. Netter M.D. C. Machado M.D.

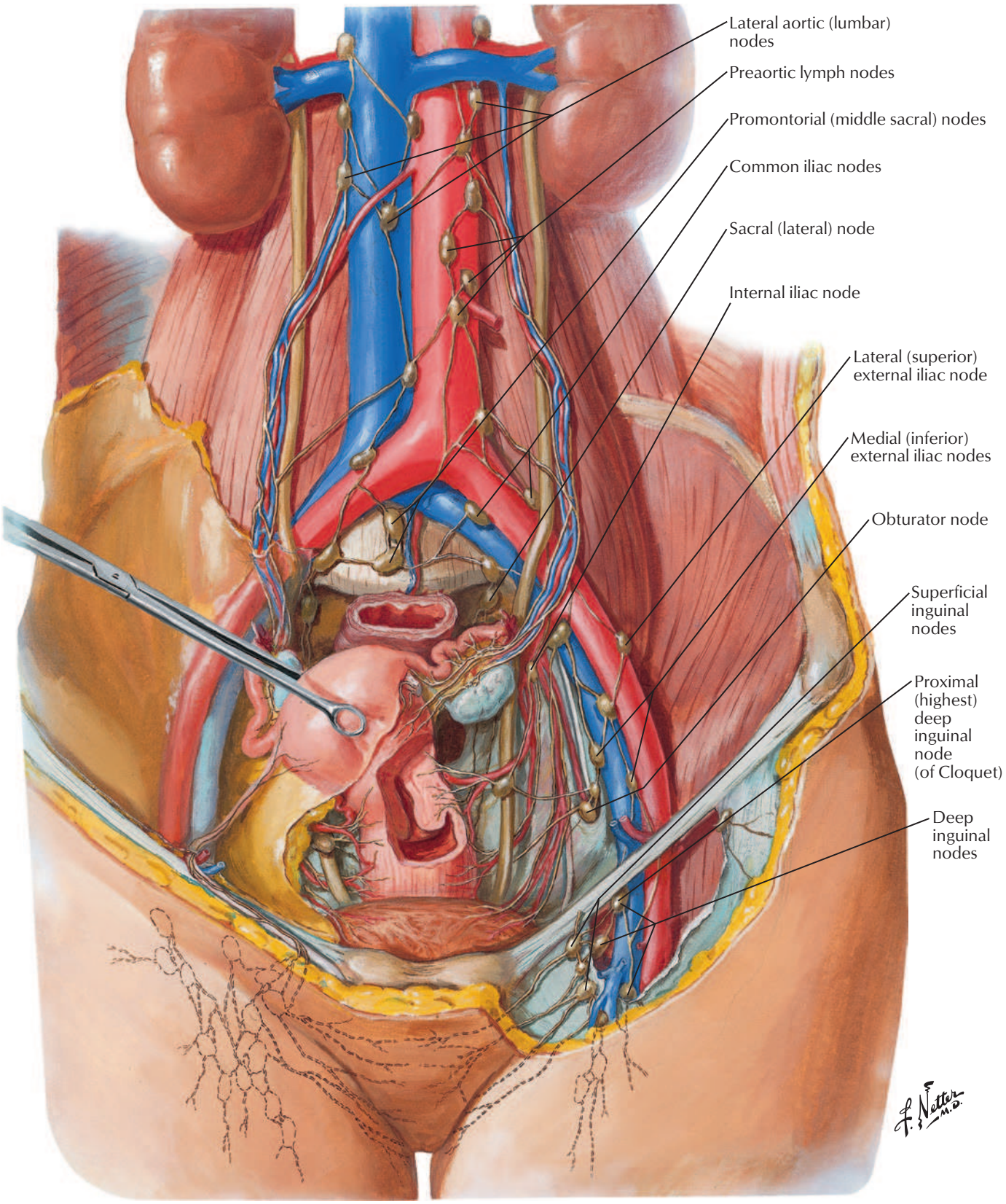
www.Booksmedicos06.com

////// facebook : Booksmedicos06



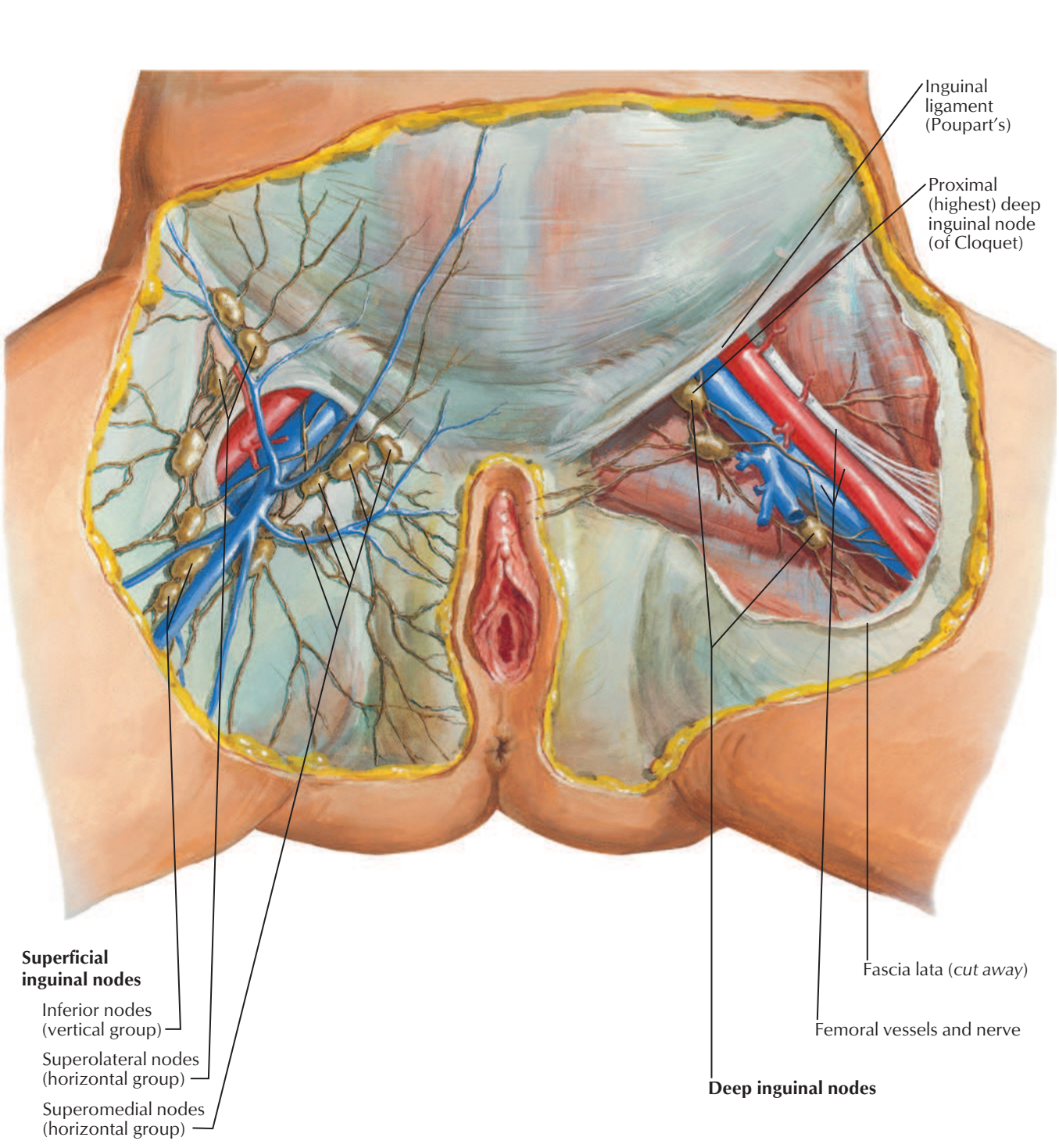
Note: Deep perineal (investing or Gallaudet's) fascia removed from muscles of superficial perineal space

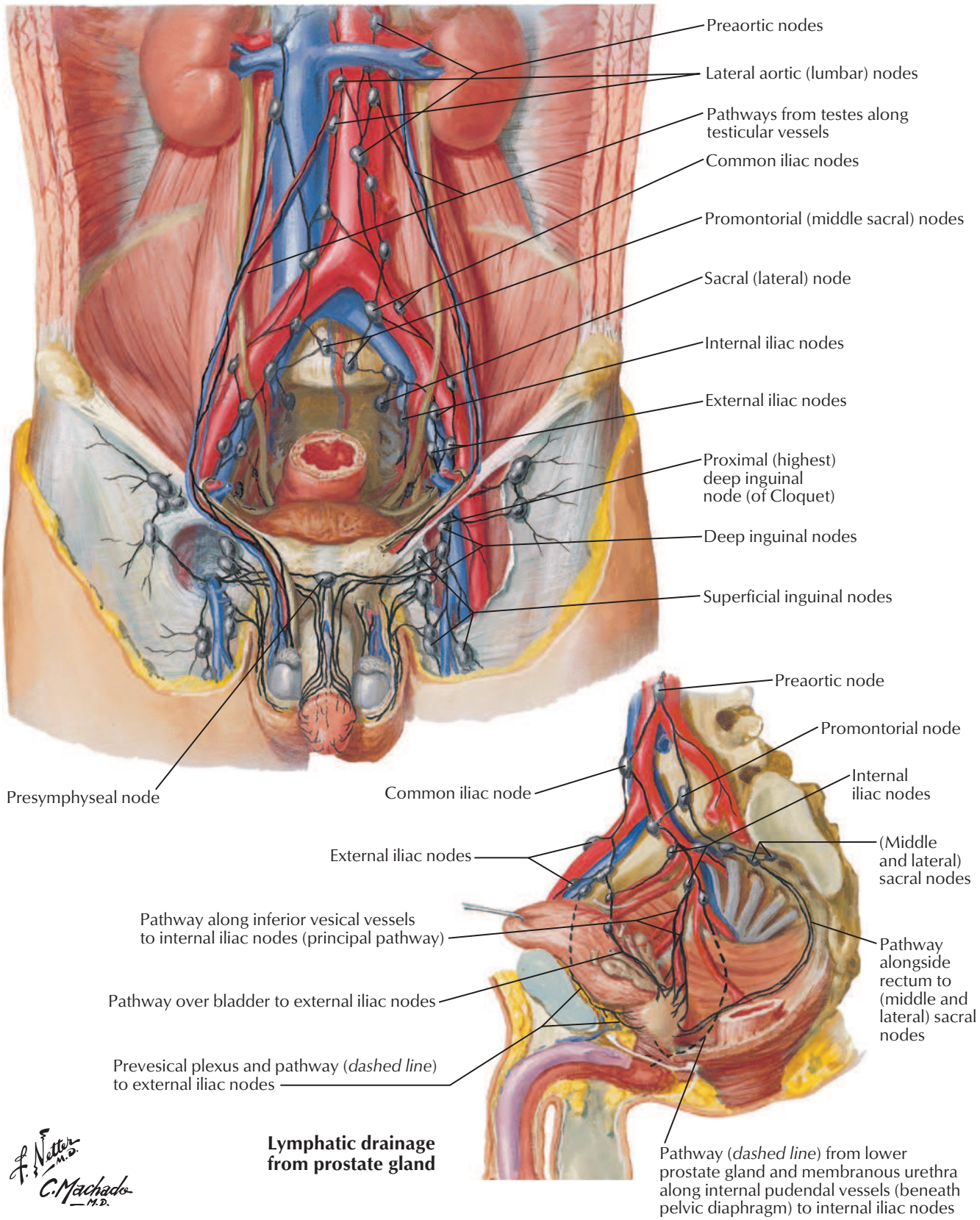




www.Booksmedicos06.com

////// facebook : Booksmedicos06



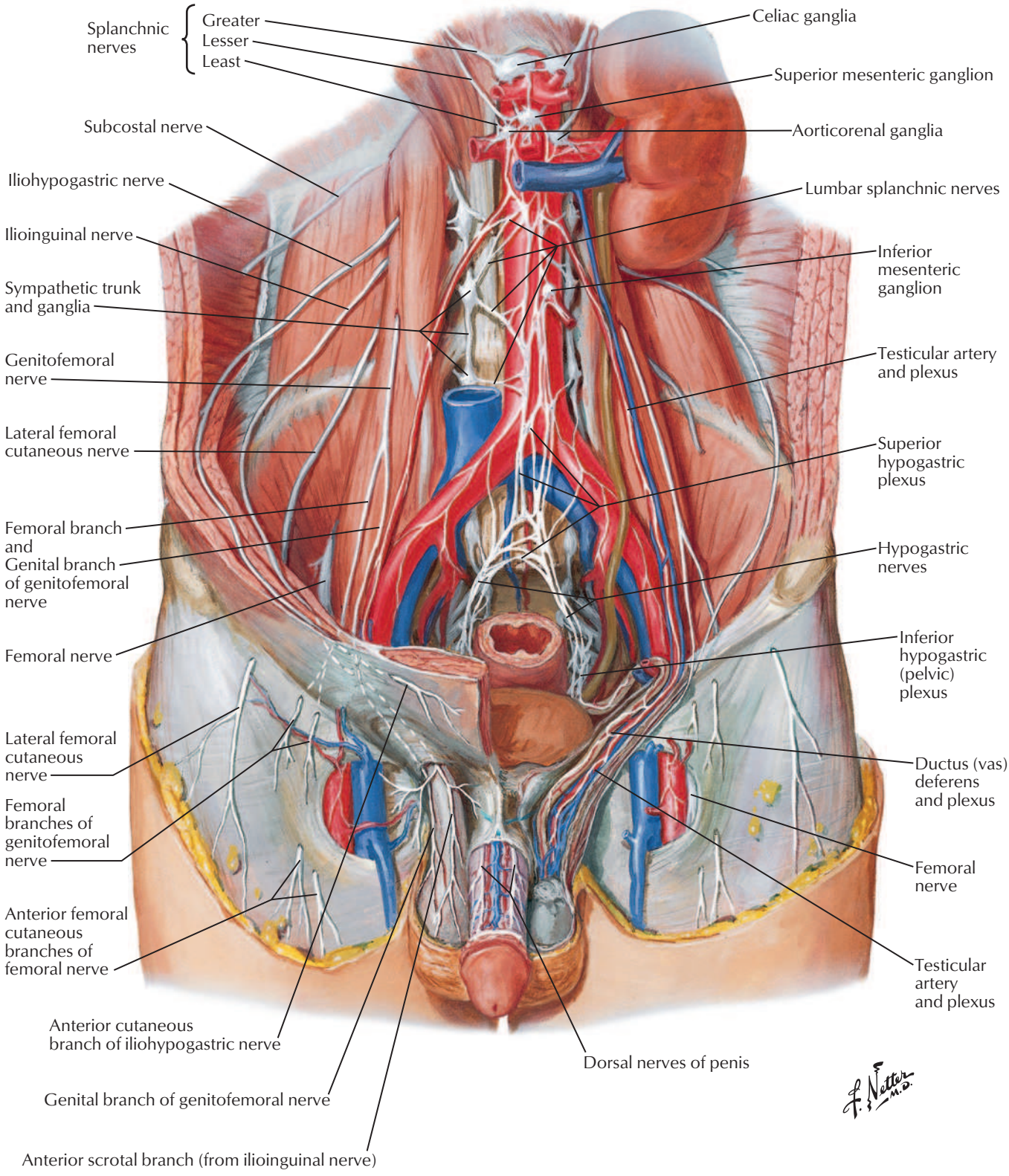


Lymphatic drainage from prostate gland

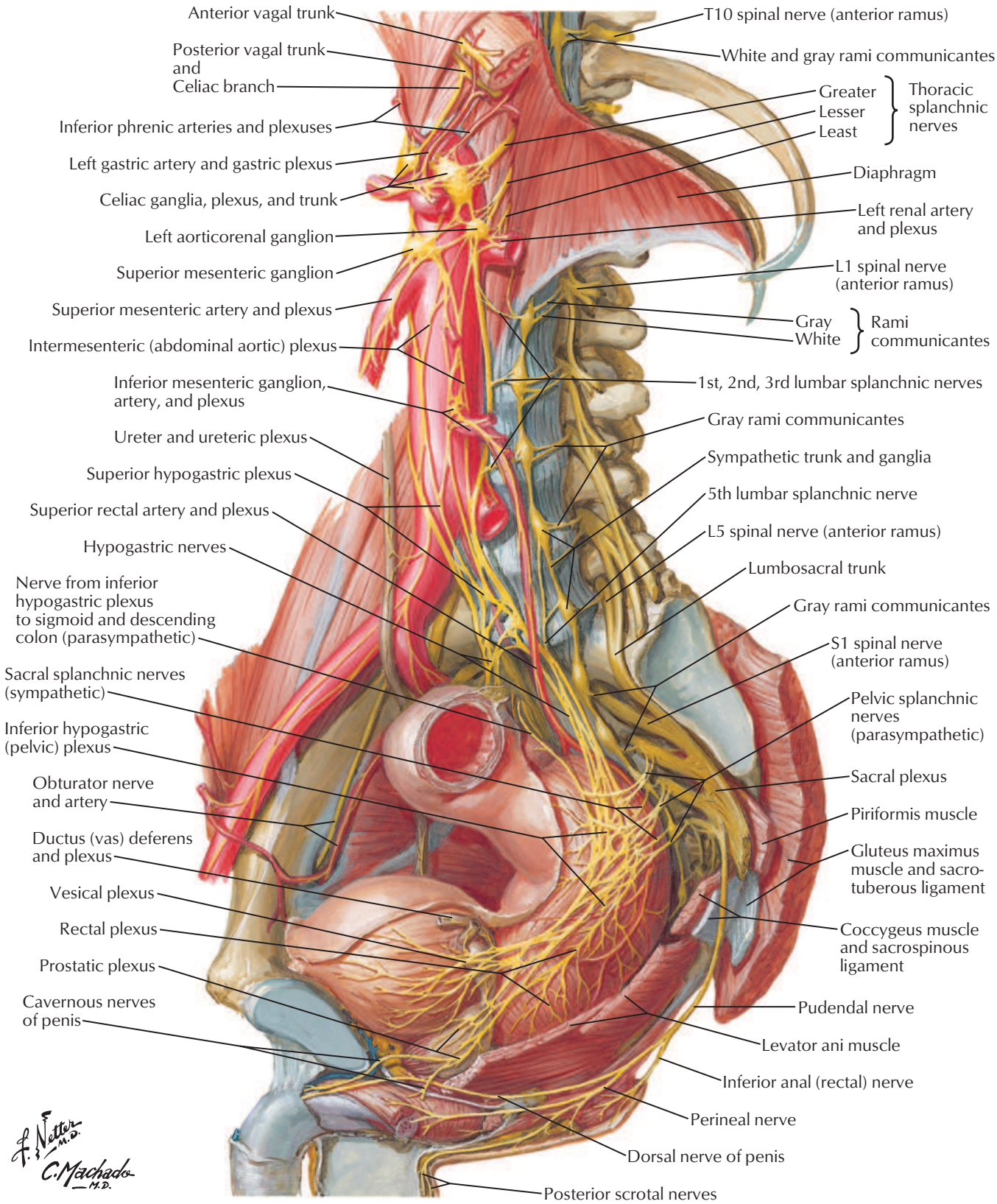
www.Booksmedicos06.com

See also Plate 300

////// facebook : Booksmedi.cos06



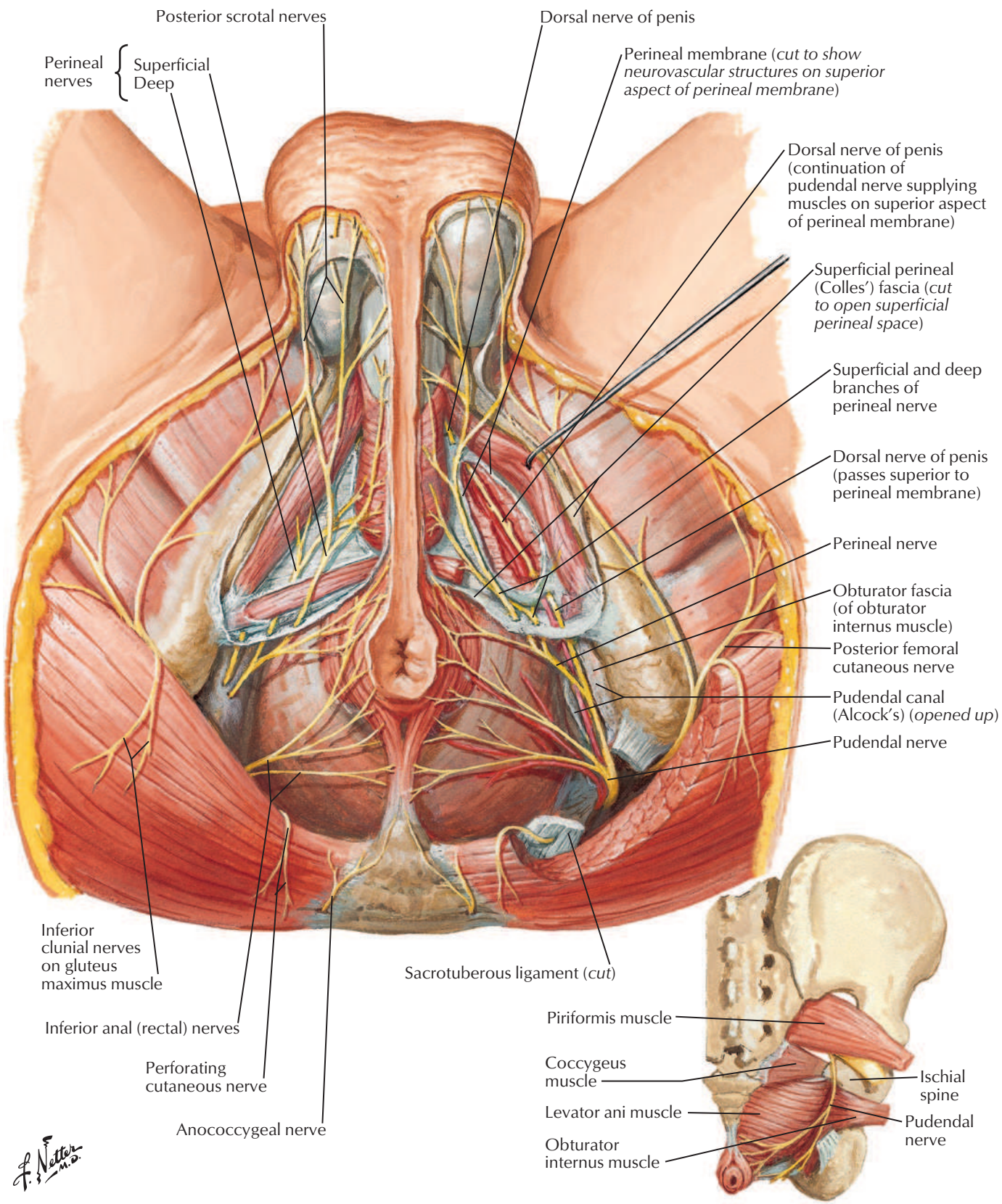
See also Plates 300, 385



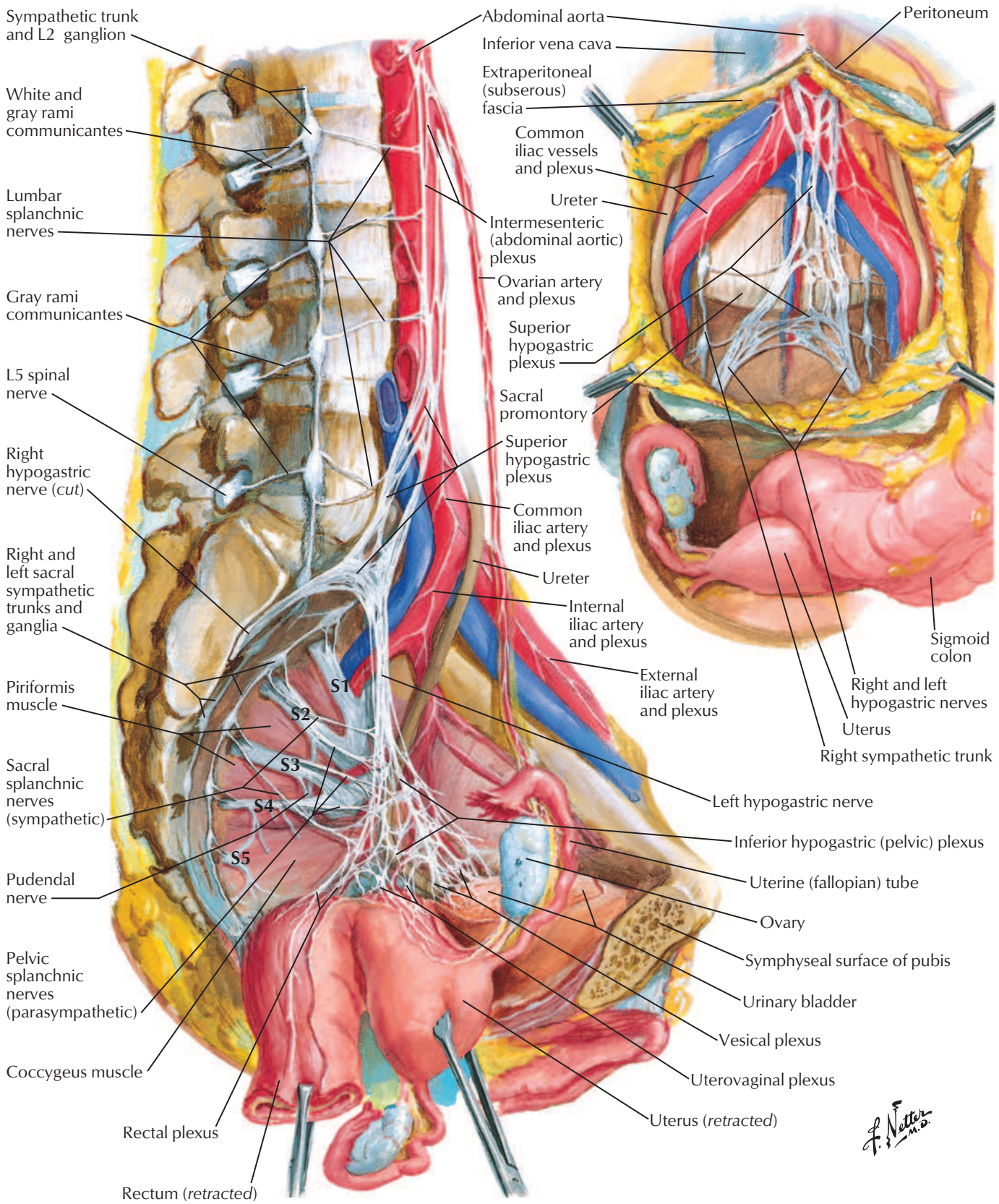
www.Booksmedicos06.com

See also Plate 398

////// facebook : BookSmedi.com06

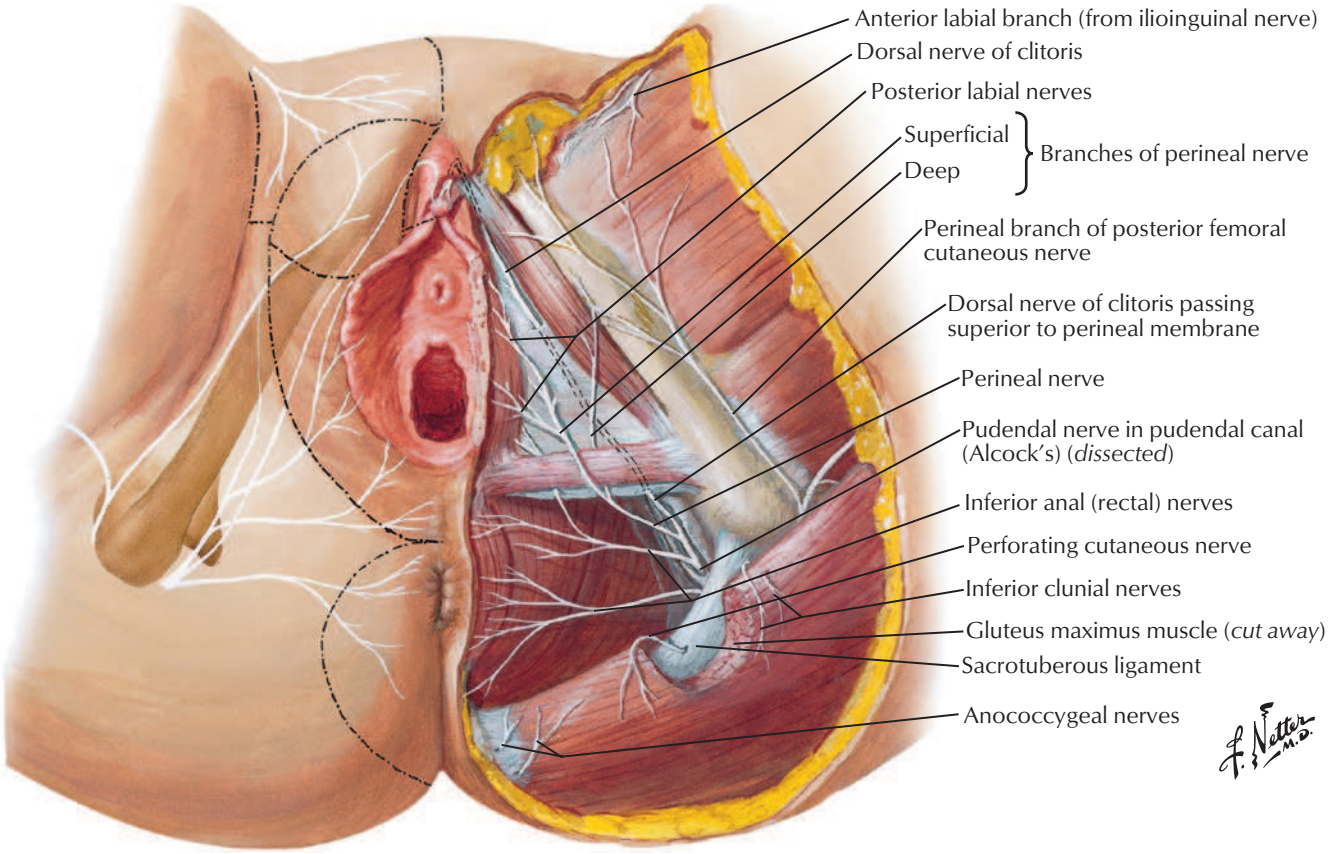


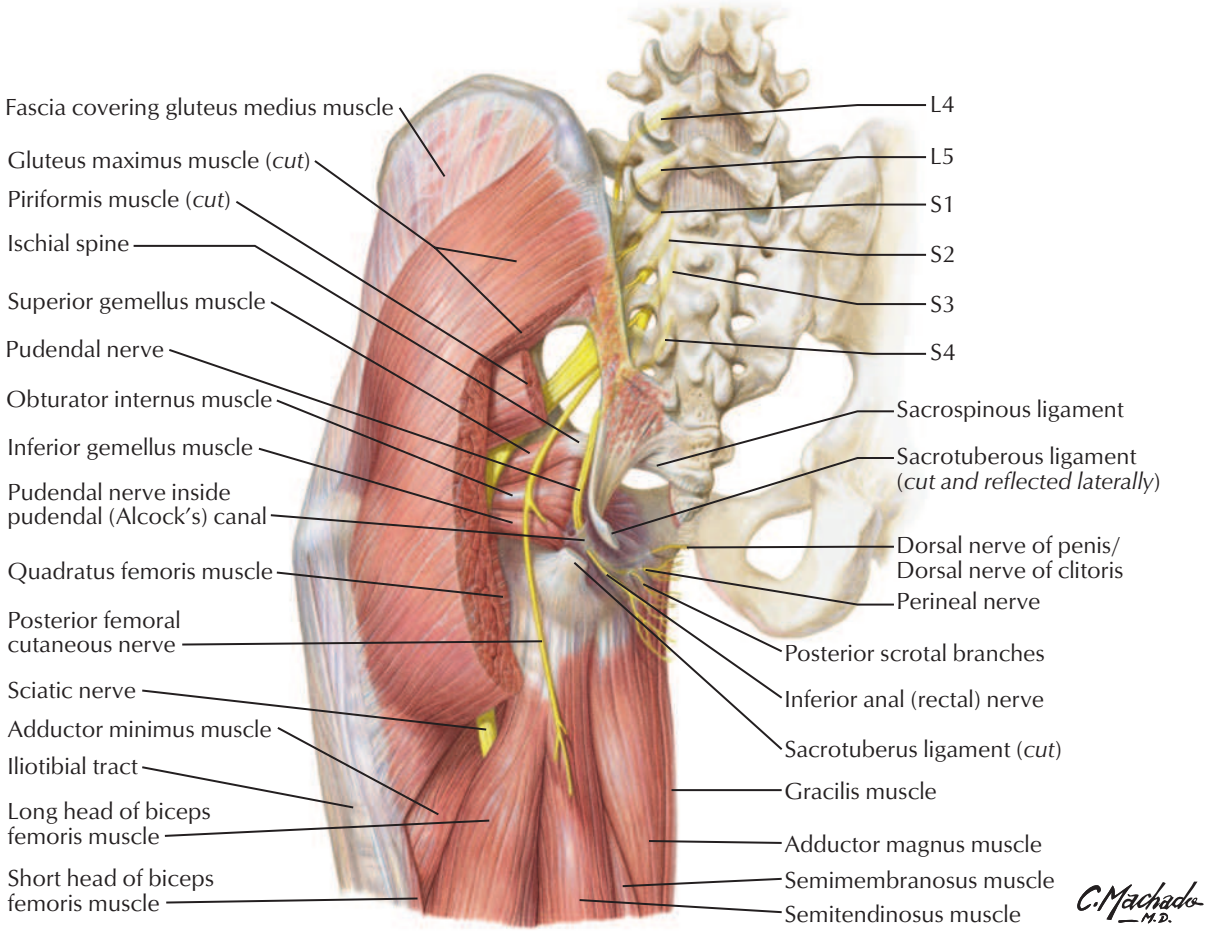
See also Plate 300

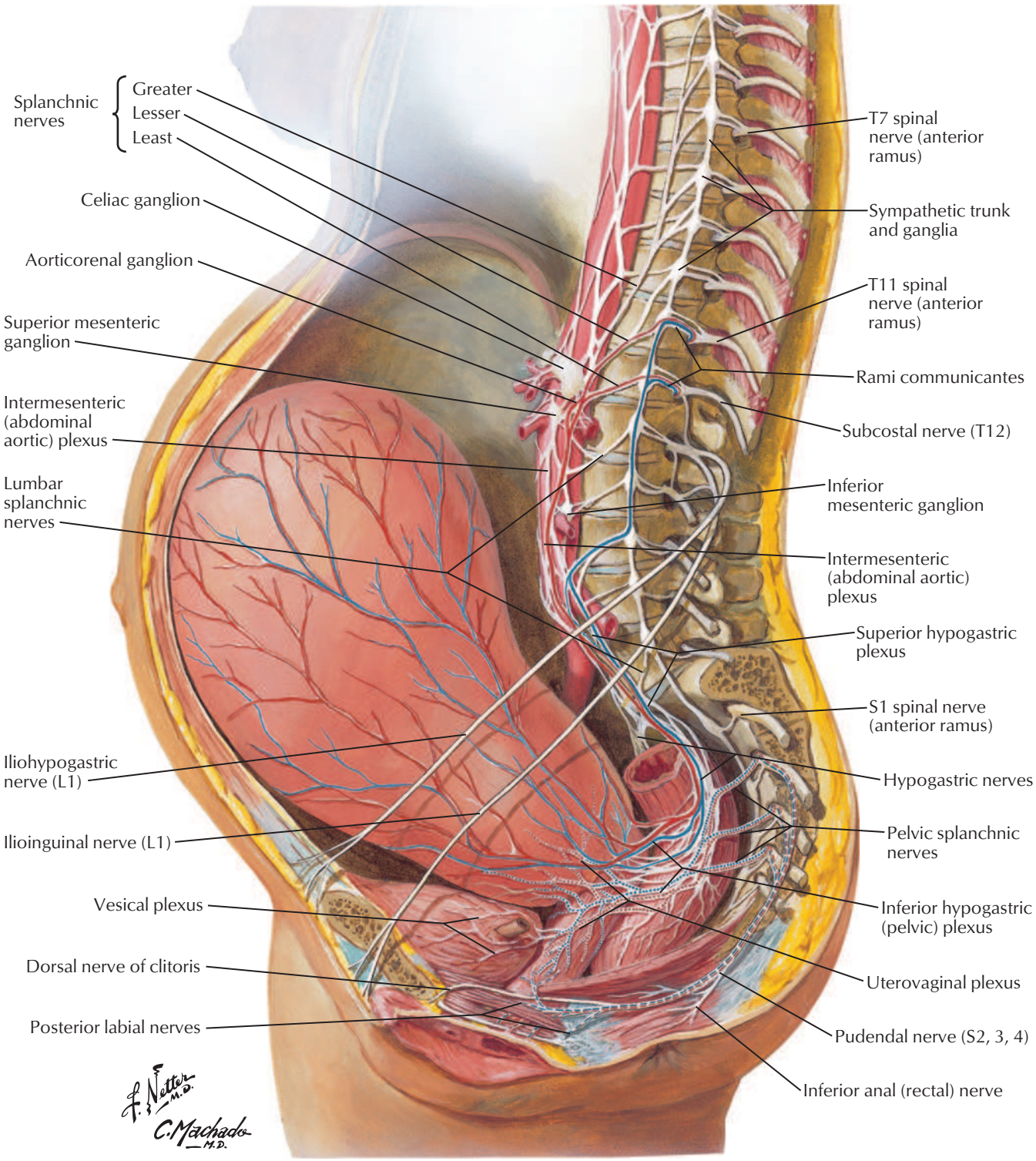


www.Booksmedicos06.com

////// facebook : Booksmedicos0







Sensory fibers from uterine body and fundus accompany sympathetic fibers via hypogastric plexuses to T11, 12 (L1?)

Motor fibers to uterine body and fundus (sympathetic)

Sensory fibers from cervix and upper vagina accompany pelvic splanchnic nerves (parasympathetic) to S2, 3, 4

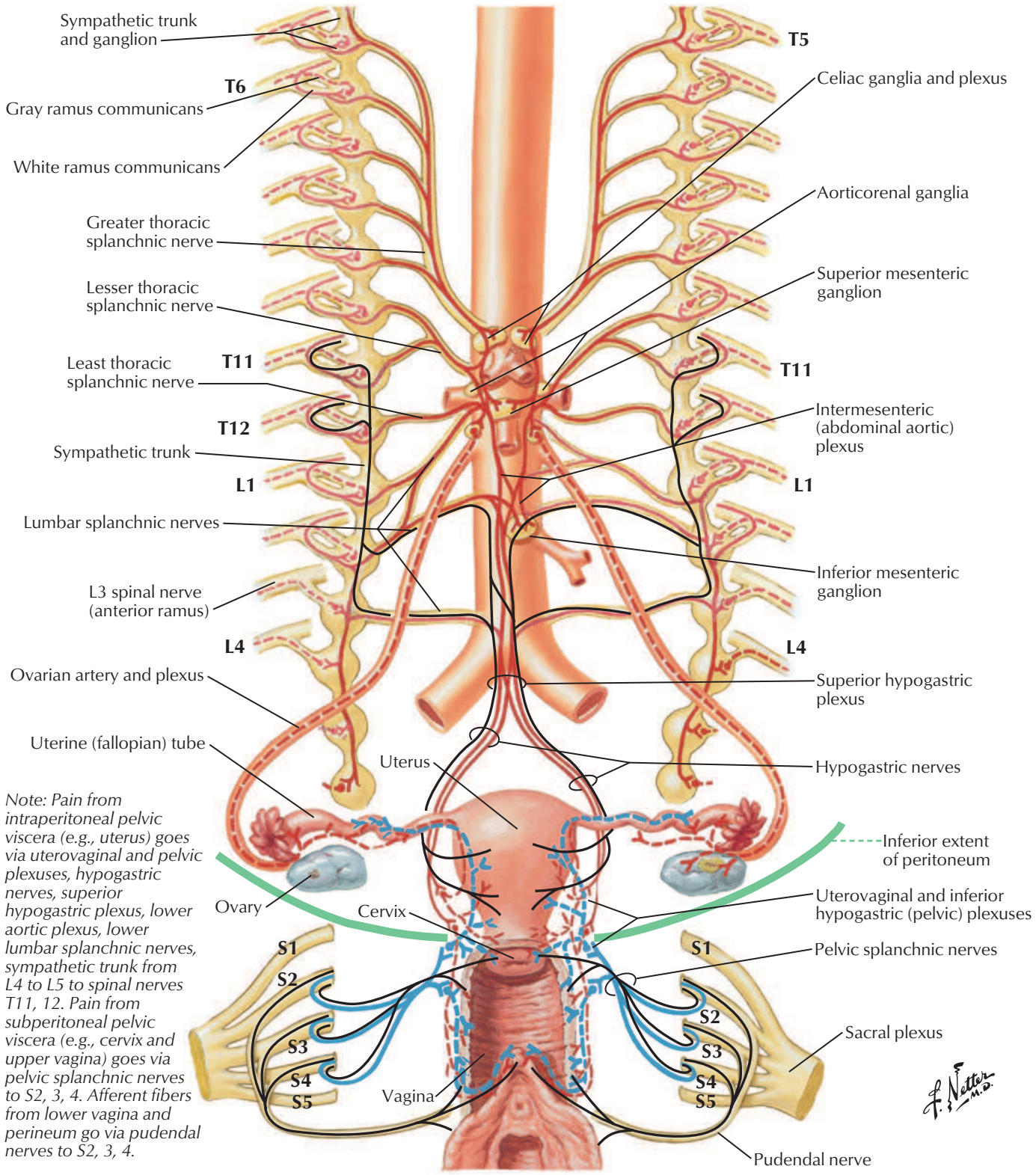
Motor fibers to lower uterine segment, cervix, and upper vagina (parasympathetic)

Sensory fibers from lower vagina and perineum accompany somatic fibers via pudendal nerve to S2, 3, 4

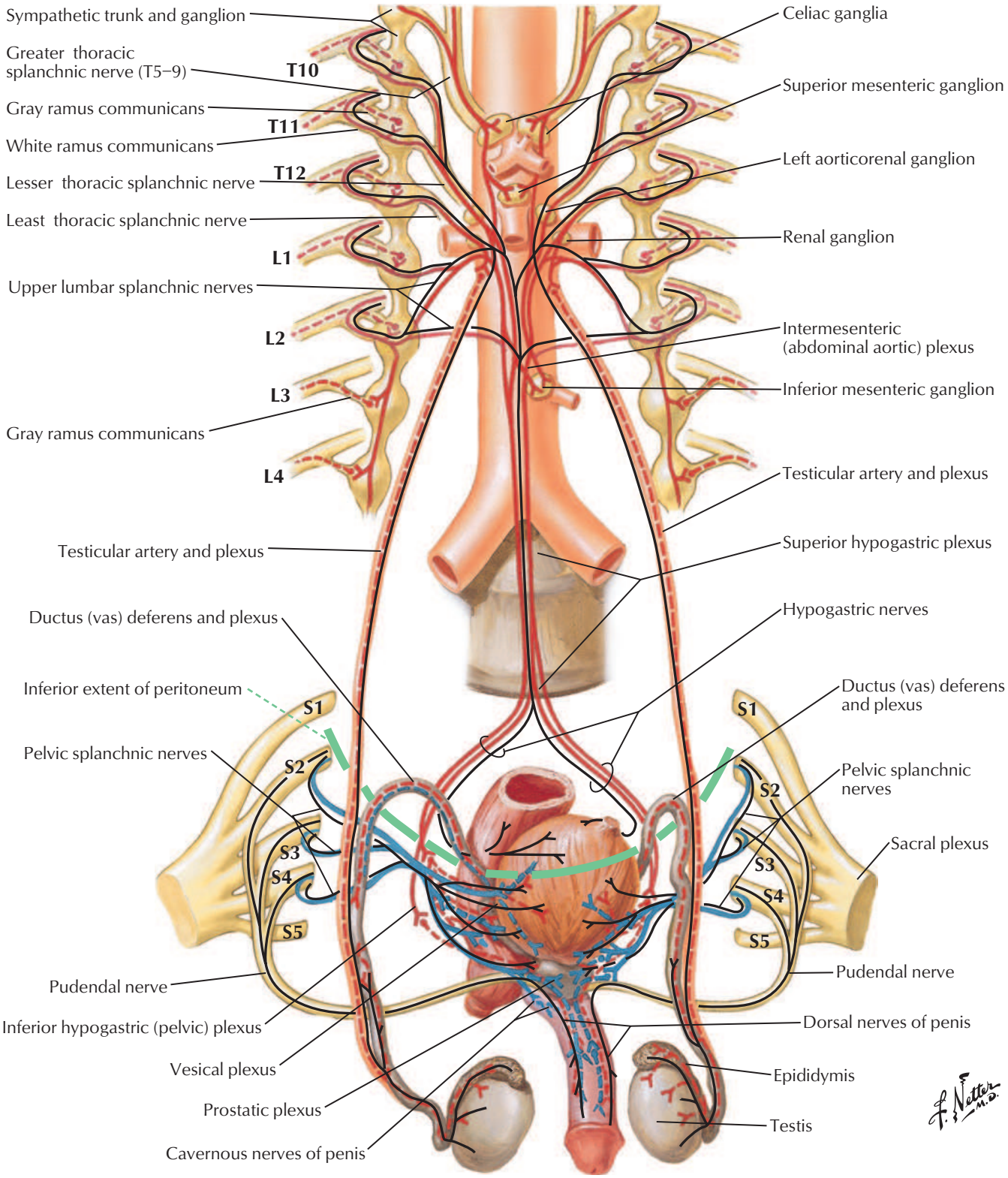
Motor fibers to lower vagina and perineum via pudendal nerve (somatic)

www.Booksmedicos06.com

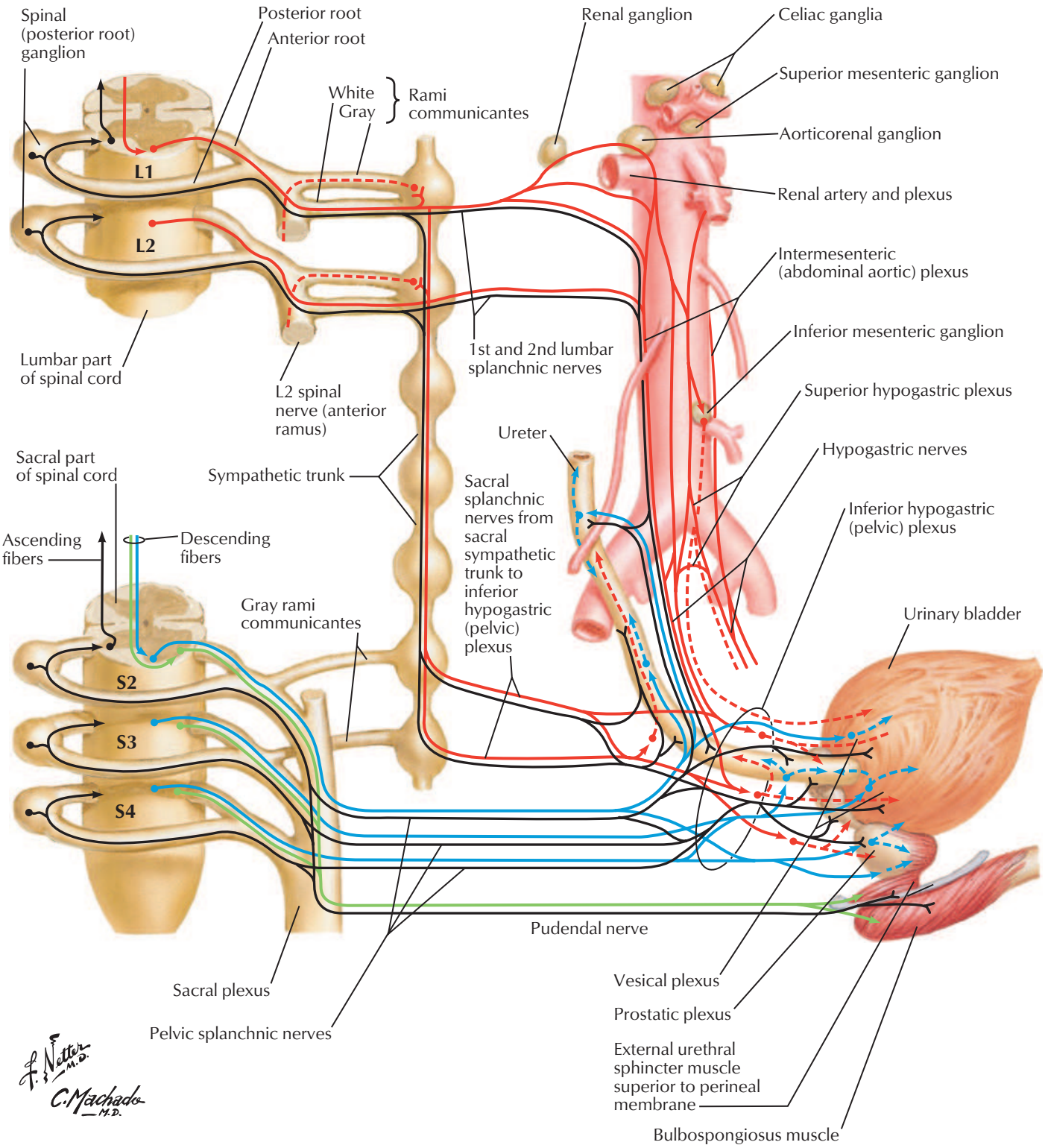
////// facebook : Booksmedi.cos06



Note: Pain from intraperitoneal pelvic viscera (e.g., uterus) goes via uterovaginal and pelvic plexuses, hypogastric nerves, superior hypogastric plexus, lower aortic plexus, lower lumbar splanchnic nerves, sympathetic trunk from L4 to L5 to spinal nerves T11, 12. Pain from subperitoneal pelvic viscera (e.g., cervix and upper vagina) goes via pelvic splanchnic nerves to S2, 3, 4. Afferent fibers from lower vagina and perineum go via pudendal nerves to S2, 3, 4.



www.Booksmedicos06.com



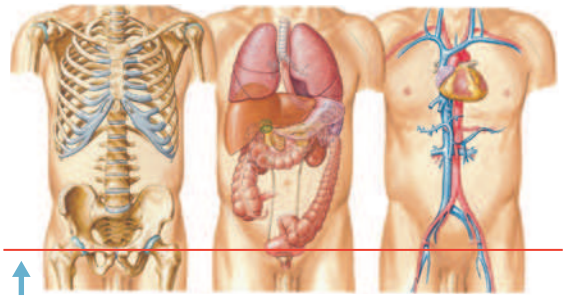
Sympathetic fibers { **Preganglionic** —— **Postganglionic** - - - -

Parasympathetic fibers { **Preganglionic** —— **Postganglionic** - - - -

Somatic efferent fibers ——

Afferent fibers ——

////// facebook : Booksmedicos06

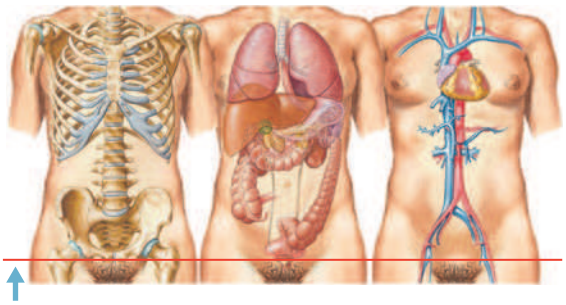


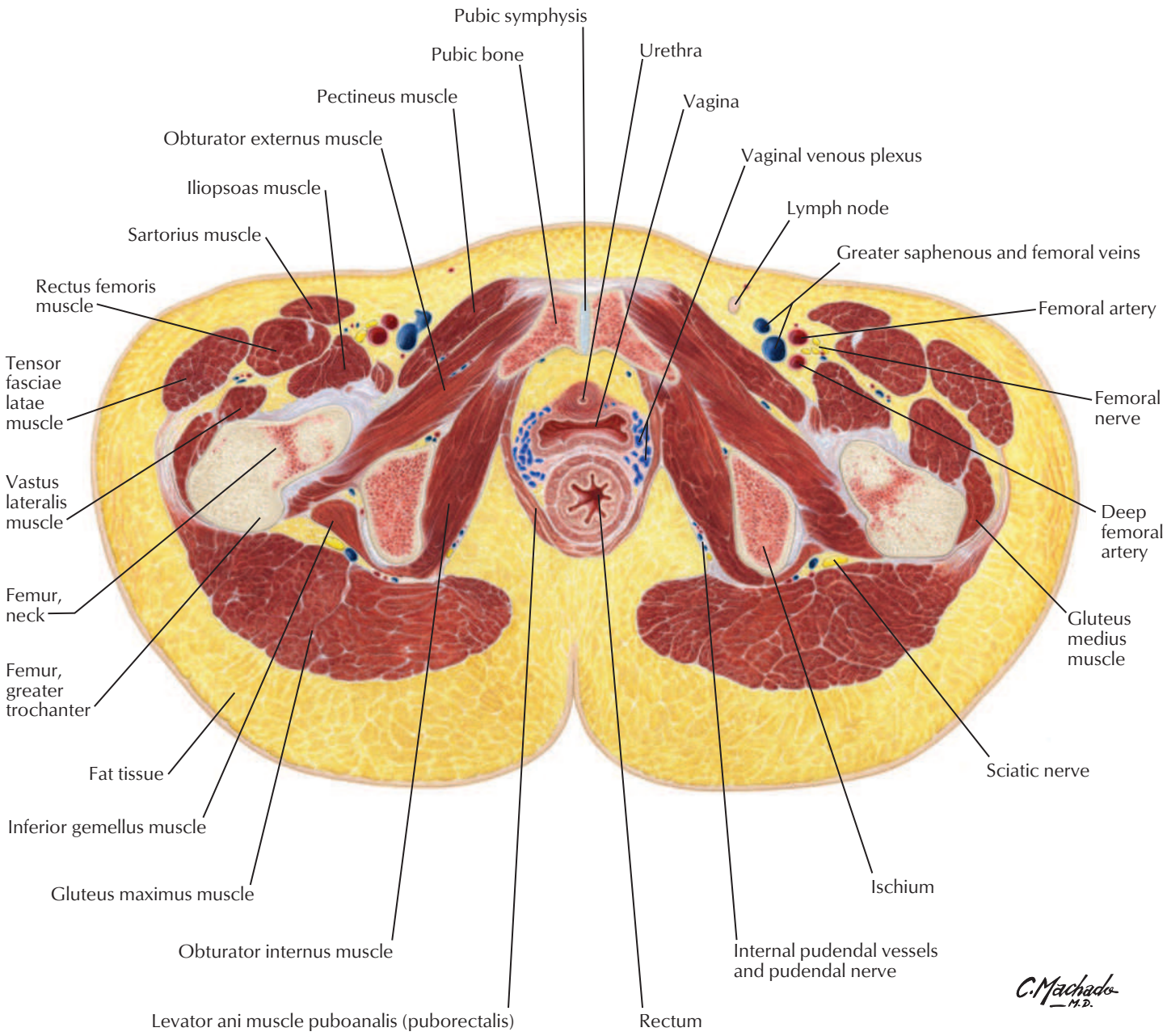
Superior portion of pubic symphysis
Interior of urinary bladder
Adductor longus muscle
Beginning of urethra
Body of pubis
Spermatic cord
Pectineus muscle
Prostate gland
Femoral vein
Psoas muscle and tendon
Femoral artery
Iliacus muscle
Femoral nerve
Head of femur
Sartorius muscle
Neck of femur
Iliopsoas muscle
Gluteus medius muscle
Rectus femoris muscle
Tensor fasciae latae muscle
Gluteus minimus tendon
Obturator artery, vein, and nerve
Greater trochanter
Acetabular fossa
Lunate (articular) surface of acetabulum
Inferior gemellus muscle
Right sciatic nerve
Left sciatic nerve
Gluteus maximus muscle
Internal pudendal artery and vein
Obturator internus muscle
Pudendal nerve
Sacrotuberous ligament
Openings of ejaculatory ducts (in prostatic urethra)
Fat body of ischioanal fossa
Levator ani muscle puboanalis (puborectalis)
Anorectal flexure (termination of rectum, beginning of anal canal)
Tip of coccyx

C. Machado M.D.

www.Booksmedicos06.com

/////// facebook : Booksmedicos06





ANATOMICAL STRUCTURES	CLINICAL IMPORTANCE	PLATE NUMBERS
SKELETAL SYSTEM		
Pubic symphysis	Palpable landmark used to obtain pelvic measurements (e.g., diagonal conjugate) that are used to assess adequacy of pelvis for childbirth; during prenatal examinations, used for estimating fetal growth (symphysis–fundal height measurement)	336
Ischial spine	Palpable landmark used to estimate interspinous diameter for childbirth and to locate pudendal nerve for pudendal nerve block	336
Ischial tuberosity	Palpable landmark used to estimate width of pelvic outlet for childbirth	336
Superior pubic ramus	Often fractured by compression of pelvis in anteroposterior plane by crush injury	338
Ischial spine	Pudendal nerve blocks target pudendal nerve at its entry into lesser sciatic foramen, approximately 1 cm inferior and medial to attachment of sacrospinous ligament on ischial spine	384, 393
MUSCULAR SYSTEM		
Pelvic diaphragm (levator ani and coccygeus muscles)	Provides support to urethrovesical angle, helping to maintain urinary continence; weakness or injury during childbirth can lead to stress incontinence in women	340, 351
Endopelvic fascia	Weakness or tearing of endopelvic fascial ligaments (e.g., pubovesical or cardinal ligaments) facilitates prolapse of pelvic organs	350, 353
Perineal body	Tearing of perineal body can lead to prolapse of pelvic organs or loss of continence	360
DIGESTIVE SYSTEM		
Rectum	Examined by digital rectal examination to detect internal hemorrhoids, fecal impaction, and rectal cancer; provides access to colon for colonoscopy	373, 375
Peritoneum	Common site for metastatic spread of ovarian cancer via peritoneal fluid in peritoneal cavity	344, 345
URINARY SYSTEM		
Urinary bladder	Landmark used to identify structures of pelvis during ultrasound examination	349, 350
Ureter	May be injured during hysterectomy because of its close relationship to uterine artery	346, 347
REPRODUCTIVE SYSTEM		
Rectouterine pouch (of Douglas)	Region examined with ultrasound to detect presence of abdominal or pelvic fluid; common site of ectopic pregnancy; may be accessed via posterior vaginal fornix	345, 346
Uterus	Palpated during prenatal examinations to assess fetal growth and during pelvic examinations; examined with ultrasound to detect abnormalities (e.g., fibroids)	345, 355
Cervix of uterus	Epithelium of transformation zone of cervix is prone to dysplasia and malignancy; cells are sampled from this region during pap examination	353, 355
Vagina	Posterior vaginal fornix allows access to rectouterine pouch of Douglas	345
Prostate gland	Prone to benign hypertrophy with aging; prostate cancer is second most common cancer in men	349, 366

www.Booksmedicos06.com

////// facebook : Booksmedicos06

ANATOMICAL STRUCTURES	CLINICAL IMPORTANCE	PLATE NUMBERS
REPRODUCTIVE SYSTEM—Continued		
Ovary	Examined with ultrasound to identify cysts or for oocyte collection	344, 355
Ductus (vas) deferens	Ligated during vasectomy for sterilization in males	349, 369
NERVOUS SYSTEM		
Pudendal nerve	Pudendal block is performed to anesthetize perineum for childbirth or minor surgical procedures in perineum	395
Inferior rectal nerve	Anesthetized in ischioanal fossa for surgical excision of external hemorrhoids	393
Prostatic plexus/cavernous nerves	Disruption of these nerves during procedures (e.g., prostate surgery) can produce inability to achieve erection	392
CARDIOVASCULAR SYSTEM		
Pampiniform venous plexus	Dilation can cause testicular varicocele, most commonly on left side due to differences in drainage pattern of right and left gonadal veins	369
Uterine artery	Ligated or cauterized during hysterectomy; embolization is performed to treat uterine fibroids	382, 386
Arteries of penis (deep, dorsal), cavernous tissue	Blockage or loss of vascular smooth muscle function can lead to erectile dysfunction	387
Internal iliac veins	Provide communication between prostatic venous plexus and veins draining vertebral column, which is route of spread for prostate cancer	385
Rectal veins (superior, middle, inferior)	Portal hypertension may cause dilated rectal veins (hemorrhoids) because portosystemic anastomoses develop between rectal veins	381, 299
LYMPHATIC SYSTEM		
Pelvic and paraaortic (lateral aortic, lumbar) lymph nodes	Spread of ovarian cancer cells via venous drainage to inferior vena cava and lungs and via lymphatics	388
Paraaortic and tracheobronchial lymph nodes	Prostate cancer cells may spread via lymphatics	390
Preaortic and paraaortic (lateral aortic, lumbar) lymph nodes	Receive lymphatic drainage from ovary, uterine tube, and uterine fundus in women and from testis in men; cancers in these organs may therefore spread to retroperitoneum	388, 390
Pelvic lymph nodes	Lymph node sampling or dissection is performed to assess spread of gynecologic malignancies	388

*Selections were based largely on clinical data as well as commonly covered clinical correlations in gross anatomy courses.

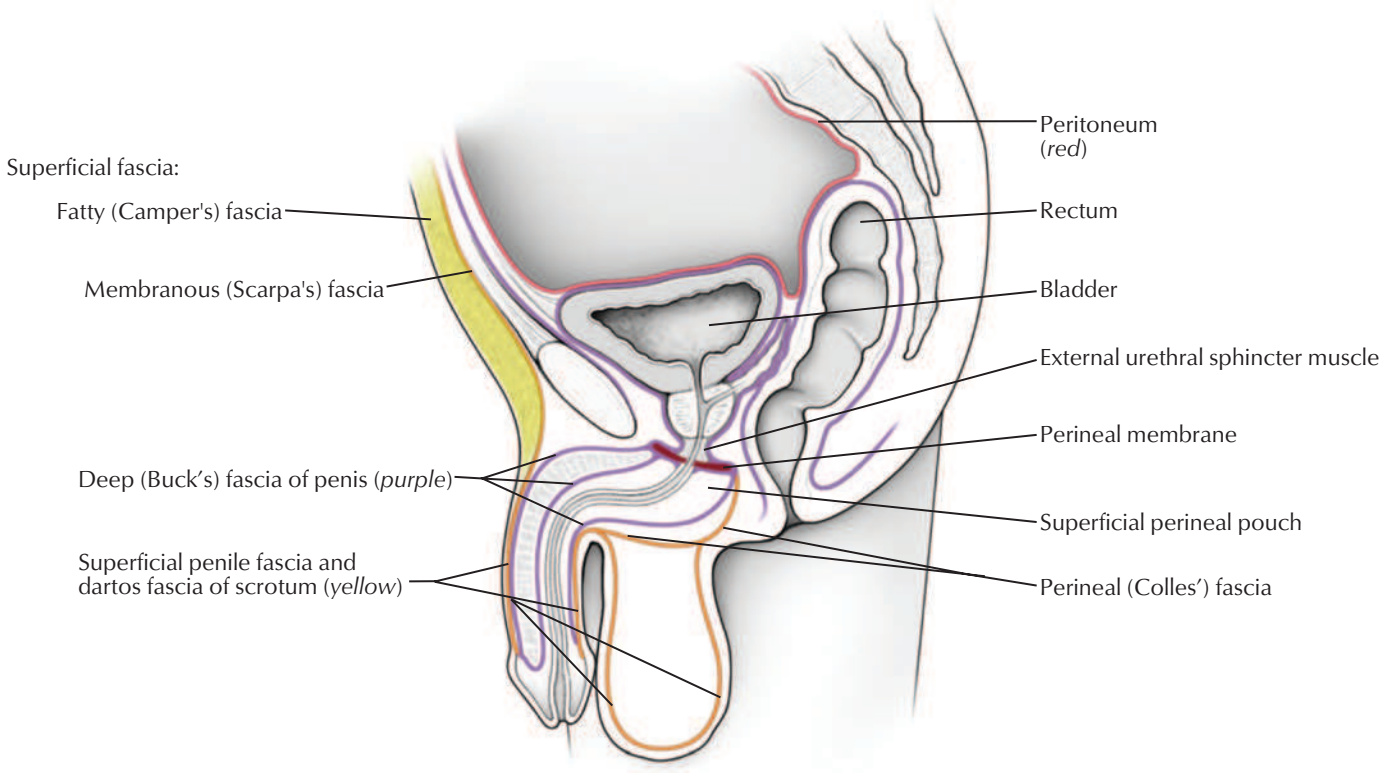
MUSCLE	MUSCLE GROUP	PROXIMAL ATTACHMENT (ORIGIN)	DISTAL ATTACHMENT (INSERTION)	INNERVATION	BLOOD SUPPLY	MAIN ACTIONS
Bulbospongiosus	Perineal	*Male:* median raphe, bulb of penis, perineal body *Female:* perineal body	*Male:* perineal membrane, corpus cavernosum, bulb of penis *Female:* dorsum of clitoris, inferior fascia of urogenital diaphragm, bulb of vestibule, pubic arch	Deep branch of perineal nerve from pudendal nerve	Internal pudendal artery and its branch (perineal artery)	*Male:* compresses bulb of penis, forces blood into body of penis during erection, removes urine from urethra and semen during ejaculation *Female:* constricts vaginal orifice, assists in expressing secretions of greater vestibular gland, forces blood into body of clitoris
Coccygeus	Pelvic floor	Ischial spine, sacrospinous ligament	Inferior sacrum, coccyx	Anterior rami of lower sacral nerves	Inferior gluteal artery	Supports pelvic viscera, draws coccyx forward
Compressor urethrae (female only)	Perineal	Ischiopubic ramus	Anterior aspect of urethra	Perineal branches of pudendal nerve	Perineal branch of internal pudendal artery	Sphincter of urethra
Cremaster	Spermatic cord	Lower edge of internal abdominal oblique and middle of inguinal ligament	Pubic tubercle, crest of pubis	Genital branch of genitofemoral nerve	Cremasteric branch of inferior epigastric artery	Retracts testicle
Deep transverse perineal	Perineal	Inner surface of inferior ischial rami	*Male:* medial tendinous raphe and perineal body *Female:* sides of vagina	Perineal branches of pudendal nerve	Perineal branch of internal pudendal artery	Stabilizes perineal body, supports prostate gland/ vagina
External anal sphincter	Perineal	Tip of coccyx, anococcygeal ligament	Deeper fibers surround anal canal, attach posteriorly to coccyx and anteriorly to central point of perineum	Perineal and inferior rectal branches of pudendal nerve	Inferior rectal and transverse perineal artery	Closes anal orifice
Iliacus	Anterior thigh	Superior 2/3 of iliac fossa, ala of sacrum, anterior sacroiliac ligaments	Lesser trochanter of femur and body inferior to it, to psoas major tendon	Femoral nerve	Iliac branches of iliolumbar artery	Flexes thigh at hips and stabilizes hip joint, acts with psoas major
Ischiocavernosus	Perineal	Inferior internal surface of ischiopubic ramus, ischial tuberosity	Crus of penis or clitoris	Deep branch of perineal nerve from pudendal nerve	Internal pudendal artery and its branch (perineal artery)	Forces blood into body of penis and clitoris during erection
Levator ani (iliococcygeus, pubococcygeus, and puboanalis)	Pelvic floor	Body of pubis, tendinous arch of obturator fascia, ischial spine	Perineal body, coccyx, anococcygeal raphe, walls of prostate gland or vagina, rectum, anal canal	Anterior rami of lower sacral nerves, perineal nerve	Inferior gluteal artery, internal pudendal artery and its branches (inferior rectal and perineal arteries)	Supports pelvic viscera, raises pelvic floor
Obturator internus	Gluteal region	Pelvic surface of obturator membrane and surrounding bone	Medial surface of greater trochanter of femur	Nerve to obturator internus muscle	Internal pudendal and obturator arteries	Laterally rotates extended thigh, abducts flexed thigh at hip
Piriformis	Gluteal region	Anterior surface of sacral segments 2–4, sacrotuberous ligament	Superior border of greater trochanter of femur	Anterior rami of L5, S1, S2	Superior and inferior gluteal arteries, internal pudendal artery	Laterally rotates extended thigh, abducts flexed thigh at hip

Variations in spinal nerve contributions to the innervation of muscles, their arterial supply, their attachments, and their actions are common themes in human anatomy. Therefore, expect differences between texts and realize that anatomical variation is normal.

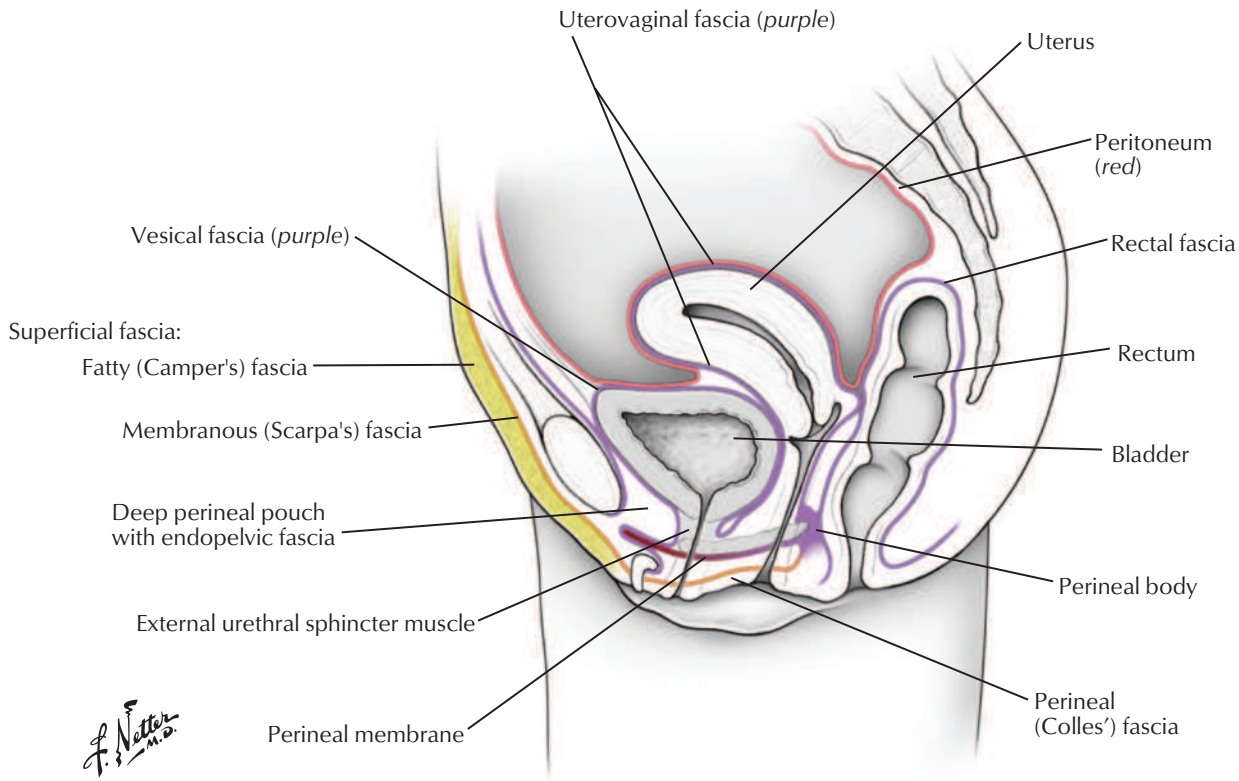
www.Booksmedicos06.com

////// facebook : Booksmedicos06

MUSCLE	MUSCLE GROUP	PROXIMAL ATTACHMENT (ORIGIN)	DISTAL ATTACHMENT (INSERTION)	INNERVATION	BLOOD SUPPLY	MAIN ACTIONS
Sphincter urethrae	Perineal	External fibers from junction of inferior pubic and ischial rami and adjacent fascia; internal fibers pass medially to surround membranous urethra	*Male:* median raphe in front and behind urethra *Female:* encloses urethra, attaches to sides of vagina	Perineal branches of pudendal nerve	Perineal branch of internal pudendal artery	Compresses urethra at end of micturition; in female also compresses distal vagina
Sphincter urethrovaginalis (female only)	Perineal	Perineal body	Passes forward and anteriorly around urethra	Perineal branches of pudendal nerve	Perineal branch of pudendal artery	Sphincter of urethra and vagina
Superficial transverse perineal	Perineal	Ischial rami and tuberosities	Central tendon (perineal body)	Perineal branches of pudendal nerve	Perineal branch of internal pudendal artery	Stabilizes central tendon

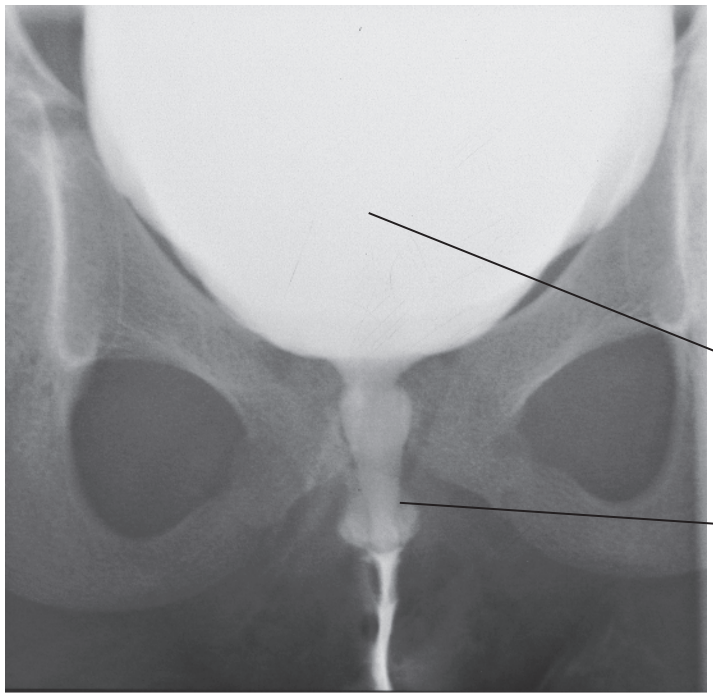


Median section of male

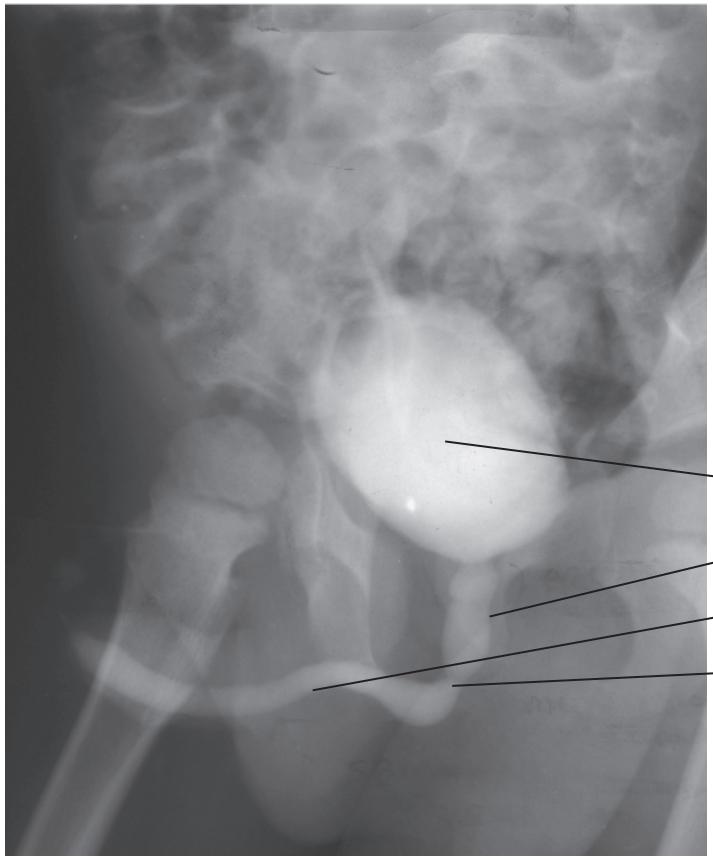


Median section of female

www.Booksmedicos06.com

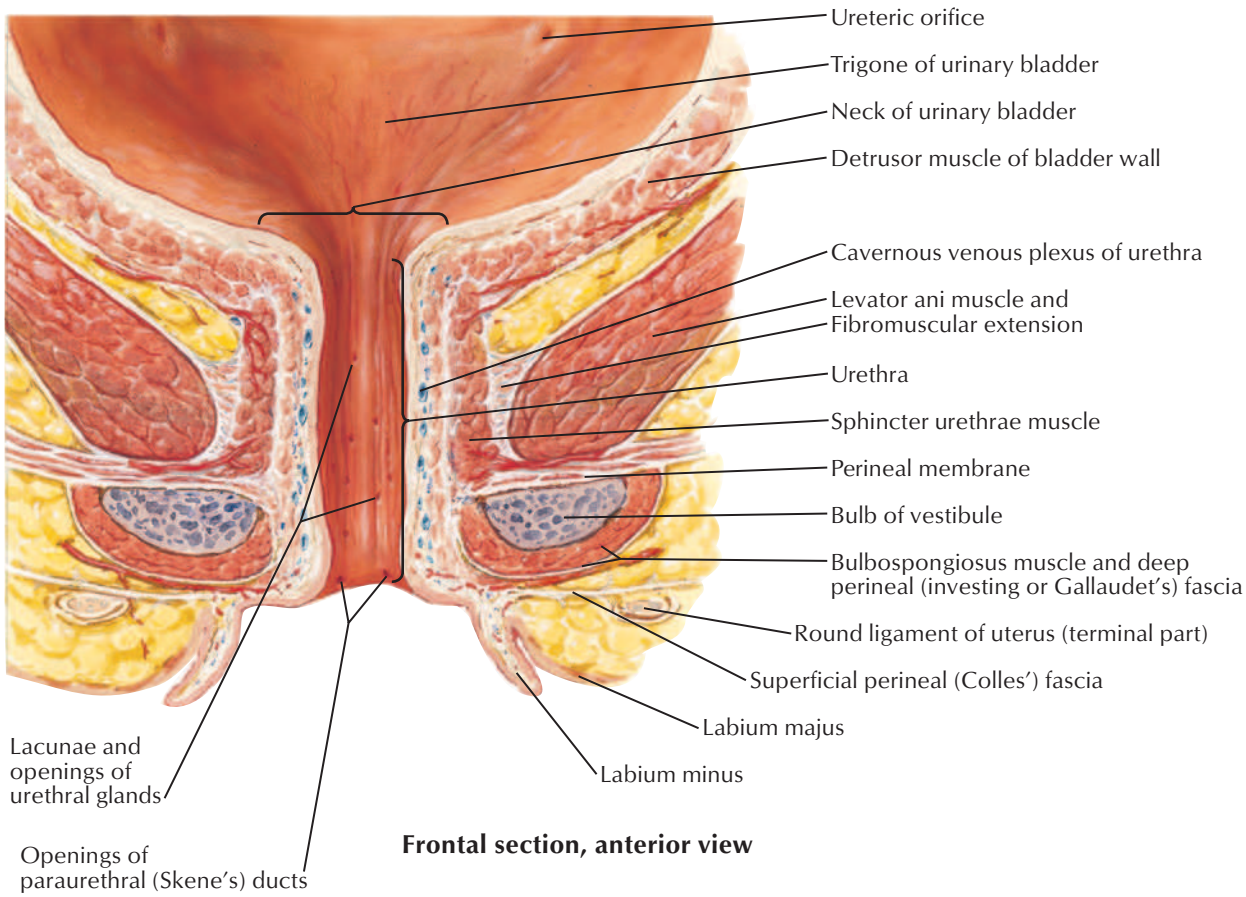


Cystourethrogram of urethra in 8-year-old girl

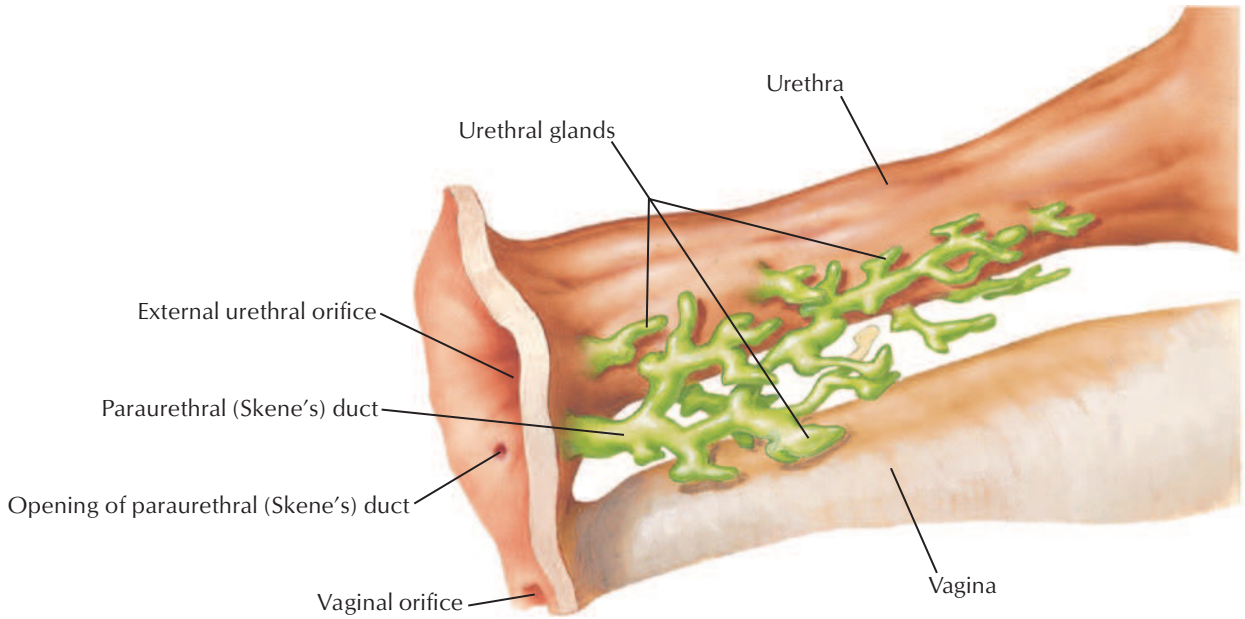


Voiding cystourethrogram in 2-year-old boy

////// facebook : Booksmedicos06



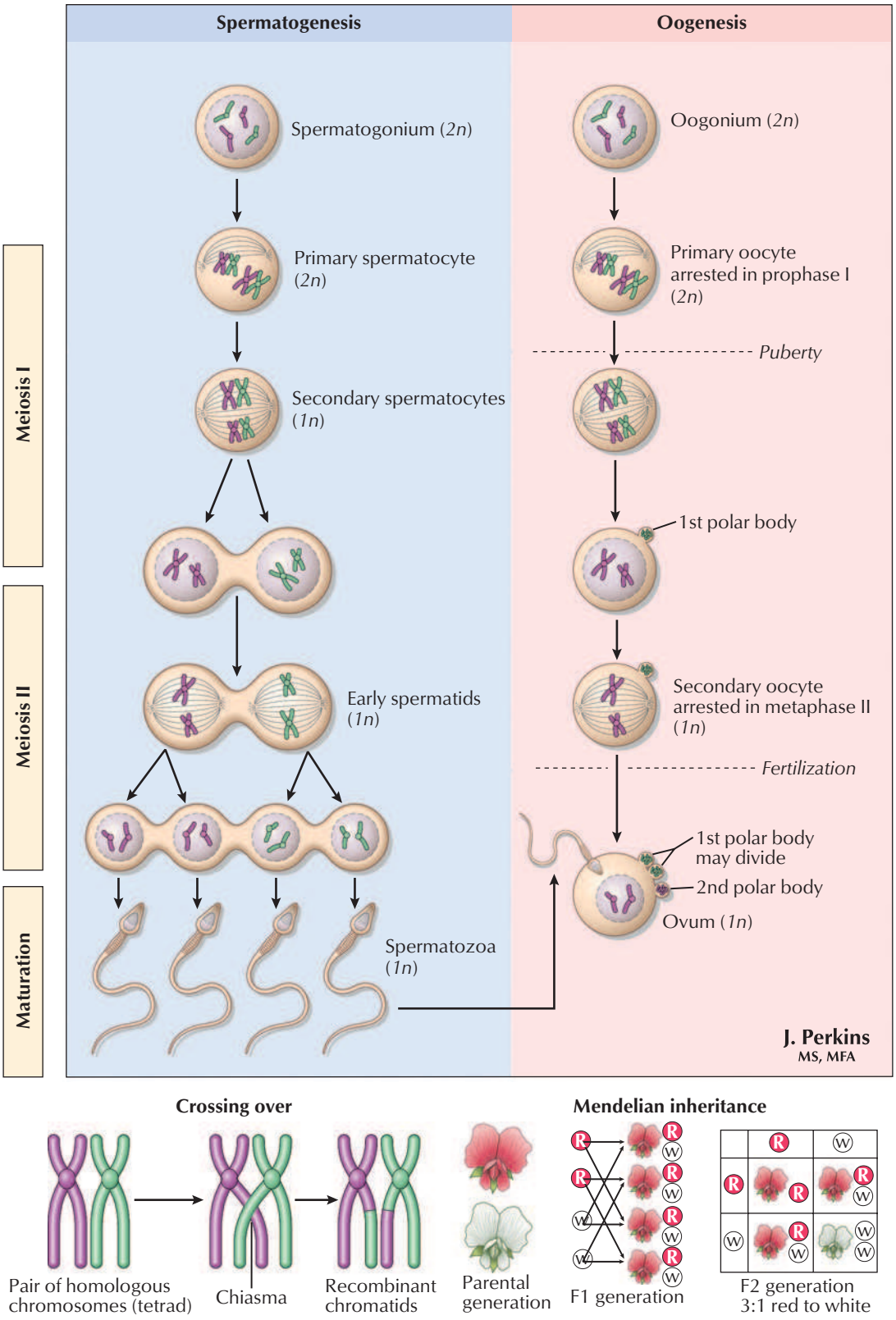
Frontal section, anterior view



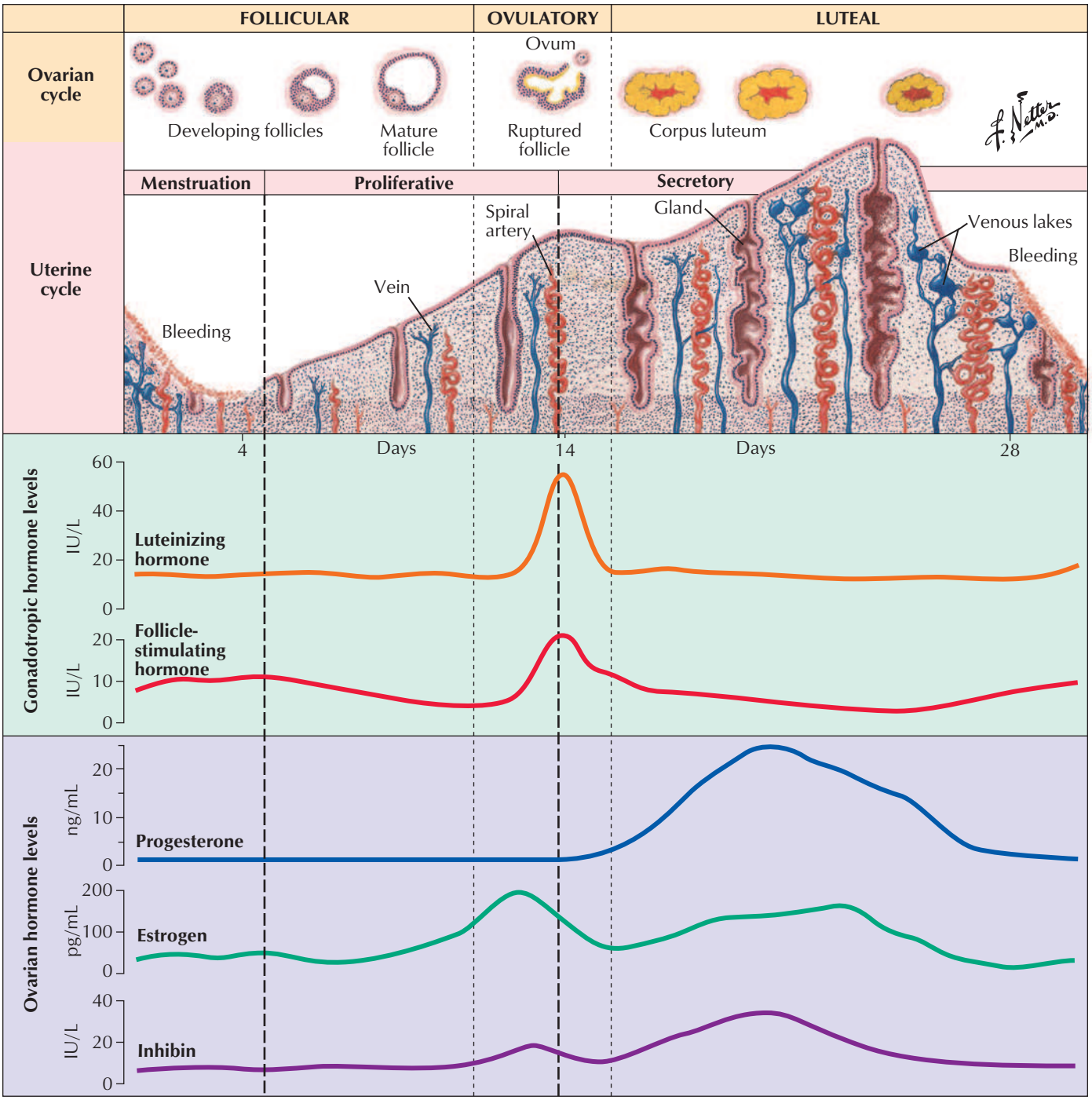
F. Netter M.D.
C. Machado M.D.

Schematic reconstruction

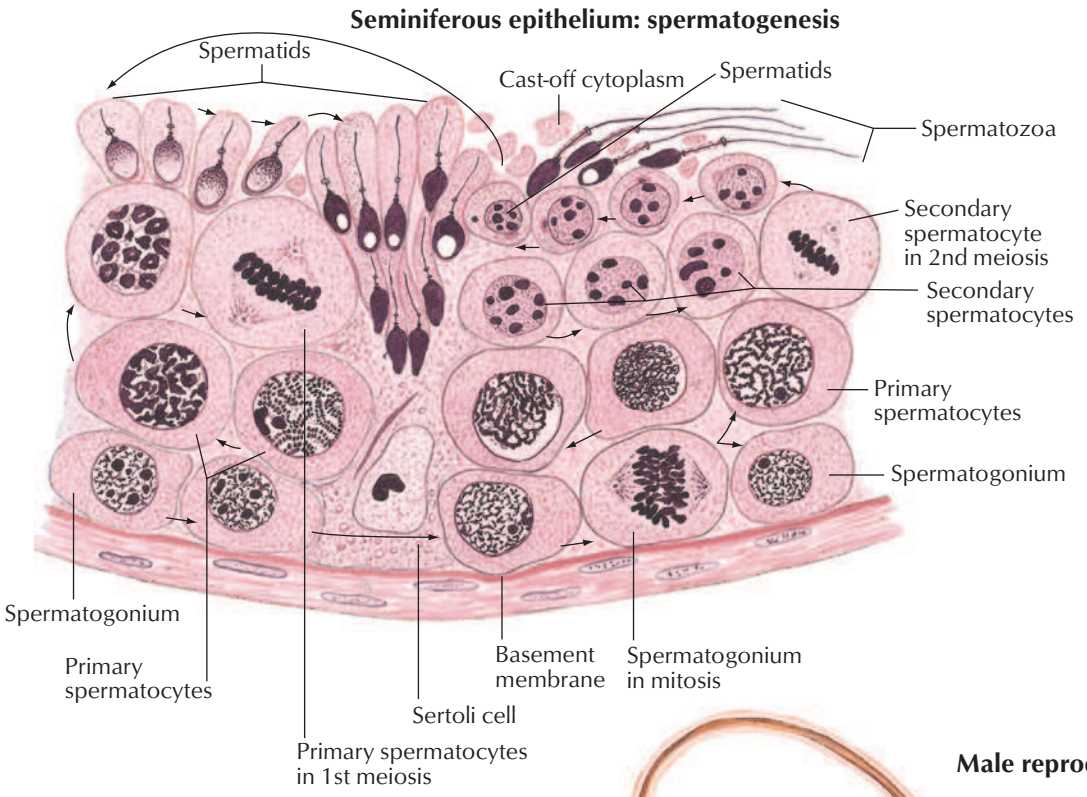
www.Booksmedicos06.com

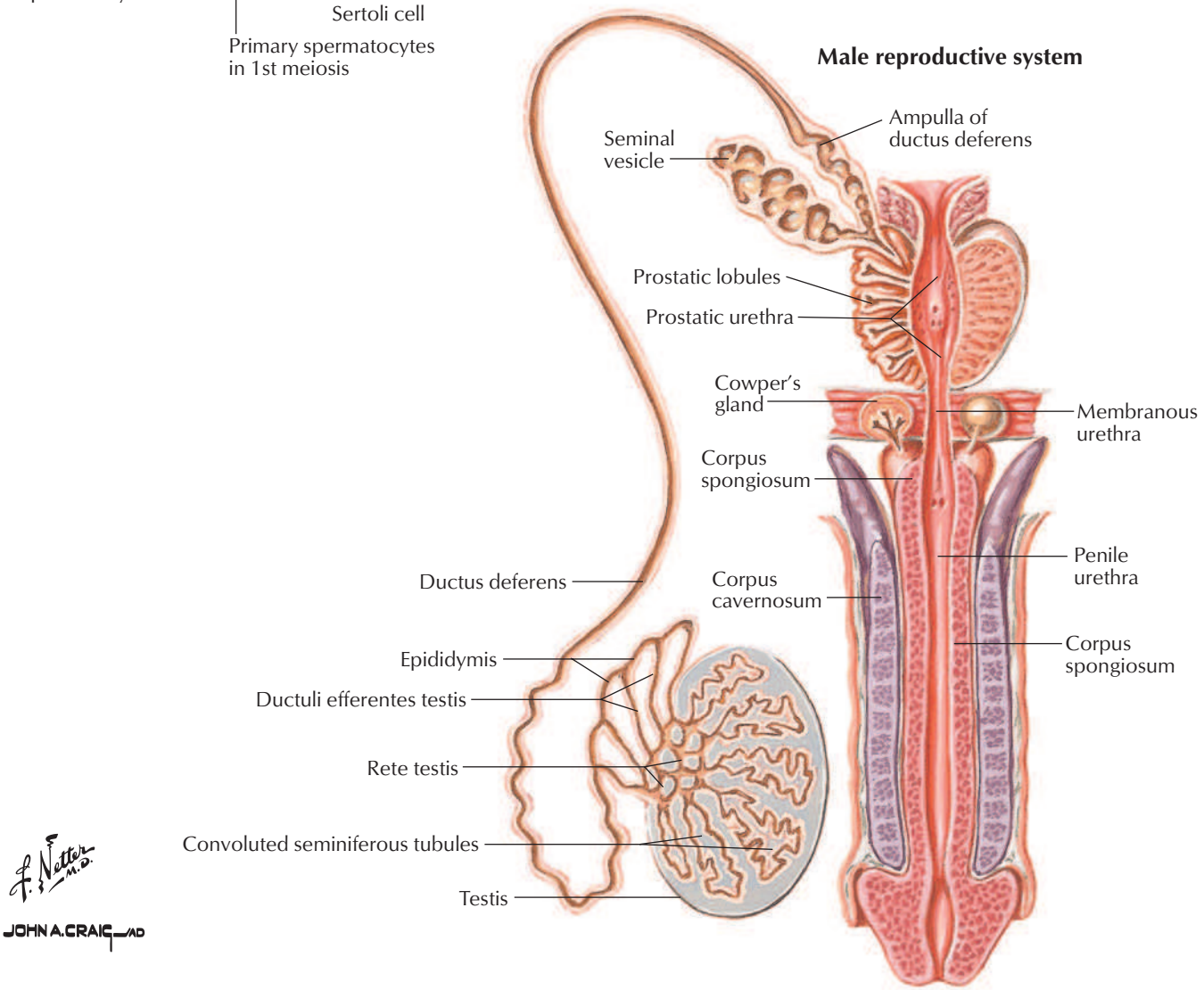


////// facebook : Booksmedicos06

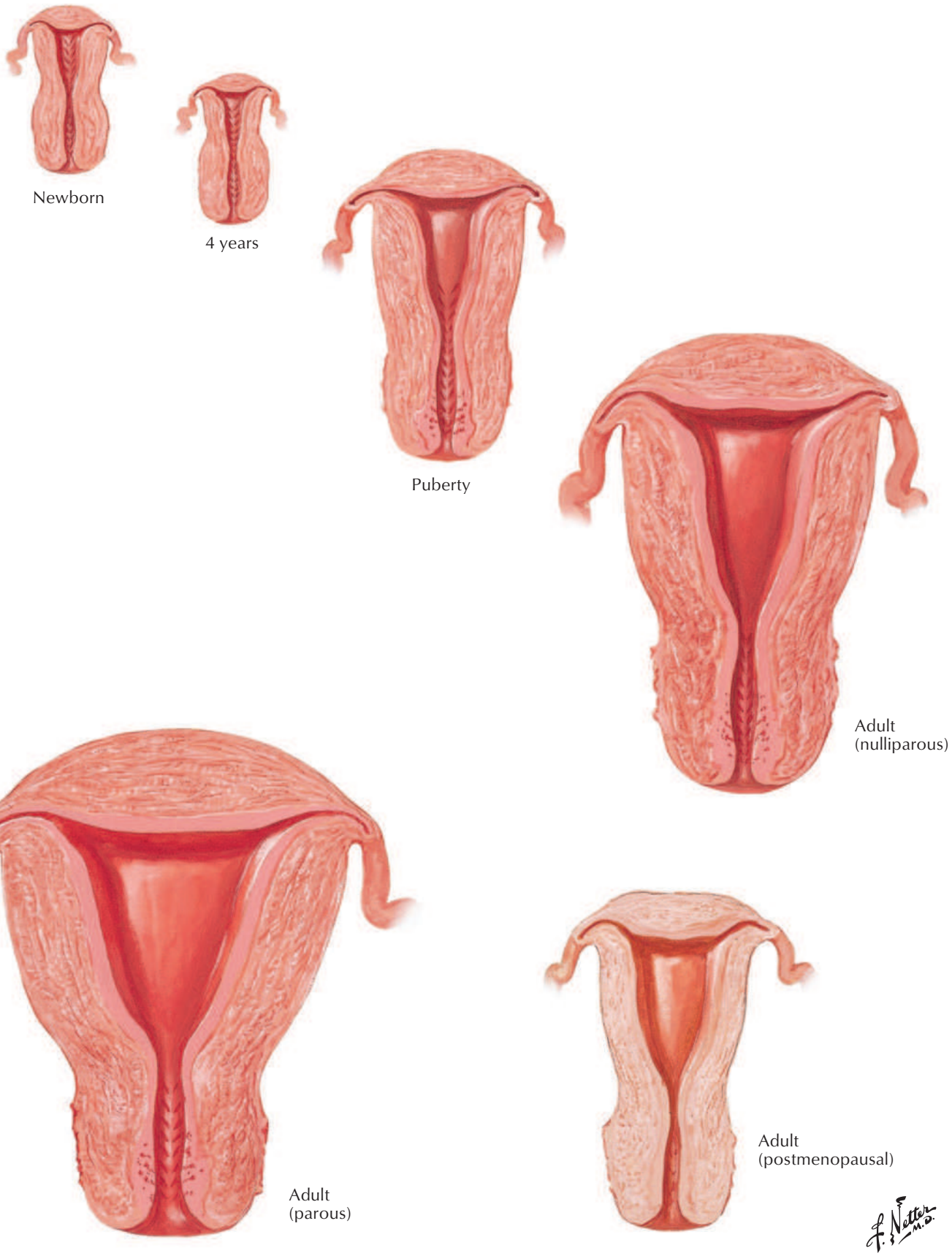


www.Booksmedicos06.com

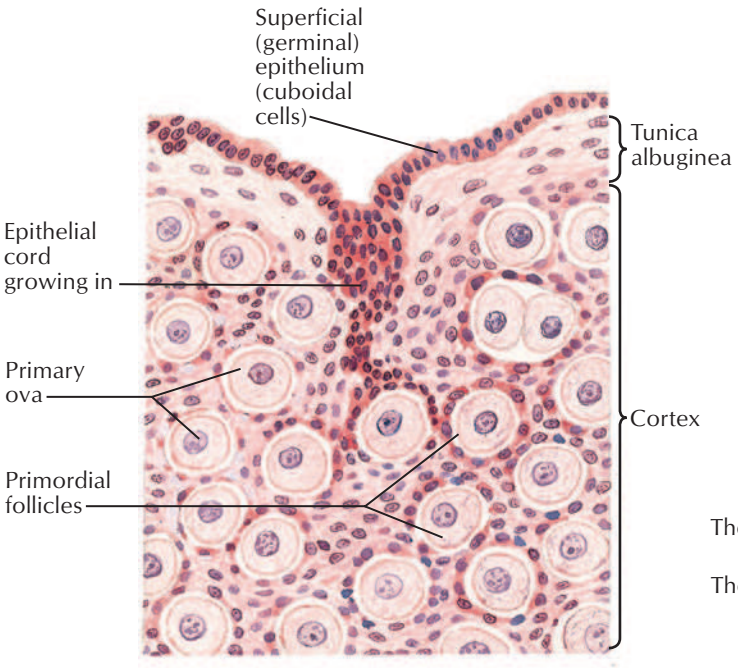




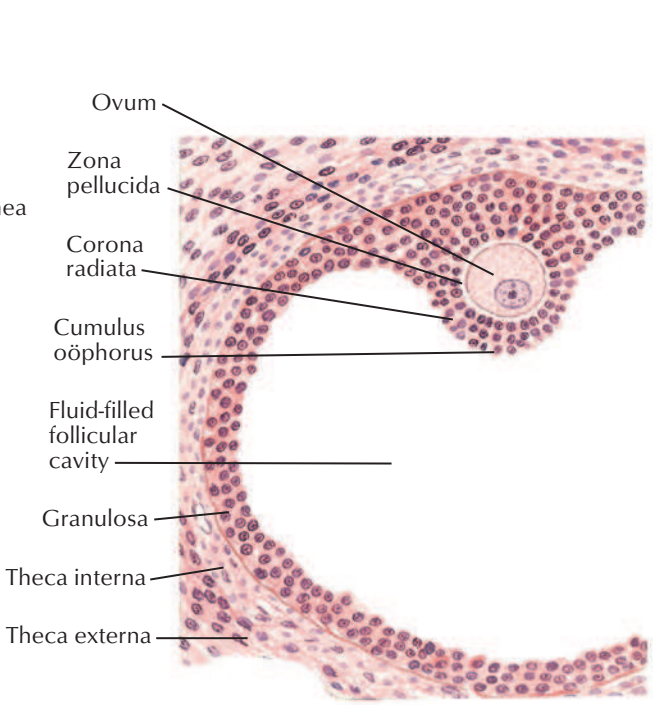
////// facebook : Booksmedicos06



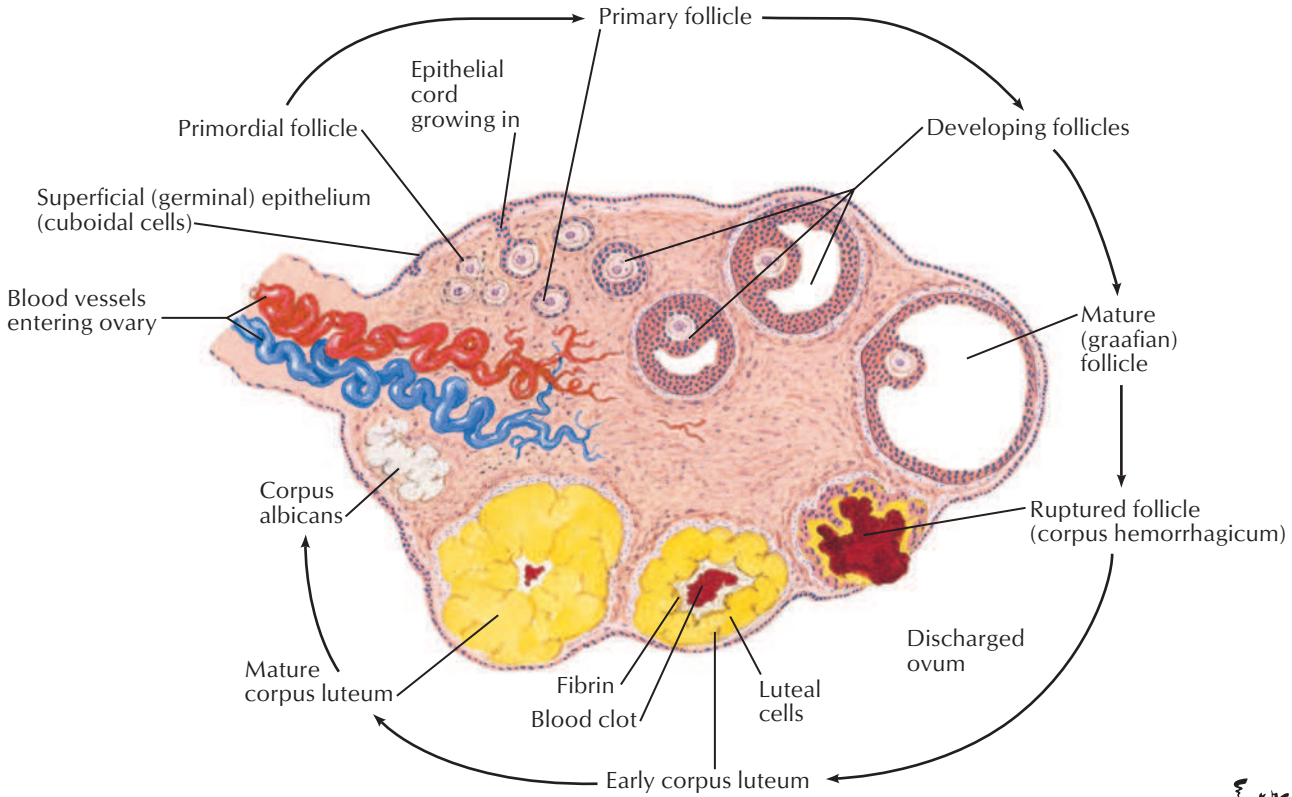
www.Booksmedicos06.com



Infant ovary



Ripening follicle



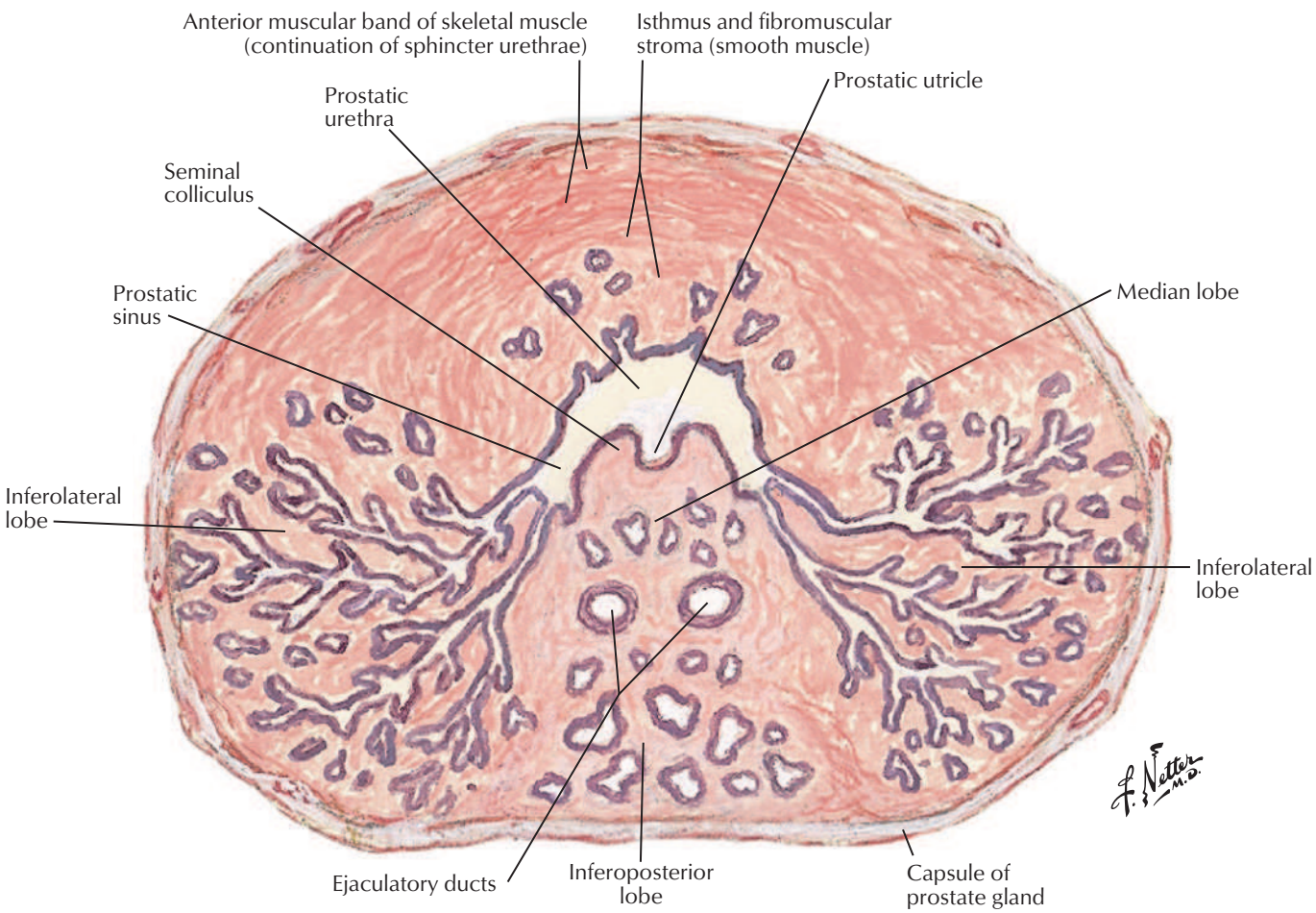
Stages of ovum and follicle

////// facebook : Booksmedicos06



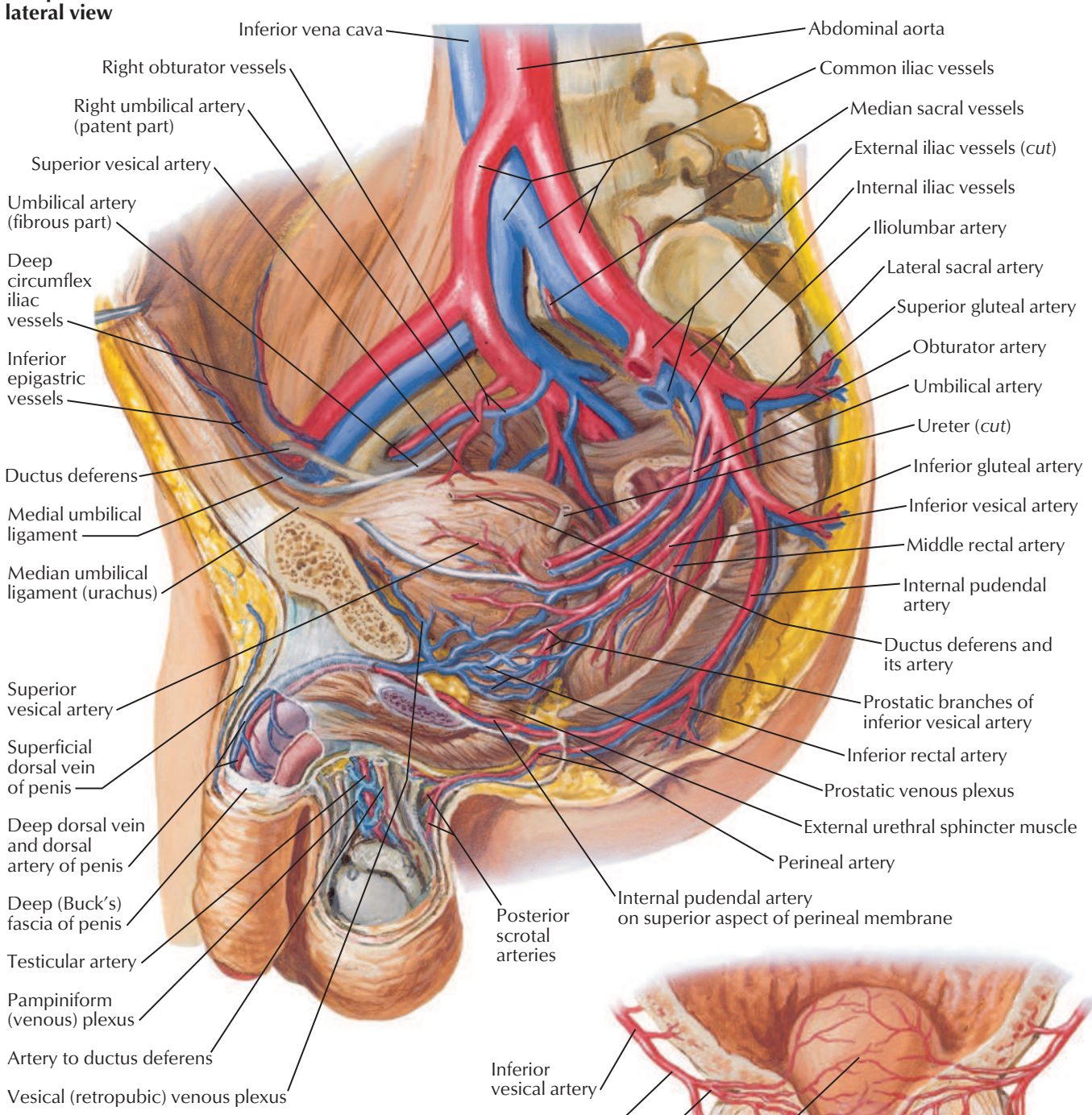
Annular hymen | Septate hymen | Cribriform hymen | Parous introitus

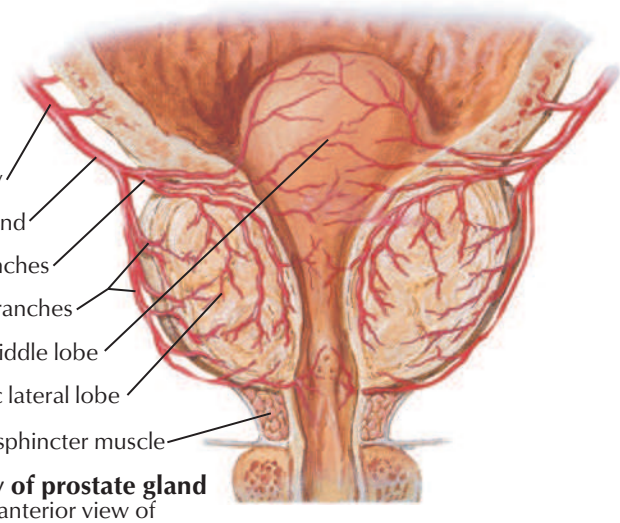
www.Booksmedicos06.com ////////



/////// facebook : Booksmedicos06

Left paramedian section: lateral view





Arterial supply of prostate gland
(frontal section, anterior view of specimen with benign hyperplasia)

F. Netter M.D.
C. Machado M.D.

www.Booksmedicos06.com

This page intentionally left blank

/////// facebook : Booksmedicos06

UPPER LIMB 7

Surface Anatomy	402	**Neurovasculature**	462-469
Cutaneous Anatomy	403-407	**Regional Imaging**	470
Shoulder and Axilla	408-420	**Structures With High Clinical Significance**	Tables 7.1-7.2
Arm	421-425	**Muscle Tables**	Tables 7.3-7.6
Elbow and Forearm	426-441	**Electronic Bonus Plates**	BP99-BP106
Wrist and Hand	442-461		

ELECTRONIC BONUS PLATES



BP99 Veins of Upper Limb



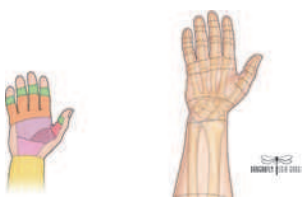
BP100 Arteries of Arm and Proximal Forearm



BP101 Arteries of Forearm and Hand



BP102 Ligaments of Wrist



BP103 Flexor and Extensor Zones of Hand



BP104 Section Through Metacarpal and Distal Carpal Bones



BP105 Cross Section of Hand: Axial View

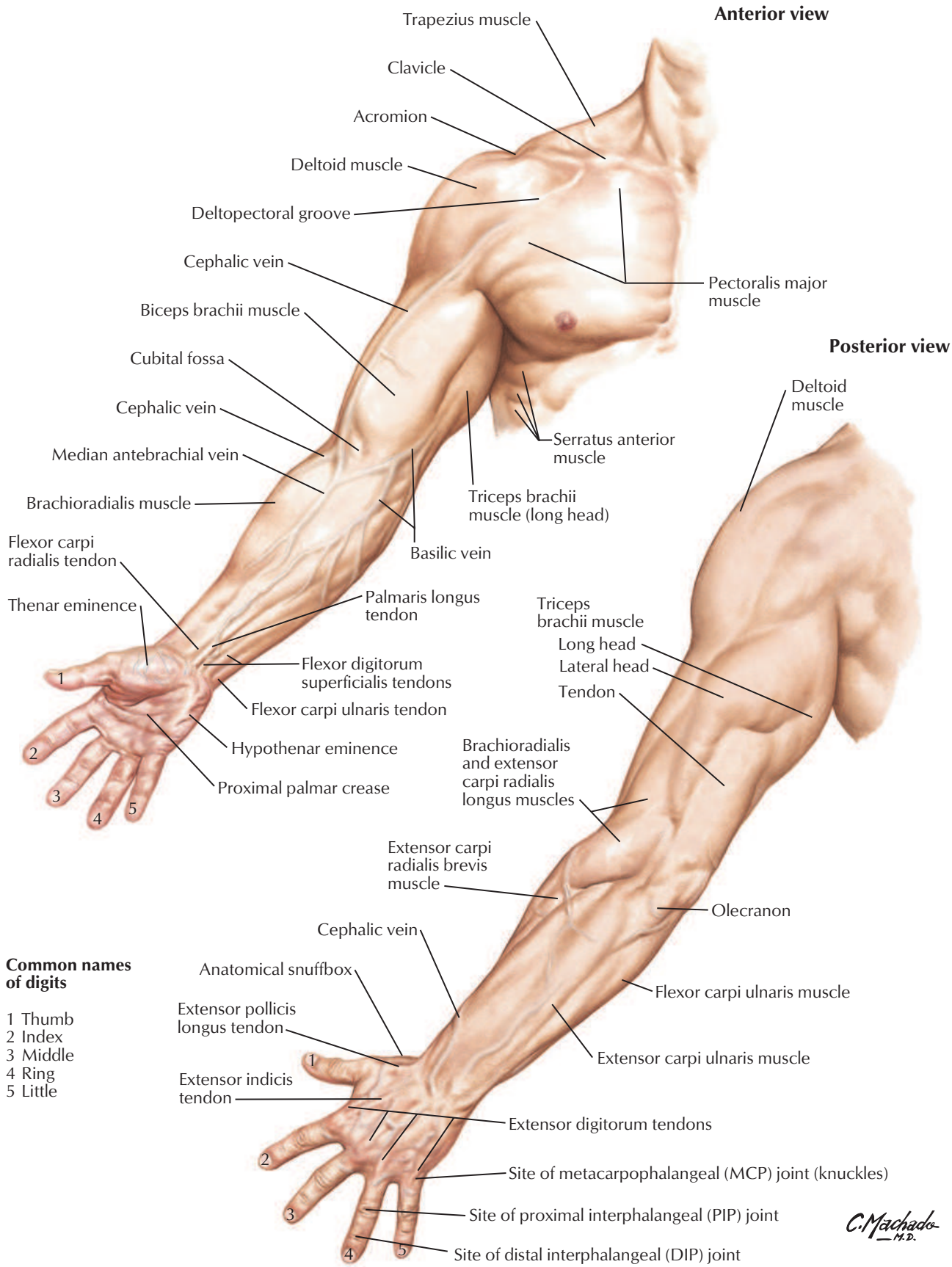


BP106 Cross Section of Hand: Axial View (continued)

www.Booksmedicos06.com

/////// facebook : Booksmedicos06

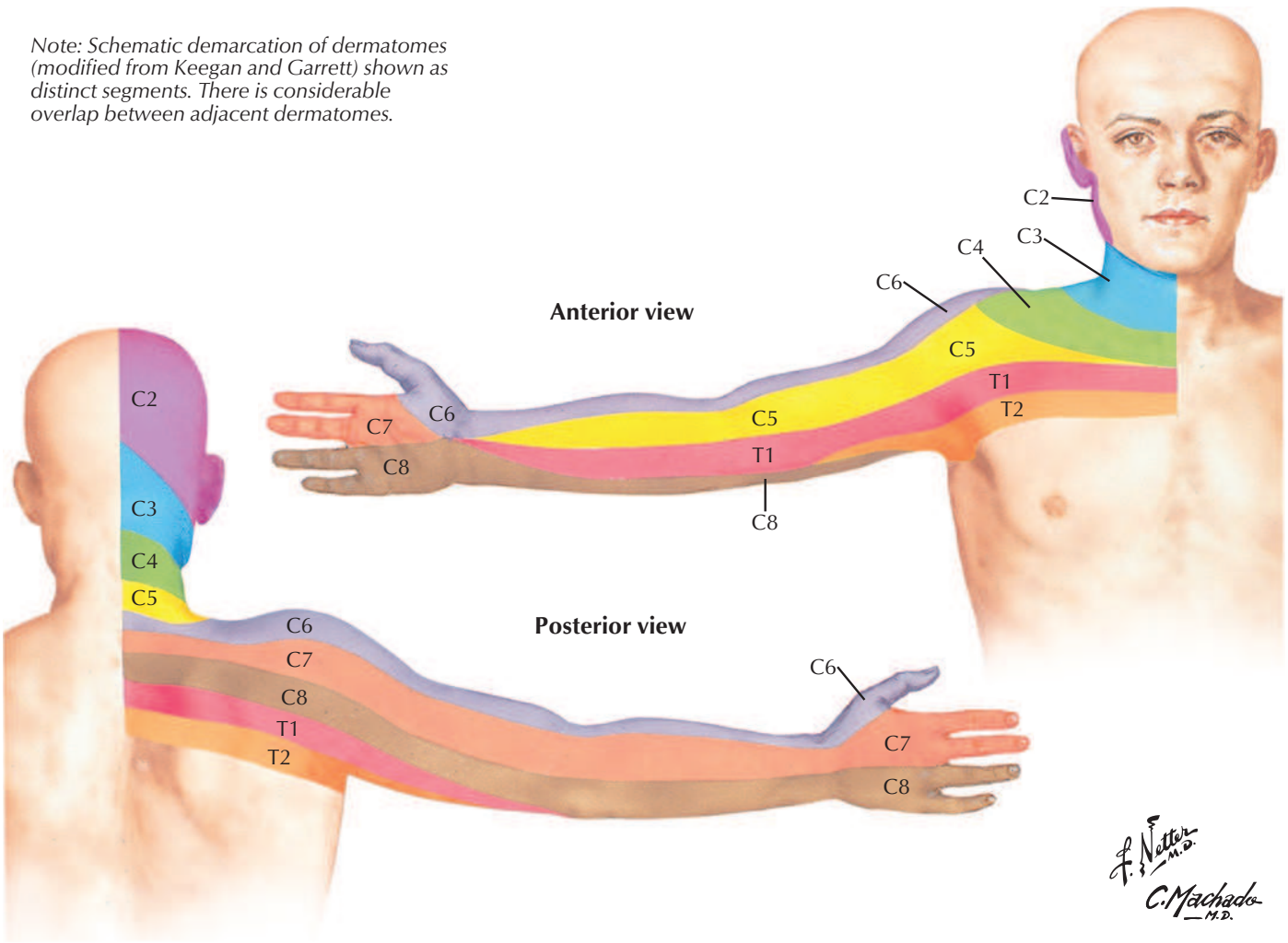
See also Plates 161, 249, 403

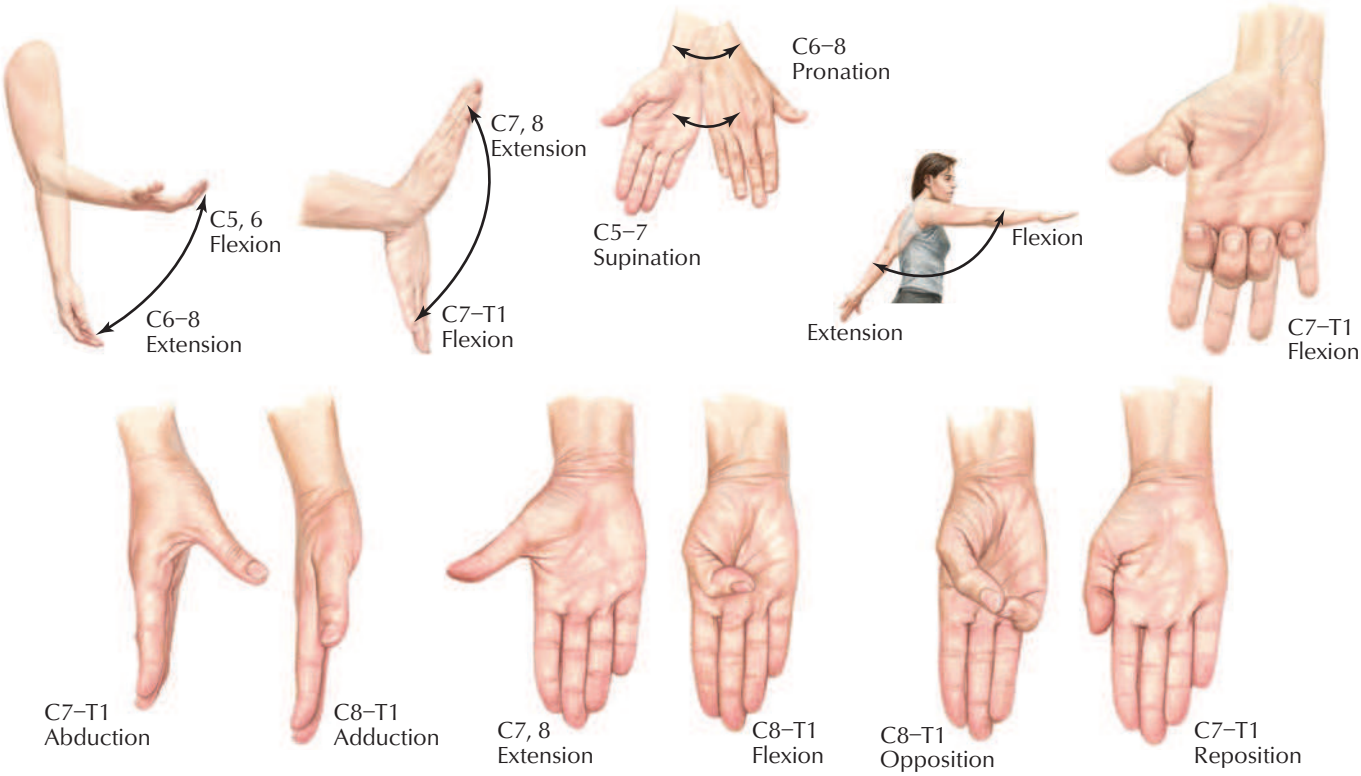


www.Booksmedicos06.com

See also Plate 171

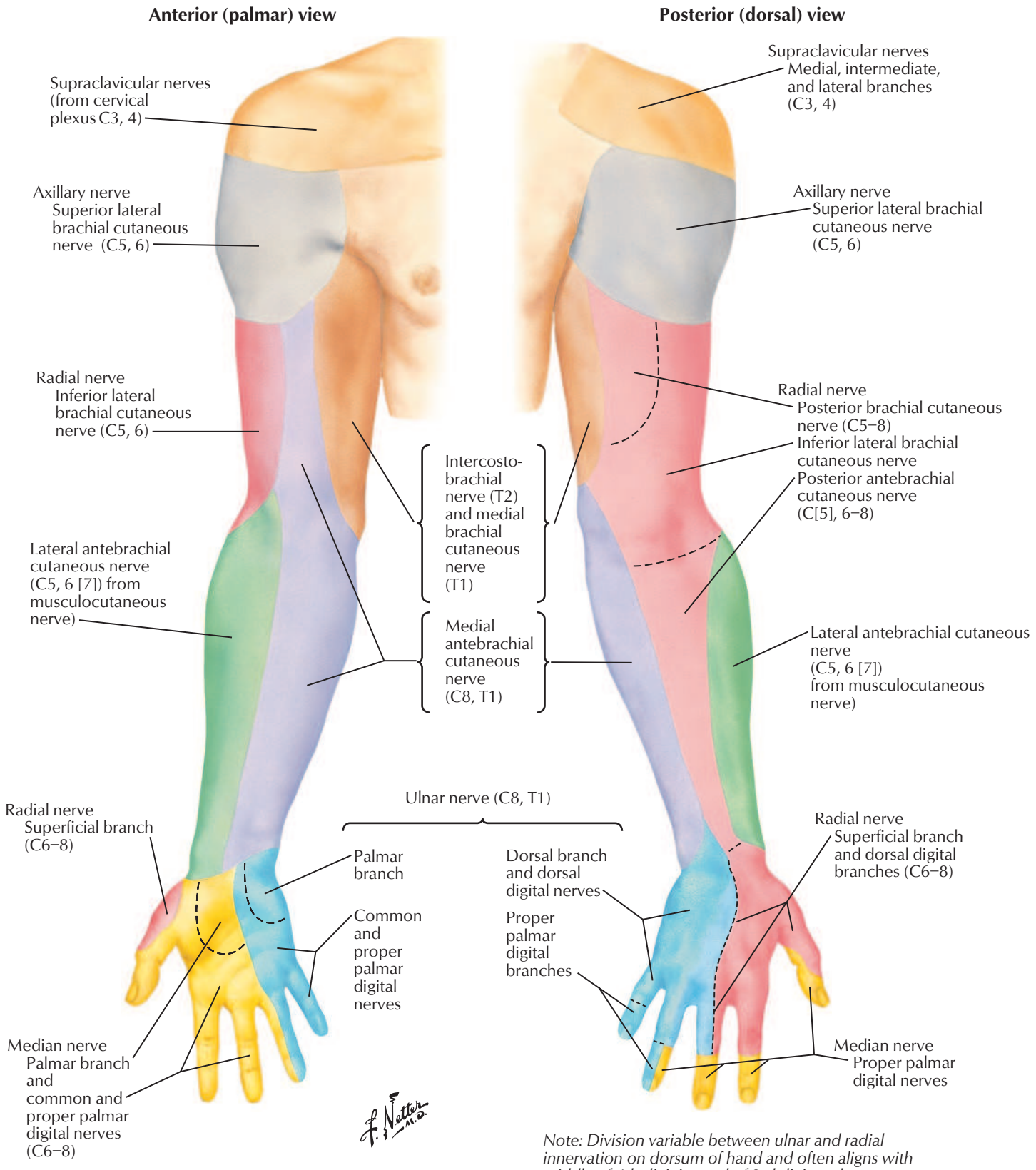
Note: Schematic demarcation of dermatomes (modified from Keegan and Garrett) shown as distinct segments. There is considerable overlap between adjacent dermatomes.





////// facebook : Booksmedicos06

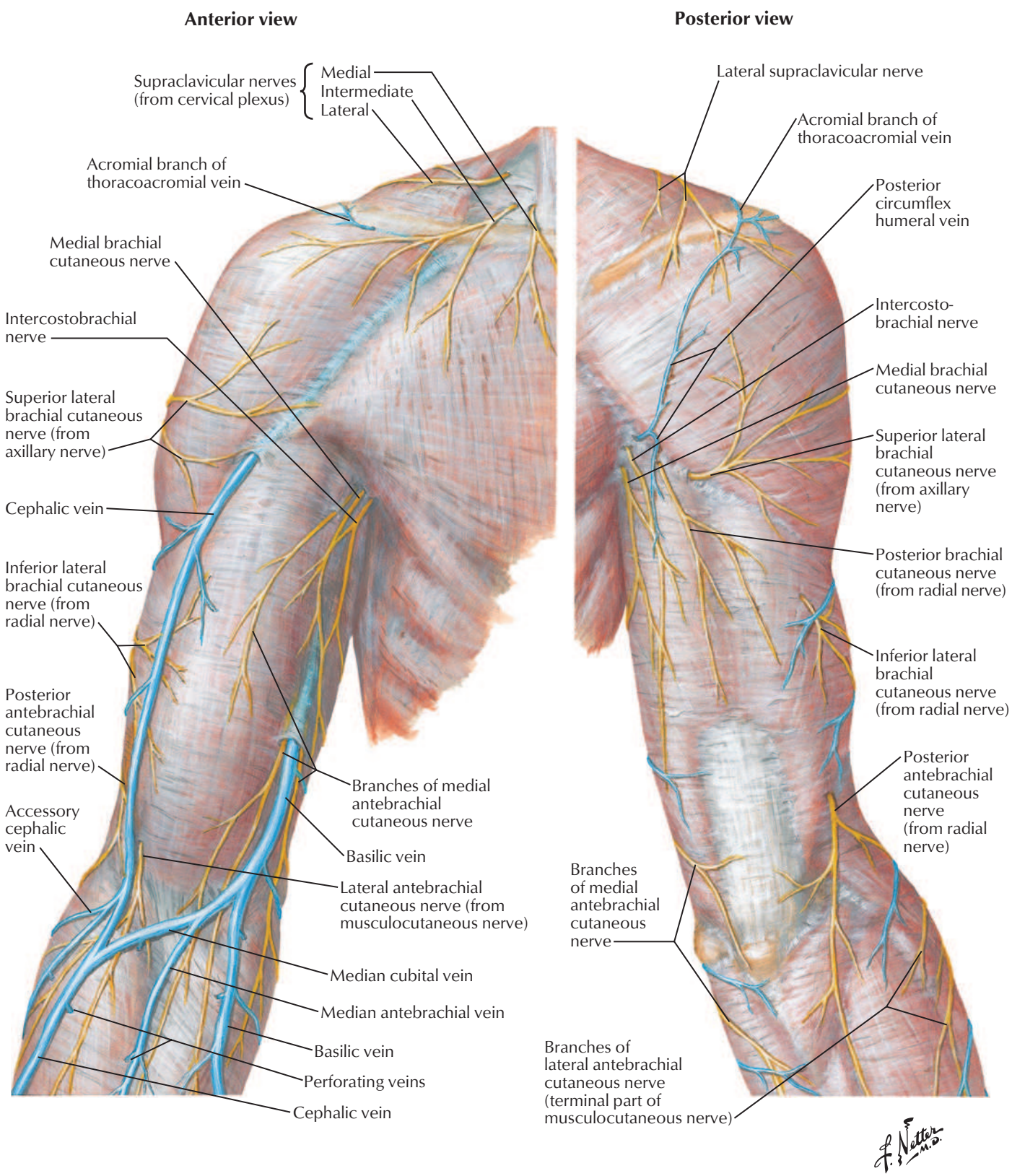
See also Plates 172, 462, 464



Note: Division variable between ulnar and radial innervation on dorsum of hand and often aligns with middle of 4th digit instead of 3rd digit as shown.

www.Booksmedicos06.com

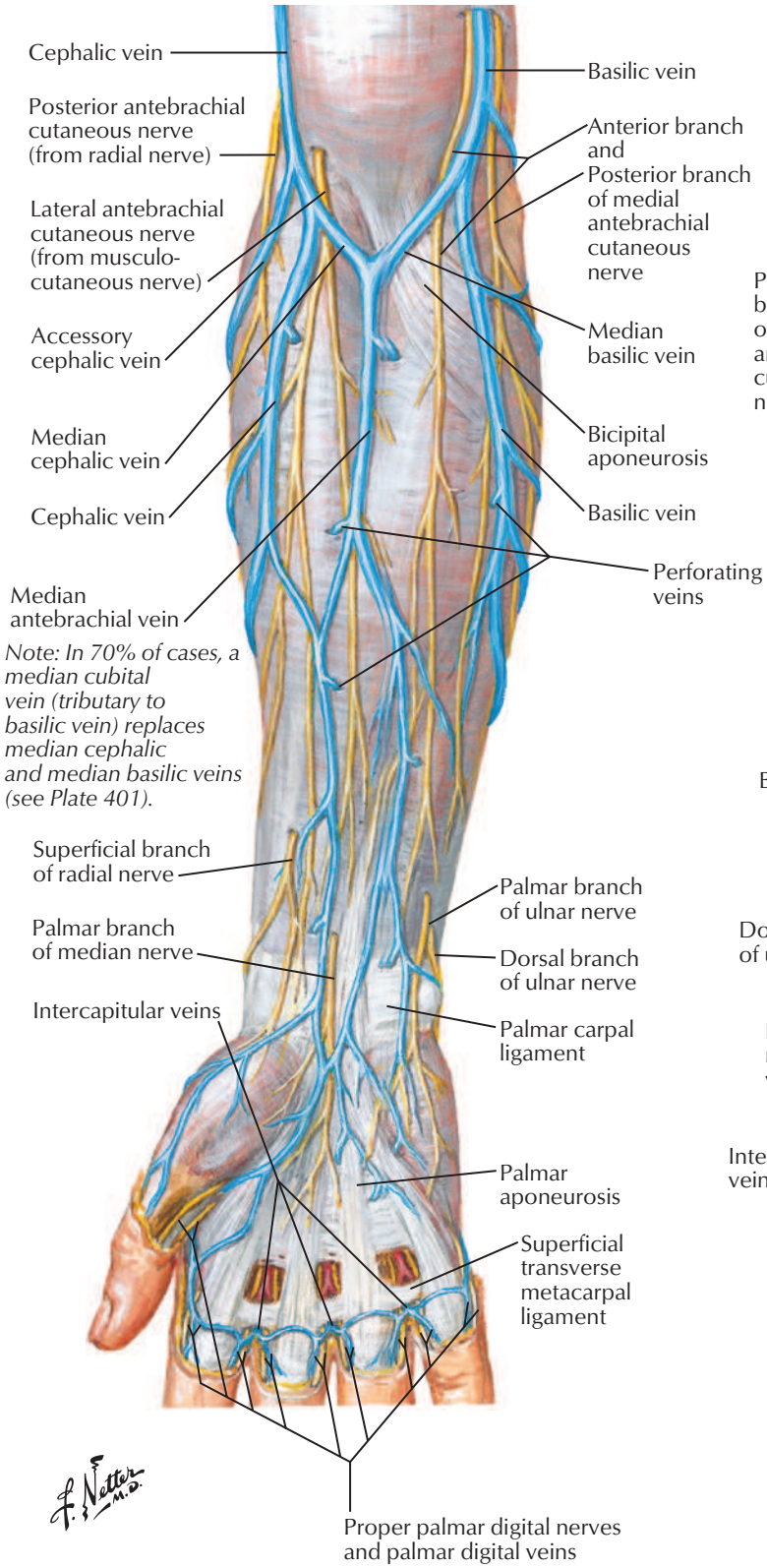
See also Plates 259, 407



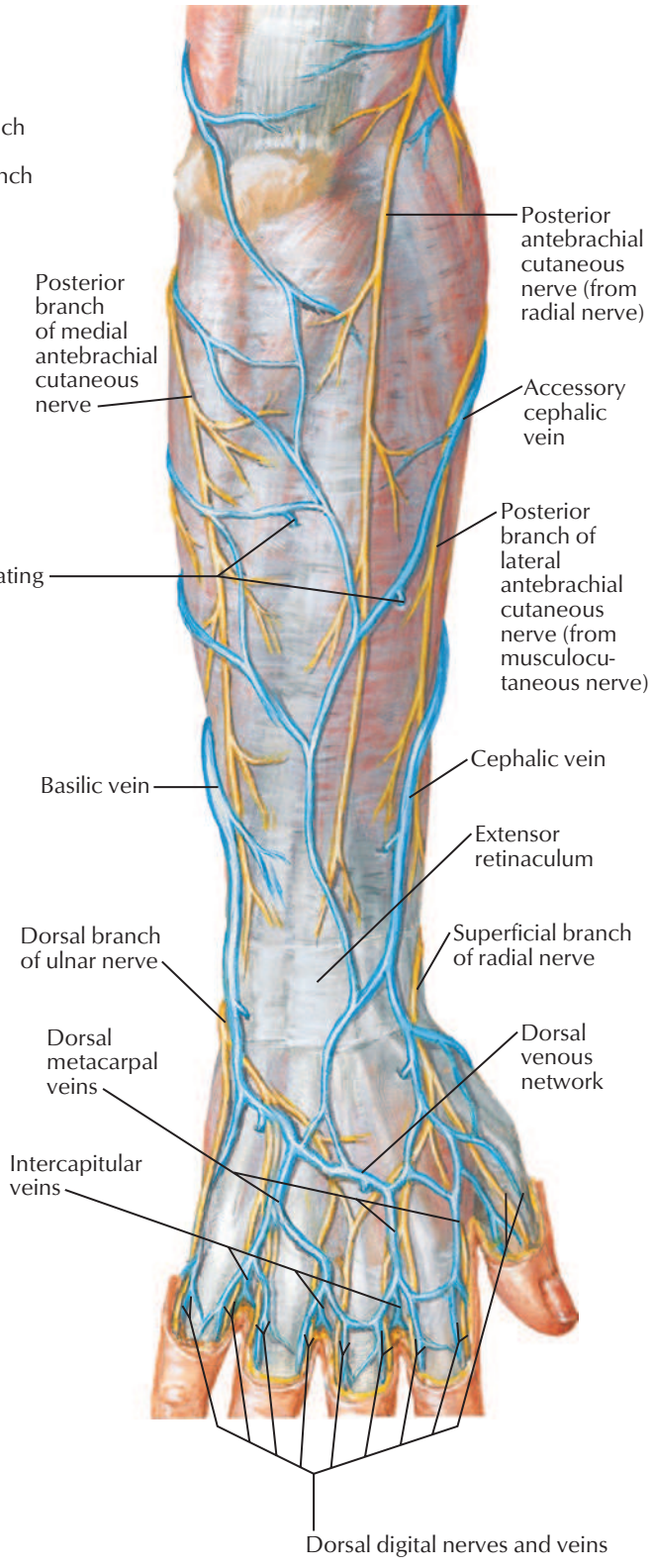
////// facebook : Booksmedicos06

See also Plates 404, 458

Anterior (palmar) view

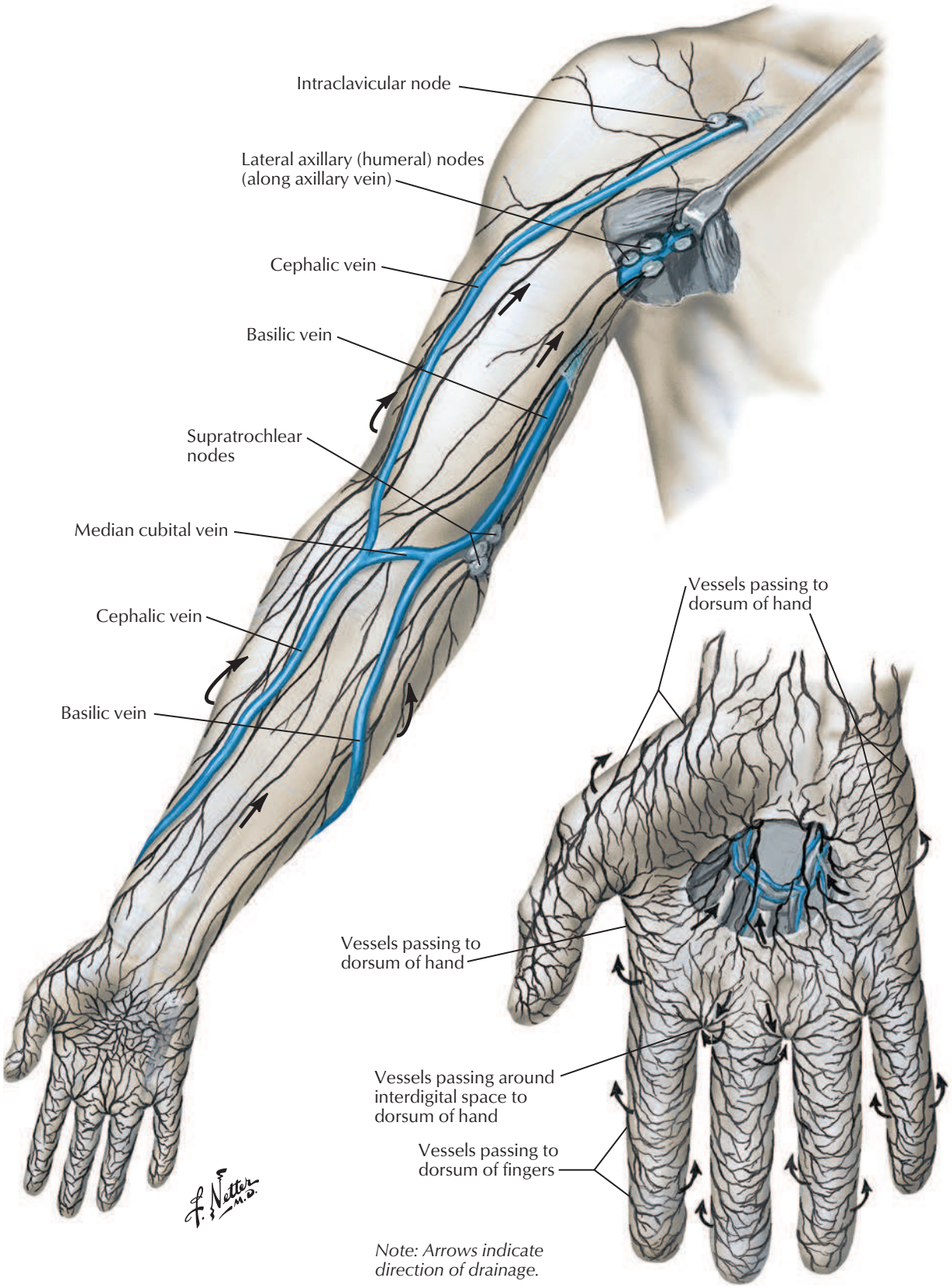


Posterior (dorsal) view



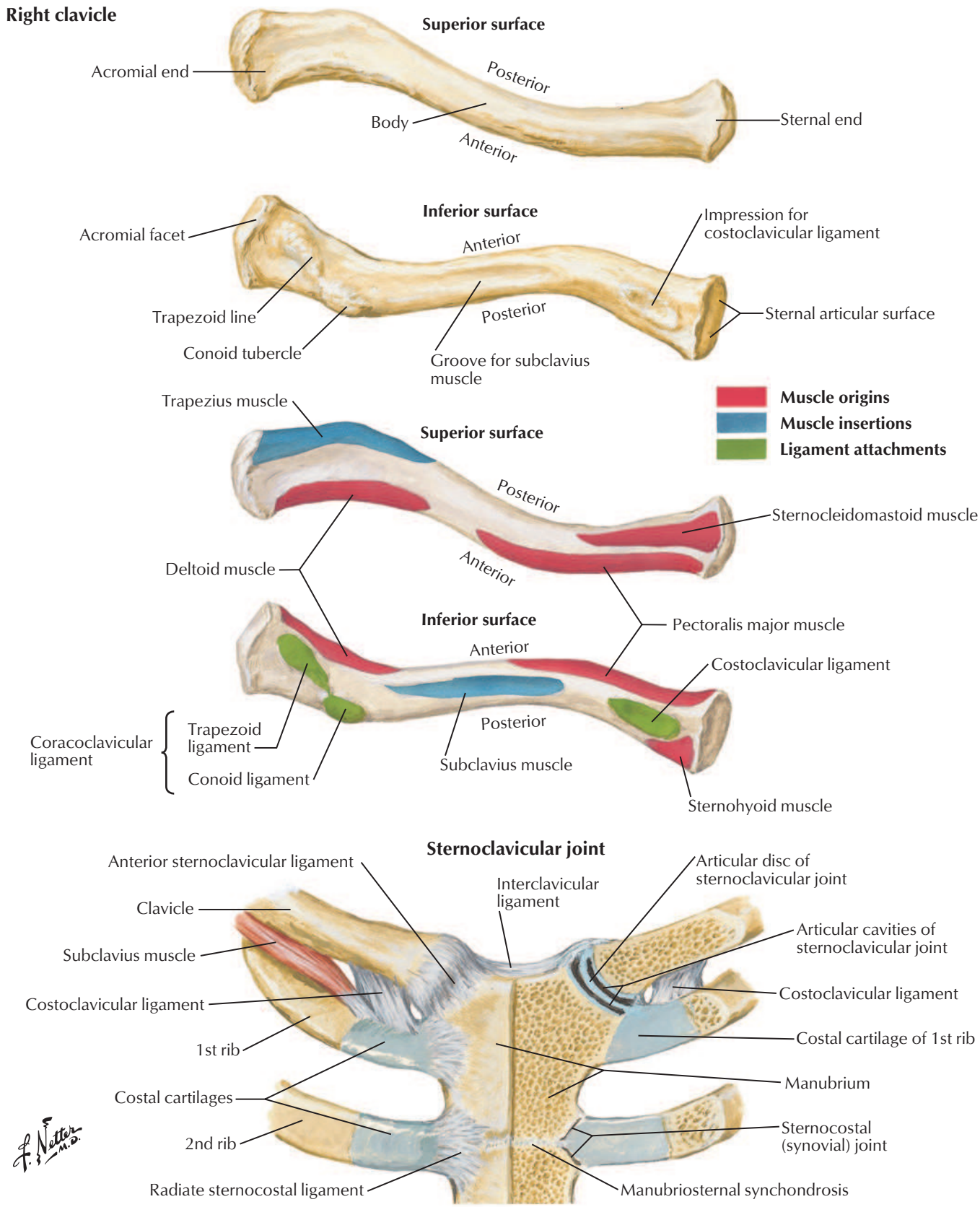
www.Booksmedicos06.com

See also Plates 191, 458



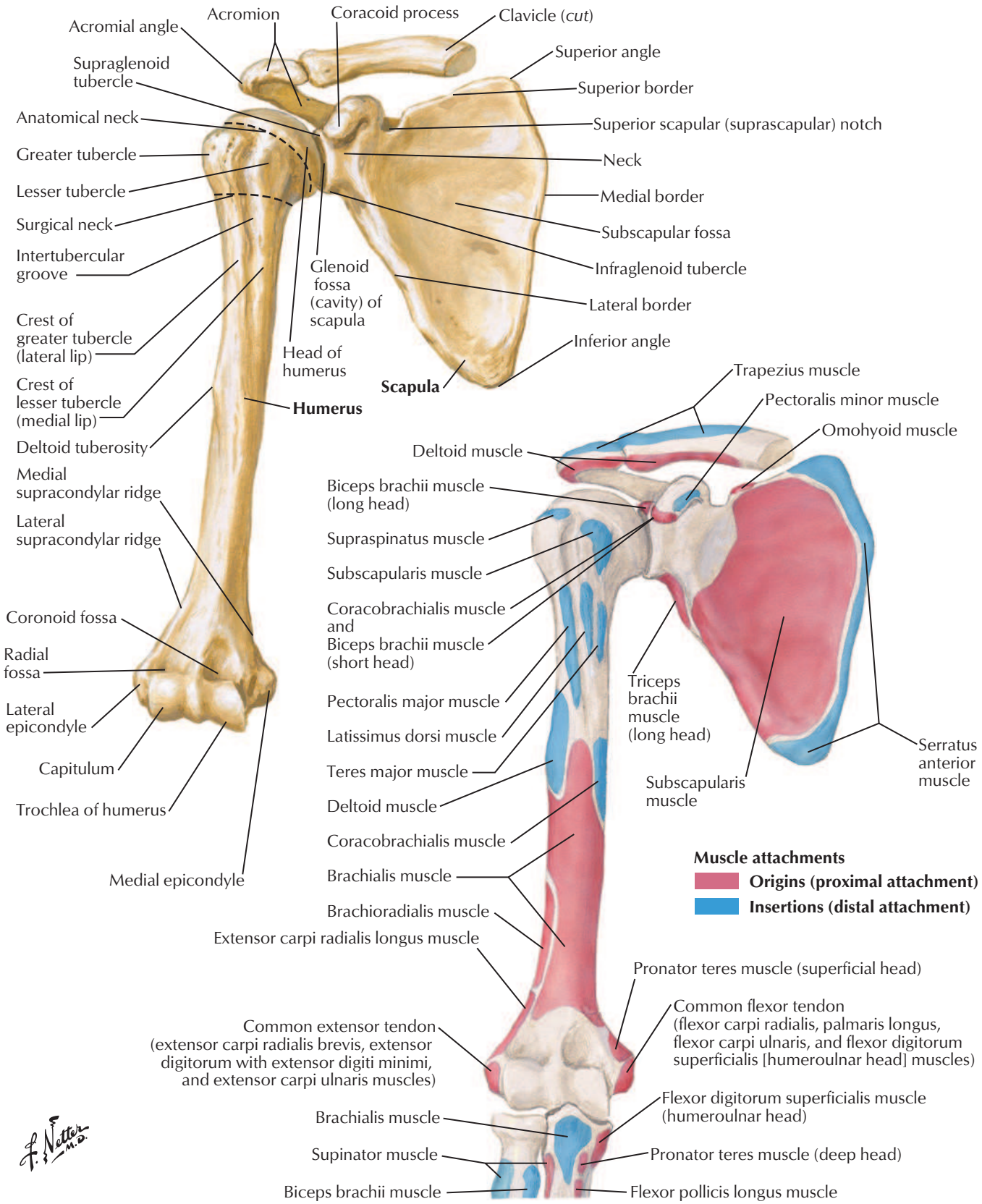
////// facebook : Booksmedicos06

See also Plates 192, 195



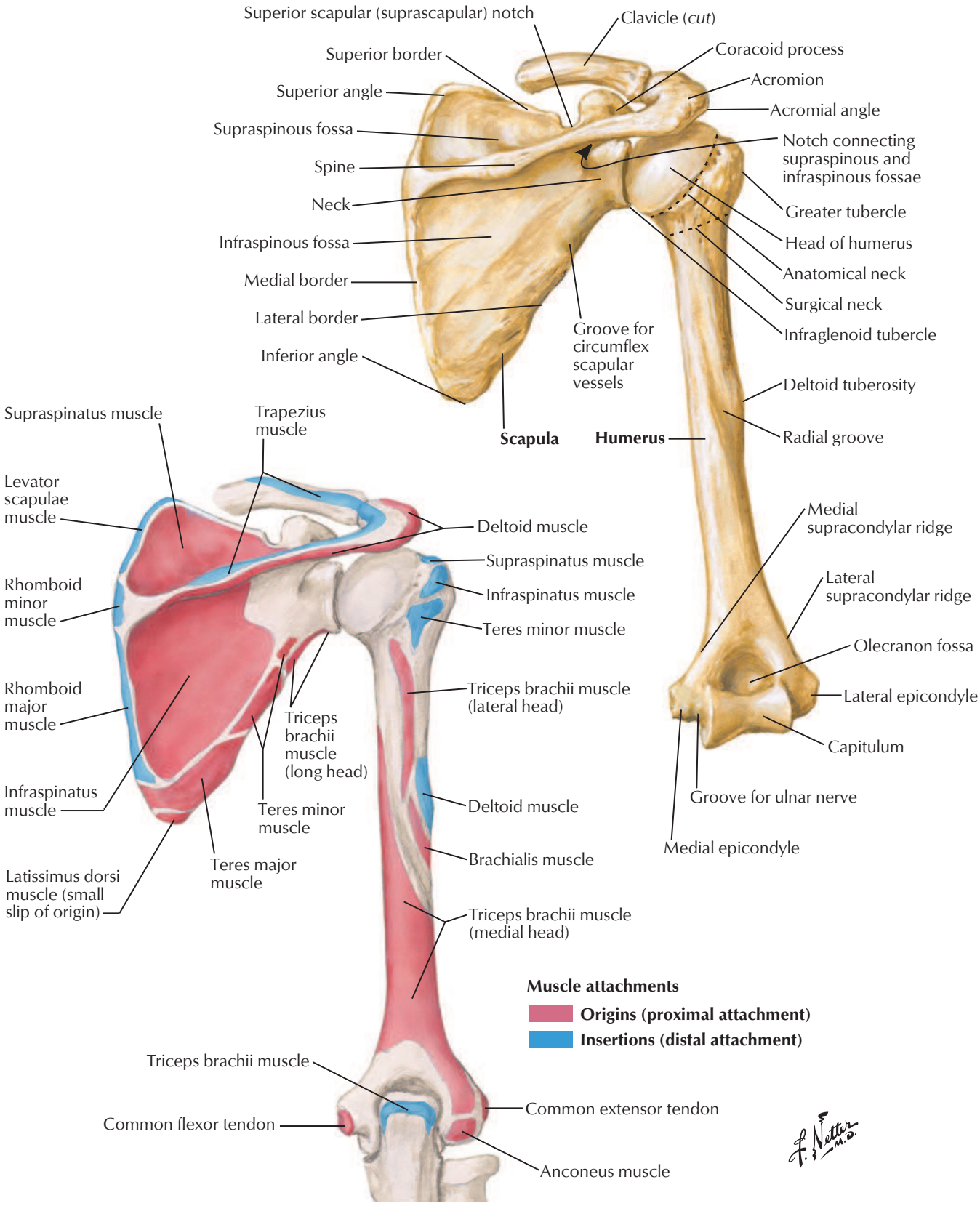
www.Booksmedicos06.com

See also Plates 192, 411



////// facebook : Booksmedicos06

See also Plate 192

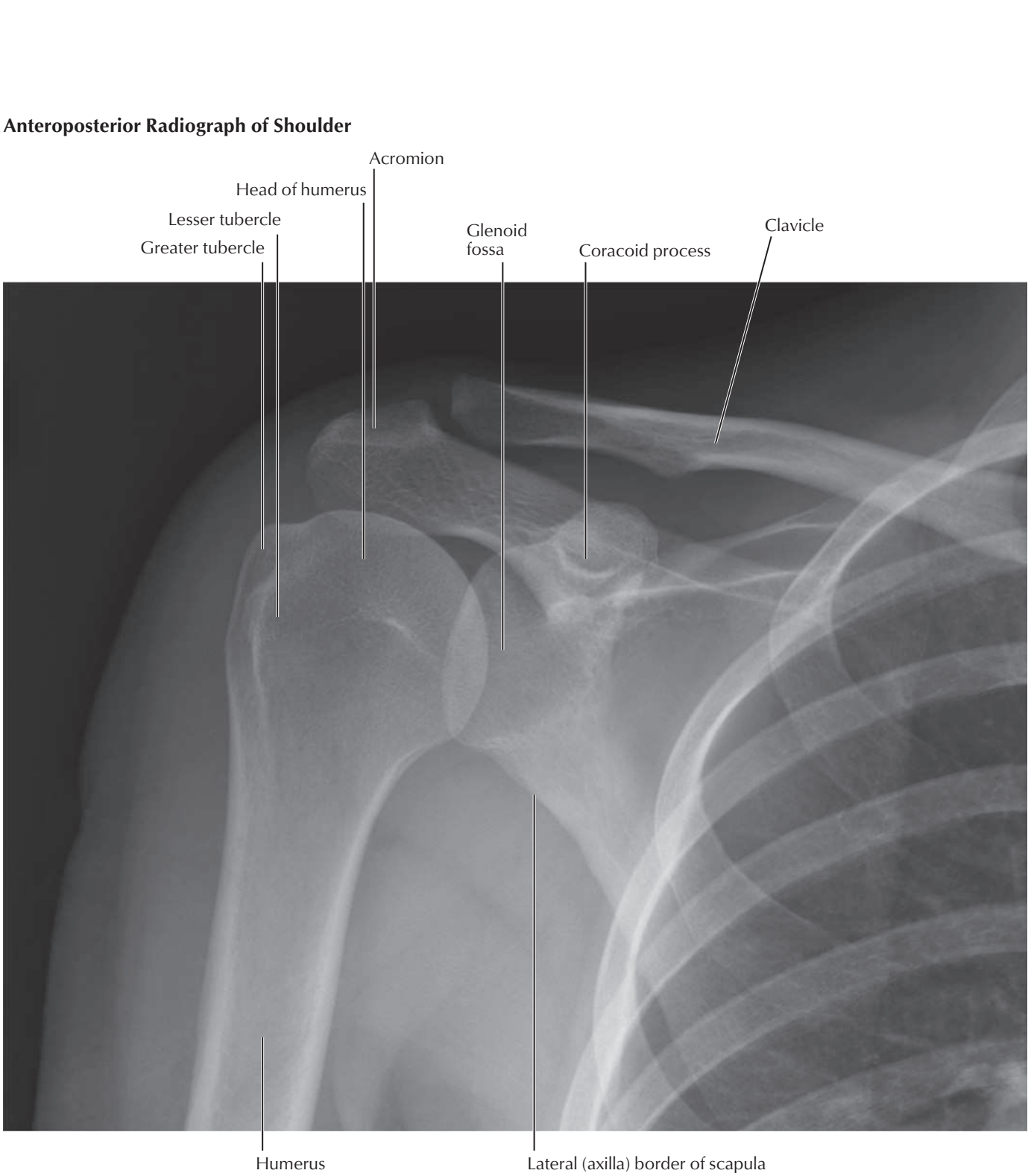


www.Booksmedicos06.com

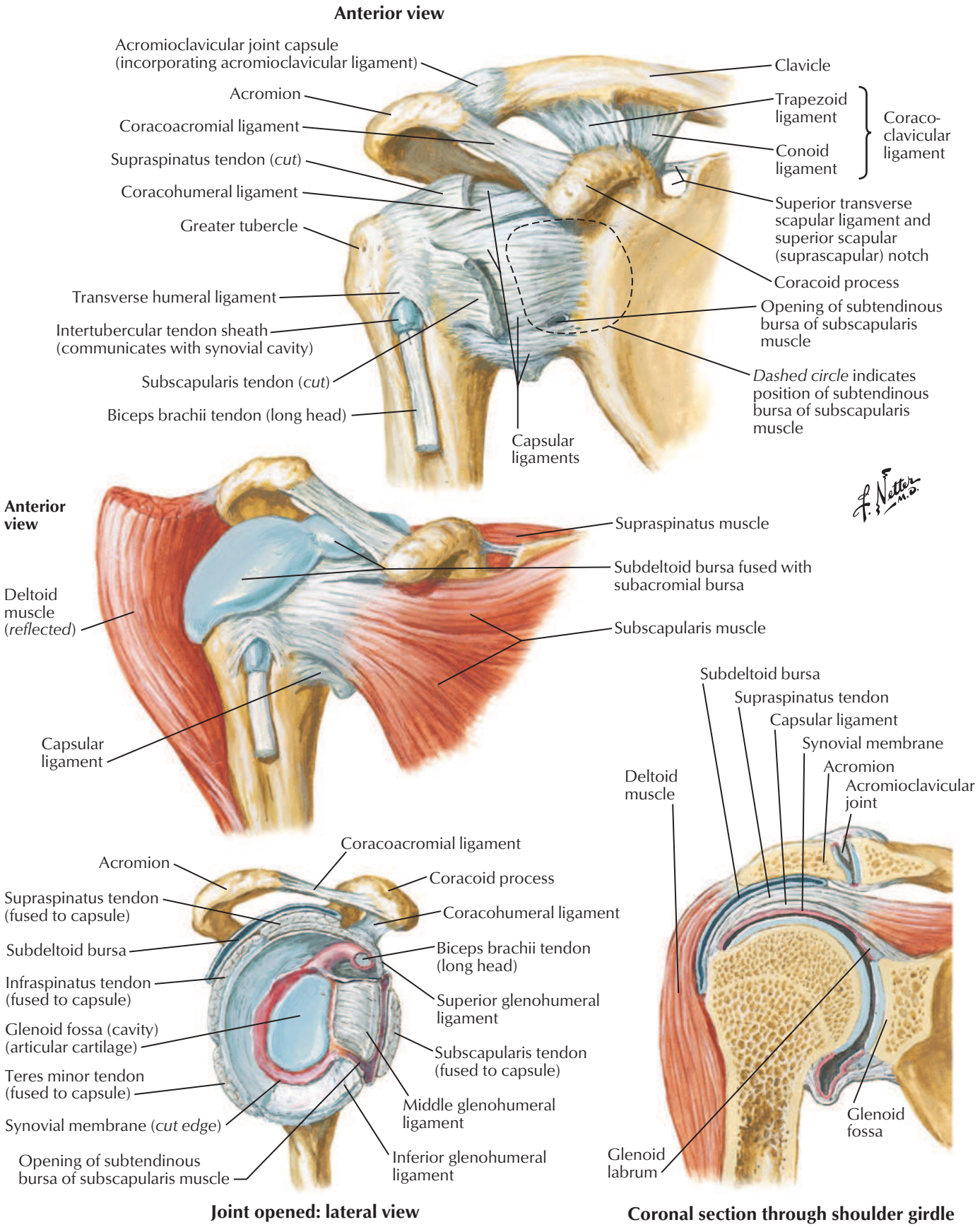
See also Plate 409

////// facebook : Booksmedicos06

Anteroposterior Radiograph of Shoulder



See also Plate 415

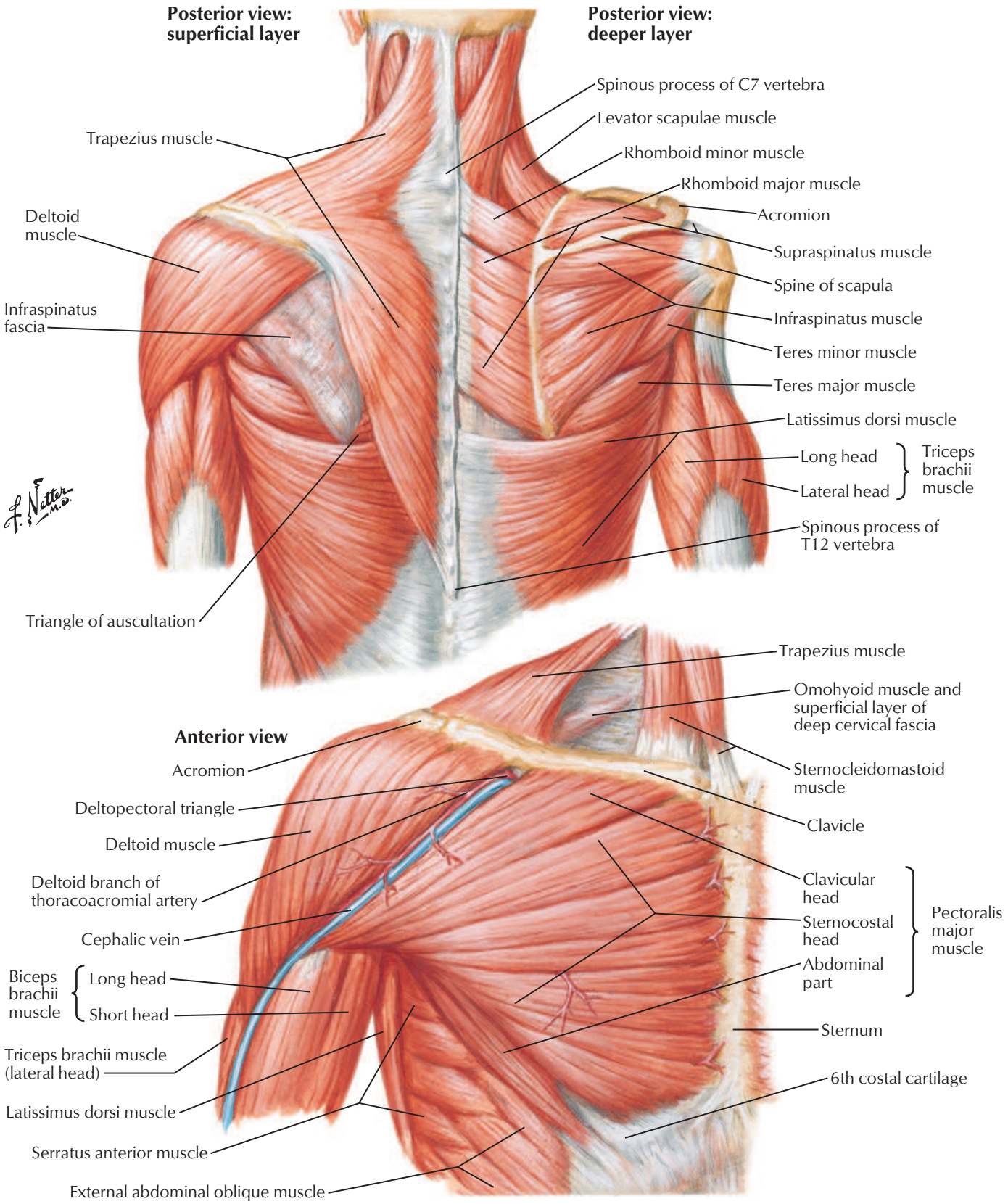


Joint opened: lateral view

Coronal section through shoulder girdle

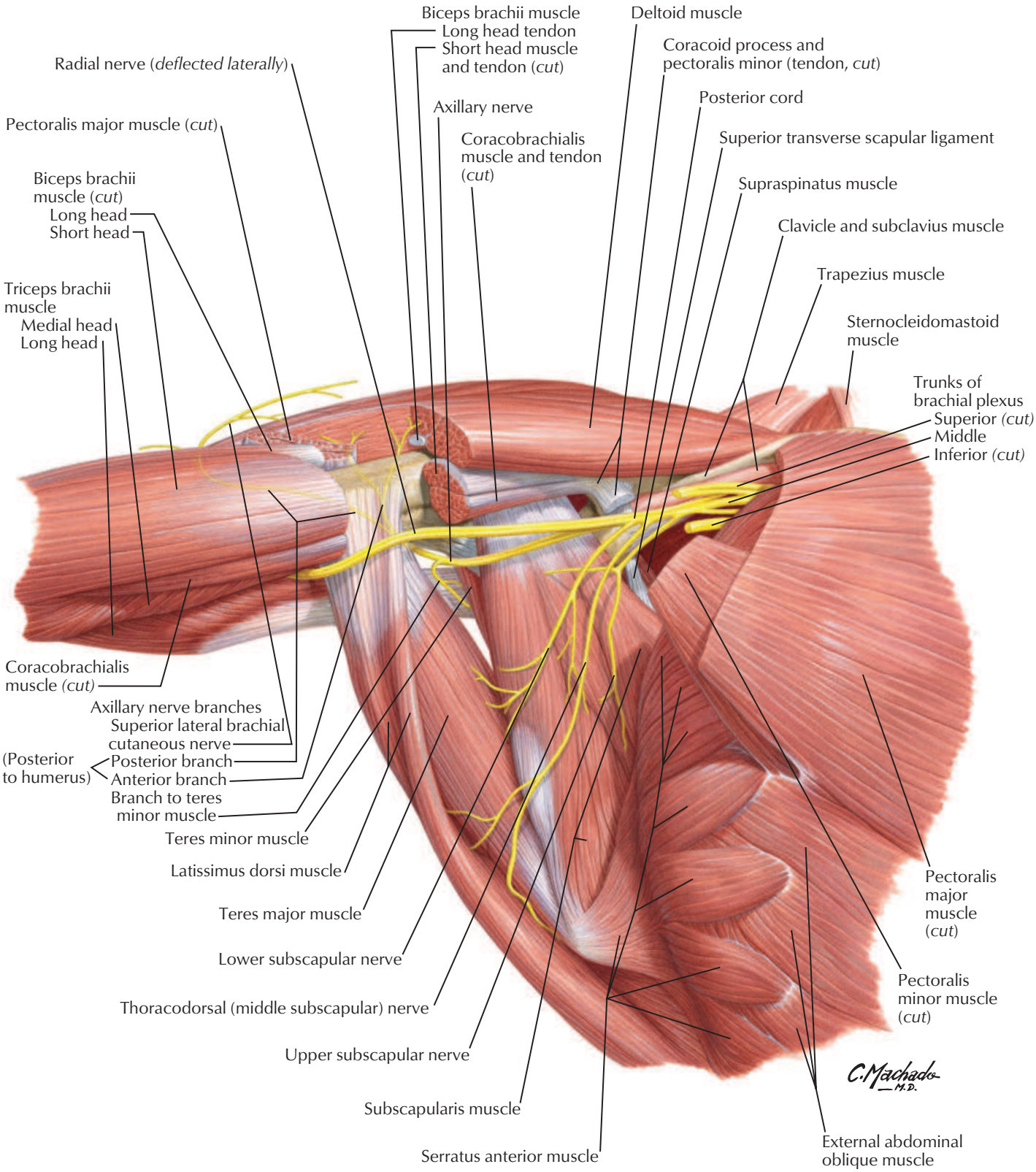
www.Booksmedicos06.com ///////

See also Plates 180, 194



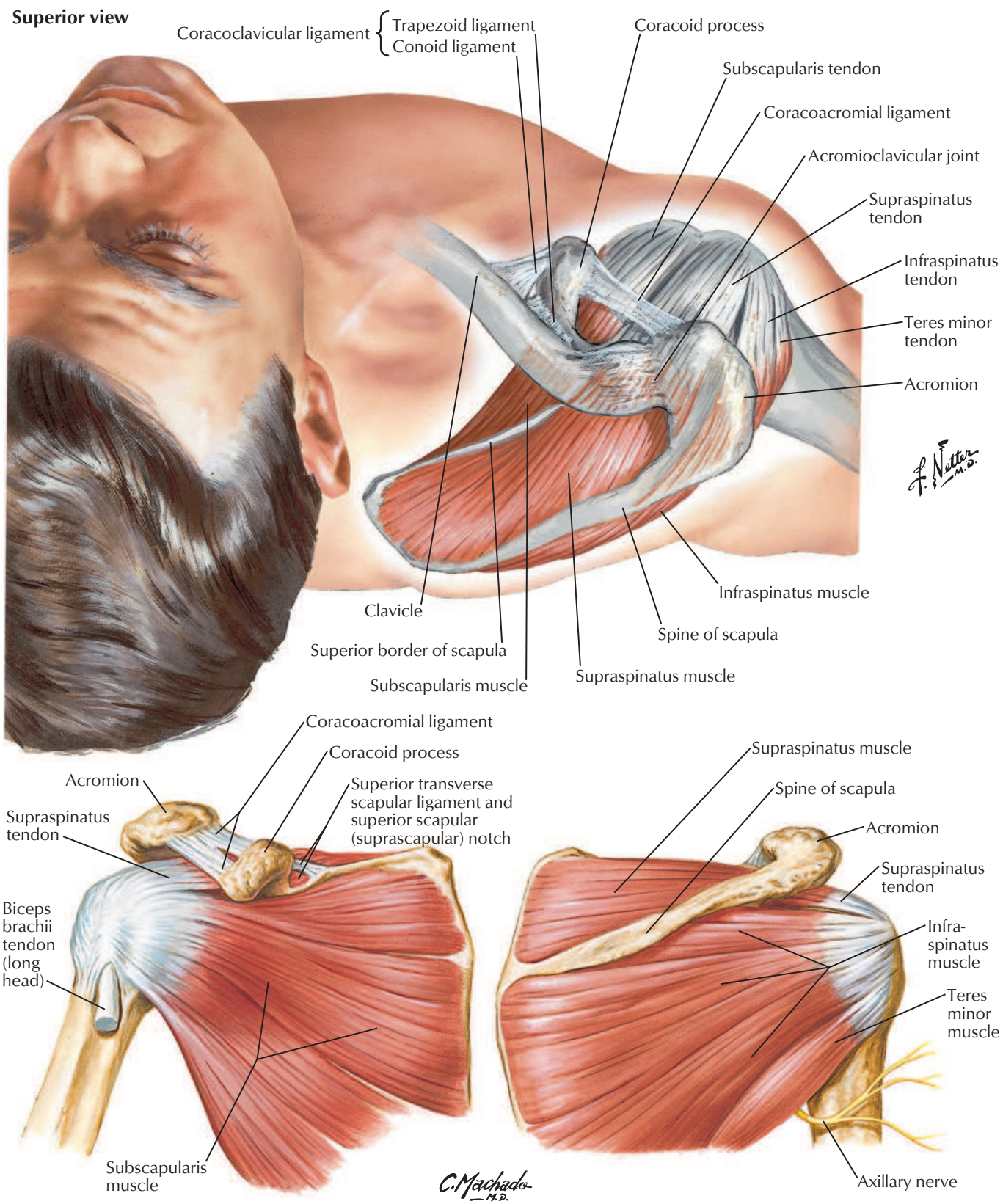
////// facebook : Booksmedicos06

See also Plates 419, 420



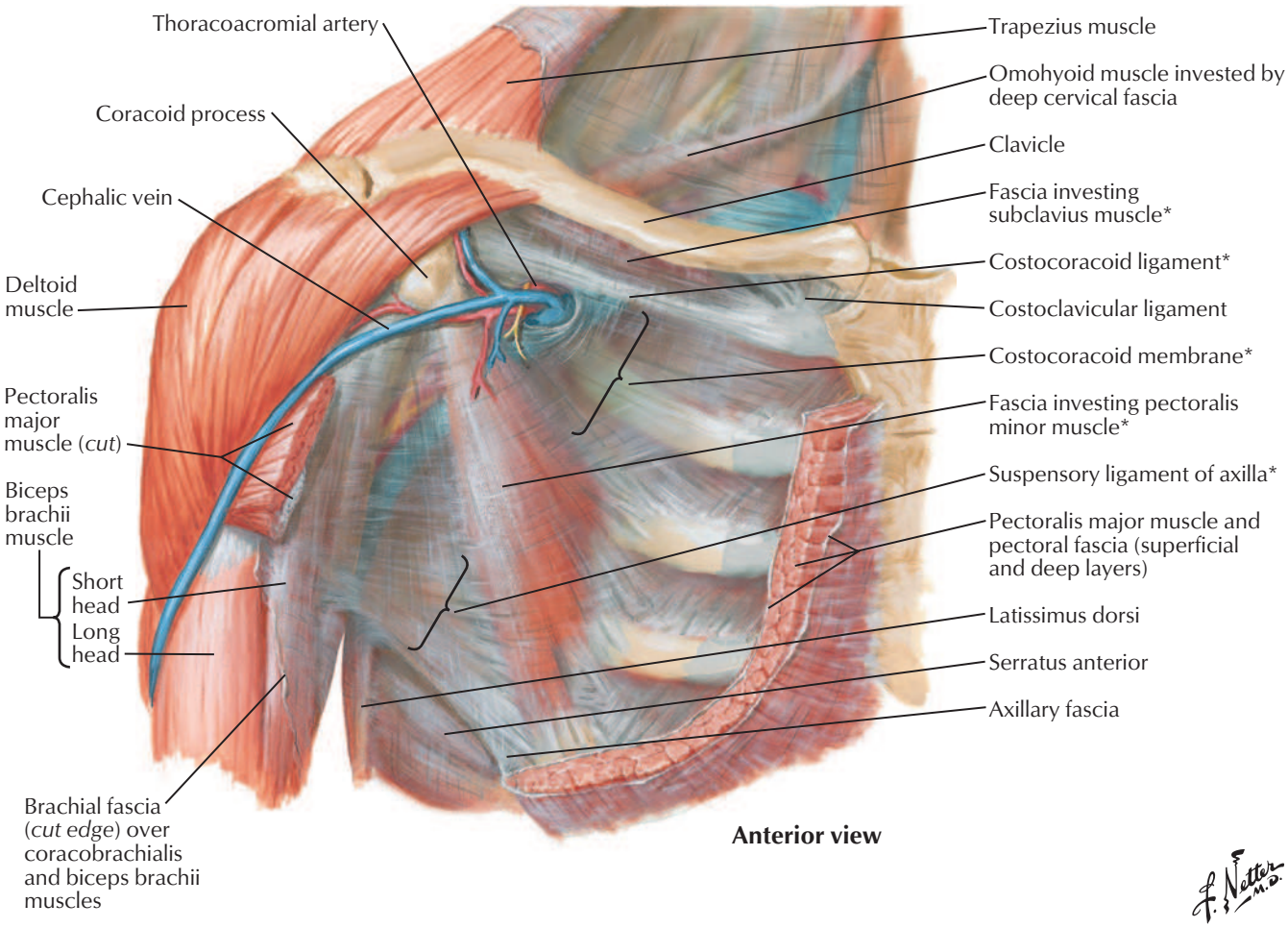
www.Booksmedicos06.com

See also Plates 412, 421, 422



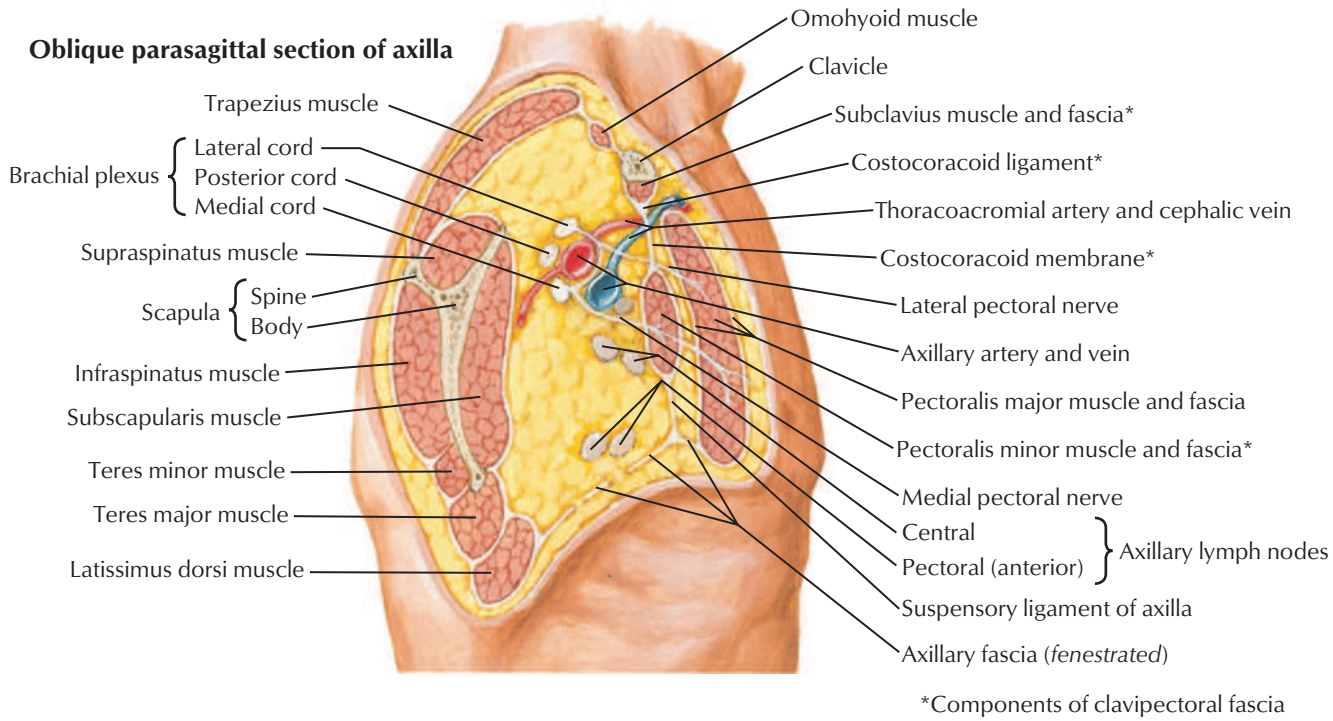
////// facebook : Booksmedicos06

See also Plates 190, 194



Anterior view

Oblique parasagittal section of axilla



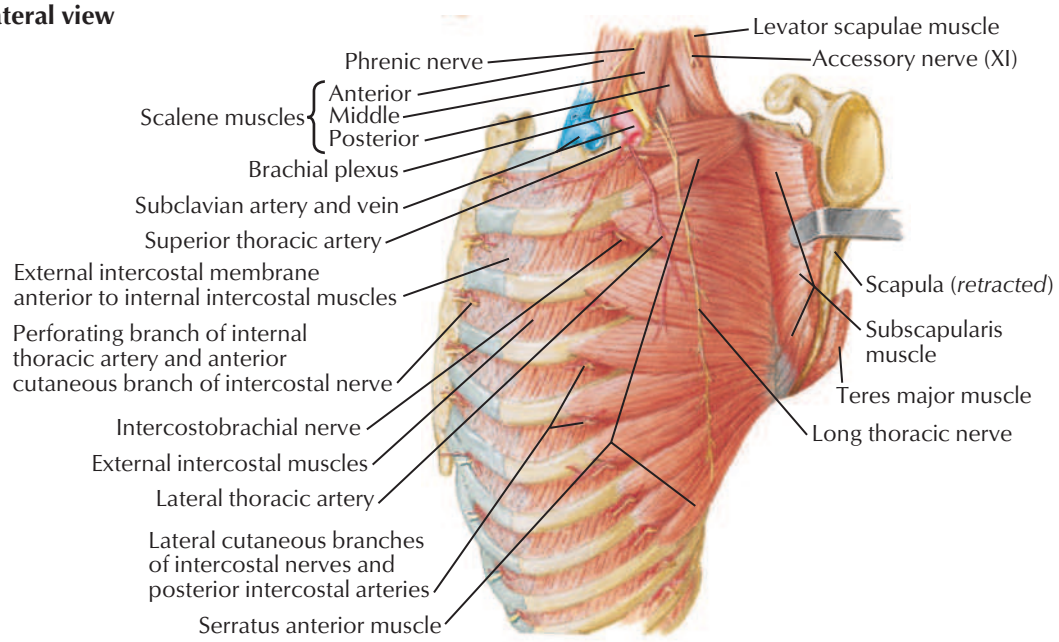
*Components of clavipectoral fascia

www.Booksmedicos06.com ///////

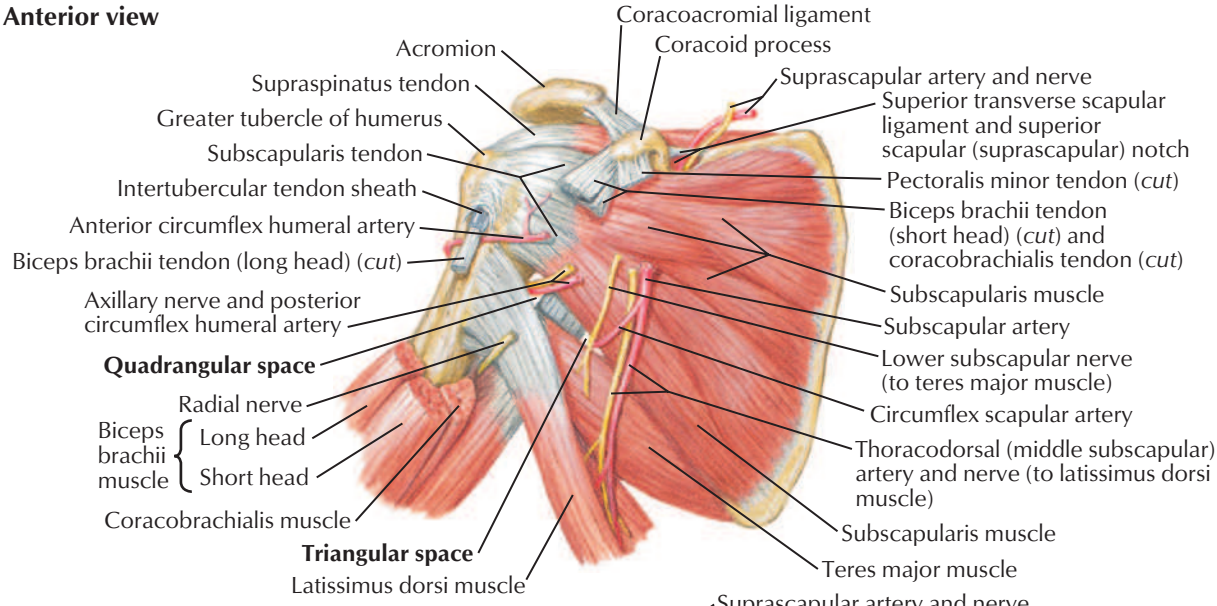
See also Plates 419, 468

/////// facebook : Booksmedicos06

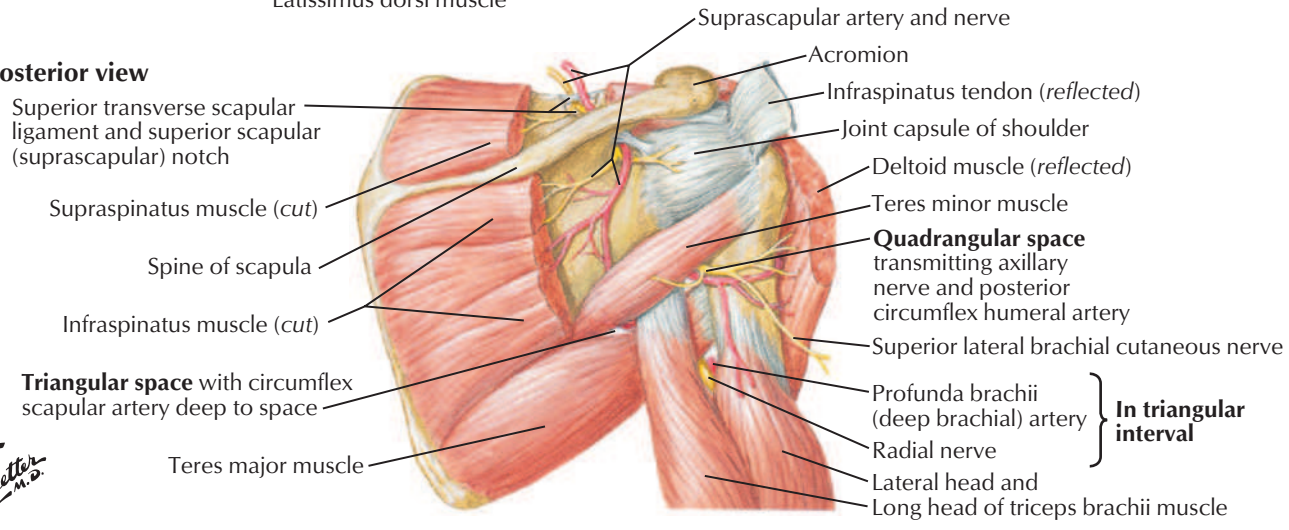
Lateral view



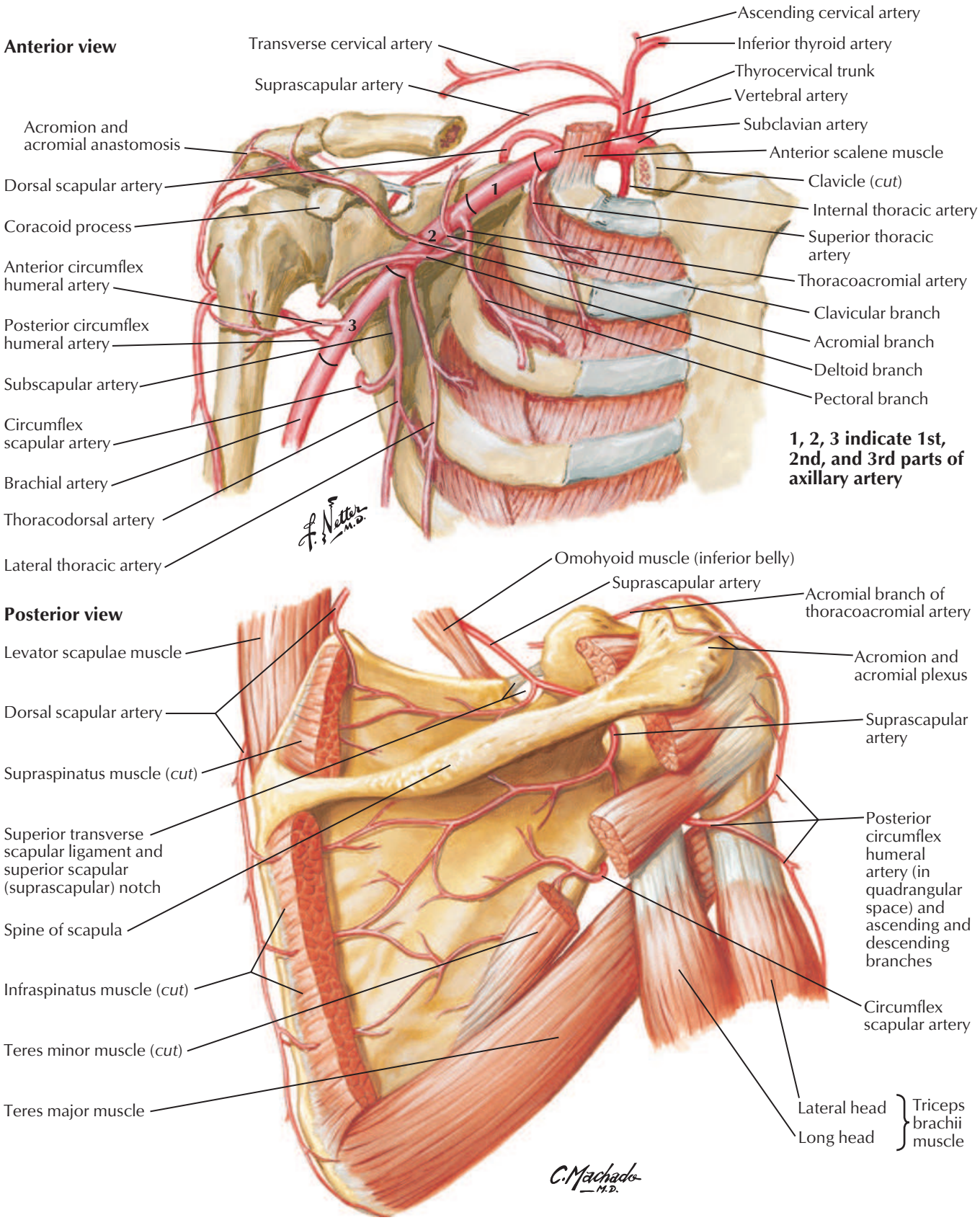
Anterior view



Posterior view

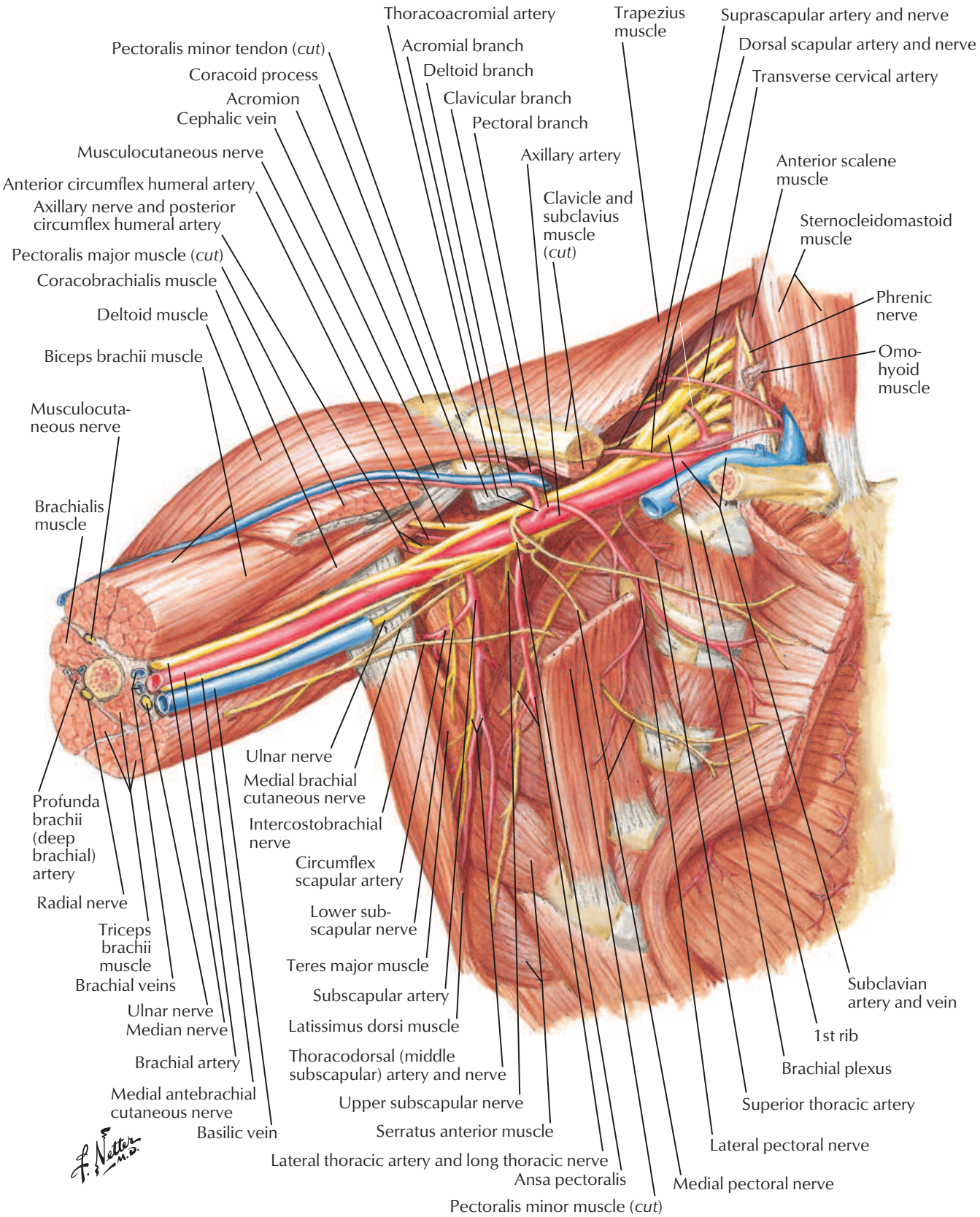


See also Plates 40, 424



www.Booksmedicos06.com

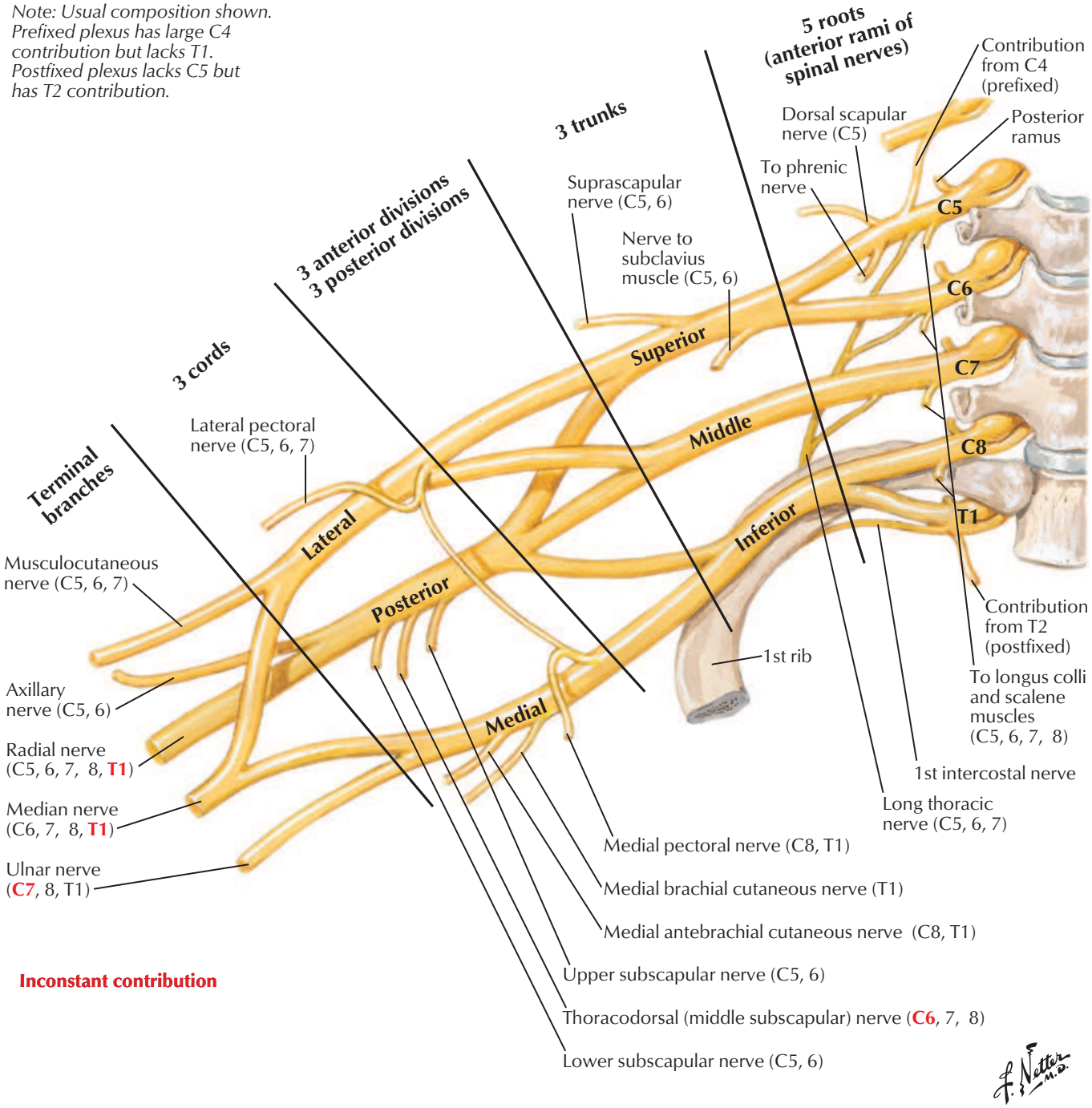
See also Plates 414, 417



////// facebook : Booksmedicos06

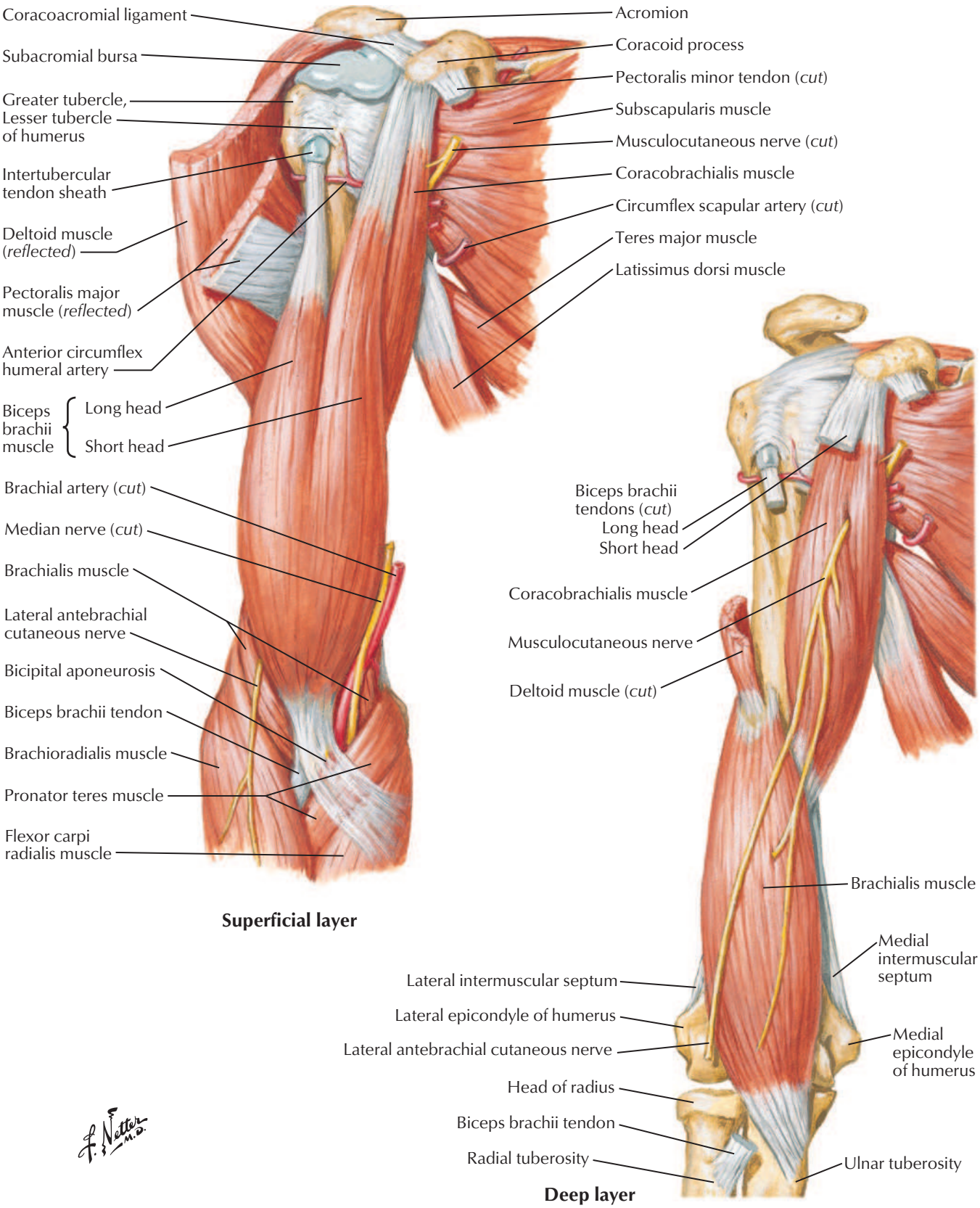
See also Plates 463, 464

Note: Usual composition shown. Prefixed plexus has large C4 contribution but lacks T1. Postfixed plexus lacks C5 but has T2 contribution.



www.Booksmedicos06.com

See also Plates 415, 465

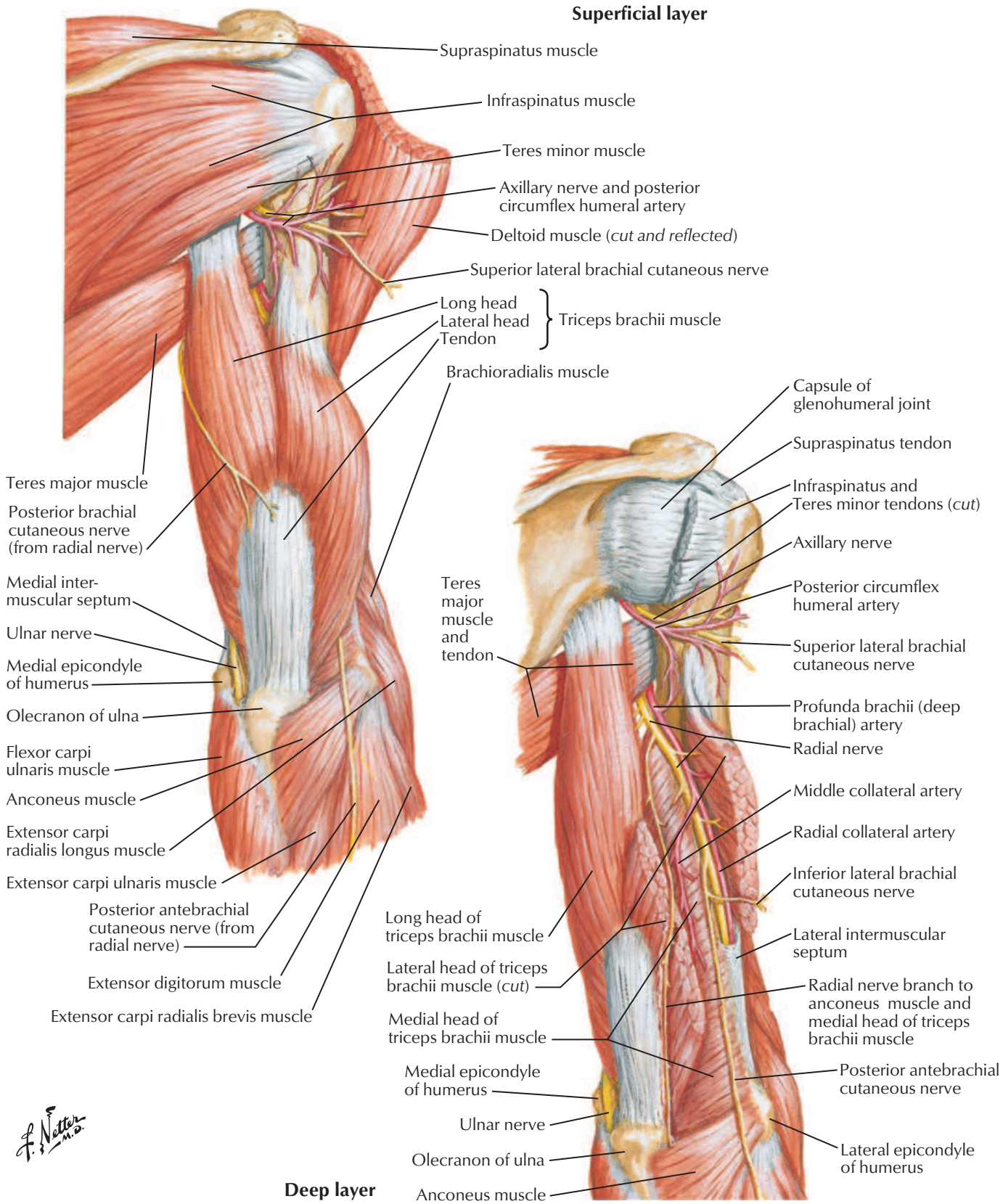


Superficial layer

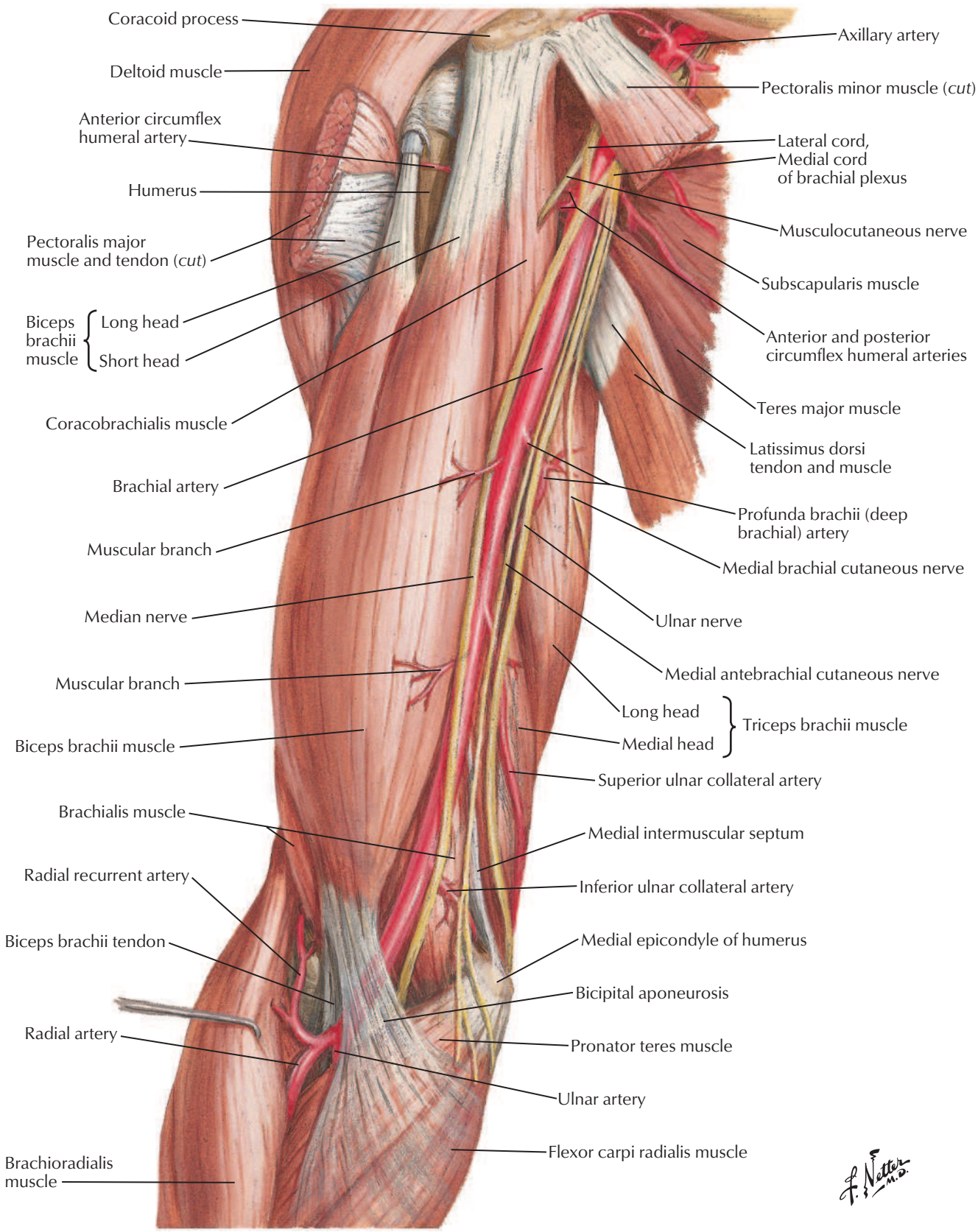
Deep layer

////// facebook : Booksmedicos06

See also Plates 415, 468

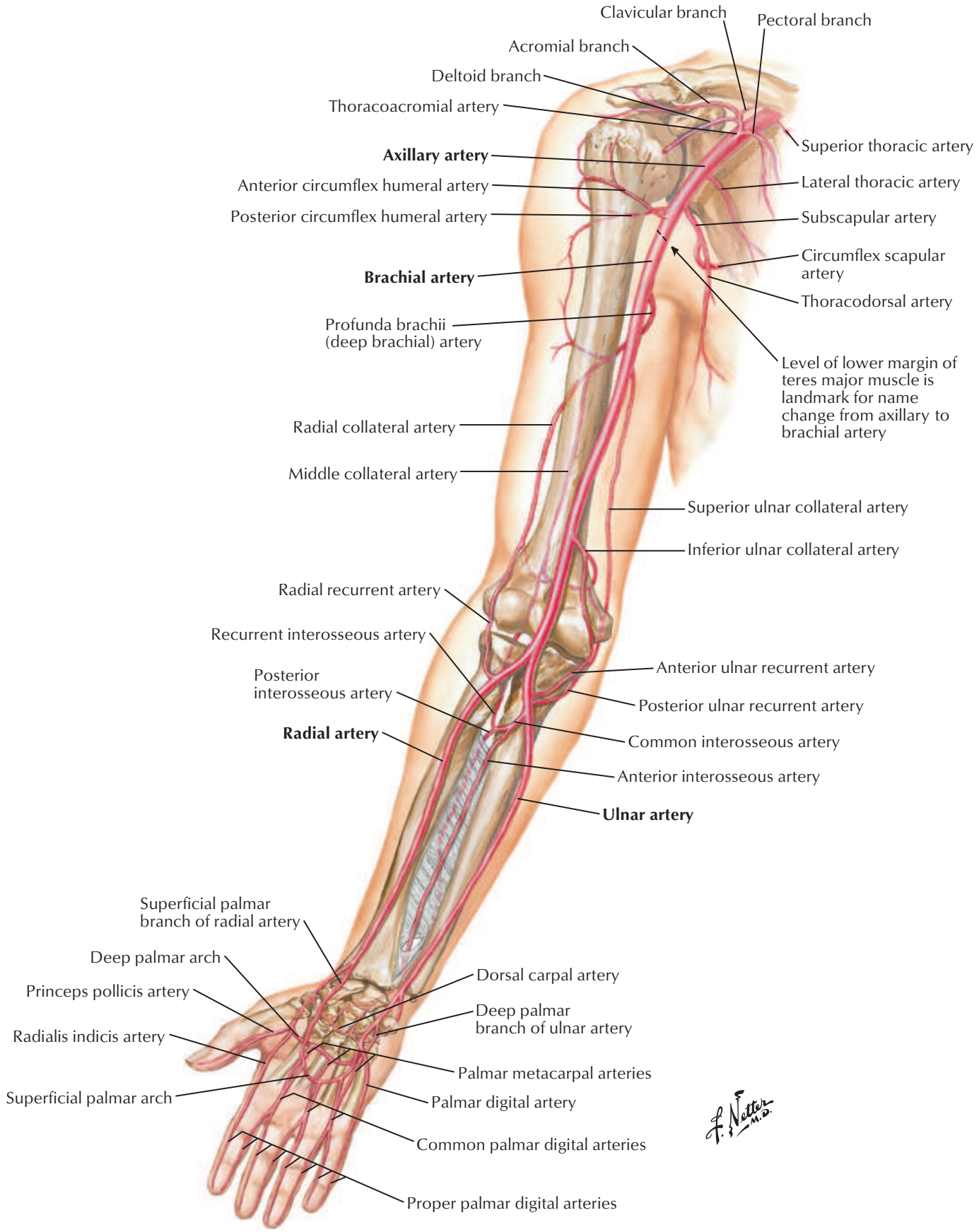


www.Booksmedicos06.com

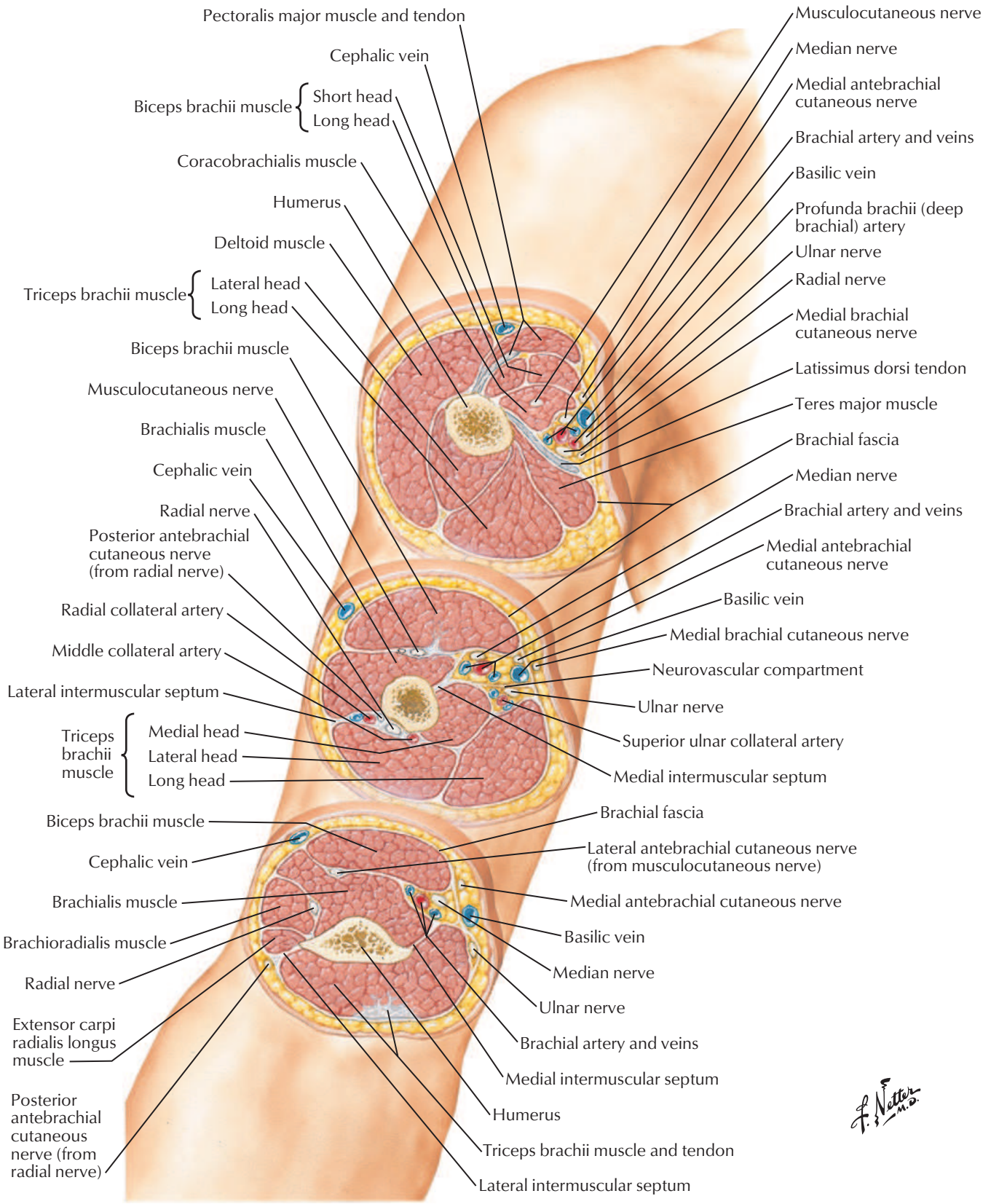


////// facebook : Booksmedicos06

See also **Plates 437, 456**

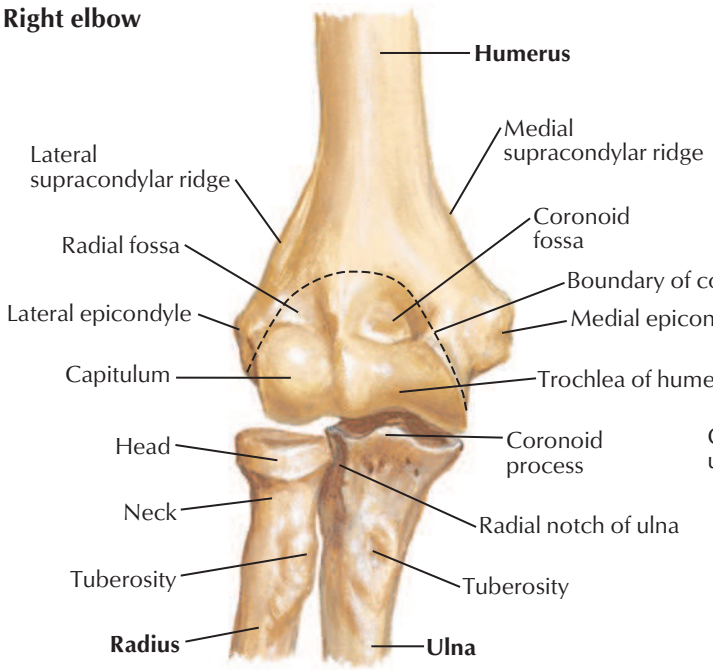


www.Booksmedicos06.com

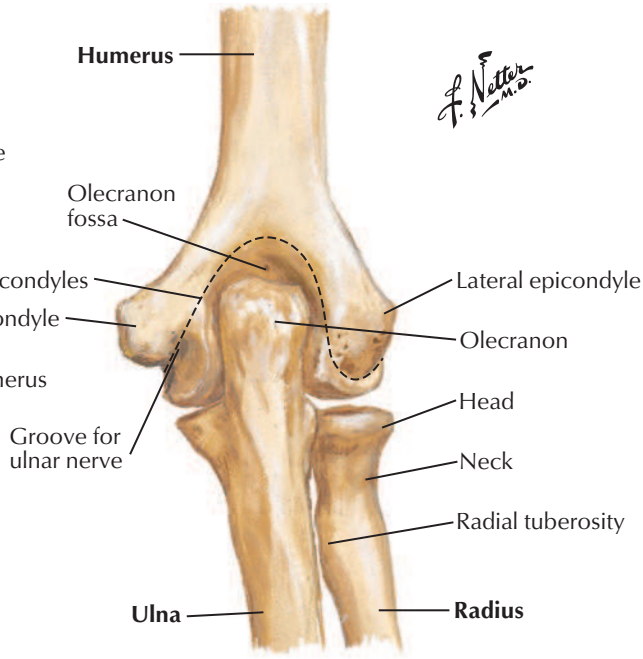


////// facebook : Booksmedicos06

Right elbow



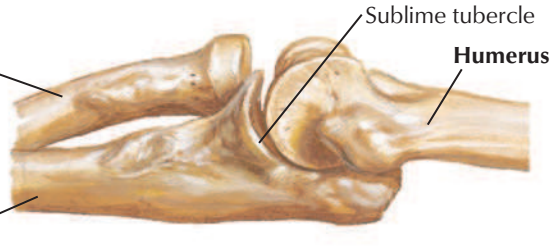
In extension: anterior view



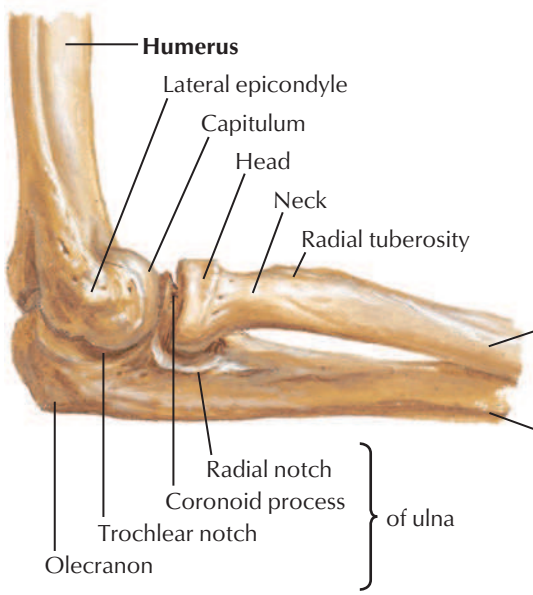
In extension: posterior view



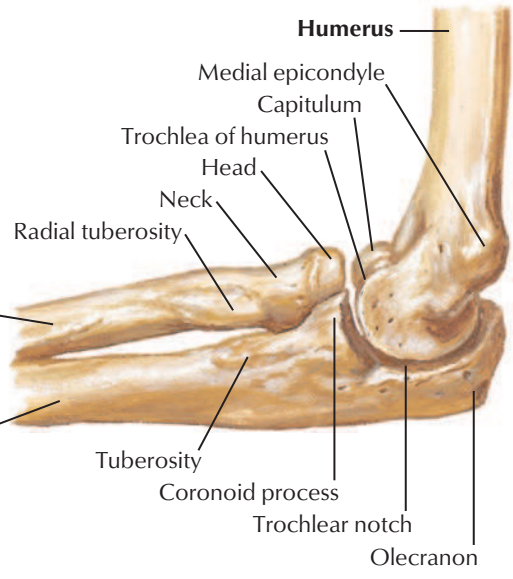
In extension: lateral view



In extension: medial view



In 90 degrees of flexion: lateral view

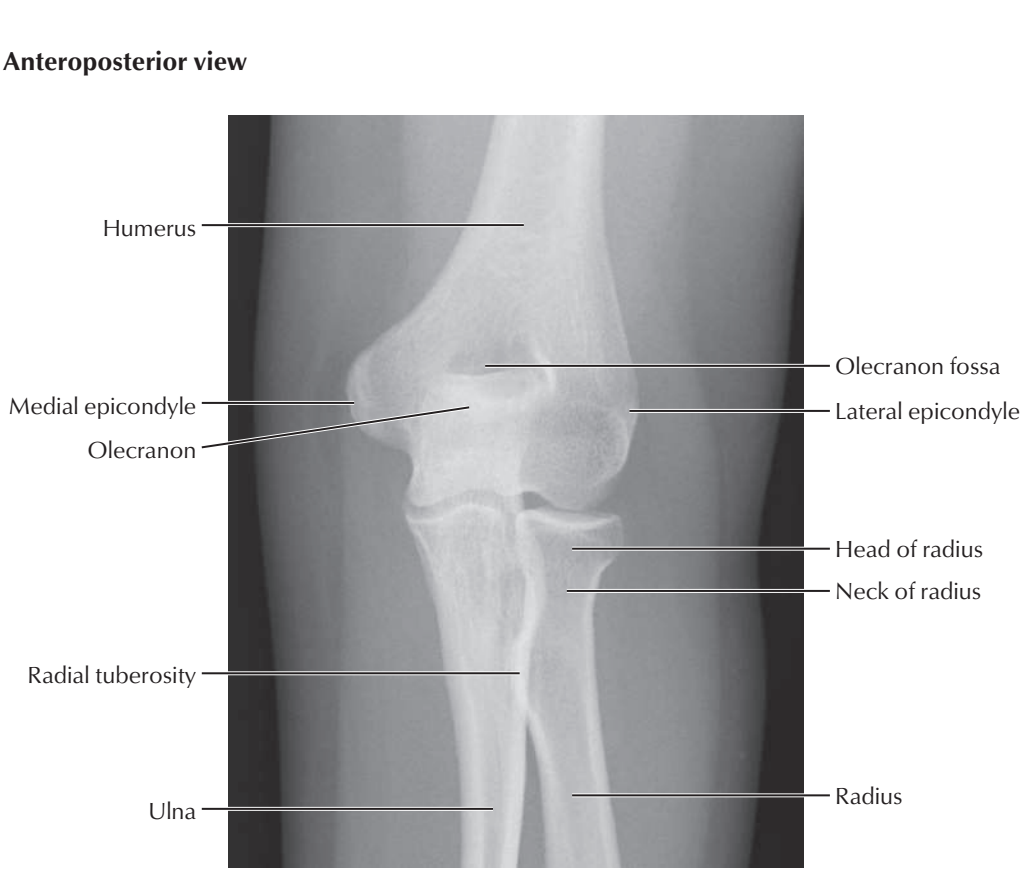


In 90 degrees of flexion: medial view

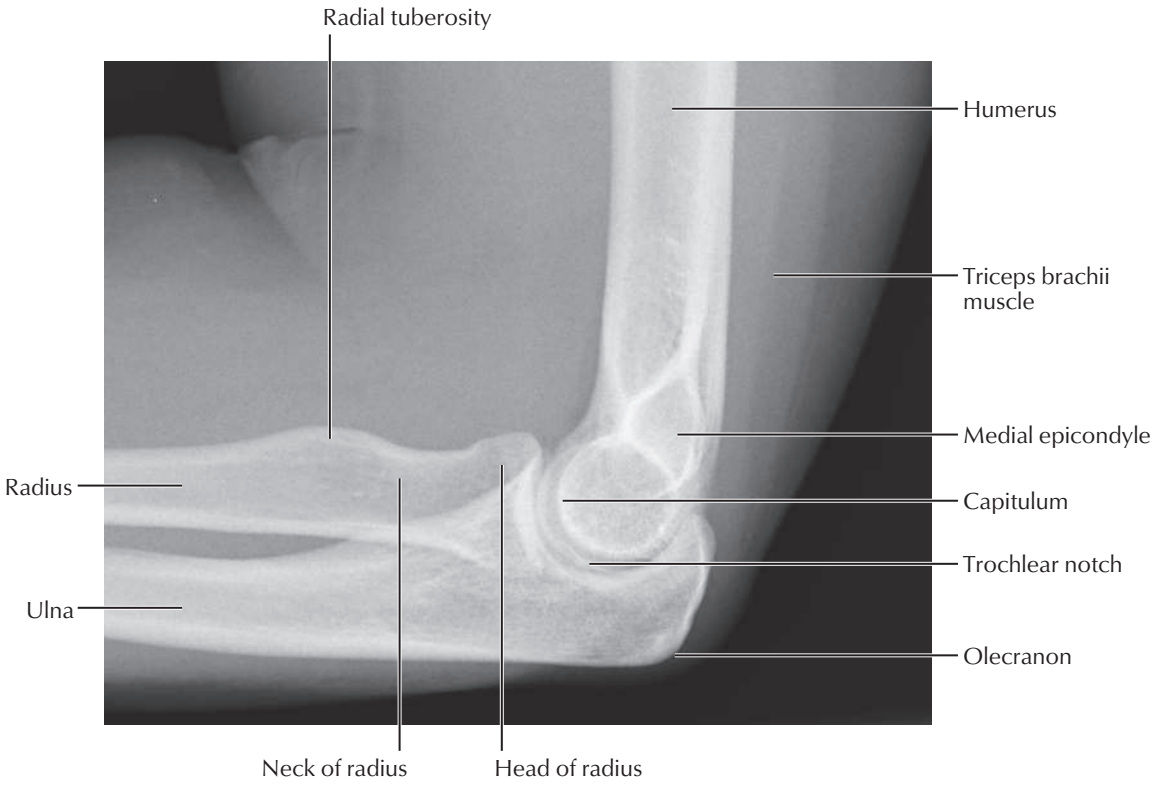
www.Booksmedicos06.com ////////

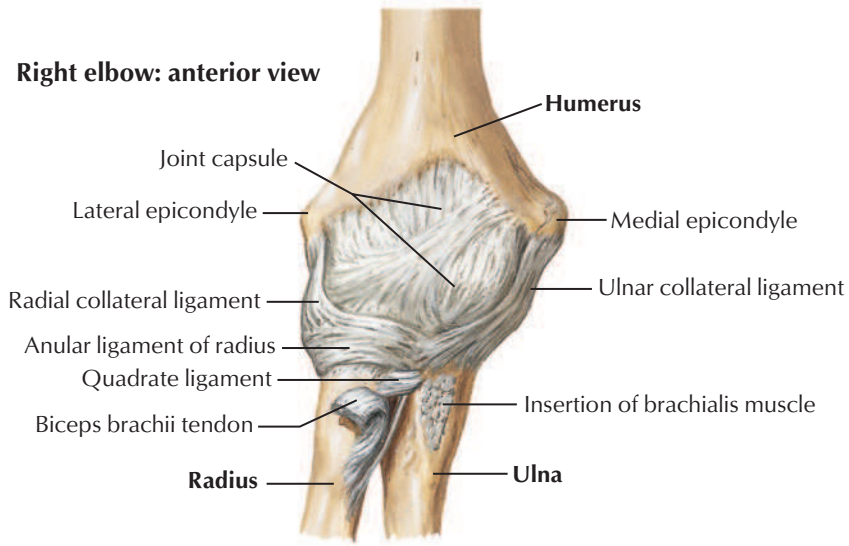
////// facebook : Booksmedicos06

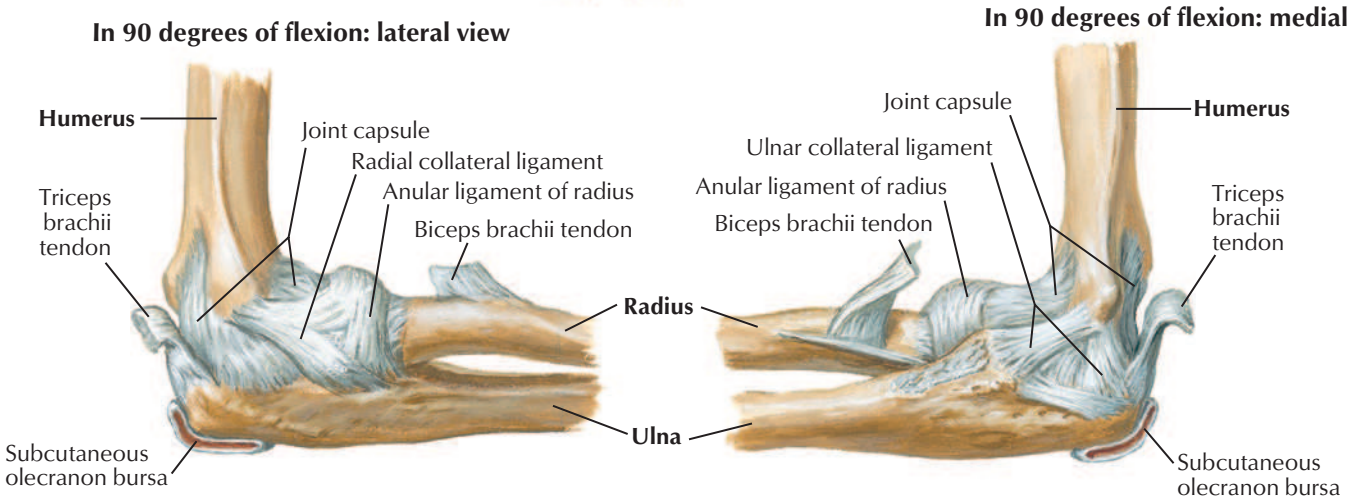
Anteroposterior view

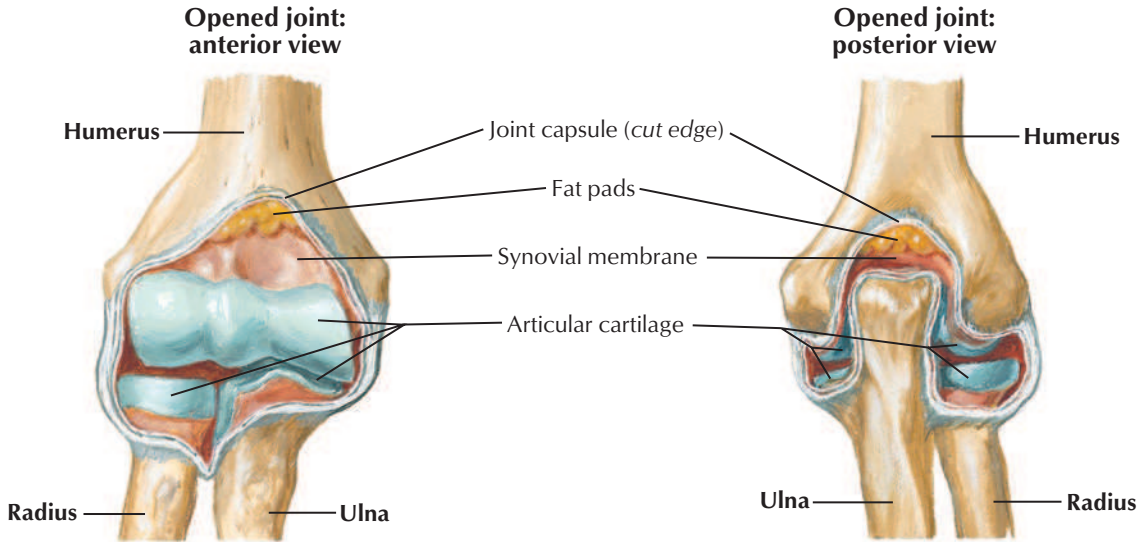


Lateral view



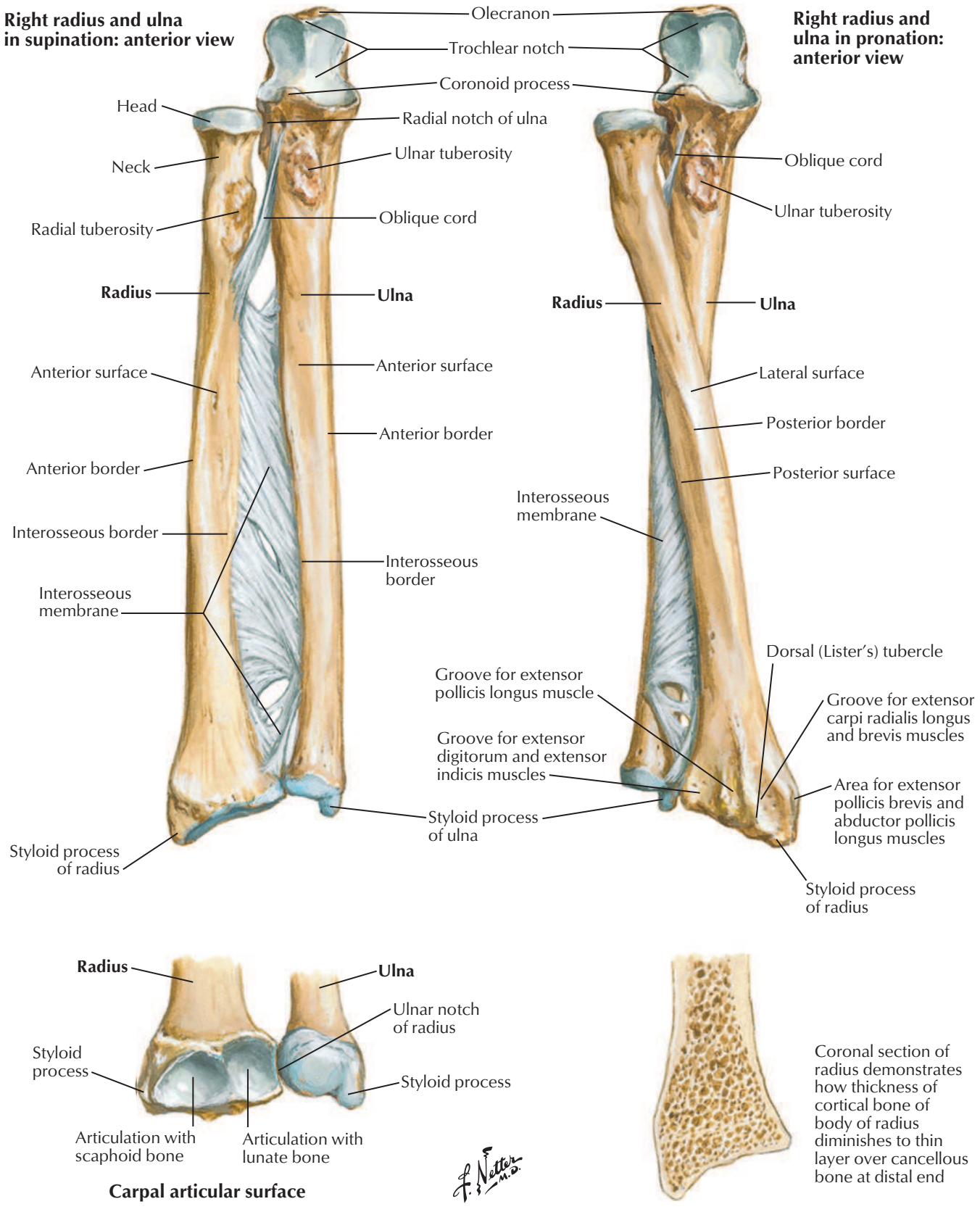






www.Booksmedicos06.com ///////

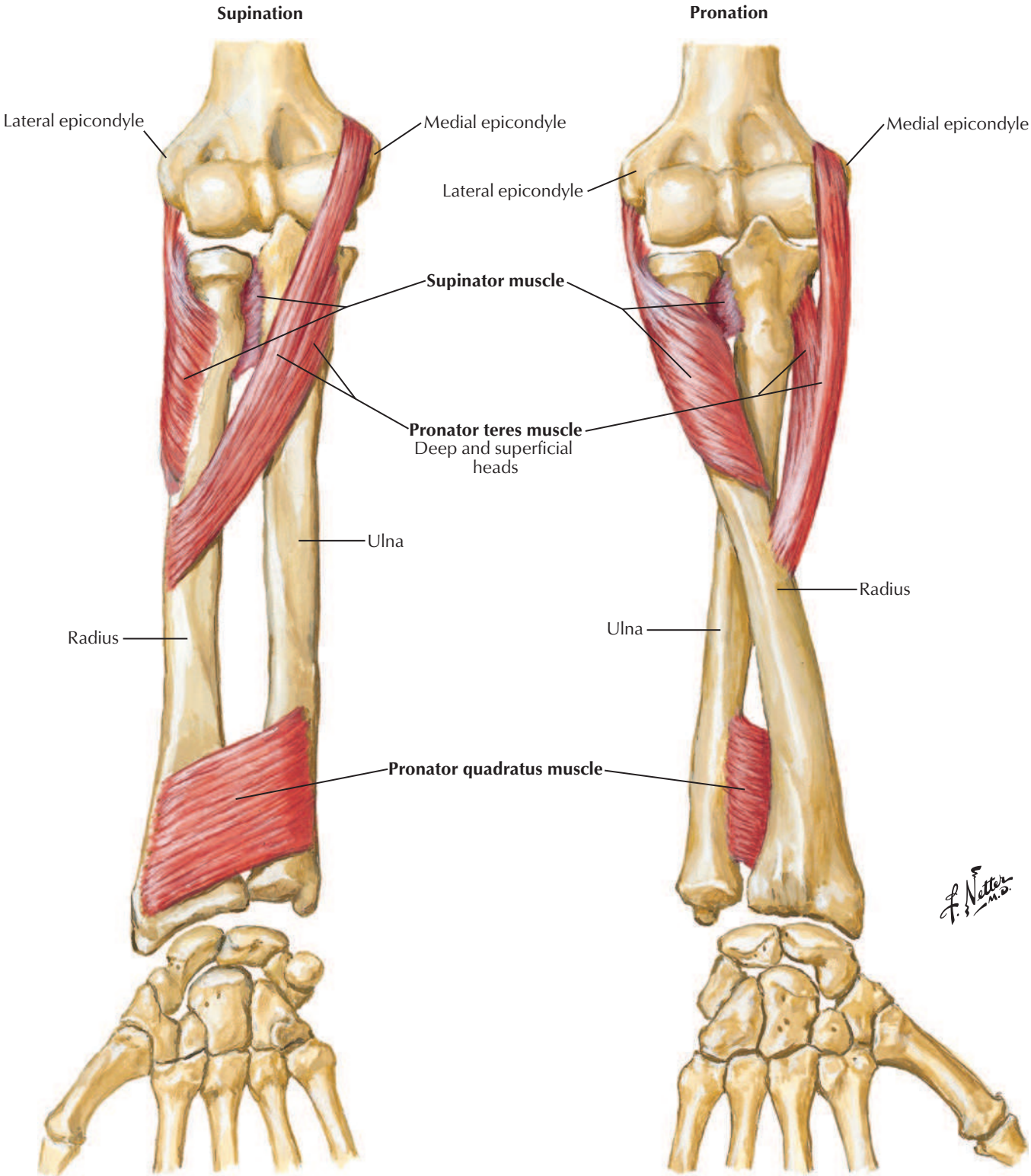
See also Plate 440



////// facebook : Booksmedicos06

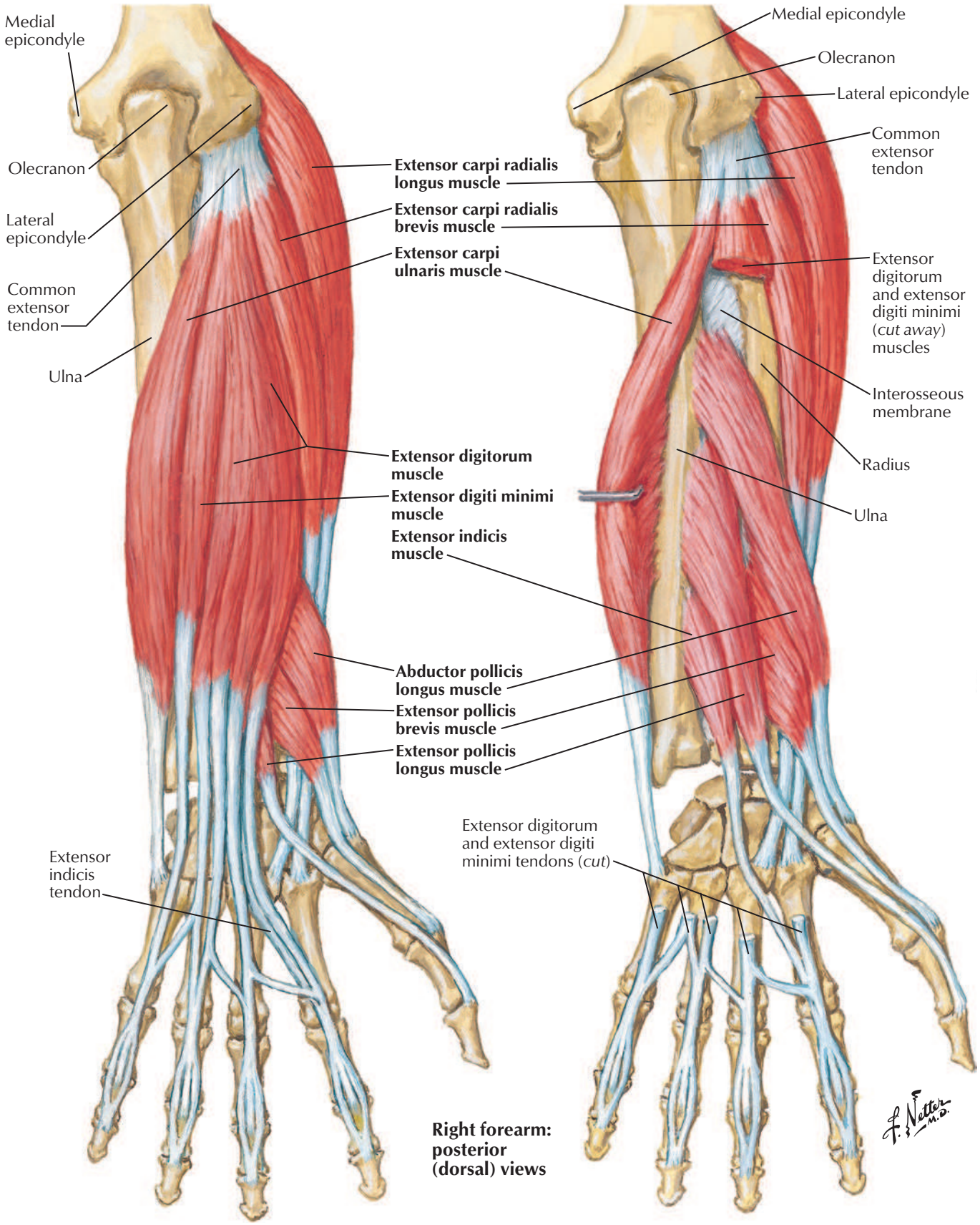
See also Plate 438

Right forearm: anterior view



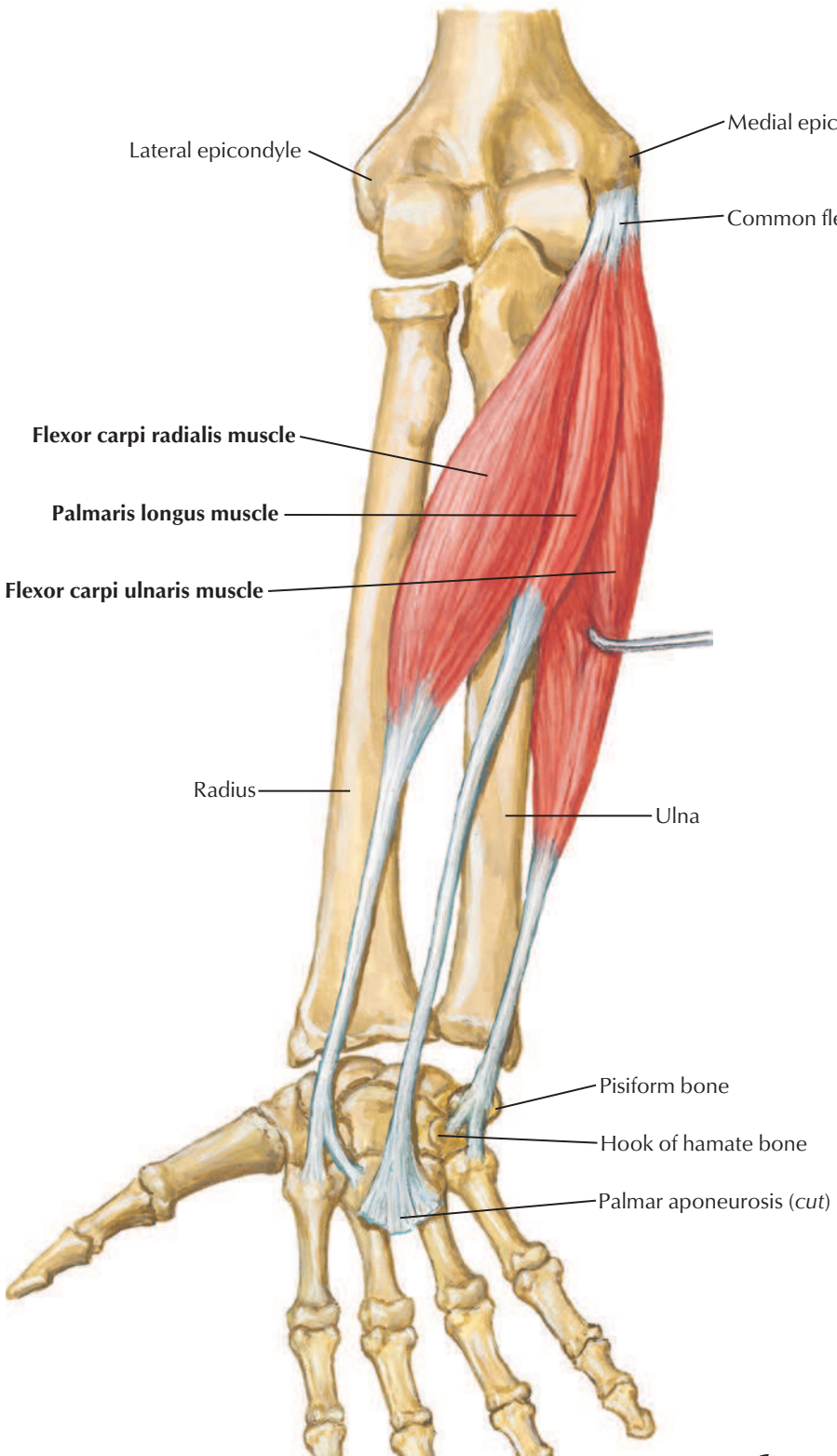
www.Booksmedicos06.com

See also Plate 441



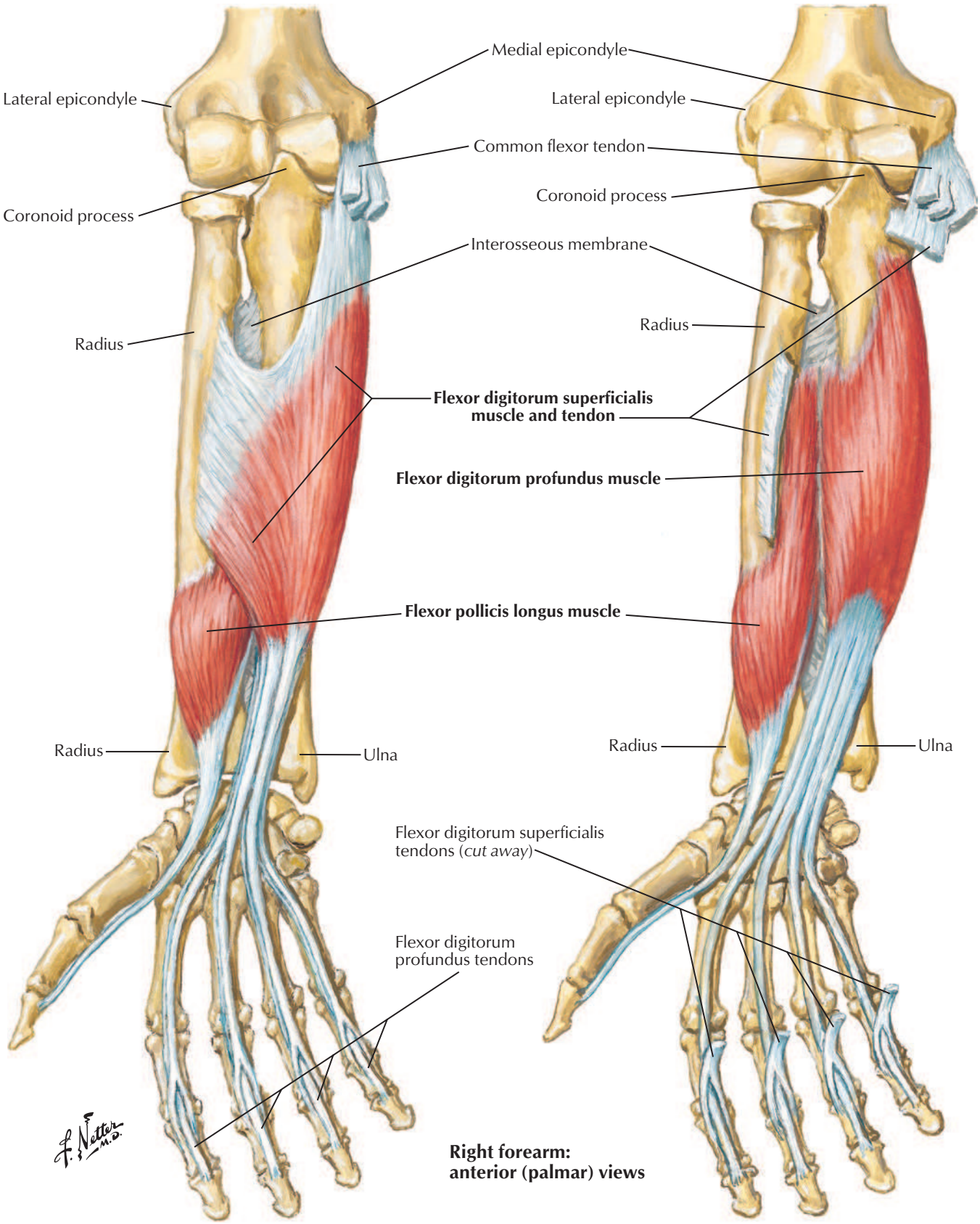
Right forearm: posterior (dorsal) views

////// facebook : Booksmedicos06



Right forearm:
anterior (palmar) view

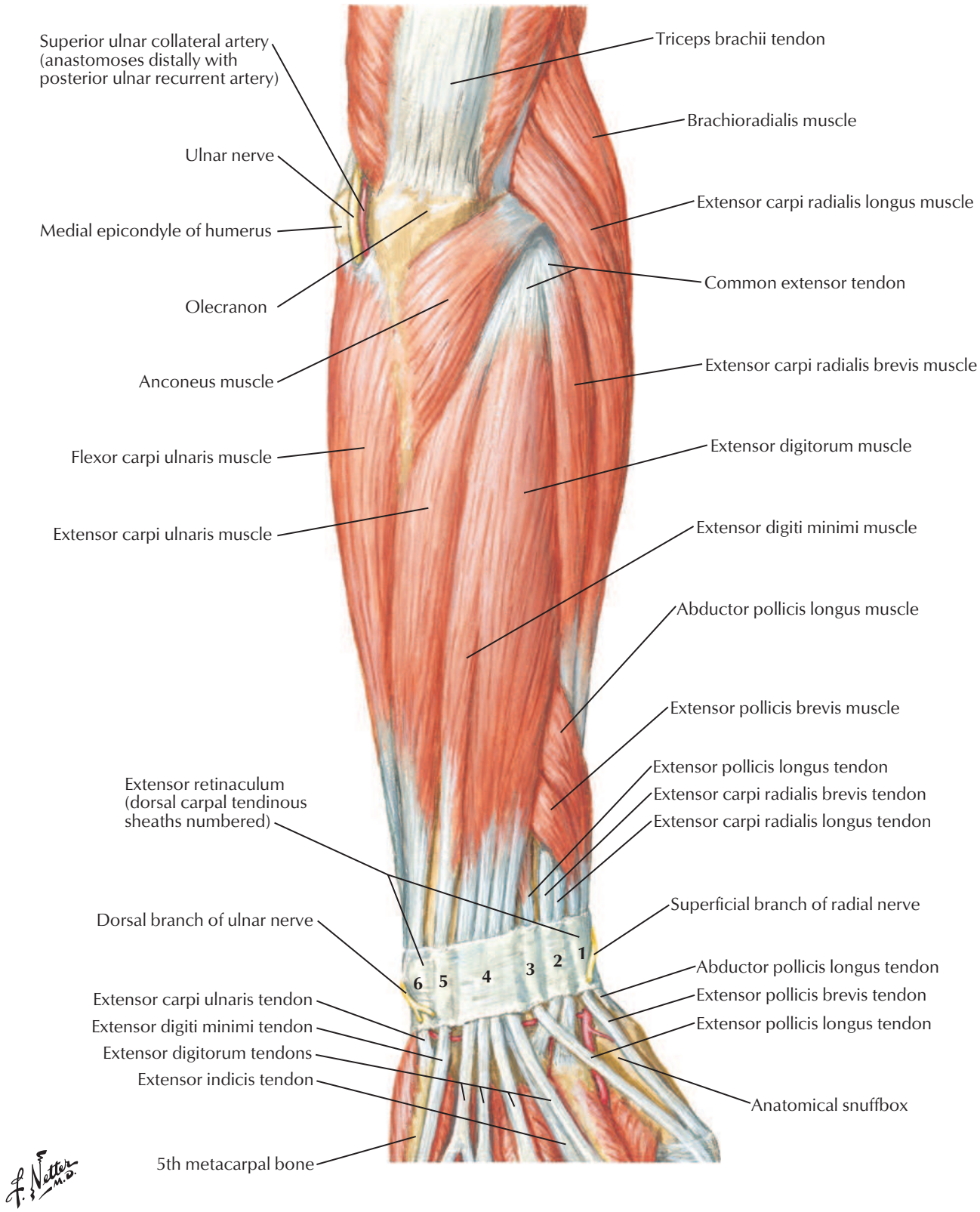
www.Booksmedicos06.com



Right forearm: anterior (palmar) views

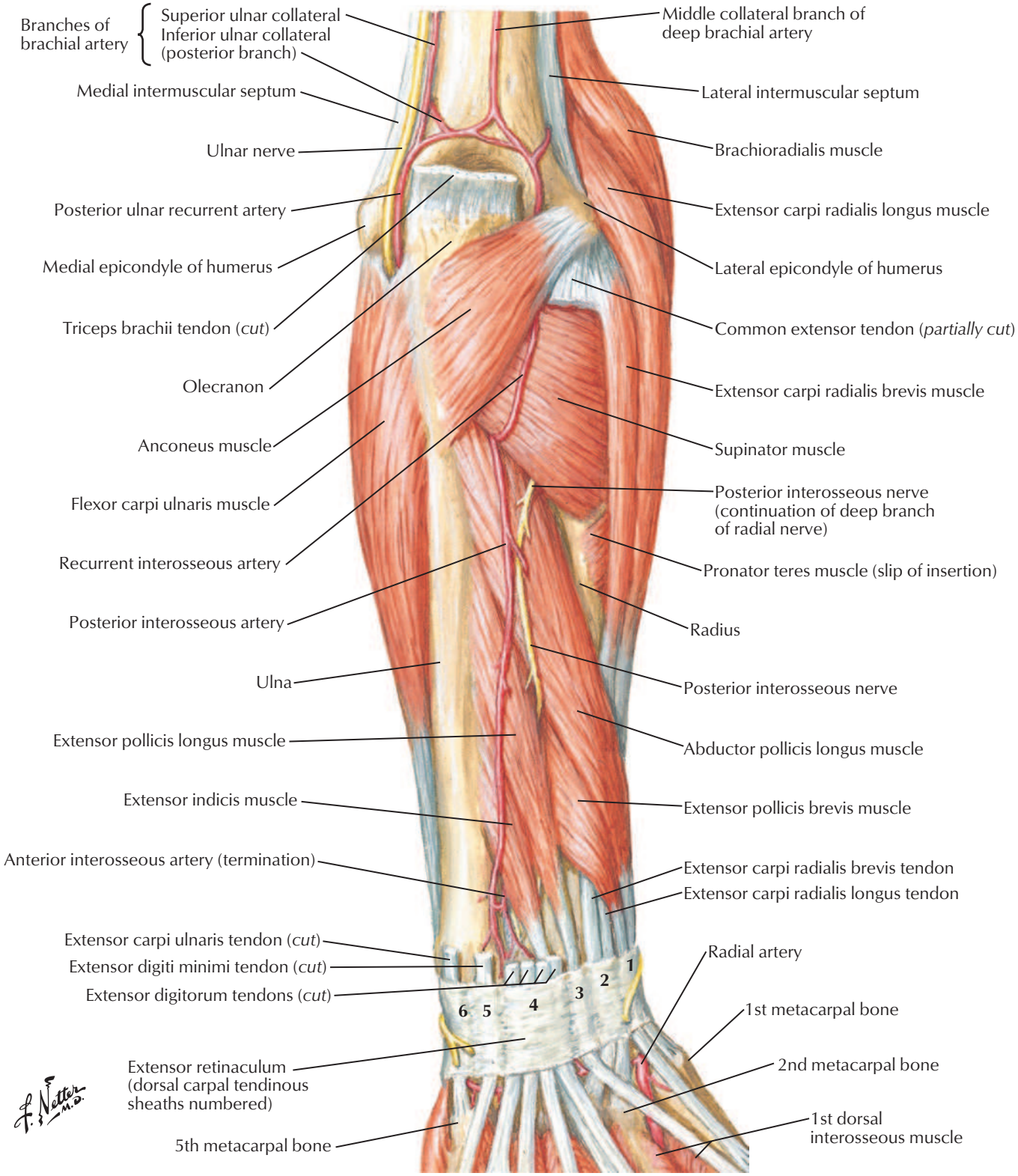
////// facebook : Booksmedicos06

See also Plates 460, 469



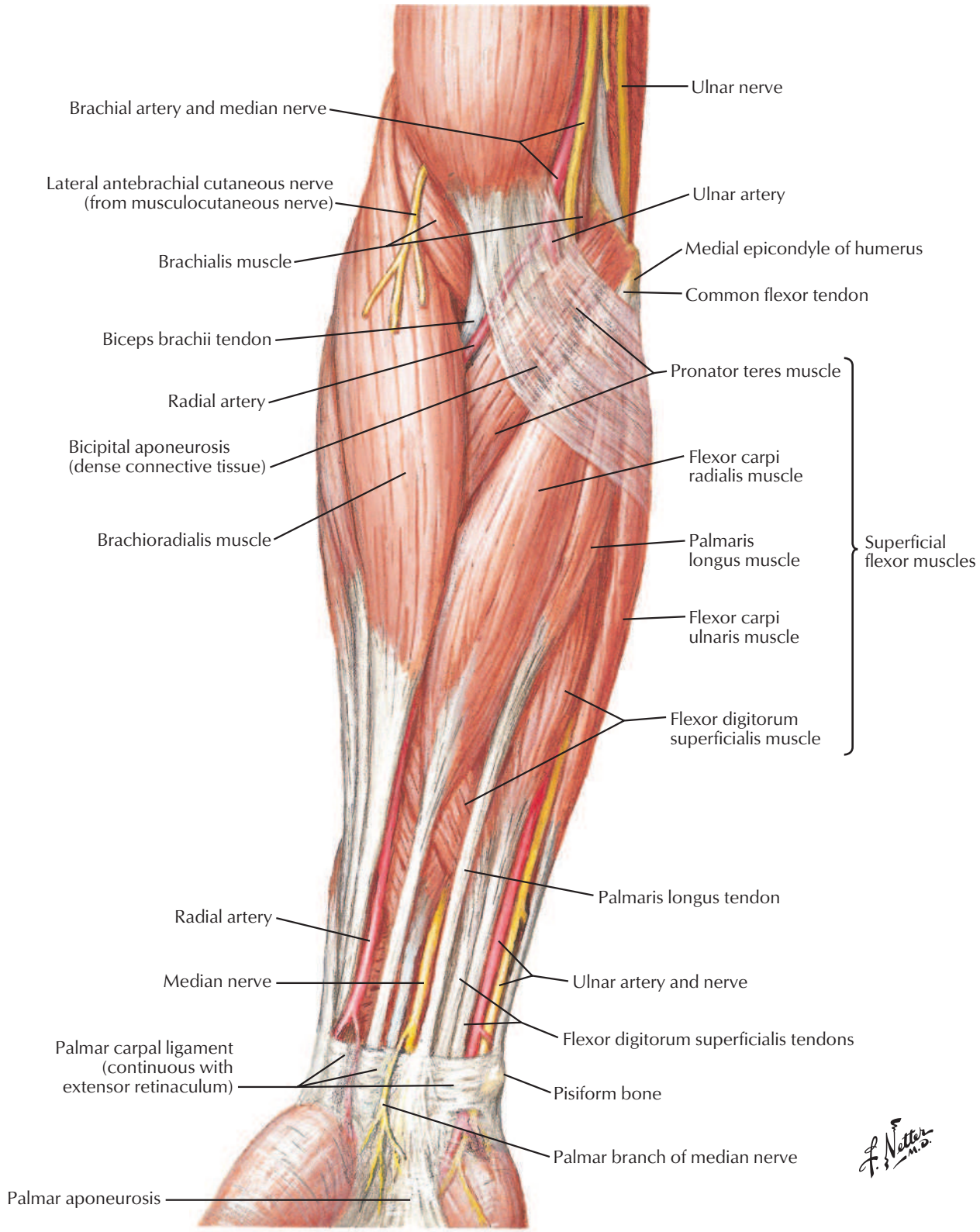
www.Booksmedicos06.com

See also Plate 460



////// facebook : Booksmedicos06

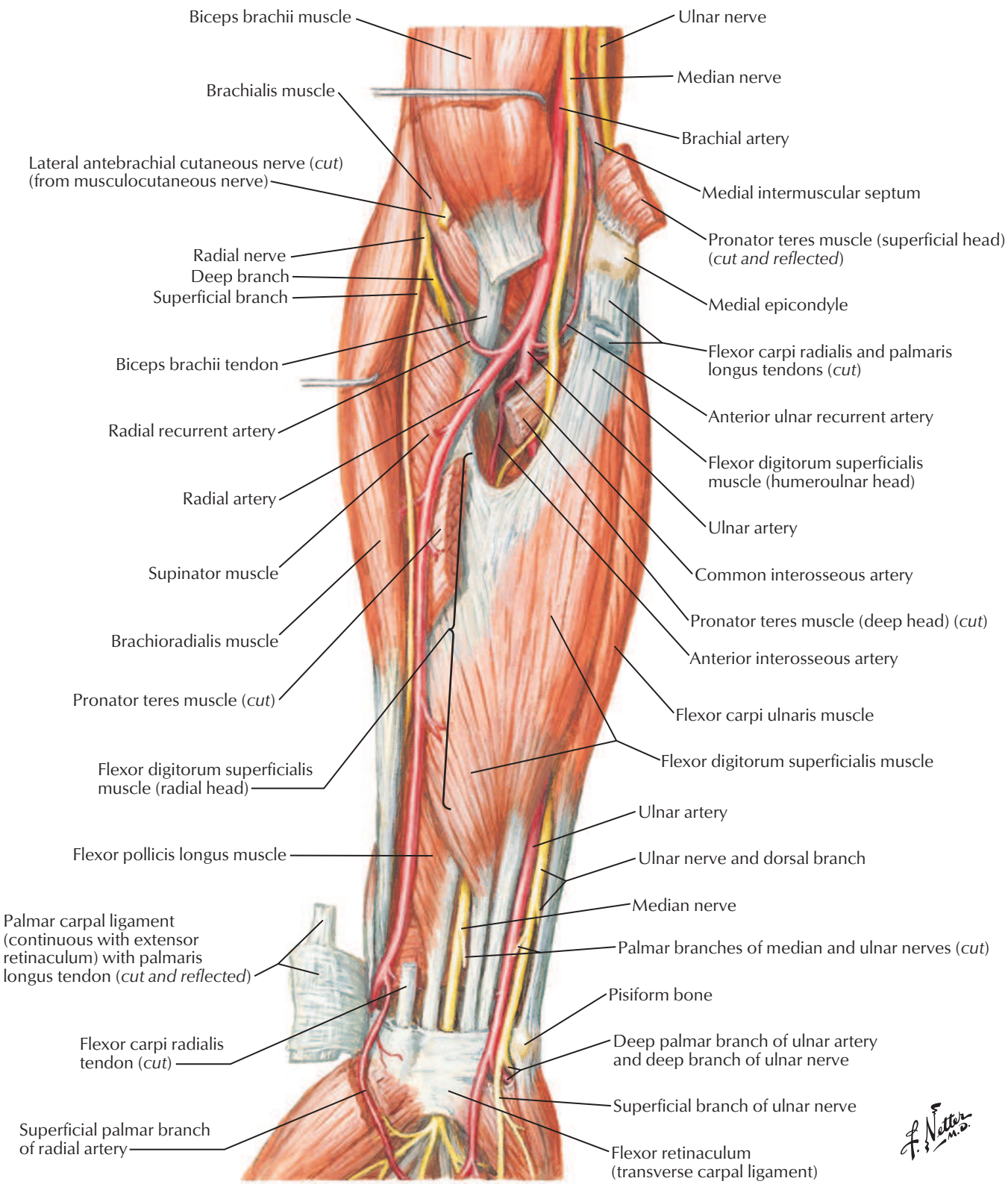
See also Plates 466, 467



www.Booksmedicos06.com

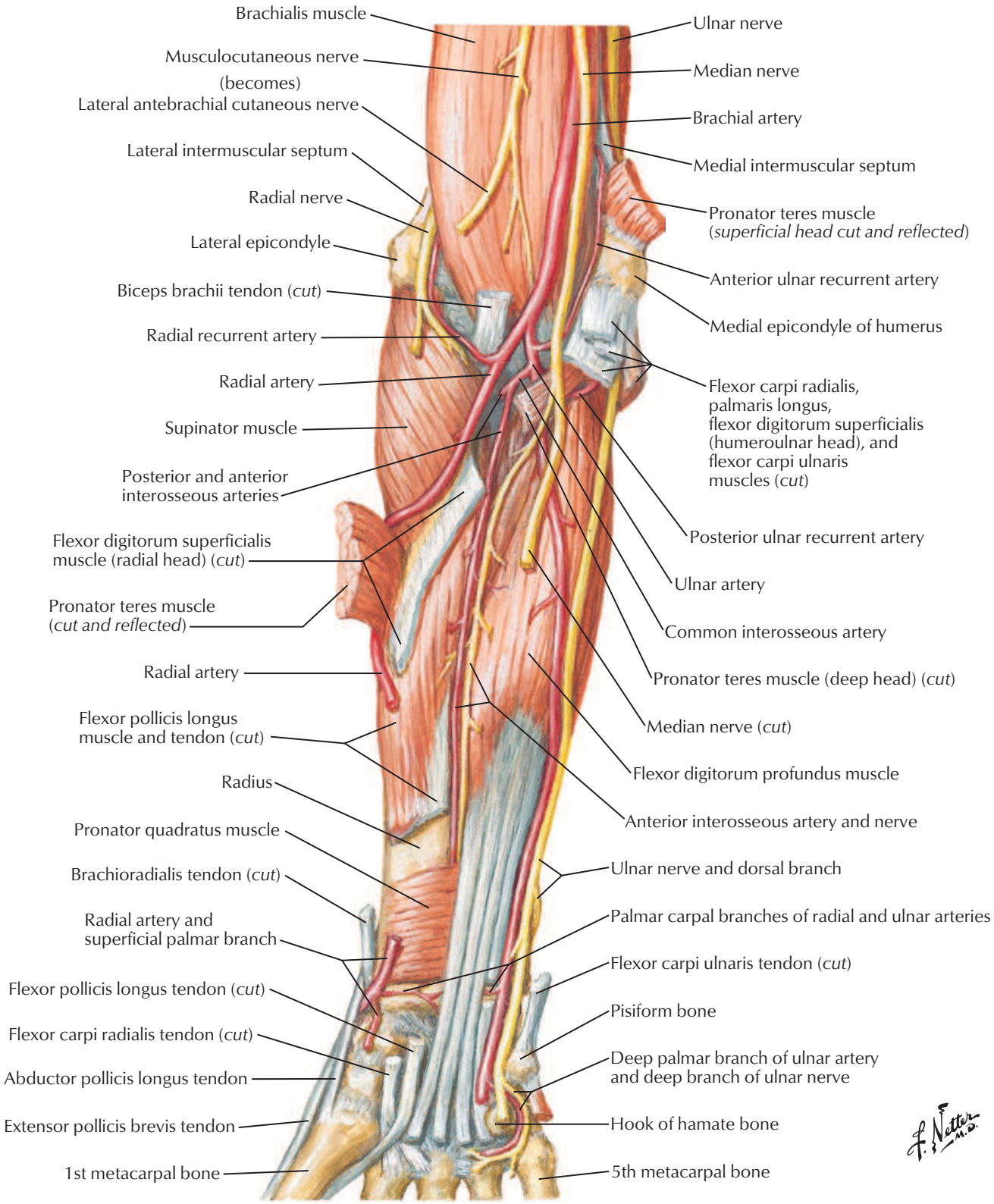
Muscles of Forearm (Intermediate Layer): Anterior View

See also Plates 424, 466

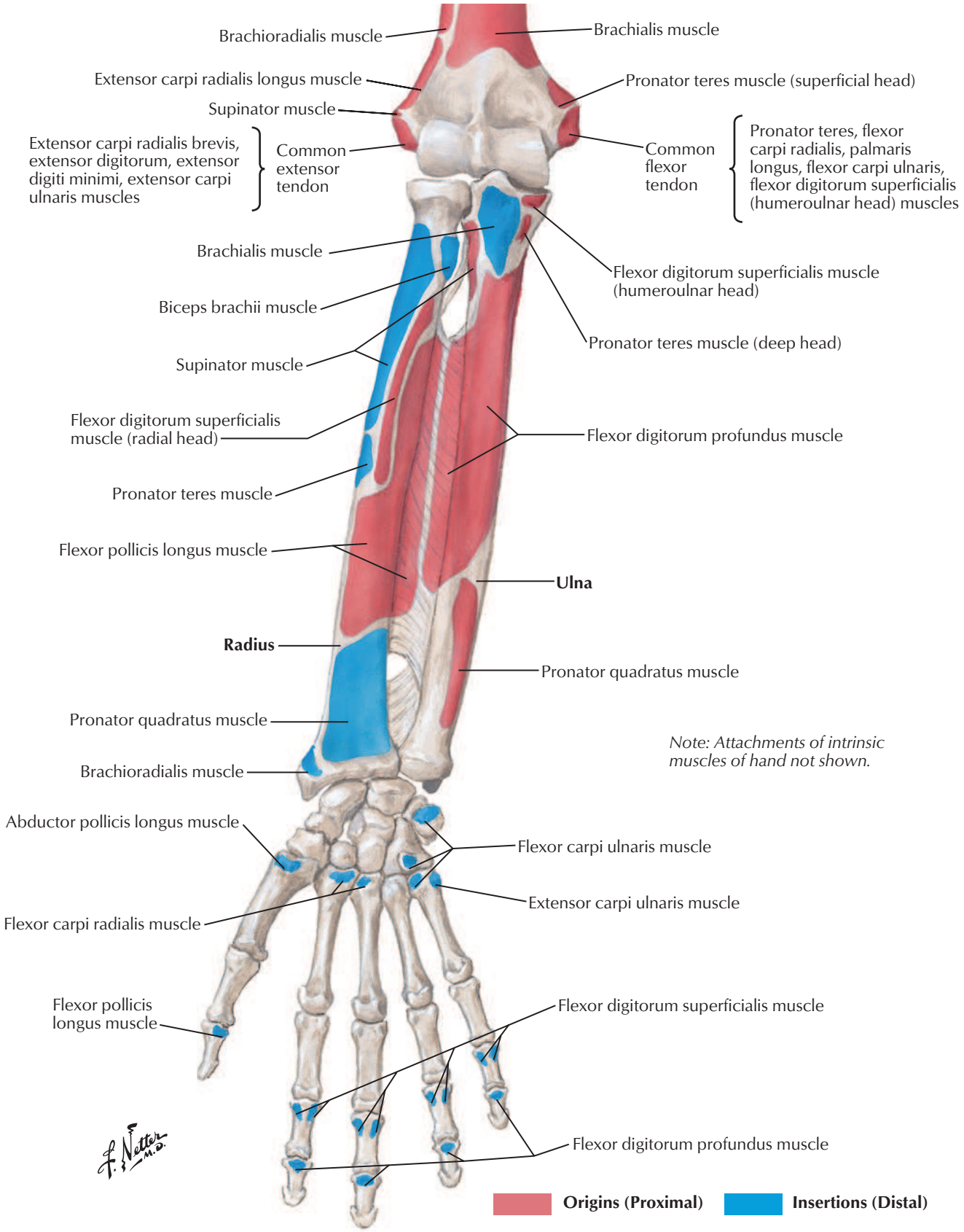


////// facebook : Booksmedicos06

See also Plates 421, 467



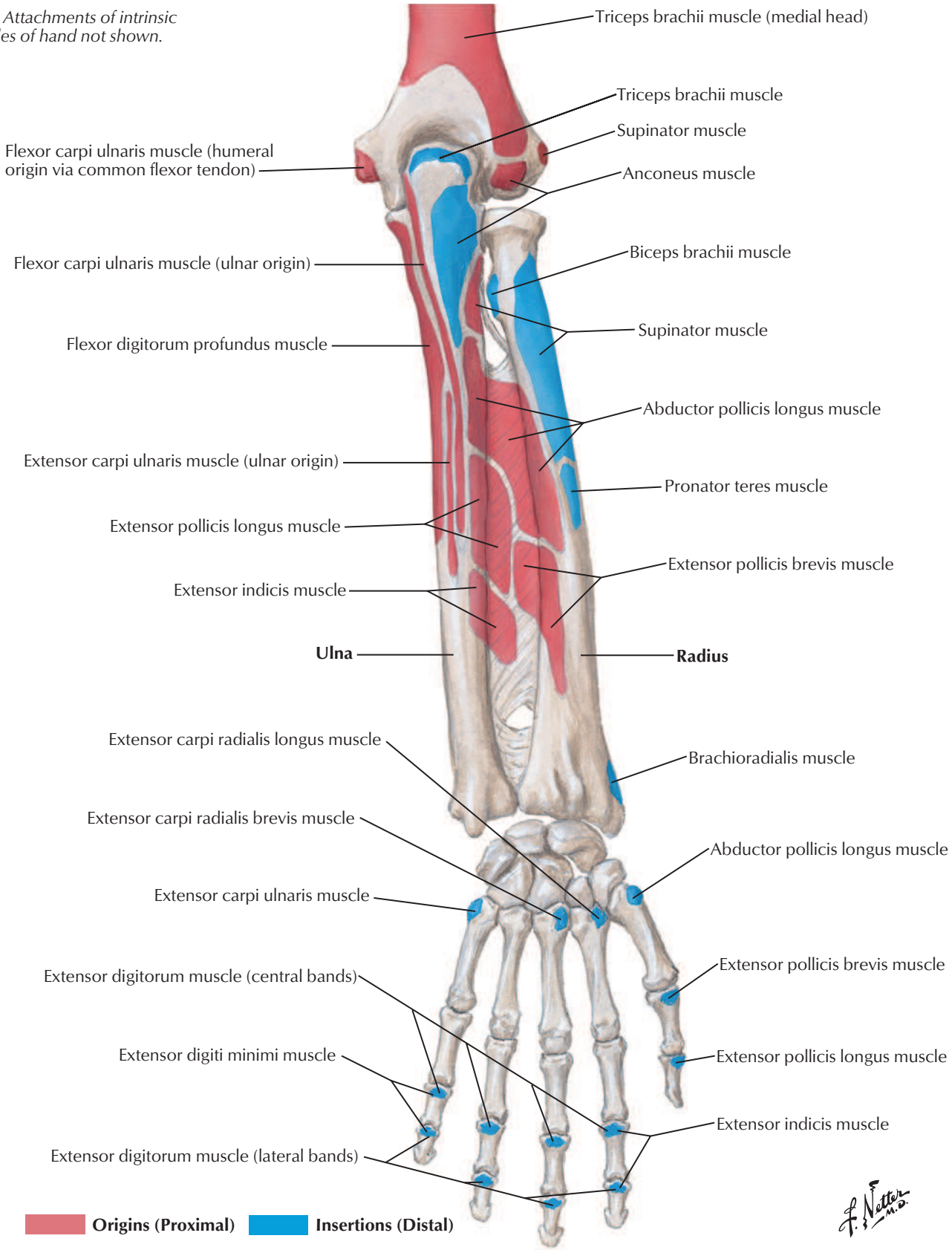
www.Booksmedicos06.com



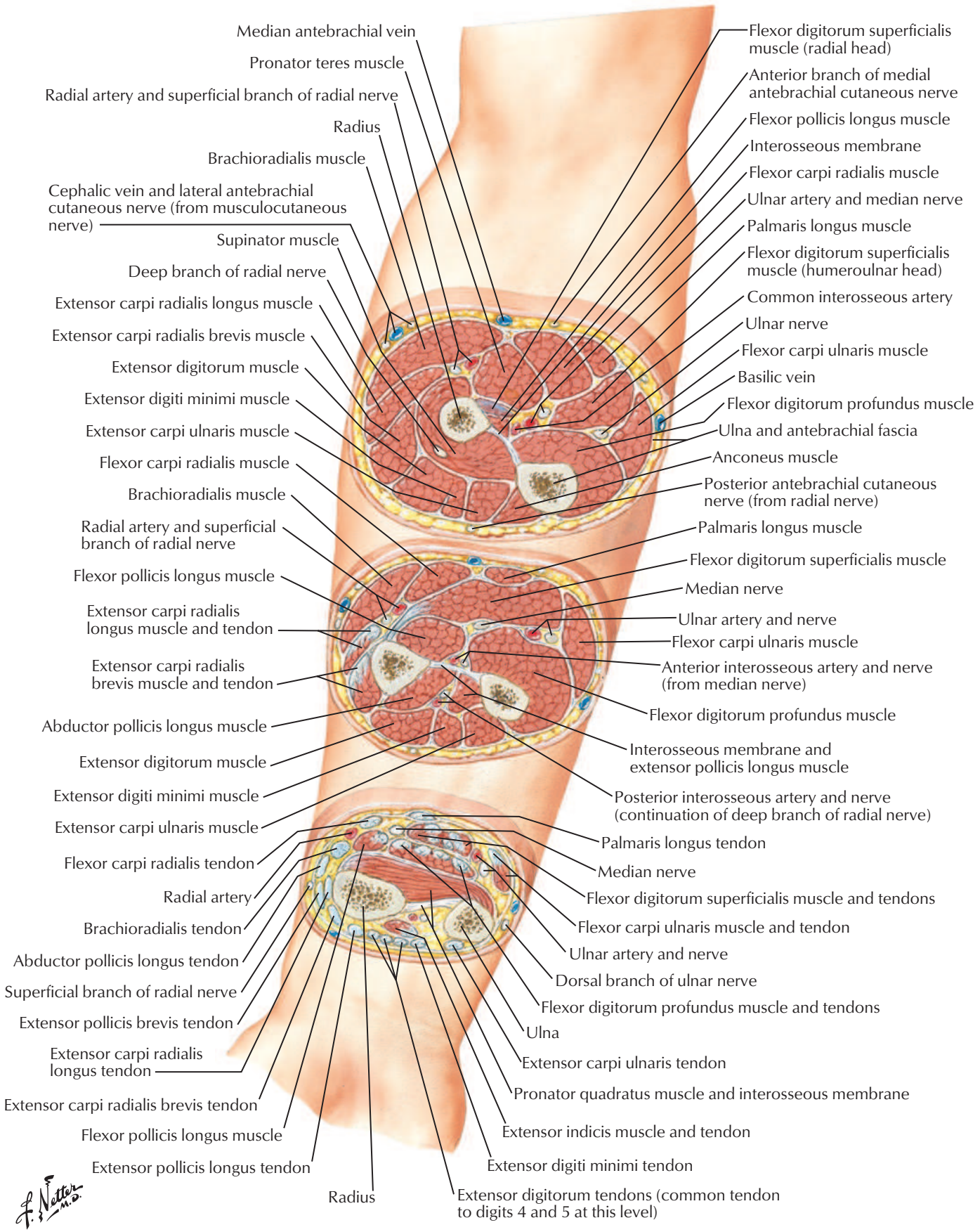
////// facebook : Booksmedicos06

See also Plate 431

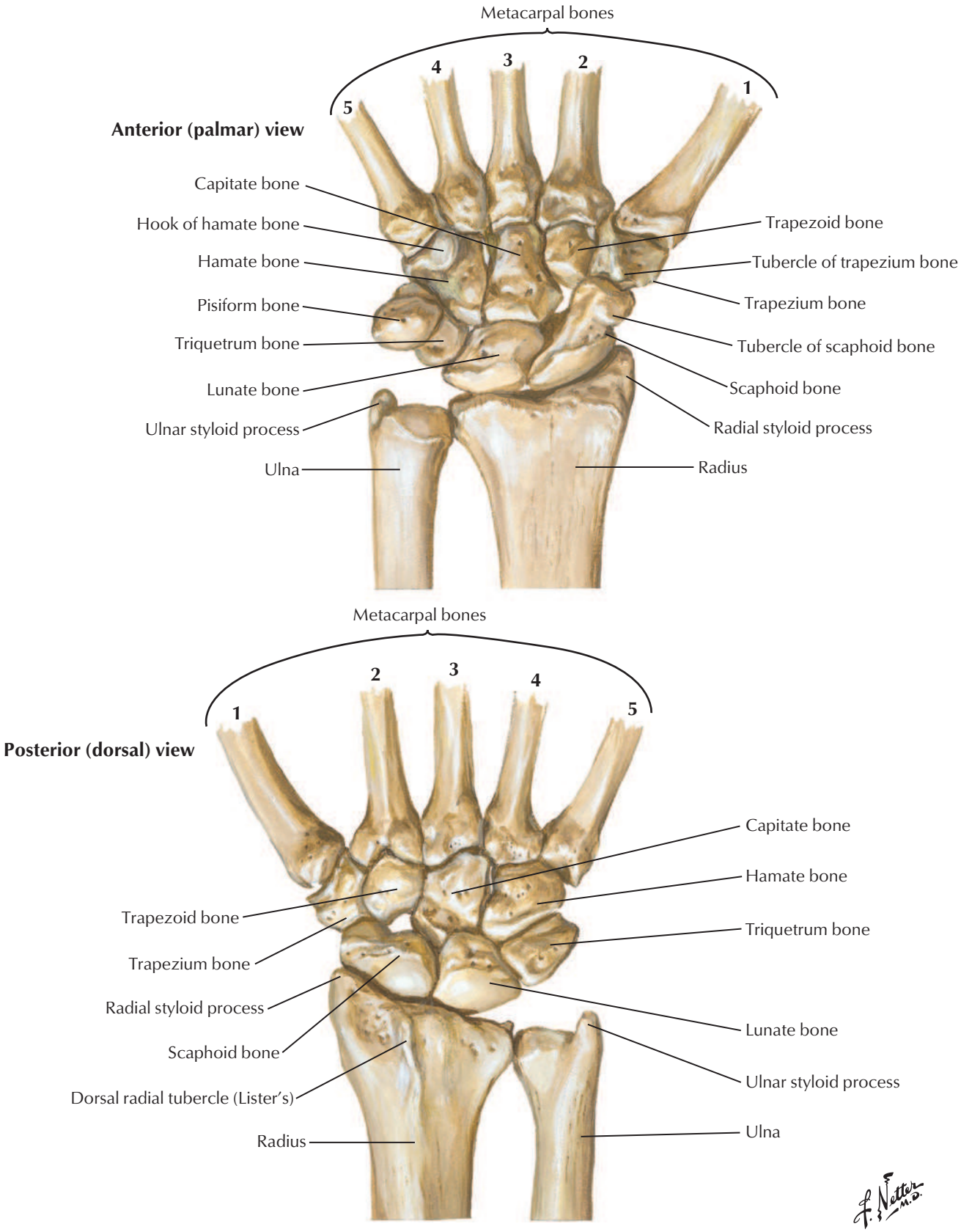
Note: Attachments of intrinsic muscles of hand not shown.



www.Booksmedicos06.com

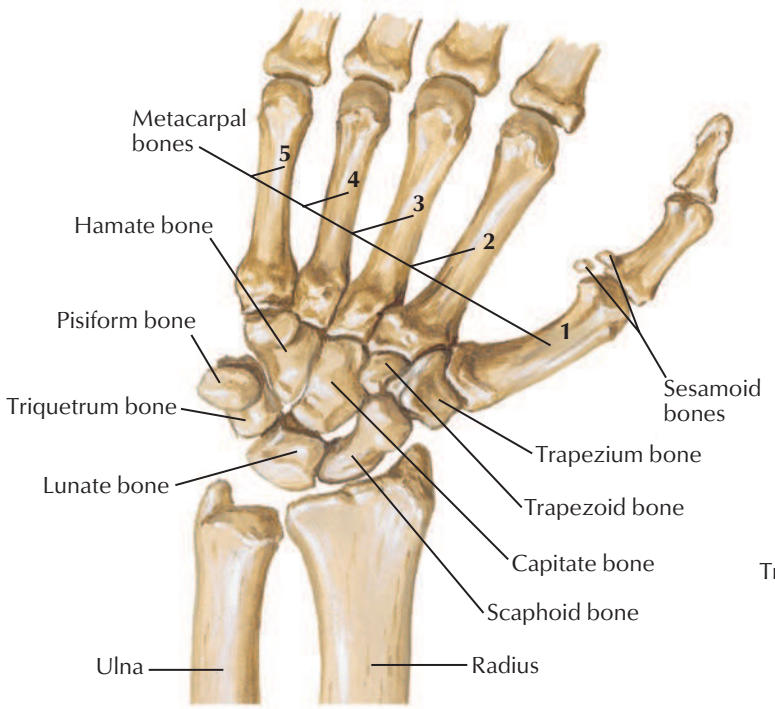


/////// facebook : Booksmedicos06

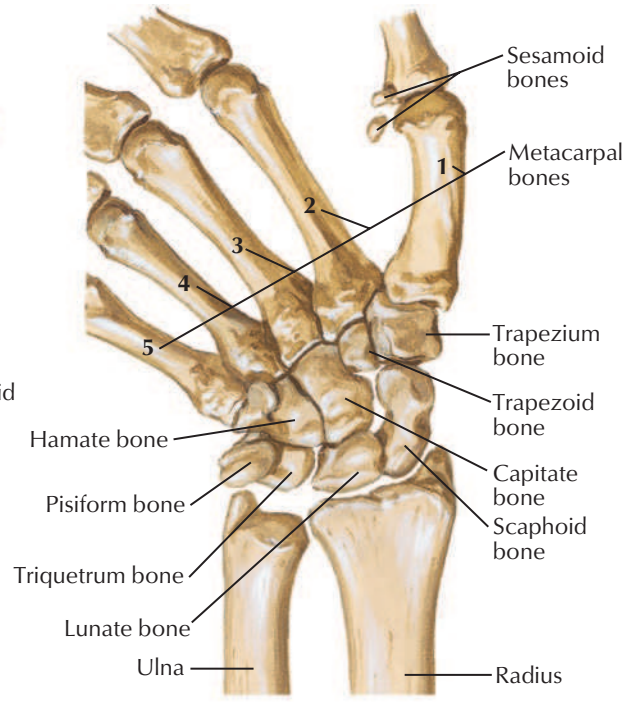


www.Booksmedicos06.com

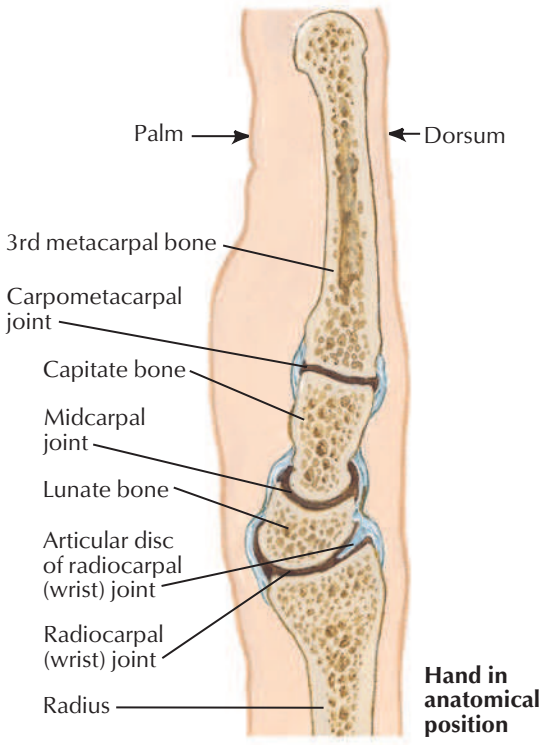
See also Plates 446, 447



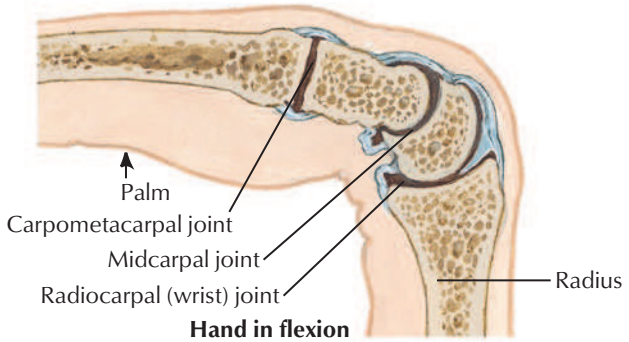
Position of carpal bones with hand in abduction: anterior (palmar) view



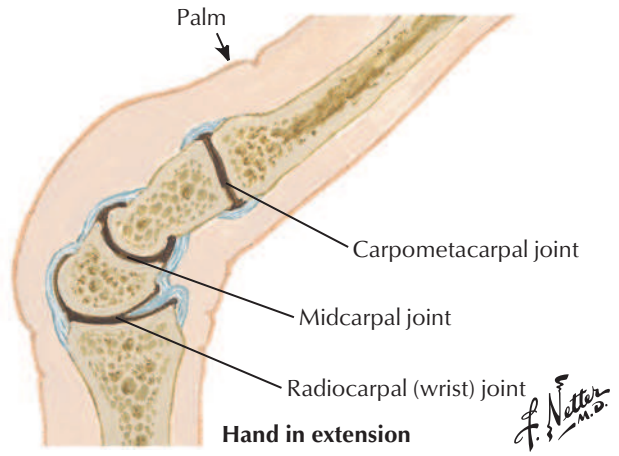
Position of carpal bones with hand in adduction: anterior (palmar) view



Sagittal sections through wrist and middle finger



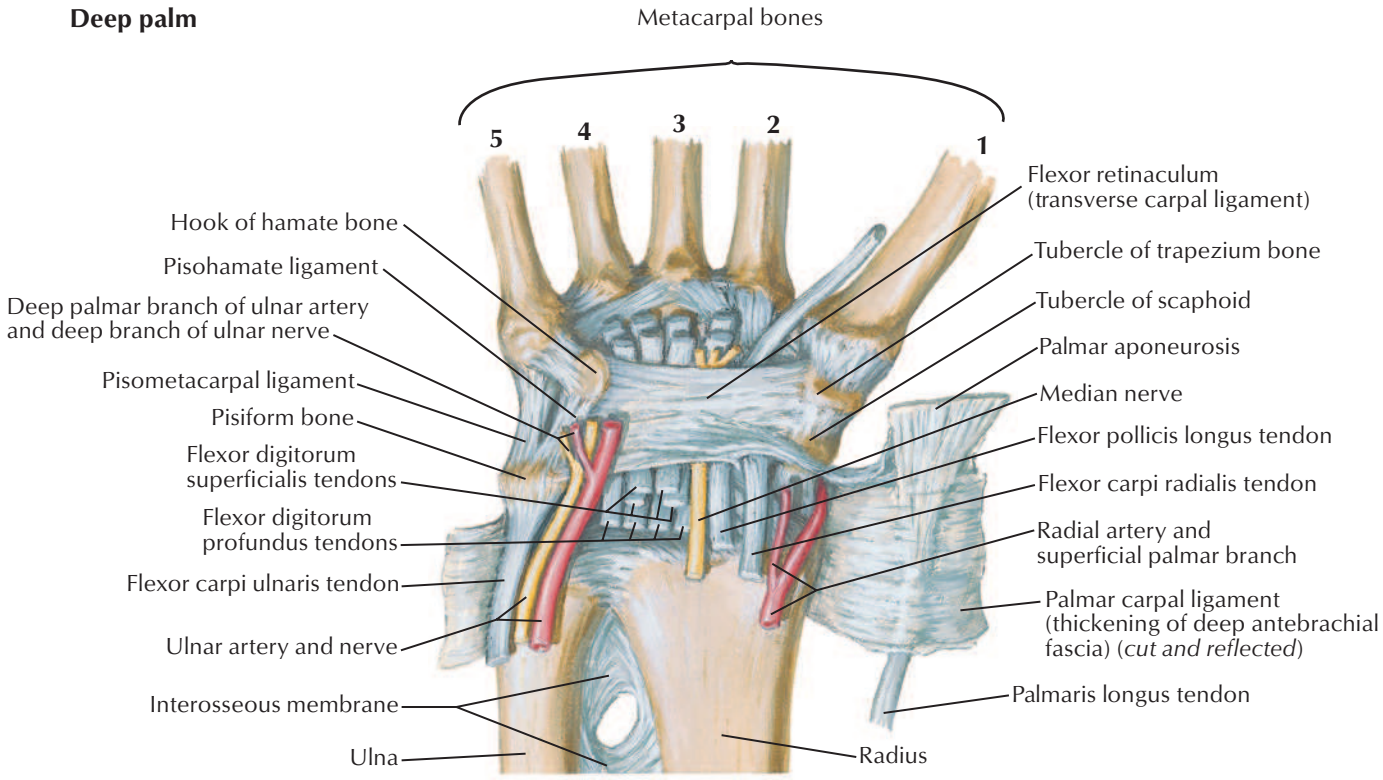
Hand in flexion



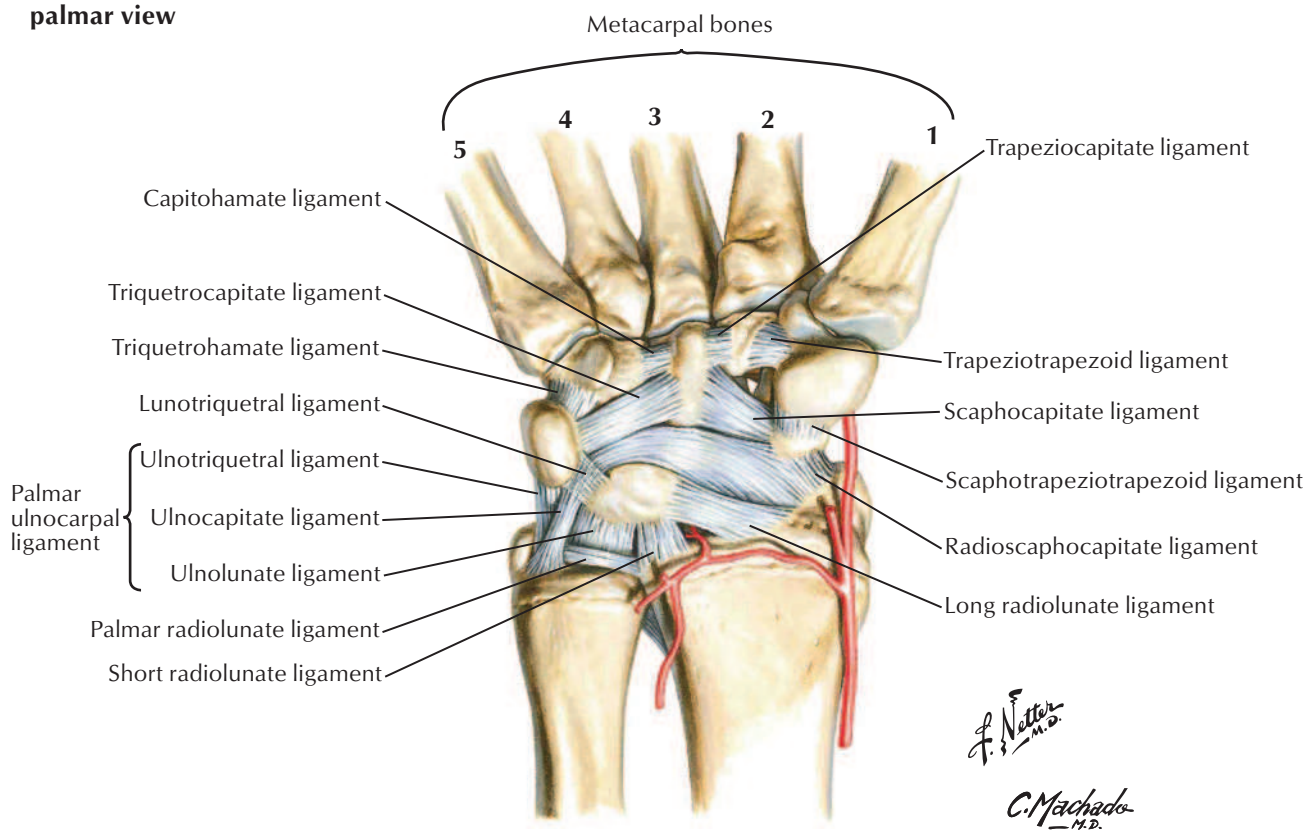
Hand in extension

////// facebook : Booksmedicos06

Deep palm



Flexor retinaculum removed: palmar view

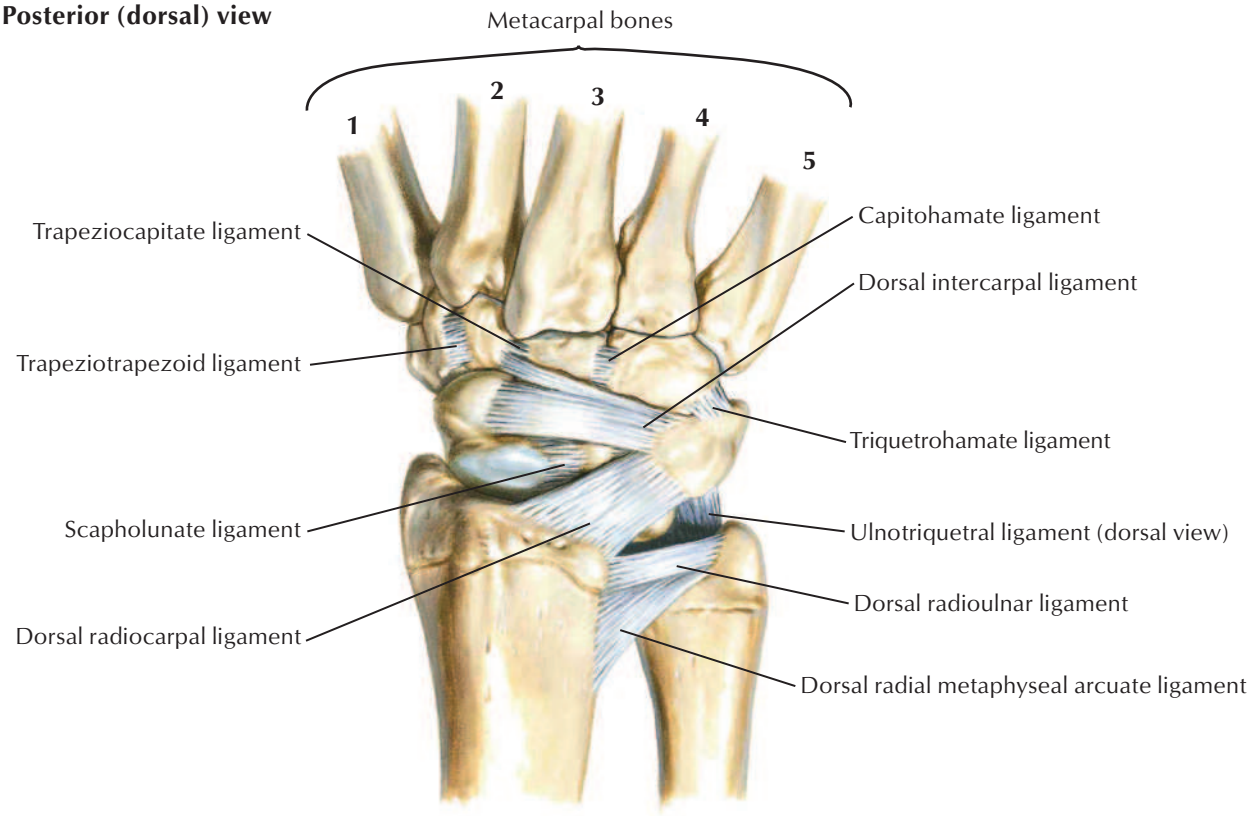


www.Booksmedicos06.com

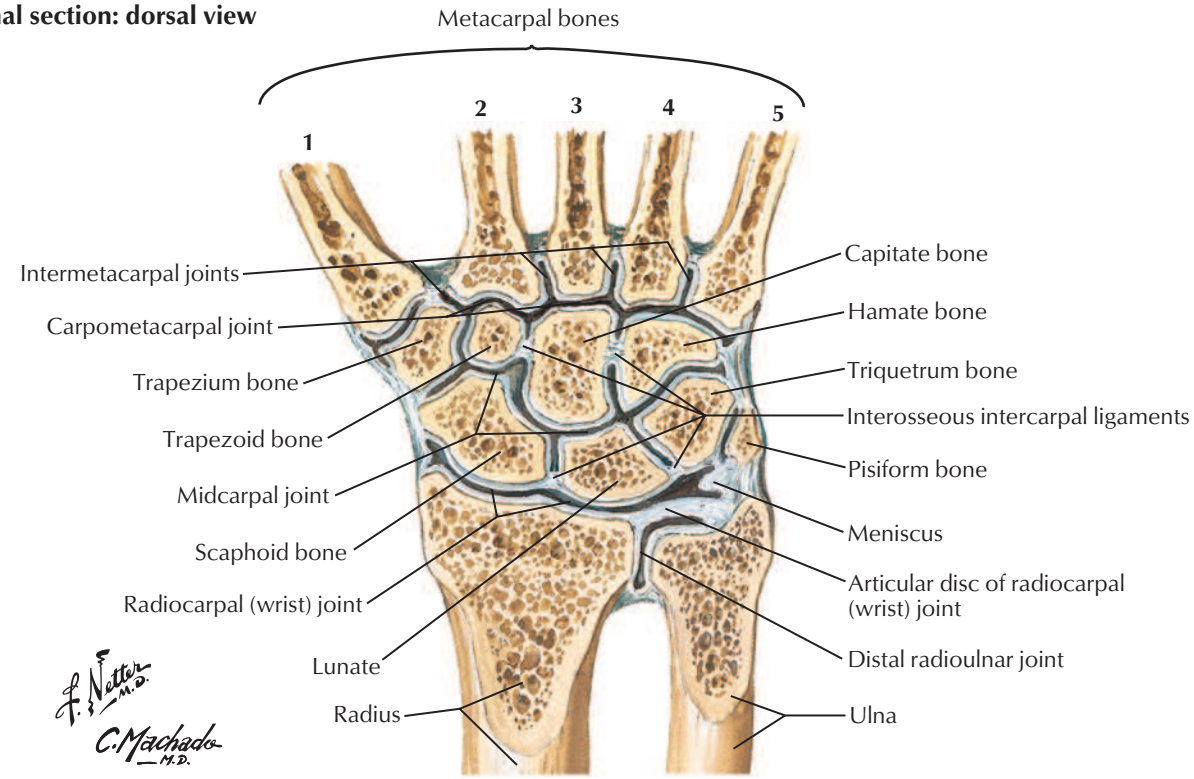
See also Plate 447

////// facebook : Booksmedicos06

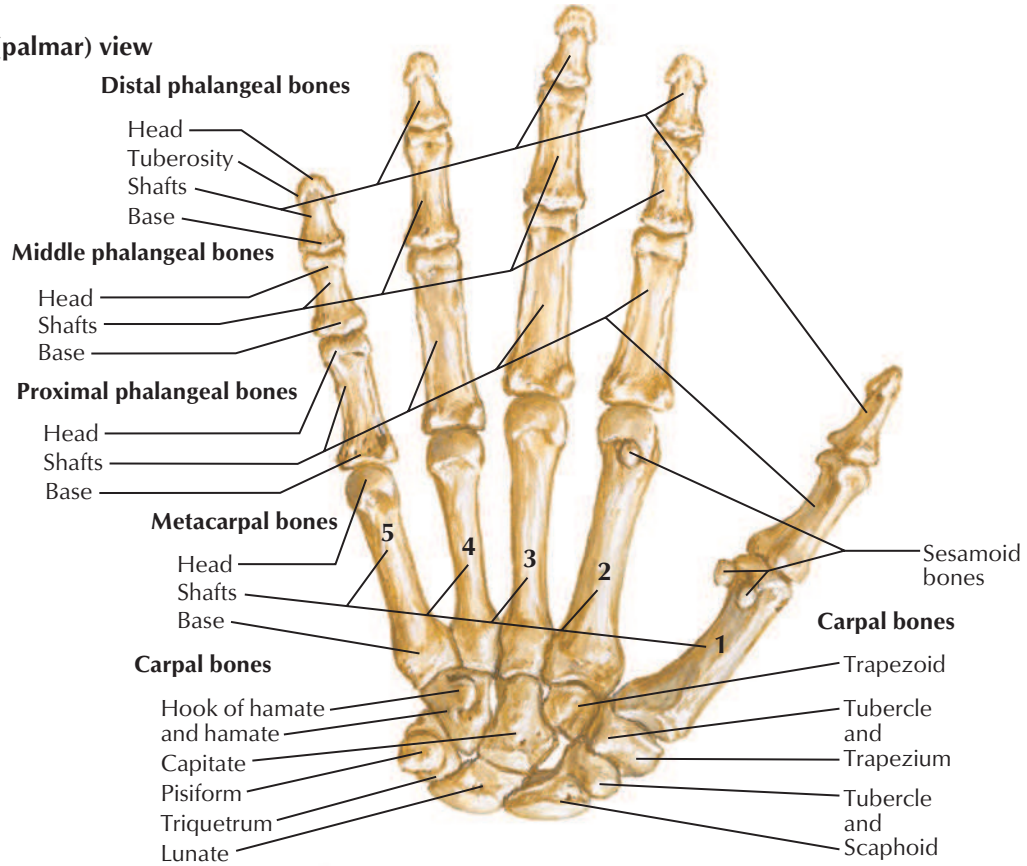
Posterior (dorsal) view



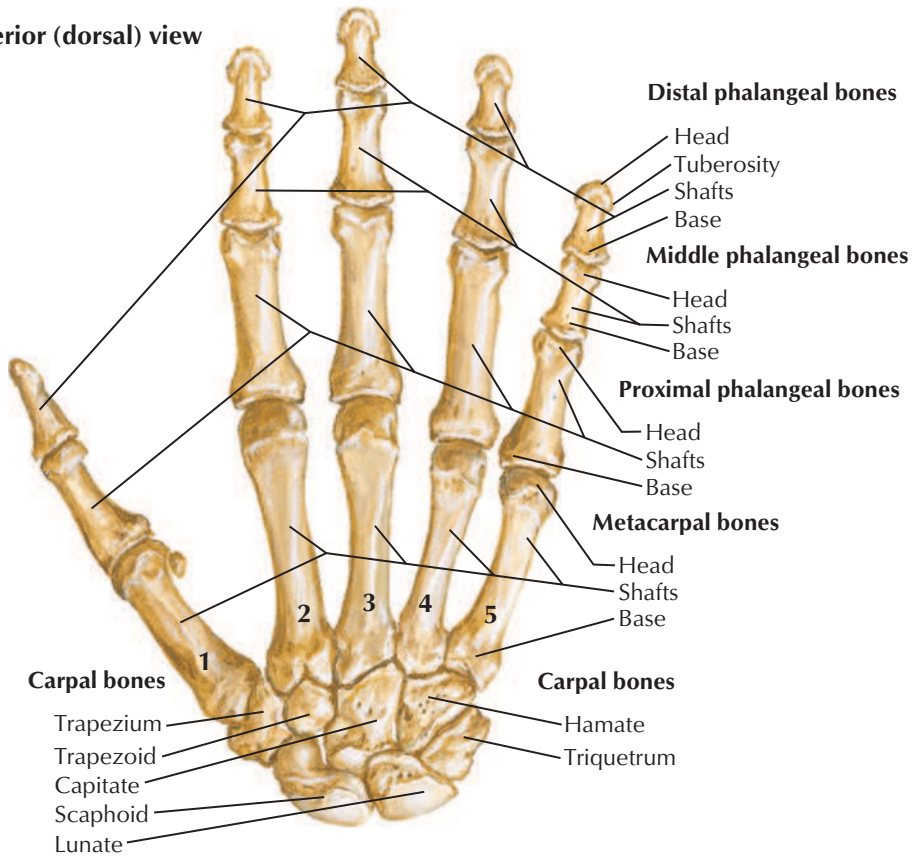
Coronal section: dorsal view



Right hand: anterior (palmar) view



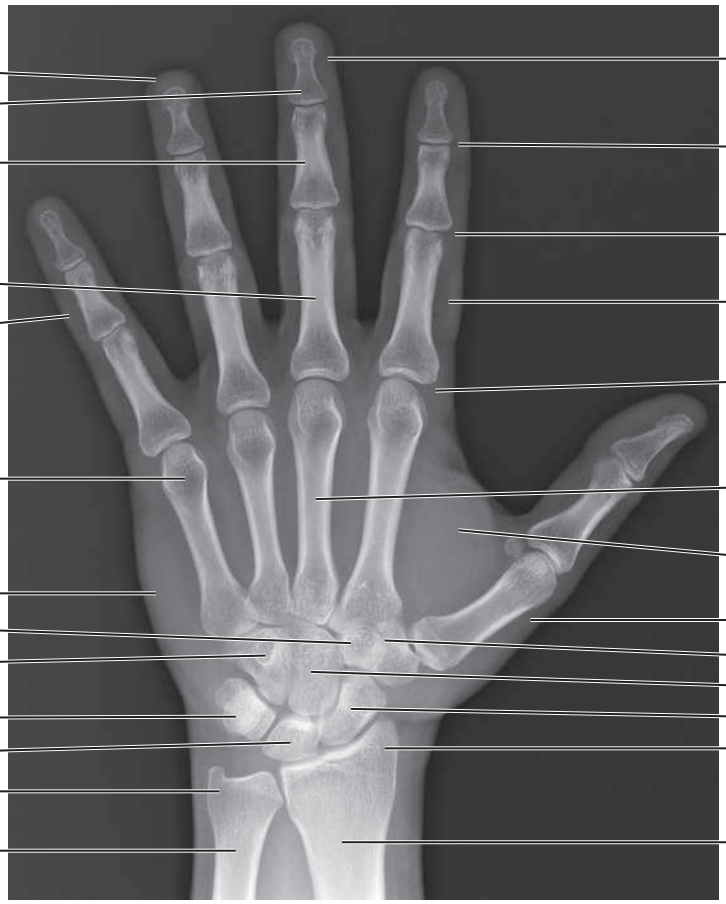
Right hand: posterior (dorsal) view



www.Booksmedicos06.com

See also Plate 446

Anteroposterior view

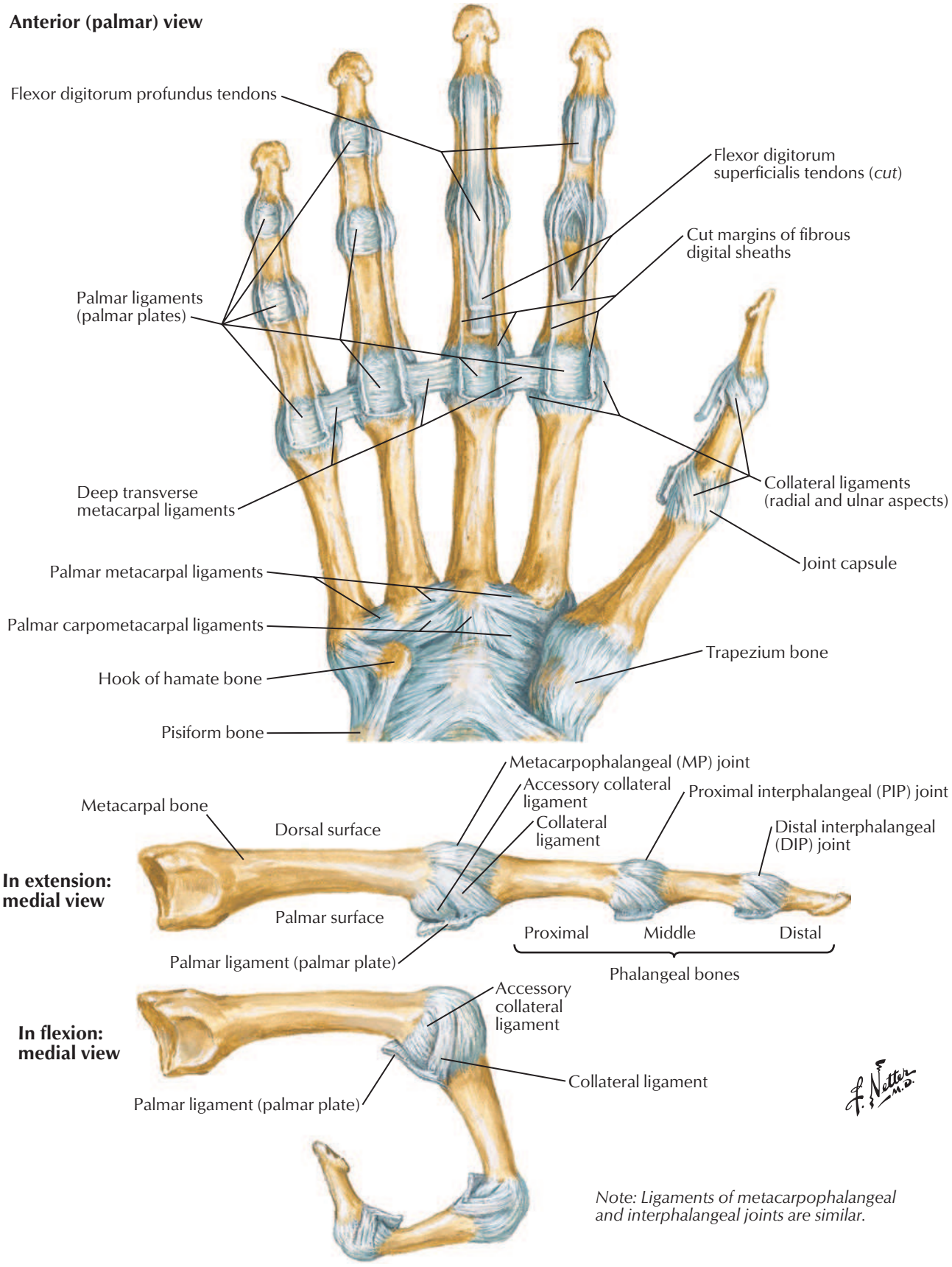


Lateral view



/////// facebook : Booksmedicos06

See also Plate 451



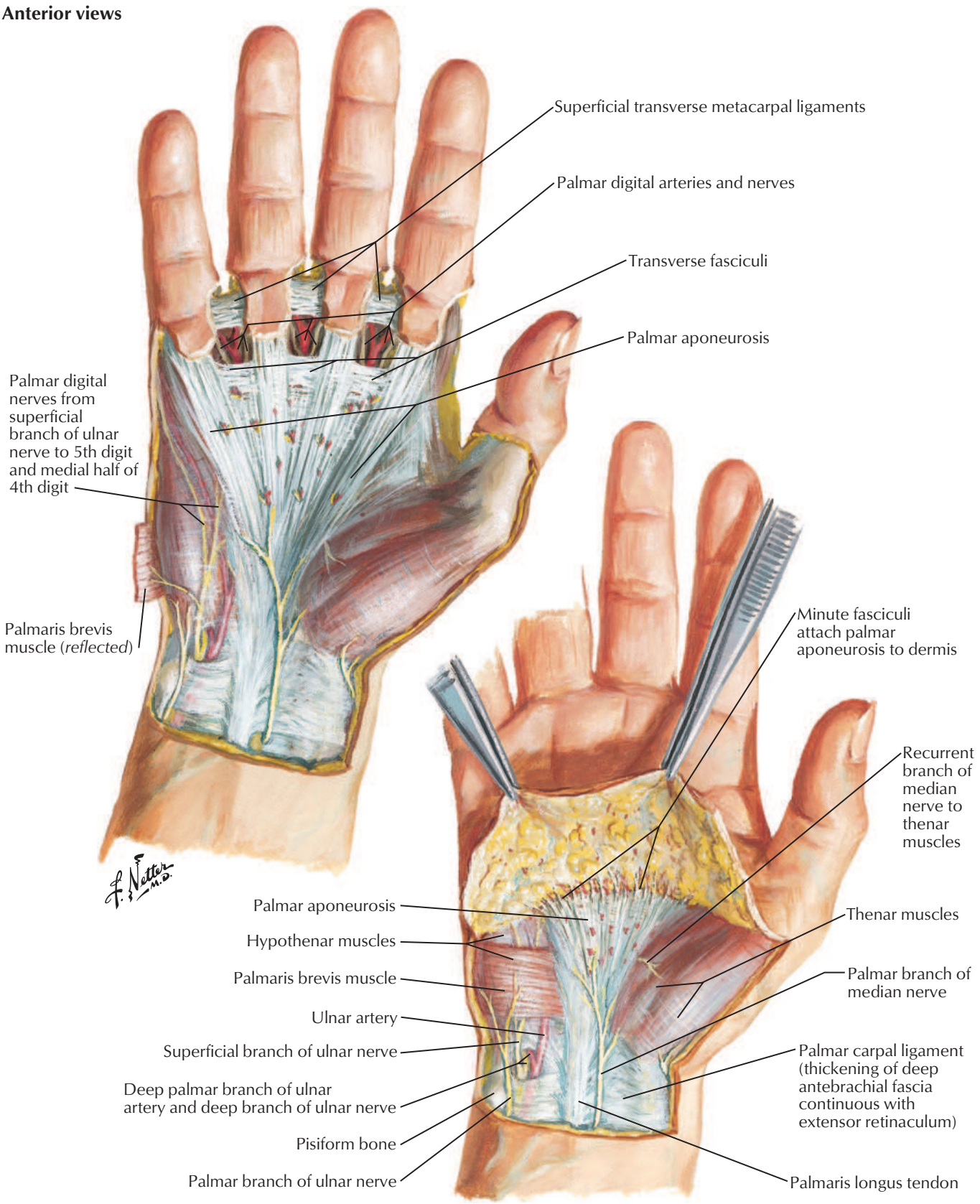
Note: Ligaments of metacarpophalangeal and interphalangeal joints are similar.

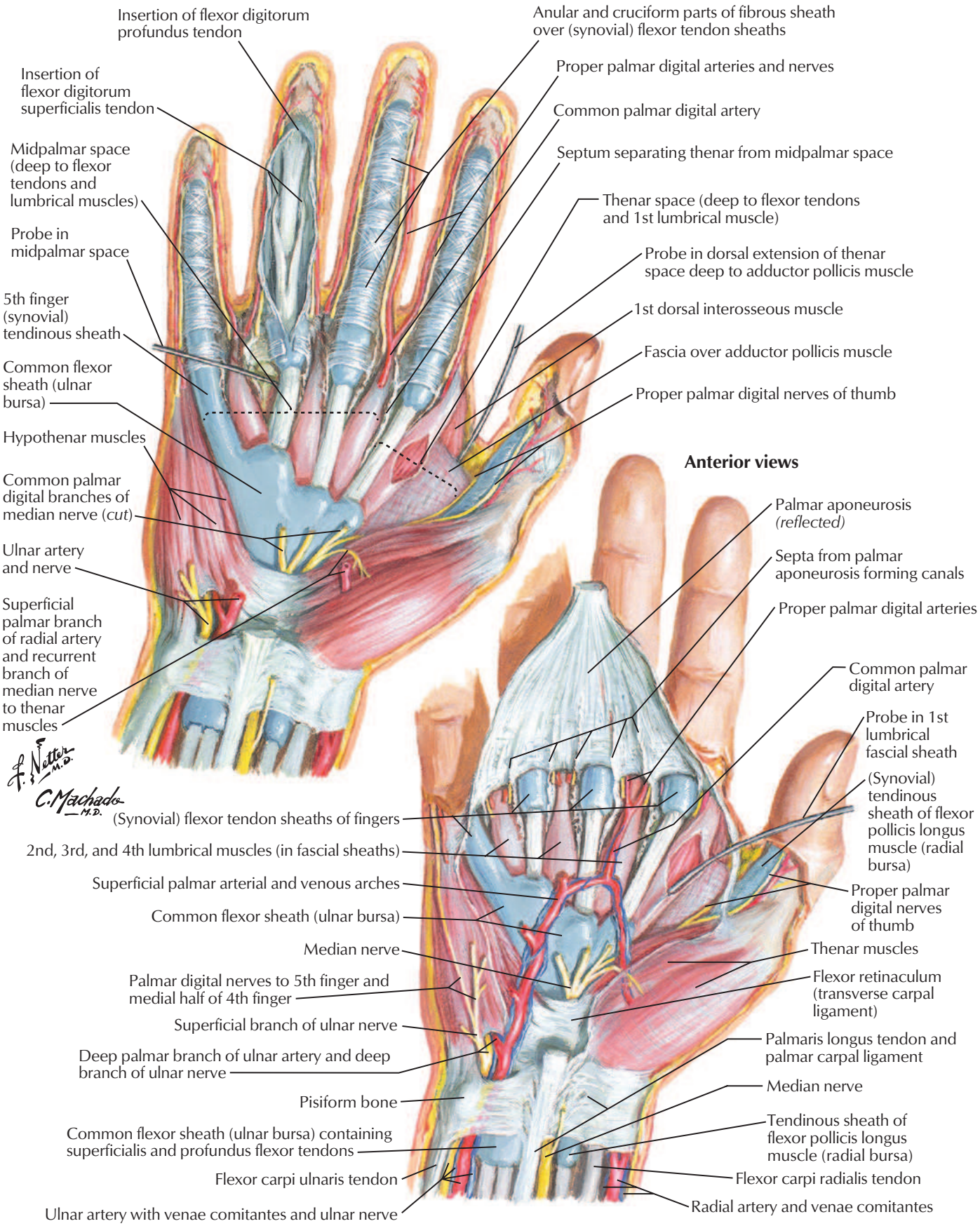
www.Booksmedicos06.com

See also Plate 462

/////// facebook : Booksmedicos06

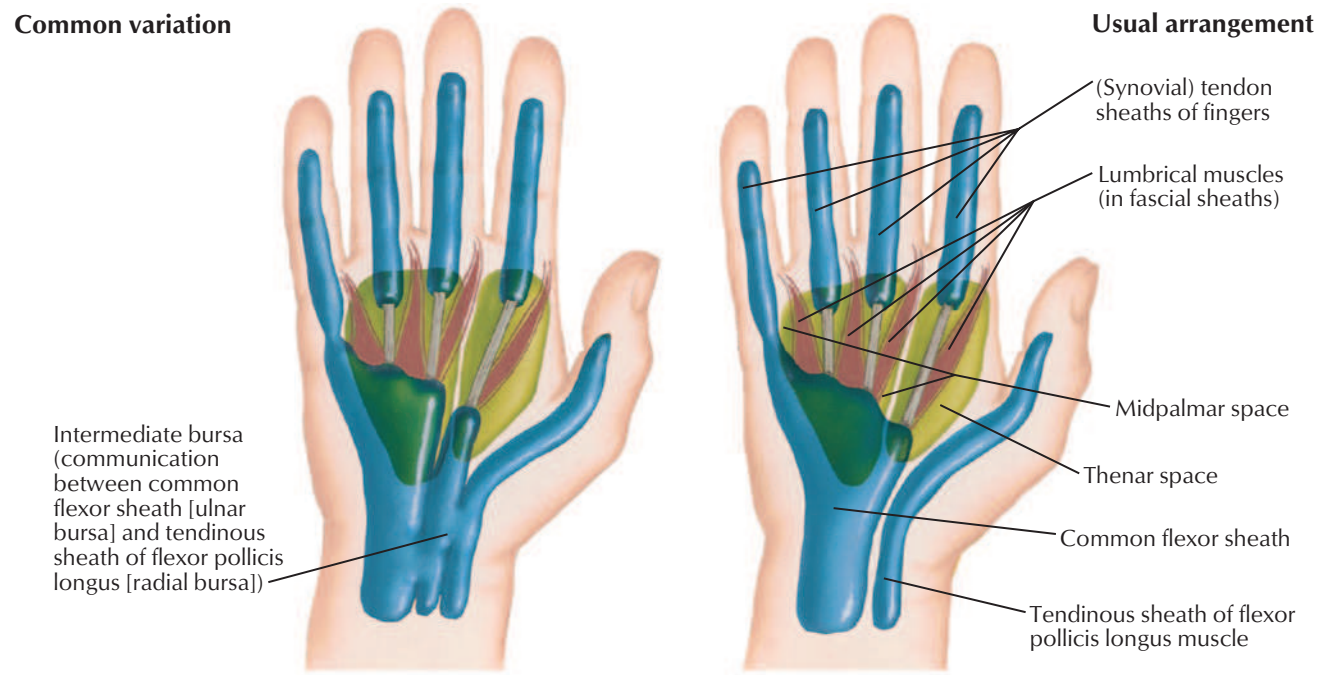
Anterior views



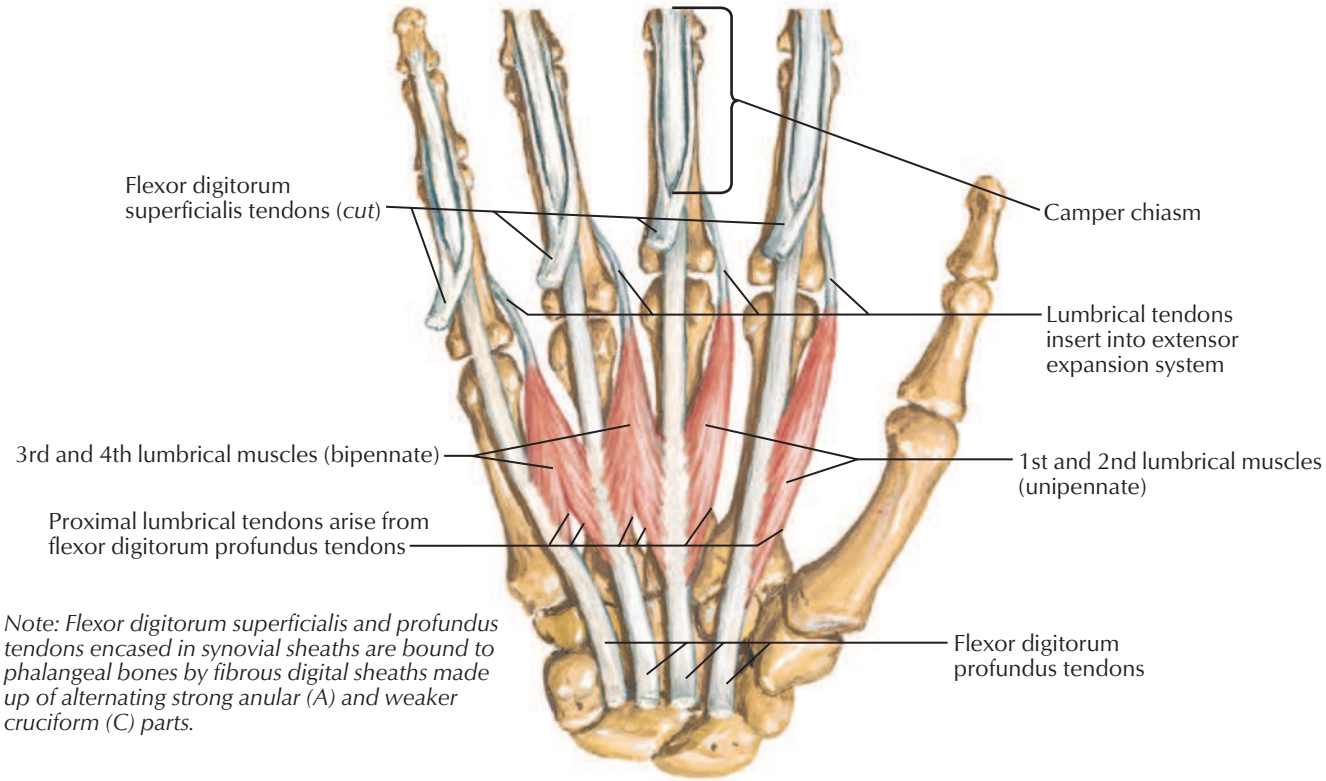


www.Booksmedicos06.com

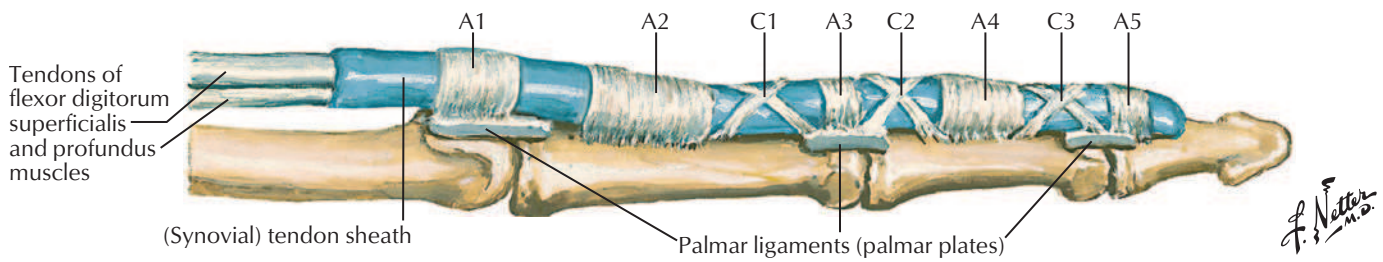
See also Plate 448



Lumbrical muscles: schema



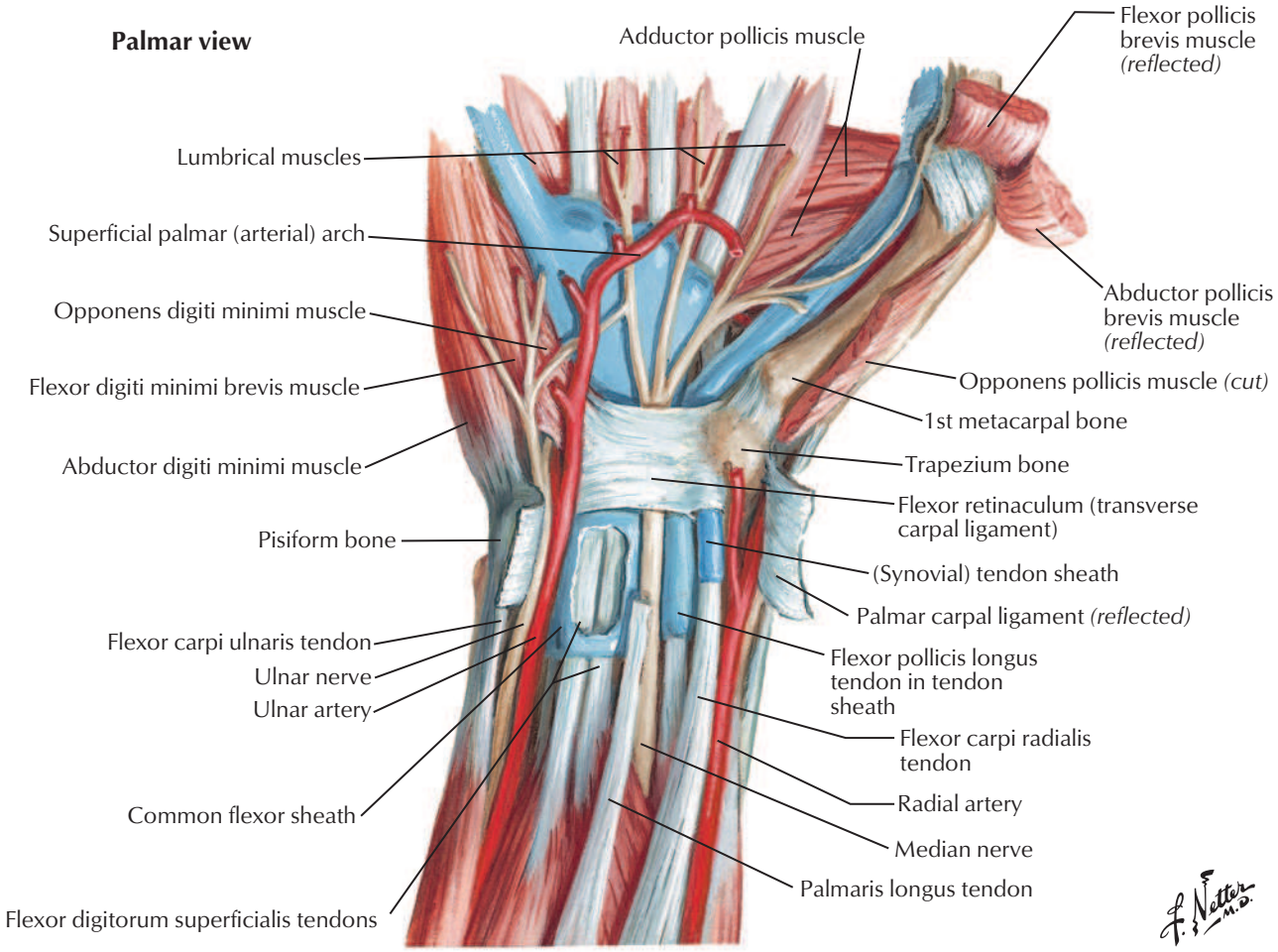
Note: Flexor digitorum superficialis and profundus tendons encased in synovial sheaths are bound to phalangeal bones by fibrous digital sheaths made up of alternating strong anular (A) and weaker cruciform (C) parts.



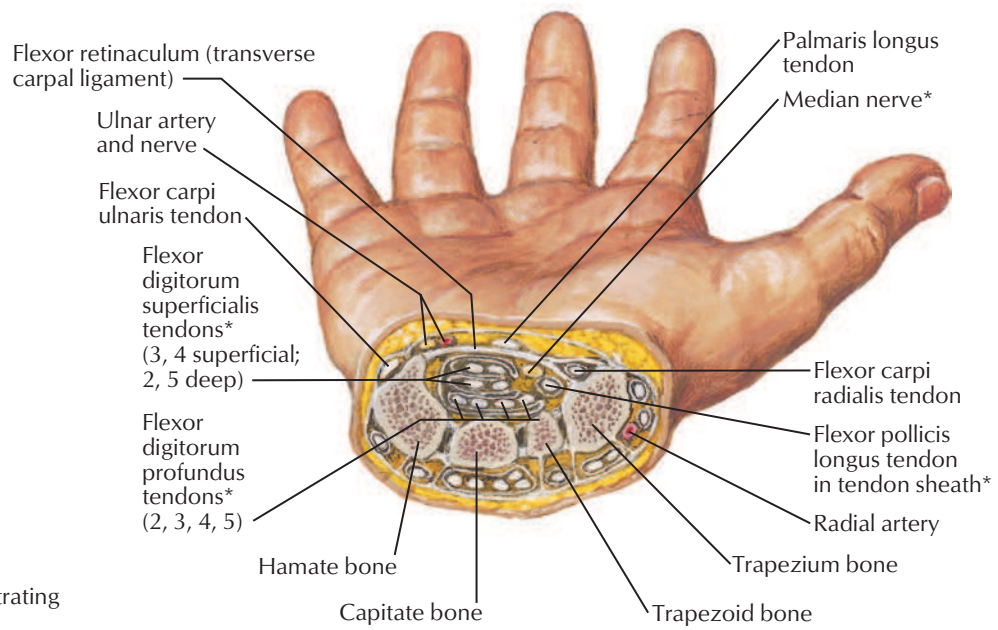
////// facebook : Booksmedicos06

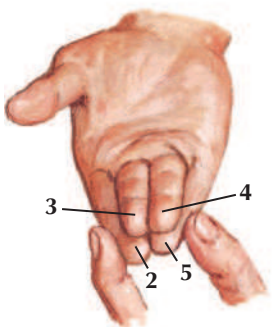
See also Plates 462, 463

Palmar view



Cross section of wrist demonstrating carpal tunnel

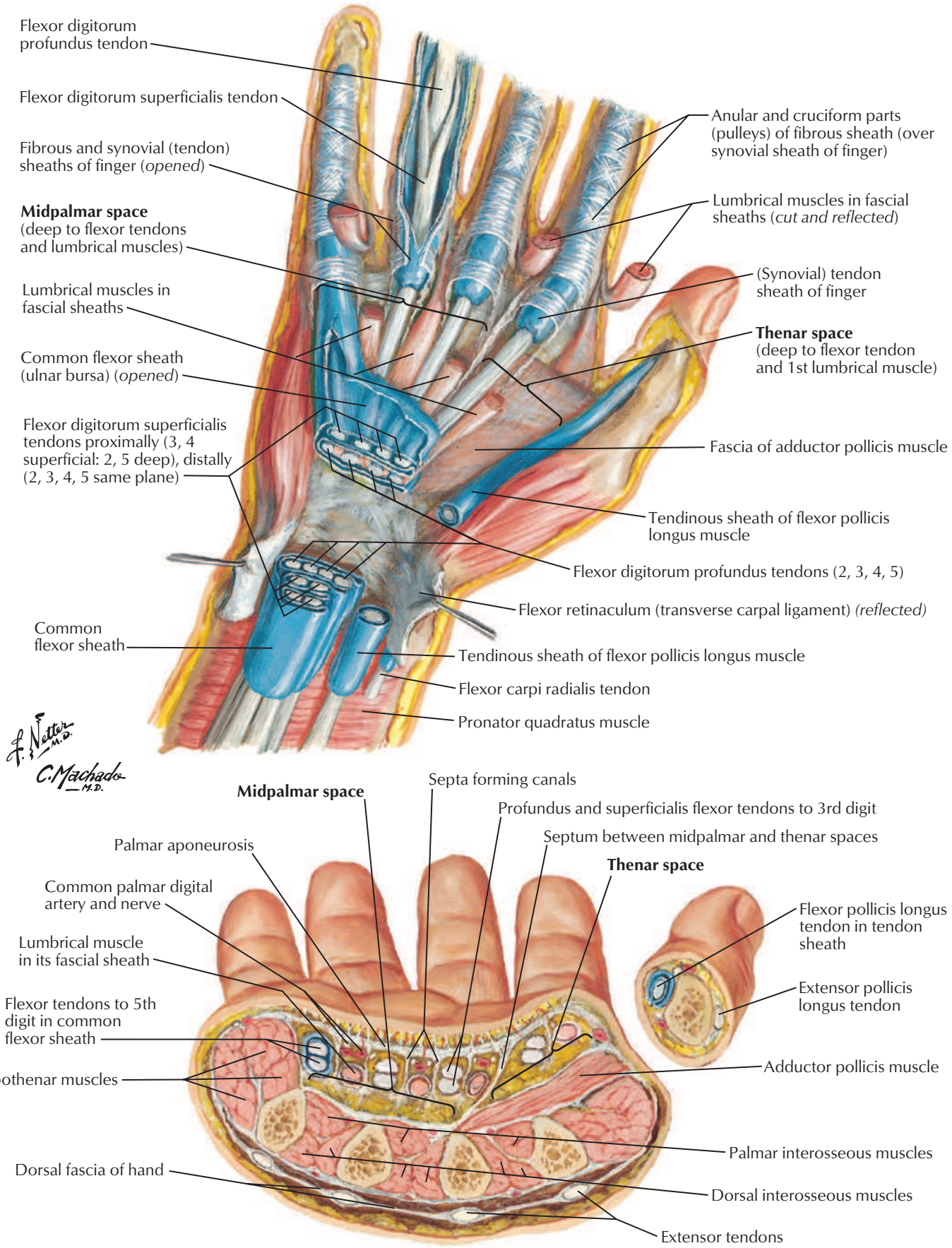




Simple method of demonstrating arrangement of flexor digitorum superficialis tendons within carpal tunnel

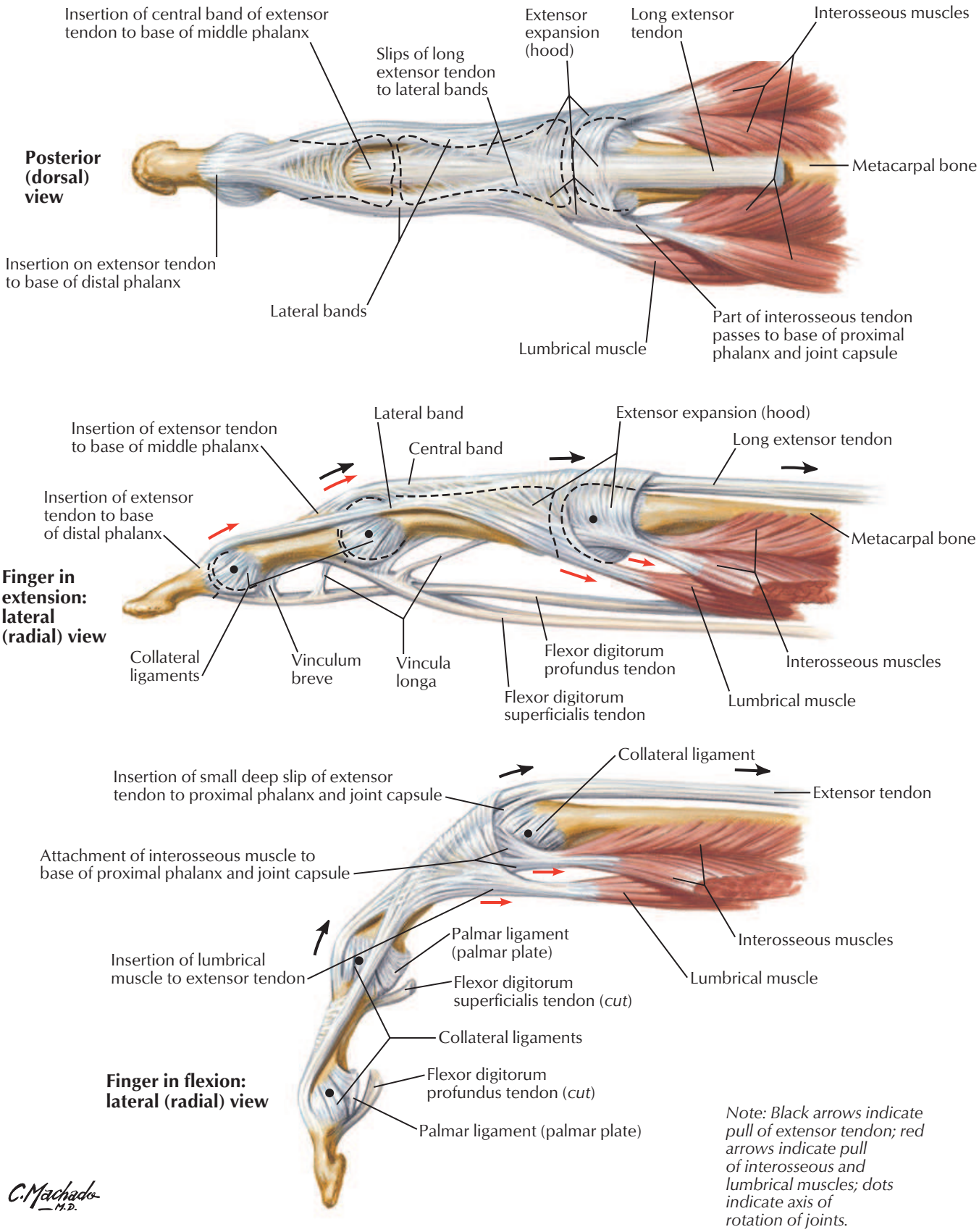
*Contents of carpal tunnel

www.Booksmedicos06.com



////// facebook : Booksmedicos06

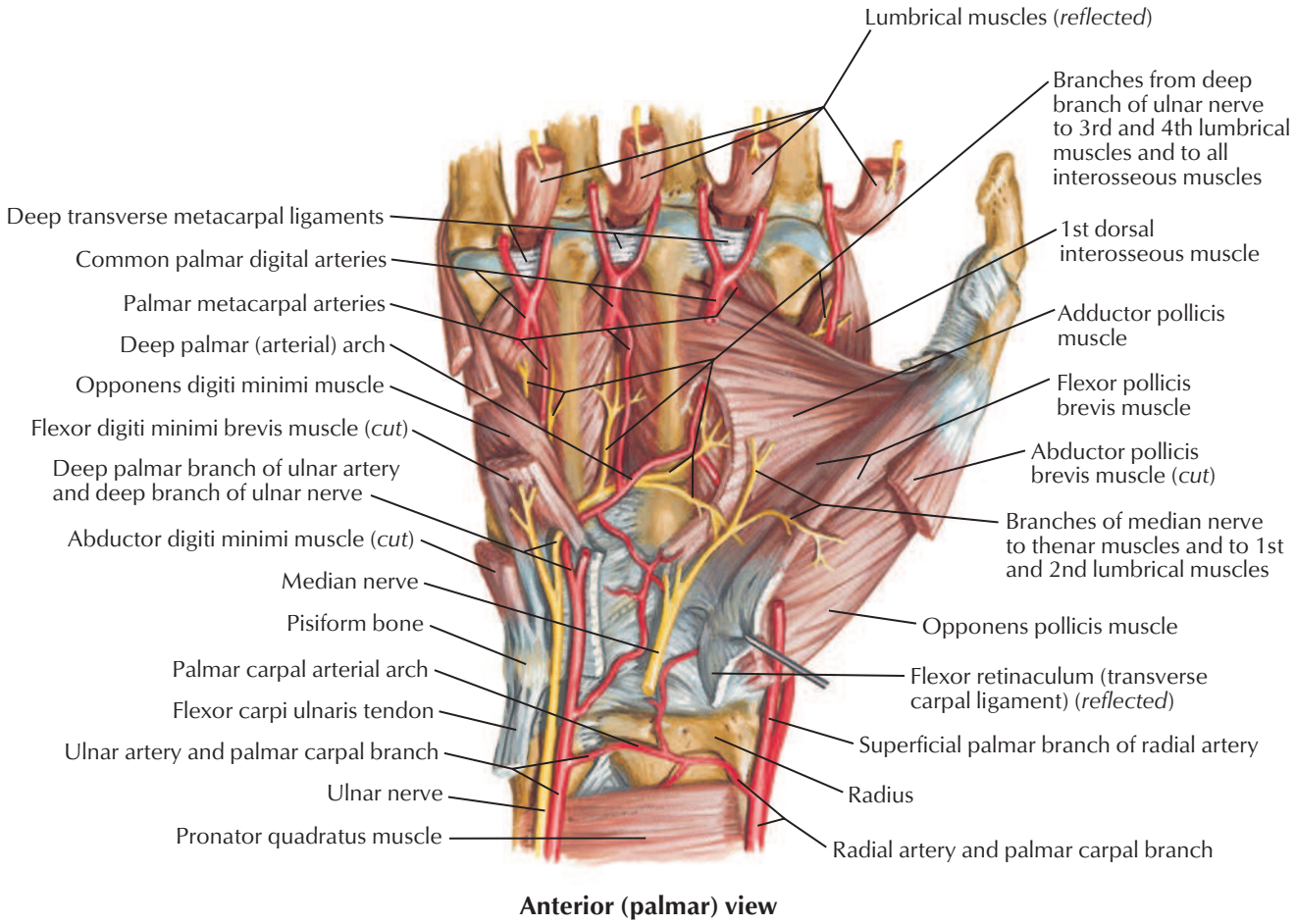
See also Plate 455



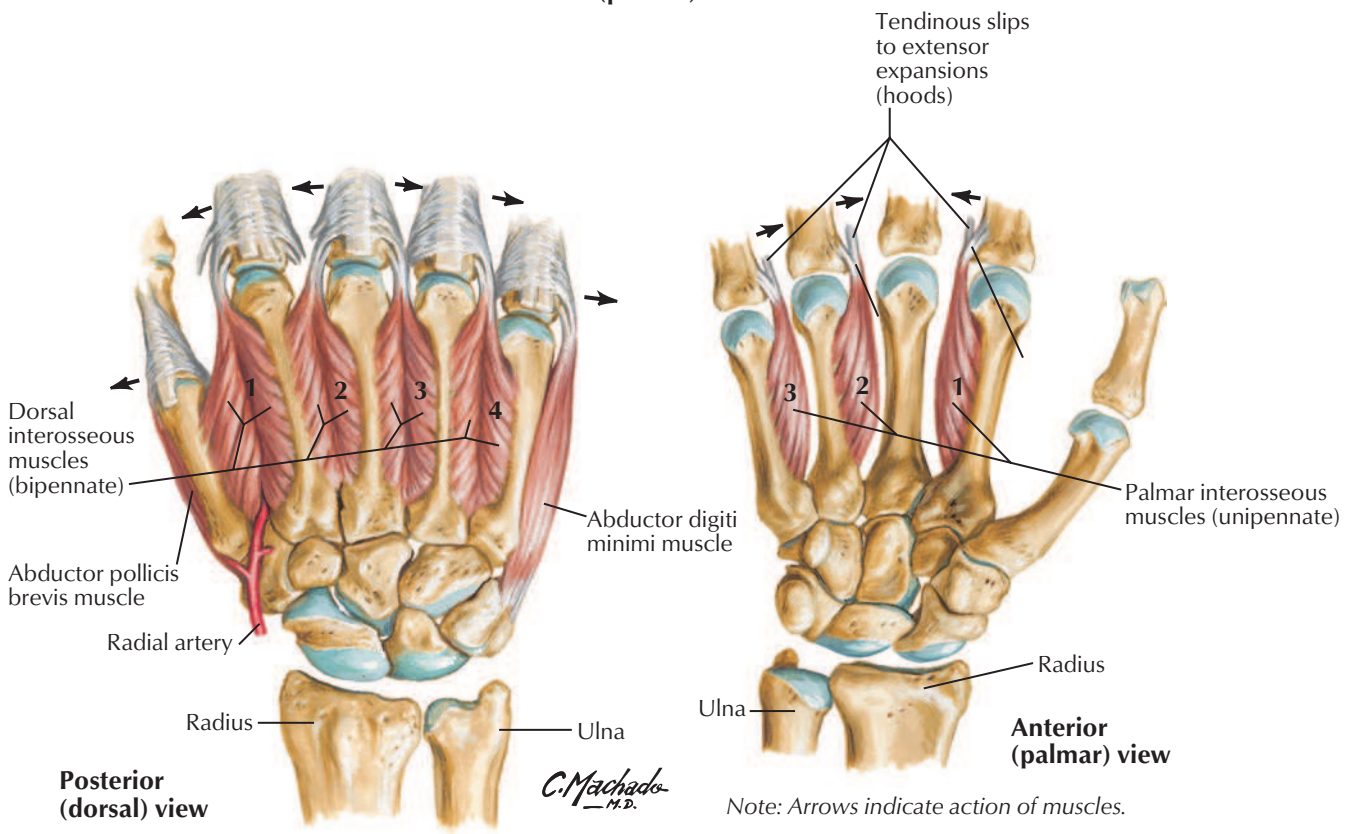
Note: Black arrows indicate pull of extensor tendon; red arrows indicate pull of interosseous and lumbrical muscles; dots indicate axis of rotation of joints.

C. Machado M.D.

www.Booksmedicos06.com



Anterior (palmar) view



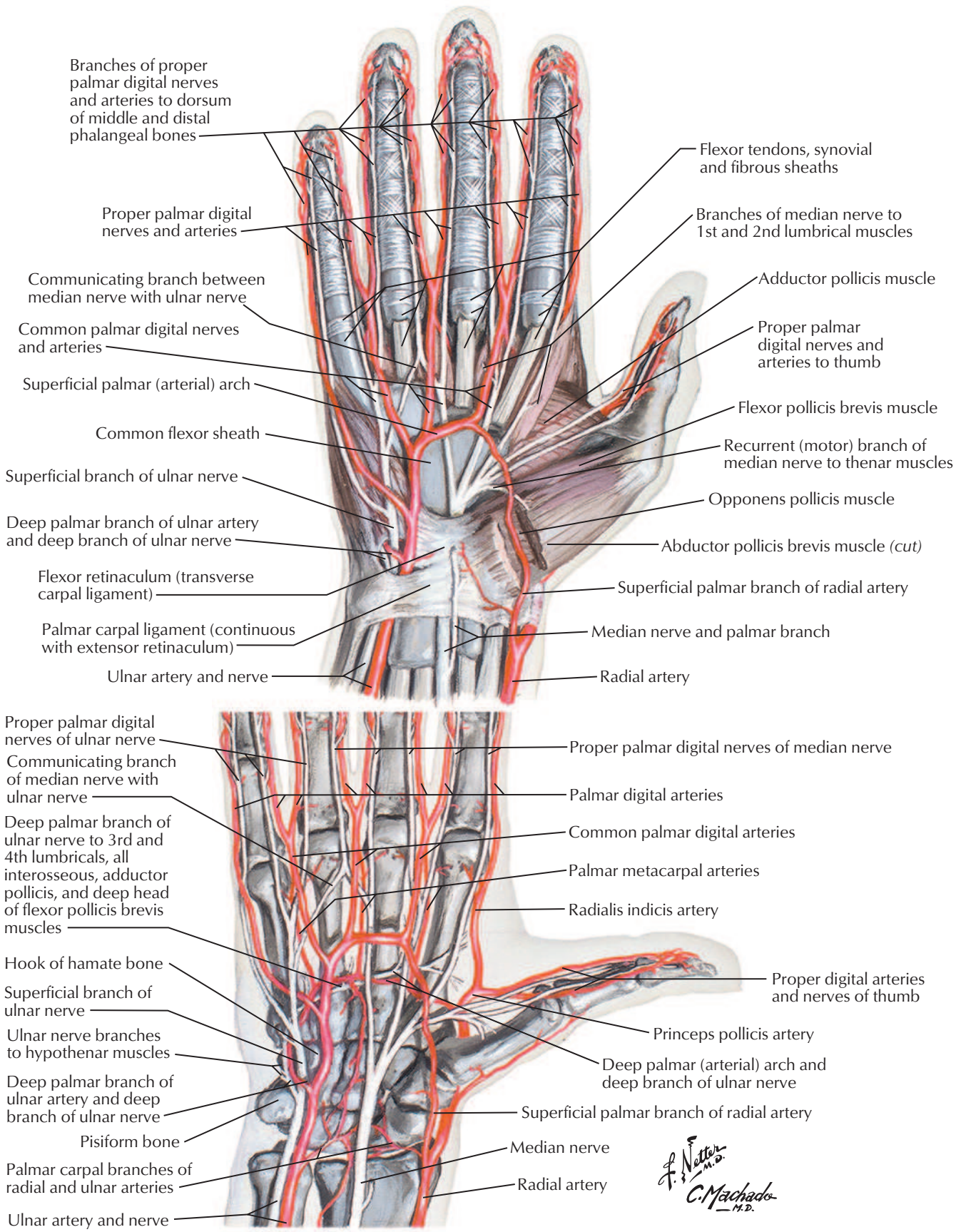
Posterior (dorsal) view

Anterior (palmar) view

Note: Arrows indicate action of muscles.

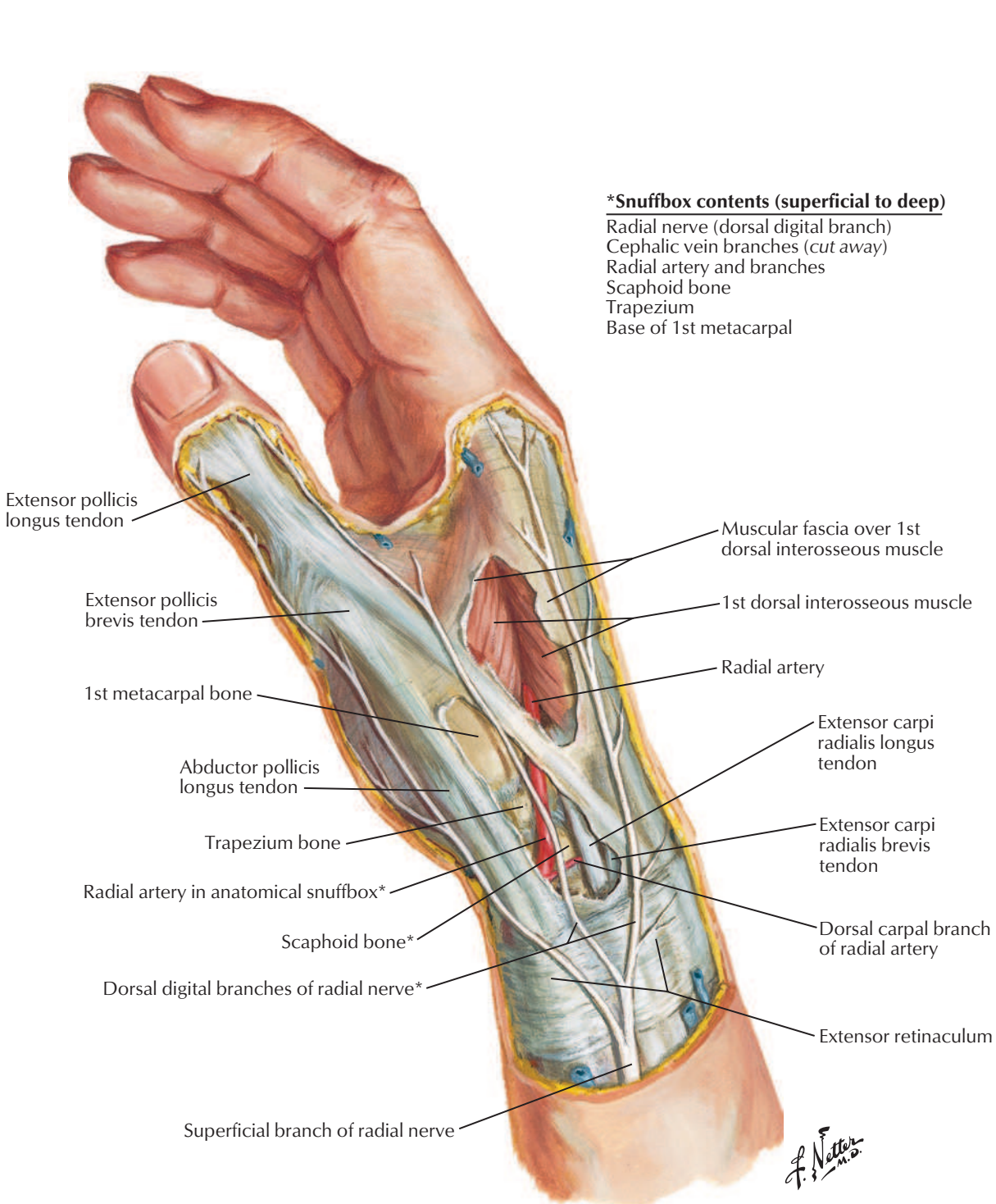
////// facebook : Booksmedicos06

See also Plate 424



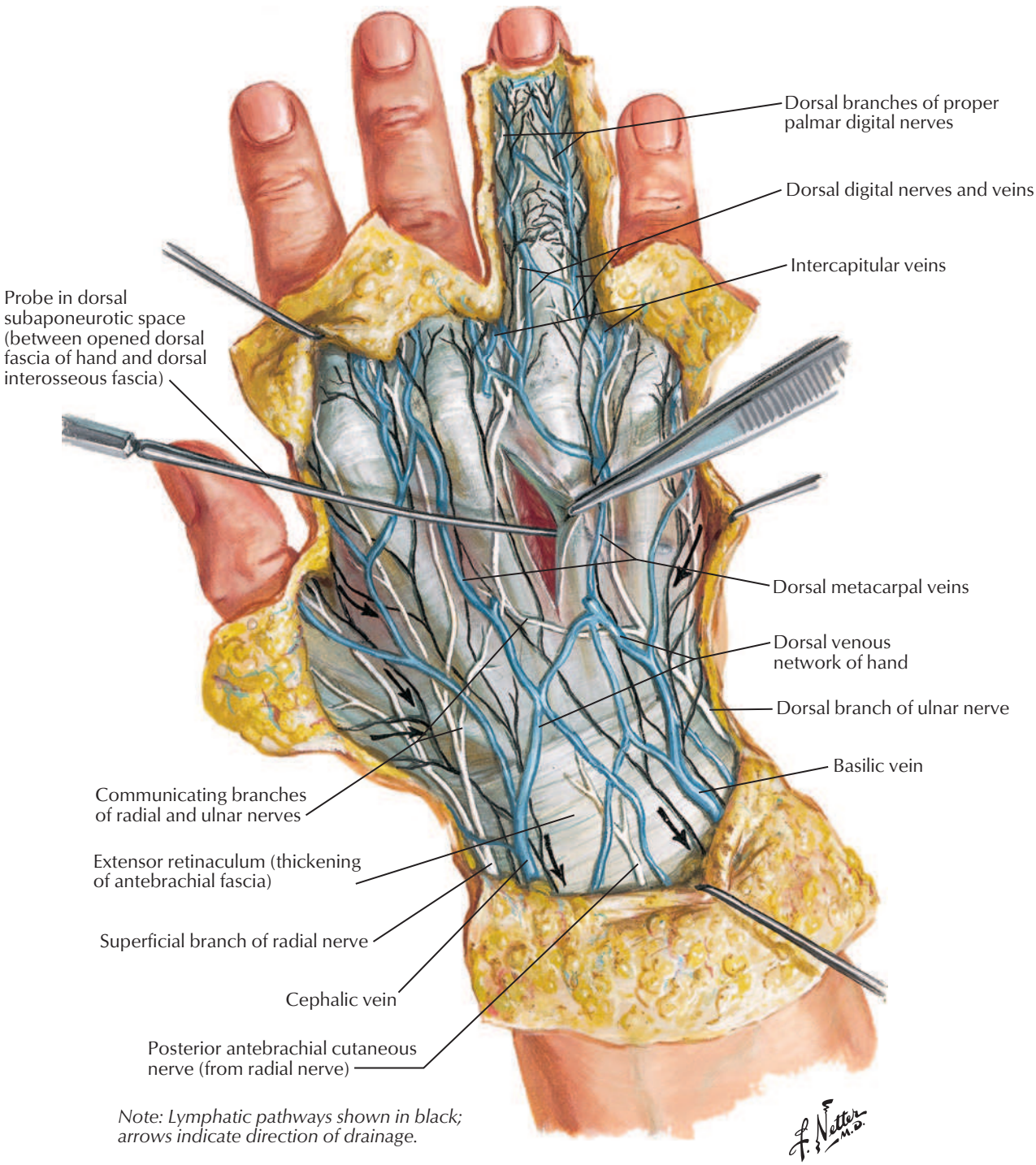
www.Booksmedicos06.com

See also Plate 469



////// facebook : Booksmedicos06

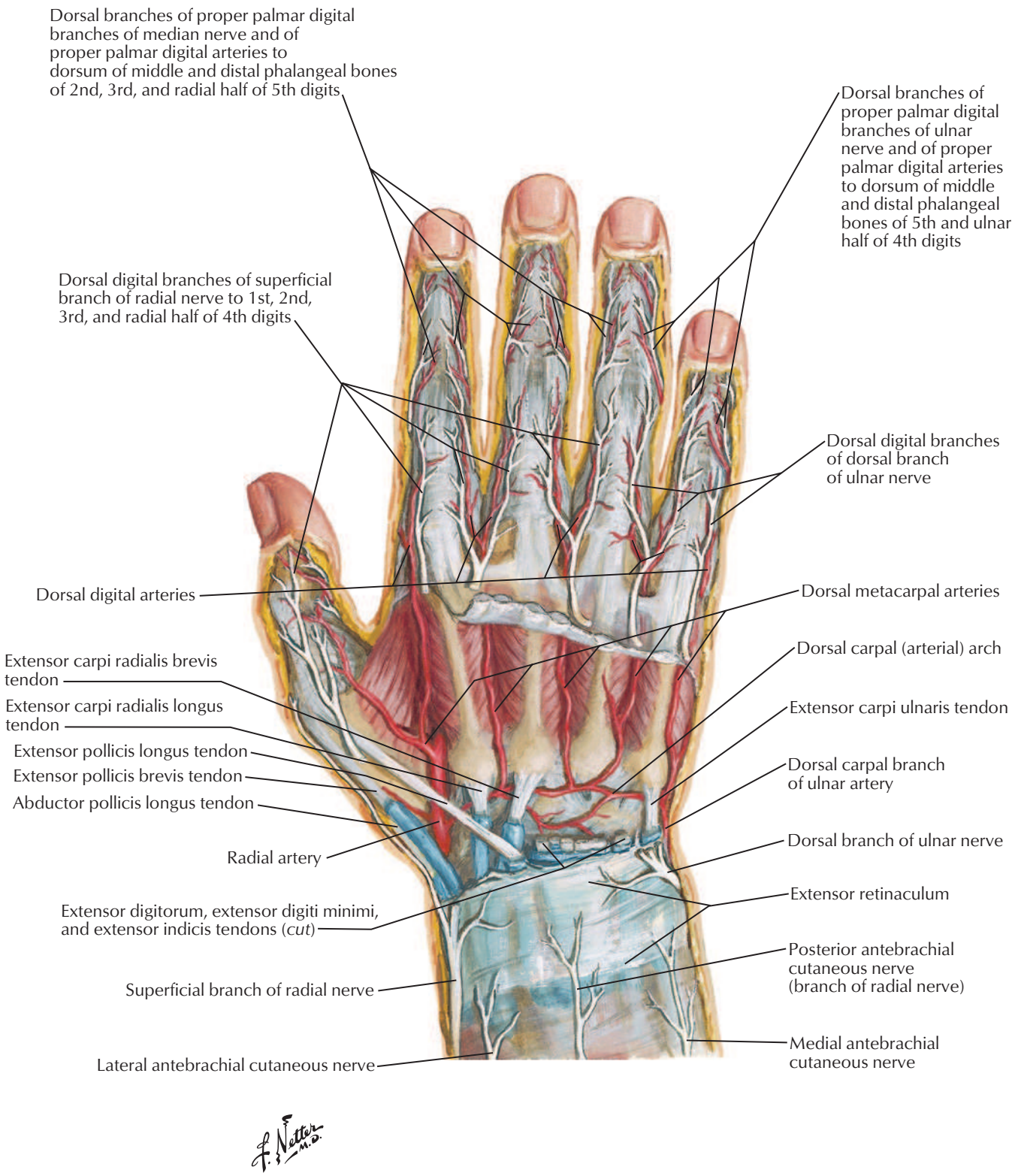
See also Plate 406



Note: Lymphatic pathways shown in black; arrows indicate direction of drainage.

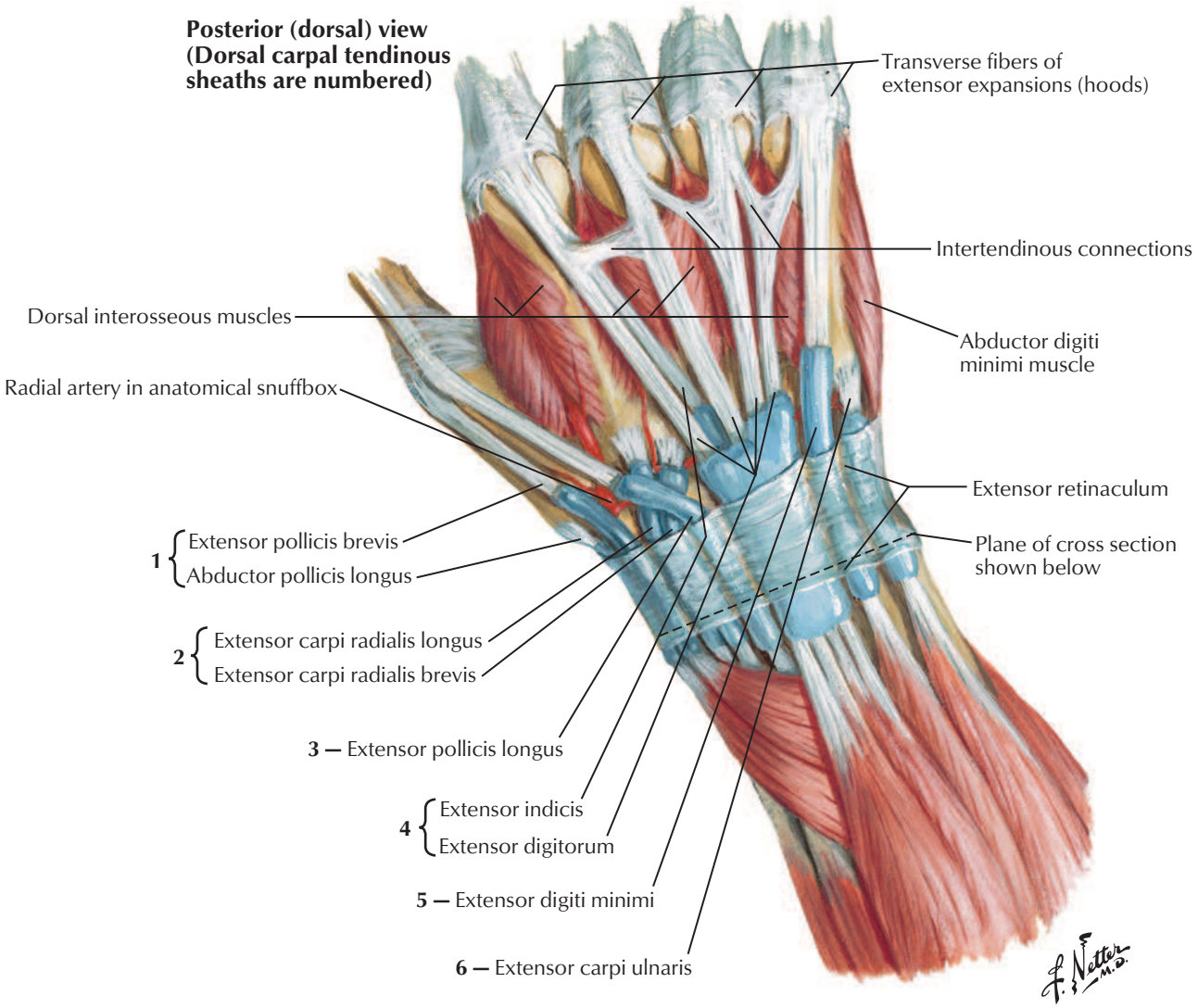
www.Booksmedicos06.com

See also Plate 460

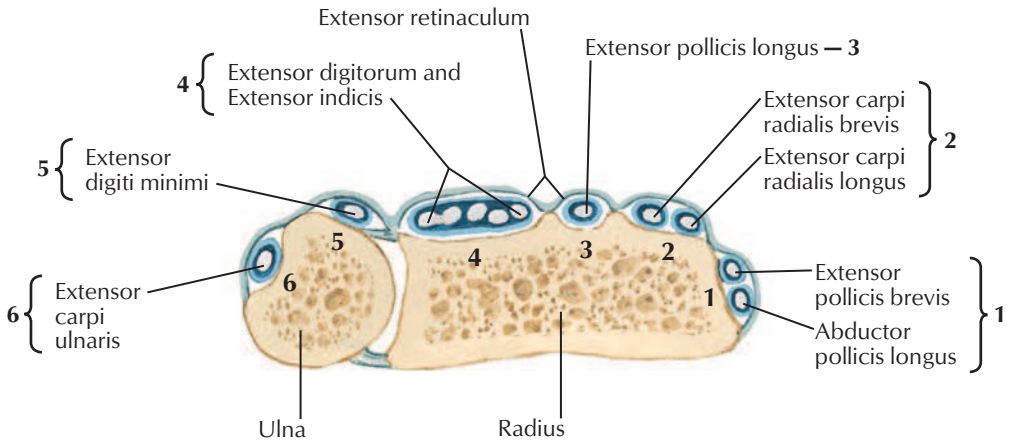


////// facebook : Booksmedicos06

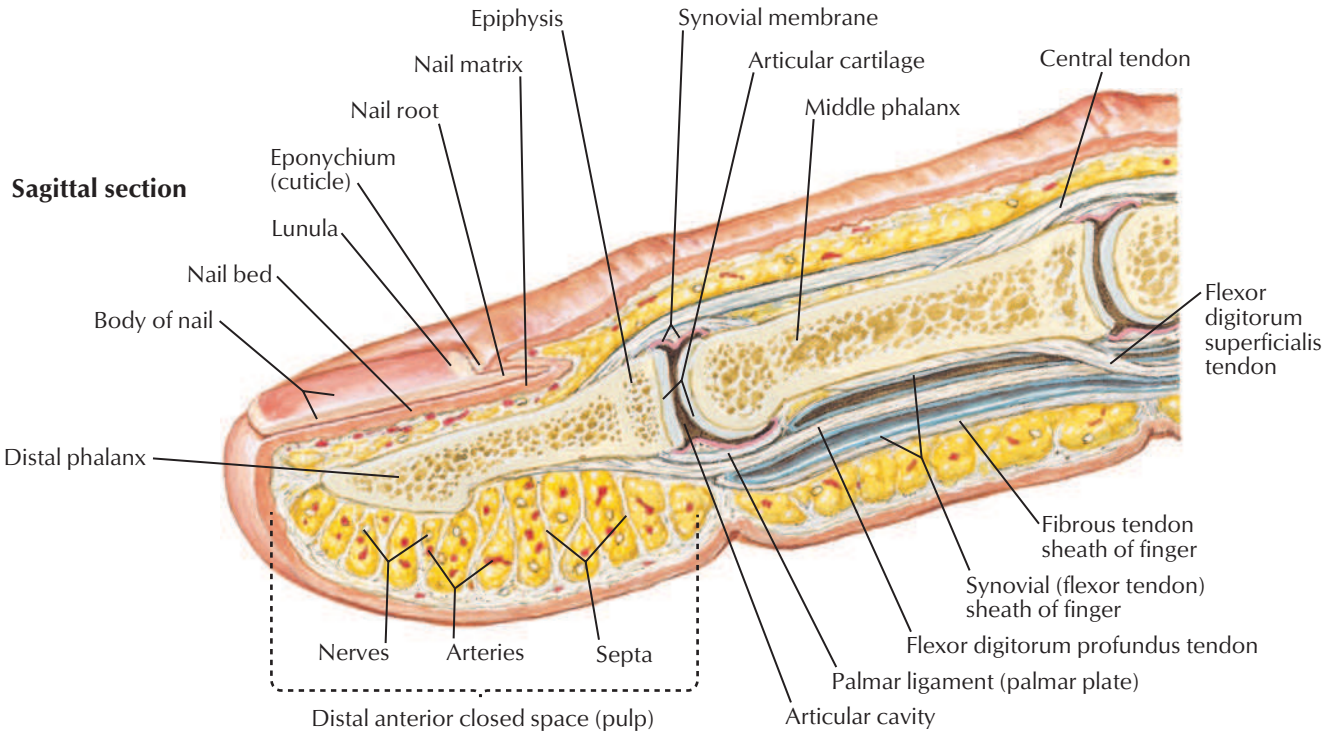
See also Plates 434, 435

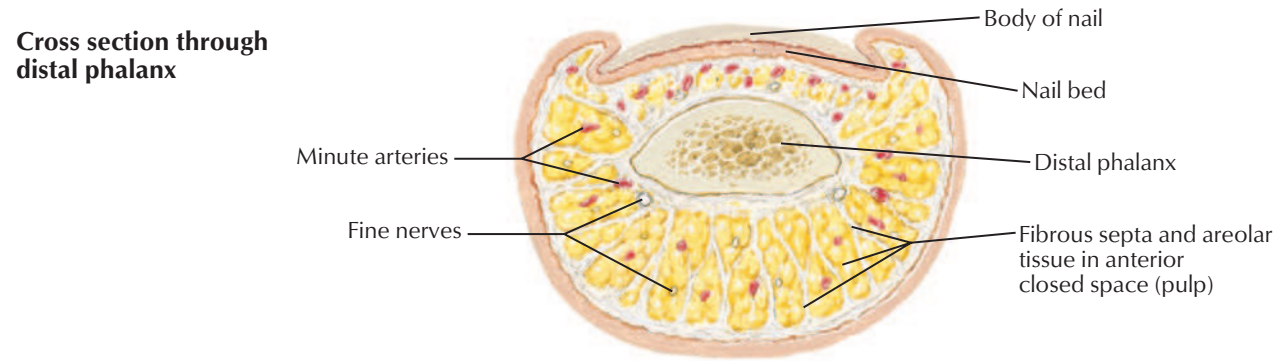


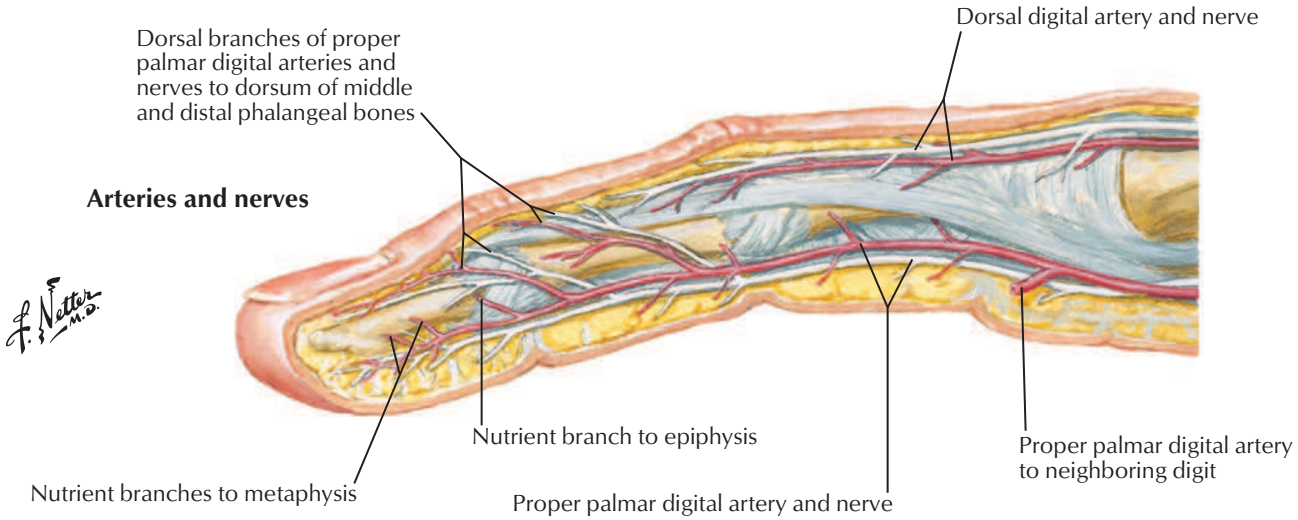
Cross section of most distal portion of forearm



www.Booksmedicos06.com

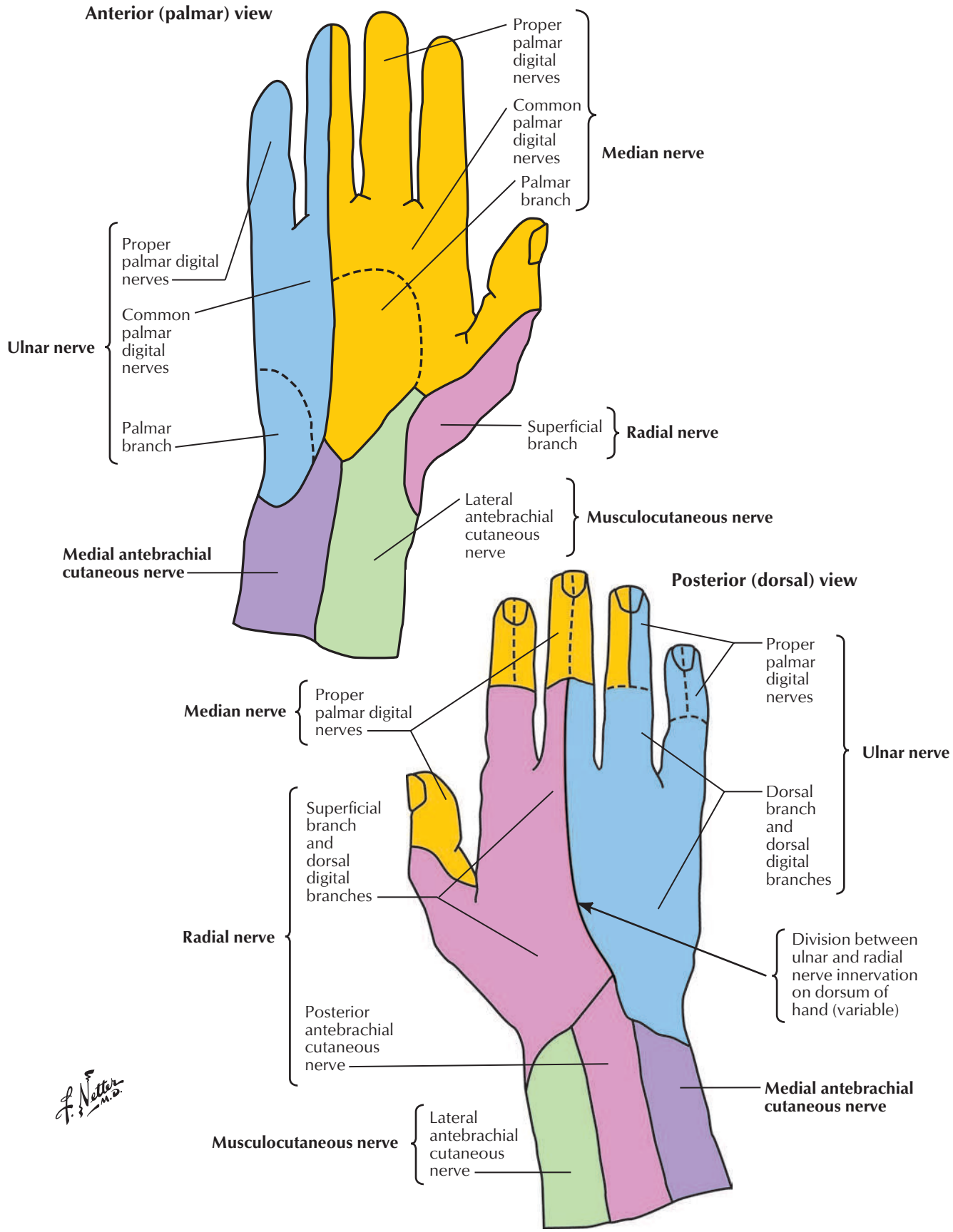






////// facebook : Booksmedicos06

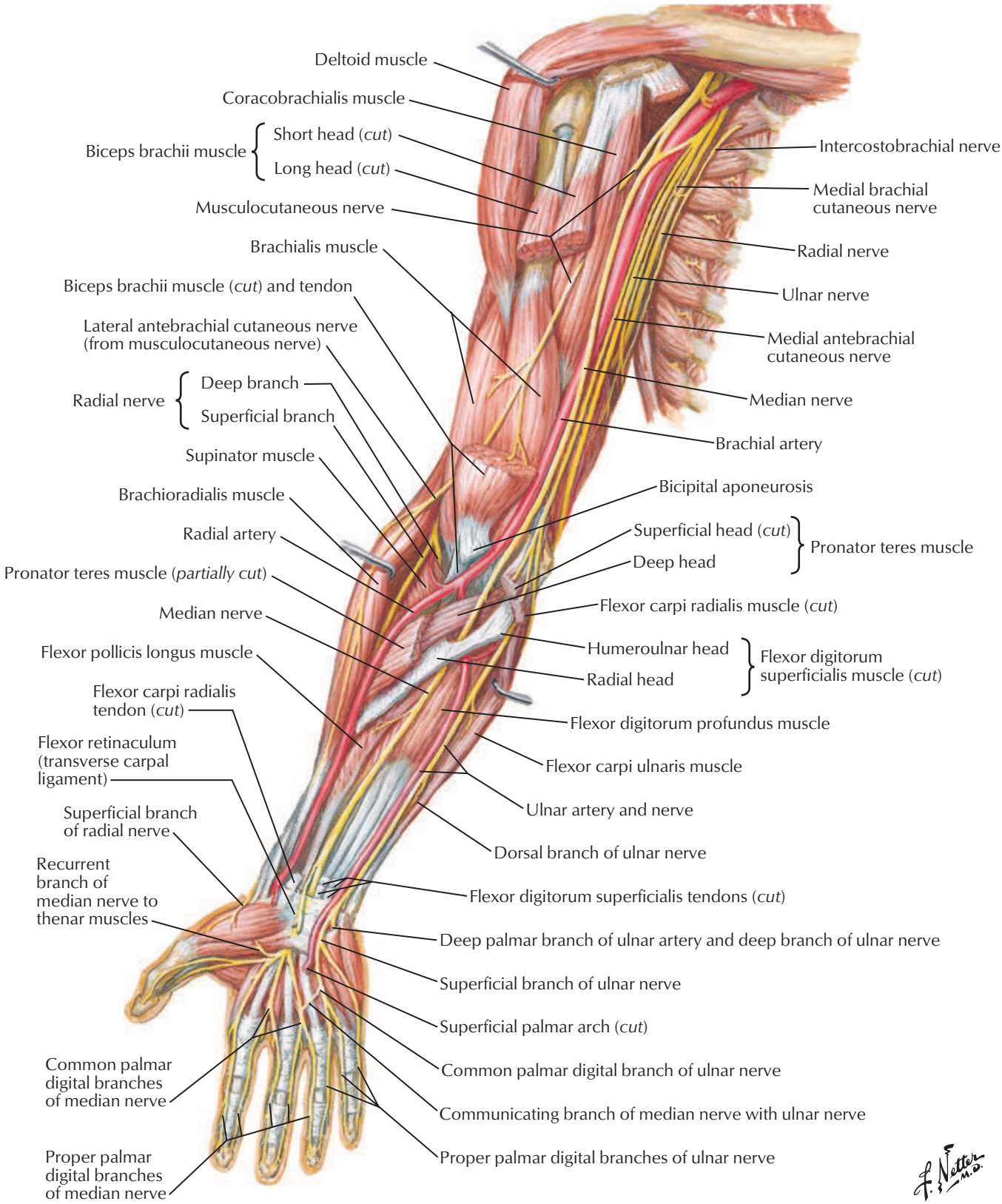
See also Plates 404, 452



www.Booksmedicos06.com

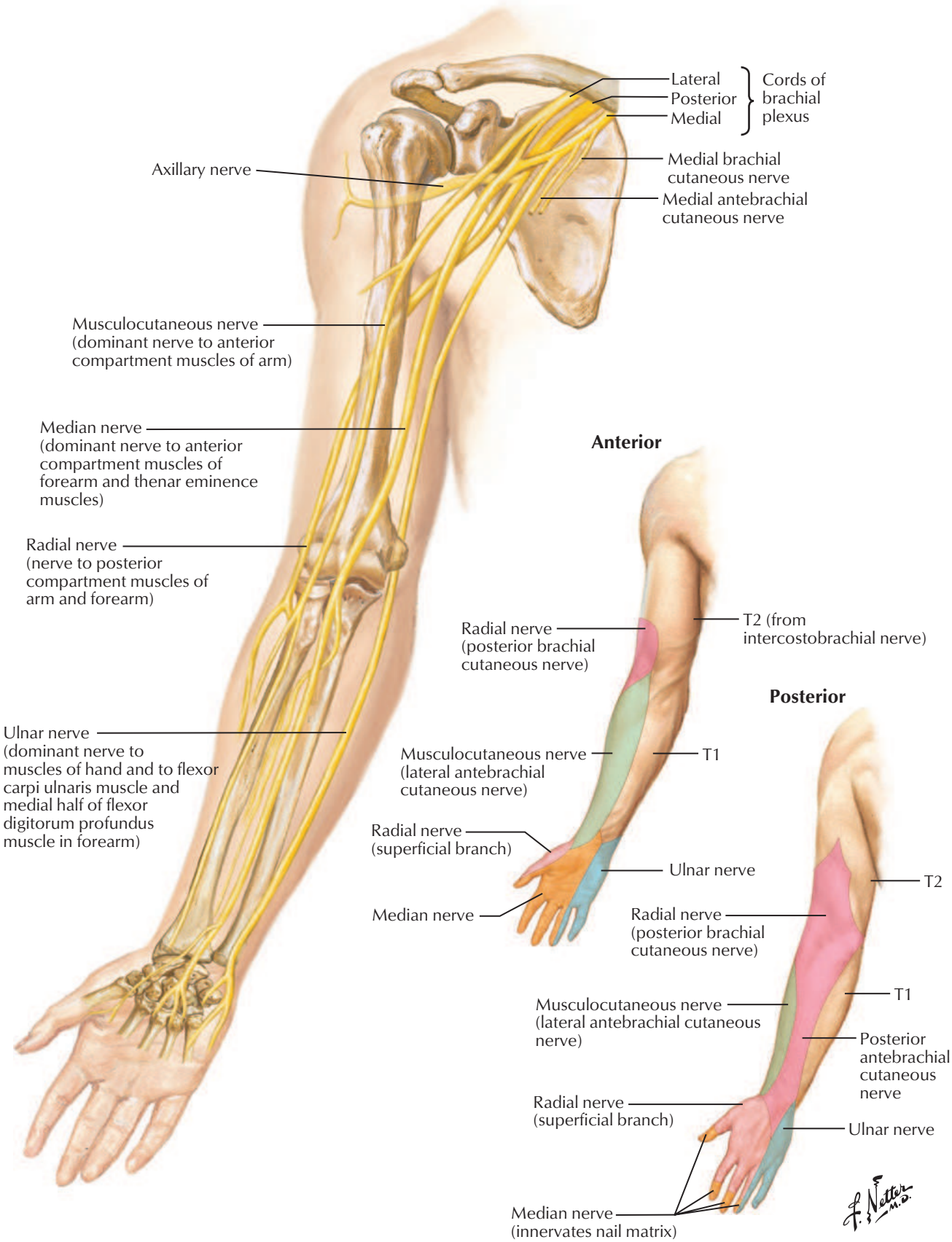
Arteries and Nerves of Upper Limb: Anterior View

See also Plates 423, 438



////// facebook : Booksmedicos06

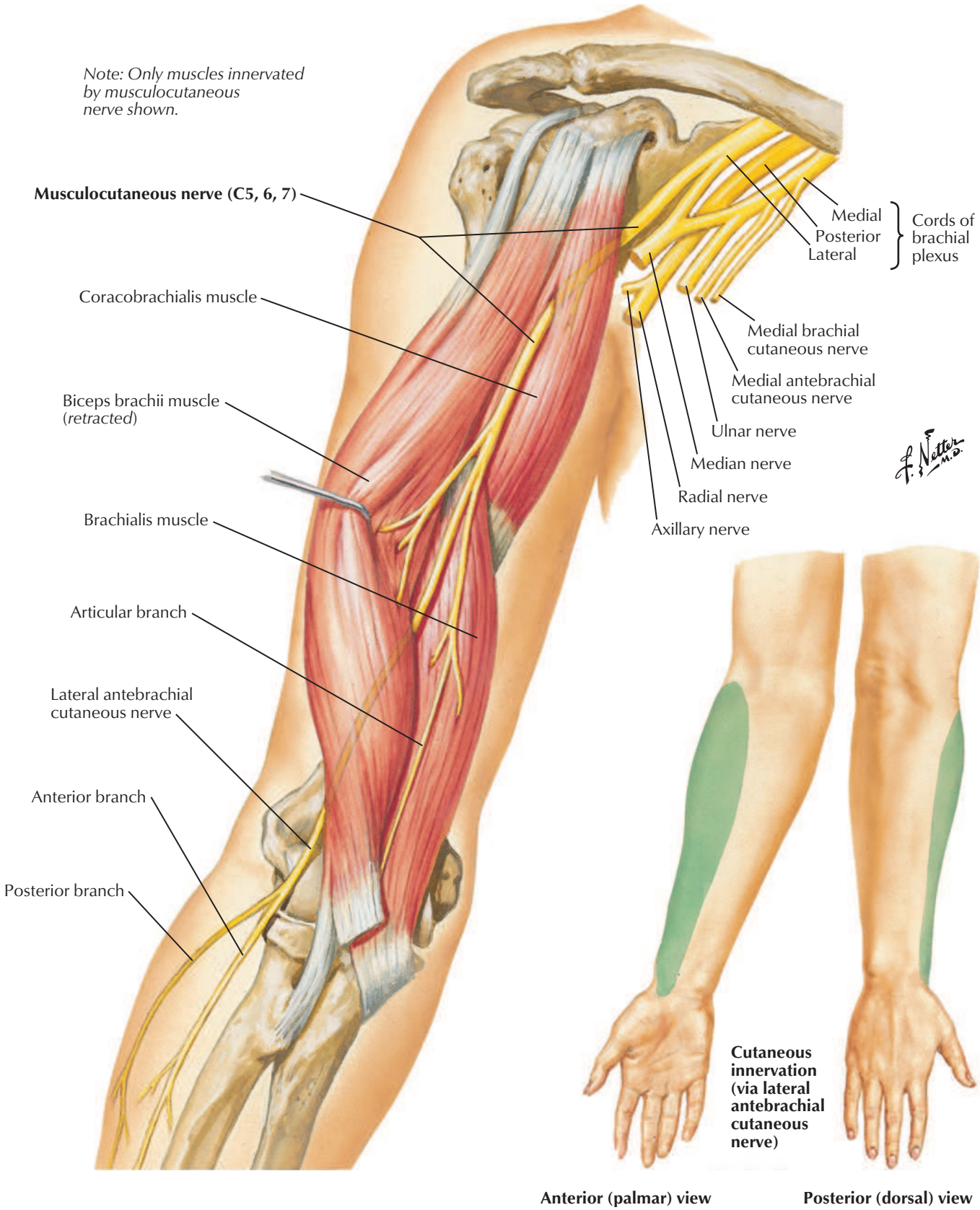
See also Plates 404, 414, 420



www.Booksmedicos06.com

Musculocutaneous Nerve: Anterior View

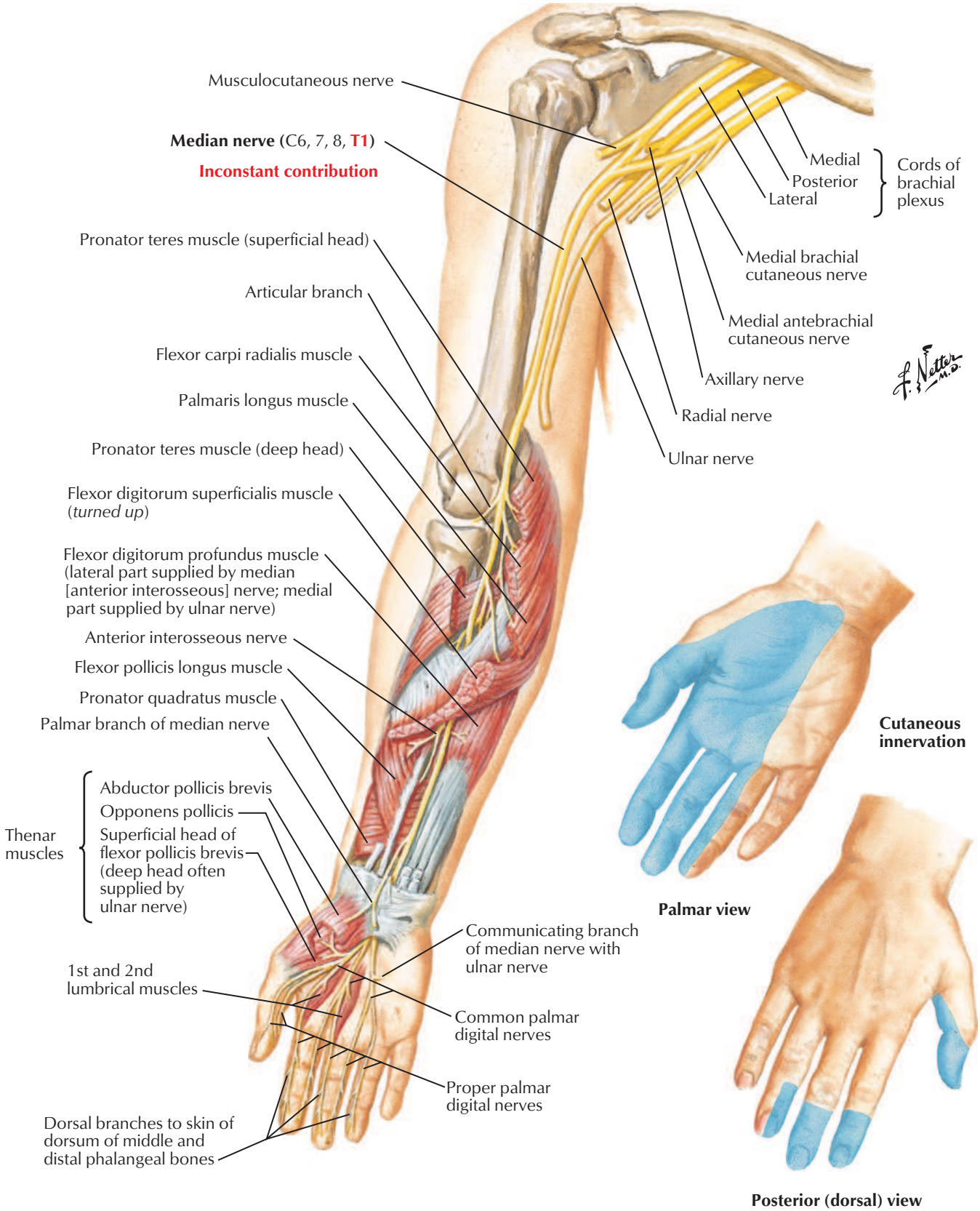
See also Plate 421



////// facebook : Booksmedicos06

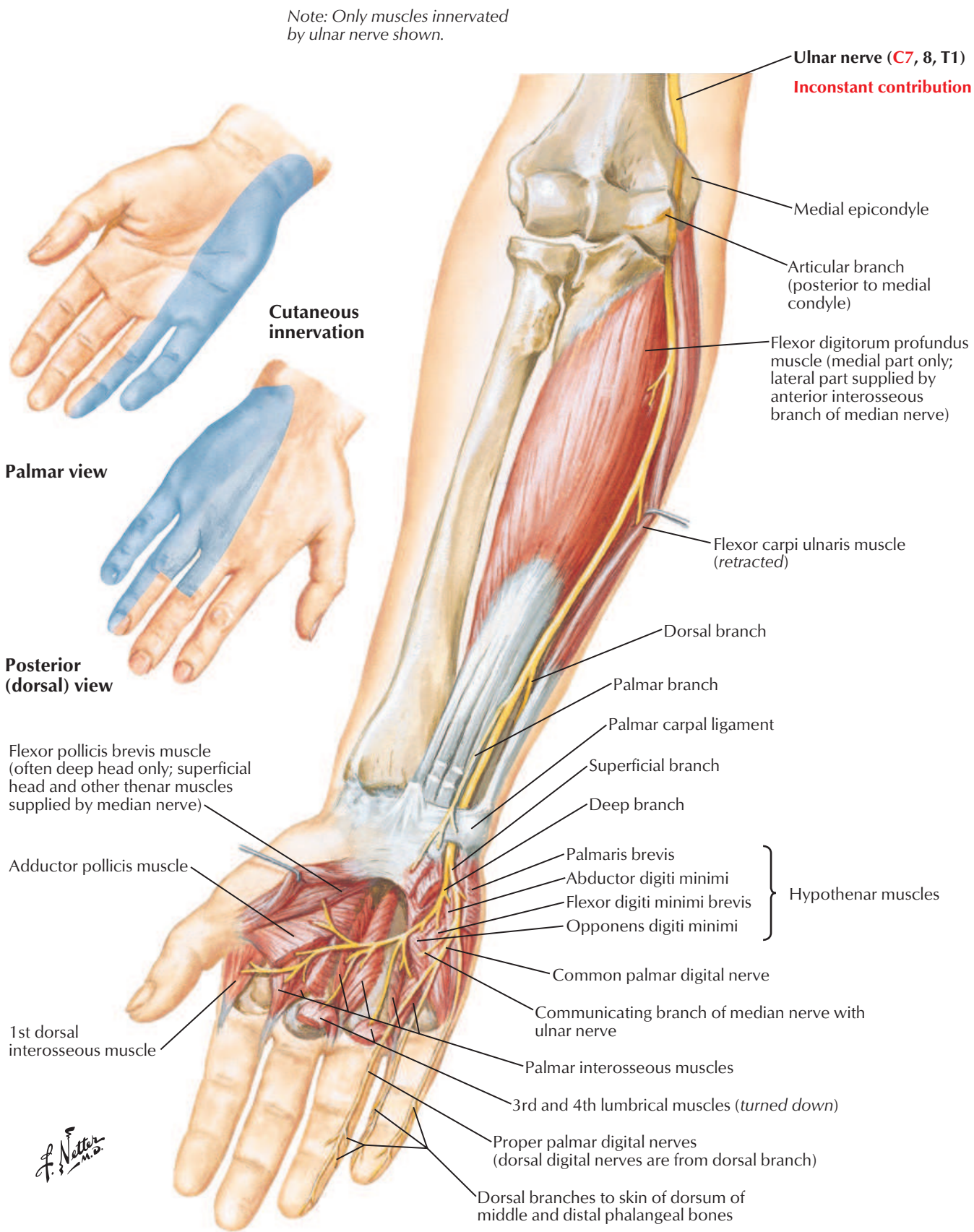
See also Plates 404, 436, 437

Note: Only muscles innervated by median nerve shown.



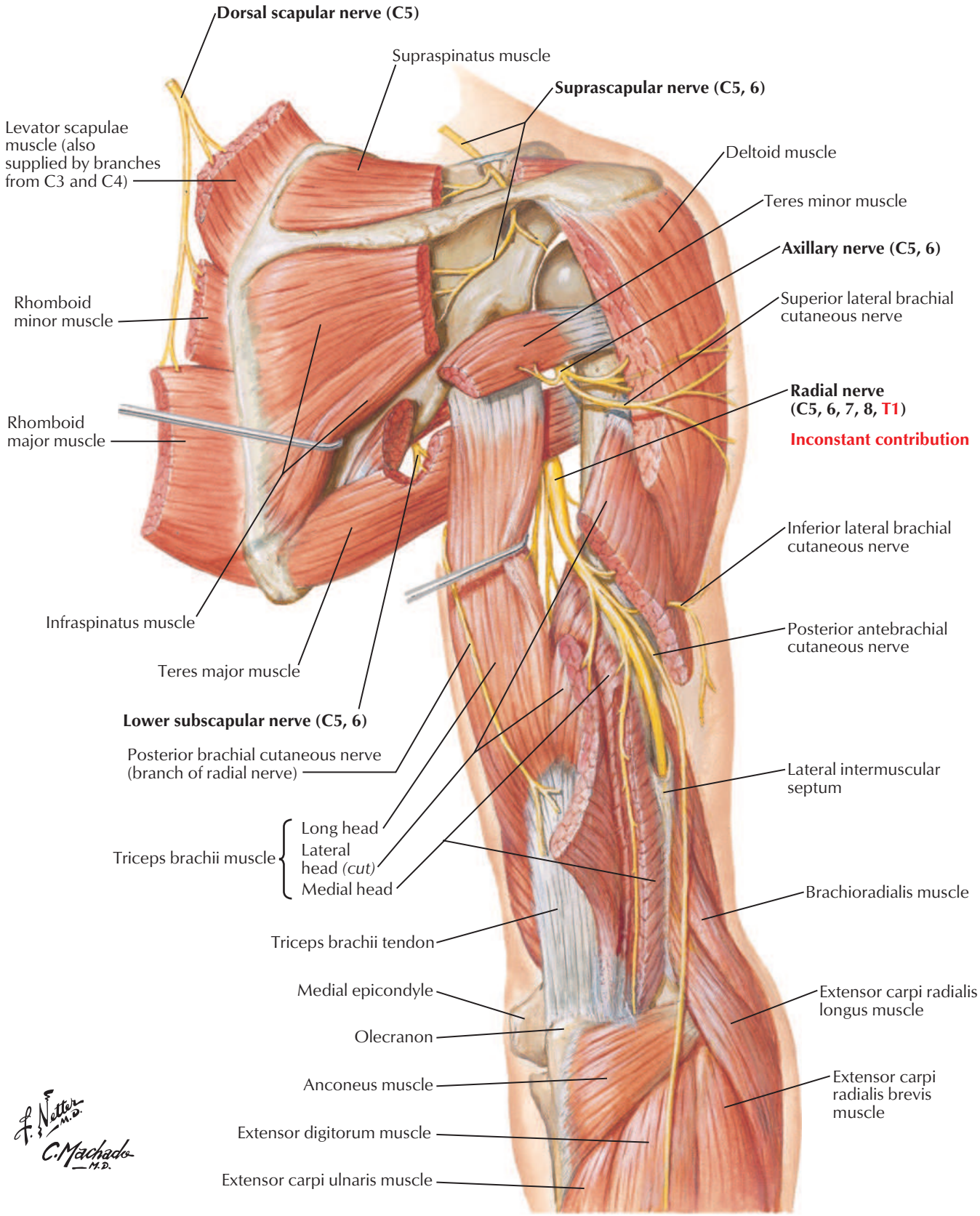
www.Booksmedicos06.com

See also Plates 436, 438



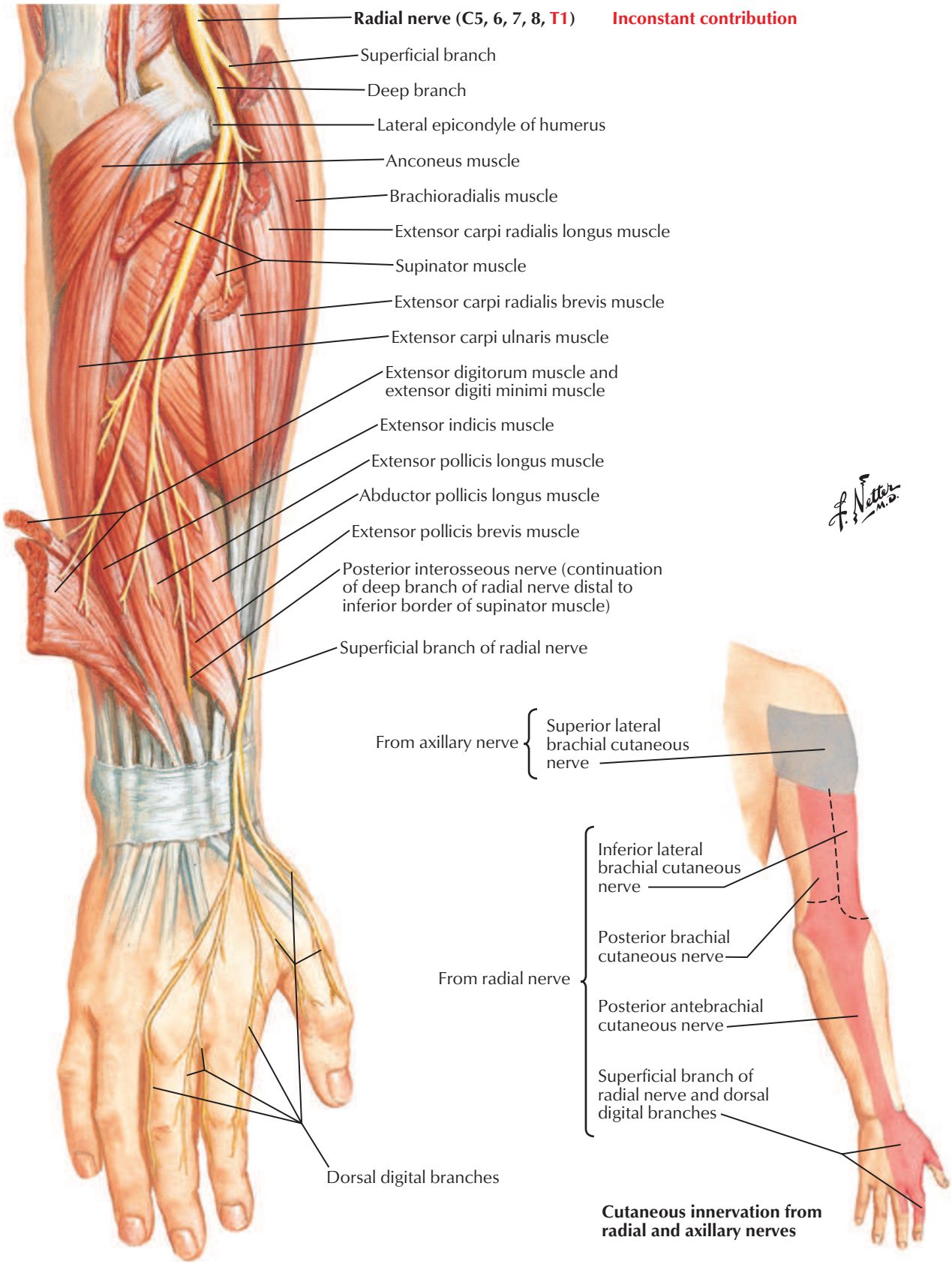
////// facebook : Booksmedicos06

See also Plates 417, 422



www.Booksmedicos06.com

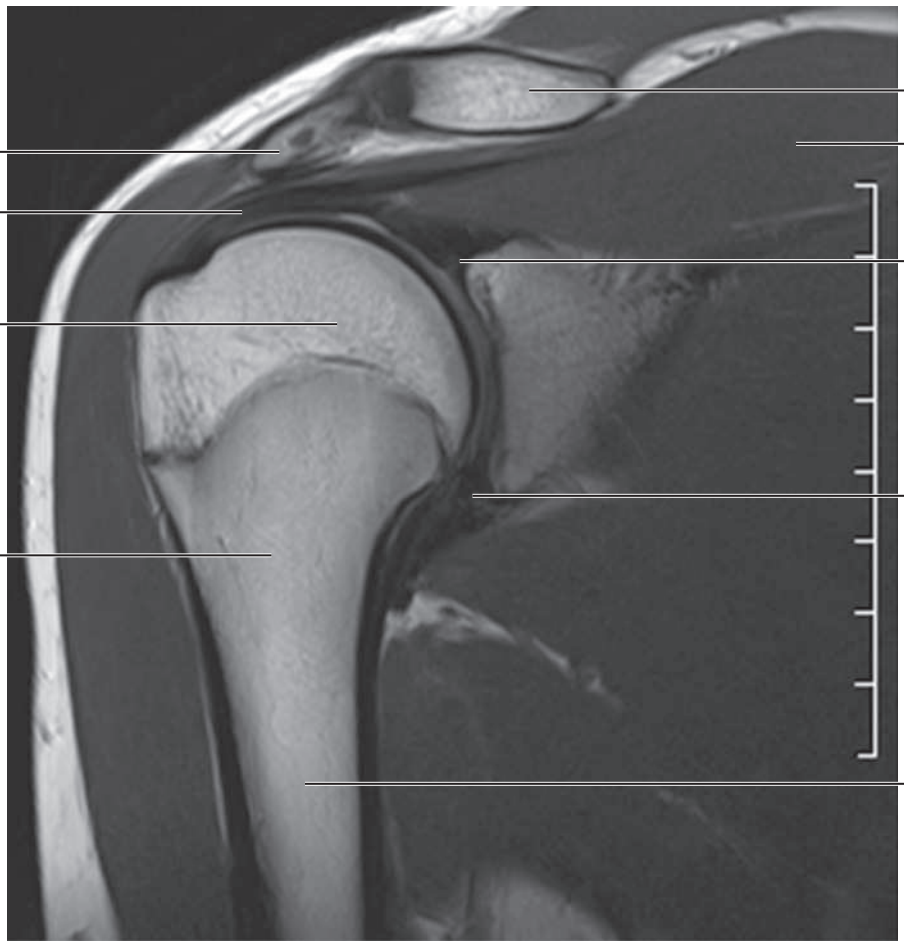
See also Plates 434, 457



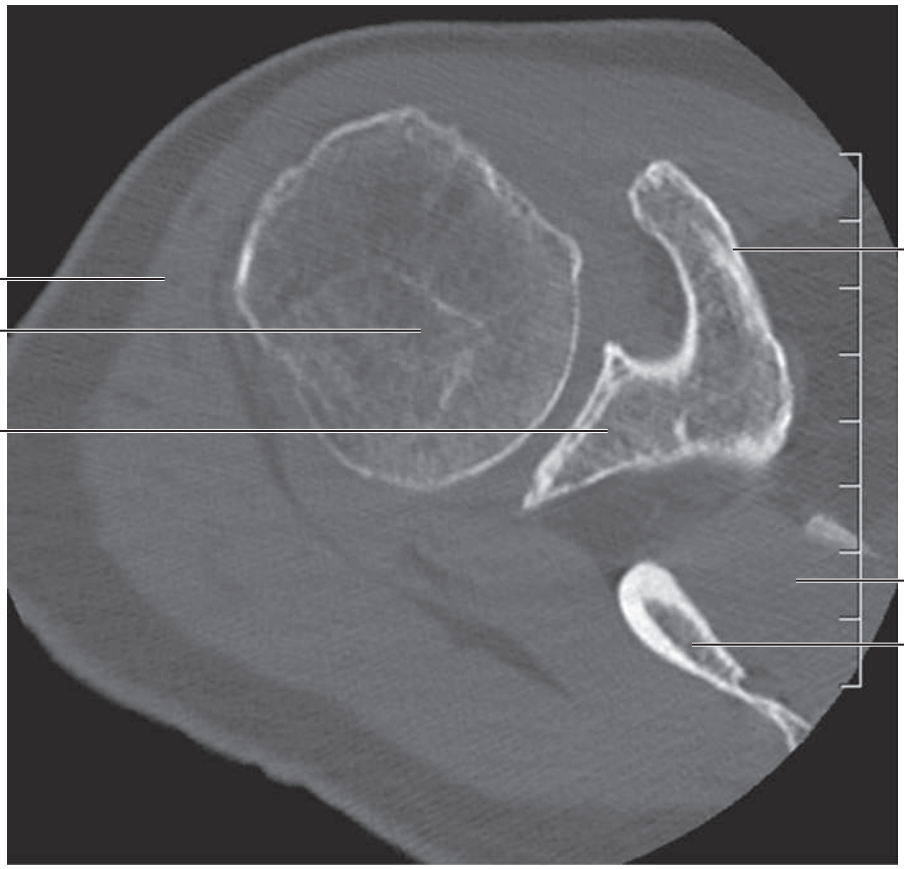
////// facebook : Booksmedicos06

See also Plates 245, 412

Coronal Proton-Density MRI of Glenohumeral Joint



Axial CT Image of Glenohumeral Joint



www.Booksmedicos06.com

////// facebook : Booksmedicos06

ANATOMICAL STRUCTURES	CLINICAL IMPORTANCE	PLATE NUMBERS
SKELETAL SYSTEM		
Clavicle	Most clavicular fractures are caused from a fall on an outstretched arm or direct trauma delivered to the lateral side of the shoulder. Middle third of the clavicle is most commonly fractured due to the changing bony morphology of the clavicle, its strutlike function, and ligament attachments.	408, 409
Humerus	The proximal humerus, especially the surgical neck, is fractured due to low-energy falls in the elderly and high-energy trauma in youth. The axillary nerve is in harm's way and the circumflex humeral arteries can be injured. Midshaft fractures are also relatively common and place the radial nerve in harm's way.	409–411
Ulna	Subcutaneous location of olecranon makes it vulnerable to fracture by direct trauma, especially when elbow is flexed; ulnar styloid process may also be fractured in distal radial fractures	426, 429
Radius	Fractures of distal radius are most common fracture of upper extremity, typically caused by fall on outstretched hand	429
Scaphoid	Most commonly fractured carpal bone; fracture is often due to fall on outstretched hand	439, 440, 442
MUSCULAR SYSTEM		
Rotator (compressor) cuff muscles	Injuries to this group of muscles can be from an acute injury or chronic overuse injury leading to common causes of shoulder pain and disability	412, 415, 422
Supraspinatus tendon	Most commonly injured rotator (compressor) cuff muscle tendon complex. Often torn beneath the acromion	415–417, 422
Biceps brachii tendon	Proximally the long head of the biceps tendon tears in the elderly from falls on an outstretched arm, and distally the biceps tendon is used to perform flexor compartment reflex assessing the C5 and C6 spinal nerves	421, 423
Long head of biceps brachii	When long head has been ruptured, it pulls off supraglenoid tubercle and retracts down into arm; muscle bulges (Popeye deformity) at midshaft of humerus	421
Posterior forearm muscles	Repetitive use of muscles arising from common extensor origin can damage tendons and produce pain over lateral epicondyle, associated with tennis elbow	431
Anterior forearm muscles	Repetitive use of muscles arising from common flexor origin can damage tendons and produce pain over medial epicondyle, associated with golfer's elbow	432, 433
NERVOUS SYSTEM		
Long thoracic nerve	Injury may produce "winged scapula" caused by denervation of serratus anterior	417, 419
Axillary nerve	Position of nerve close to medial aspect of humeral head makes it vulnerable to injury with fractures of surgical neck of humerus or humeral dislocations	422
Median nerve	Commonly compressed in carpal tunnel, producing pain and paresthesia in lateral three and one-half digits	450, 466
Recurrent branch of median nerve	May be injured in superficial lacerations of palm over thenar eminence	449
Ulnar nerve	Vulnerable to compression or injury where it passes posterior to medial epicondyle of humerus, and at wrist in ulnar tunnel (Guyon's canal)	463, 467
Radial nerve	Vulnerable to compression or injury where it lies against humerus in radial groove (e.g., with humeral fracture); common symptom is "wrist drop" due to weakness of wrist extensors	468, 469

ANATOMICAL STRUCTURES	CLINICAL IMPORTANCE	PLATE NUMBERS
CARDIOVASCULAR SYSTEM		
Median cubital vein	Accessed in cubital fossa for venipuncture	405
Suprascapular, dorsal scapular, and circumflex scapular arteries	Provide collateral circulation around scapula, allowing blood to reach distal part of upper extremity if axillary artery is blocked or compressed	418
Brachial artery	Palpated in cubital fossa to assess brachial pulse prior to taking blood pressure measurement	423, 424
Radial artery	Palpated at lateral aspect of wrist to assess radial pulse	424

*Selections were based largely on clinical data as well as commonly covered clinical correlations in gross anatomy courses.

www.Booksmedicos06.com

MUSCLE	MUSCLE GROUP	PROXIMAL ATTACHMENT (ORIGIN)	DISTAL ATTACHMENT (INSERTION)	INNERVATION	BLOOD SUPPLY	MAIN ACTIONS
Abductor digiti minimi	Hand	Pisiform bone and tendon of flexor carpi ulnaris	Medial side of base of proximal phalanx of little finger (5th digit)	Ulnar nerve (deep branch)	Deep palmar branch of ulnar artery	Abducts little finger
Abductor pollicis brevis	Hand	Flexor retinaculum, tubercles of scaphoid and trapezium bones	Base of proximal phalanx of thumb	Median nerve (recurrent branch)	Superficial palmar branch of radial artery	Abducts thumb
Abductor pollicis longus	Posterior forearm	Posterior surface of ulna, radius, and interosseous membrane	Base of 1st metacarpal	Radial nerve (posterior interosseous)	Posterior interosseous artery	Abducts and extends thumb at carpometacarpal joint
Adductor pollicis	Hand	*Oblique head*: bases of 2nd and 3rd metacarpals and capitate bone and adjacent bones *Transverse head:* anterior surface of 3rd metacarpal	Base of proximal phalanx of thumb	Ulnar nerve (deep branch)	Deep palmar arch	Adducts thumb
Anconeus	Arm	Posterior surface of lateral epicondyle of humerus	Lateral surface of olecranon and posterior proximal ulna	Radial nerve	Deep brachial artery	Assists triceps brachii in extending elbow, abducts ulna in pronation
Biceps brachii	Arm	*Long head:* supraglenoid tubercle of scapula *Short head:* coracoid process of scapula	Radial tuberosity, fascia of forearm via bicipital aponeurosis	Musculocutaneous nerve	Muscular branches of brachial artery	Flexes and supinates forearm at elbow
Brachialis	Arm	Distal half of anterior surface of humerus	Coronoid process and tuberosity of ulna	Musculocutaneous nerve and radial nerve	Radial recurrent artery, muscular branches of brachial artery	Flexes forearm at elbow
Brachioradialis	Posterior forearm	Proximal 2/3 of lateral supracondylar ridge of humerus	Lateral side of distal end of radius	Radial nerve	Radial recurrent artery	Weak flexion of forearm when forearm is midpronated
Coracobrachialis	Arm	Coracoid process of scapula	Middle third of medial surface of humerus	Musculocutaneous nerve	Muscular branches of brachial artery	Flexes and adducts arm at shoulder
Deltoid	Shoulder	Lateral third of clavicle, acromion, spine of scapula	Deltoid tuberosity of humerus	Axillary nerve	Posterior circumflex humeral artery, deltoid branch of thoracoacromial artery	*Clavicular part*: flexes and medially rotates arm *Acromial part:* abducts arm beyond initial 15 degrees done by supraspinatus *Spinous part:* extends and laterally rotates arm
Dorsal interosseous muscles	Hand	Sides of two adjacent metacarpal bones	Base of proximal phalangeal bones, extensor expansion of digits 2–4	Ulnar nerve (deep branch)	Deep palmar arch	Abduct digits; flex digits at metacarpophalangeal joint and extend interphalangeal joints
Extensor carpi radialis brevis	Posterior forearm	Lateral epicondyle of humerus	Base of 3rd metacarpal and slip to 2nd metacarpal	Radial nerve (deep branch)	Radial artery, radial recurrent artery	Extends and abducts hand at wrist
Extensor carpi radialis longus	Posterior forearm	Distal third of lateral supracondylar ridge of humerus	Base of 2nd metacarpal and slip to 3rd metacarpal	Radial nerve	Radial artery, radial recurrent artery	Extends and abducts hand at wrist
Extensor carpi ulnaris	Posterior forearm	Lateral epicondyle of humerus and posterior border of ulna	Base of 5th metacarpal	Radial nerve (posterior interosseous nerve)	Posterior interosseous artery	Extends and adducts hand at wrist

Variations in spinal nerve contributions to the innervation of muscles, their arterial supply, their attachments, and their actions are common themes in human anatomy. Therefore, expect differences between texts and realize that anatomical variation is normal.

/////// facebook : Booksmedicos06

MUSCLE	MUSCLE GROUP	PROXIMAL ATTACHMENT (ORIGIN)	DISTAL ATTACHMENT (INSERTION)	INNERVATION	BLOOD SUPPLY	MAIN ACTIONS
Extensor digiti minimi	Posterior forearm	Lateral epicondyle of humerus	Extensor expansion of 5th digit	Radial nerve (posterior interosseous nerve)	Posterior interosseous artery	Extends 5th digit
Extensor digitorum	Posterior forearm	Lateral epicondyle of humerus	Extensor expansions of medial four digits	Radial nerve (posterior interosseous nerve)	Posterior interosseous artery	Extends medial four digits, assists in wrist extension
Extensor indicis	Posterior forearm	Posterior surface of ulna and interosseous membrane	Extensor expansion of 2nd digit	Radial nerve (posterior interosseous nerve)	Posterior interosseous artery	Extends 2nd digit and helps extend hand at wrist
Extensor pollicis brevis	Posterior forearm	Posterior surface of radius and interosseous membrane	Dorsal base of proximal phalanx of thumb	Radial nerve (posterior interosseous nerve)	Posterior interosseous artery	Extends proximal phalanx of thumb at carpometacarpal joint
Extensor pollicis longus	Posterior forearm	Posterior surface of middle third of ulna, interosseous membrane	Dorsal base of distal phalanx of thumb	Radial nerve (posterior interosseous nerve)	Posterior interosseous artery	Extends distal phalanx of thumb at interphalangeal and metacarpophalangeal joints
Flexor carpi radialis	Anterior forearm	Medial epicondyle of humerus	Base of 2nd metacarpal	Median nerve	Radial artery	Flexes and abducts hand at wrist
Flexor carpi ulnaris	Anterior forearm	*Superficial head:* medial epicondyle of humerus *Deep head:* olecranon and posterior border of ulna	Pisiform bone, hook of hamate bone, base of 5th metacarpal	Ulnar nerve	Posterior ulnar recurrent artery	Flexes and adducts hand at wrist
Flexor digiti minimi brevis	Hand	Flexor retinaculum and hook of hamate bone	Medial side of base of proximal phalanx of little finger	Ulnar nerve (deep branch)	Deep palmar branch of ulnar artery	Flexes proximal phalanx of little finger
Flexor digitorum profundus	Anterior forearm	Medial and anterior surface of proximal 3/4 of ulna and interosseous membrane	Palmar base of distal phalangeal bones of medial four digits	*Medial part:* ulnar nerve *Lateral part:* median nerve	Anterior interosseous artery, muscular branches of ulnar artery	Flexes distal phalangeal bones of medial four digits, assists with flexion of hand at wrist
Flexor digitorum superficialis	Anterior forearm	*Humeroulnar head:* medial epicondyle of humerus, coronoid, process of ulna, ulnar collateral ligament *Radial head:* superior half of anterior radius	Bodies of middle phalangeal bones of medial four digits	Median nerve	Ulnar and radial arteries	Flexes middle and proximal phalangeal bones of medial four digits, flexes hand at wrist
Flexor pollicis brevis	Hand	Flexor retinaculum and tubercle of trapezium bone	Lateral side of base of proximal phalanx of thumb	Median nerve (recurrent branch)	Superficial palmar branch of radial artery	Flexes proximal phalanx of thumb
Flexor pollicis longus	Anterior forearm	Anterior surface of radius and interosseous membrane	Palmar base of distal phalanx of thumb	Median nerve (anterior interosseous nerve)	Anterior interosseous artery	Flexes phalangeal bones of thumb
Infraspinatus	Shoulder	Infraspinous fossa of scapula and deep fascia	Greater tubercle of humerus	Suprascapular nerve	Suprascapular artery	Lateral rotation of arm
Latissimus dorsi	Shoulder	Spinous processes of T7–L5, thoracolumbar fascia, iliac crest, and last three ribs	Intertubercular sulcus of humerus	Thoracodorsal nerve	Thoracodorsal artery, dorsal perforating branches of 9th, 10th, and 11th posterior intercostal, subcostal, and first three lumbar arteries	Extends, adducts, and medially rotates humerus
Levator scapulae	Superficial back	Posterior tubercles of transverse processes of C1–C4	Medial border of scapula from superior angle to spine	Anterior rami of C3–C4 and dorsal scapular nerve	Dorsal scapular artery, transverse cervical artery, ascending cervical artery	Elevates scapula medially, inferiorly rotates glenoid fossa
Lumbrical, first and second	Hand	Lateral two tendons of flexor digitorum profundus	Lateral sides of extensor expansion of digits 2 and 3	Median nerve (digital branches)	Superficial and deep palmar arches	Extend digits at interphalangeal joints, flex metacarpophalangeal joints

www.Booksmedicos06.com ///////

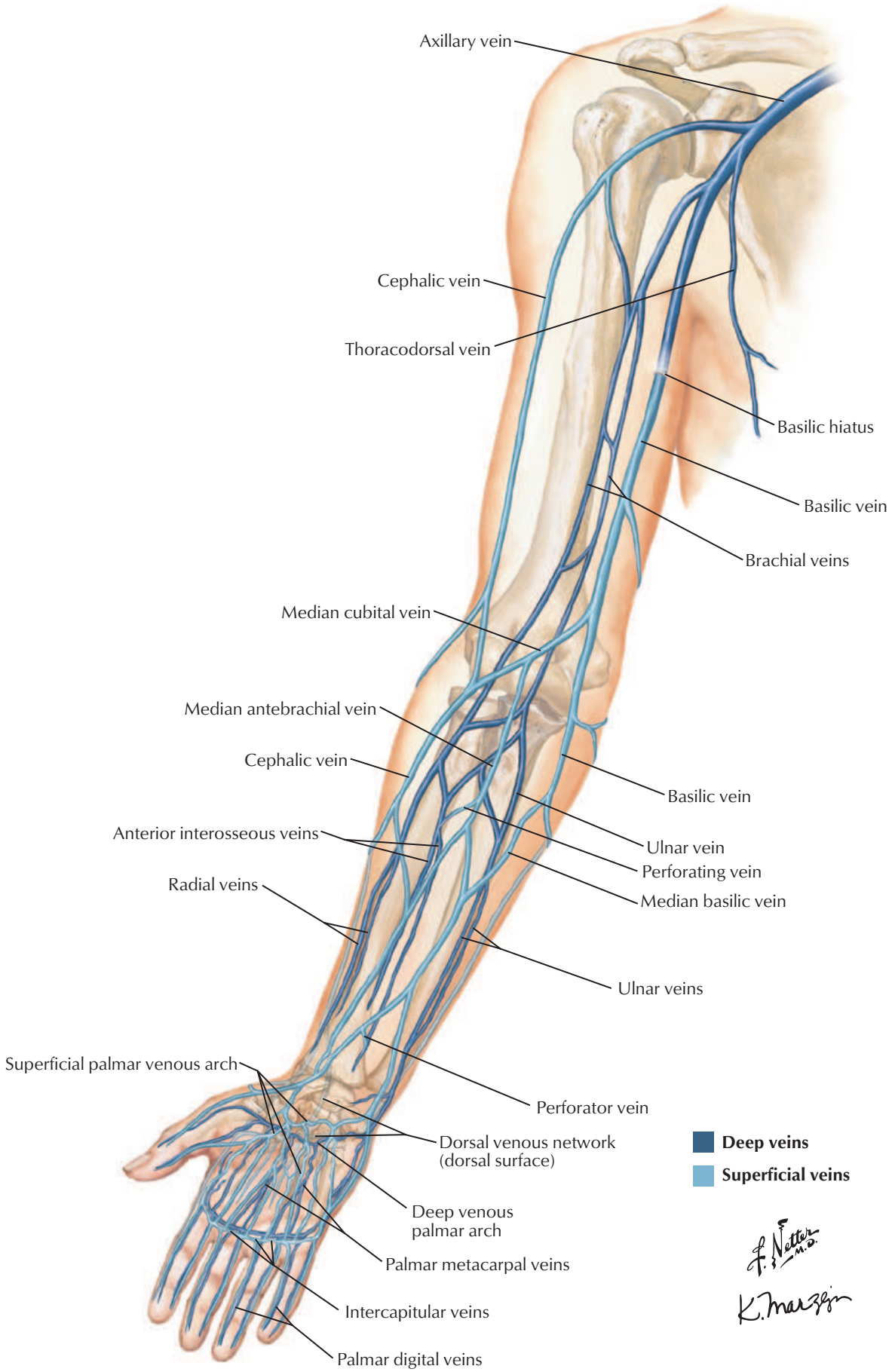
MUSCLE	MUSCLE GROUP	PROXIMAL ATTACHMENT (ORIGIN)	DISTAL ATTACHMENT (INSERTION)	INNERVATION	BLOOD SUPPLY	MAIN ACTIONS
Lumbrical, third and fourth	Hand	Medial three tendons of flexor digitorum profundus	Lateral sides of extensor expansion of digits 4 and 5	Ulnar nerve (deep branch)	Superficial and deep palmar arches	Extend digits at interphalangeal joints, flex metacarpophalangeal joints
Opponens digiti minimi	Hand	Flexor retinaculum and hook of hamate bone	Palmar surface of 5th metacarpal	Ulnar nerve (deep branch)	Deep palmar branch of ulnar artery	Draws 5th metacarpal anteriorly and rotates it to face thumb
Opponens pollicis	Hand	Flexor retinaculum and tubercle of trapezium bone	Lateral side of 1st metacarpal	Median nerve (recurrent branch)	Superficial palmar branch of radial artery	Draws 1st metacarpal forward and rotates it medially
Palmar interosseous muscles	Hand	Sides of metacarpal bones 2, 4, and 5	Bases of proximal phalanx and extensor expansion of digits 2, 4, and 5	Ulnar nerve (deep branch)	Deep palmar arch	Adducts digits; flexes digits and extends interphalangeal joints
Palmaris brevis	Hand	Palmar aponeurosis and flexor retinaculum	Skin of medial border of palm	Superficial branch of ulnar nerve	Superficial palmar arch	Deepens hollow of hand, assists grip
Palmaris longus	Anterior forearm	Medial epicondyle of humerus	Distal half of flexor retinaculum and palmar aponeurosis	Median nerve	Posterior ulnar recurrent artery	Flexes hand at wrist and tenses palmar aponeurosis
Pectoralis major	Pectoral/ axillary regions	Sternal half of clavicle, sternum to 7th rib, cartilages of true ribs, aponeurosis of external abdominal oblique muscle	Lateral lip of intertubercular sulcus of humerus	Medial and lateral pectoral nerves	Pectoral branch of thoracoacromial artery, perforating branches of internal thoracic artery	Flexes, adducts, and medially rotates arm
Pectoralis minor	Pectoral/ axillary regions	Outer surface of upper margin of ribs 3–5	Coracoid process of scapula	Medial pectoral nerve	Pectoral branch of thoracoacromial artery, and superior and lateral thoracic arteries	Lowers lateral angle of scapula and protracts scapula
Pronator quadratus	Anterior forearm	Distal fourth of anterior ulna	Distal fourth of anterior radius	Median nerve (anterior interosseous nerve)	Anterior interosseous artery	Pronates forearm
Pronator teres	Anterior forearm	Two heads: medial epicondyle of humerus and coronoid process of ulna	Midway along lateral surface of radius	Median nerve	Anterior ulnar recurrent artery	Pronates forearm and weakly flexes elbow
Rhomboid major	Superficial back	Spinous processes of T2–T5 vertebrae	Medial border of scapula below base of spine of scapula	Dorsal scapular nerve	Dorsal scapular OR deep branch of transverse cervical artery, dorsal perforating branches of upper five or six posterior intercostal arteries	Fixes scapula to thoracic wall and retracts and rotates it to depress glenoid cavity
Rhomboid minor	Superficial back	Nuchal ligament, spines of C7 and T1 vertebrae	Medial border of scapula at spine of scapula	Dorsal scapular nerve	Dorsal scapular artery OR deep branch of transverse cervical artery, dorsal perforating branches of upper five or six posterior intercostal arteries	Fixes scapula to thoracic wall and retracts and rotates it to depress glenoid cavity
Serratus anterior	Shoulder	Lateral surfaces of upper 8–9 ribs	Costal surface of medial border of scapula	Long thoracic nerve	Lateral thoracic artery	Protracts and rotates scapula and holds it against thoracic wall
Subclavius	Shoulder	Upper border of 1st rib and its cartilage	Inferior surface of middle third of clavicle	Nerve to subclavius	Clavicular branch of thoracoacromial artery	Anchors and depresses clavicle

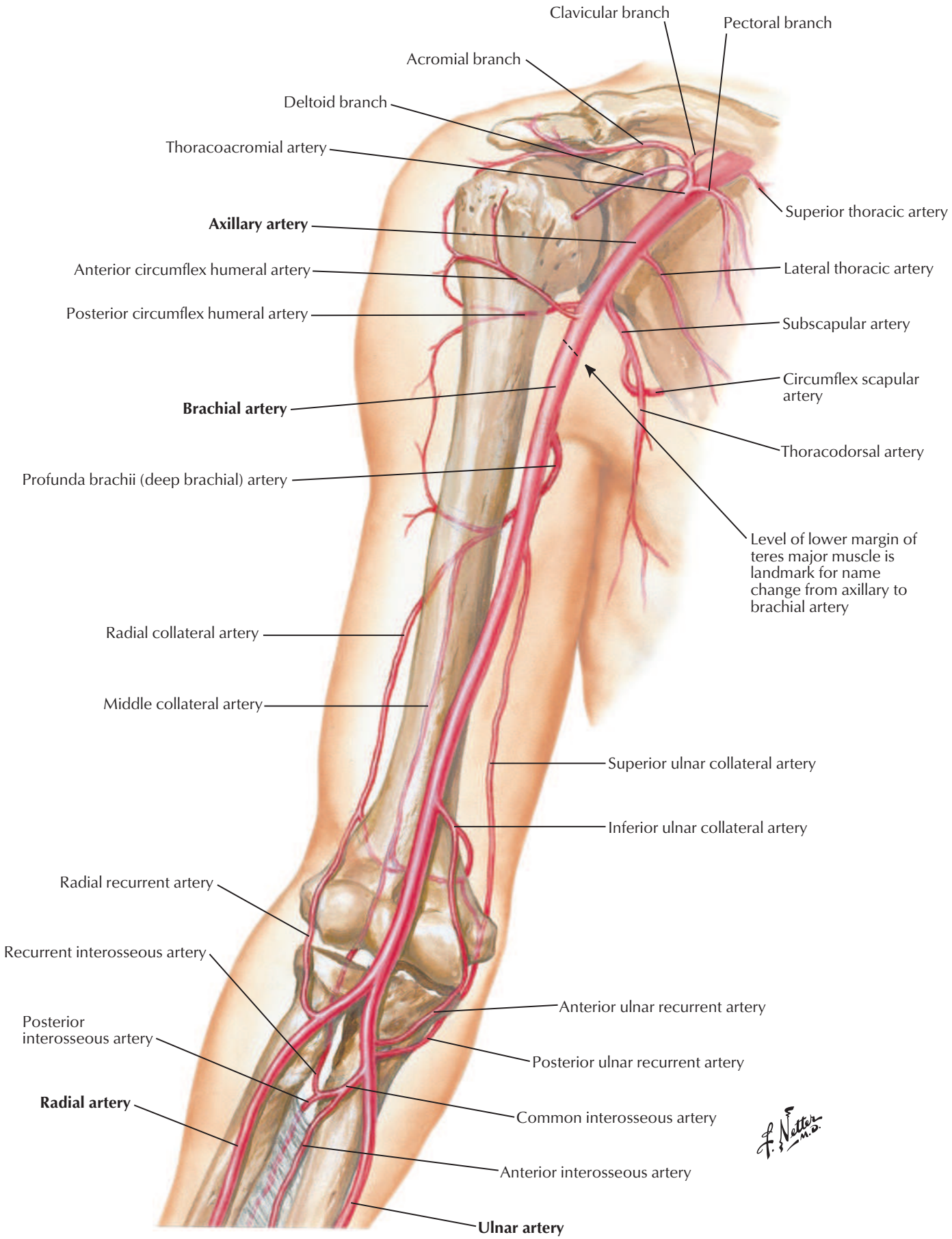
/////// facebook : Booksmedicos06

MUSCLE	MUSCLE GROUP	PROXIMAL ATTACHMENT (ORIGIN)	DISTAL ATTACHMENT (INSERTION)	INNERVATION	BLOOD SUPPLY	MAIN ACTIONS
Subscapularis	Shoulder	Subscapular fossa	Lesser tubercle of humerus	Upper and lower subscapular nerves	Subscapular artery, lateral thoracic artery	Medially rotates and adducts arm; helps hold humeral head in glenoid fossa
Supinator	Posterior forearm	Lateral epicondyle of humerus, radial collateral and anular ligaments, supinator fossa, and crest of ulna	Lateral, posterior, and anterior surfaces of proximal third of radius	Radial nerve (deep branch)	Radial recurrent artery, posterior interosseous arteries	Supinates forearm
Supraspinatus	Shoulder	Supraspinous fossa of scapula and deep fascia	Greater tubercle of humerus	Suprascapular nerve	Suprascapular artery	Initiates arm abduction
Teres major	Shoulder	Posterior surface of inferior angle of scapula	Medial lip of intertubercular sulcus of humerus	Lower subscapular nerve	Circumflex scapular artery	Adducts and medially rotates arm
Teres minor	Shoulder	Upper 2/3 of posterior surface of lateral border of scapula	Inferior facet of greater tubercle of humerus	Axillary nerve	Circumflex scapular artery	Laterally rotates arm
Trapezius	Superficial back	Superior nuchal line, external occipital protuberance, nuchal ligament, spinous processes of C7–T12	Lateral third of clavicle, acromion, and spine of scapula	Accessory nerve (cranial nerve XI)	Transverse cervical artery, dorsal perforating branches of posterior intercostal arteries	Elevates, retracts, and rotates scapula; lower fibers depress scapula
Triceps brachii	Arm	*Long head:* infraglenoid tubercle of scapula *Lateral head:* upper half of posterior humerus *Medial head:* distal 2/3 of medial and posterior humerus	Posterior surface of olecranon process of ulna	Radial nerve	Branch of profunda brachii artery	Extends forearm at elbow; long head stabilizes head of abducted humerus and extends and adducts arm

www.Booksmedicos06.com ///////

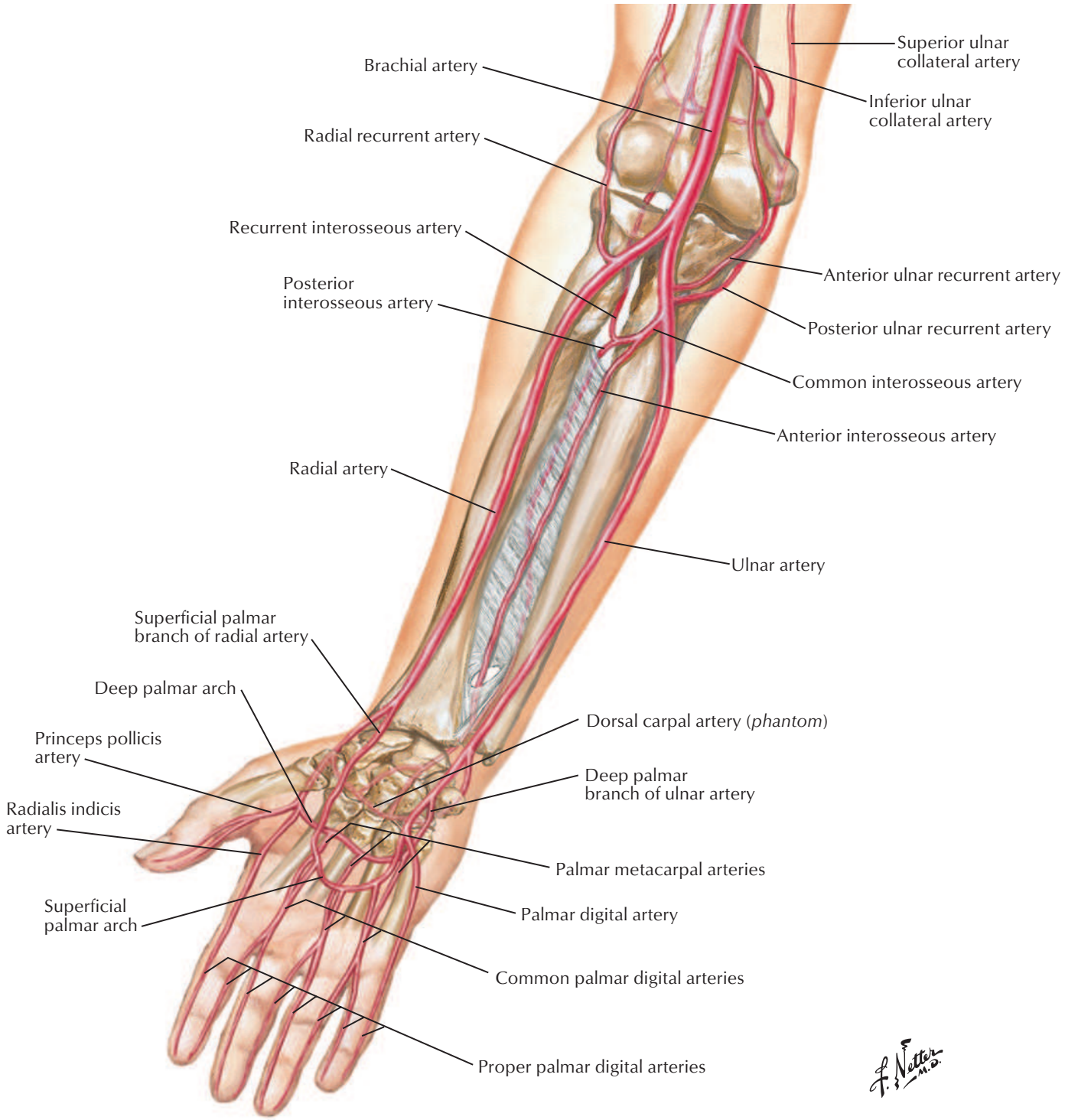
////// facebook : Booksmedicos06



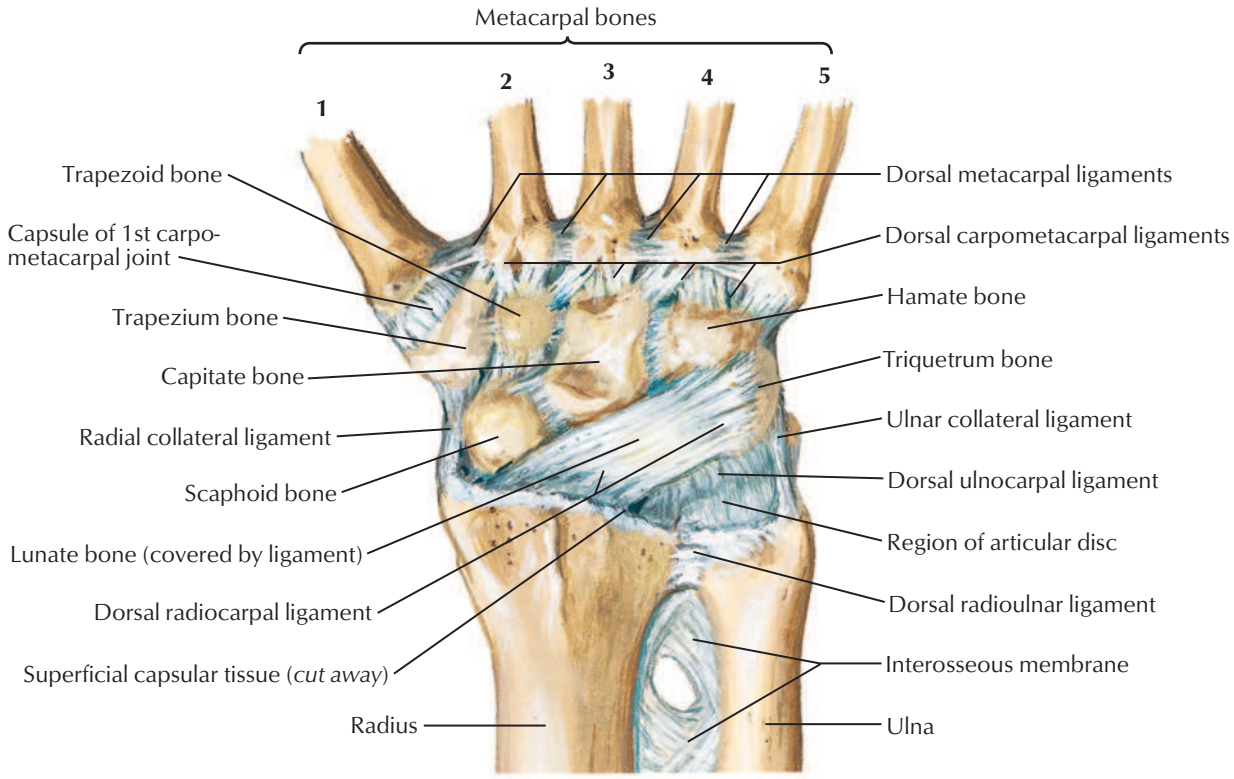


www.Booksmedicos06.com

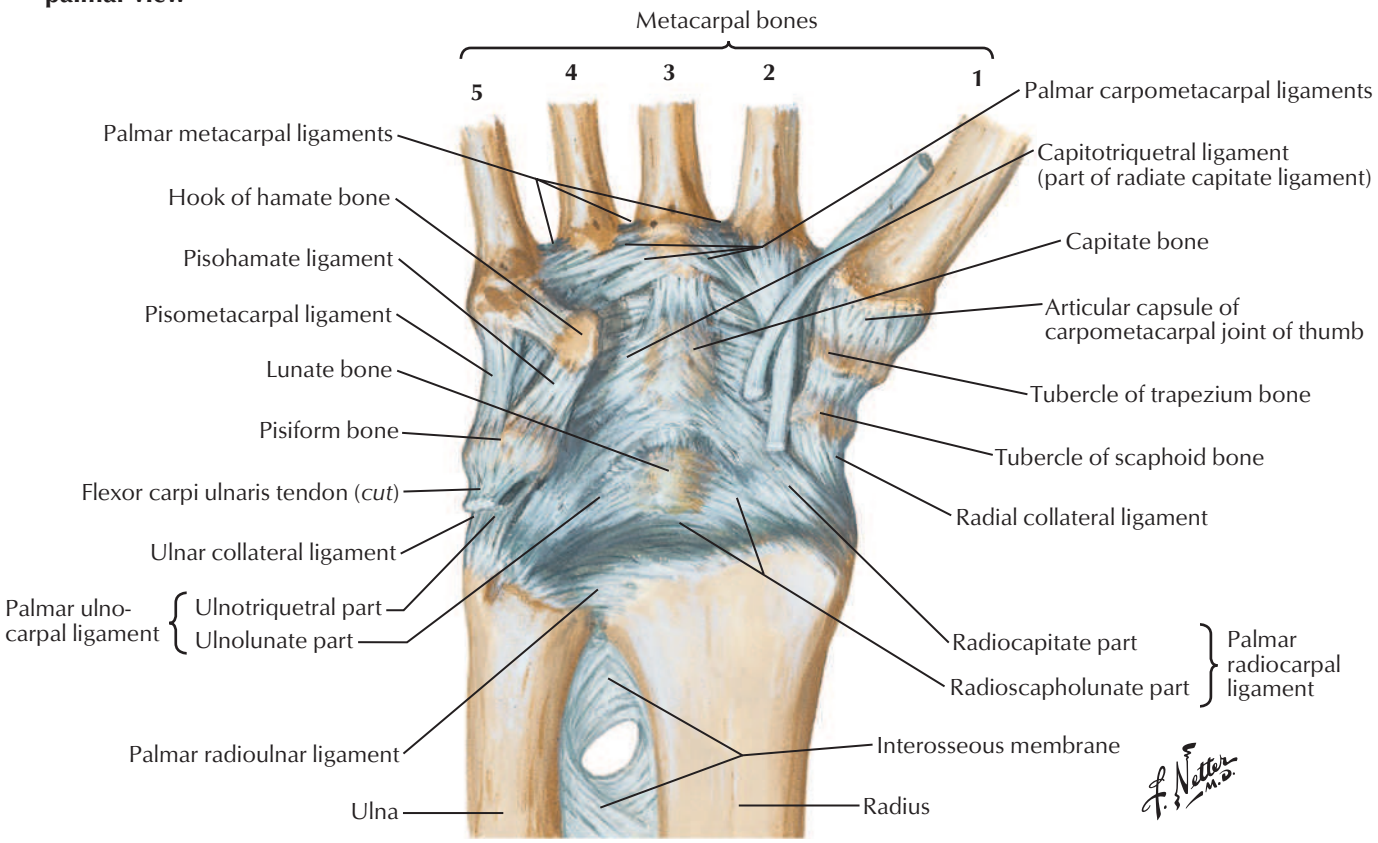
////// facebook : Booksmedicos06



Posterior (dorsal) view

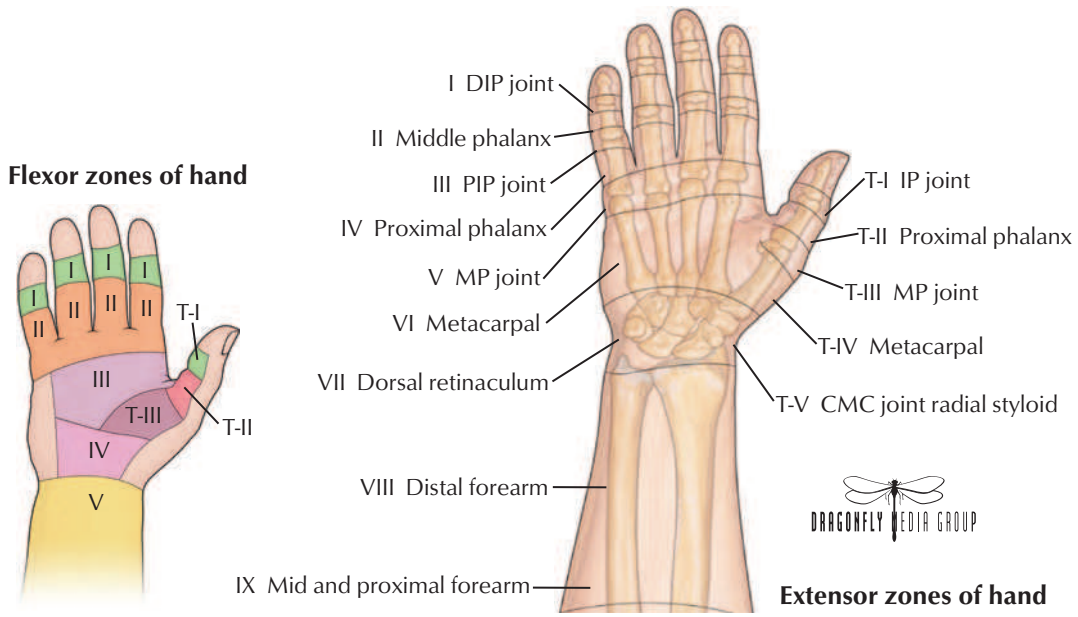


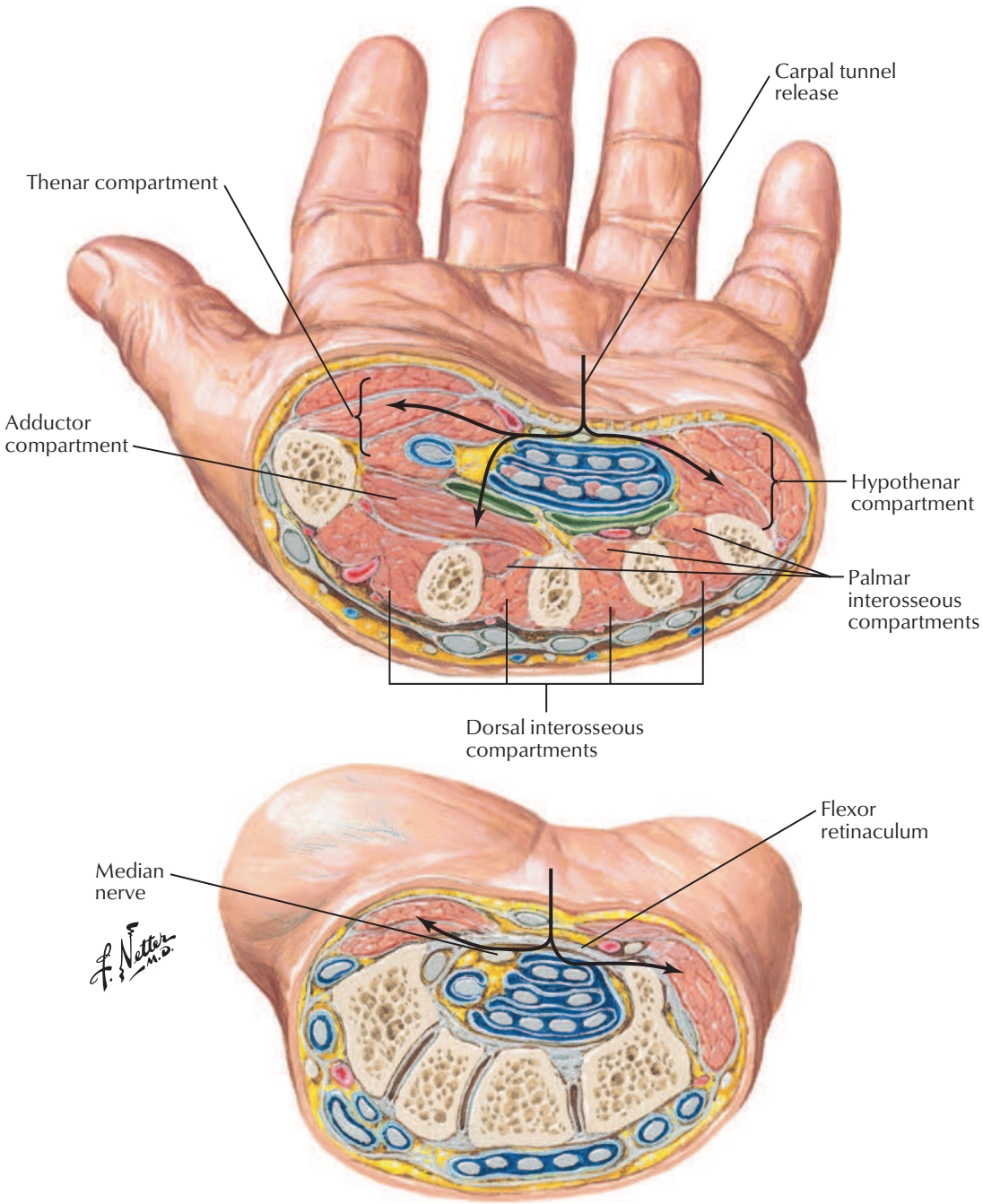
Flexor retinaculum removed: palmar view



www.Booksmedicos06.com

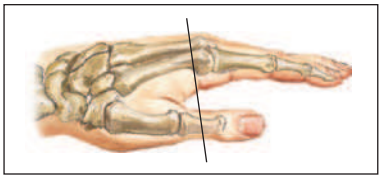
/////// facebook : Booksmedicos06

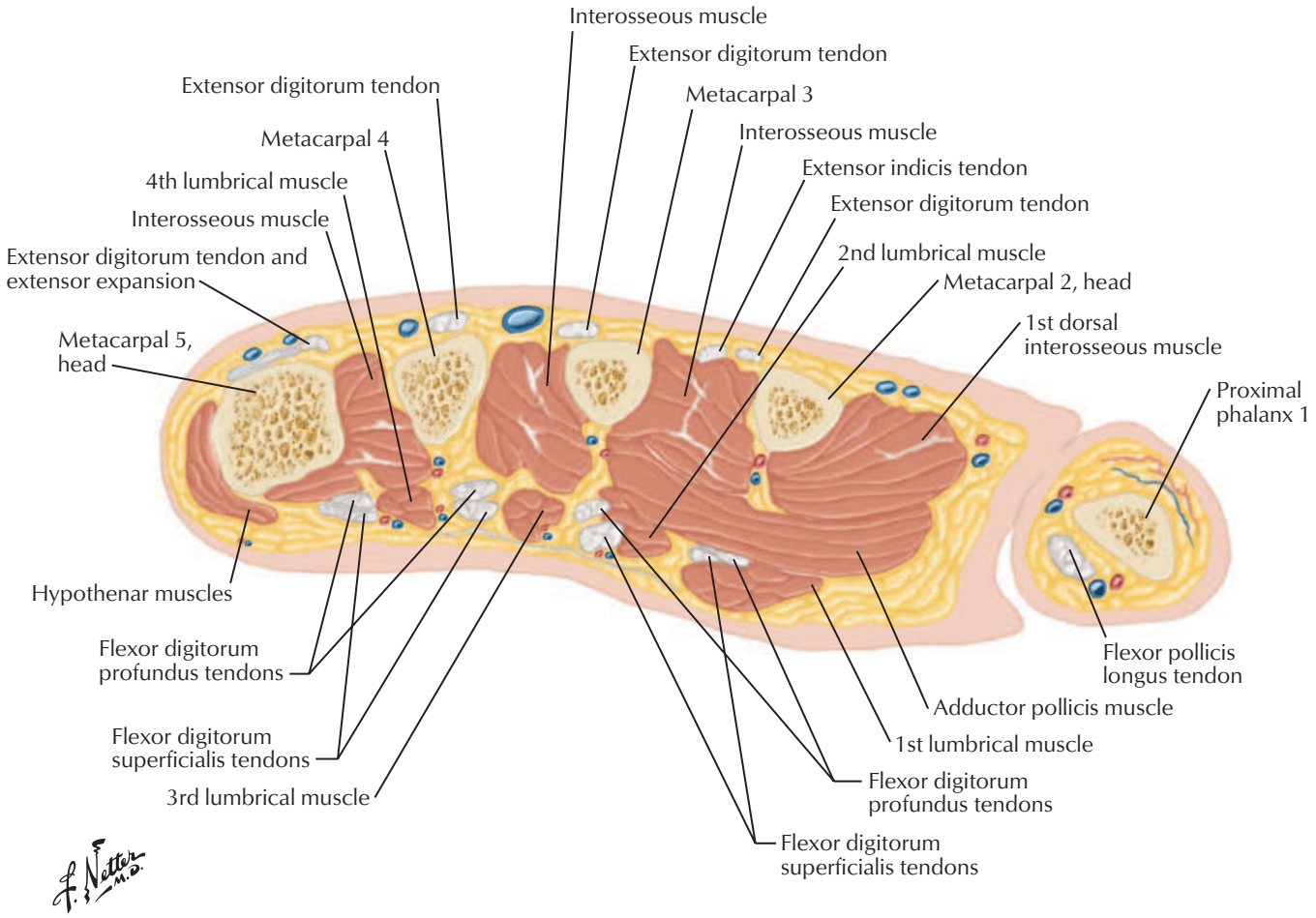


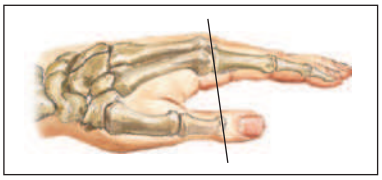


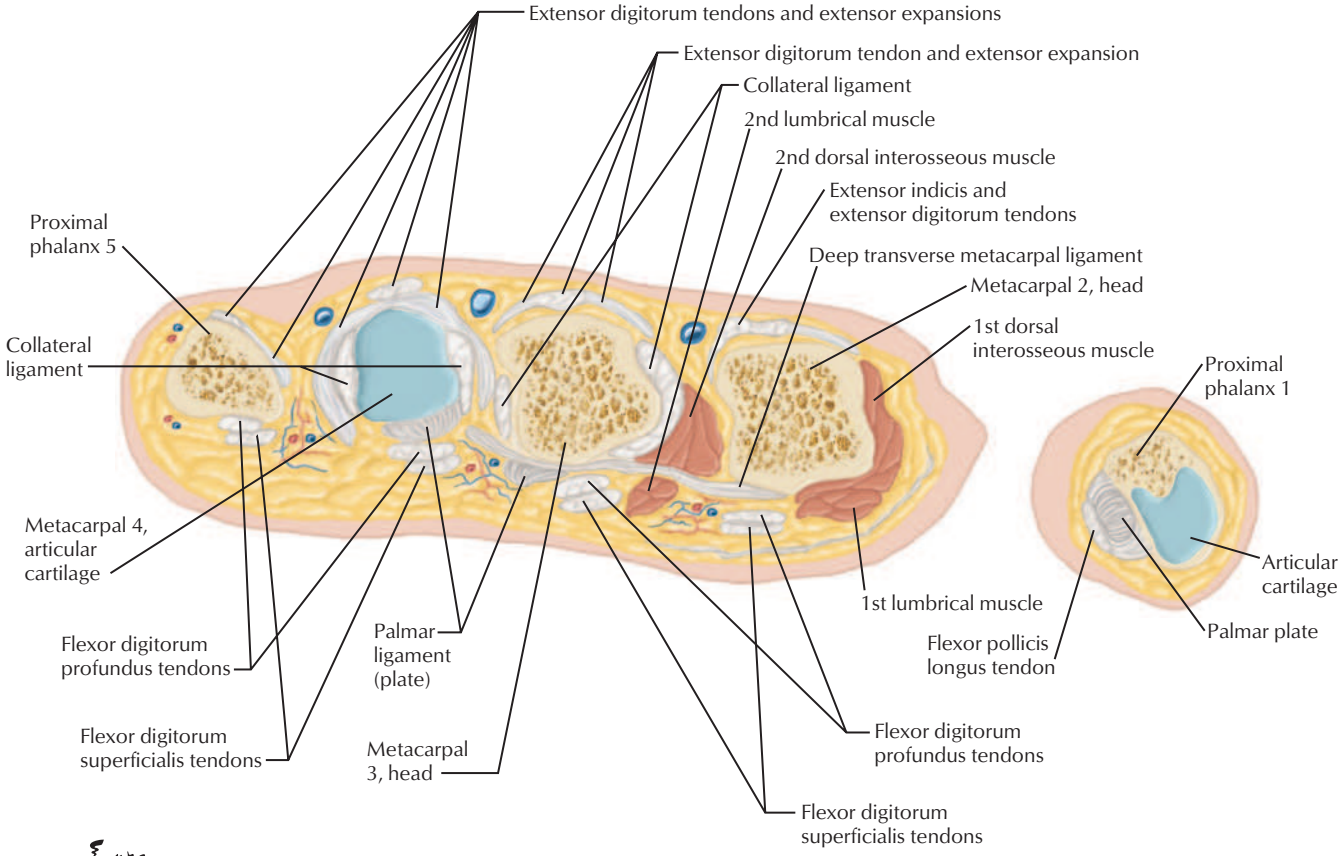
www.Booksmedicos06.com

////// facebook : Booksmedicos06









www.Booksmedicos06.com

This page intentionally left blank

/////// facebook : Booksmedicos06

LOWER LIMB 8

Surface Anatomy	471	**Neurovasculature**	529-533
Cutaneous Anatomy	472-475	**Regional Imaging**	534-535
Hip and Thigh	476-496	**Structures with High Clinical Significance**	Tables 8.1-8.2
Knee	497-503	**Muscle Tables**	Tables 8.3-8.6
Leg	504-514	**Electronic Bonus Plates**	BP107-BP117
Ankle and Foot	515-528		

ELECTRONIC BONUS PLATES

Booksmedicos06.com



BP107 Veins of Lower Limb



BP108 Arteries of Thigh and Knee



BP109 Cross-Sectional Anatomy of Hip: Axial View



BP110 Arteries of Knee and Foot



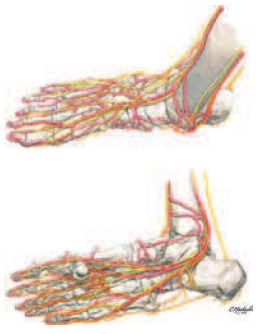
BP111 Leg: Serial Cross Sections



BP112 Osteology of Knee



BP113 Knee Radiograph: Lateral View



BP114 Anatomy of Foot: Nerves and Arteries

www.Booksmedicos06.com ///////

ELECTRONIC BONUS PLATES—*cont'd*



BP115 Cross-Sectional Anatomy of Ankle and Foot



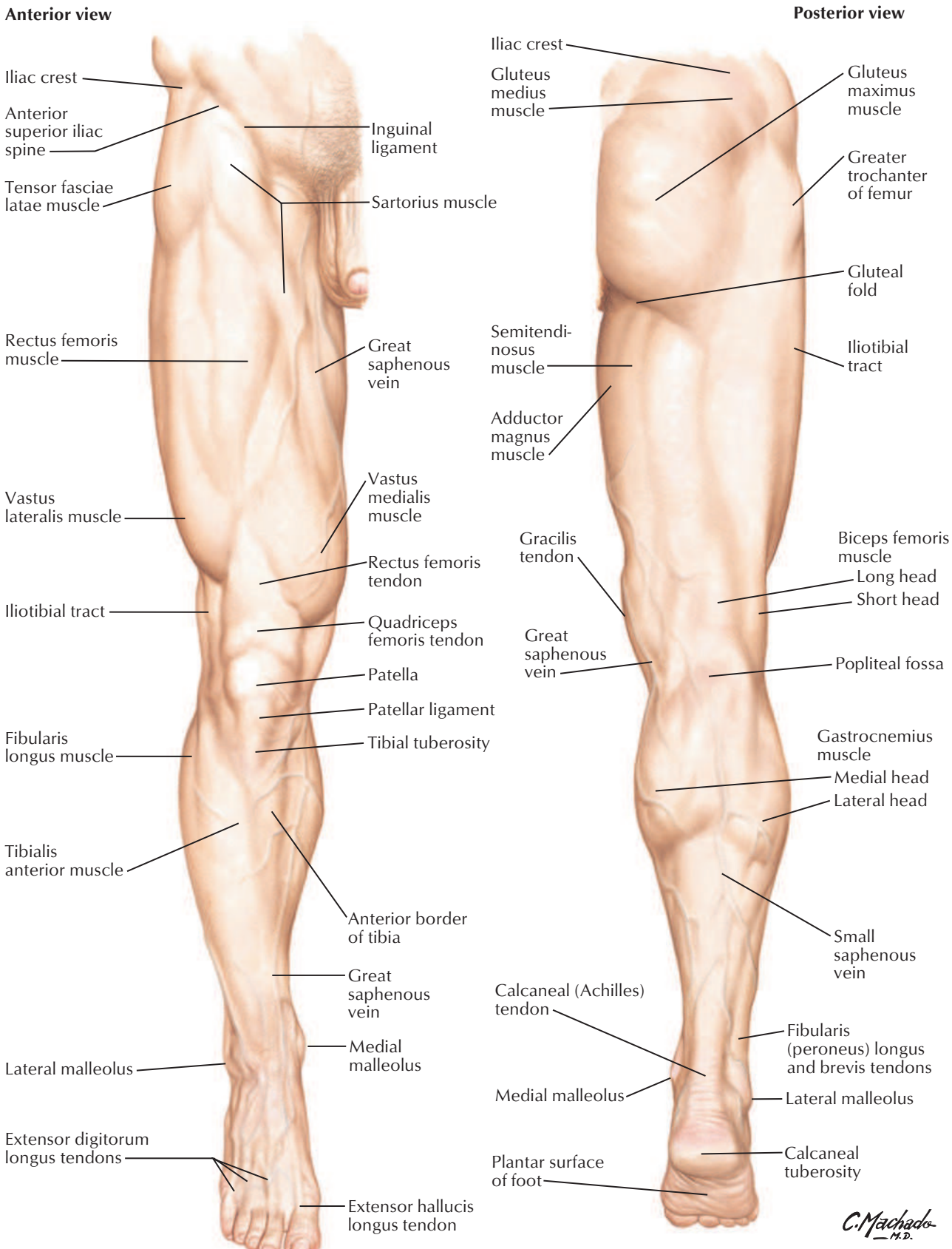
BP116 Cross-Sectional Anatomy of Ankle and Foot (continued)



BP117 Anatomy of Toenail

/////// facebook : Booksmedicos06

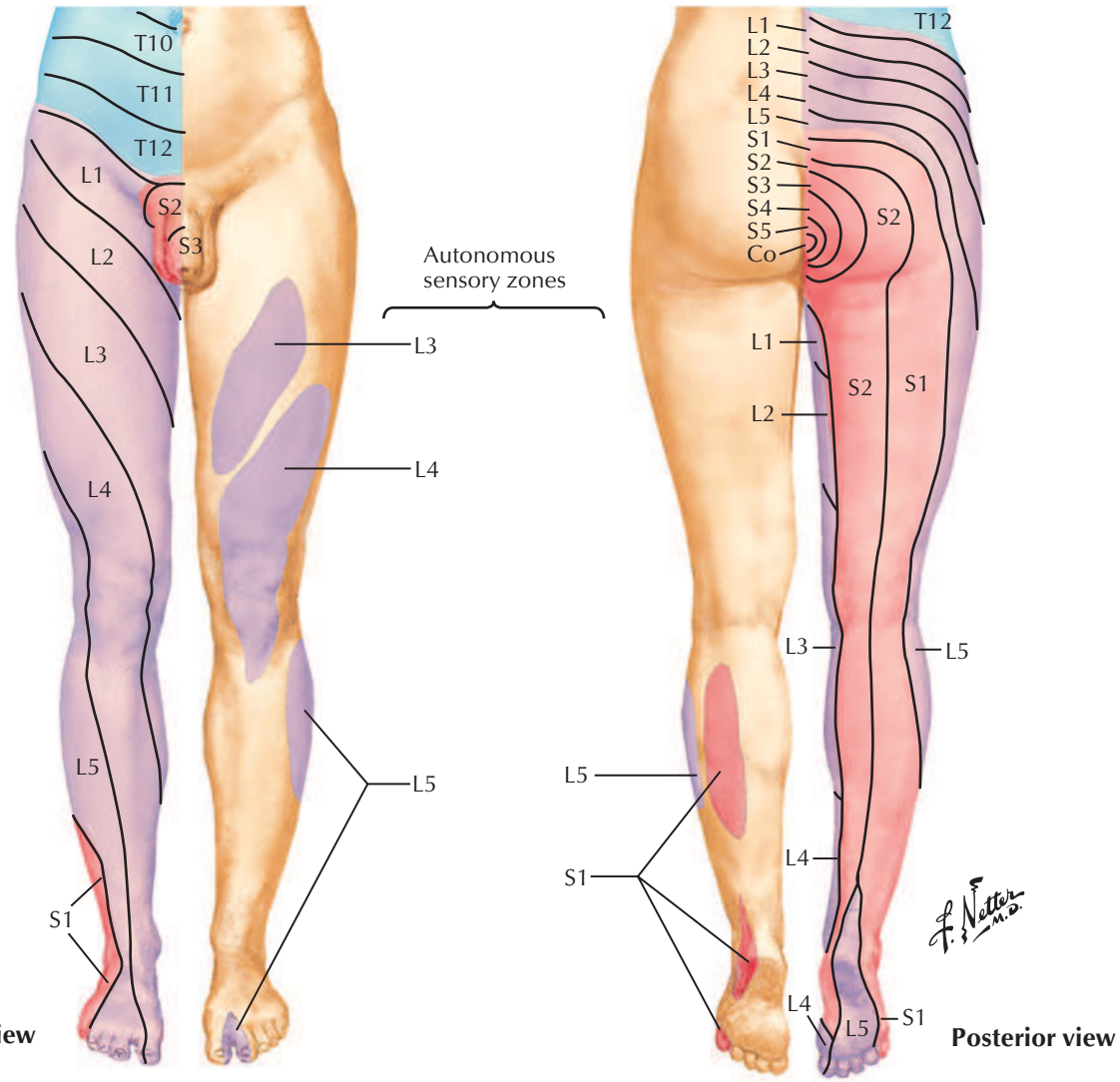
See also Plates 472-474



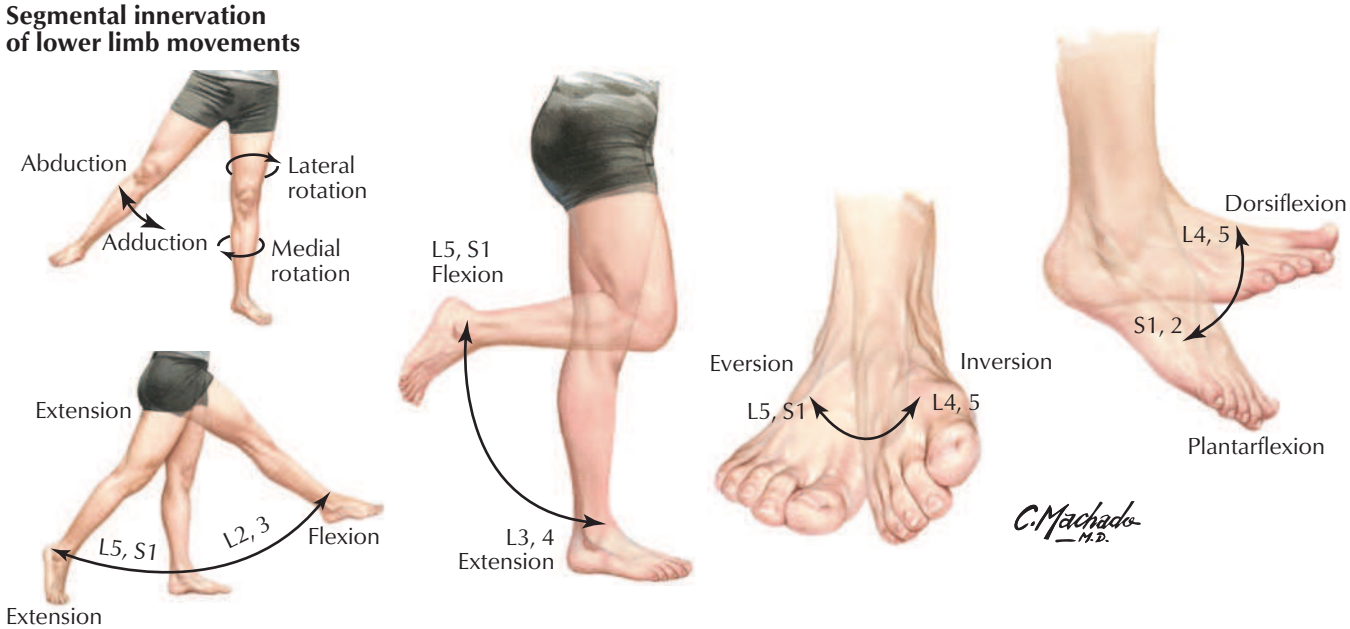
www.Booksmedicos06.com

See also Plate 171

Schematic demarcation of dermatomes (according to Keegan and Garrett) shown as distinct segments. There is considerable overlap between any two adjacent dermatomes.

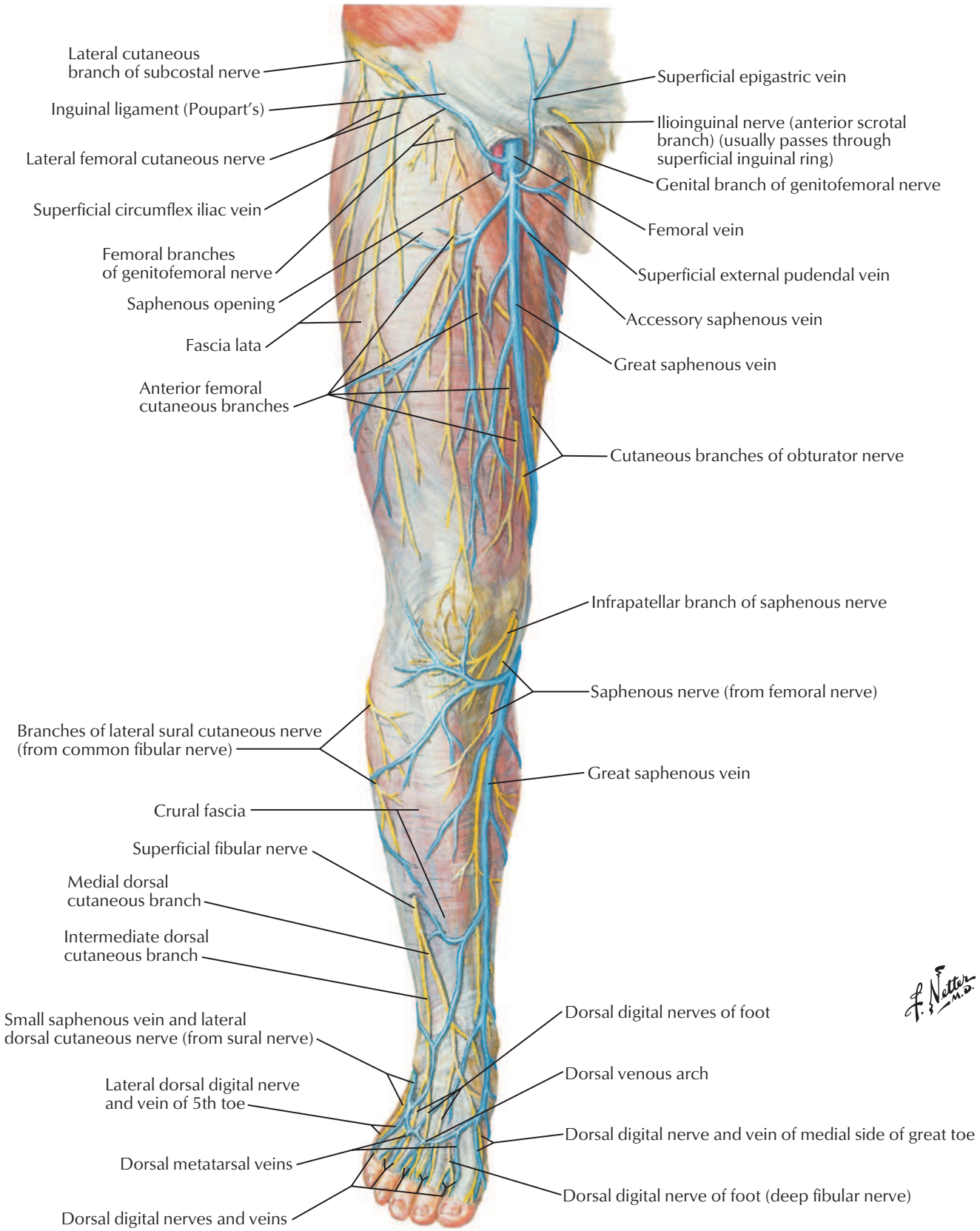


Segmental innervation of lower limb movements



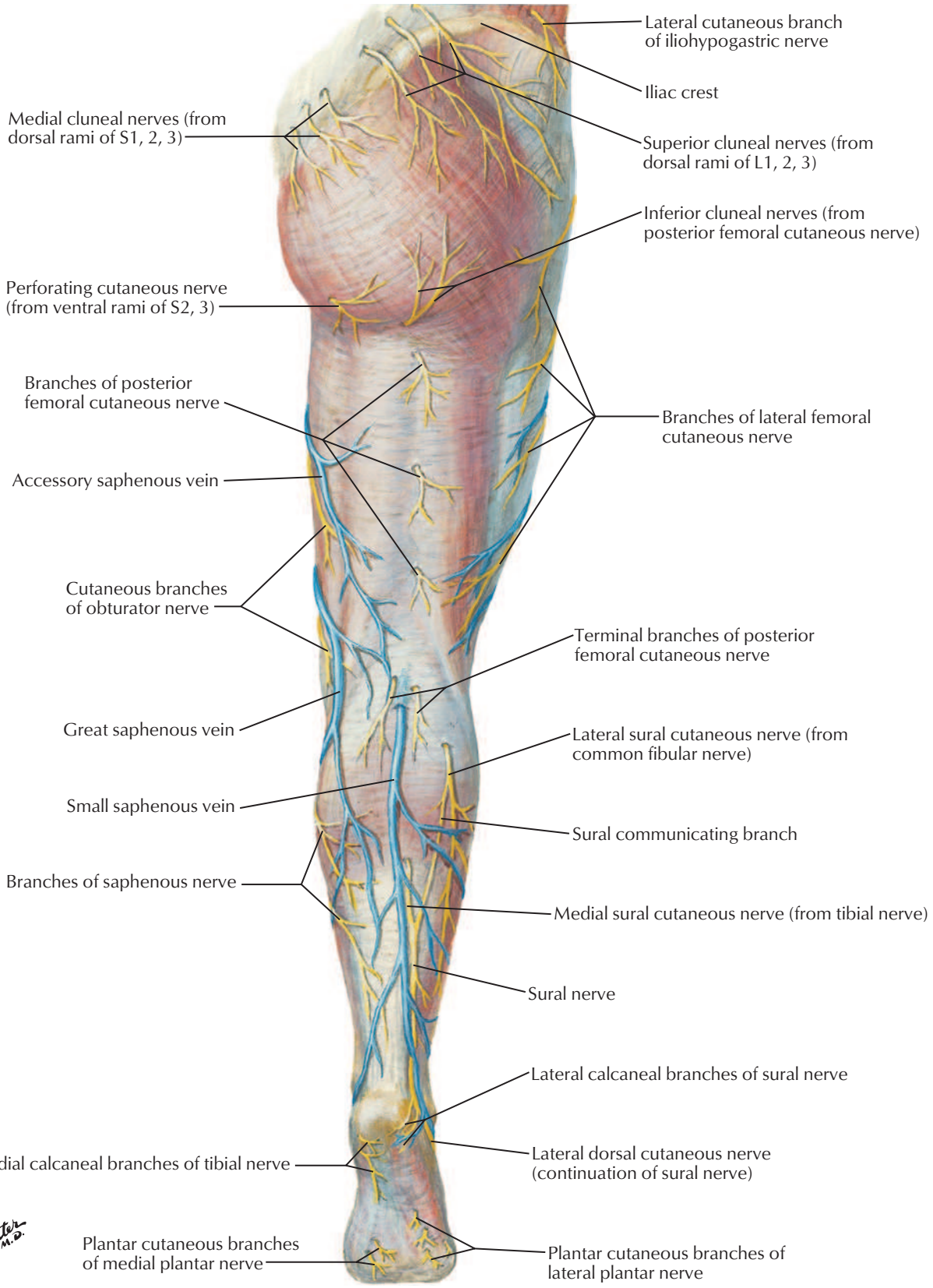
////// facebook : Booksmedicos06

See also Plates 529, 530, 533



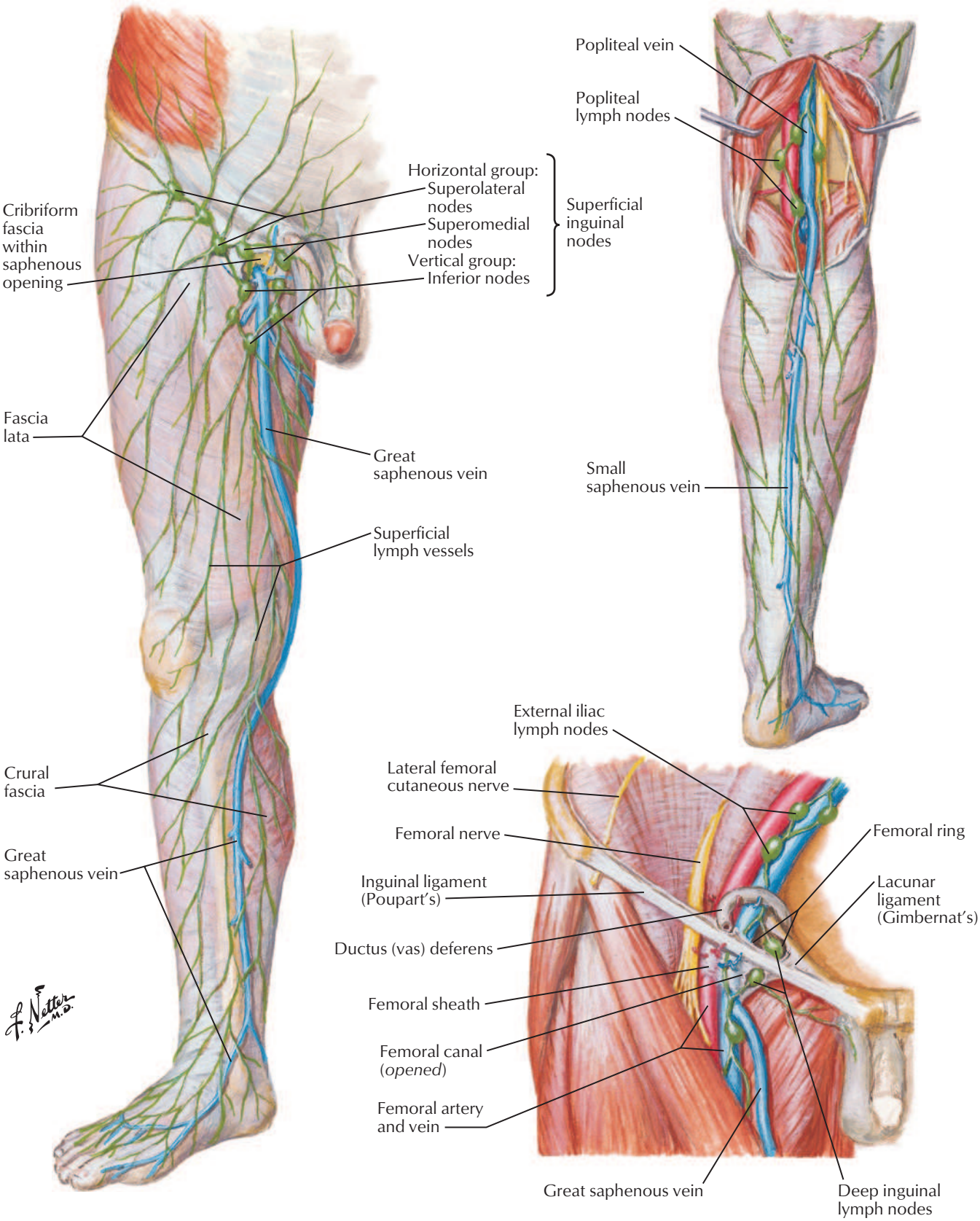
www.Booksmedicos06.com

See also Plates 531, 532



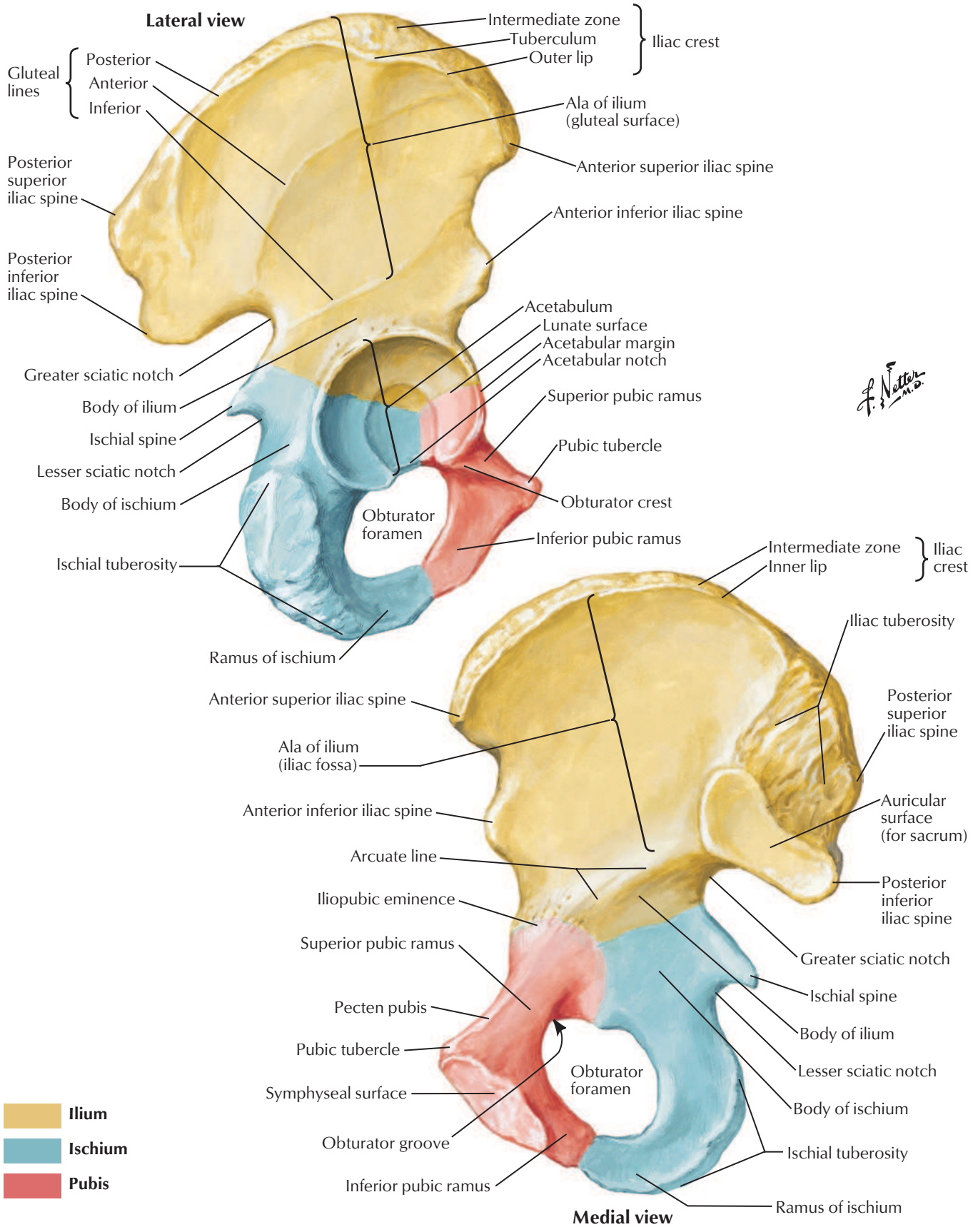
////// facebook : Booksmedicos06

See also Plates 389, 390



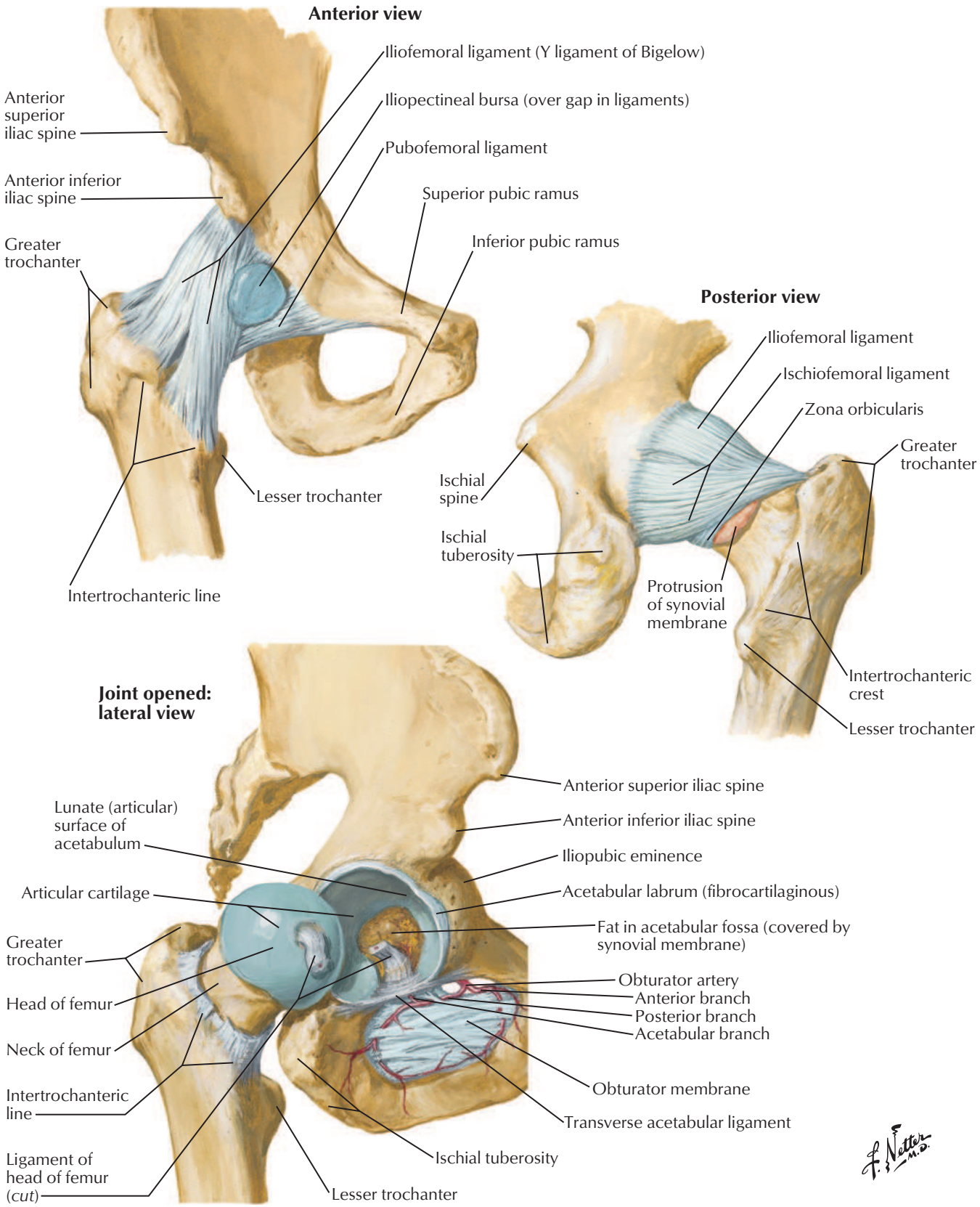
www.Booksmedicos06.com

See also Plates 250, 337, 338



////// facebook : Booksmedicos06

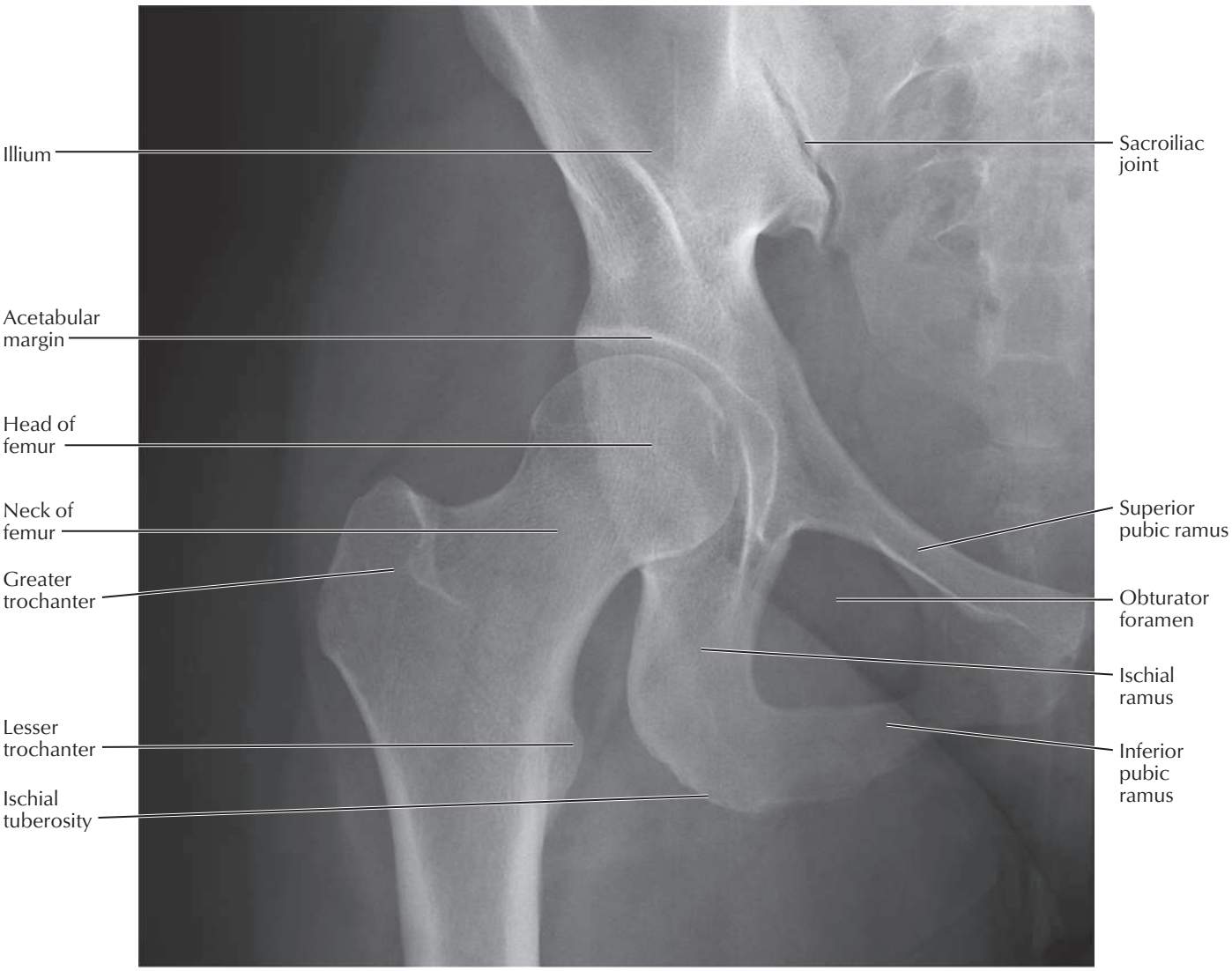
See also Plates 334, 338



www.Booksmedicos06.com

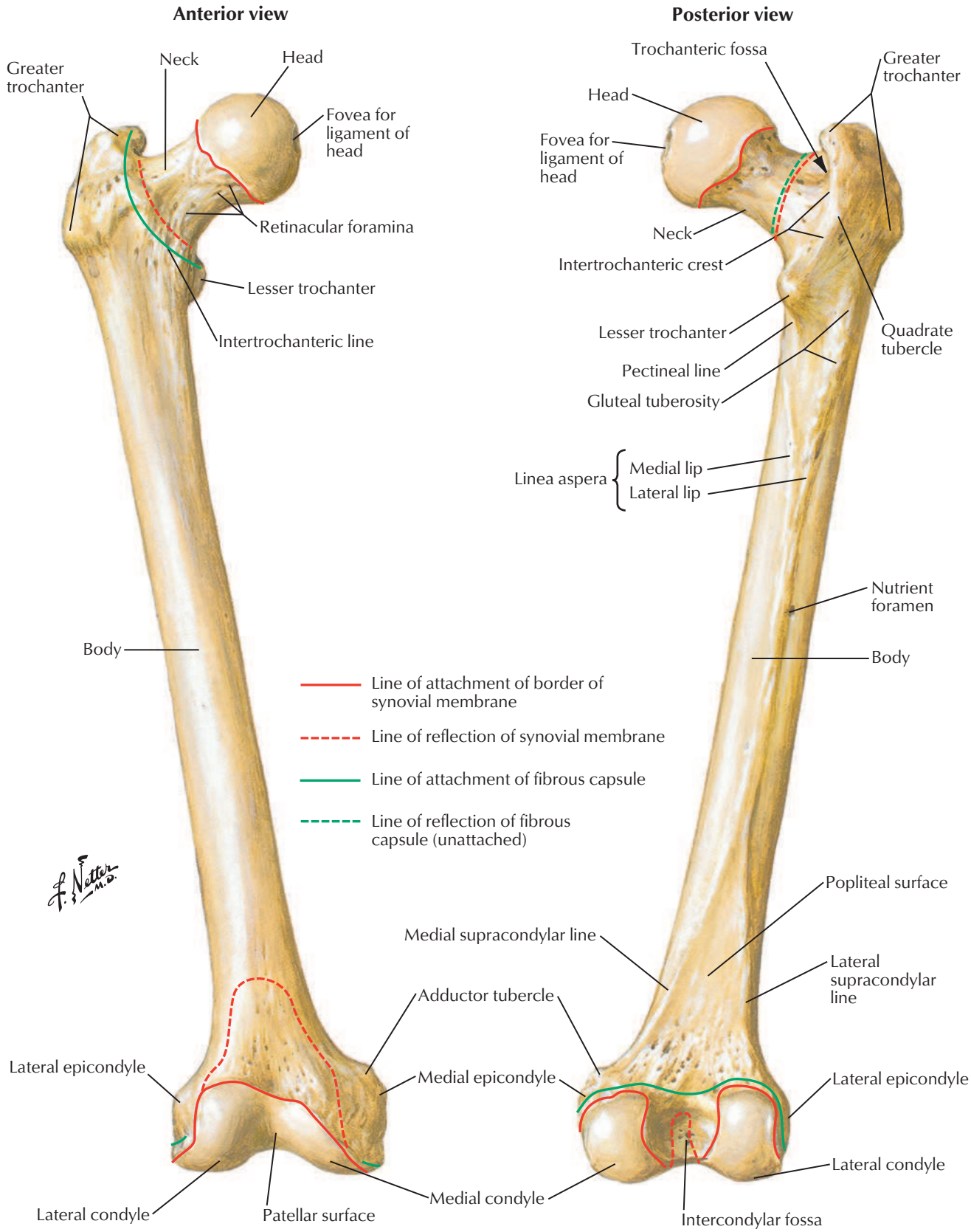
Hip Joint: Anteroposterior Radiograph

See also Plates 335, 477, 480



////// facebook : Booksmedicos06

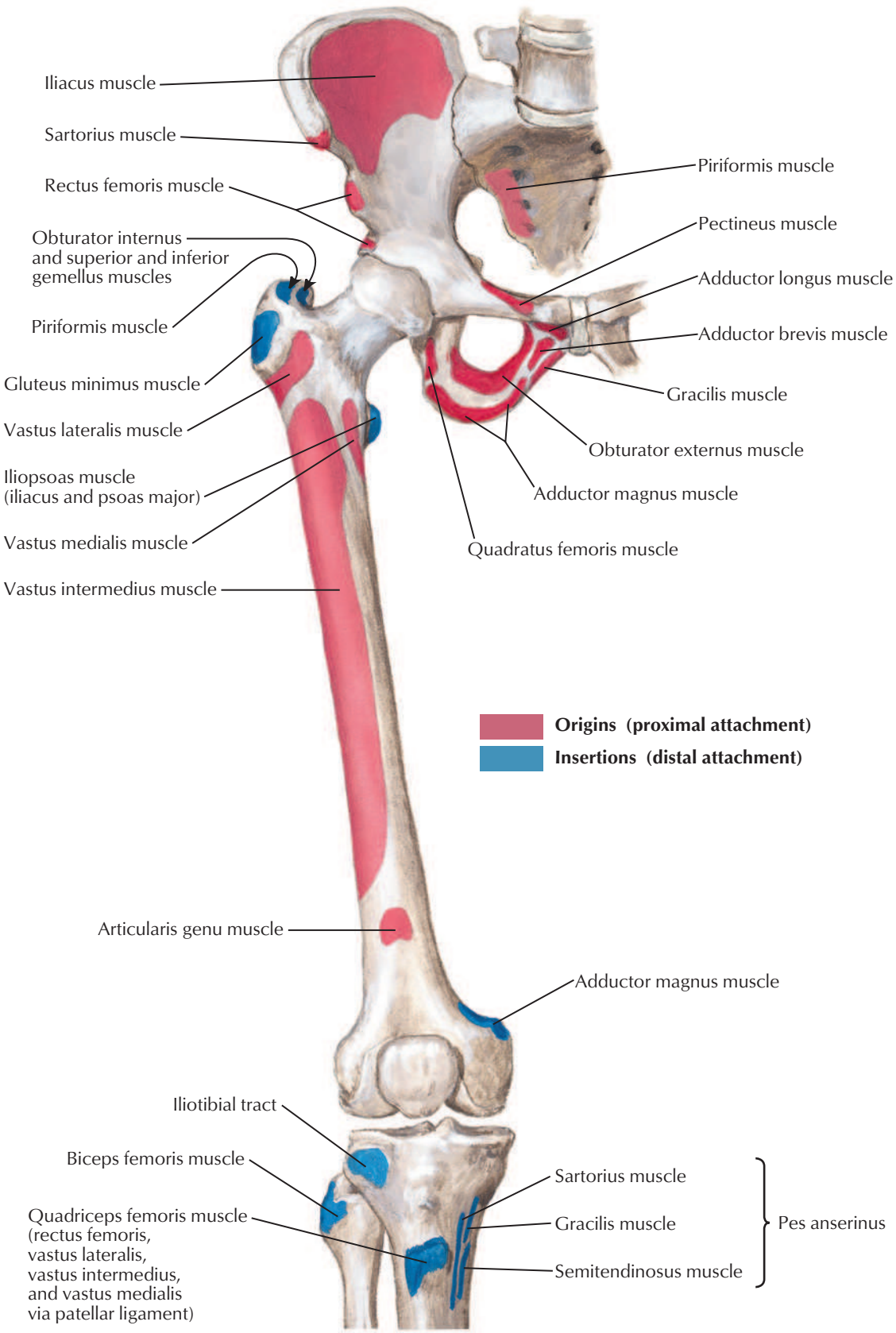
See also Plate 495



www.Booksmedicos06.com ////////

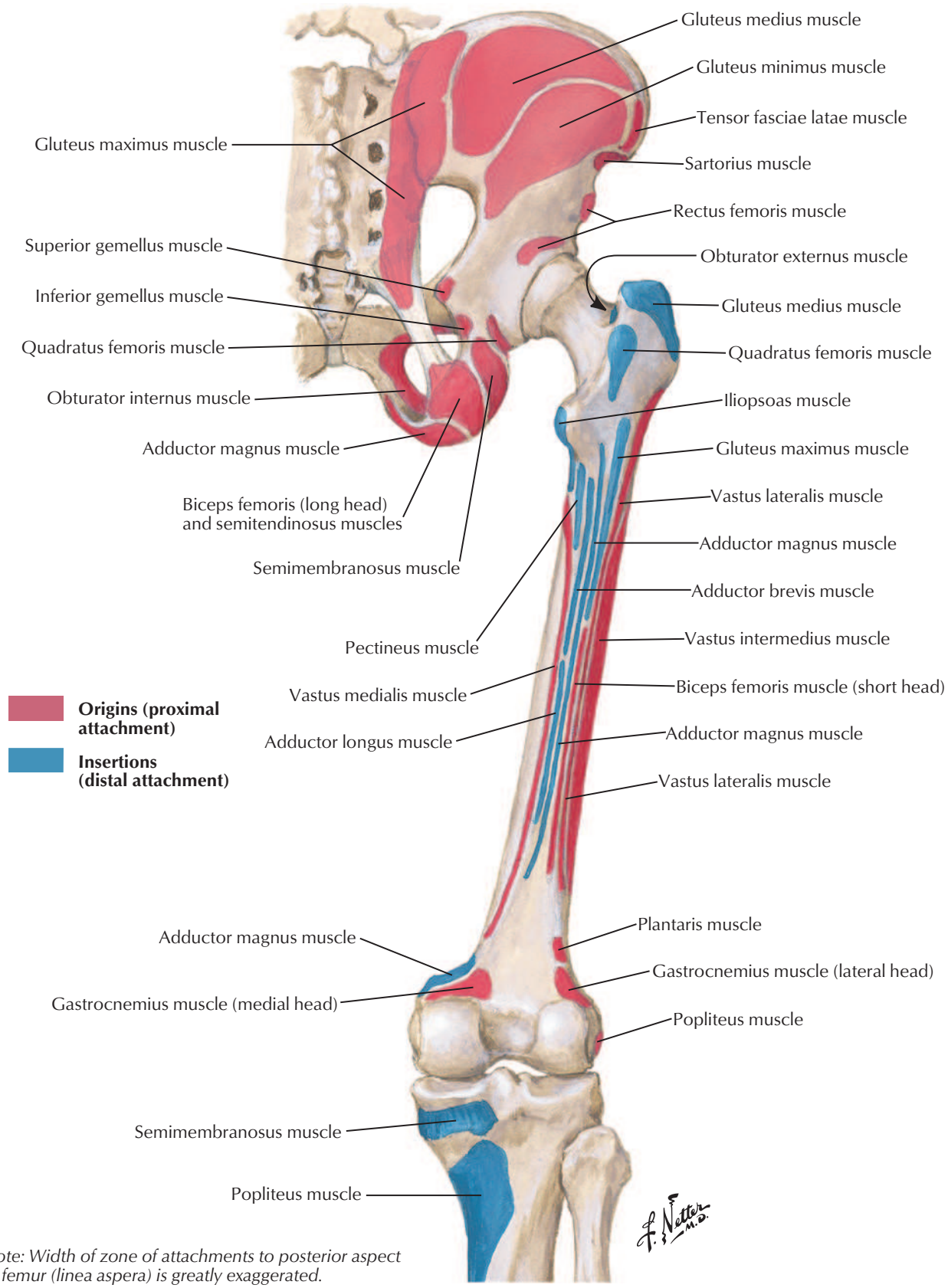
Bony Attachments of Muscles of Hip and Thigh: Anterior View

See also Plates 478, 534



/////// facebook : Booksmedicos06

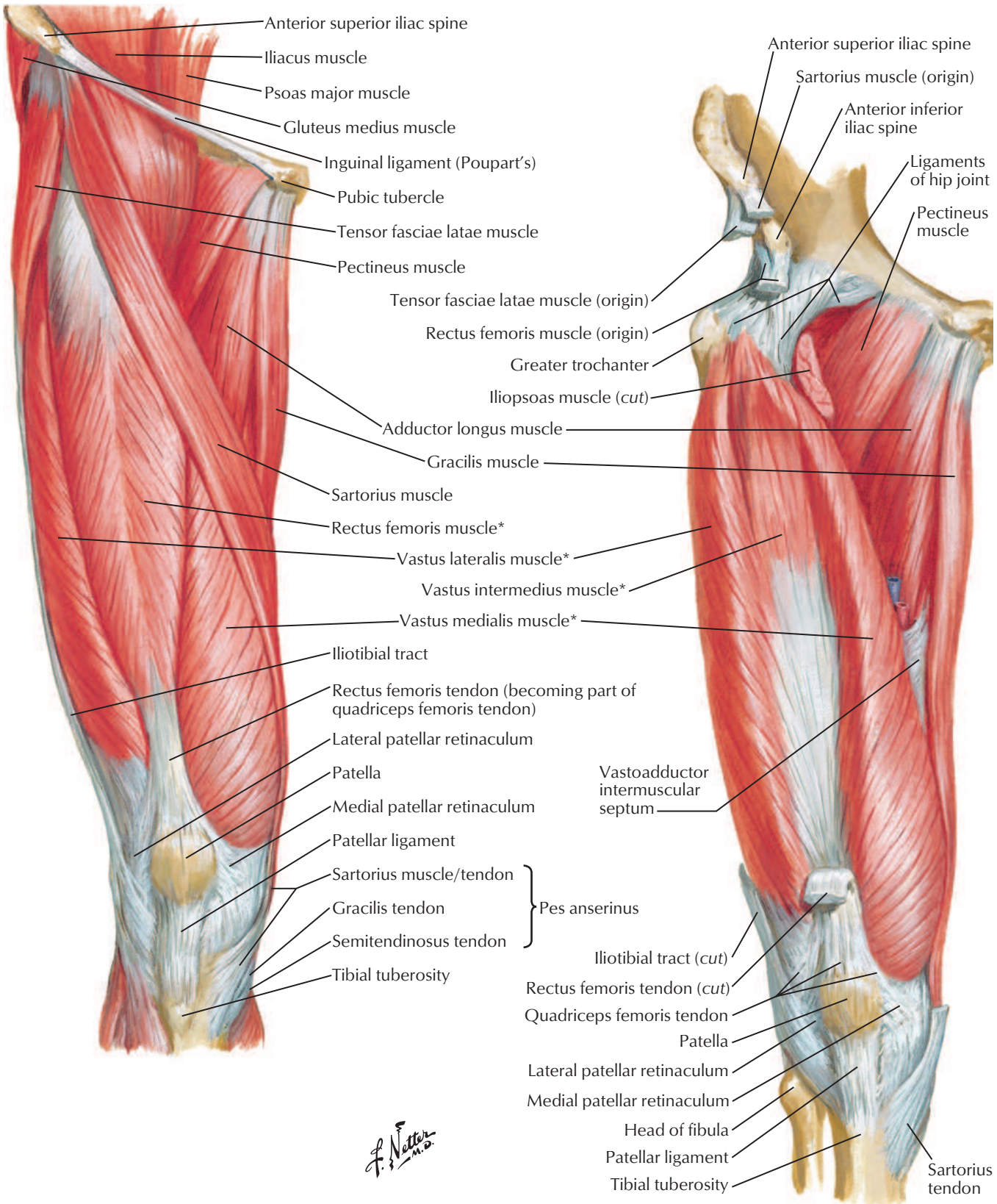
See also Plate 478



Note: Width of zone of attachments to posterior aspect of femur (linea aspera) is greatly exaggerated.

www.Booksmedicos06.com

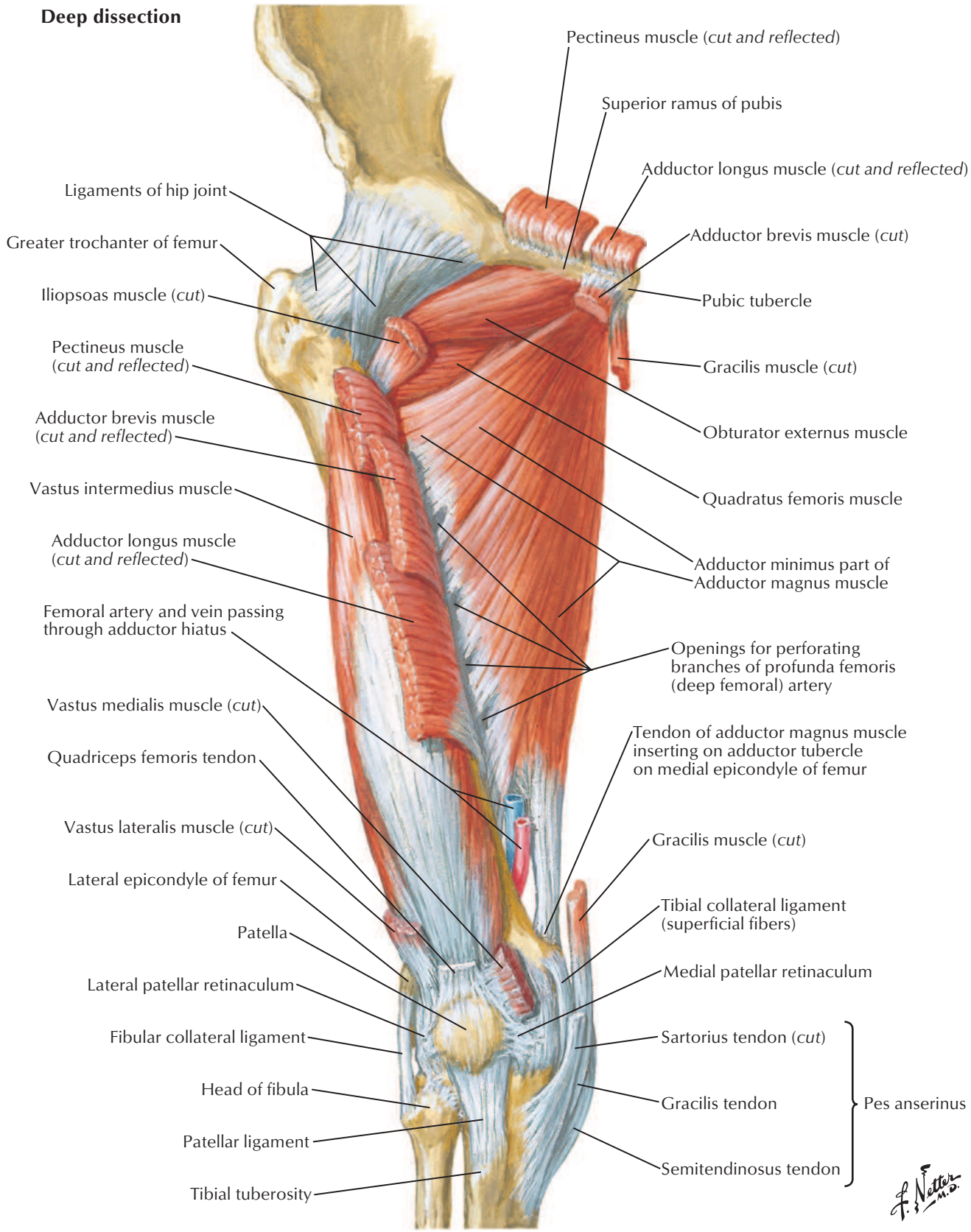
See also Plate 265



*Muscles of quadriceps femoris

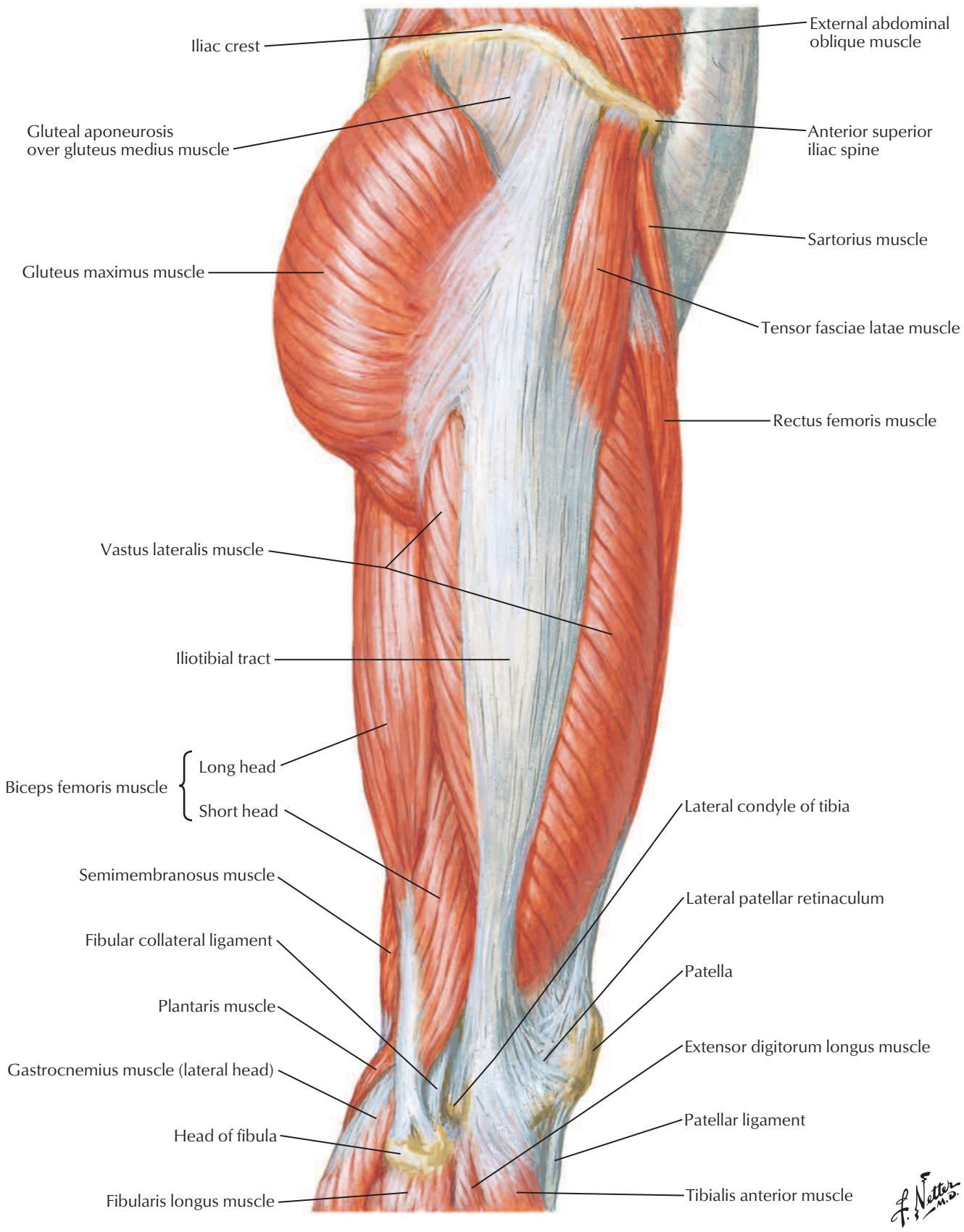
////// facebook : Booksmedicos06

Deep dissection



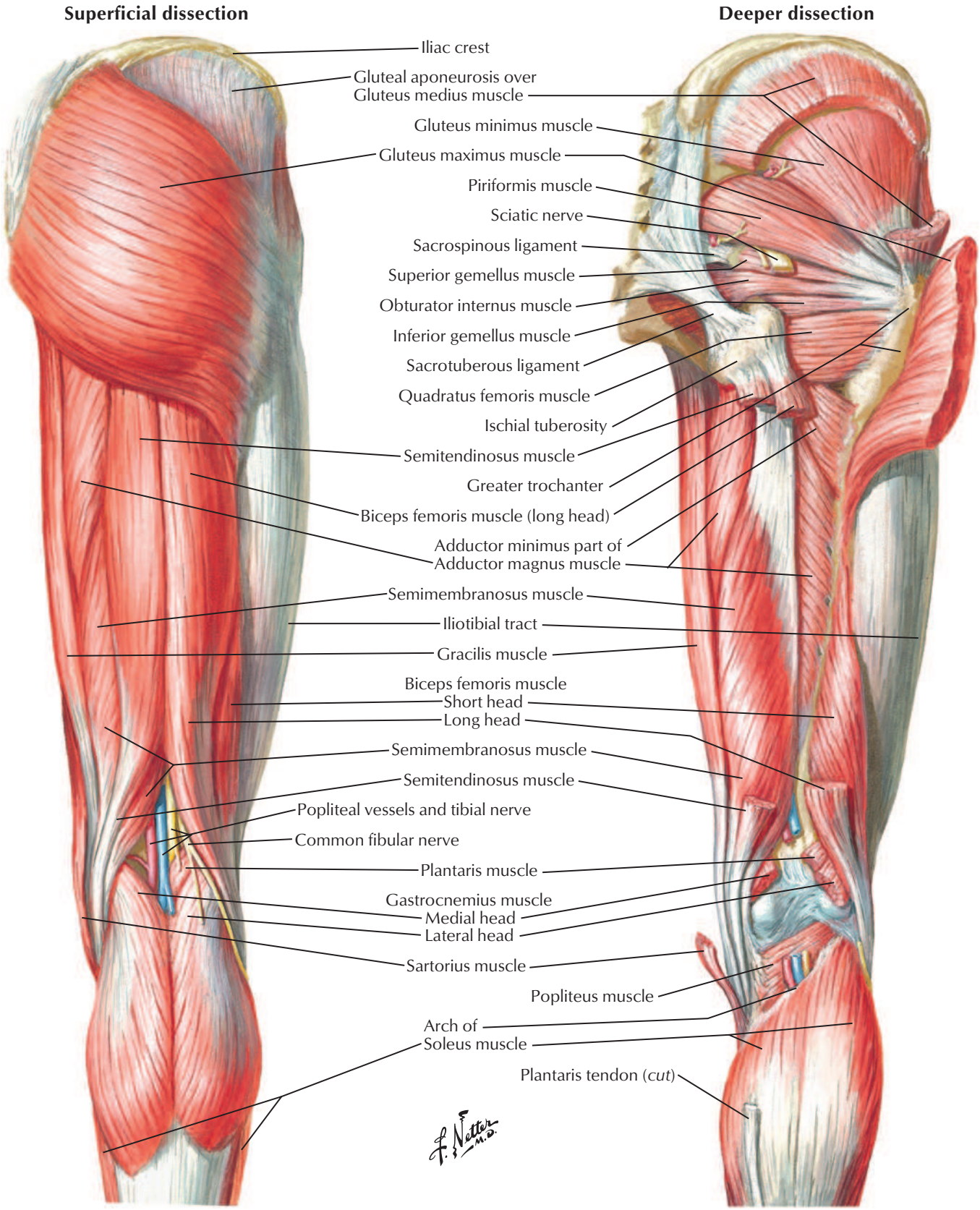
www.Booksmedicos06.com

See also Plate 496



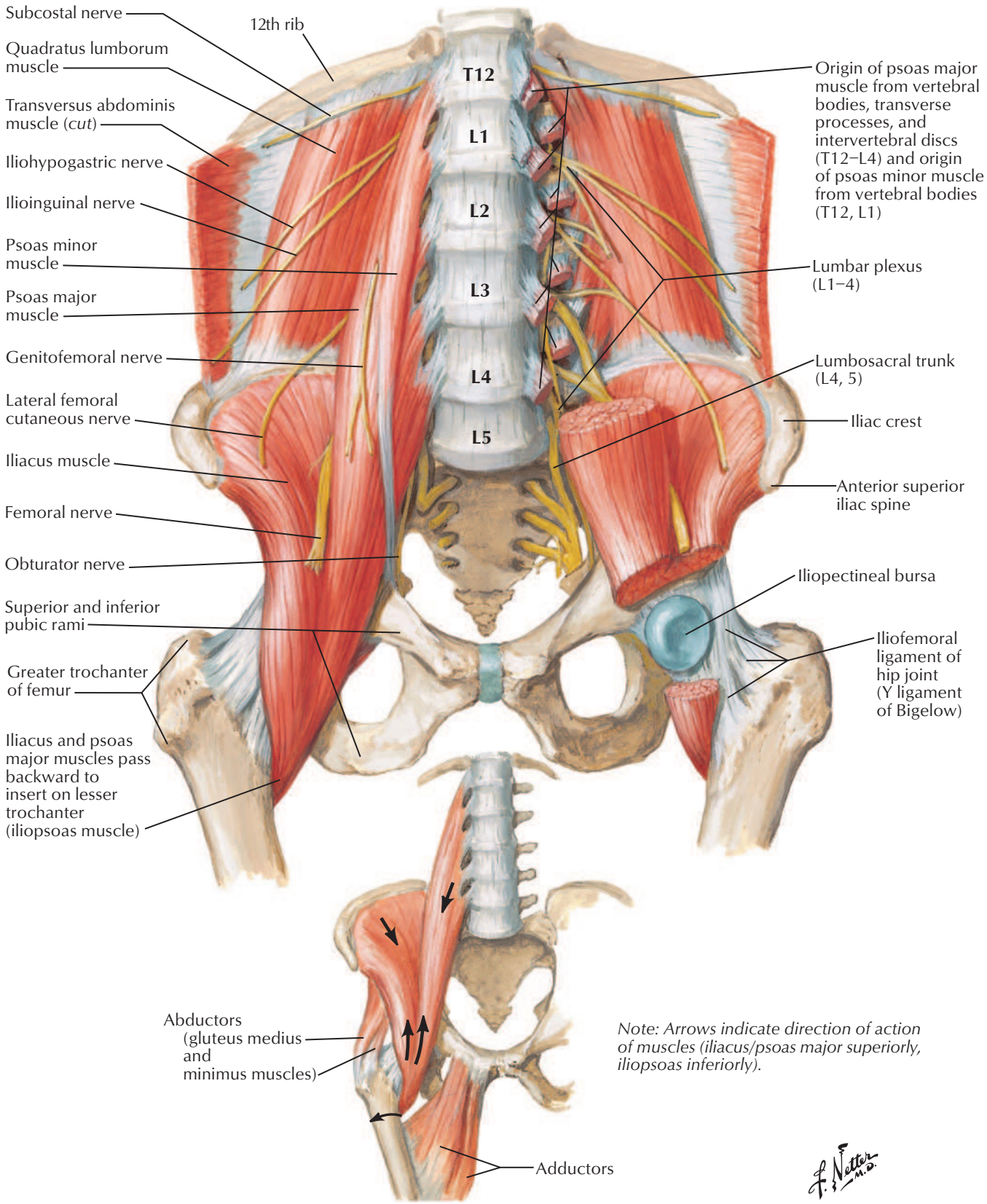
////// facebook : Booksmedicos06

See also Plates 342, 343, 491



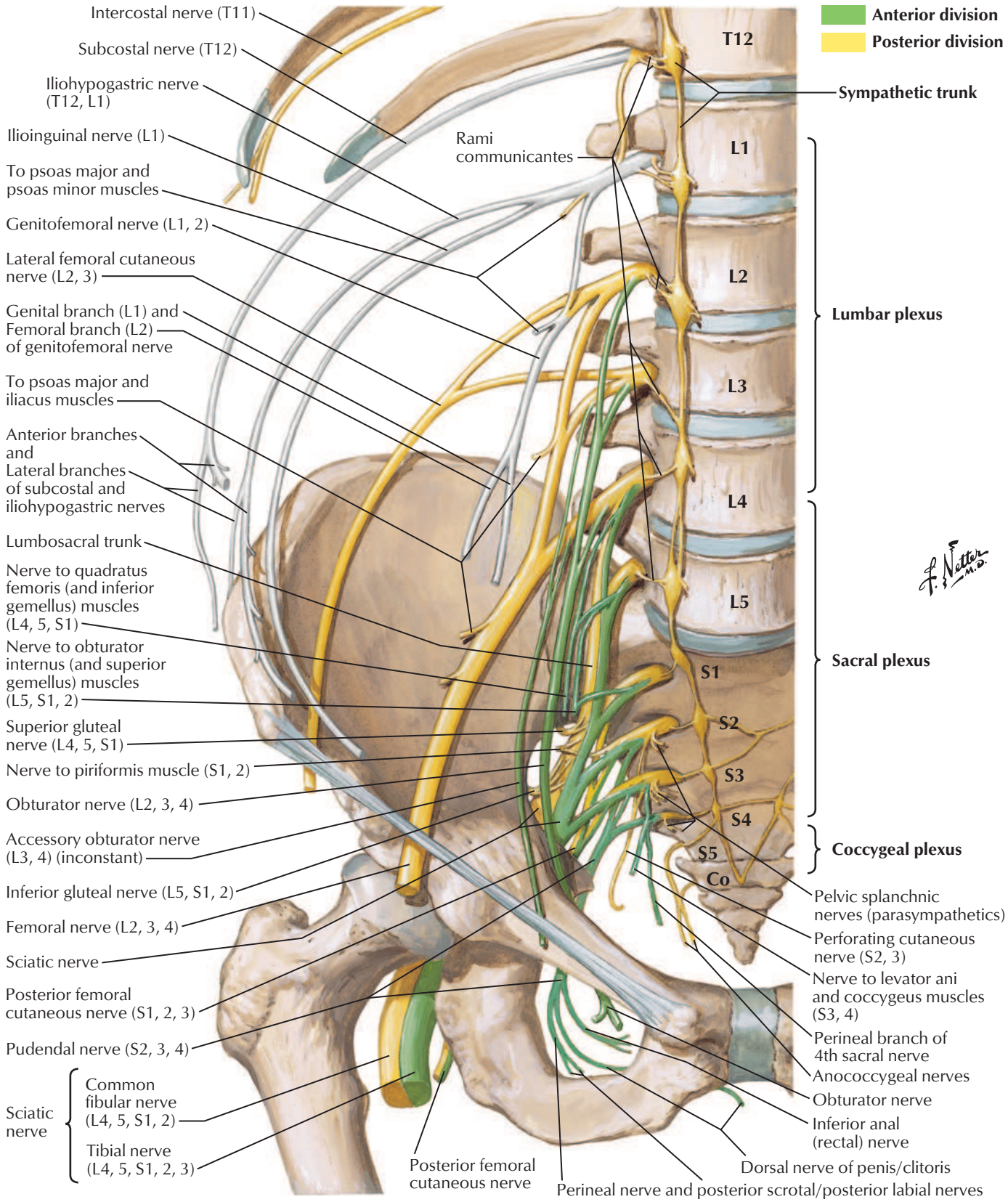
www.Booksmedicos06.com

See also Plates 265, 269



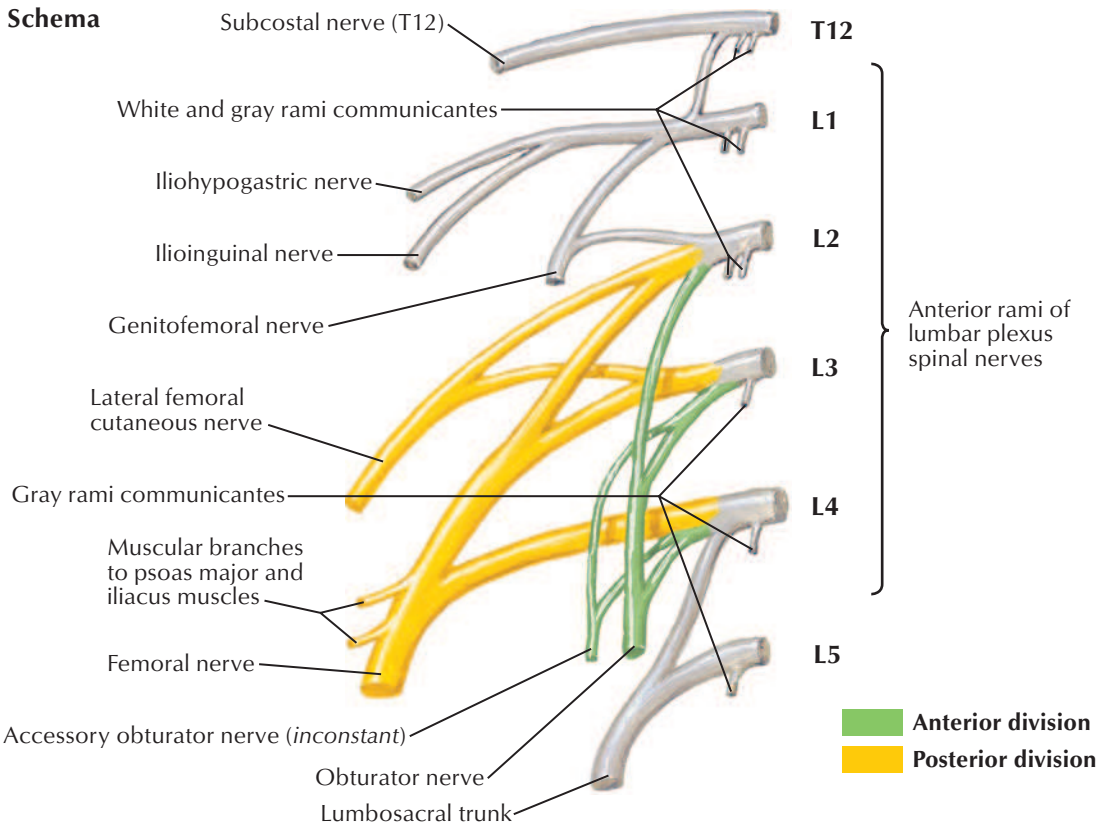
////// facebook : Booksmedicos06

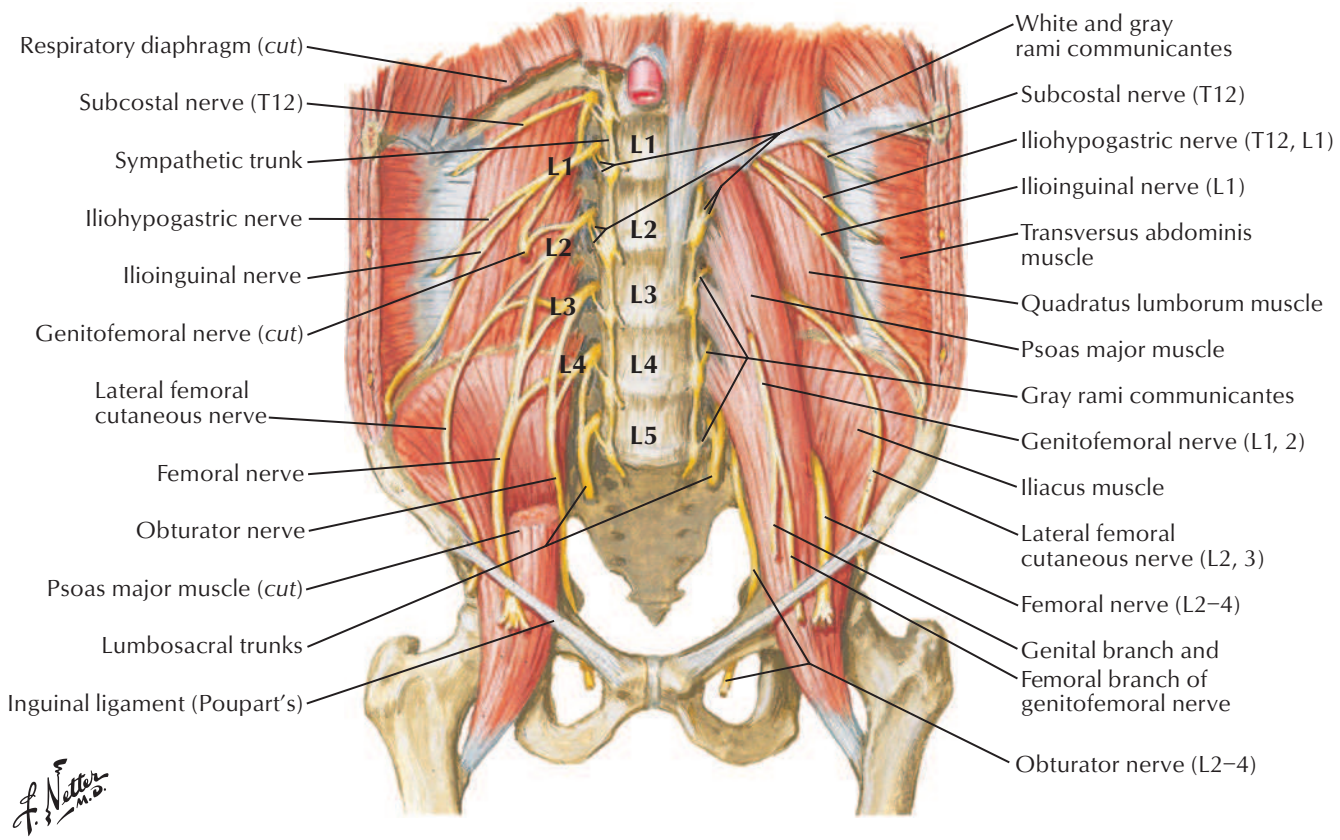
See also Plate 269



www.Booksmedicos06.com

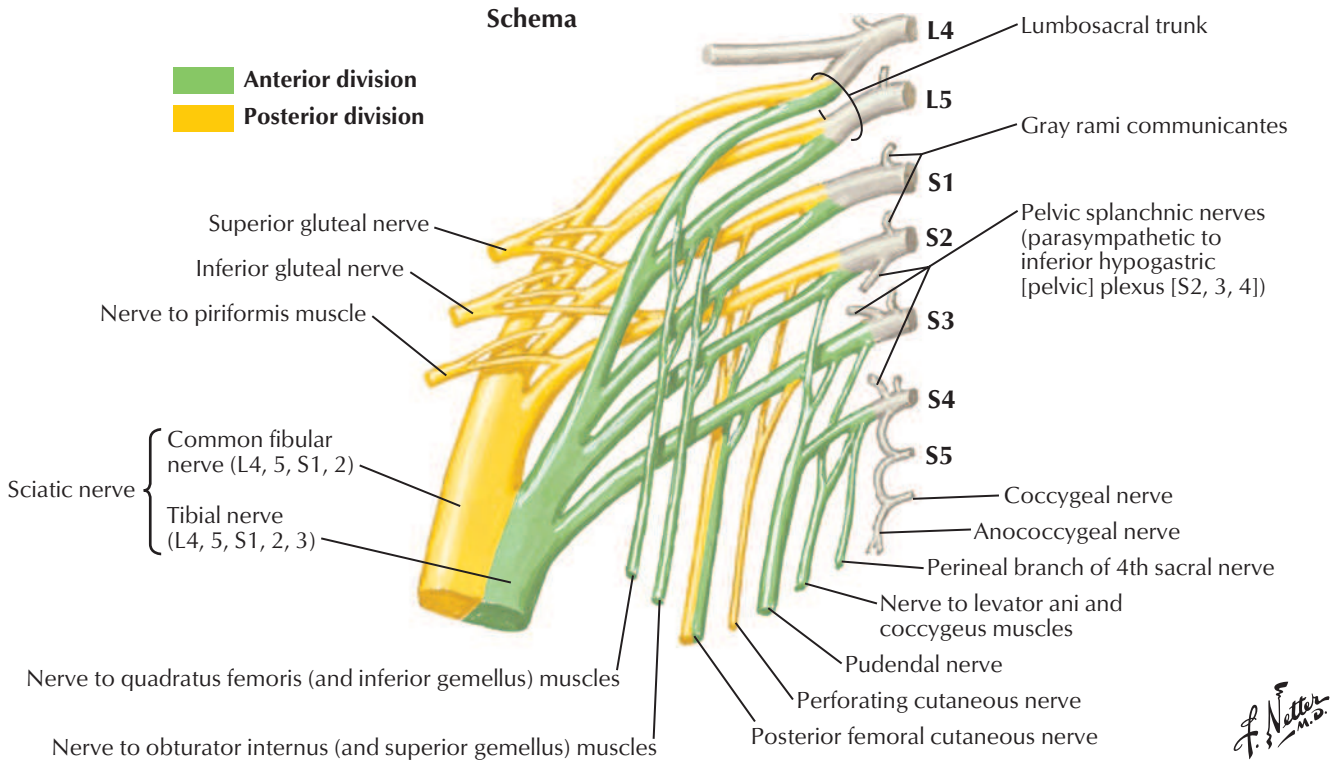
See also Plate 269

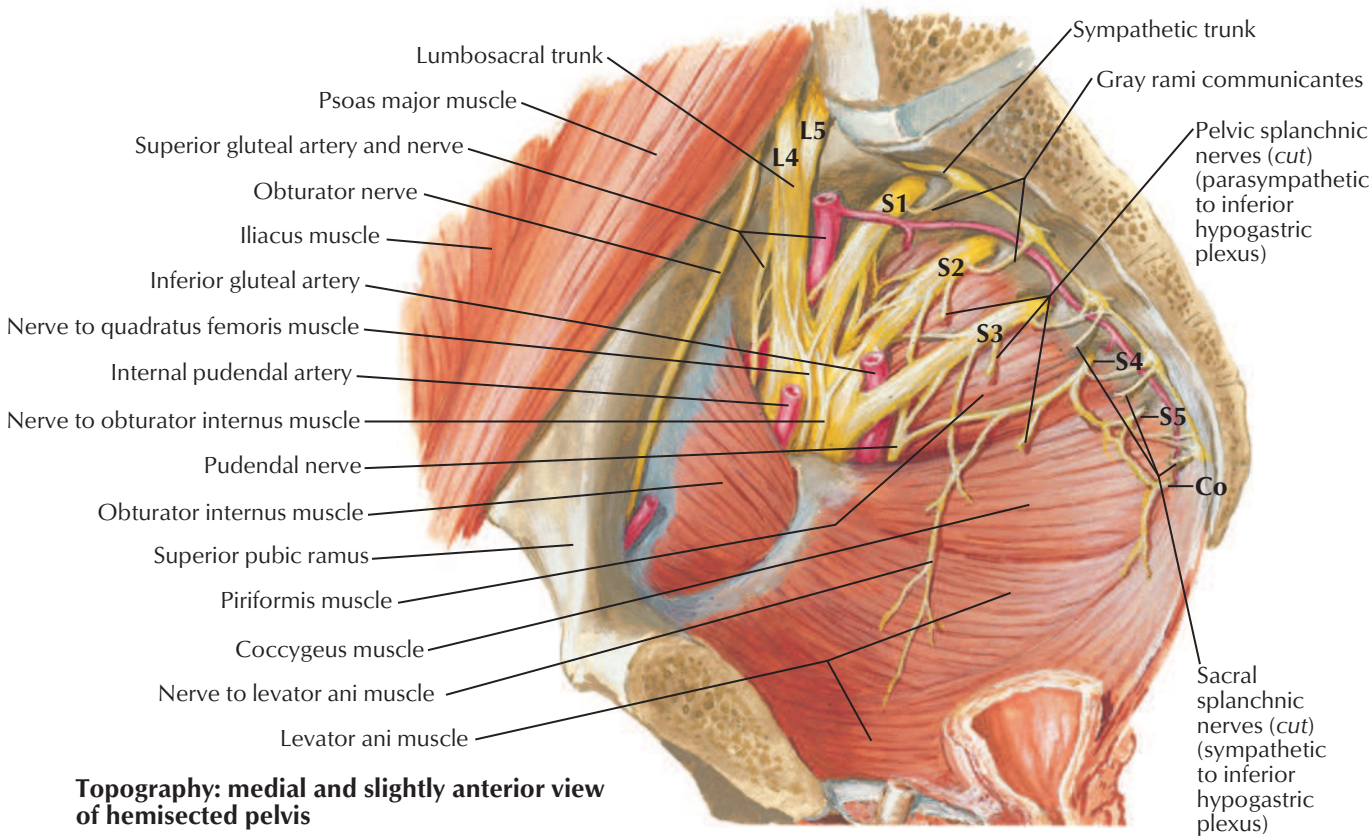




////// facebook : Booksmedicos06

See also Plate 269

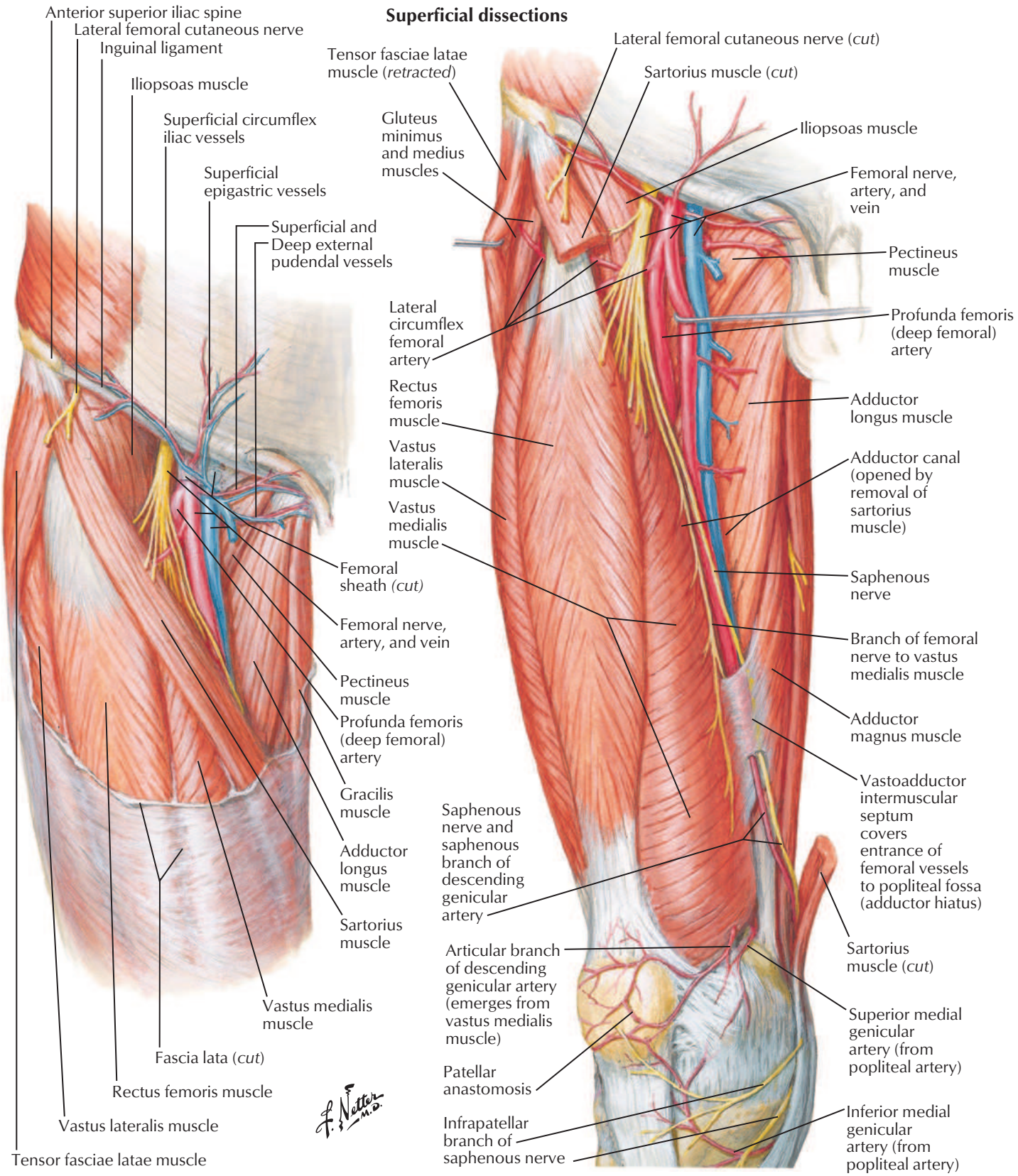




Topography: medial and slightly anterior view of hemisected pelvis

www.Booksmedicos06.com ////////

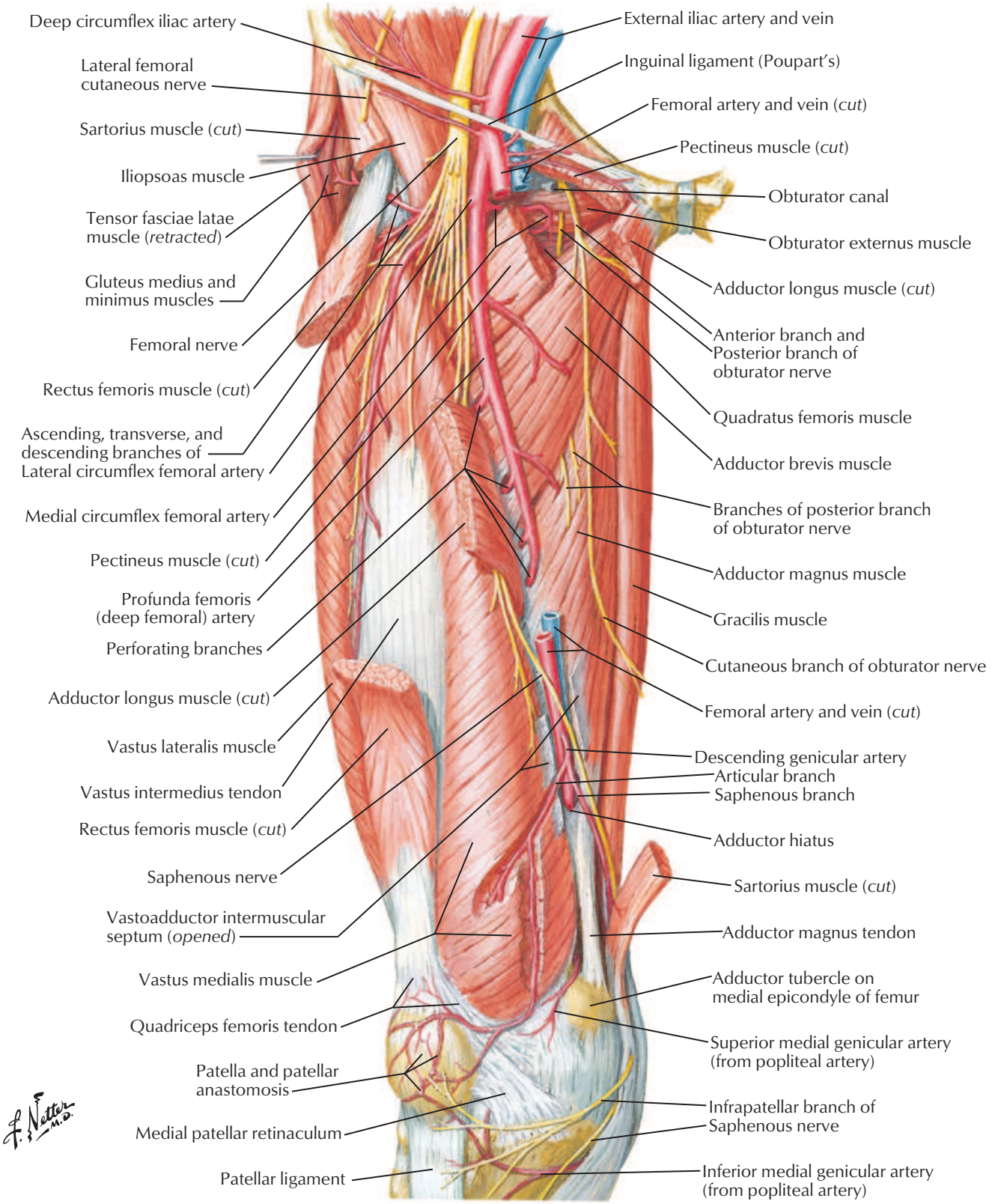
See also Plates 503, 529



////// facebook : Booksmedicos06

See also Plates 529, 530

Deep dissection

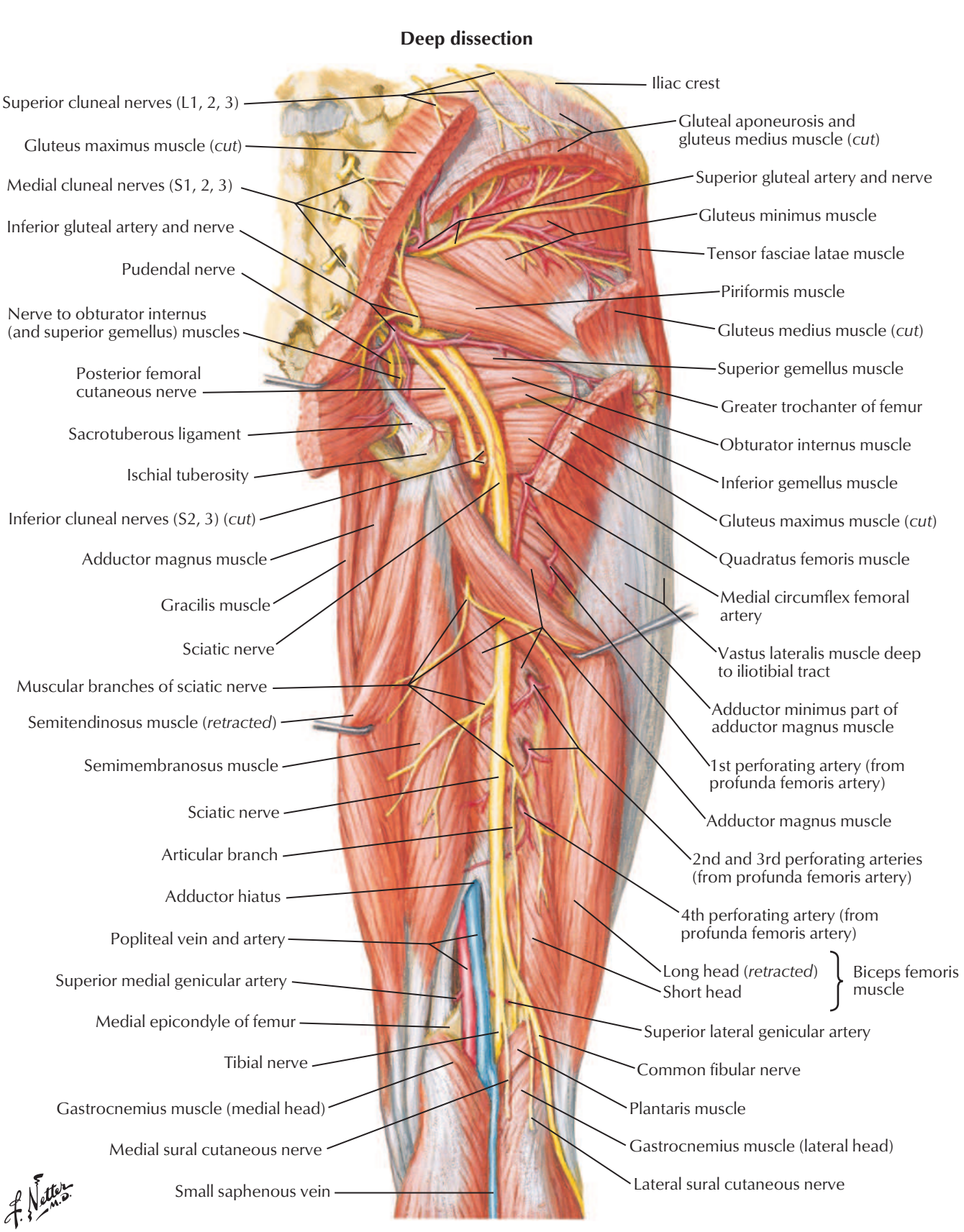


www.Booksmedicos06.com

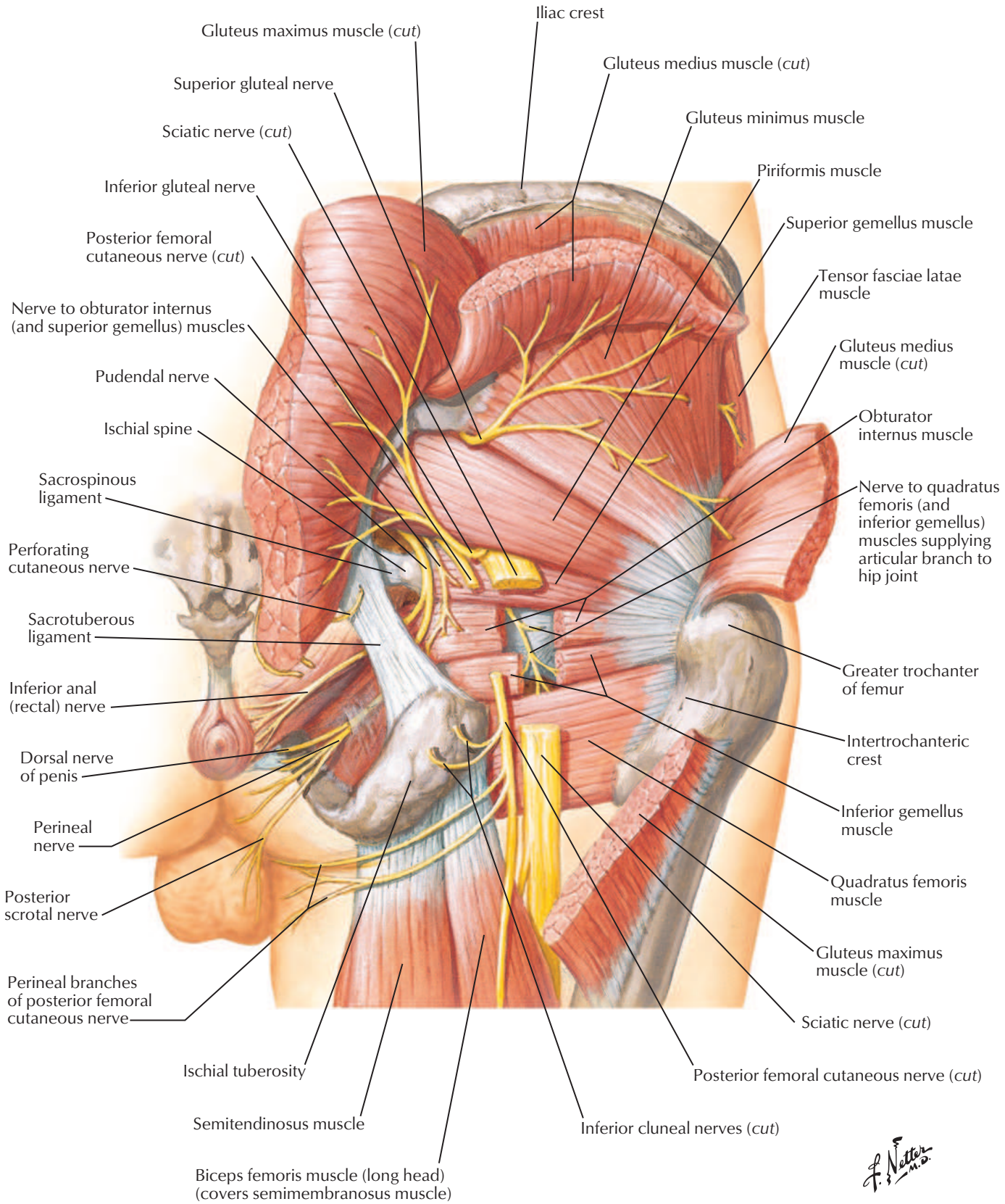
See also Plate 531

////// facebook : Booksmedicos06

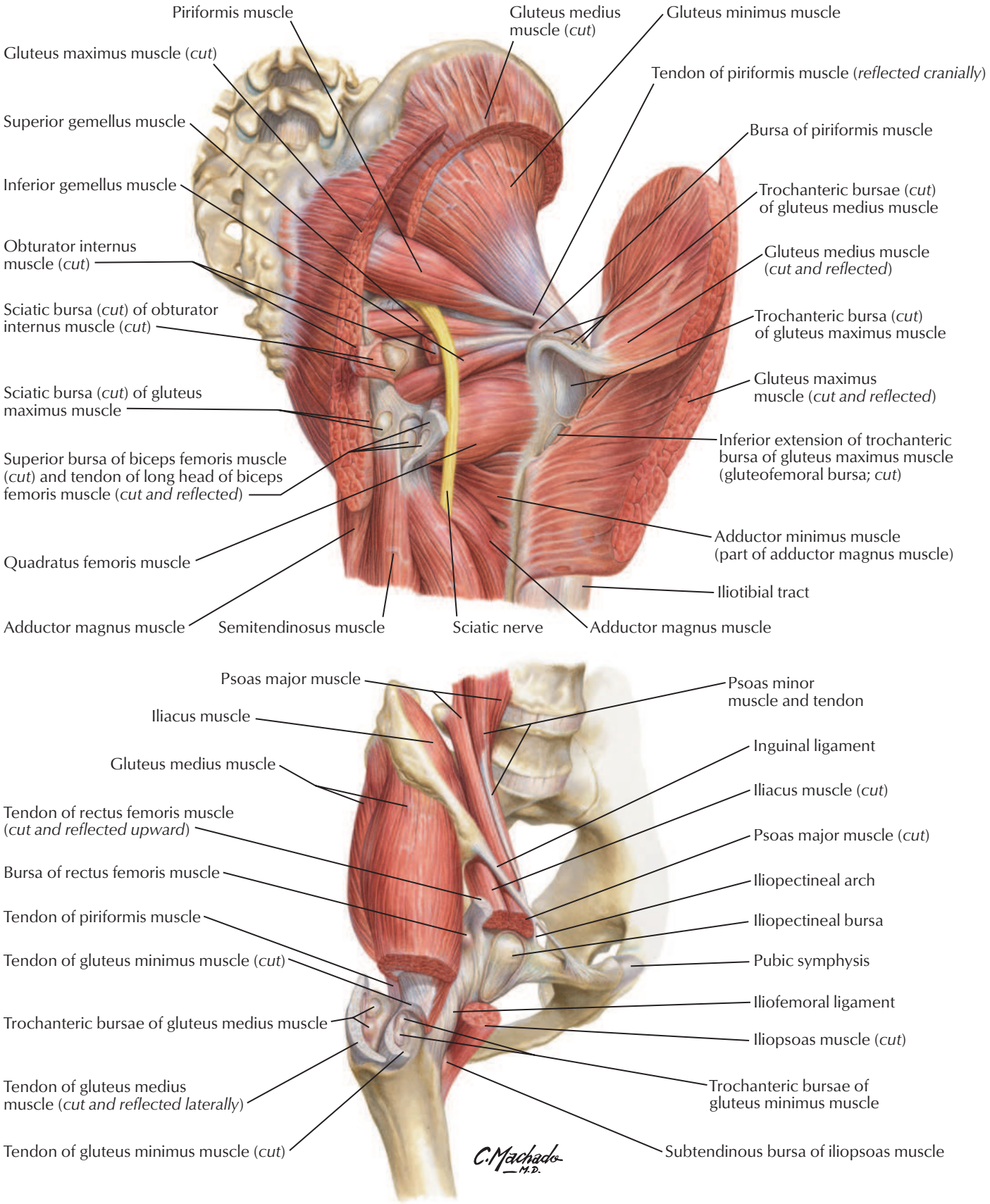
Deep dissection



See also Plate 337

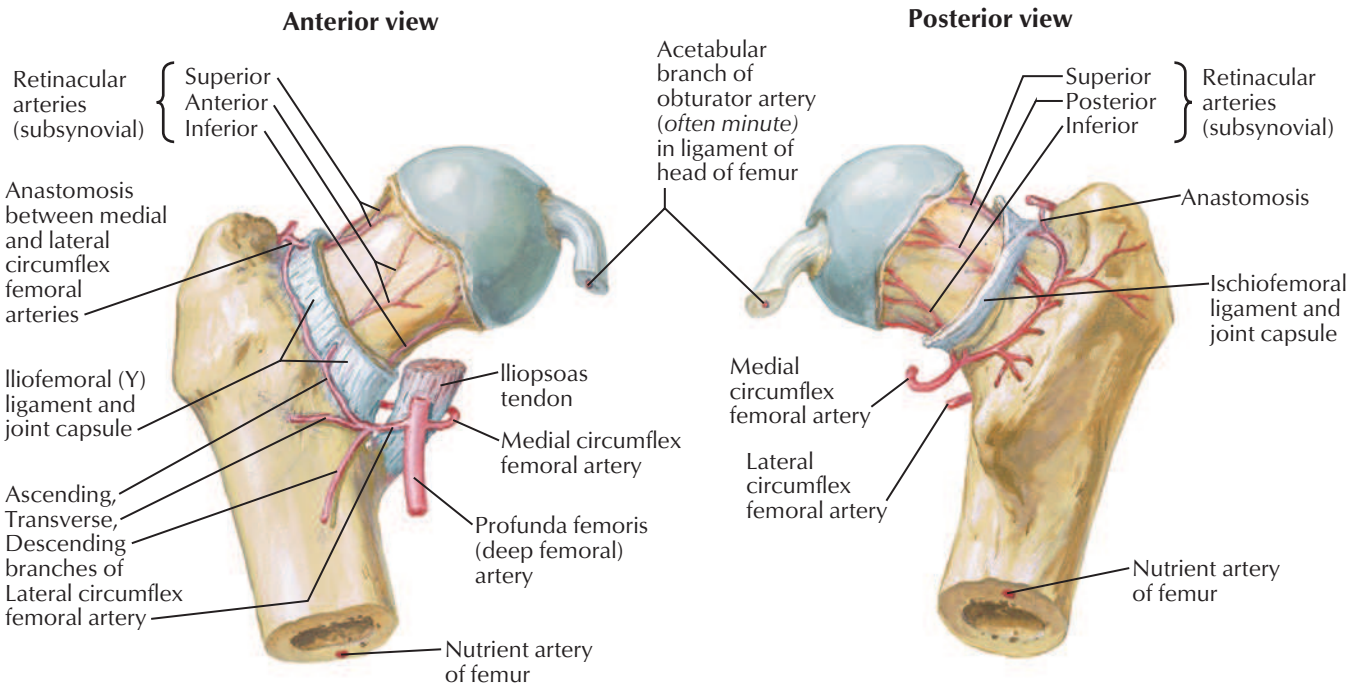


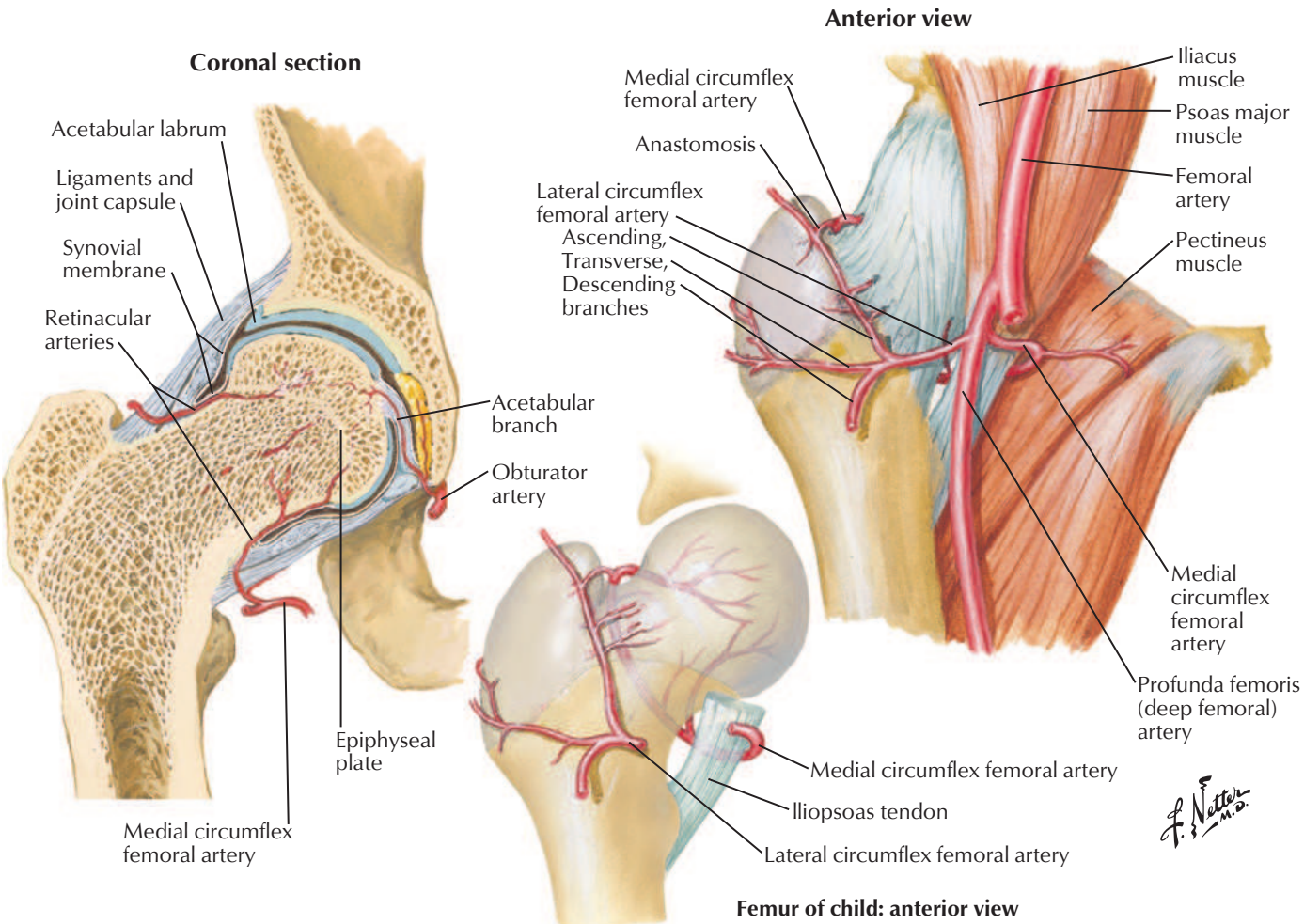
www.Booksmedicos06.com



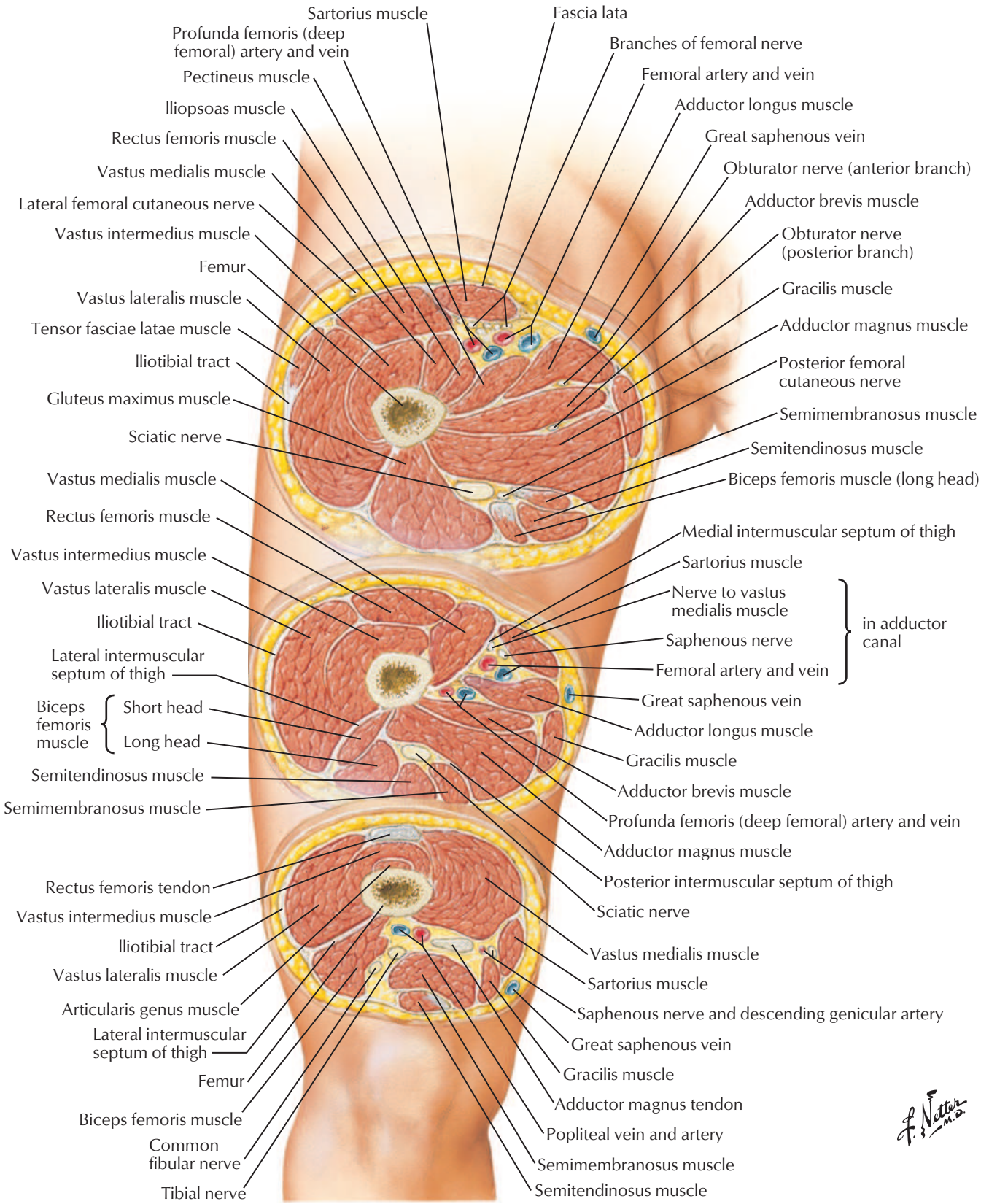
////// facebook : Booksmedicos06

See also Plates 477, 503



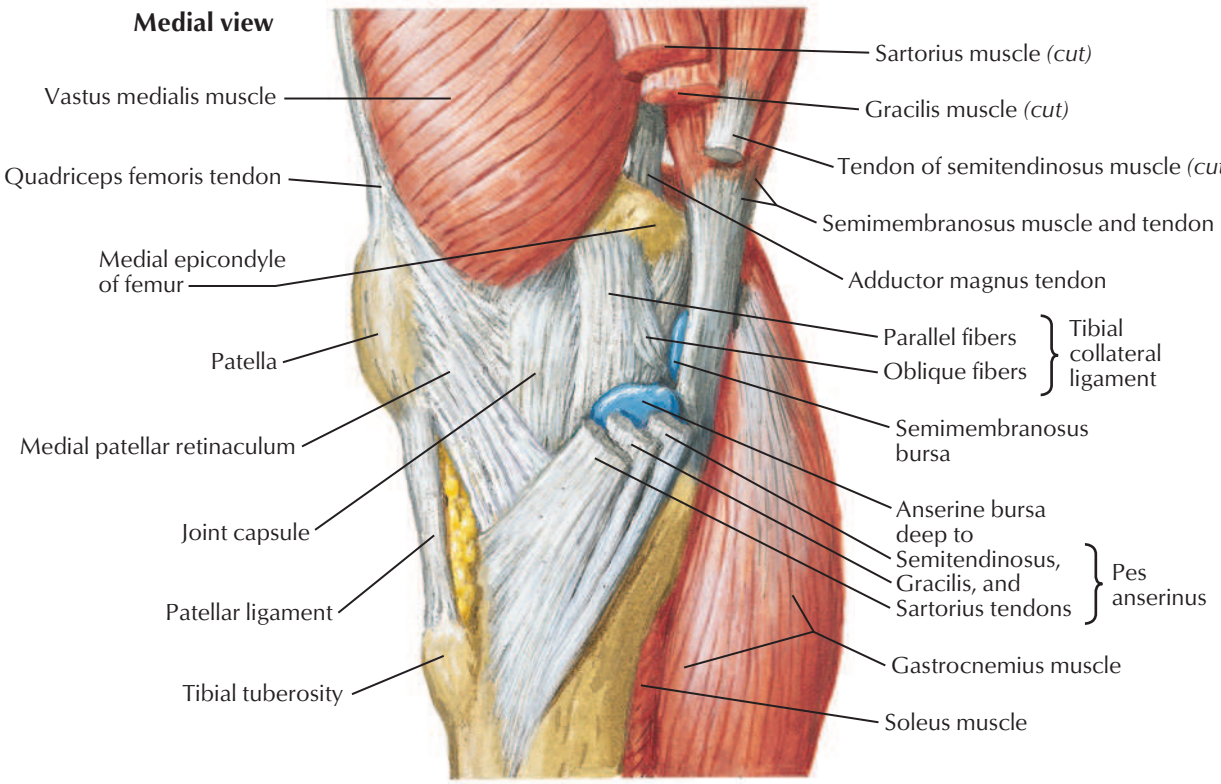


www.Booksmedicos06.com

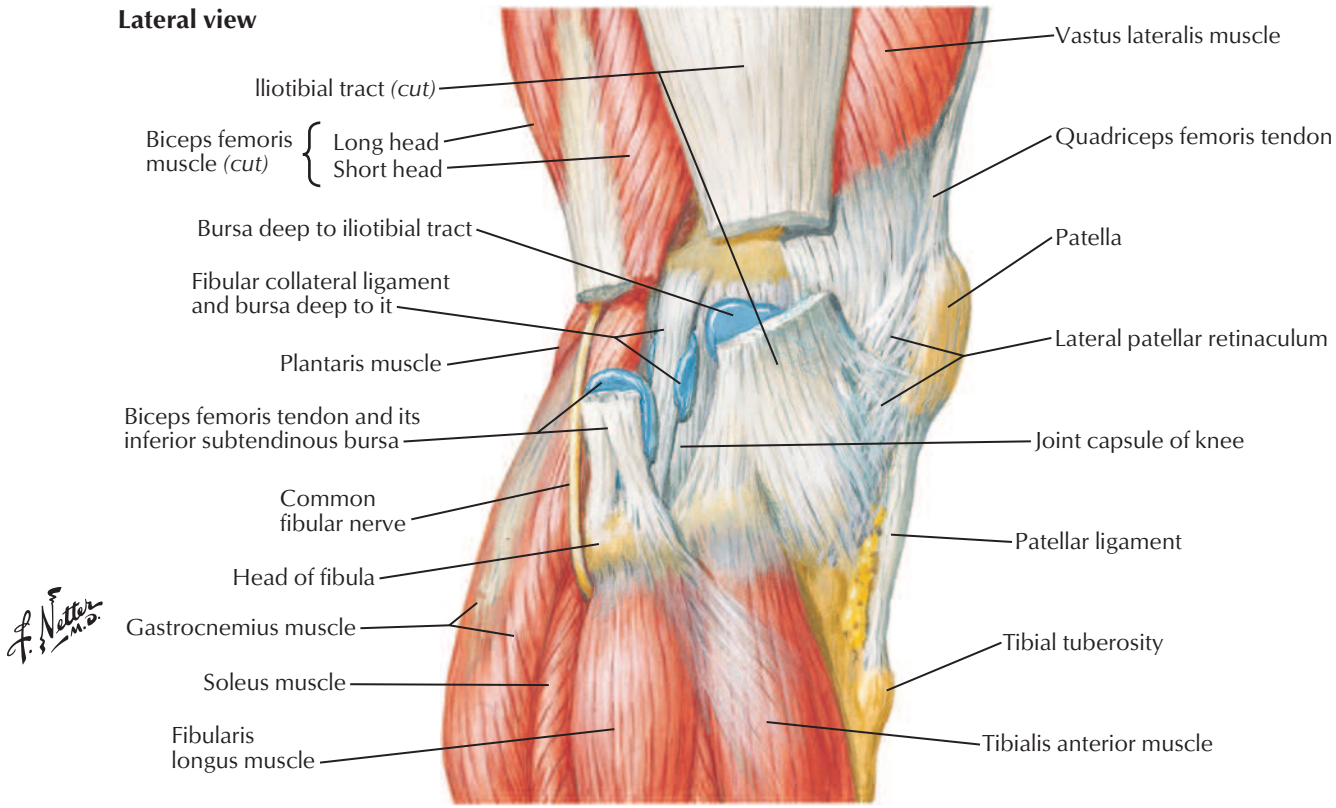


////// facebook : Booksmedicos06

Medial view



Lateral view

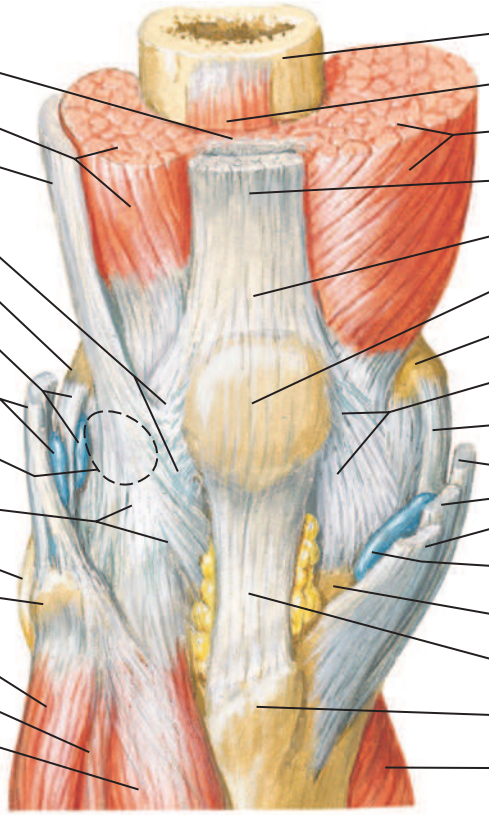


www.Booksmedicos06.com

See also Plate 501

////// facebook : Booksmedicos06

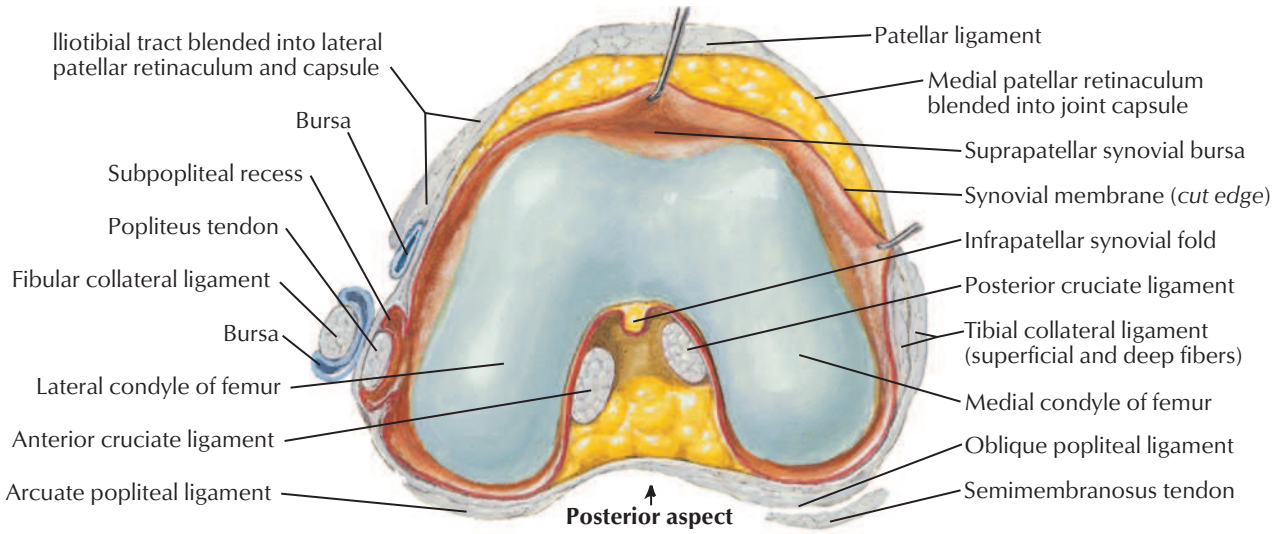
Right knee in extension



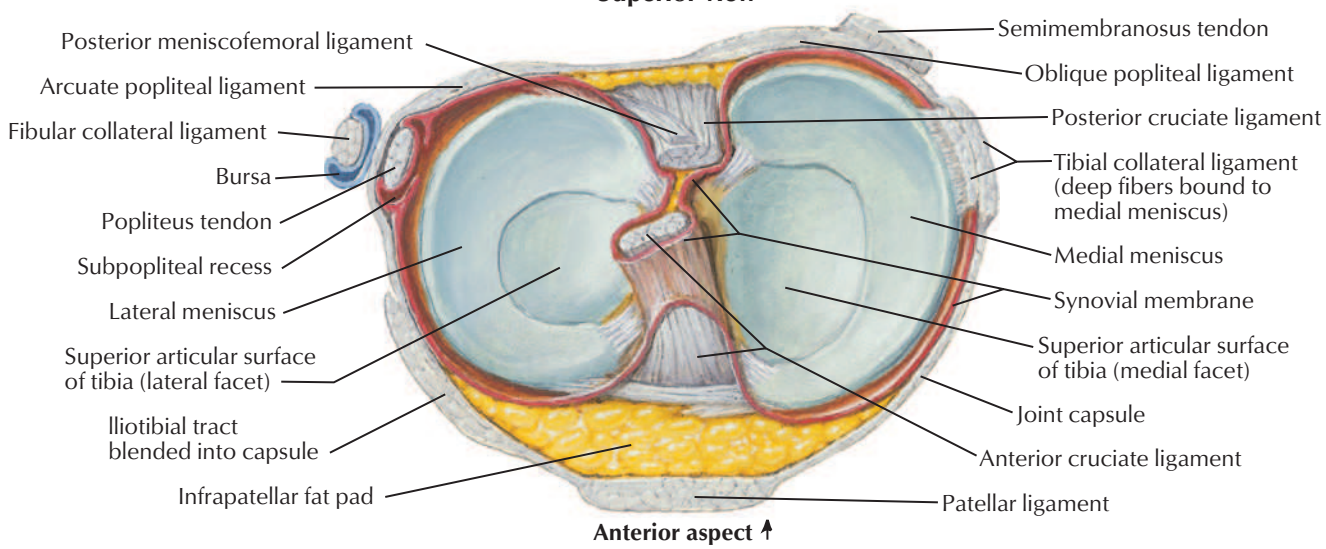
Joint opened, knee slightly in flexion



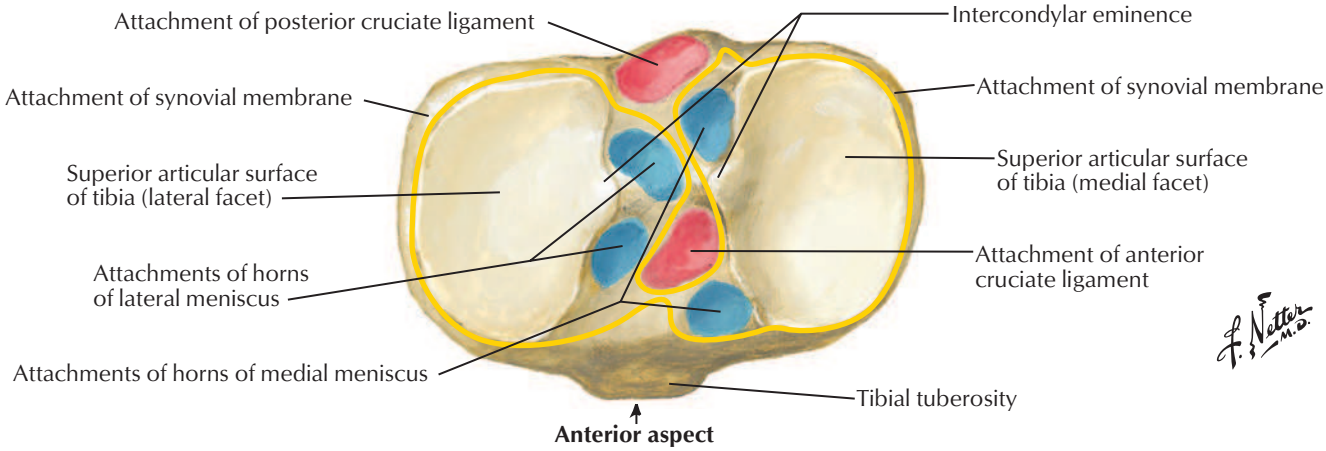
Inferior view



Superior view



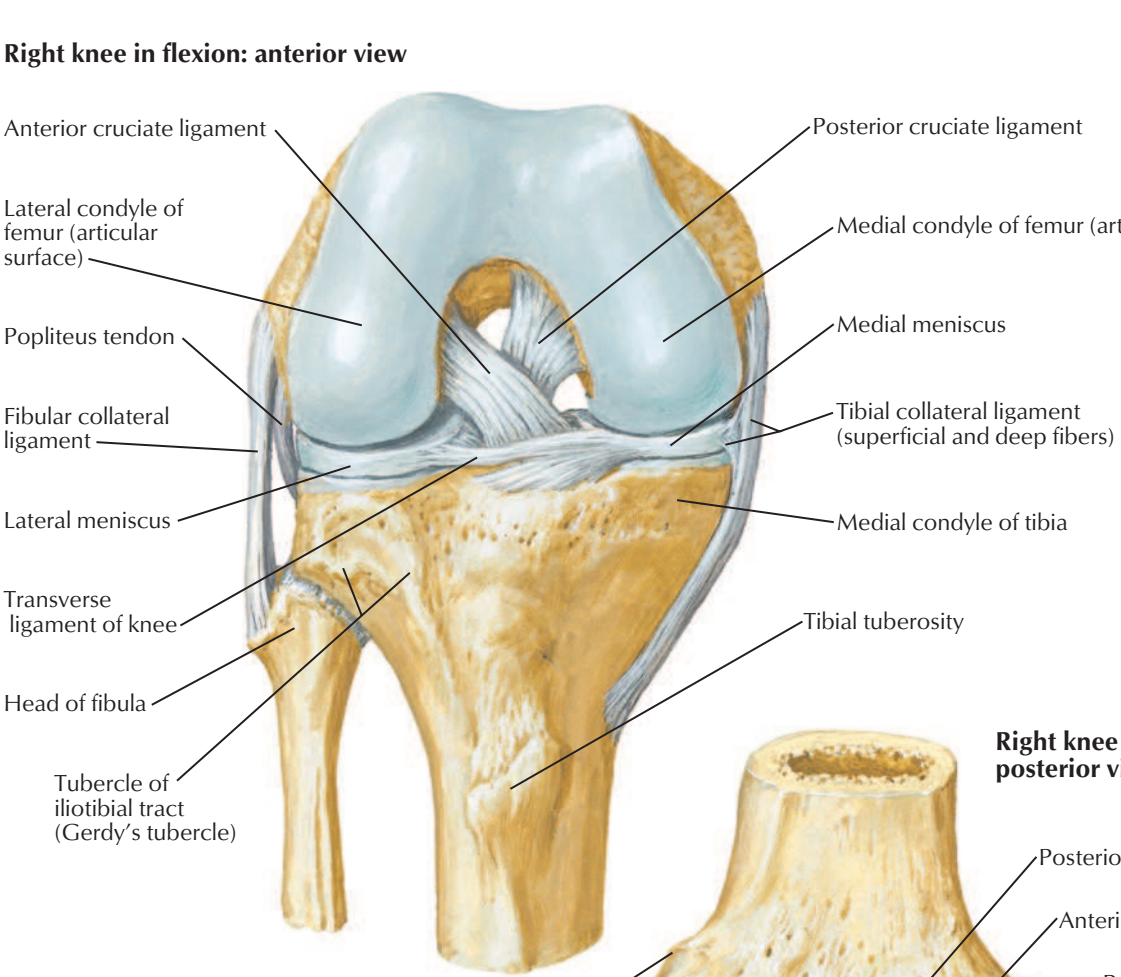
Superior view: ligaments and cartilage removed



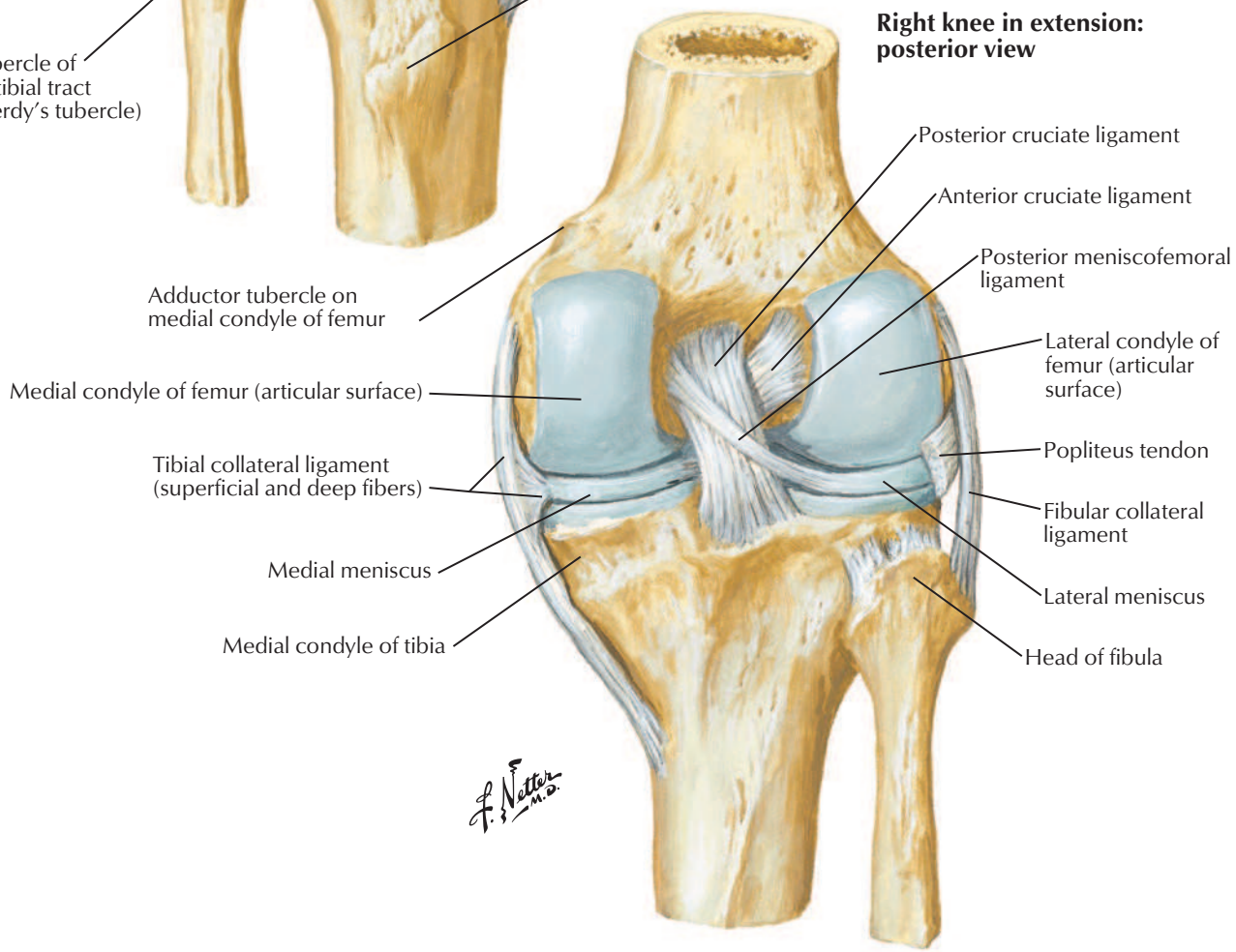
www.Booksmedicos06.com ////////

////// facebook : Booksmedicos06

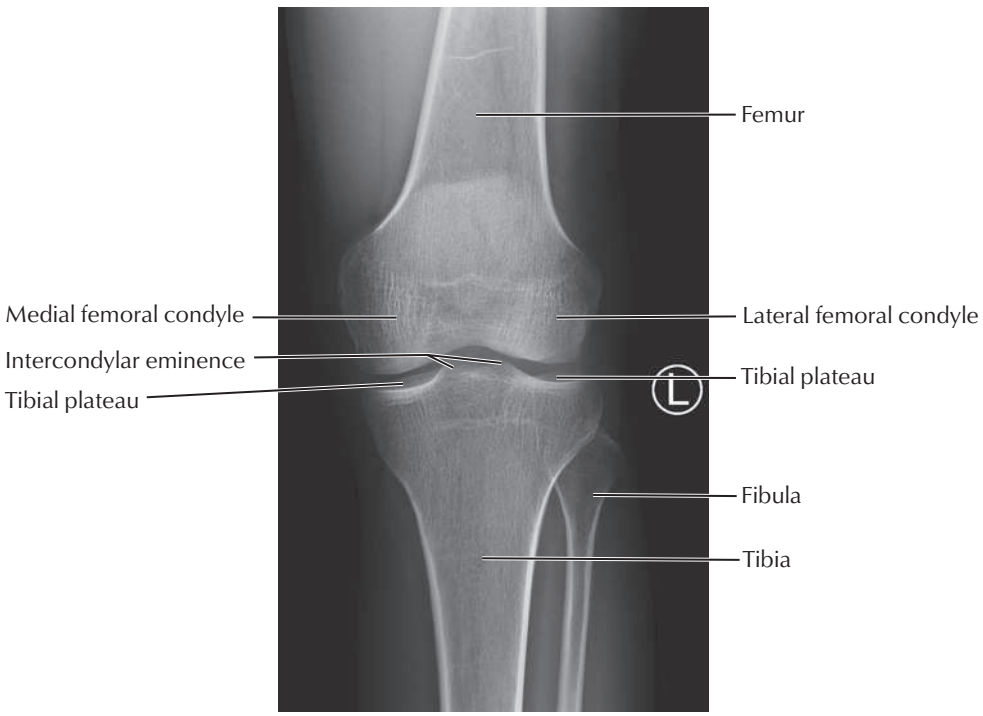
Right knee in flexion: anterior view

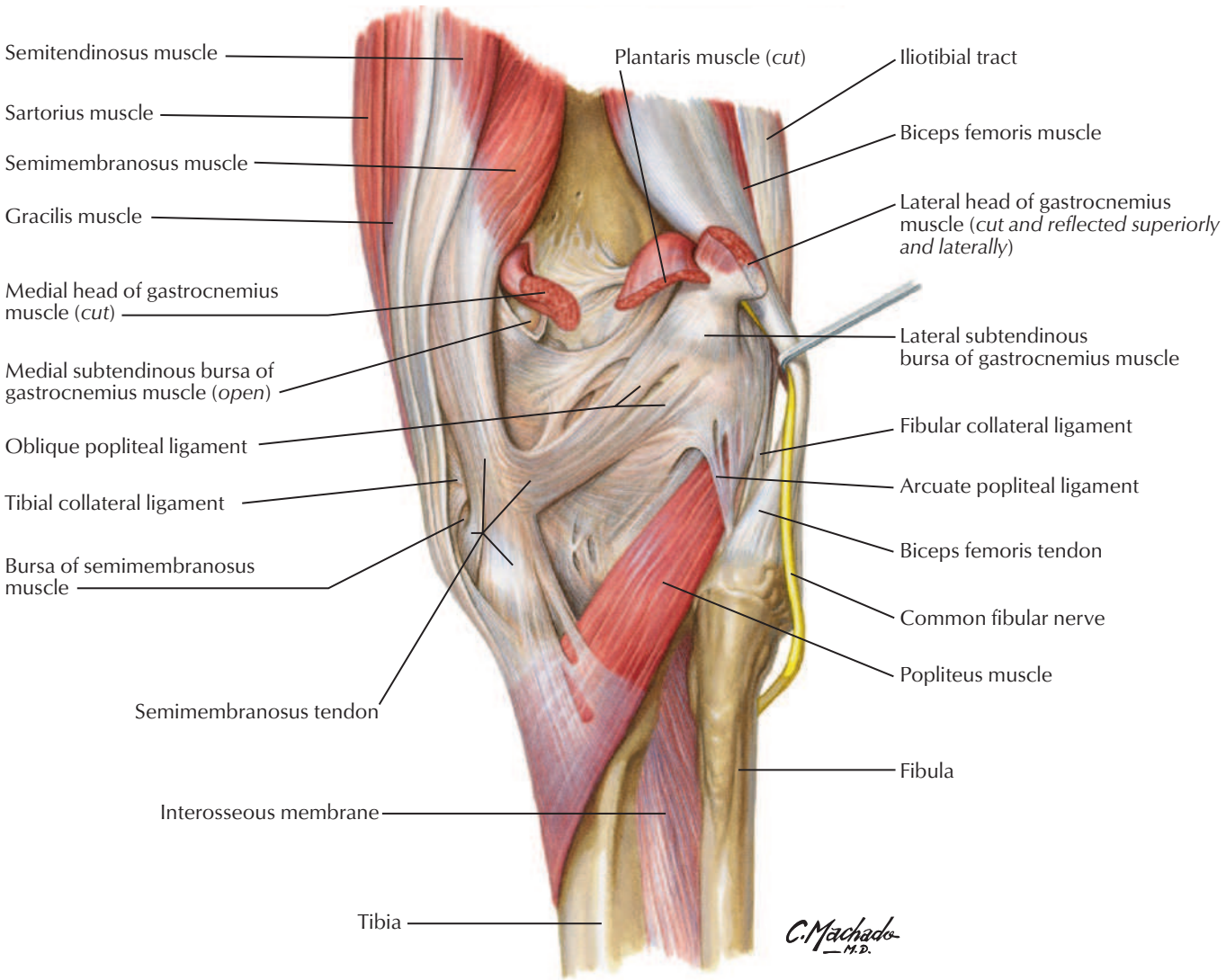


Right knee in extension: posterior view



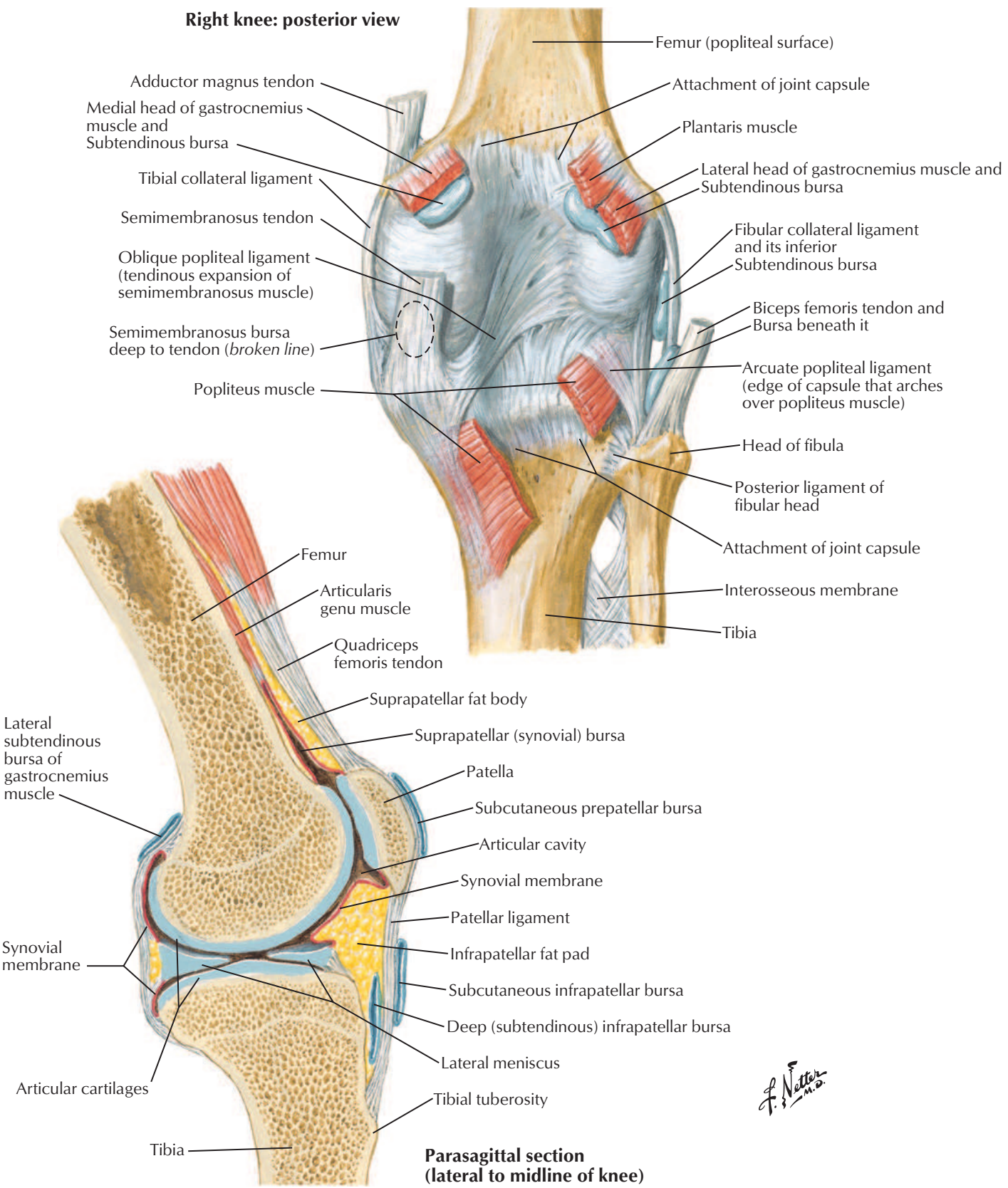
See also Plate 498



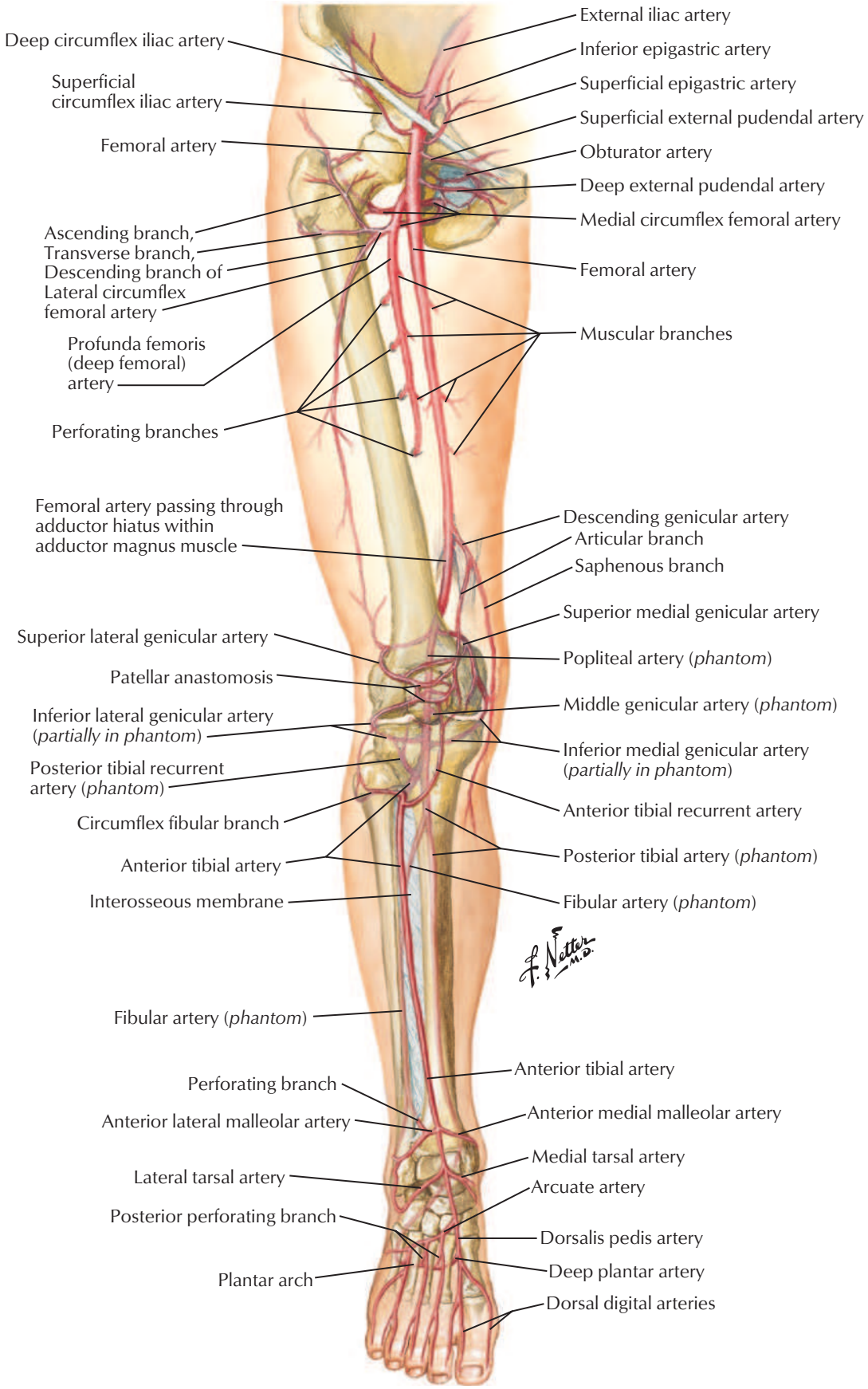


www.Booksmedicos06.com ////////

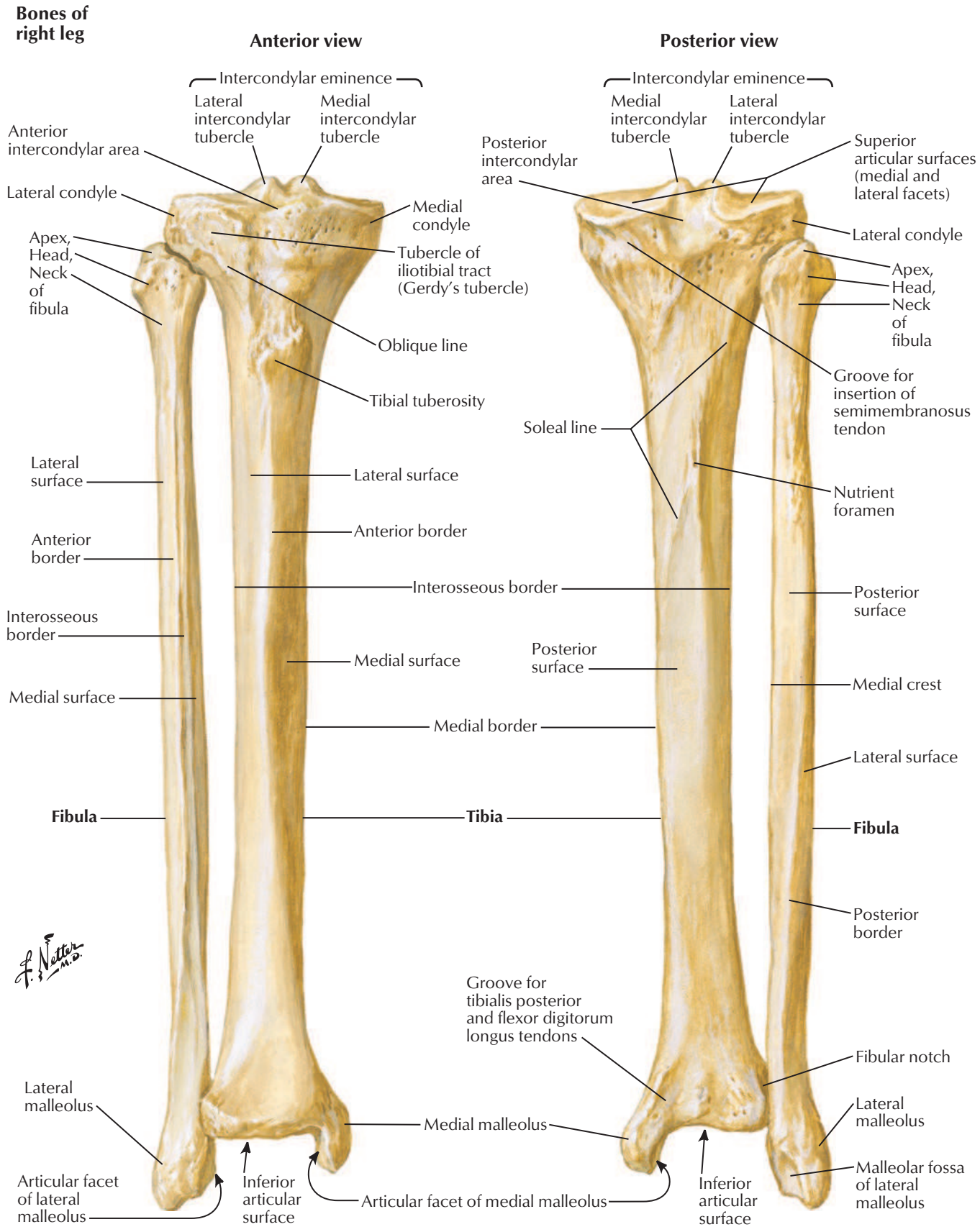
////// facebook : Booksmedicos06



See also Plates 495, 512



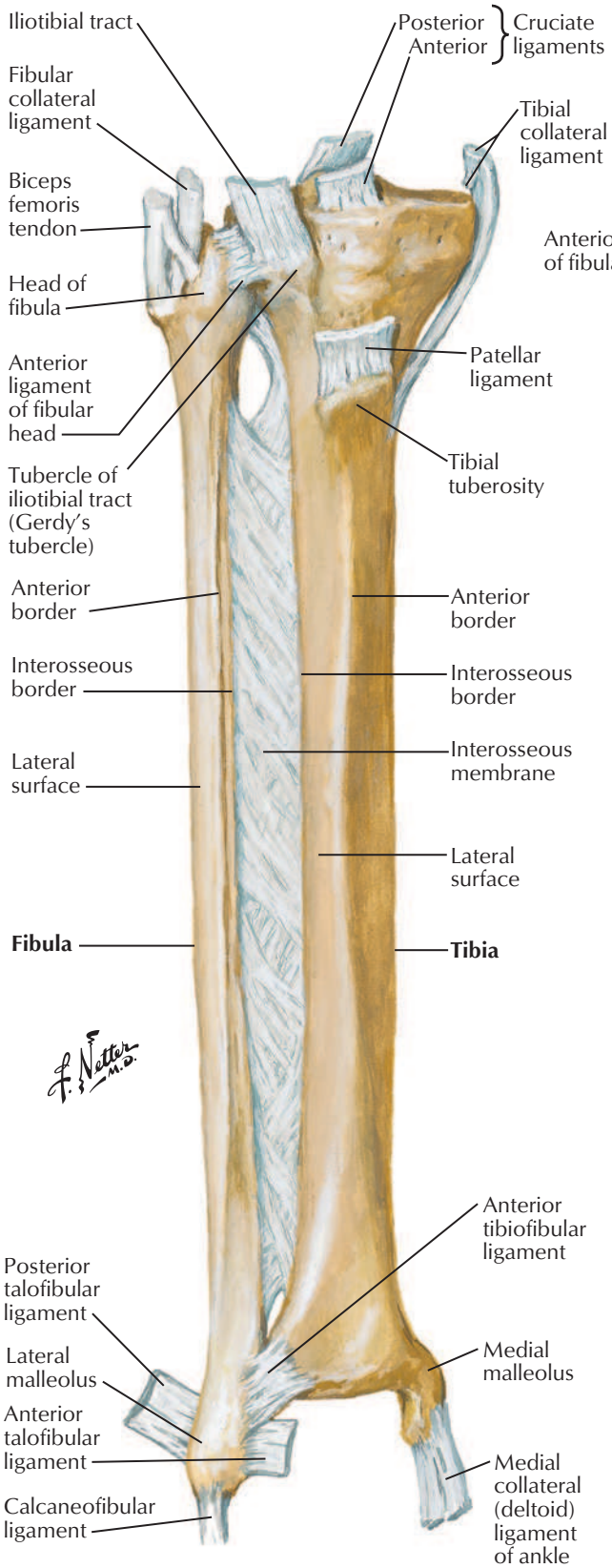
www.Booksmedicos06.com



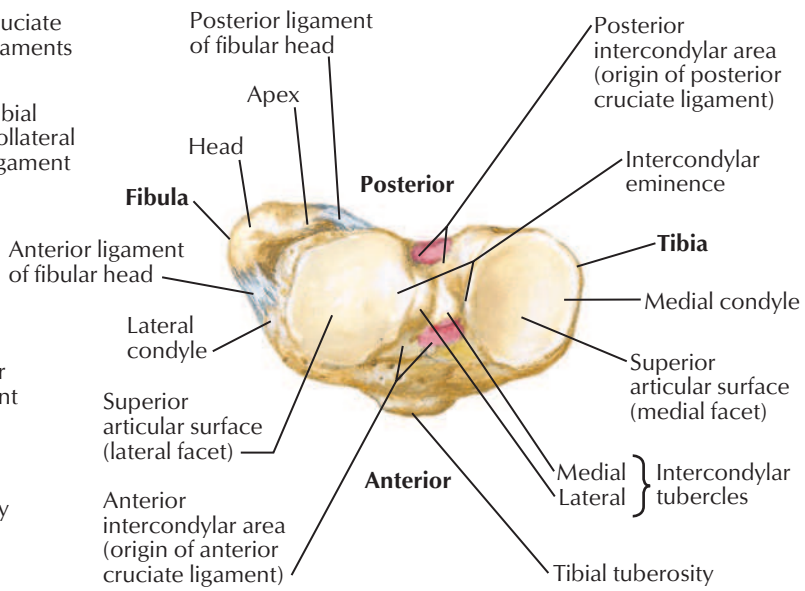
////// facebook : Booksmedicos06

See also Plate 499

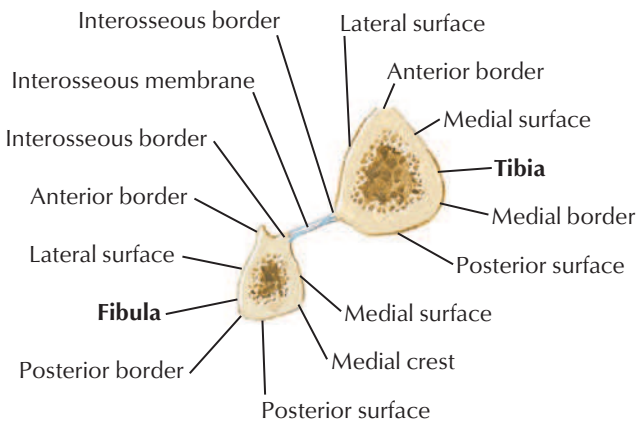
Anterior view with ligament attachments



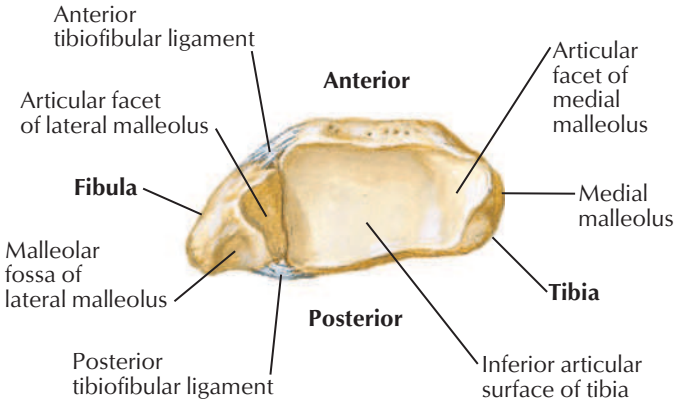
Superior view



Cross section

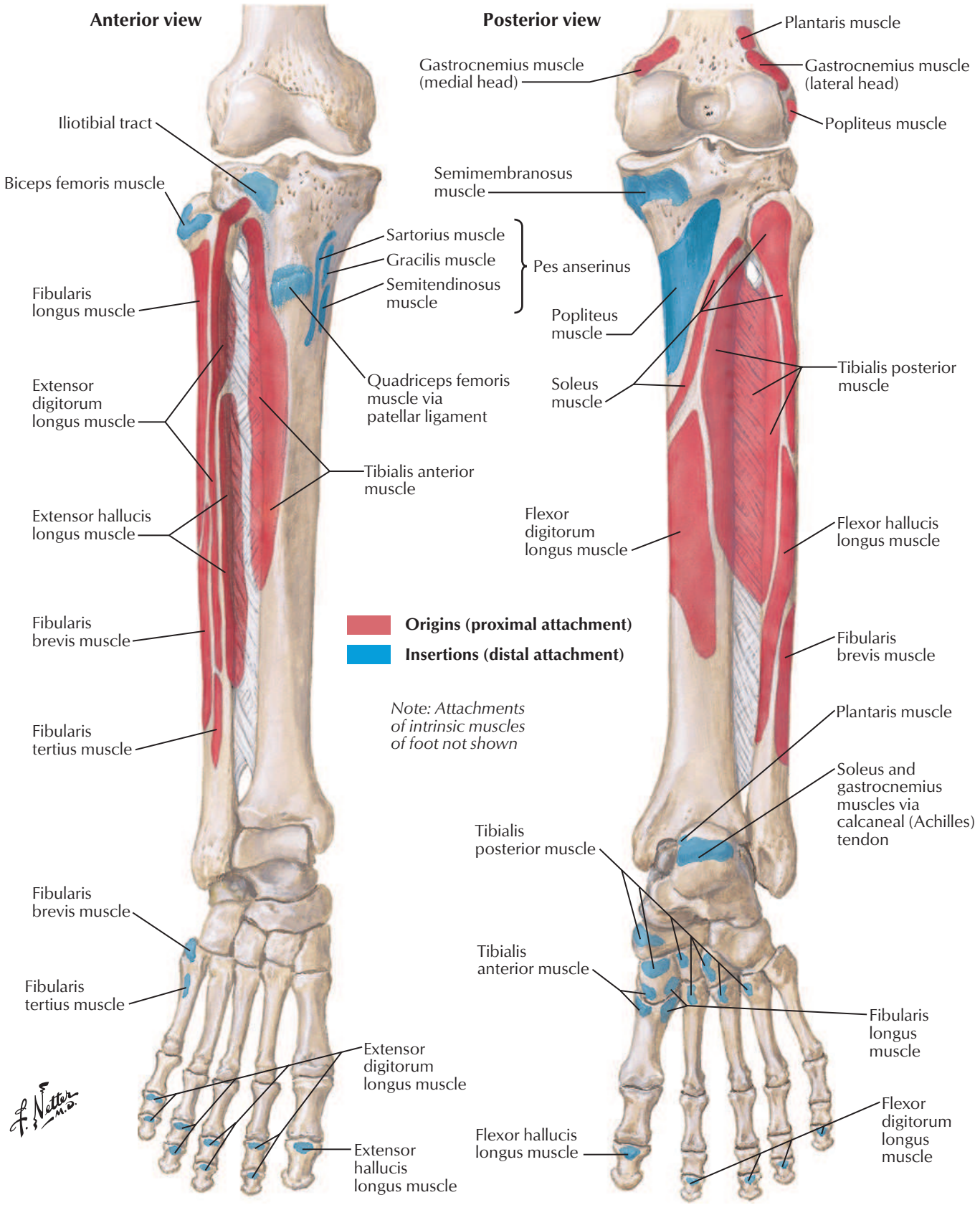


Inferior view



www.Booksmedicos06.com ////////

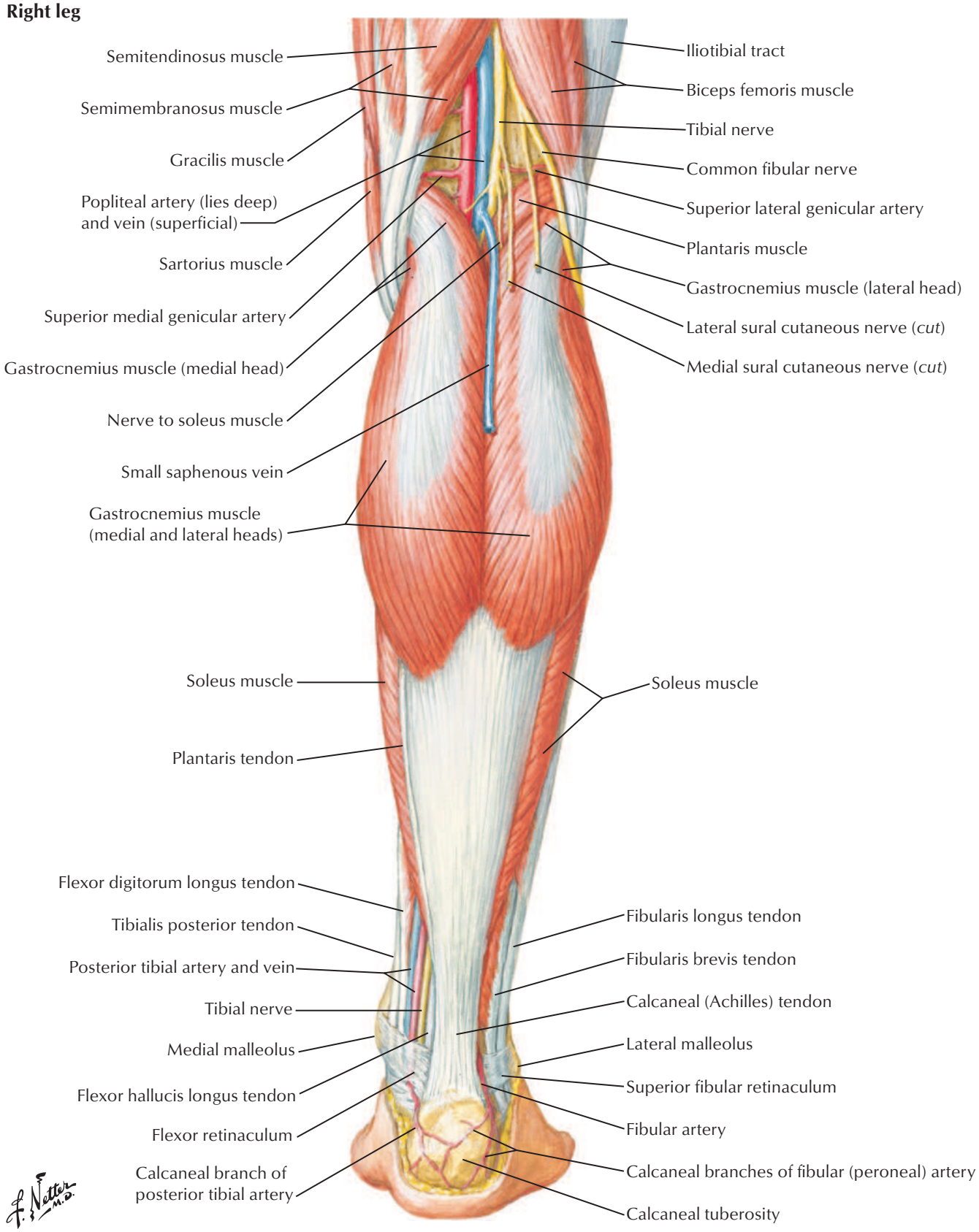
See also Plates 509, 512



////// facebook : Booksmedicos06

See also Plate 532

Right leg

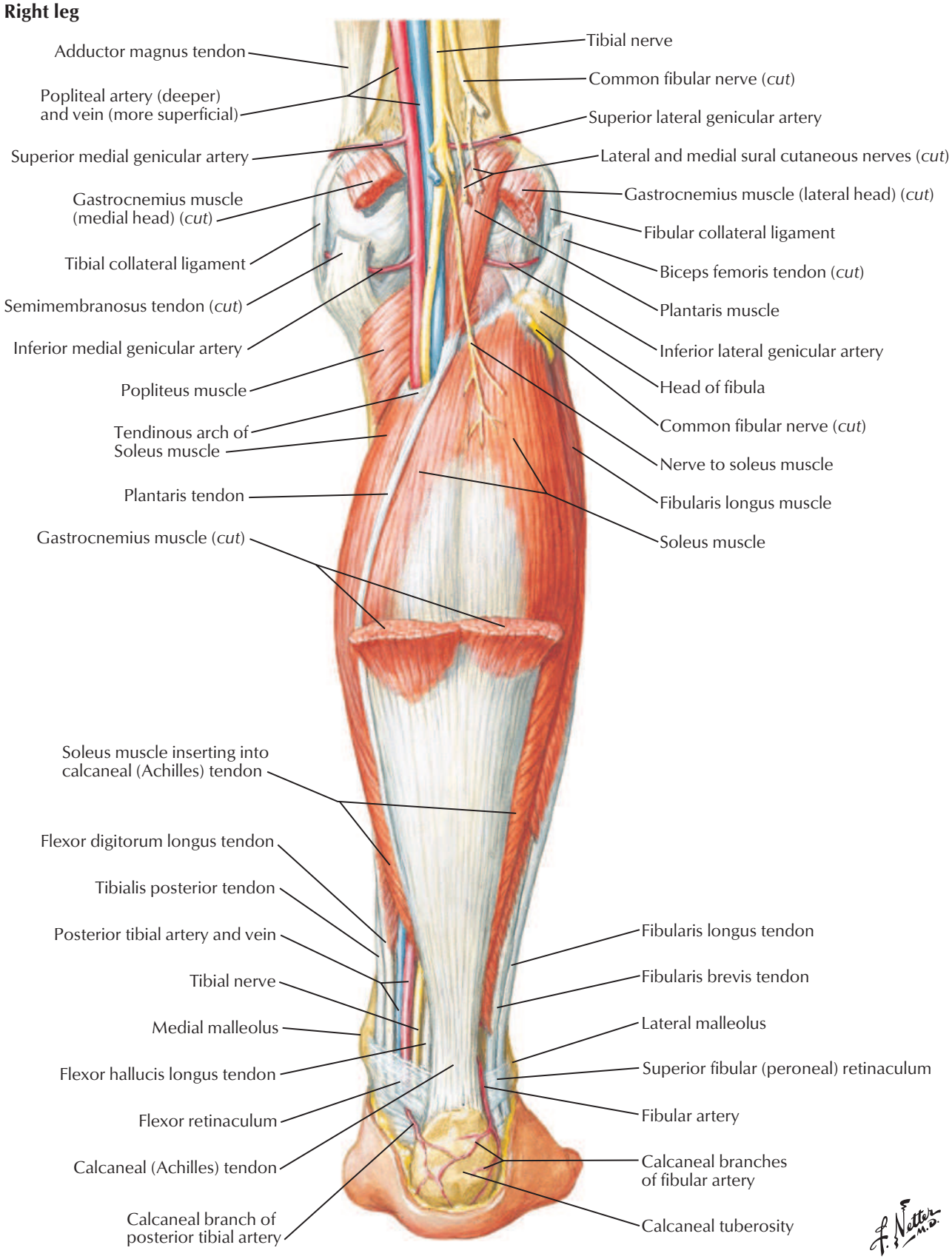


www.Booksmedicos06.com

See also Plate 532

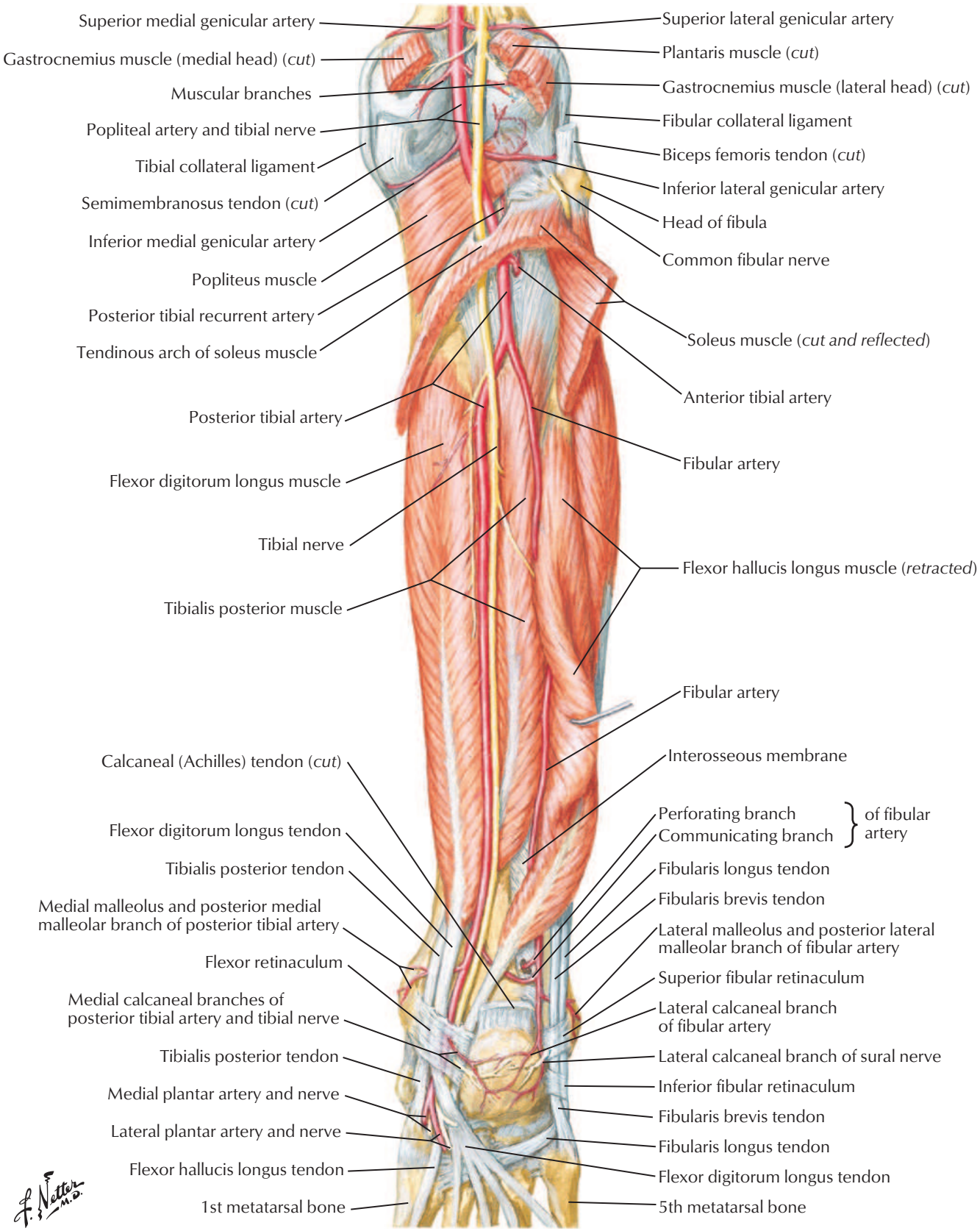
////// facebook : Booksmedicos06

Right leg



See also Plate 532

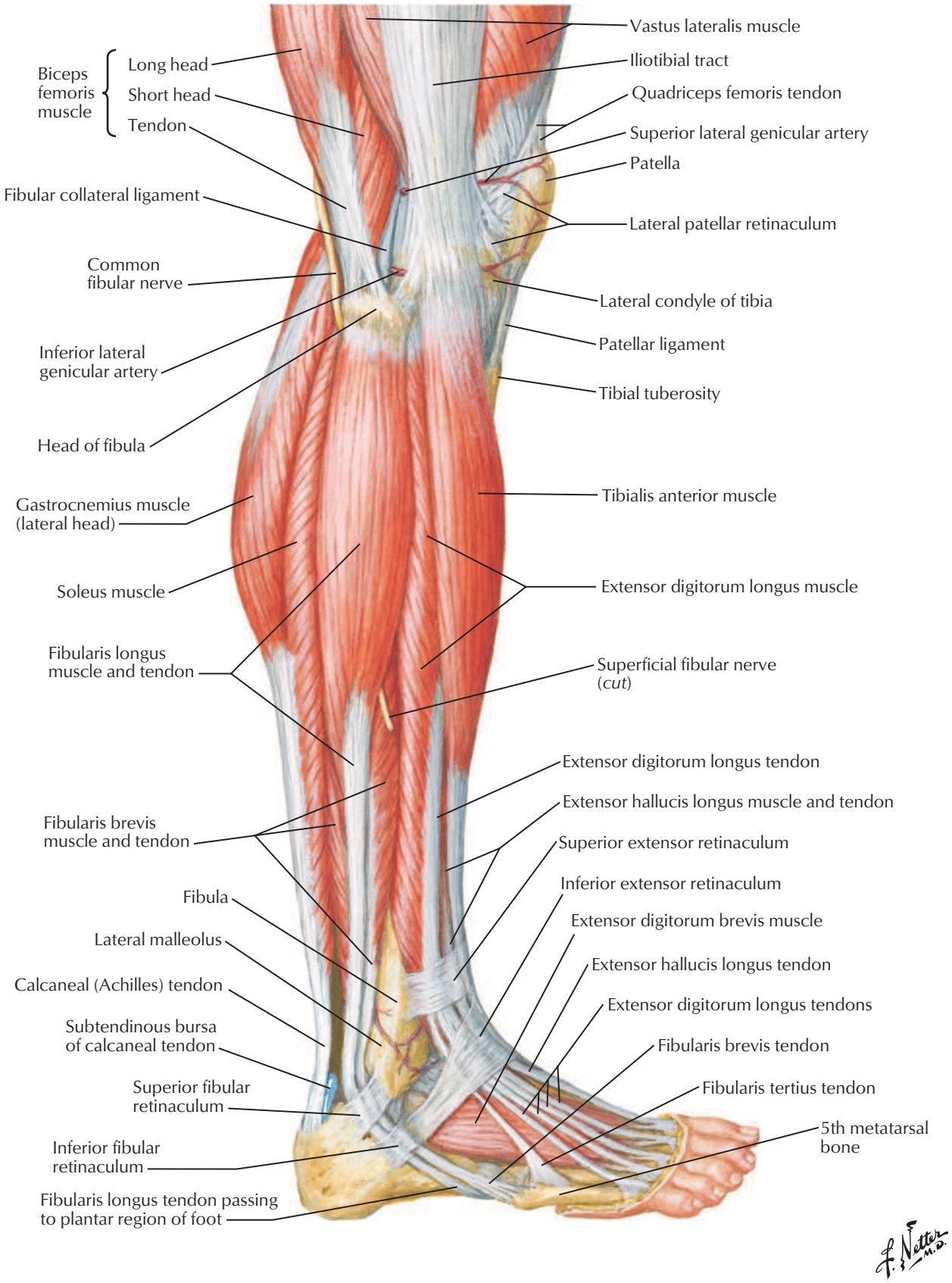
Right leg



www.Booksmedicos06.com ////////

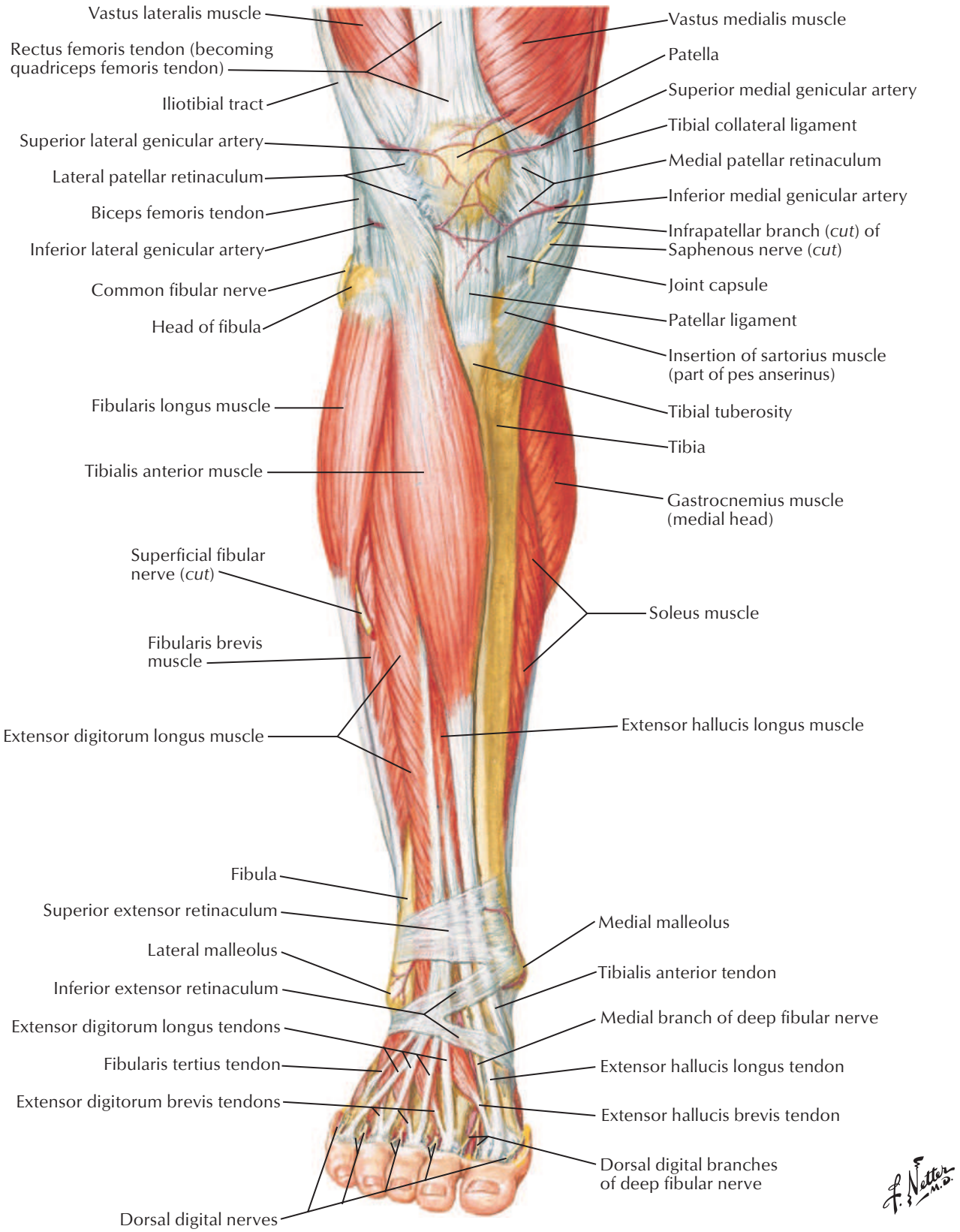
Muscles of Leg: Lateral View

See also Plates 520, 533



////// facebook : Booksmedicos06

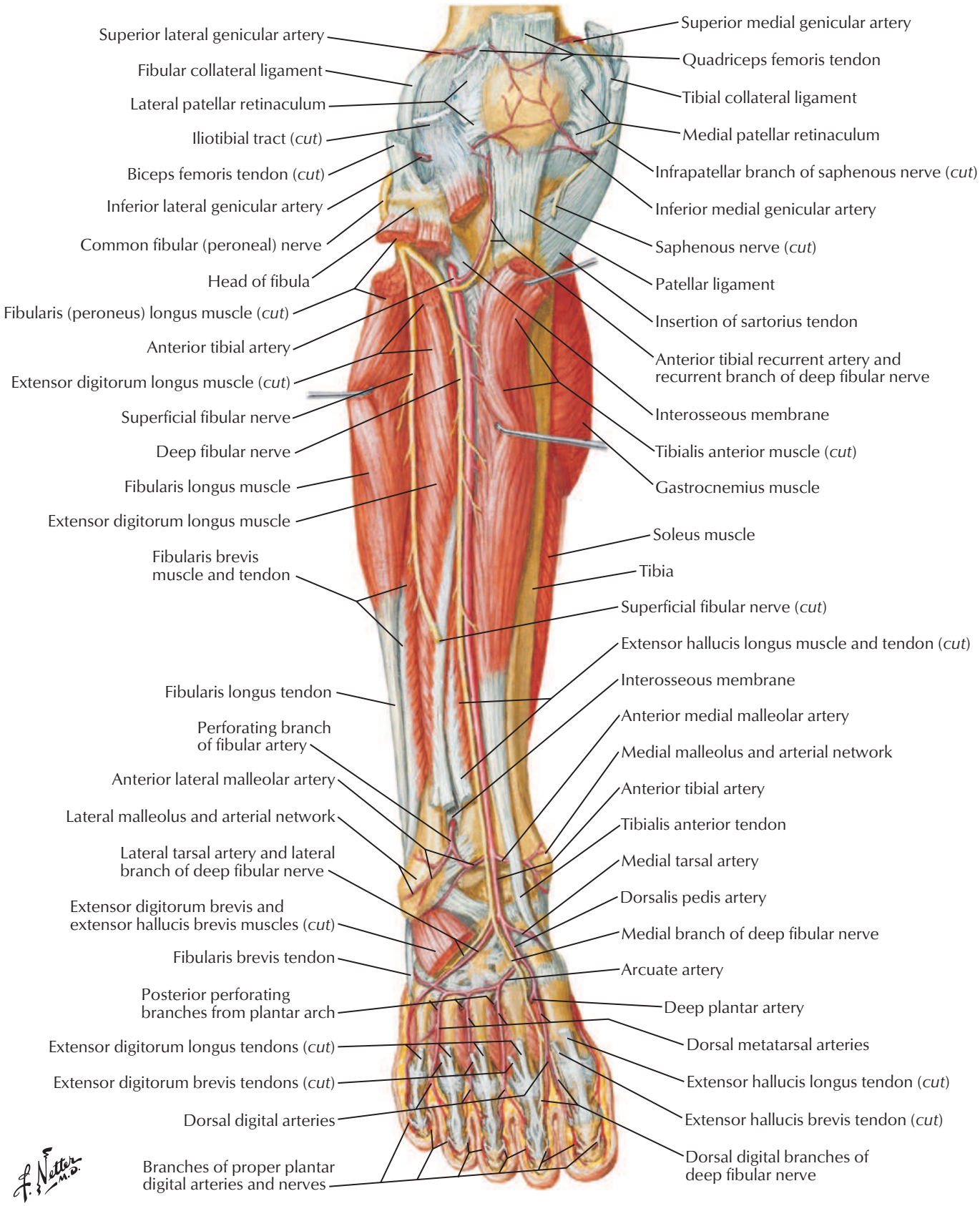
See also Plate 533



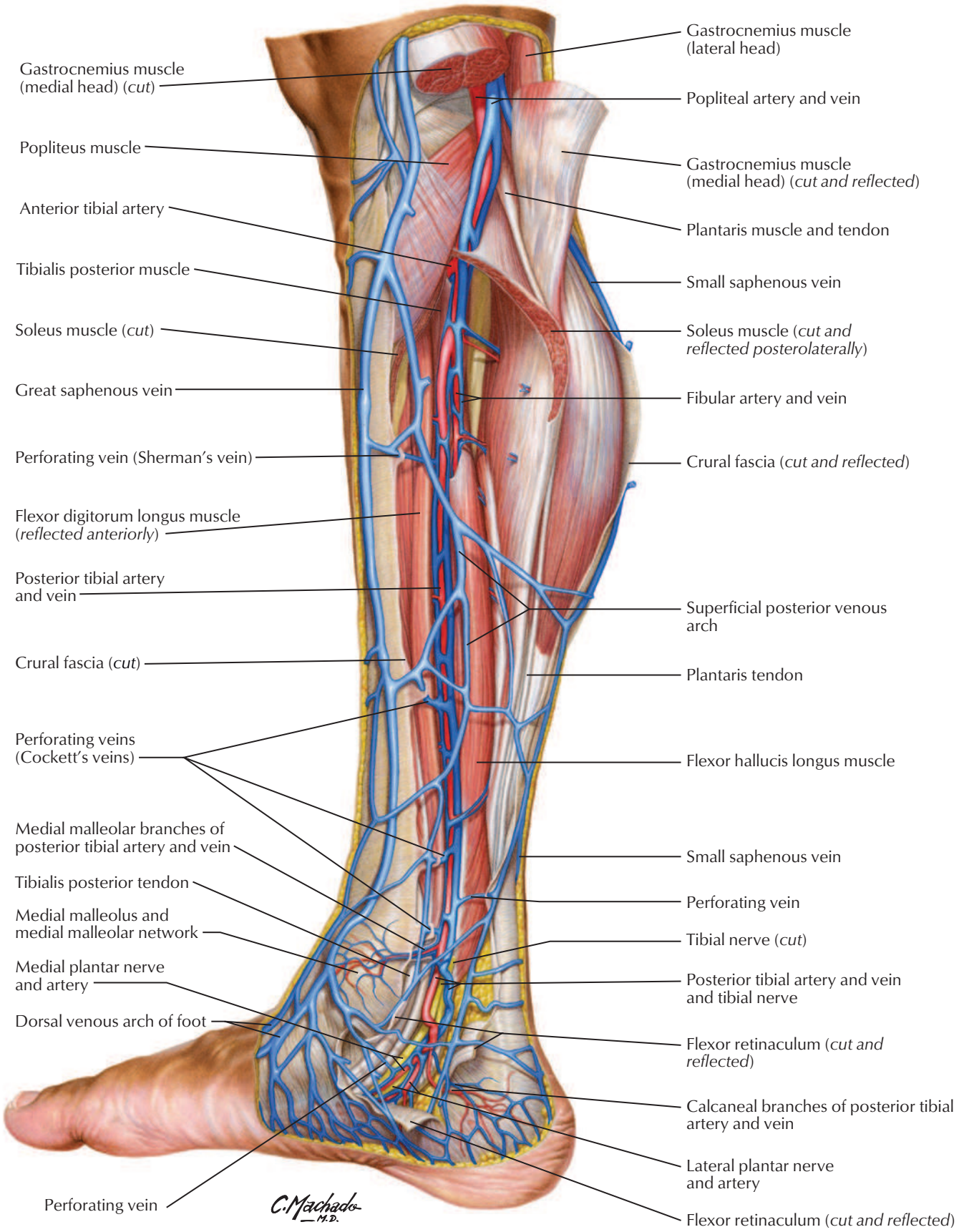
www.Booksmedicos06.com

Muscles of Leg (Deep Dissection): Anterior View

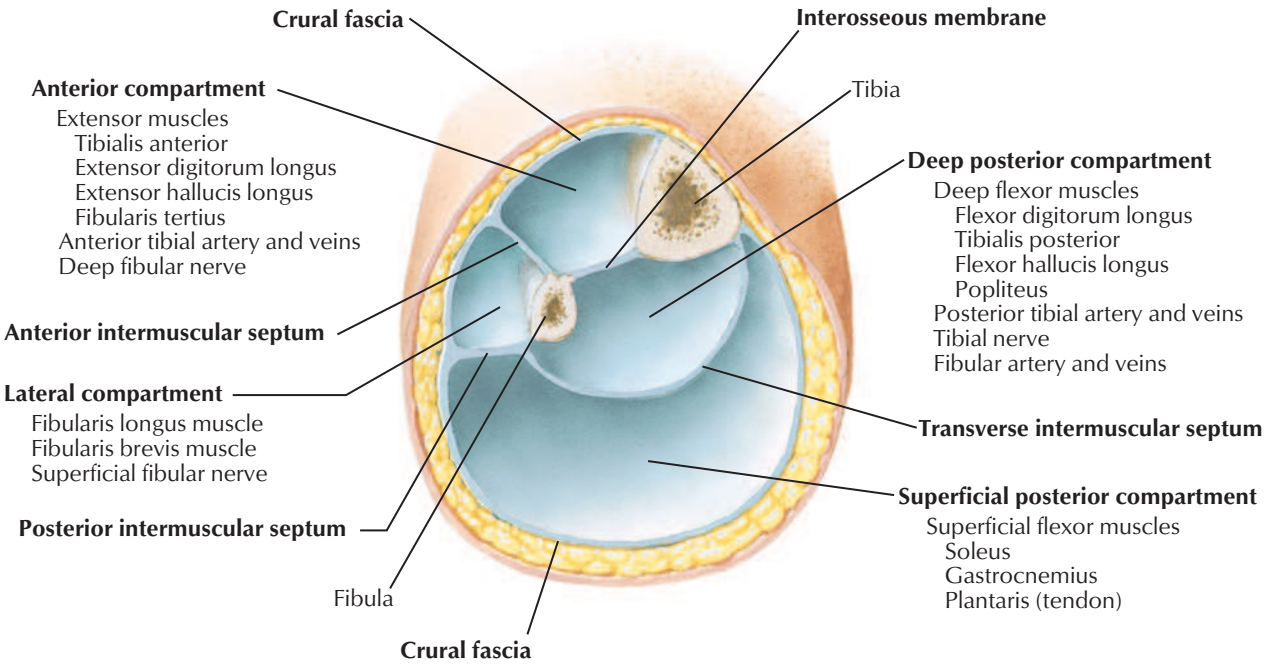
See also Plates 521, 533



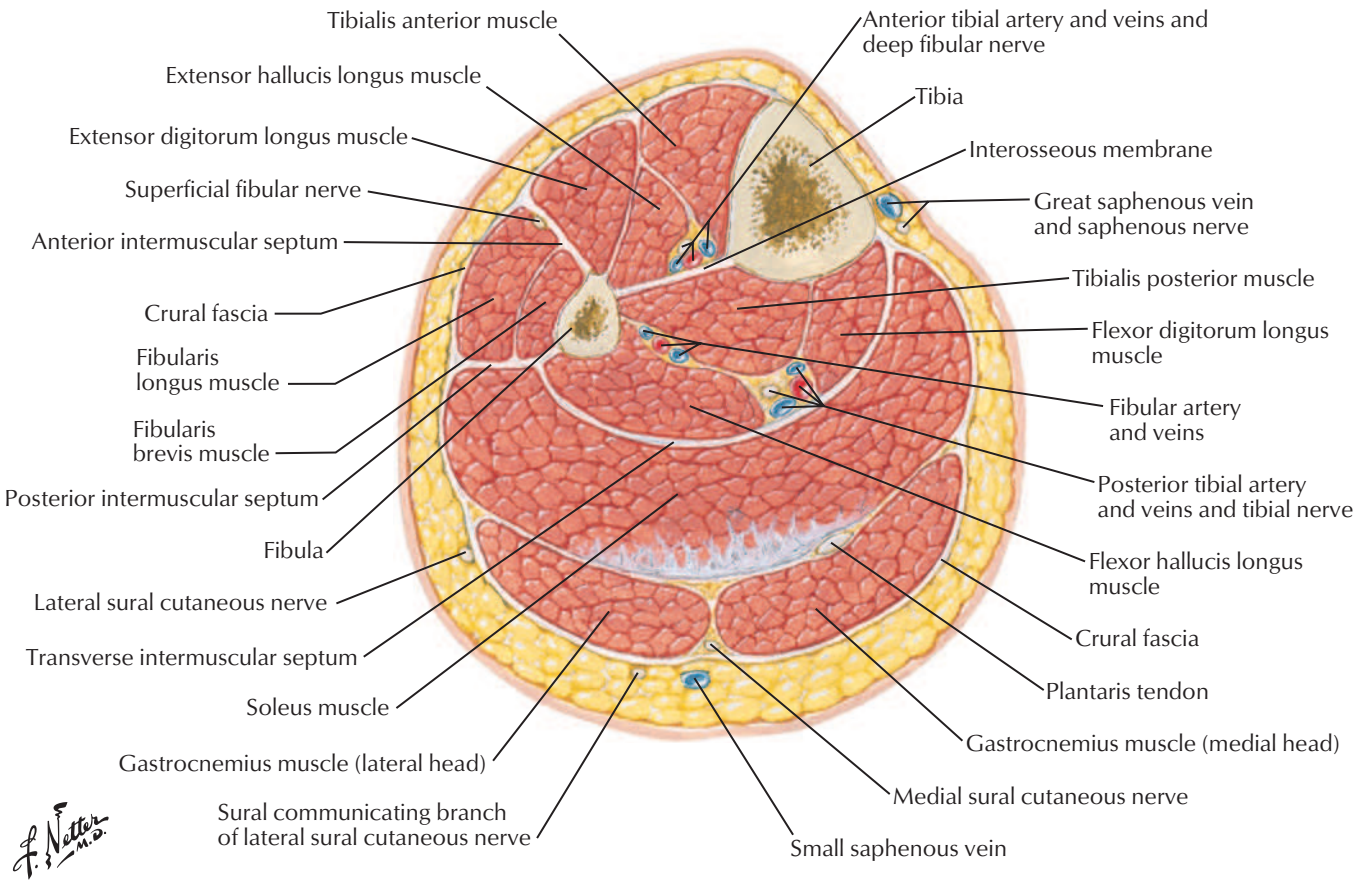
////// facebook : Booksmedicos06



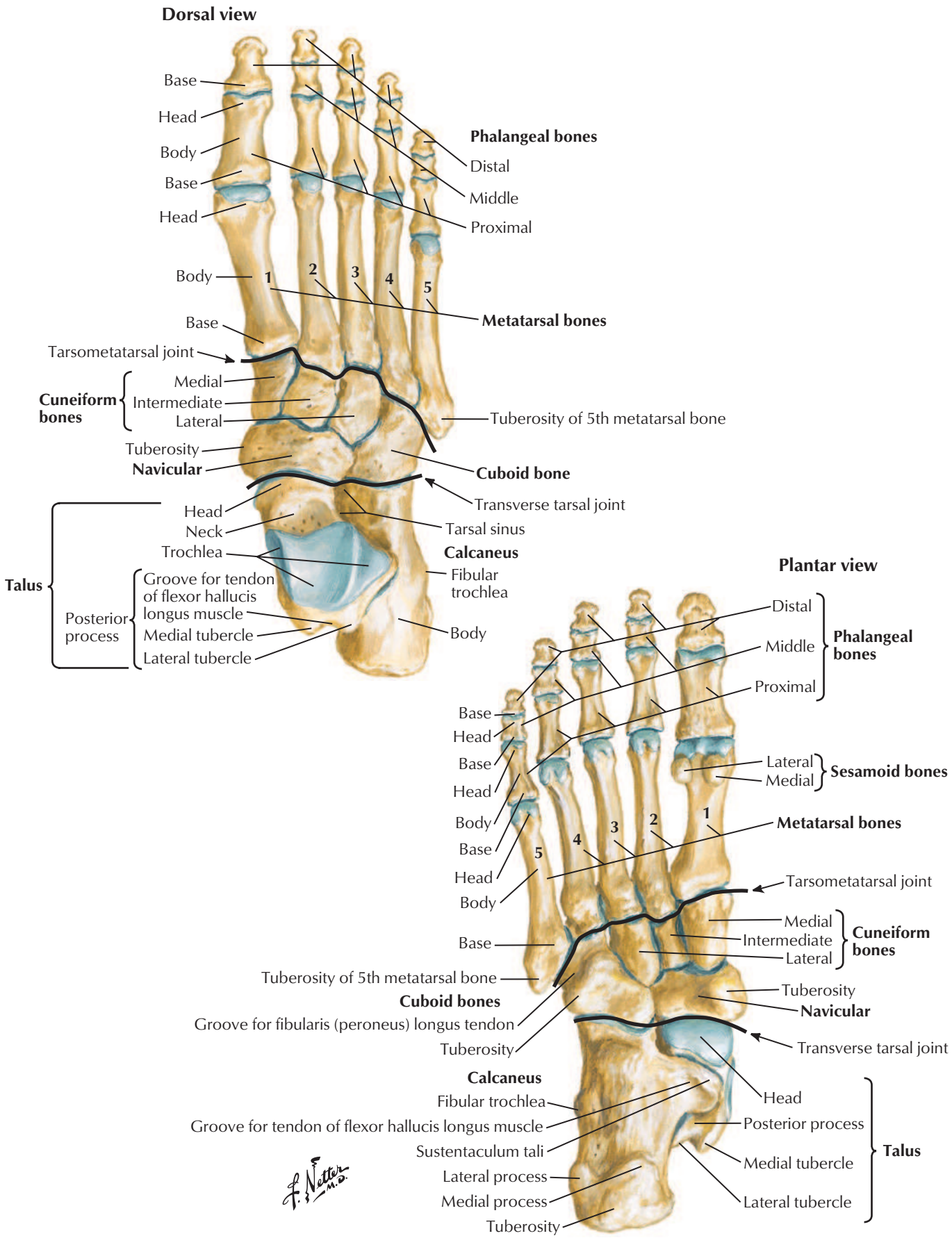
www.Booksmedicos06.com



Cross section just above middle of leg

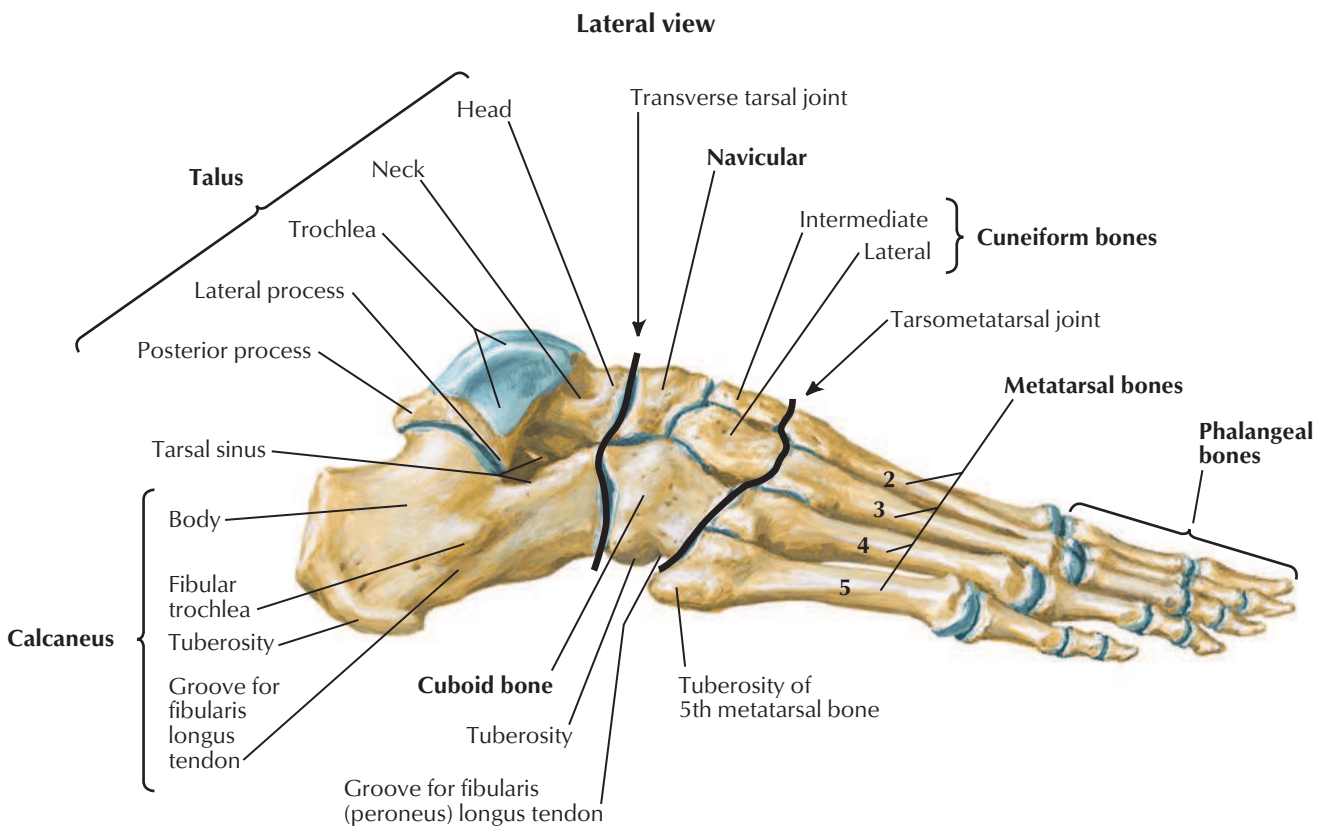


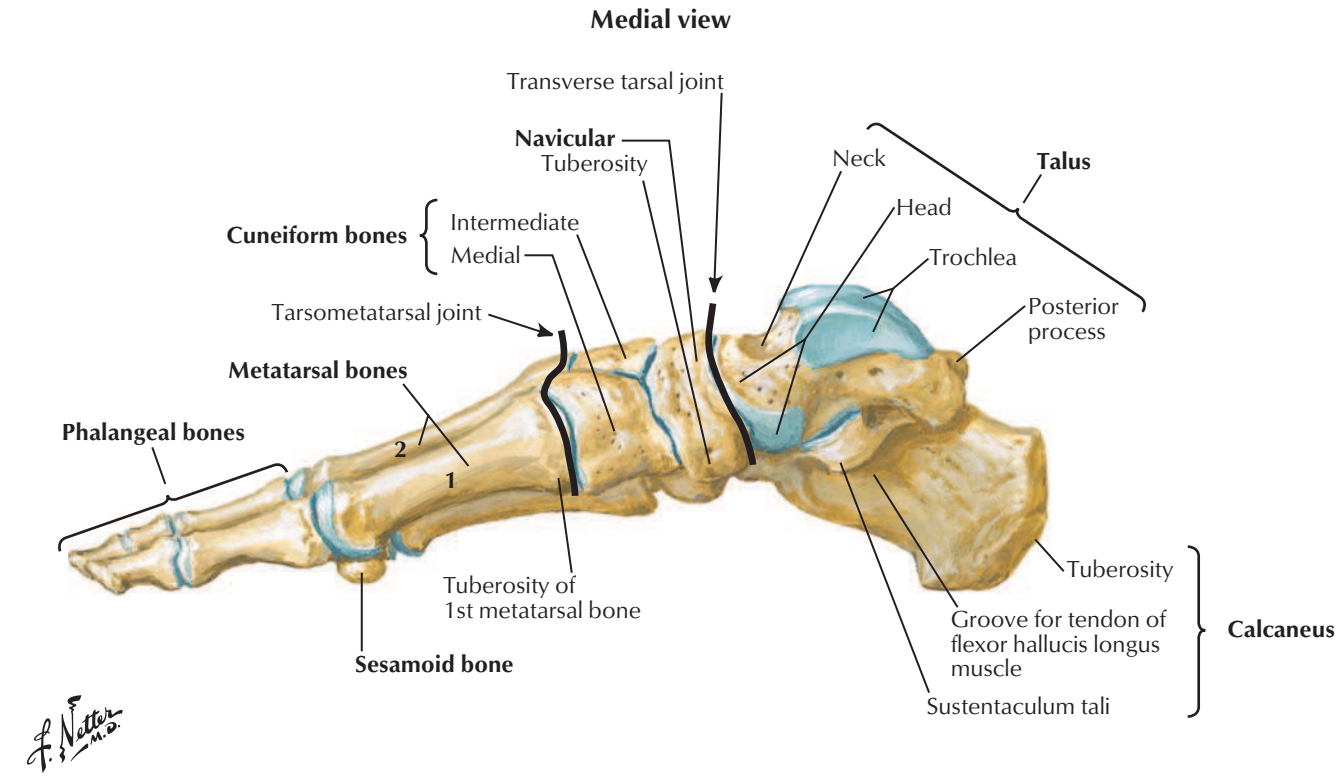
////// facebook : Booksmedicos06



www.Booksmedicos06.com

See also Plate 535

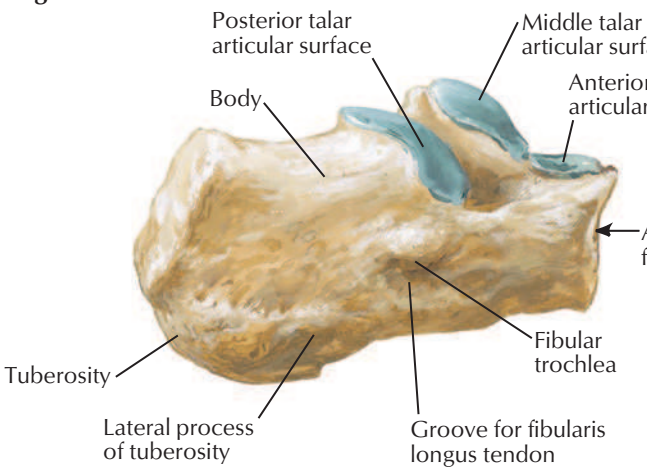




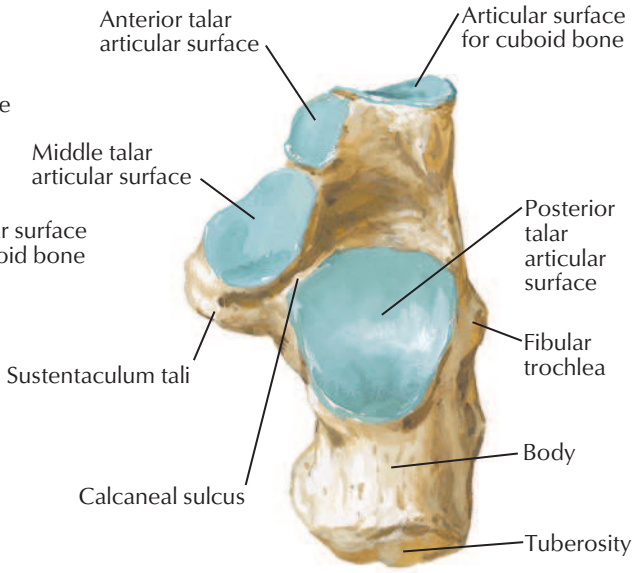
////// facebook : Booksmedicos06

See also Plate 535

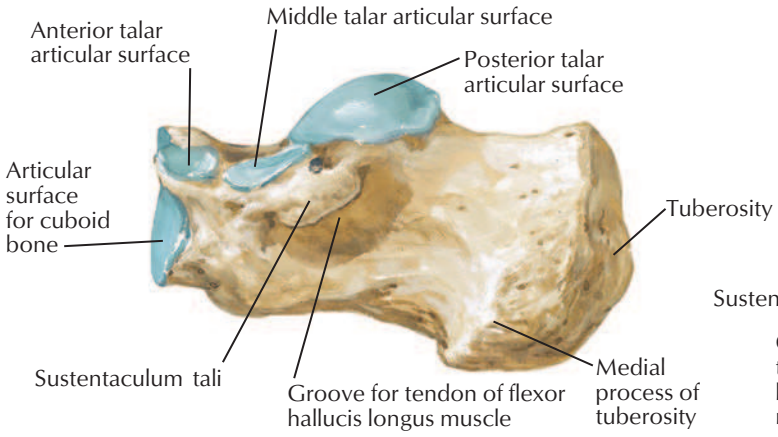
Right foot



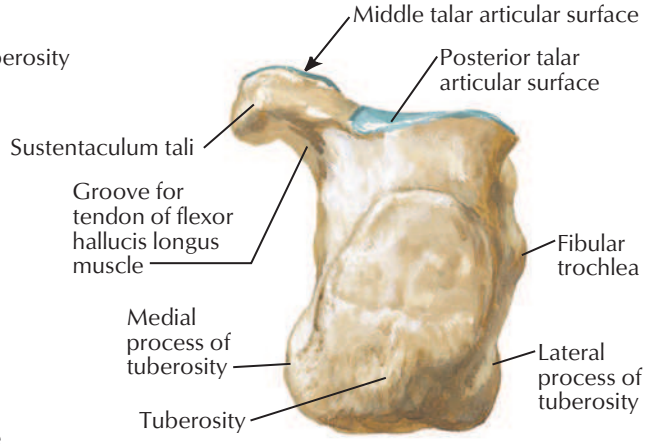
Lateral view



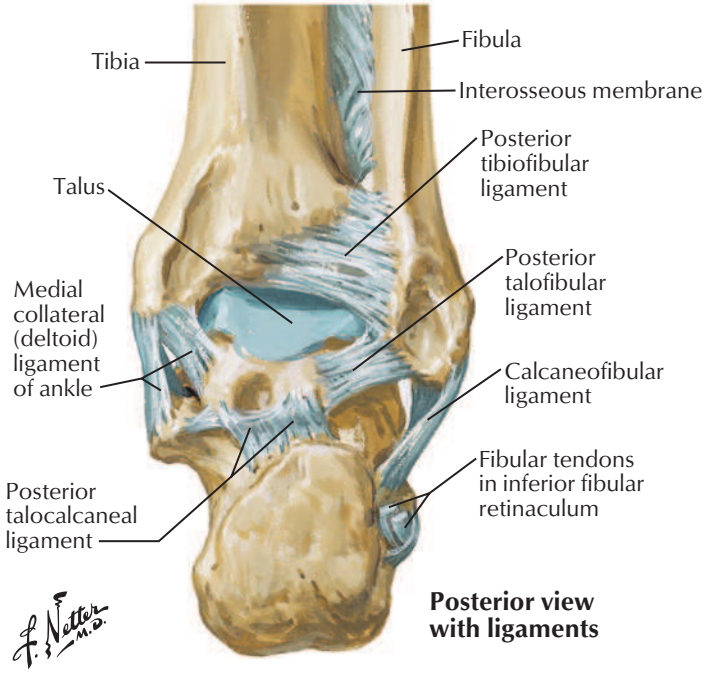
Superior view



Medial view



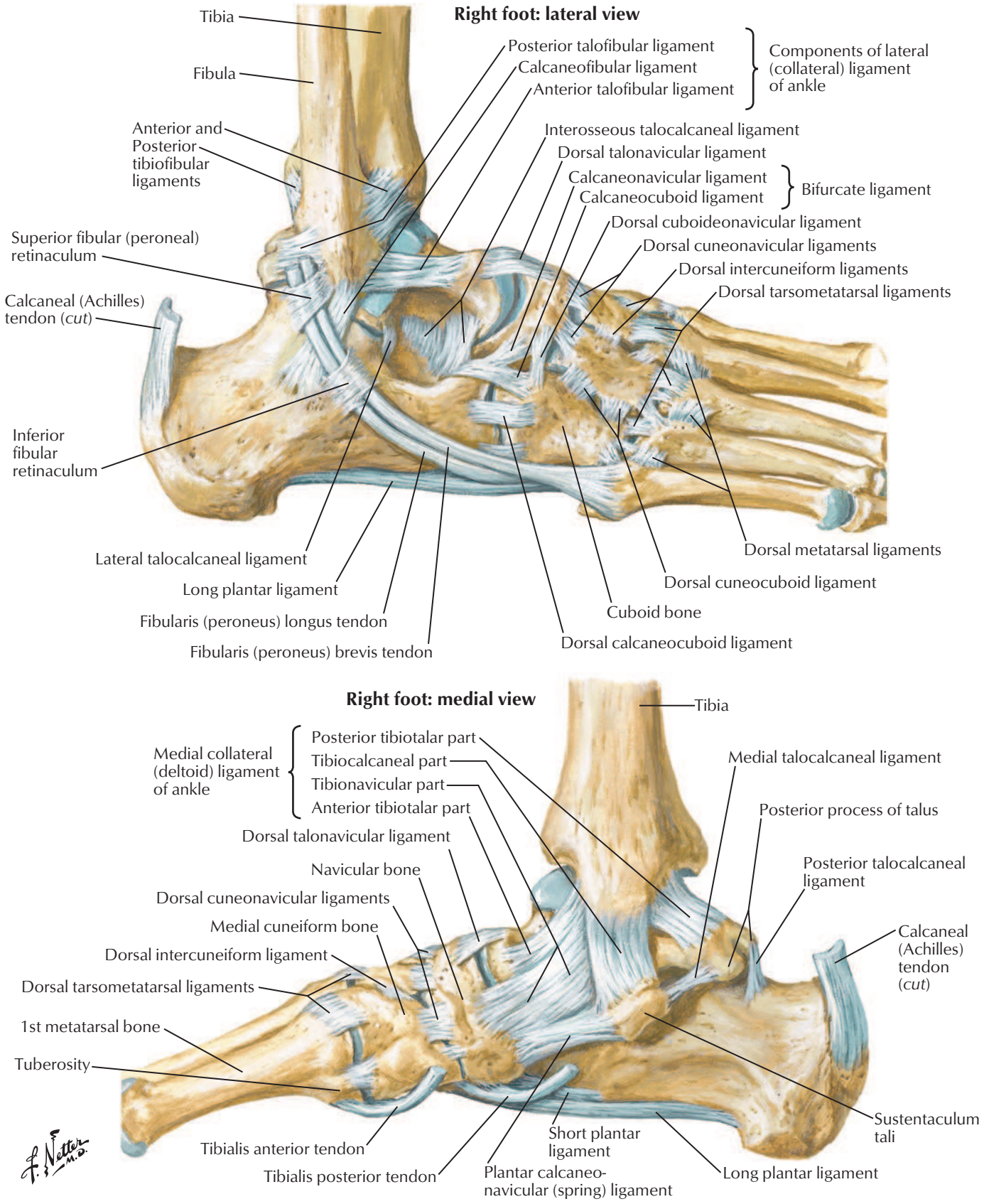
Posterior view



Posterior view with ligaments

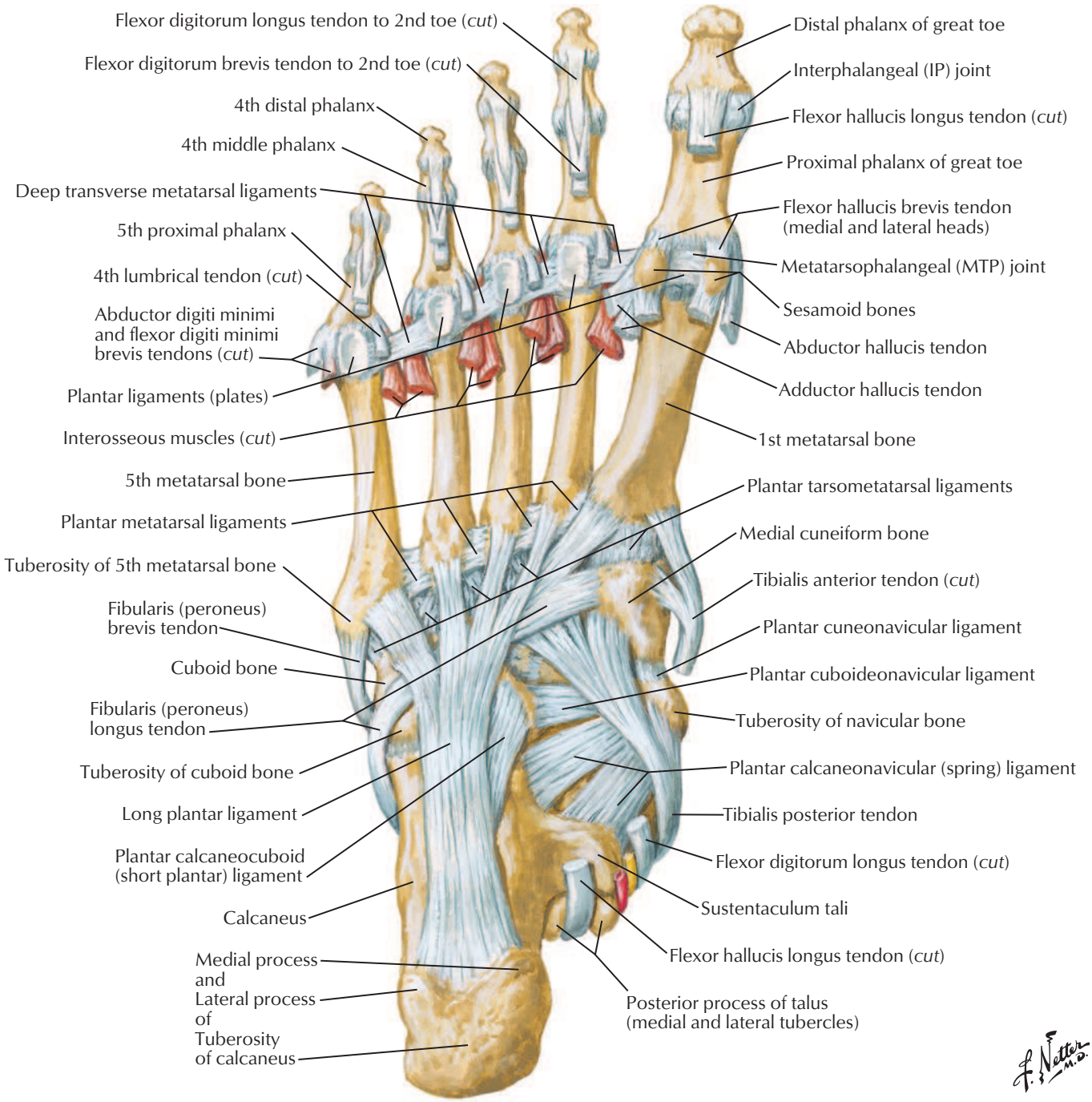
www.Booksmedicos06.com

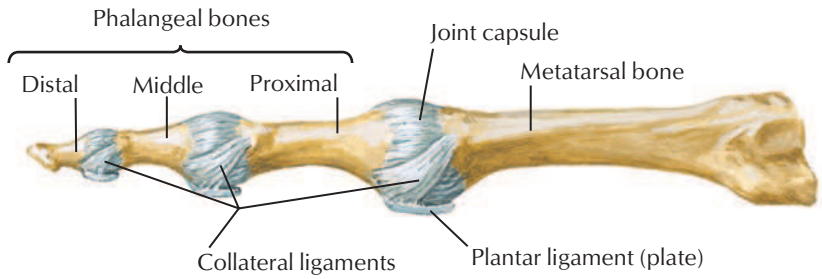
See also Plate 535



////// facebook : Booksmedicos06

See also Plates 526, 527

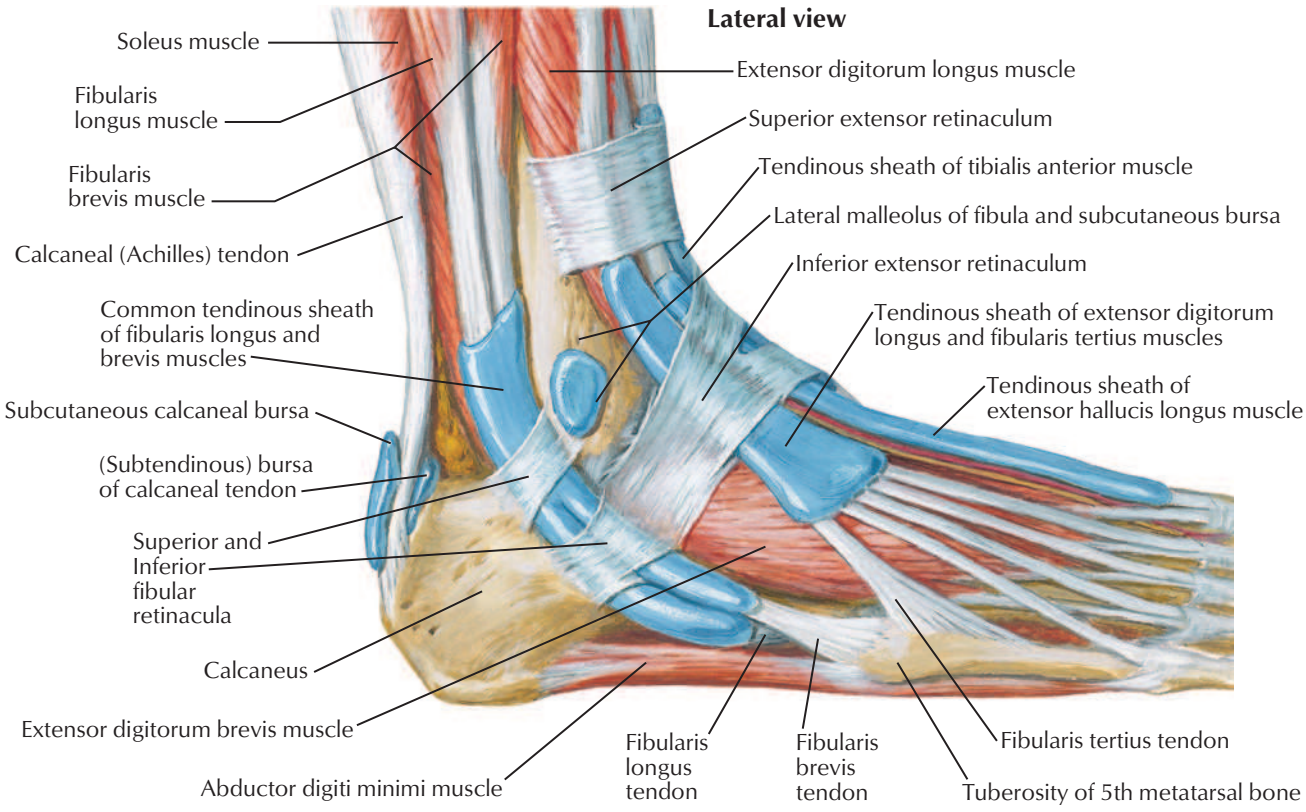


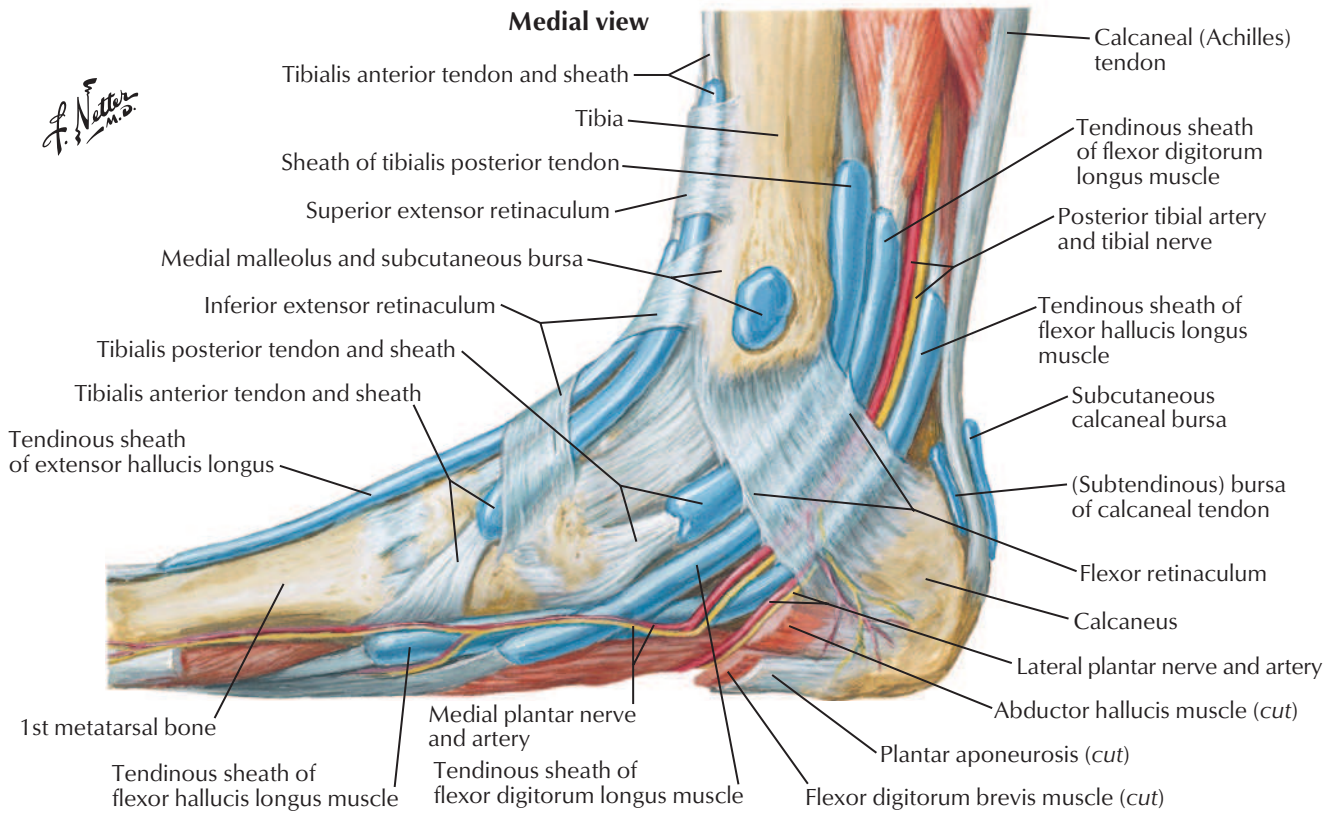


Capsules and ligaments of metatarsophalangeal and interphalangeal joints: lateral view

www.Booksmedicos06.com

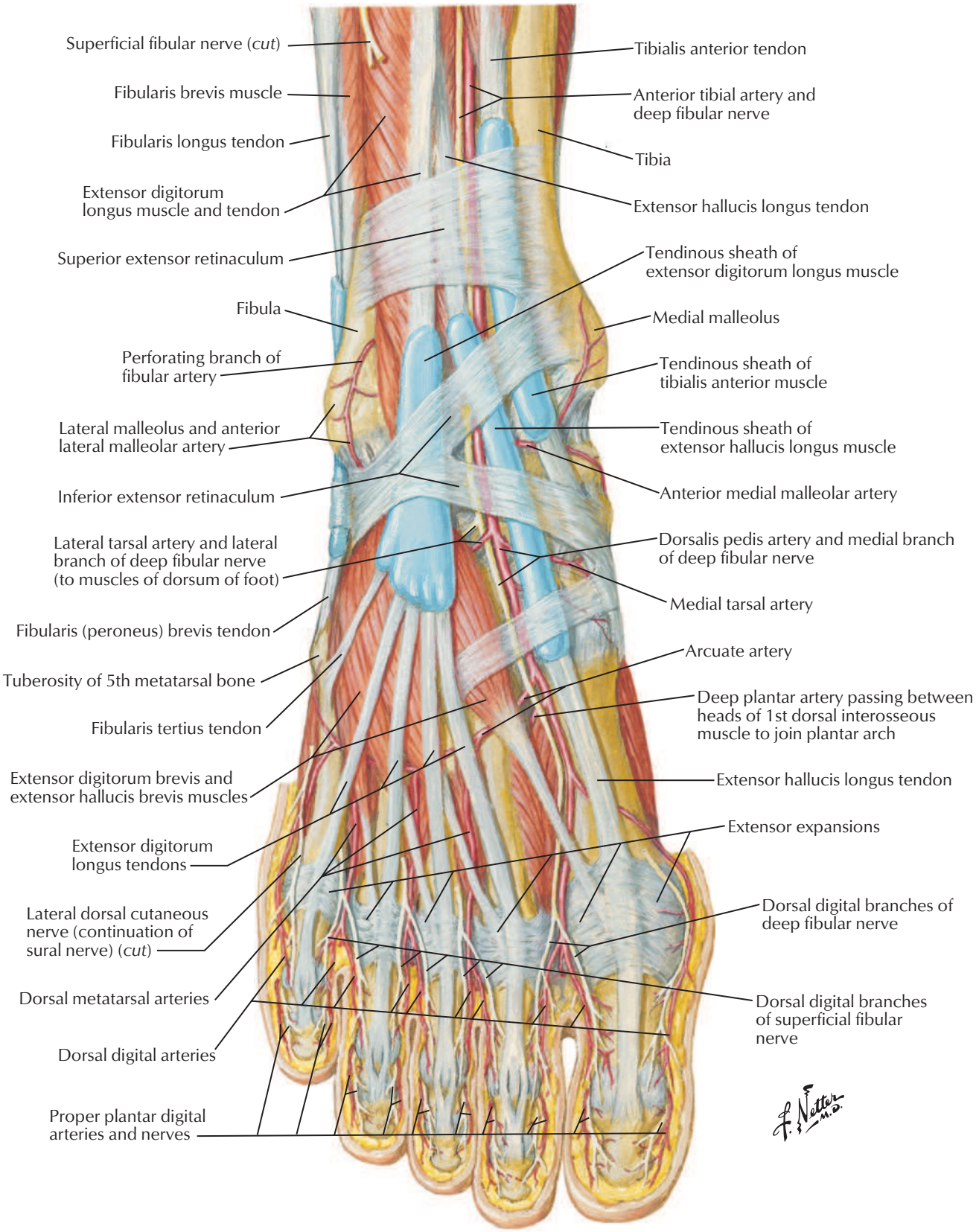
See also Plate 510





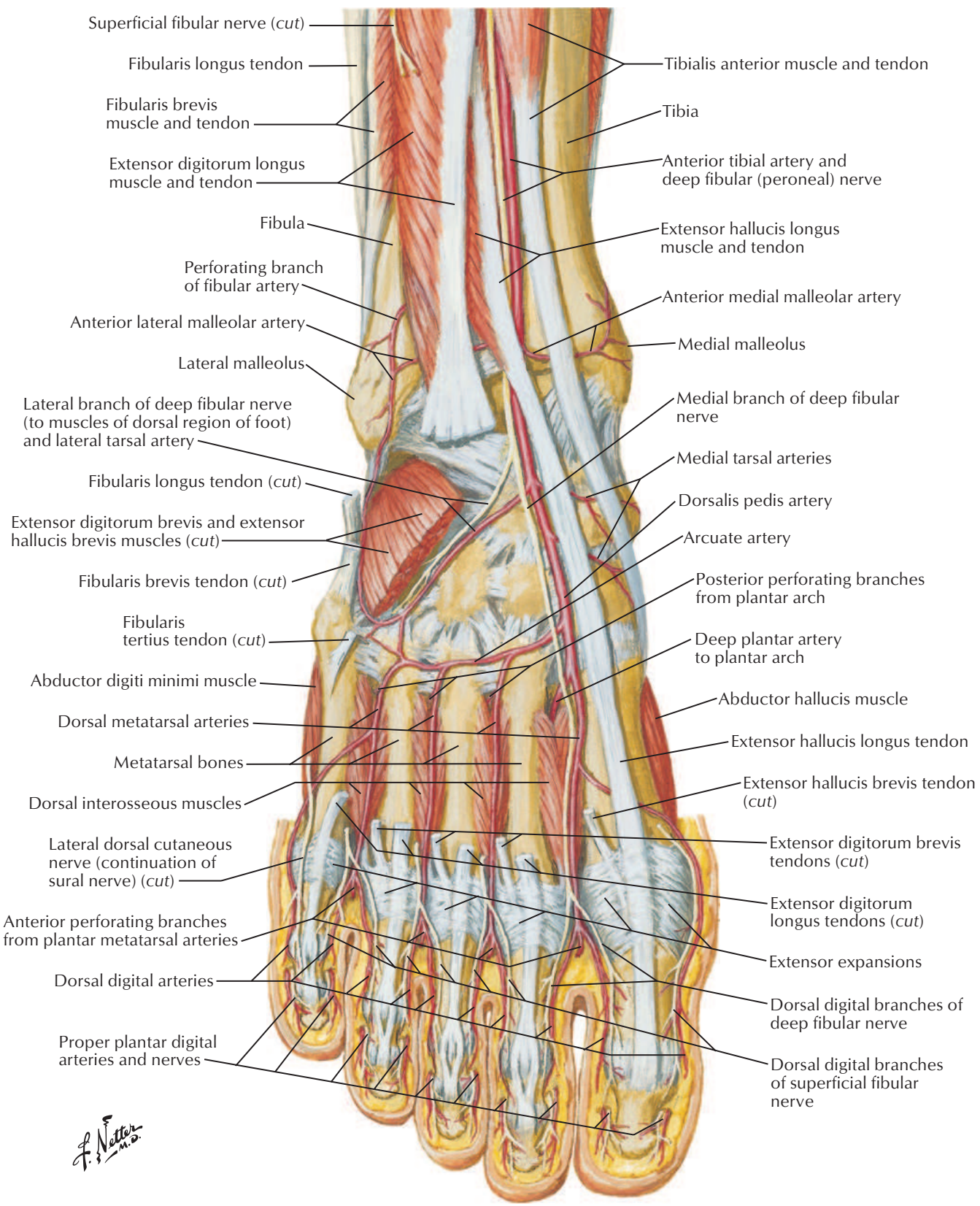
////// facebook : Booksmedicos06

See also Plate 533

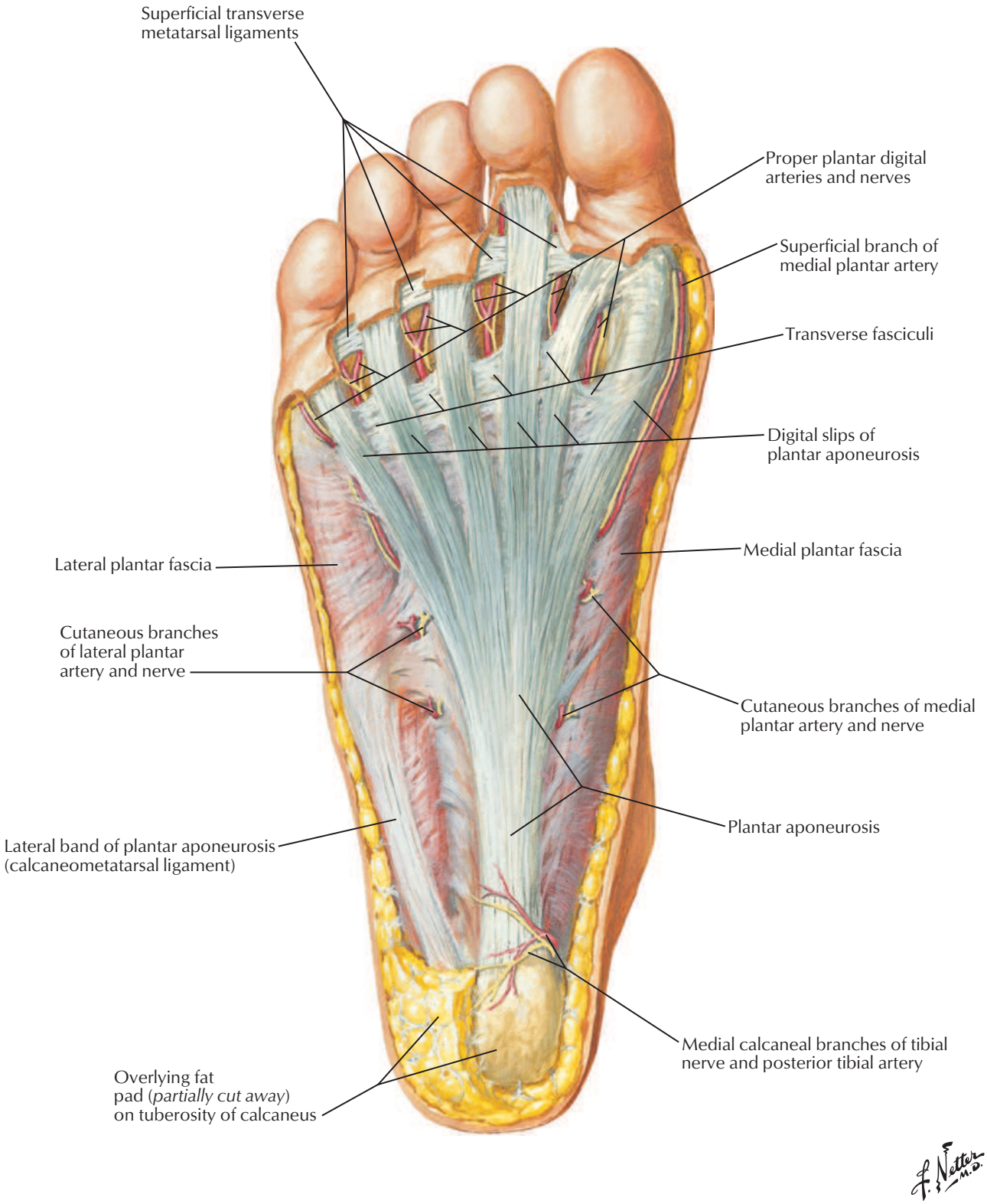


www.Booksmedicos06.com

See also Plate 527



////// facebook : Booksmedicos06

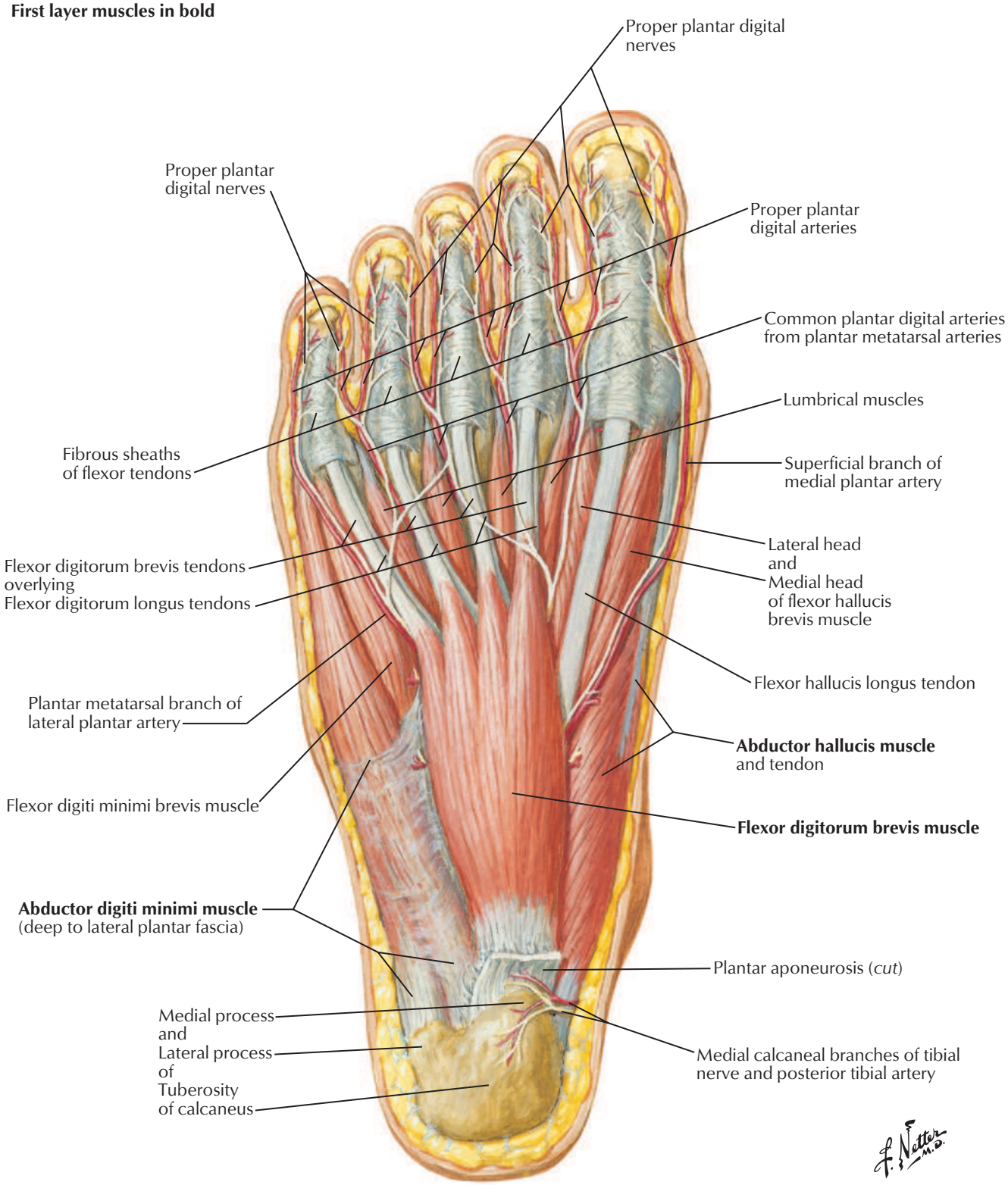


www.Booksmedicos06.com

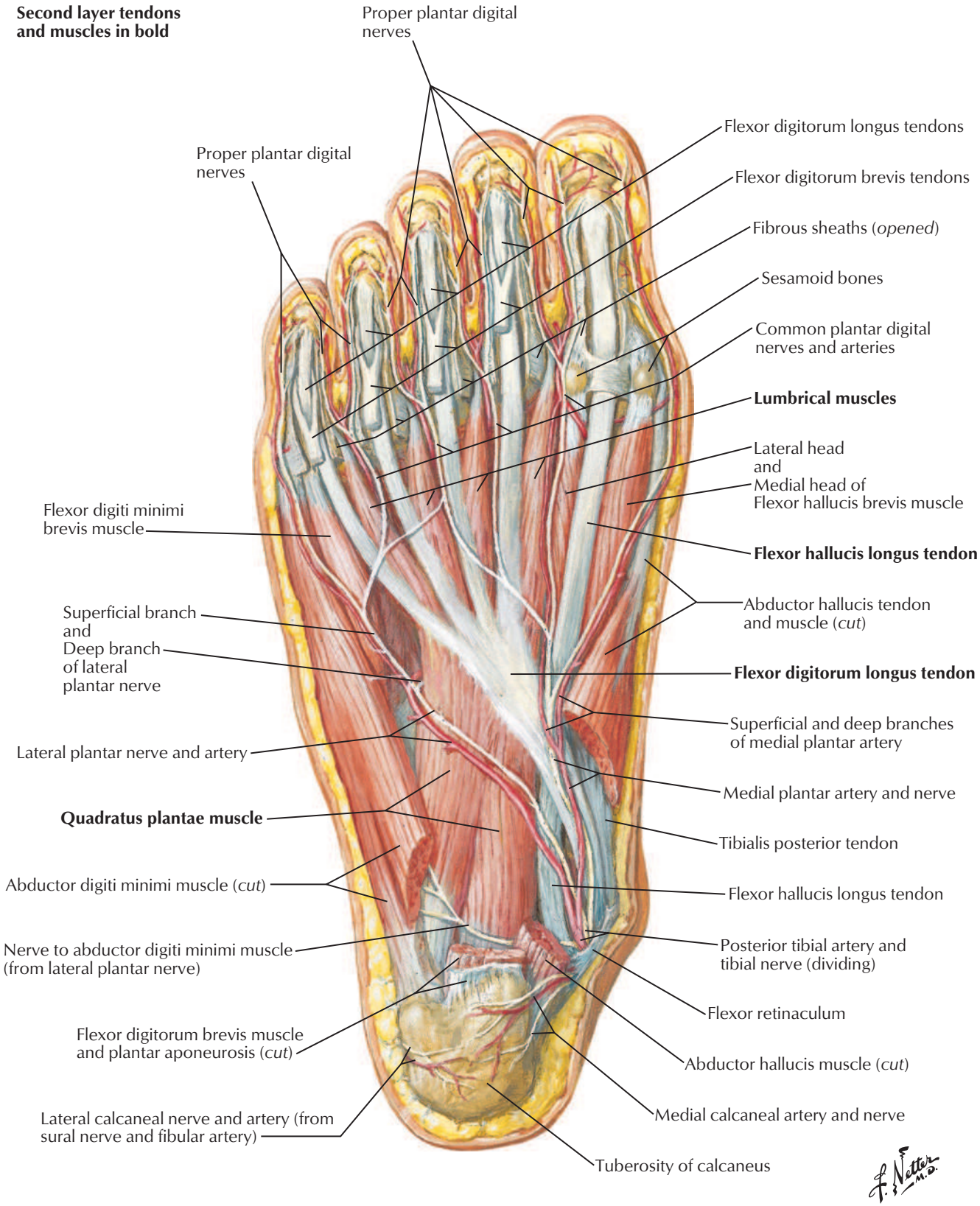
See also Plate 532

////// facebook : Booksmedicos06

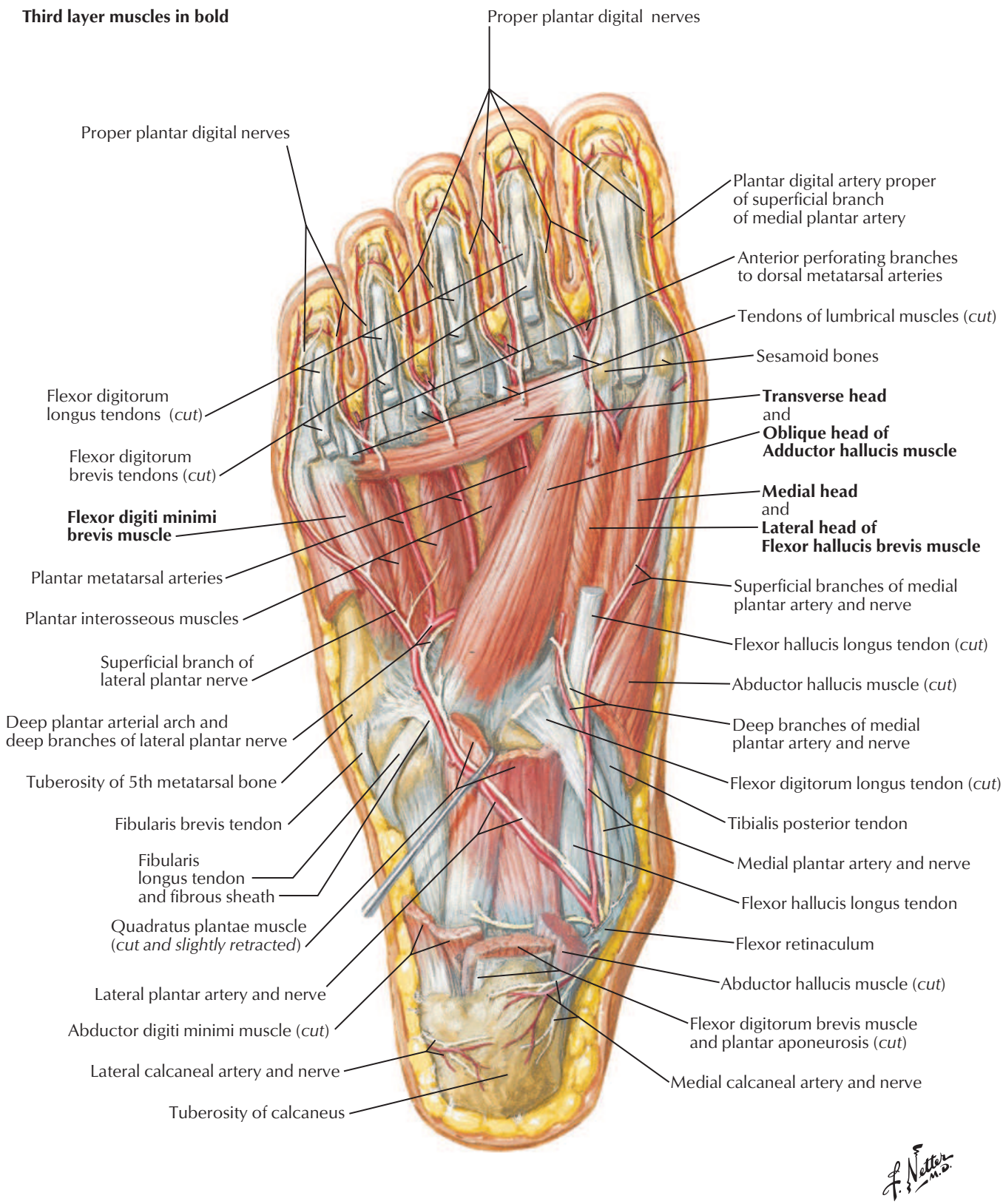
First layer muscles in bold



See also Plate 532



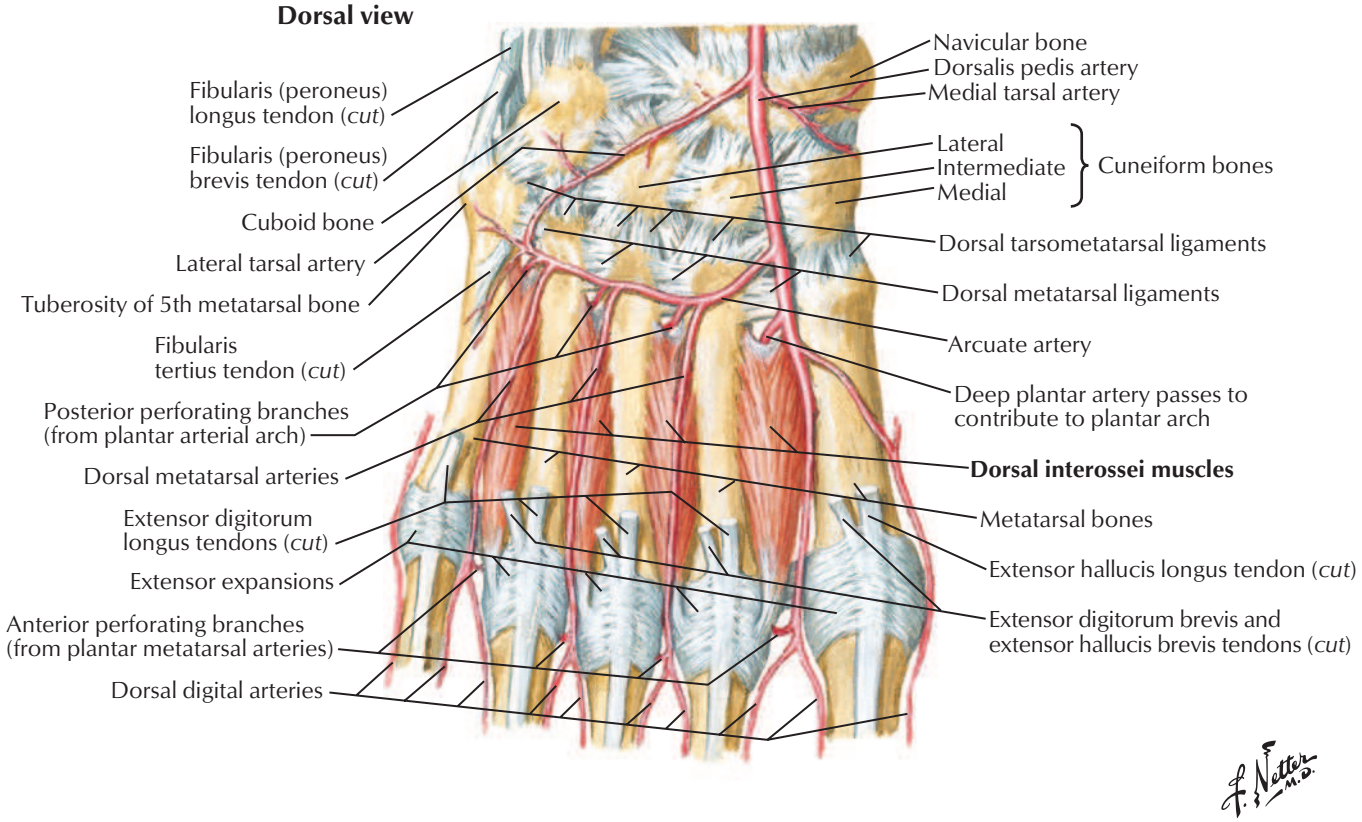
www.Booksmedicos06.com



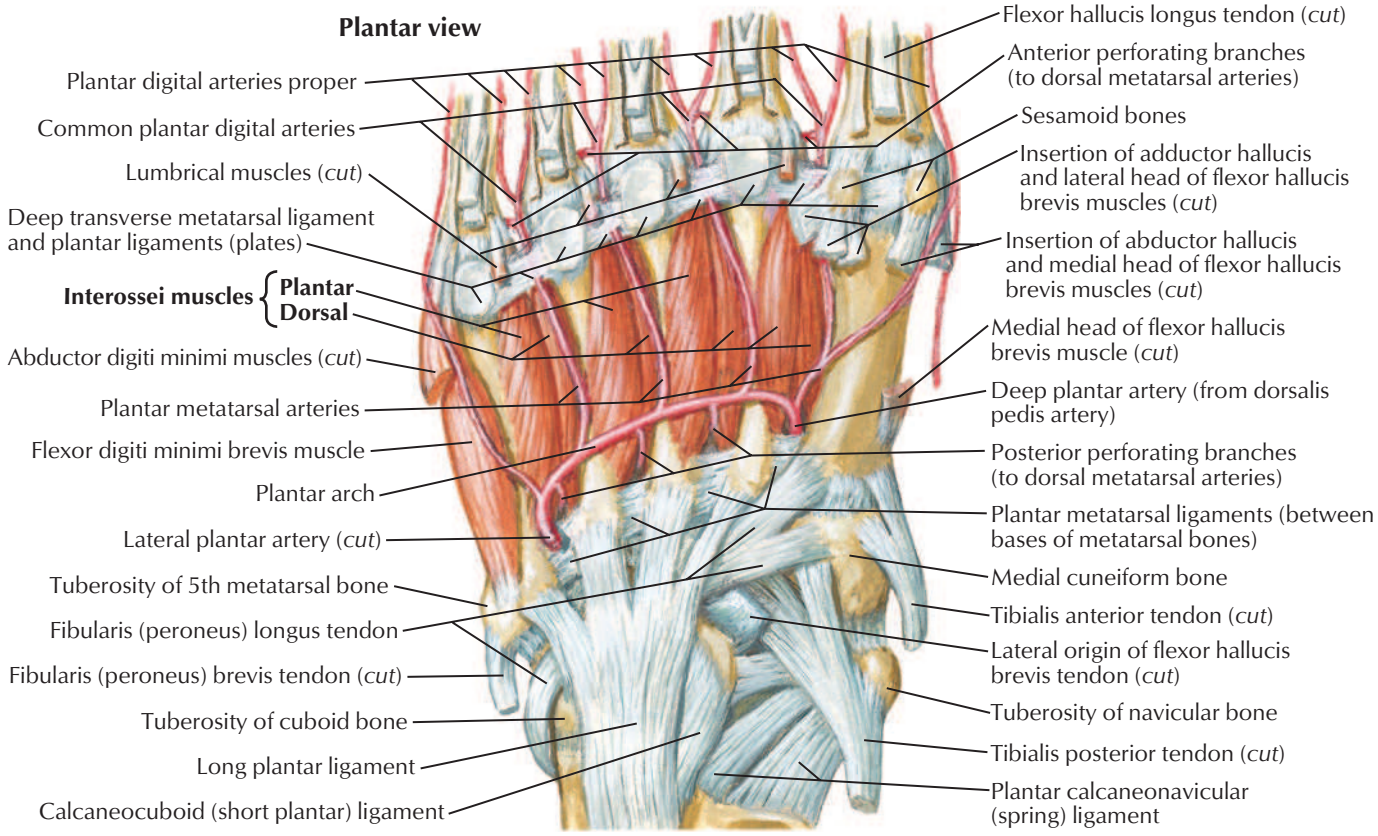
////// facebook : Booksmedicos06

See also Plates 512, 522, 526

Dorsal view



Plantar view

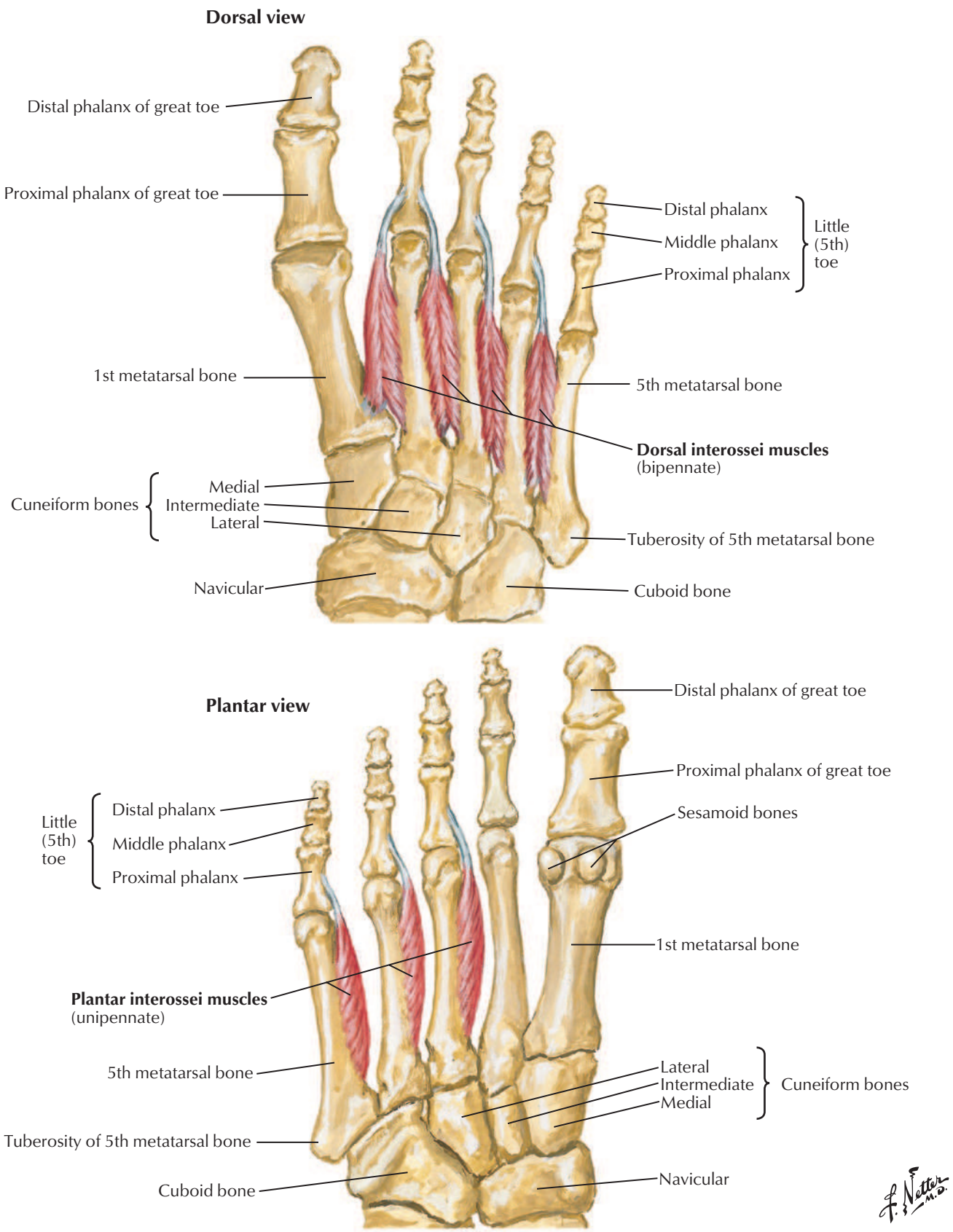


Fourth layer muscles in bold

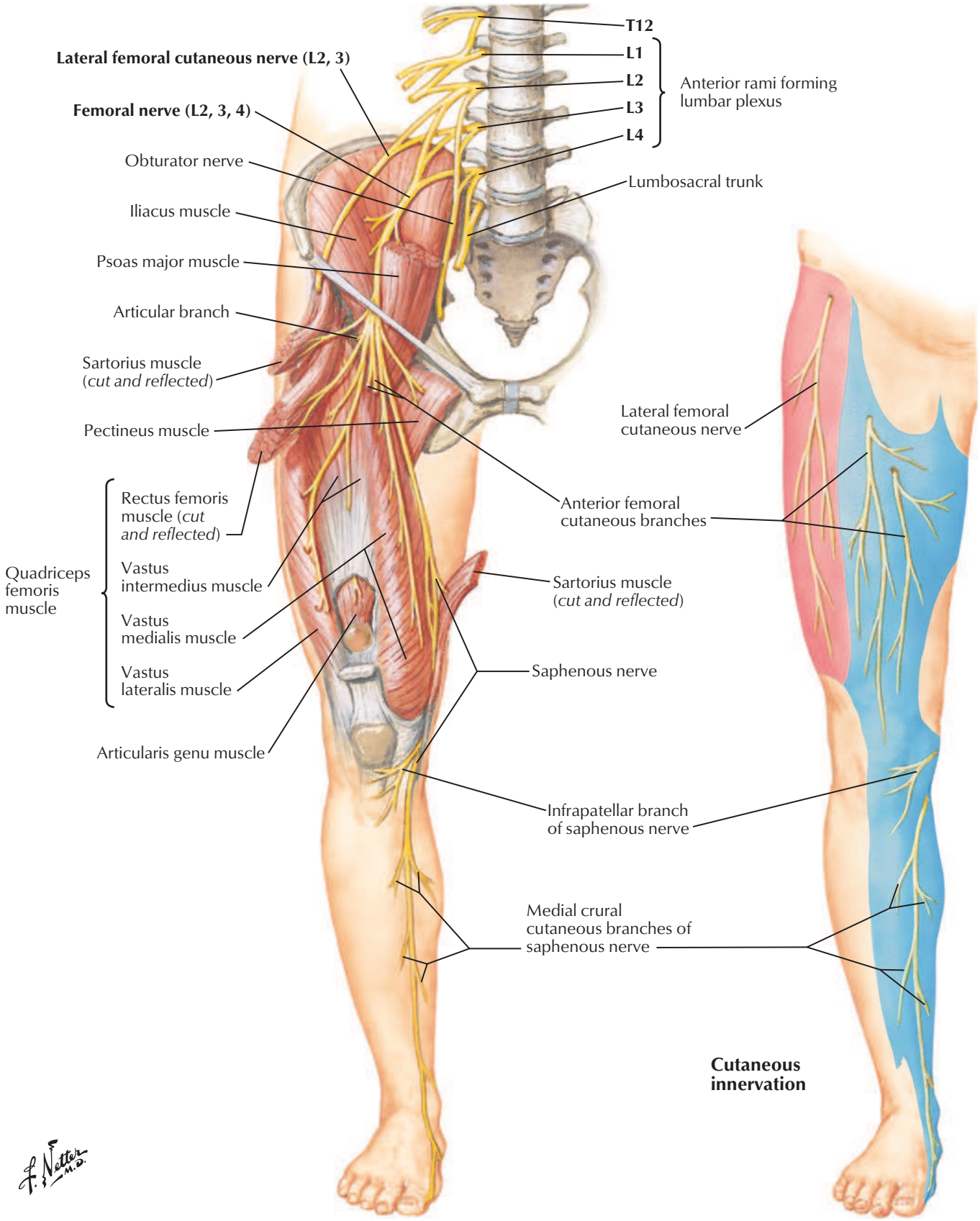
www.Booksmedicos06.com ////////

See also Plate 527

////// facebook : Booksmedicos06

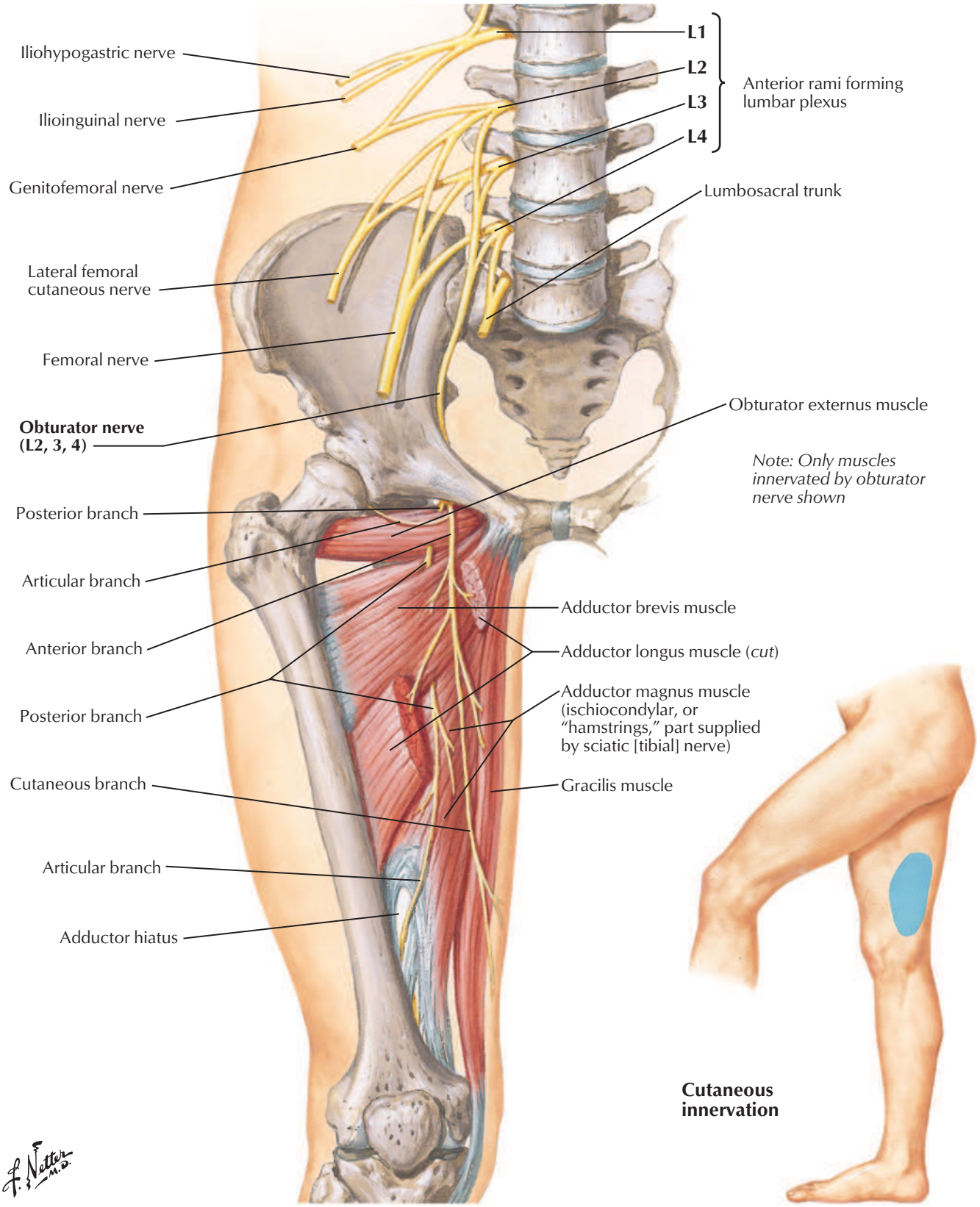


See also Plates 269, 490, 491



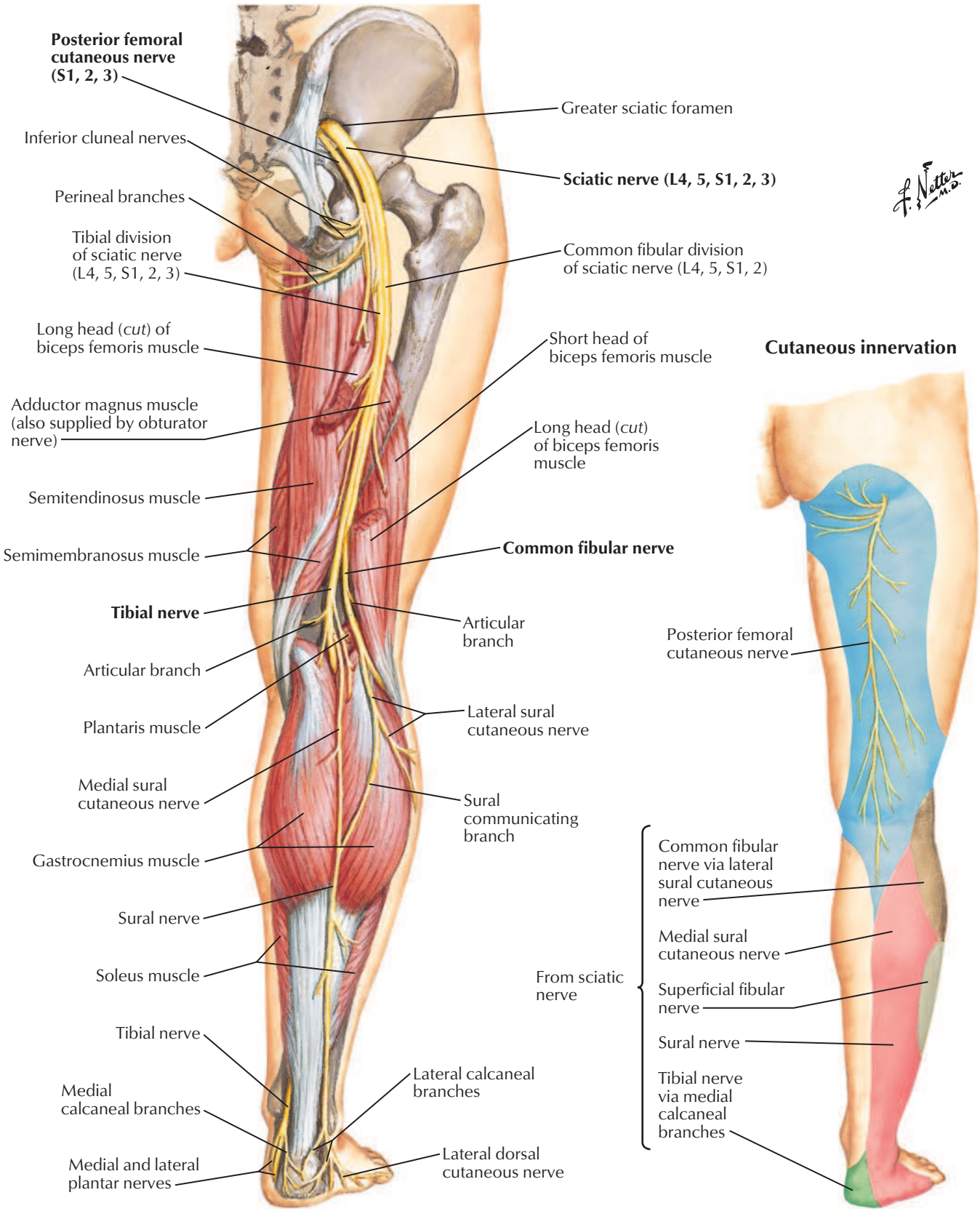
www.Booksmedicos06.com

See also Plate 491



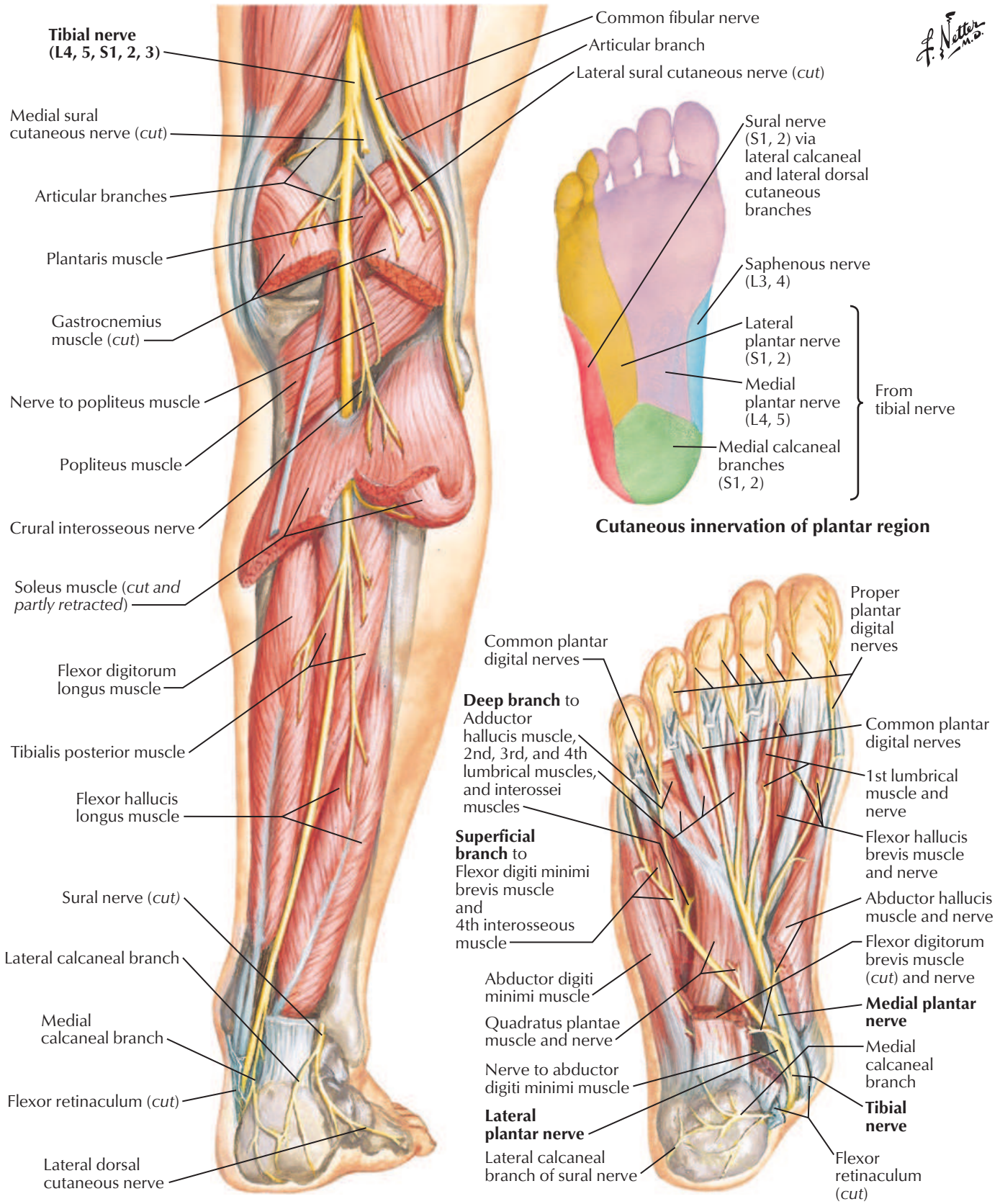
////// facebook : Booksmedicos06

See also Plate 492



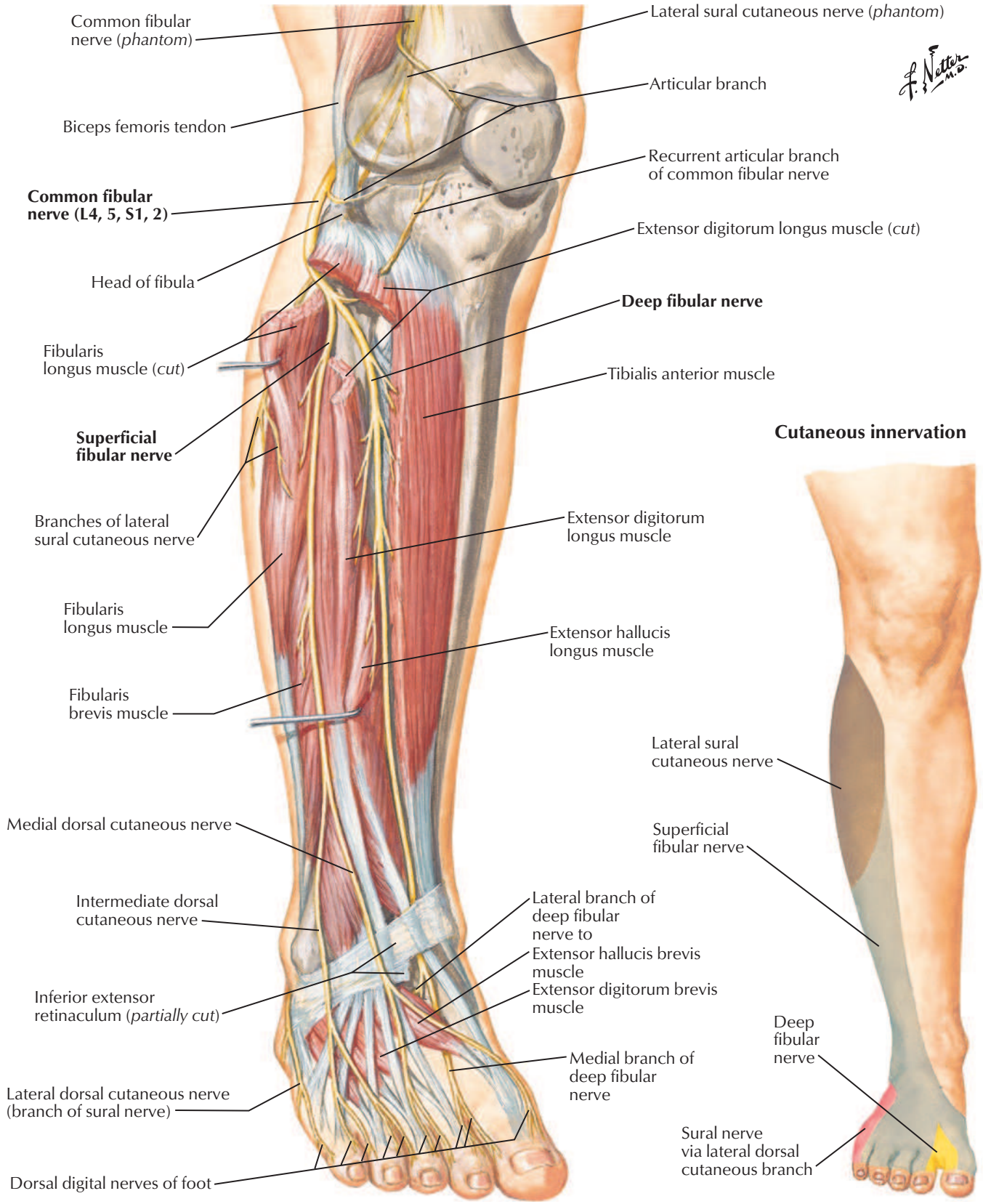
www.Booksmedicos06.com ////////

See also Plates 507, 524, 525



////// facebook : Booksmedicos06

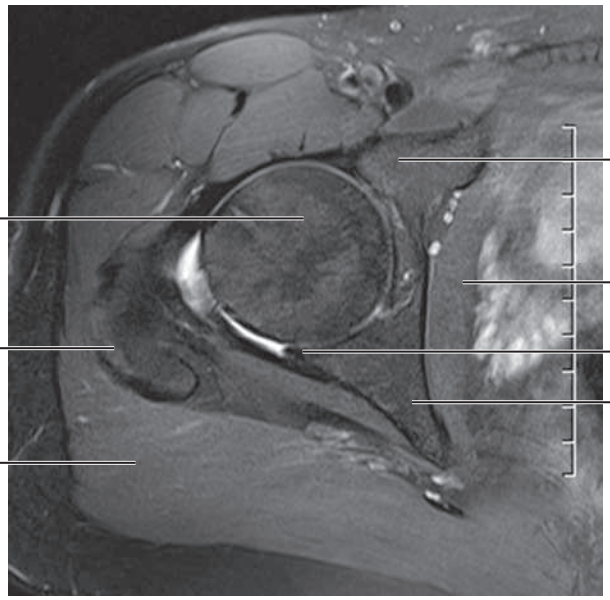
See also Plates 510, 512



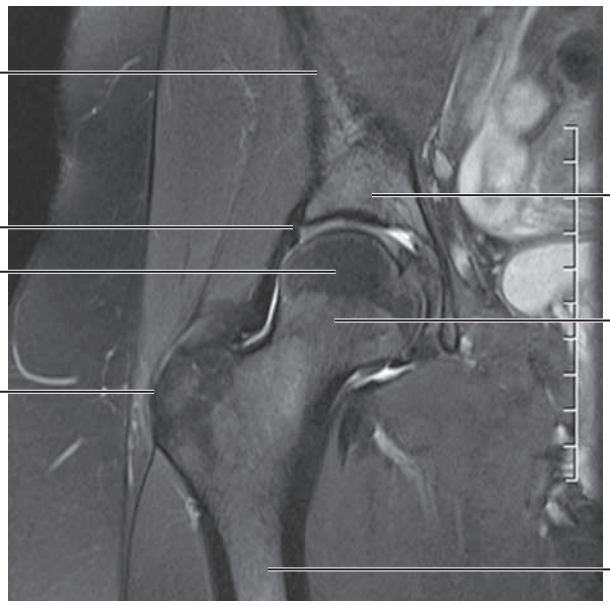
www.Booksmedicos06.com ////////

See also Plates 334, 400, 495

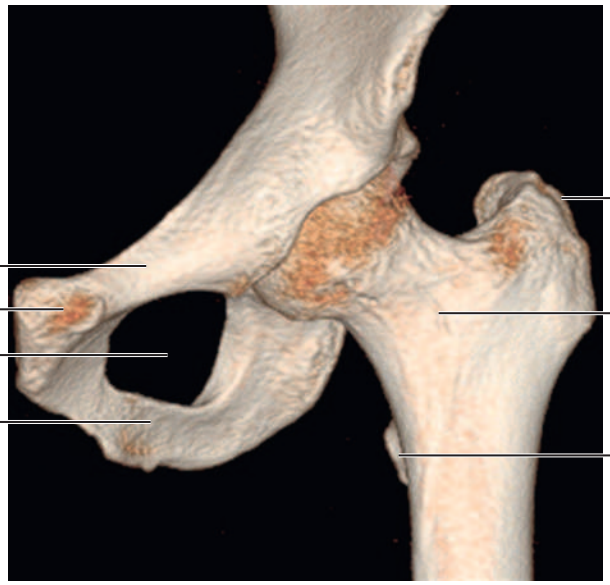
Axial T2-Weighted MRI



Coronal T2-Weighted MRI



3D CT of Hip



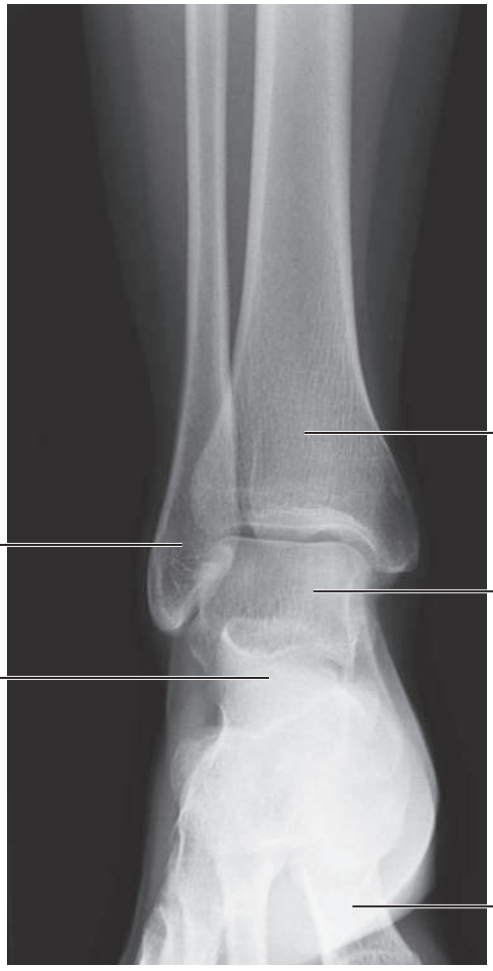
////// facebook : Booksmedicos06

See also Plates 510, 517, 518

Lateral view



Anterior view



www.Booksmedicos06.com ////////

////// facebook : Booksmedicos06

ANATOMICAL STRUCTURES	CLINICAL IMPORTANCE	PLATE NUMBERS
SKELETAL SYSTEM		
Neck of femur	Common fracture in elderly persons; can lead to avascular necrosis of femoral head	478, 479, 495
Shaft of femur	The midshaft is a common fracture site in high-energy trauma (motor vehicle accidents)	479
Hip joint	Potential for vascular necrosis of femoral head in hip dislocations or fractures	477, 495
Medial (tibial) collateral ligament, anterior cruciate ligament, and medial meniscus	"Unhappy triad" from blow to lateral aspect of joint in extension; damage to medial collateral and anterior cruciate ligaments and medial meniscus	498, 499, 500
Tibia and fibula	High-energy fractures of shaft (boot-top skiing fracture) from falling forward at high speed	504
First metatarsophalangeal joint	Joint misalignment leading to hallux valgus (bunion), often result of wearing shoes that are too narrow; also, strong genetic component	515
Calcaneus	Most common tarsal bone fracture, usually caused by landing forcefully on heel after falling from height	517
Ankle joint	Most sprains are inversion injuries that occur when foot is plantarflexed; places stress on lateral ligaments of ankle	518
MUSCULAR SYSTEM		
Gracilis, adductor longus, adductor brevis, adductor magnus	Excessive stretching or tearing of thigh adductor muscles is common in sports that require repeated sprints or quick changes in direction (e.g., soccer, hockey)	482, 483
Patellar ligament	Striking patellar ligament with reflex hammer elicits patellar (knee jerk) reflex to test L3 to L4 spinal cord levels (innervation of quadriceps femoris muscle by femoral nerve)	482, 498
Iliotibial tract (band)	Commonly injured in runners as iliotibial tract rubs across lateral femoral epicondyle	484, 497
Semitendinosus, semimembranosus, biceps femoris (long head)	Excessive stretching or tearing of hamstring muscles occurs most often during high-speed running or activities with high kicks	485
Piriformis muscle	Piriformis muscle strain or structural variations (e.g., split piriformis muscle) may produce compression of sciatic nerve	492
Gluteus medius and minimus muscles (superior gluteal nerve)	Paralysis of these muscles results in contralateral pelvic dip due to weakened hip abduction when standing on affected limb (Trendelenburg sign or gait)	493
Calcaneal (Achilles) tendon	Inflammation results from repetitive stress on tendon, often from running on uneven surfaces; extreme stress may cause tendon to rupture	507, 508, 518
Calcaneal (Achilles) tendon	Striking calcaneal tendon with reflex hammer elicits ankle (ankle jerk) reflex to test S1 to S2 spinal cord levels (innervation of superficial calf muscles by tibial nerve)	507, 508, 531
Anterior compartment of leg	Exertional compartment syndromes (midtibial pain; shin splints) usually result from excessive training (swelling, periostitis, or stress fractures occur because of tight fascial boundaries of muscle compartments)	514
Plantar aponeurosis	Inflammation results from increased tension, weight, or overuse, causing heel and foot pain (plantar fasciitis; heel spur syndrome)	523

ANATOMICAL STRUCTURES	CLINICAL IMPORTANCE	PLATE NUMBERS
NERVOUS SYSTEM		
Sural nerve	Nerve is commonly biopsied for peripheral neuropathies and commonly used as donor graft in neurotization procedure	474, 531
Common fibular nerve	Injury to this nerve from blunt trauma or compression by leg cast weakens dorsiflexion and results in foot drop	529, 531, 533
Obturator nerve	Nerve is blocked or transected for adductor muscle spasticity in cerebral palsy; may be injured during pelvic fractures or pelvic surgical procedures such as lymphadenectomy	530
Femoral nerve	Can be compressed from femoral hematoma and can be anesthetized for procedures of the lower limb	488, 490, 529
Saphenous nerve	Can be anesthetized in the adductor canal to provide pain relief after knee replacement	473, 490, 529
CARDIOVASCULAR SYSTEM		
Deep veins of leg	Deep venous thrombosis of deep leg veins is due to venous stasis, vessel injury, and/or coagulation disorders; can lead to thrombus formation and thromboemboli	513
Great saphenous vein	Often used as coronary artery bypass grafts	473
Superficial veins	Varicose veins (dilated tortuous superficial veins connected by perforating veins to deeper veins with incompetent venous valves)	473, 513
Femoral artery in femoral triangle; popliteal artery in deep popliteal region of knee; dorsalis pedis artery on dorsum of foot; posterior tibial artery in tarsal tunnel posterior to medial malleolus	Lower limb pulse points	490, 503, 508, 513
Major arteries of lower limb (femoral artery, popliteal artery, tibial artery, and fibular artery)	Peripheral arterial disease due to atherosclerosis may occur in major arteries of lower limb, resulting in reduced blood flow; patients experience claudication (cramping pain in thigh or calf), especially upon exertion	503
LYMPHATIC SYSTEM		
Superficial inguinal nodes	Superficial inguinal nodes drain the lower limb, gluteal region, lower abdominal region, and perineum; are palpable when enlarged	475
Lymph vessels	Lymphedema (stasis of lymph flow in lymph vessels obstructed by inflammation, fibrosis, tumor, or abnormally small diameter)	475

*Selections were based largely on clinical data as well as commonly covered clinical correlations in gross anatomy courses.

www.Booksmedicos06.com

MUSCLE	MUSCLE GROUP	PROXIMAL ATTACHMENT (ORIGIN)	DISTAL ATTACHMENT (INSERTION)	INNERVATION	BLOOD SUPPLY	MAIN ACTIONS
Abductor digiti minimi	Foot	Medial and lateral tubercles of tuberosity of calcaneus, plantar aponeurosis, and intermuscular septum	Lateral side of base of proximal phalanx of 5th digit	Lateral plantar nerve	Mediolateral plantar artery, plantar metatarsal and plantar digital arteries to 5th digit	Abducts and flexes 5th digit
Abductor hallucis	Foot	Medial tubercle of tuberosity of calcaneus, flexor retinaculum, and plantar aponeurosis	Medial side of base of proximal phalanx of 1st digit	Medial plantar nerve	Medial plantar and 1st plantar metatarsal arteries	Abducts and flexes 1st digit
Adductor brevis	Medial thigh	Body and inferior pubic ramus	Pectineal line and proximal part of linea aspera of femur	Obturator nerve	Profunda femoris, medial circumflex femoral, and obturator arteries	Adducts thigh at hip, weak hip flexor
Adductor hallucis	Foot	*Oblique head:* bases of 2nd through 4th metatarsals *Transverse head:* ligaments of metatarsophalangeal joints of digits 3–5	Tendons of both heads lateral to side of base of proximal phalanx of 1st digit	Deep branch of lateral plantar nerve	Medial and lateral plantar arteries and plantar arch, plantar metatarsal arteries	Adducts 1st digit, maintains transverse arch of foot
Adductor longus	Medial thigh	Body of pubis inferior to pubic crest	Middle third of linea aspera of femur	Obturator nerve (anterior division)	Profunda femoris and medial circumflex femoral arteries	Adducts thigh at hip
Adductor magnus	Medial thigh	Inferior pubic ramus, ramus of ischium *Hamstring part*: ischial tuberosity	Gluteal tuberosity, linea aspera, medial supracondylar line *Hamstring part:* adductor tubercle of femur	*Adductor part:* obturator nerve *Hamstring part:* sciatic nerve (tibial division)	Femoral, profunda femoris, and obturator arteries	*Adductor part:* adducts and flexes thigh *Hamstring part:* extends thigh
Articularis genus	Anterior thigh	Distal femur on anterior surface	Suprapatellar bursa	Femoral nerve	Femoral artery	Pulls suprapatellar bursa superiorly with extension of knee
Biceps femoris	Posterior thigh	*Long head:* ischial tuberosity *Short head:* Linea aspera and lateral supracondylar line of femur	Lateral side of head of fibula	*Long head:* sciatic nerve (tibial division) (L5–S2) *Short head:* sciatic nerve (common fibular division)	Perforating branches of profunda femoris, inferior gluteal, and medial circumflex femoral arteries	Flexes and laterally rotates leg, extends thigh at hip
Dorsal interossei (four muscles)	Foot	Adjacent sides of 1st through 5th metatarsals	*1st:* medial side of proximal phalanx of 2nd digit *2nd through 4th*: lateral sides of digits 2–4	Lateral plantar nerve	Arcuate artery, dorsal and plantar metatarsal arteries	Abduct 2nd through 4th digits of foot, flex metatarsophalangeal joints, and extend phalangeal bones
Extensor digitorum brevis and extensor hallucis brevis	Foot	Superolateral surface of calcaneus, lateral talocalcaneal ligament, deep surface of inferior extensor retinaculum	First tendon into dorsal surface of base of proximal phalanx of great toe; other three tendons into lateral sides of tendons of extensor digitorum longus to digits 2–4	Deep fibular nerve	Dorsalis pedis, lateral tarsal, arcuate, and fibular arteries	Aids extensor digitorum longus in extending of 4 medial digits at metatarsophalangeal and interphalangeal joints
Extensor digitorum longus	Anterior leg	Lateral condyle of tibia, proximal 3/4 of anterior surface of interosseous membrane and fibula	Middle and distal phalangeal bones of lateral four digits	Deep fibular nerve	Anterior tibial artery	Extends lateral four digits and dorsiflexes foot at ankle
Extensor hallucis longus	Anterior leg	Middle part of anterior surface of fibula and interosseous membrane	Dorsal aspect of base of distal phalanx of great toe	Deep fibular nerve	Anterior tibial artery	Extends great toe, dorsiflexes foot at ankle

Variations in spinal nerve contributions to the innervation of muscles, their arterial supply, their attachments, and their actions are common themes in human anatomy. Therefore, expect differences between texts and realize that anatomical variation is normal.

////// facebook : Booksmedicos06

MUSCLE	MUSCLE GROUP	PROXIMAL ATTACHMENT (ORIGIN)	DISTAL ATTACHMENT (INSERTION)	INNERVATION	BLOOD SUPPLY	MAIN ACTIONS
Fibularis brevis	Lateral leg	Distal 2/3 of lateral surface of fibula	Dorsal surface of tuberosity on lateral side of 5th metatarsal	Superficial fibular nerve	Anterior tibial and fibular arteries	Everts foot and weakly plantarflexes foot at ankle
Fibularis longus	Lateral leg	Head and proximal 2/3 of lateral fibula	Plantar base of 1st metatarsal and medial cuneiform bone	Superficial fibular nerve	Anterior tibial and fibular arteries	Everts foot and weakly plantarflexes foot at ankle
Fibularis tertius	Anterior leg	Distal third of anterior surface of fibula and interosseous membrane	Dorsum of base of 5th metatarsal	Deep fibular nerve	Anterior tibial artery	Dorsiflexes foot at ankle and aids in eversion of foot
Flexor digiti minimi brevis	Foot	Base of 5th metatarsal	Lateral base of proximal phalanx of 5th digit	Superficial branch of lateral plantar nerve	Lateral plantar artery, plantar digital artery to 5th digit, arcuate artery	Flexes proximal phalanx of 5th digit
Flexor digitorum brevis	Foot	Medial tubercle of tuberosity of calcaneus, plantar aponeurosis, and intermuscular septum	Both sides of middle phalangeal bones of lateral four digits	Medial plantar nerve	Medial and lateral plantar arteries and plantar arch, plantar metatarsal and plantar digital arteries	Flexes 2nd through 5th digits
Flexor digitorum longus	Posterior leg	Medial part of posterior tibia inferior to soleal line	Plantar bases of distal phalangeal bones of lateral four digits	Tibial nerve	Posterior tibial artery	Flexes lateral four digits and plantarflexes foot at ankle; supports longitudinal arches of foot
Flexor hallucis brevis	Foot	Plantar surfaces of cuboid bone and lateral cuneiform bone	Both sides of base of proximal phalanx of 1st digit	Medial plantar nerve	Medial plantar artery, 1st plantar metatarsal artery	Flexes proximal phalanx of 1st digit
Flexor hallucis longus	Posterior leg	Distal 2/3 of posterior fibula and interosseous membrane	Base of distal phalanx of great toe	Tibial nerve	Fibular artery	Flexes all joints of great toe, weakly plantarflexes foot at ankle
Gastrocnemius	Posterior leg	*Lateral head:* lateral aspect of lateral condyle of femur *Medial head:* popliteal surface above medial condyle of femur	Posterior aspect of calcaneus via calcaneal tendon	Tibial nerve	Popliteal and posterior tibial arteries	Plantarflexes foot at ankle joint, assists in flexion of knee joint
Gluteus maximus	Gluteal region	Ilium posterior to posterior gluteal line, dorsal surface of sacrum and coccyx, sacrotuberous ligament	Most fibers end in iliotibial tract that inserts into lateral condyle of tibia; some fibers insert into gluteal tuberosity of femur	Inferior gluteal nerve	Inferior gluteal arteries mainly, and superior gluteal arteries occasionally	Extends flexed thigh, assists in lateral rotation, and abducts thigh
Gluteus medius	Gluteal region	Lateral surface of ilium between anterior and posterior gluteal lines	Lateral surface of greater trochanter of femur	Superior gluteal nerve	Superior gluteal artery	Abducts and medially rotates thigh at hips; steadies pelvis on leg when opposite leg is raised
Gluteus minimus	Gluteal region	Lateral surface of ilium between anterior and inferior gluteal lines	Anterior surface of greater trochanter of femur	Superior gluteal nerve	Main trunk and deep branch of superior gluteal artery	Abducts and medially rotates thigh at hips; steadies pelvis on leg when opposite leg is raised
Gracilis	Medial thigh	Body and inferior ramus of pubis	Superior part of medial surface of tibia	Obturator nerve	Profunda femoris artery, medial circumflex femoral artery	Adducts thigh, flexes and medially rotates leg
Iliacus (iliopsoas)	Anterior thigh	Superior 2/3 of iliac fossa, iliac crest, ala of sacrum, anterior sacroiliac ligaments	Lesser trochanter of femur and shaft inferior to it, to psoas major tendon	Femoral nerve	Iliac branches of iliolumbar artery	Flexes thigh at hips and stabilizes hip joint, acts with psoas major
Inferior gemellus	Gluteal region	Ischial tuberosity	Medial surface of greater trochanter of femur	Nerve to quadratus femoris muscle	Medial circumflex femoral artery	Laterally rotates extended thigh and abducts flexed thigh

www.Booksmedicos06.com ///////

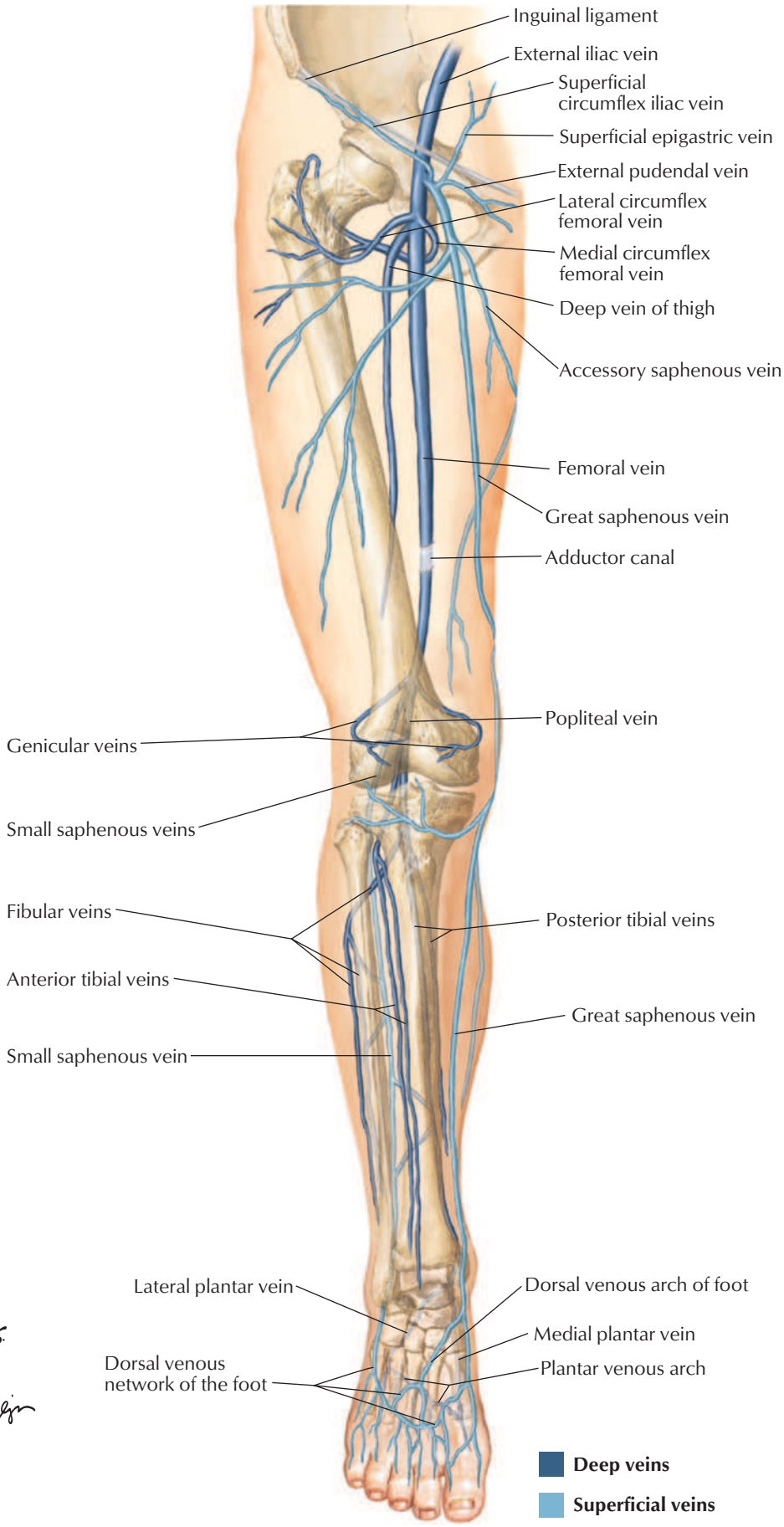
MUSCLE	MUSCLE GROUP	PROXIMAL ATTACHMENT (ORIGIN)	DISTAL ATTACHMENT (INSERTION)	INNERVATION	BLOOD SUPPLY	MAIN ACTIONS
Lumbricals	Foot	Tendons of flexor digitorum longus	Medial side of dorsal digital expansions of lateral four digits	*Medial one:* medial plantar nerve *Lateral three*: lateral plantar nerve	Lateral plantar artery and plantar metatarsal arteries	Flexes proximal phalangeal bones at metatarsophalangeal joint, extends phalangeal bones at proximal interphalangeal and distal interphalangeal joints
Obturator externus	Medial thigh	Margins of obturator foramen, obturator membrane	Trochanteric fossa of femur	Obturator nerve	Medial circumflex femoral artery, obturator artery	Laterally rotates thigh, stabilizes head of femur in acetabulum
Obturator internus	Gluteal region	Pelvic surface of obturator membrane and surrounding bone	Medial surface of greater trochanter of femur	Nerve to obturator internus muscle	Internal pudendal and obturator arteries	Laterally rotates extended thigh, abducts flexed thigh at hip
Pectineus	Medial thigh	Superior ramus of pubis	Pectineal line of femur	Femoral nerve and sometimes obturator nerve	Medial circumflex femoral artery, obturator artery	Adducts and flexes thigh at hip
Piriformis	Gluteal region	Anterior surface of sacral segments 2–4, sacrotuberous ligament (inconstant)	Superior border of greater trochanter of femur	Ventral rami of L5, S1, S2	Superior and inferior gluteal arteries, internal pudendal artery	Laterally rotates extended thigh, abducts flexed thigh at hip
Plantar interossei (three muscles)	Foot	Bases and medial sides of 3rd through 5th metatarsals	Medial sides of bases of proximal phalangeal bones of 3rd through 5th digits	Lateral plantar nerve	Lateral plantar artery and plantar arch, plantar metatarsal and plantar digital arteries	Adduct digits (3-5) and flex metatarsophalangeal joint and extend phalangeal bones
Plantaris	Posterior leg	Inferior end of lateral supracondylar line of femur and oblique popliteal ligament	Posterior aspect of calcaneus via calcaneal tendon	Tibial nerve	Popliteal artery	Weakly assists gastrocnemius
Popliteus	Posterior leg	Lateral aspect of lateral condyle of femur, lateral meniscus	Posterior tibia superior to soleal line	Tibial nerve (L4–S1)	Inferior medial and lateral genicular arteries	Weakly flexes knee and unlocks it by rotating femur on fixed tibia
Psoas major (iliopsoas)	Anterior thigh	Transverse processes of lumbar vertebrae, sides of bodies of T12–L5 vertebrae, intervening intervertebral discs	Lesser trochanter of femur	Anterior rami of first three lumbar nerves	Lumbar branches of iliolumbar artery	Acting superiorly with iliacus, flexes hip; acting inferiorly, flexes vertebral column laterally; used to balance trunk in sitting position; acting inferiorly with iliacus, flexes trunk
Quadratus femoris	Gluteal region	Lateral margin of ischial tuberosity	Quadrate tubercle on intertrochanteric crest of femur	Nerve to quadratus femoris muscle	Medial circumflex femoral artery	Laterally rotates thigh at hip
Quadratus plantae	Foot	Medial and lateral sides of plantar surface of calcaneus	Posterolateral edge of flexor digitorum longus tendon	Lateral plantar nerve	Medial and lateral plantar arteries and deep plantar arterial arch	Corrects for oblique pull of flexor digitorum longus tendon, thus assisting in flexion of digits of foot
Rectus femoris (quadriceps)	Anterior thigh	Anterior inferior iliac spine and ilium superior to acetabulum	Base of patella and to tibial tuberosity via patellar ligament	Femoral nerve	Profunda femoris and lateral circumflex femoral arteries	Extends leg at knee joint and flexes thigh at hip joint
Sartorius	Anterior thigh	Anterior superior iliac spine and superior part of notch below it	Superior part of medial surface of tibia	Femoral nerve	Femoral artery	Abducts, laterally rotates, and flexes thigh; flexes knee joint
Semimembranosus	Posterior thigh	Ischial tuberosity	Posterior part of medial condyle of tibia	Sciatic nerve (tibial division)	Perforating branch of profunda femoris and medial circumflex femoral arteries	Flexes leg, extends thigh

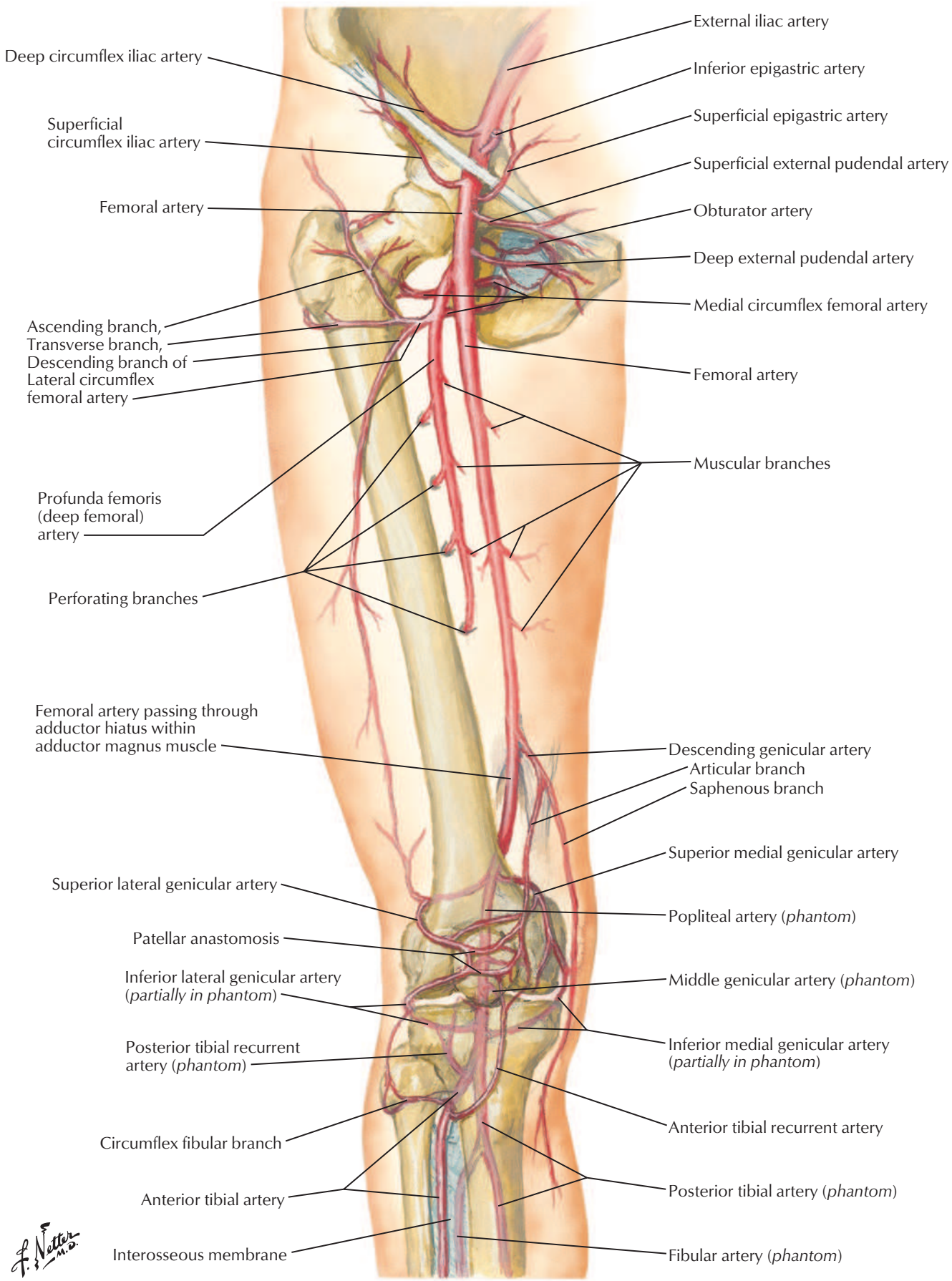
////// facebook : Booksmedicos06

MUSCLE	MUSCLE GROUP	PROXIMAL ATTACHMENT (ORIGIN)	DISTAL ATTACHMENT (INSERTION)	INNERVATION	BLOOD SUPPLY	MAIN ACTIONS
Semitendinosus	Posterior thigh	Ischial tuberosity	Superior part of medial surface of tibia	Sciatic nerve (tibial division)	Perforating branch of profunda femoris and medial circumflex femoral arteries	Flexes leg, extends thigh
Soleus	Posterior leg	Posterior aspect of head of fibula, proximal 1/4 of posterior surface of fibula, soleal line of tibia	Posterior aspect of calcaneus via calcaneal tendon	Tibial nerve	Popliteal, posterior tibial, and fibular arteries	Plantarflexes foot at ankle, stabilizes leg over foot
Superior gemellus	Gluteal region	Outer surface of ischial spine	Medial surface of greater trochanter of femur	Nerve to obturator internus muscle	Inferior gluteal and internal pudendal arteries	Laterally rotates extended thigh and abducts flexed thigh
Tensor fasciae latae	Gluteal region	Anterior superior iliac spine and anterior part of iliac crest	Iliotibial tract that attaches to lateral condyle of tibia	Superior gluteal nerve	Ascending branch of lateral circumflex femoral artery	Abducts, medially rotates, and flexes thigh at hip; helps to keep knee extended
Tibialis anterior	Anterior leg	Lateral condyle, proximal half of lateral tibia, interosseous membrane	Medial plantar surfaces of medial cuneiform bone and base of 1st metatarsal bone	Deep fibular nerve	Anterior tibial artery	Dorsiflexes foot at ankle and inverts foot
Tibialis posterior	Posterior leg	Posterior tibia below soleal line, interosseous membrane, proximal half of posterior fibula	Tuberosity of navicular bone, all cuneiforms, cuboid, and bases of 2nd through 4th metatarsal bones	Tibial nerve	Fibular artery	Plantarflexes foot at ankle and inverts foot
Vastus intermedius (quadriceps)	Anterior thigh	Anterior and lateral surfaces of body of femur	Base of patella and to tibial tuberosity via patellar ligament	Femoral nerve	Lateral circumflex femoral and profunda femoris arteries	Extends leg at knee joint
Vastus lateralis (quadriceps)	Anterior thigh	Greater trochanter, lateral lip of gluteal tuberosity, lateral lip of linea aspera	Base of patella and to tibial tuberosity via patellar ligament	Femoral nerve	Lateral circumflex femoral and profunda femoris arteries	Extends leg at knee joint
Vastus medialis (quadriceps)	Anterior thigh	Intertrochanteric line, greater trochanter, lateral lip of gluteal tuberosity, and lateral lip of linea aspera	Base of patella and to tibial tuberosity via patellar ligament	Femoral nerve	Femoral and profunda femoris arteries	Extends leg at knee joint

www.Booksmedicos06.com

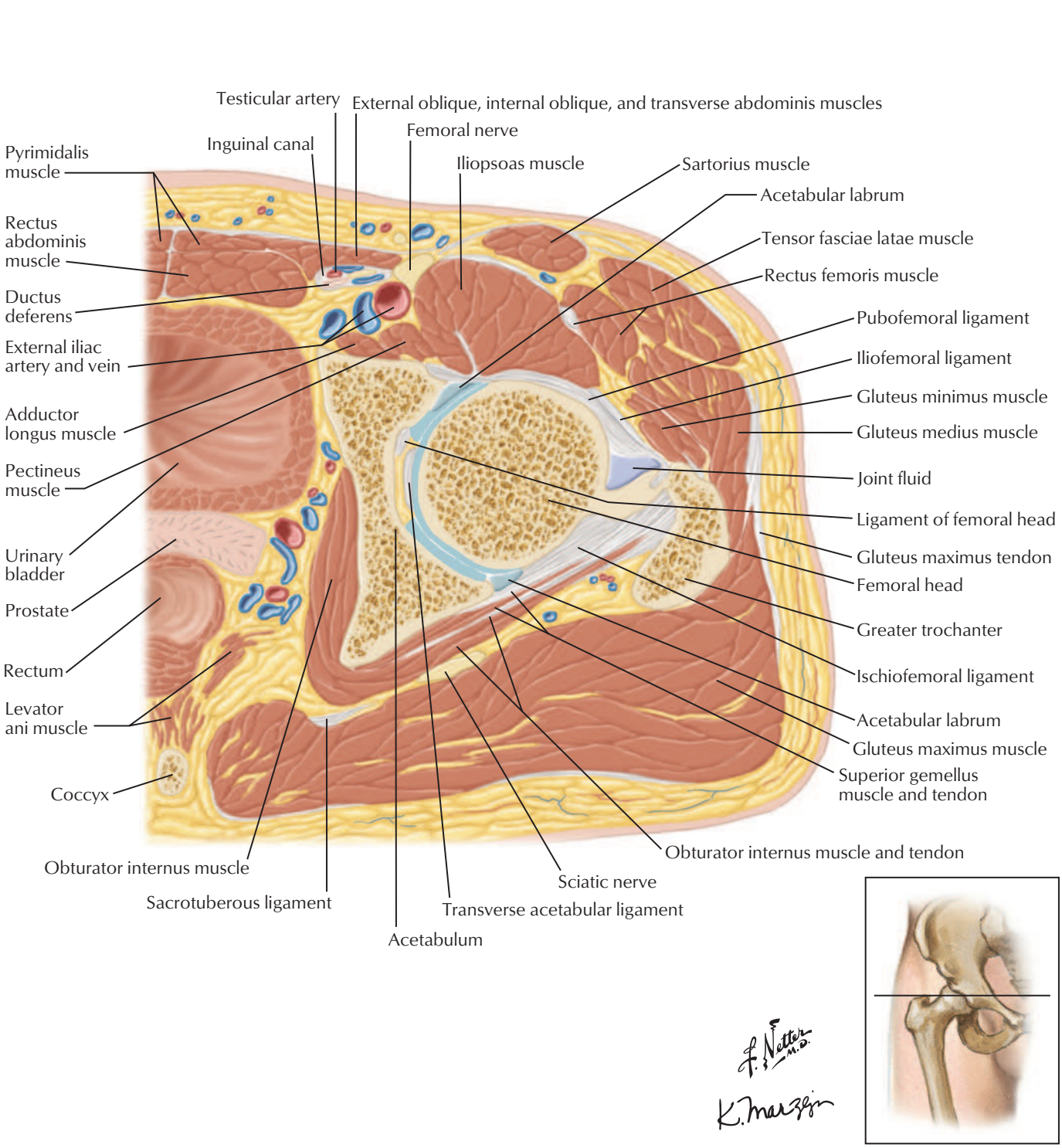
////// facebook : Booksmedicos06

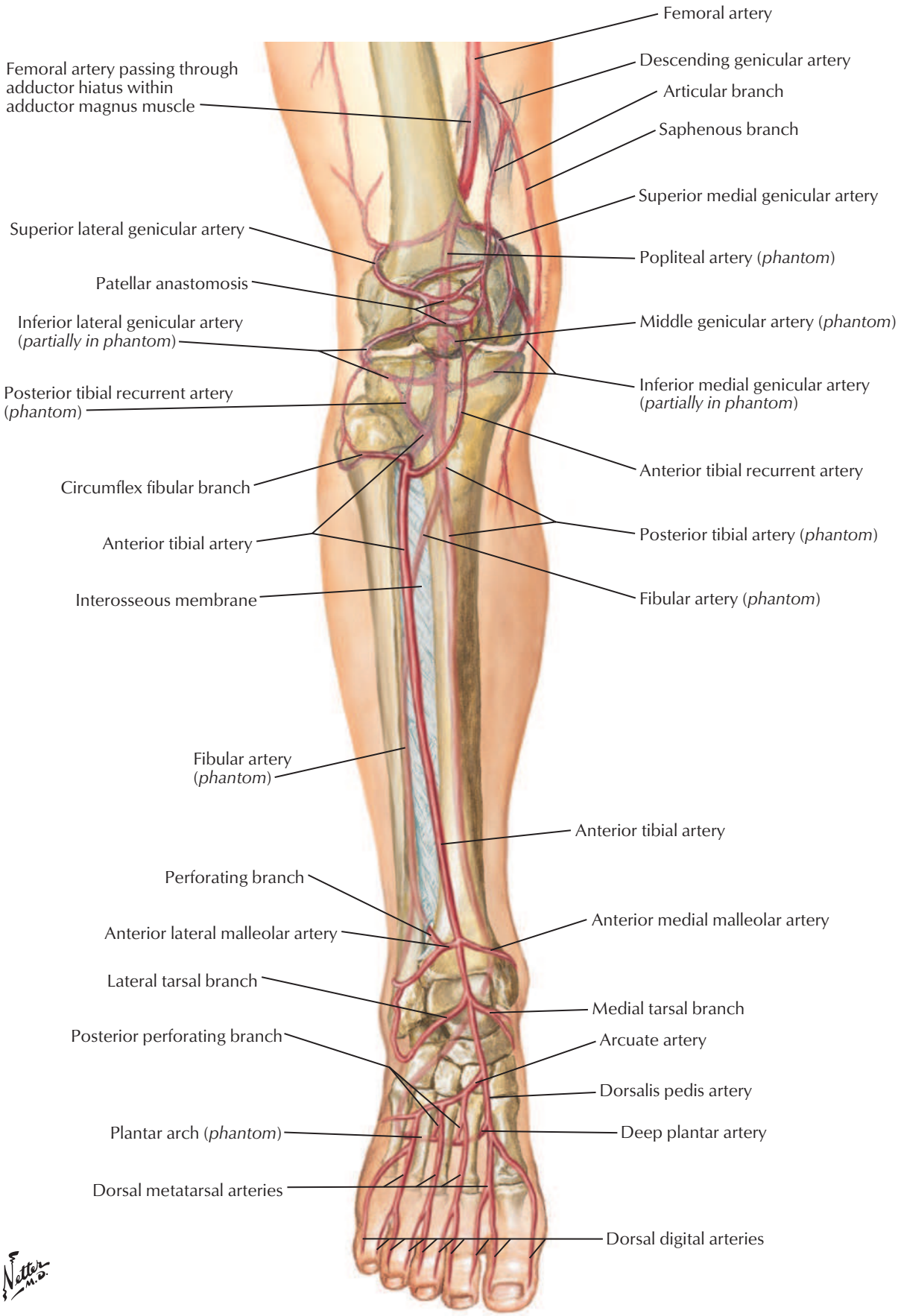




www.Booksmedicos06.com

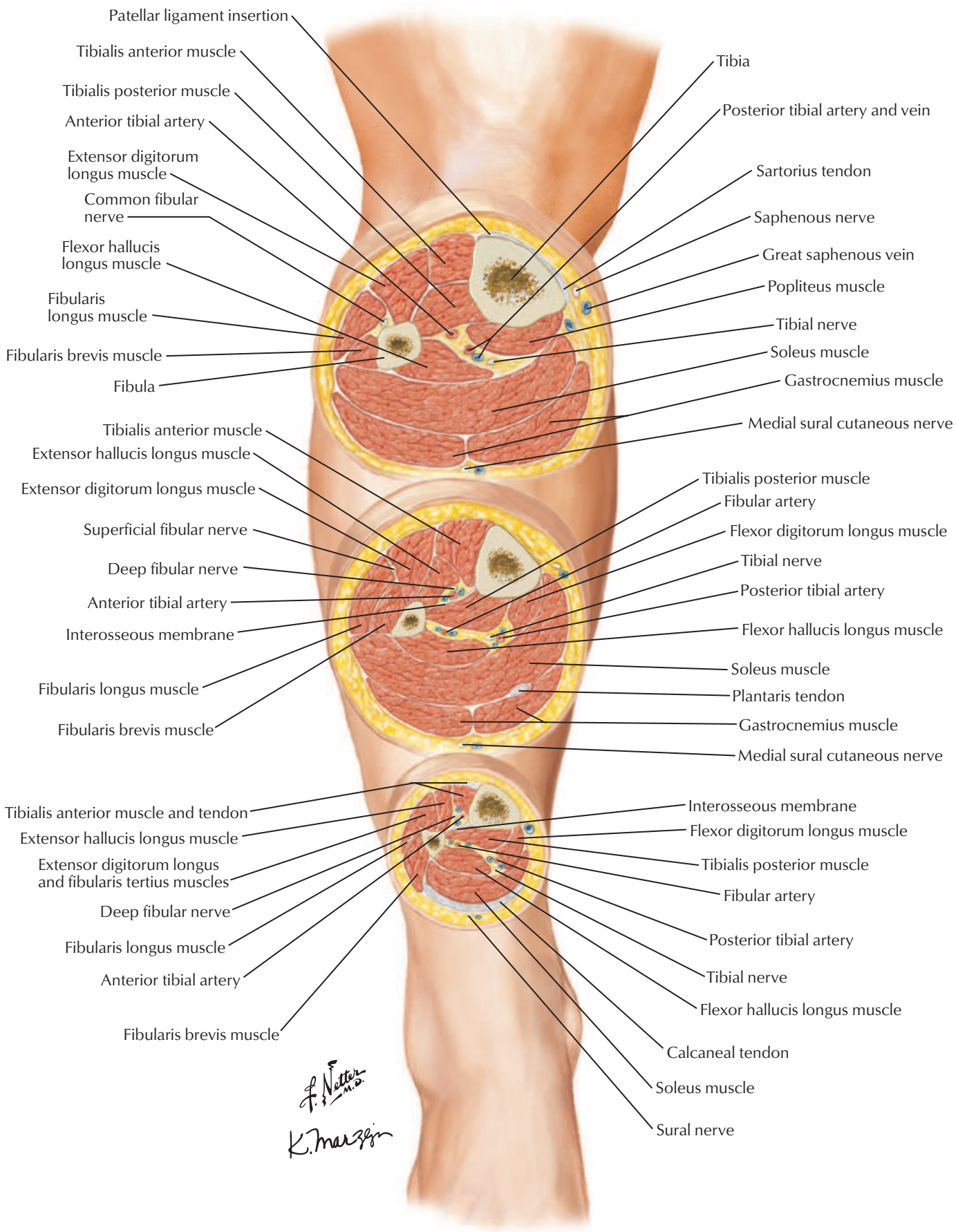
////// facebook : Booksmedicos06

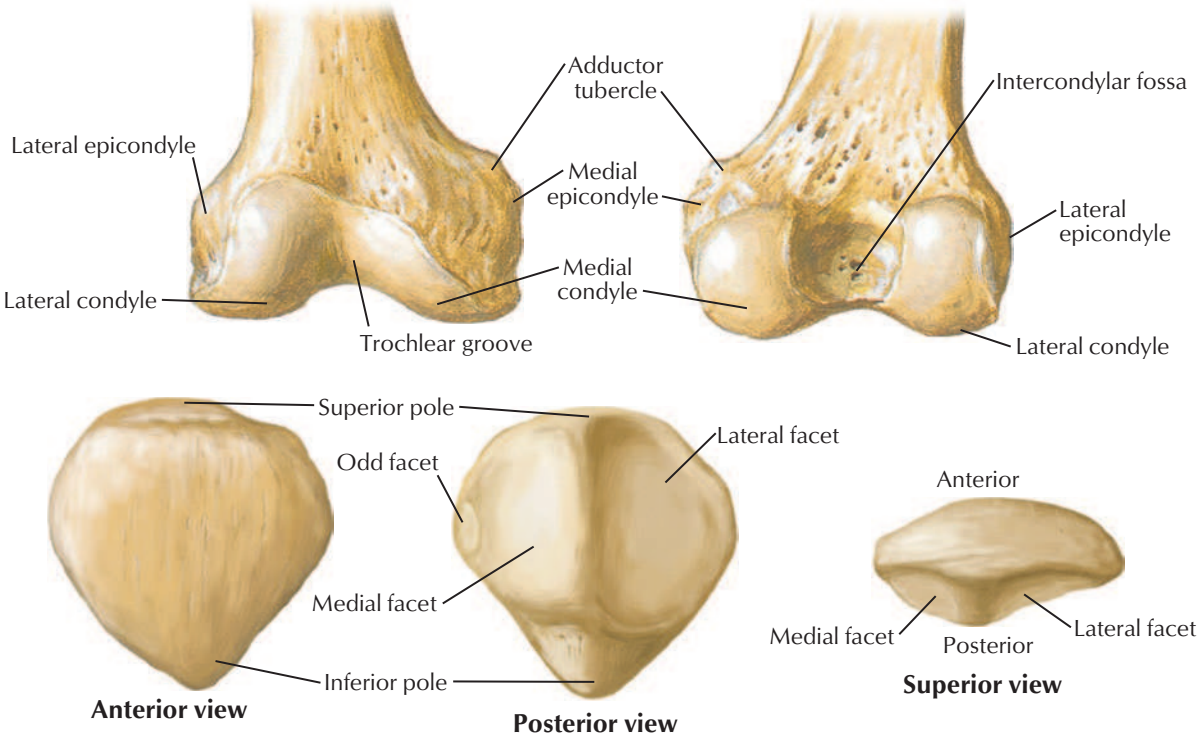


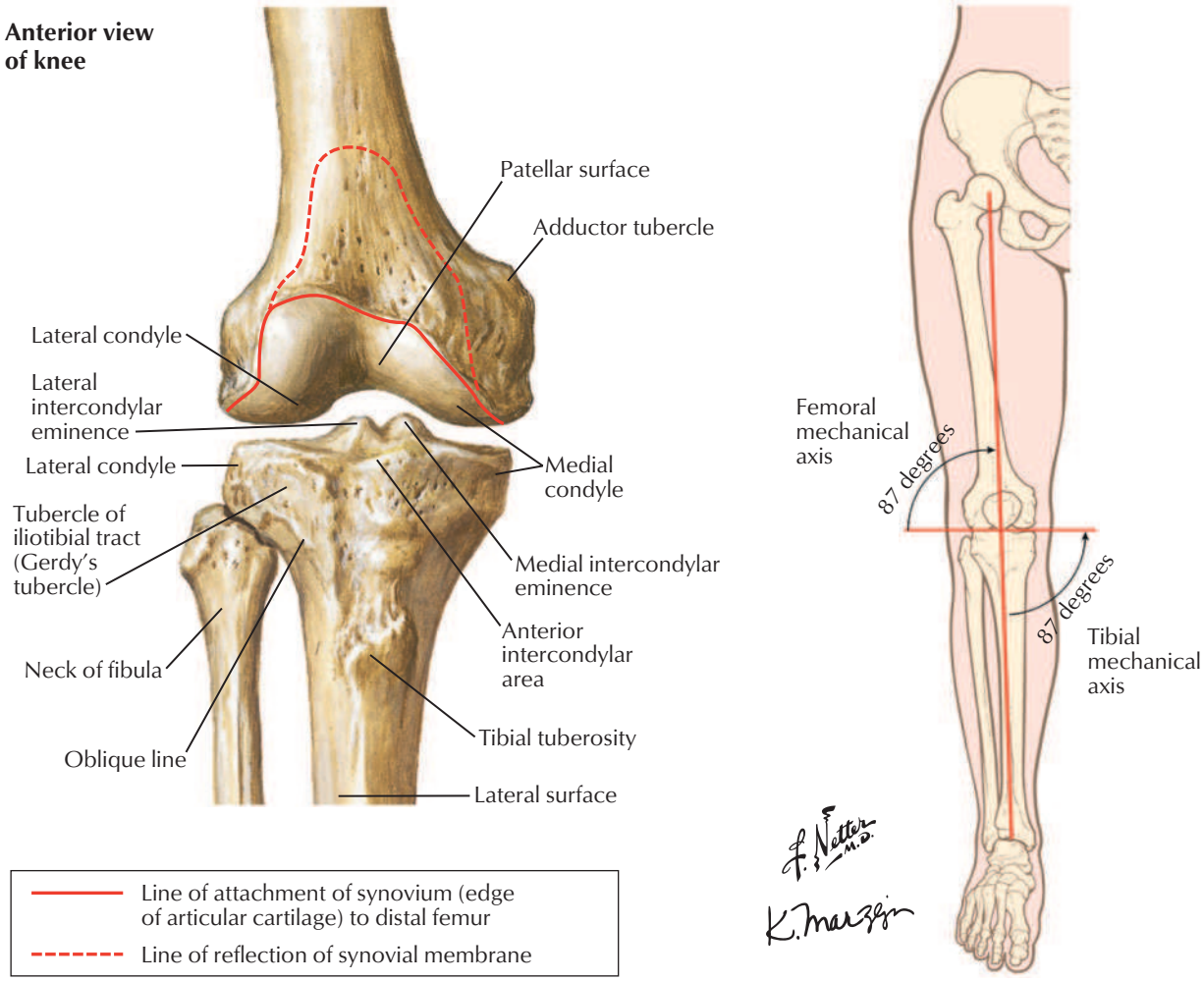


www.Booksmedicos06.com

////// facebook : Booksmedicos06





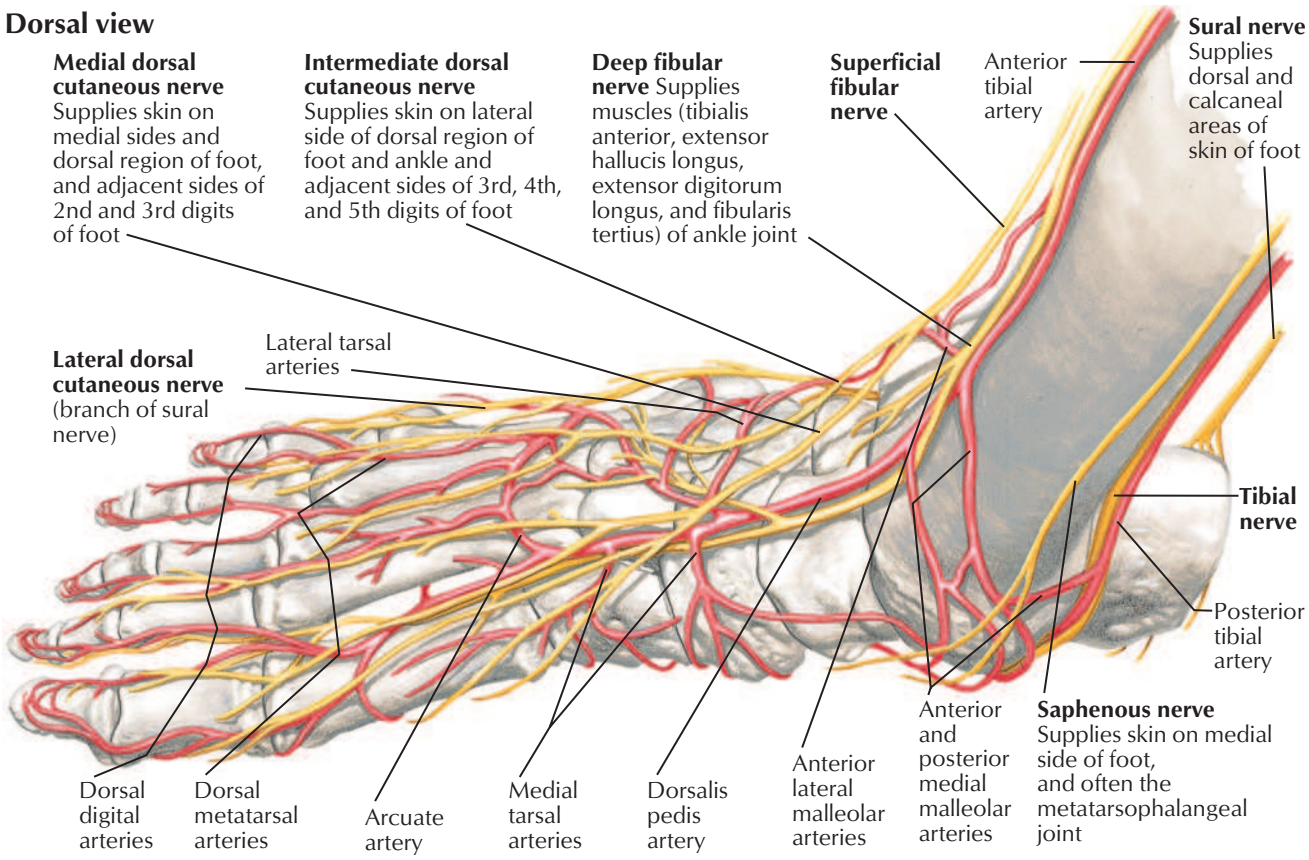


www.Booksmedicos06.com

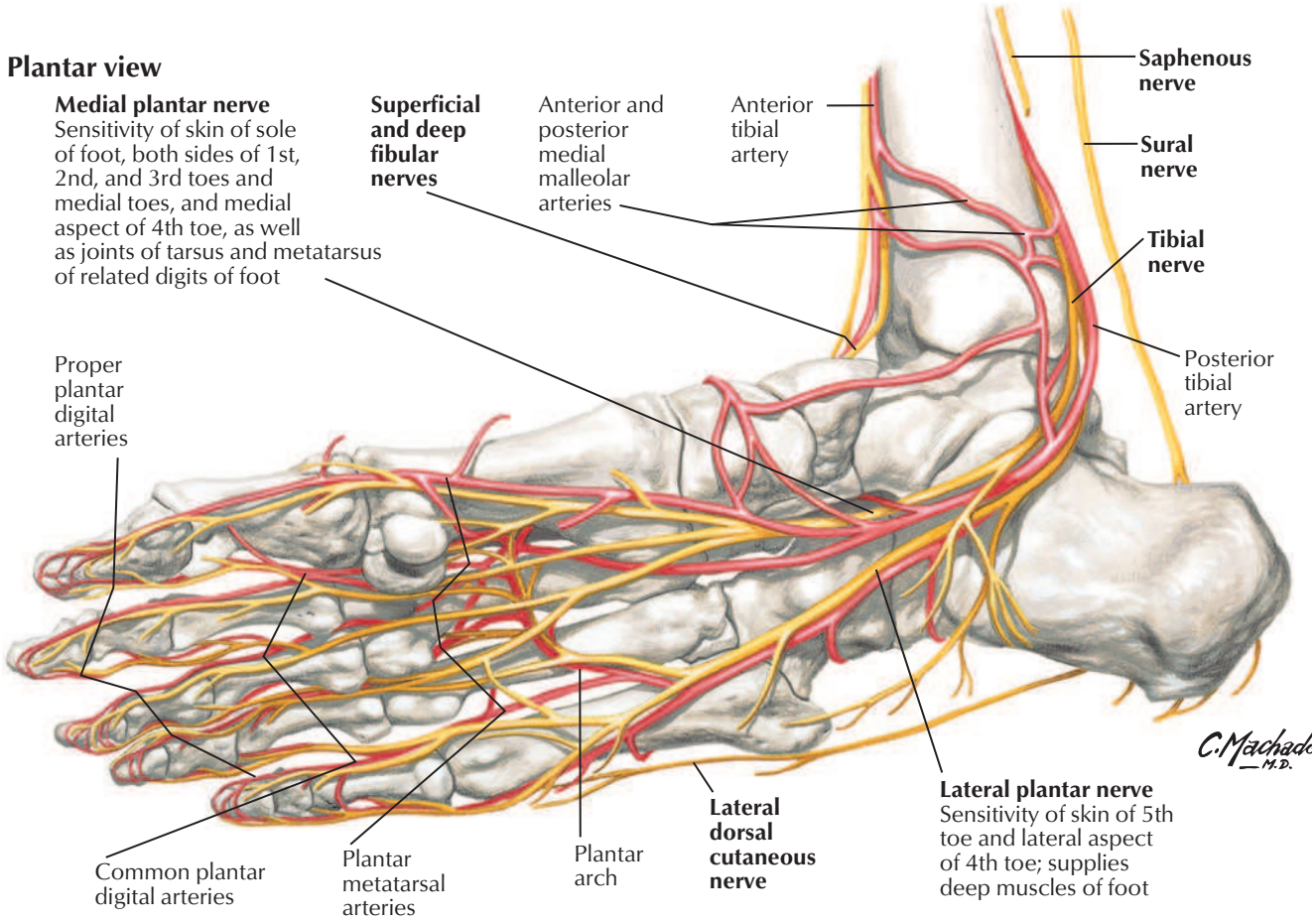
////// facebook : Booksmedicos06



Dorsal view

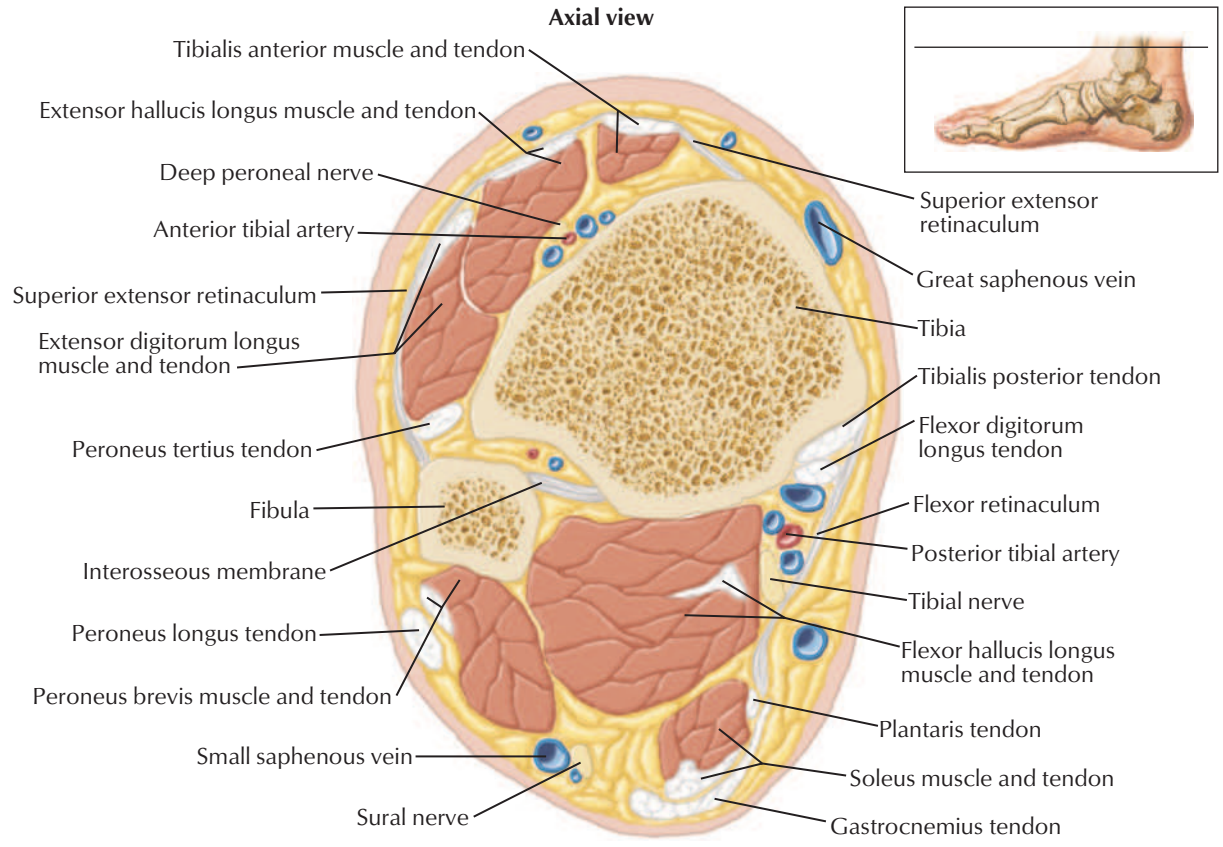


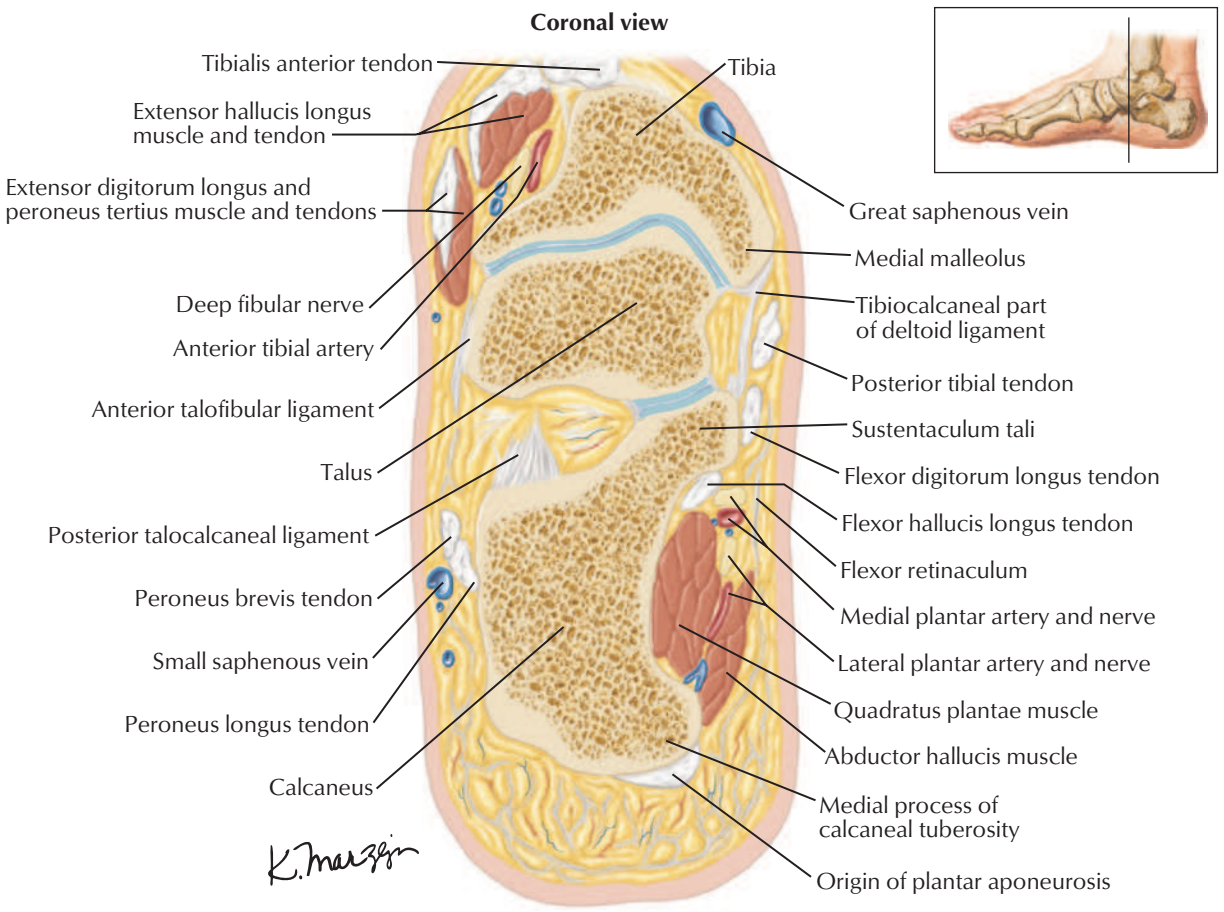
Plantar view

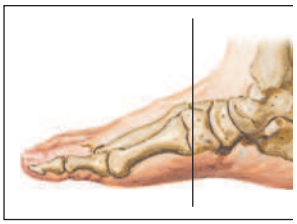


www.Booksmedicos06.com

////// facebook : Booksmedicos06





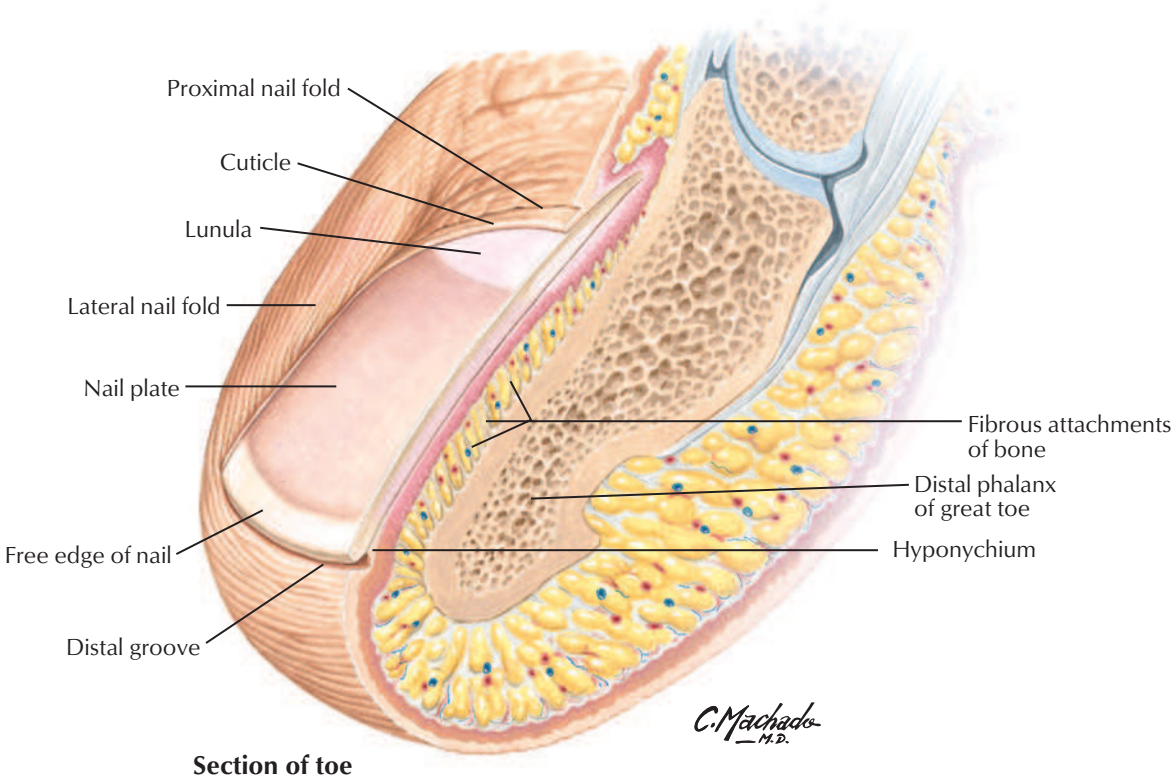


Coronal view

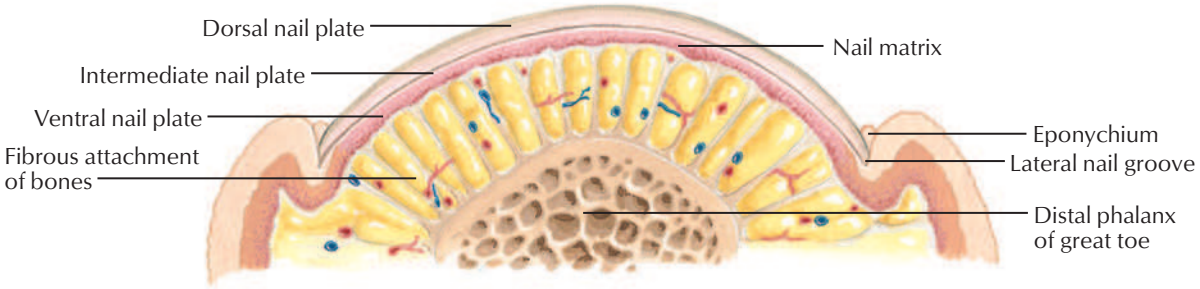
2nd Metatarsal
Extensor hallucis brevis muscle
Medial branch of deep fibular nerve
Flexor digitorum brevis muscle
Dorsalis pedis artery
Extensor digitorum longus tendon
Extensor hallucis brevis tendon
Joint capsule
3rd Metatarsal
Peroneus longus tendon
Flexor digitorum brevis tendon
Extensor hallucis longus tendon
Flexor digitorum brevis tendon
Medial cuneiform
Tibialis anterior tendon
Extensor digitorum longus tendon
Great saphenous vein
Flexor digitorum brevis muscle
Abductor hallu muscle and ten
Extensor digitorum longus tendon
Flexor digitorum brevis tendon
4th Metatarsal
Flexor digitorum longus tendon
Flexor h brevis m medial h
Adductor hallucis muscle, oblique head
Flexor h brevis m lateral h
Quadratus plantae muscle
Flexor hallu longus ten
Deep branches of m plantar artery and ne
5th Metatarsal
Flexor digitorum longus tendc
Flexor digitorum brevis muscle and tend
Plantar arterial arch and deep branch of lateral plantar nerve
Interosseous muscle
Superficial branch of lateral plantar artery and nerve
Flexor digiti minimi brevis muscle and tendon
Abductor digiti minimi muscle and tendon

www.Booksmedicos06.com

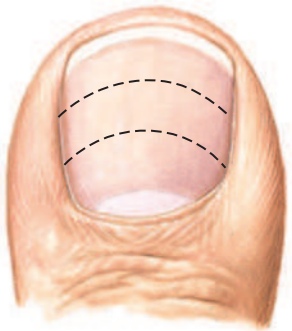
////// facebook : Booksmedicos06



Section of toe



Cross section of toenail



Toenail growth

The average growth rate of toenails is about 1 mm a month.

The rounded shape of the free edge of the nails is dictated by the shape of the lunula. After avulsion of a nail, the free edge of the new one grows parallel to the lunula.

This page intentionally left blank

www.Booksmedicos06.com ///////

REFERENCES

Plates 15, 43-45, 50-52
Lang J. *Clinical Anatomy of the Nose, Nasal Cavity, and Paranasal Sinuses*. New York: Thieme; 1989.

Plates 26-28
Baccetti T, Franchi L, McNamara J Jr. The cervical vertebral maturation (CVM) method for the assessment of optimal treatment timing in dentofacial orthopedics. *Semin Orthod*. 2005;11:119–129.

Roman PS. Skeletal maturation determined by cervical vertebrae development. *Eur J Orthod*. 2002;24:303–311.

Plate 30
Tubbs RS, Kelly DR, Humphrey ER, et al. The tectorial membrane: anatomical, biomechanical, and histological analysis. *Clin Anat*. 2007;20:382–386.

Plates 31-36, 55, 56, 69, 75, 81
Noden DM, Francis-West P. The differentiation and morphogenesis of craniofacial muscles. *Dev Dyn*. 2006;235:1194–1218.

Plate 34
Feigl G. Fascia and spaces on the neck: myths and reality. *Medicina Fluminensis*. 2015;51(4):430–439.

Jain M, Dhall U. Morphometry of the thyroid and cricoid cartilages in adults. *J Anat Soc India*. 2008;57(2):119–123.

Plates 39, 41, 136-142
Chang KV, Lin CP, Hung CY, et al. Sonographic nerve tracking in the cervical region: a pictorial essay and video demonstration. *Am J Phys Med Rehabil*. 2016;95:862–870.

Tubbs RS, Salter EG, Oakes WJ. Anatomic landmarks for nerves of the neck: a vade mecum for neurosurgeons. *Neurosurgery*. 2005;56(2 suppl):256–260.

Plate 50
de Miranda CMNR, Maranhão CPM, Arraes FMNR, et al. Anatomical variations of paranasal sinuses at multislice computed tomography: what to look for. *Radiol Bras*. 2011;44(4):256–262.

Souza SA, de Souza MMA, Idagawa M, et al. Computed tomography assessment of the ethmoid roof: a relevant region at risk in endoscopic sinus surgery. *Radiol Bras*. 2008;41(3):143–147.

Plate 55
Benninger B, Lee BI. Clinical importance of morphology and nomenclature of distal attachment of temporalis tendon. *J Oral Maxillofac Surg*. 2012;70:557–561.

Plate 58
Alomar X, Medrano J, Cabratosa J, et al. Anatomy of the temporomandibular joint. *Semin Ultrasound CT MRI*. 2007;28(3):170–183.

Campos PSF, Reis FP, Aragão JA. Morphofunctional features of the temporomandibular joint. *Int J*. 2011;29(4):1394–1397.

Cristo JA, Townsend GC. Discal attachments of the human temporomandibular joint. *Aust Dent J*. 2005;50(3):152–160.

Cuccia AM, Caradonna C, Caradonna D, et al. The arterial blood supply of the temporomandibular joint: an anatomical study and clinical implications. *Imaging Sci Dent*. 2013;43(1):37–44.

Langdon JD, Berkovitz BKV, Moxham BJ. *Surgical Anatomy of the Infratemporal Fossa*. London: Martin Dunitz; 2005.

Schmolke C. The relationship between the temporomandibular joint capsule, articular disc and jaw muscles. *J Anat*. 1994;184:335–345.

Siéssere S, Vitti M, de Sousa LG, et al. Bilaminar zone: anatomical aspects, irrigation, and innervation. *Braz J Morphol Sci*. 2004;21(4):217–220.

Plates 59, 69
Benninger B, Kloenne J, Horn JL. Clinical anatomy of the lingual nerve and identification with ultrasonography. *Br J Oral Maxillofac Surg*. 2013;51:541–544.

Plate 60
Joo W, Yoshioka F, Funaki T, et al. Microsurgical anatomy of the trigeminal nerve. *Clin Anat*. 2004;27:61–88.

Joo W, Yoshioka F, Funaki T, Rhoton AL Jr. Microsurgical anatomy of the infratemporal fossa. *Clin Anat*. 2013;26:455–469.

Plate 66
Fawcett E, Edin MB. The structure of the inferior maxilla, with special reference to the position of the inferior dental canal. *J Anat Physiol*. 1895;29(Pt 3):355–366.

He P, Truong MK, Adeeb N, et al. Clinical anatomy and surgical significance of the lingual foramina and their canals. *Clin Anat*. 2017;30:194–204.

Iwanaga J. The clinical view for dissection of the lingual nerve with application to minimizing iatrogenic injury. *Clin Anat*. 2017;30:467–469.

Otake I, Kageyama I, Mataga I. Clinical anatomy of the maxillary artery. *Okajimas Folia Anat Jpn*. 2011;87(4):155–164.

Siéssere S. Anatomic variation of cranial parasympathetic ganglia. *Braz Oral Res*. 2008;22(2):101–105.

Plates 67, 73
Benninger B, Andrews K, Carter W. Clinical measurements of hard palate and implications for subepithelial connective tissue grafts with suggestions for palatal nomenclature. *J Oral Maxillofac Surg*. 2012;70:149–153.

Plates 78, 106, 107
Kierner AC, Mayer R, v Kirschhofer K. Do the tensor tympani and tensor veli palatini muscles of man form a functional unit? A histochemical investigation of their putative connections. *Hear Res*. 2002;165:48–52.

Plates 85, 86
Benninger B, Barrett R. A head and neck lymph node classification using an anatomical grid system while maintaining clinical relevance. *J Oral Maxillofac Surg*. 2011;69:2670–2673.

////// facebook : Booksmedicos06

Plates 91-93
Ludlow CL. Central nervous system control of the laryngeal muscles in humans. *Respir Physiol Neurobiol*. 2005;147:205–222.

Plate 98
Cornelius CP, Mayer P, Ehrenfeld M, Metzger MC. The orbits—anatomical features in view of innovative surgical methods. *Facial Plast Surg*. 2014;30:487–508.

Sherman DD, Burkat CN, Lemke BN. Orbital anatomy and its clinical applications. In: Tasman W, Jaeger EA, eds. *Duane's Ophthalmology*. Philadelphia: Lippincott Williams & Wilkins; 2006.

Plates 112-125
Rhoton AL Jr. *Cranial Anatomy and Surgical Approaches*. Schaumberg, IL: Congress of Neurological Surgeons; 2003.

Plates 115, 151
Tubbs RS, Hansasuta A, Loukas M, et al. Branches of the petrous and cavernous segments of the internal carotid artery. *Clin Anat*. 2007;20:596–601.

Plates 127-129, 135
Schrott-Fischer A, Kammen-Jolly K, Scholtz AW, et al. Patterns of GABA-like immunoreactivity in efferent fibers of the human cochlea. *Hear Res*. 2002;174:75–85.

Plates 169, 184
Tubbs RS, Loukas M, Slappey JB, et al. Clinical anatomy of the C1 dorsal root, ganglion, and ramus: a review and anatomical study. *Clin Anat*. 2007;20:624–627.

Plate 171
Forester O. The dermatomes in man. *Brain*. 1933;56:1–39.

Plates 171, 403
Keegan JJ, Garrett FD. The segmental distribution of the cutaneous nerves in the limbs of man. *Anat Rec*. 1948;102:409–437.

Plates 171, 403, 472, 517
Lee MW, McPhee RW, Stringer MD. An evidence-based approach to human dermatomes. *Clin Anat*. 2008;21:363–373.

Plate 177
Bosmia AN, Hogan E, Loukas M, et al. Blood supply to the human spinal cord: part I. Anatomy and hemodynamics. *Clin Anat*. 2015;28:52–64.

Plate 178
Stringer MD, Restieaux M, Fisher AL, Crosado B. The vertebral venous plexuses: the internal veins are muscular and external veins have valves. *Clin Anat*. 2012;25:609–618.

Plates 183, 184
Tubbs RS, Mortazavi MM, Loukas M, et al. Anatomical study of the third occipital nerve and its potential role in occipital headache/neck pain following midline dissections of the craniocervical junction. *J Neurosurg Spine*. 2011;15:71–75.

Vanderhoek MD, Hoang HT, Goff B. Ultrasound-guided greater occipital nerve blocks and pulsed radiofrequency ablation for diagnosis and treatment of occipital neuralgia. *Anesth Pain Med*. 2013;3:256–259.

Plates 188-190
Hassiotou F, Geddes D. Anatomy of the human mammary gland: current status of knowledge. *Clin Anat*. 2013;26:29–48.

Plate 206, 207
Hyde DM, Hamid Q, Irvin CG. Anatomy, pathology, and physiology of the tracheobronchial tree: emphasis on the distal airways. *J Allergy Clin Immunol*. 2009;124(6 suppl):S72–S77.

Plate 209
Ikeda S, Ono Y, Miyazawa S, et al. Flexible broncho-fiberscope. *Otolaryngology (Tokyo)*. 1970;42:855.

Plate 222
Angelini P, Velasco JA, Flamm S. Coronary anomalies: incidence, pathophysiology, and clinical relevance. *Circulation*. 2002;105:2449–2454.

Plates 222, 223
Chiu IS, Anderson RH. Can we better understand the known variations in coronary arterial anatomy? *Ann Thorac Surg*. 2012;94:1751–1760.

Plate 229
James TN. The internodal pathways of the human heart. *Prog Cardiovasc Dis*. 2001;43:495–535.

Plates 229-231
Hildreth V, Anderson RH, Henderson DJ. Autonomic innervation of the developing heart: origins and function. *Clin Anat*. 2009;22:36–46.

Plate 243
Yang HJ, Gill YC, Lee WJ, et al. Anatomy of thoracic splanchnic nerves for surgical resection. *Clin Anat*. 2008;21:171–177.

Plate 286
MacSween RNM, Anthony PP, Scheuer PJ, et al, eds. *Pathology of the Liver*. London: Churchill Livingstone; 2002.

Robinson PJA, Ward J. *MRI of the Liver: A Practical Guide*. Boca Raton, FL: CRC Press; 2006.

Plates 290, 291
Odze RD. *Surgical Pathology of the GI Tract, Liver, Biliary Tract, and Pancreas*. Philadelphia: Saunders; 2004.

Plate 308
Thomas MD. *The Ciba Collection of Medical Illustrations*. Vol. 3 part 2: *Digestive System: Lower Digestive Tract*. Summit, NJ: CIBA; 1970:78.

Plates 324, 349, 366, 378, 396
Stormont TJ, Cahill DR, King BF, Myers RP. Fascias of the male external genitalia and perineum. *Clin Anat*. 1994;7:115–124.

Plates 339, 345, 350, 353, 359, 360
Oelrich TM. The striated urogenital sphincter muscle in the female. *Anat Rec*. 1983;205:223–232.

Plochocki JH, Rodriguez-Sosa JR, Adrian B, et al. A functional and clinical reinterpretation of human perineal neuromuscular anatomy: application to sexual function and continence. *Clin Anat*. 2016;29:1053–1058.

www.Booksmedicos06.com ///////

Plates 343, 349
Myers RP, Goellner JR, Cahill DR. Prostate shape, external striated urethral sphincter, and radical prostatectomy: the apical dissection. *J Urol*. 1987;138:543–550.

Plates 343, 349, 365, 366
Oelrich TM. The urethral sphincter muscle in the male. *Am J Anat*. 1980;158:229–246.

Plate 356
Feil P, Sora MC. A 3D reconstruction model of the female pelvic floor by using plastinated cross sections. *Austin J Anat*. 2014;1(5):1022.

Shin DS, Jang HG, Hwang SB, et al. Two-dimensional sectioned images and three-dimensional surface models for learning the anatomy of the female pelvis. *Anat Sci Educ*. 2013;6(5):316–323.

Plate 385
Cahill D, Raychaudhuri B. Pelvic fasciae in urology. *Ann R Coll Surg Engl*. 2008;90:633–637.

Lee SE. A comprehensive review of neuroanatomy of the prostate. *Prostate Int*. 2013;1(4):139–145.

Nathoo N, Caris EC, Wiener JA, Mendel E. History of the vertebral venous plexus and the significant contributions of Breschet and Batson. *Neurosurgery*. 2011;69(5):1007–1014.

Pai MM, Krishnamurthy A, Prabhu LV, et al. Variability in the origin of the obturator artery. *Clinics (Sao Paulo)*. 2009;64(9):897–901.

Stoney RA. The anatomy of the visceral pelvic fascia. *J Anat Physiol*. 1904;38(4):438–447.

Walz J. A critical analysis of the current knowledge of surgical anatomy related to optimization of cancer control and preservation of continence and erection in candidates for radical prosta. *Eur Urol*. 2010;57:179–192.

Plate 472
Keegan JJ. Neurological interpretation of dermatome hypalgesia with herniation of the lumbar intervertebral disc. *J Bone Joint Surg Am*. 1944;26:238–248.

Last RJ. Innervation of the limbs. *J Bone Joint Surg Br*. 1949;31:452–464.

Plate 494
Beck M, Sledge JB, Gautier E, et al. The anatomy and function of the gluteus minimus muscle. *J Bone Joint Surg Br*. 2000;82(3):358–363.

Woodley SJ, Mercer SR, Nicholson HD. Morphology of the bursae associated with the greater trochanter of the femur. *J Bone Joint Surg Am*. 2008;90(2):284–294.

Plate 513
Aragão JA, Reis FP, de Figueiredo LFP, et al. The anatomy of the gastrocnemius veins and trunks in adult human cadavers. *J Vasc Br*. 2004;3(4):297–303.

////// facebook : Booksmedicos06

This page intentionally left blank

www.Booksmedicos06.com ///////

INDEX

References are to plate numbers. In most cases, structures are listed under singular nouns

A

A1 pulley fibers, BP106
Abdomen, 249–332
  autonomic nerves and ganglia, 300
  axial CT images of, BP87, 326–327
  bony framework of, 250
  cross section of, BP84
  left lower quadrant of, 251
  left upper quadrant of, 251
  regions and planes of, 251
  right lower quadrant of, 251
  right upper quadrant of, 251
  superficial fascia of, 252
  surface anatomy of, 249
  transverse section of, 85–86
Abdominal aorta, BP56, BP84, BP98, T5.2, 185, 201, 217, 236, 266, 271, 274, 276, 278, 291, 295, 306, 311, 313, 317, 324, 330–332, 344, 346, 348, 380, 382–384, 394
Abdominal aortic plexus, 303, 392, 394, 396, 398–399. *See also* Intermesenteric (abdominal aortic) plexus
Abdominal cavity, BP3
Abdominal muscles, 344, 348
Abdominal oblique muscle, external, 413–414
Abdominal ostium, 355
Abdominal viscera, 270
Abdominal wall
  anterior, 266–267, 317
    arterial anastomoses of, T5.2
    arteries of, 258
    deep dissection of, 254
    intermediate dissection of, 253
    internal view of, 256
    nerves of, 260
    superficial dissection of, 252
    veins of, 259
    venous anastomoses of, T5.2
  paramedian (parasagittal) section of, 324
  posterior
    arteries of, 266
    internal view of, 265
    lymph vessels and nodes of, 268
    nerves of, 269
    peritoneum of, 275
    veins of, 267
  posterolateral, 257
Abdominis muscle
  rectus, 344, 347–349, 359, 379
  transverse, BP109
  transversus, 181, 185
    tendon of origin of, 181–182
Abdominopelvic cavity, BP3
Abducens nerve (CN VI), BP26, T2.2, 60, 64, 96–98, 115, 124, 128
  distribution of, 129
  imaging of, BP32
  schema of, 132
  in superior orbital fissure, 20
Abducens nucleus, 127–128, 132
Abduction, of lower limbs movements, 472
Abductor digiti minimi muscle, BP117, T8.3, T7.3, 452, 455, 460, 467, 520, 522, 524–527, 532
  nerve to, 525
Abductor digiti minimi tendon, BP117, 519
Abductor hallucis muscle, BP117, T8.3, BP116, 520, 522, 524–526, 532
  insertion of, 527
Abductor hallucis nerve, 532
Abductor hallucis tendon, BP117, 519, 524–525
Abductor pollicis brevis muscle, T7.3, 452, 455–456, 466
Abductor pollicis longus muscle, T7.3, 431, 434–435, 439–441, 469
Abductor pollicis longus tendon, 434, 438, 441, 457, 459–460
Aberrant ductule, 372
Accessory nerve (CN XI), T2.2, 39–41, 49, 64, 76, 82, 85–86, 115, 124, 127–128, 138, 140, 183, 417
  cranial root of, 138
  distribution of, 129
  in jugular foramen, 20
  in jugular fossa, 19
  schema of, 138
  spinal roots of, 20, 138
    in foramen magnum, 19
Accessory nucleus, 127–128
Accessory oculomotor nucleus, 127–128, 132, 143
Accessory process, 164
Accessory saphenous vein, BP107
Acetabular branch, 495
Acetabular fossa, 400
  fat in, 477
Acetabular labrum, 338, 477, 495
  superior, 534
Acetabular ligament, transverse, 338, 477
Acetabular margin, 337–338, 342
Acetabular notch, 338, 476
Acetabulum, BP5, BP109, 338, 476, 478
  lunate (articular) surface of, 400, 477
  margin of, 476
  radiograph of, 335
Acetabulum labrum
  anterior, 534
  posterior, 534
Achilles tendon, 518. *See also* Calcaneal tendon
Acinus, BP48
Acoustic meatus
  external, BP28, BP24, 13, 17, 22, 105–106, 109
  internal, BP28, 15, 20, 105, 134–135
Acoustic opening, internal, 110
Acromial anastomosis, 418
Acromial plexus, 418
Acromioclavicular joint, 412, 415
  capsule, 412
Acromioclavicular ligament, 412
Acromion, BP5, BP23, 36, 194, 402, 409–413, 415, 417–419, 421, 470
  of scapula, 192
Adamkiewicz, artery of, 176
Adduction, of lower limbs movements, 472
Adductor brevis muscle, T8.3, T8.1, 480–481, 483, 491, 496, 530
Adductor canal, BP107, 490
Adductor compartment, BP104
Adductor hallucis muscle, BP117, T8.3, 526
  deep branch to, 532
  insertion of, 527
  oblique head of, 526
  transverse head of, 526
Adductor hallucis tendon, 519
Adductor hiatus, 491–492, 503
Adductor longus muscle, T8.3, T8.1, BP109, 400, 480–483, 490–491, 496, 530
Adductor magnus muscle, T8.3, T8.1, 395, 471, 480–481, 483, 485, 490–492, 494, 496, 503, 530–531
  adductor hiatus within, femoral artery passing through, BP108
  adductor minimus part of, 483, 485, 492, 494
  femoral artery, passing through adductor hiatus within, BP110
Adductor magnus tendon, 483, 491, 497, 502, 508
Adductor minimus muscle, 395
Adductor pollicis muscle, T7.3, BP105, 452–453, 455–456, 467
Adductor thigh muscle, T8.1
Adductor tubercle, 479
  on medial epicondyle of femur, 491, 500
Aditus; *See* (aditus)
Adnexa, 355
Adrenal glands, BP38, BP57. *See also* Suprarenal glands
Adrenergic synapses, BP42
  schema of, BP41
Adventitia, BP16
Afferent fibers, 309
  of autonomic reflex pathways, 307
  of kidneys and upper ureters, 321
  of lower ureter, 399
  of reproductive organs, 397
    male, 398
  of tracheobronchial tree, 214
  of urinary bladder, 399
Agger nasi, 43–44
Aggregate lymphoid nodules, 279. *See also* Peyer's patches (aggregate lymphoid nodules)
Ala, 17, 166
  of ilium, 250, 334, 338, 342
  of nose, 8
  of sacrum, radiograph of, 335
Alar cartilage
  major, 42, 44–45, 49
    lateral crus of, 42
    medial crus of, 42, 45
  minor, 42
Alar fascia, 33–34
Alar fibrofatty tissue, 42, 44
Alar folds, 498
Alar ligaments, 30
Alveolar artery
  inferior, 47, 57–58, 69, 84
    lingual branch of, 83
    mental branch of, 57, 83
    mylohyoid branch of, 25, 83
  superior, 57
    anterior, 57, 63
    middle, 57, 63
    posterior, 57, 60, 63, 83
Alveolar capillary, BP50
Alveolar ducts, BP48
  opening of, BP48
Alveolar foramina, 13
Alveolar macrophage, BP50
Alveolar nerve
  inferior, 25, 56–57, 59–60, 66, 69, 82, 133, 142, 145
  superior
    dental branches of, 63
    gingival branches of, 63
    infraorbital, 60
    middle, 66
    posterior, 60
Alveolar pores (of Kohn), BP48
Alveolar process, of maxillary bone, BP22, 11, 13, 15, 23, 44, 50
Alveolar sac, BP48
Alveolar veins
  inferior, 84
  posterior superior, 84
Alveolar wall
  capillary bed within, BP49
  capillary plexuses within, BP49
Alveoli, BP48, BP50
Amacrine cells, 131
Amorphous matrix, BP6

/////// facebook : Booksmedicos06

Ampulla, 355
of ductus deferens, BP93, 366
of ear, 109
anterior, 108
lateral, 108
posterior, 108
of rectum, 350
of uterine tube, 357
Amygdaloid body, 121, 123, 130, 146
Anal canal, 375
arteries of, 380
muscularis mucosae of, 375–376
veins of, 381
Anal cleft. *See* Intergluteal cleft
Anal columns, Morgagni's, 375
Anal crypt, 375
Anal glands, 375
Anal nerves, inferior, 306, 361, 392–393, 395–396, 487, 493
Anal pit, 370
Anal region, 3
Anal sinus, 375
Anal sphincter muscle
external, T6.3, 283, 306, 339, 345, 349–350, 359–360, 363–364, 373–374, 376–377, 380, 386
attachment of, 341
deep, 324, 349, 373, 376–378
subcutaneous, 324, 349, 373, 376–378
superficial, 324, 349, 373, 376–378
internal, 374, 376
Anal triangle, 362
Anal tubercle, 370
Anal valve, 375
Anal verge, 375
Anastomosis
between medial and lateral circumflex femoral arteries, 495
paravertebral, 177
patellar, 503
prevertebral, 177
Anastomotic loops
to anterior spinal artery, 176
of ileum, 279
of jejunum, 279
to posterior spinal artery, 176
Anastomotic vein
inferior (of Labbé), 113, 156
superior (of Trolard), 113
Anatomical snuffbox, 402, 434
Anconeus muscle, T7.3, 410, 422, 434–435, 440–441, 468–469
Angle of mandible, 8, 12, 22, 24, 76, 79
Angular artery, 10, 42, 57, 83, 99, 149
Angular gyrus, 116
artery to, 152–153
Angular vein, 10, 84, 99
Ankle, T8.1
cross-sectional anatomy of, 115–116
ligaments of, 518
radiographs of, 535
tendon of, 518
tendon sheaths of, 520
Annular hymen, BP96
Anococcygeal body, 341, 359–360, 377–378
Anococcygeal ligament, 364, 378
Anococcygeal nerves, 393, 395, 487, 489
Anoderm, 375
Anorectal flexure, 400
Anorectal hiatus, 342
Anorectal junction, 343
Anorectal line, 375
Anorectal musculature, 376
Ansa cervicalis, 38–41, 139–140
inferior root of, 39–41, 82, 87, 139–140
superior root of, 39–41, 82, 87, 139–140
Ansa of Galen, 92
Ansa pectoralis, 419
Ansa subclavia, 141, 213, 230–231, 243
Anserine bursa, 498
deep to semitendinosus, 497
Antebrachial cutaneous nerve
lateral, 404–406, 421, 425, 436, 438, 441, 459, 462–465
medial, 404–405, 419–420, 423, 425, 441, 459, 462–466
posterior, 404–406, 422, 425, 441, 458–459, 462, 464, 468–469
Antebrachial fascia, 441
Antebrachial region
anterior, 2
posterior, 2–3
Antebrachial vein, median, BP99, 402, 405–406, 441
Anterior chamber
of eye, 94, 100, 102–103
of eyeball, 101
Anterior femoral cutaneous vein, BP107
Anterior plane, 1
Anterior ramus, 177
Anterior root, 177
rootlets of, 174
Anterior root ganglion, 399
Anterior tibial artery, BP116, 512–513
Anterior tibial veins, BP107
Anterolateral system (ALS), BP43
Antidromic conduction, BP41
Antihelix, 8, 106
crura of, 106
Antitragus, 8, 106
Anular ligaments, 208
Anulus fibrosus, 164, 168
Anus, 341, 345, 358, 362, 364, 370, 377
Aorta, BP44, BP38, BP87, 33, 149, 177, 211, 217, 223–224, 233, 244, 309, 323, 325, 327, 385
abdominal, BP84, T5.2, 185, 266, 271, 274, 276, 278, 291, 295, 306, 311, 313, 317, 324, 330–332, 344, 346, 348, 380, 382–384, 394
ascending, BP57, 149, 219, 221, 224, 227–229, 244, 247
descending, 149
thoracic, 4, 177
ureteric branch from, 317
Aortic arch, BP23, BP57, 4, 87–88, 149, 217
Aortic arch lymph node of ligamentum arteriosum, 212
Aortic heart valve, BP57, 41–42, 217, 221, 225–229
left semilunar cusp of, 225–229
posterior semilunar cusp of, 225–229
right semilunar cusp of, 225–229
Aortic hiatus, 201
Aortic nodes, lateral, 388
Aortic plexus, abdominal, 397
Aortic sinuses (of Valsalva), 227
Aorticorenal ganglion, BP39, 172, 269, 303–304, 306, 320–322, 391, 396–397, 399
left, 299, 305, 392, 398
right, 300, 305
Apical ligament, of dens, BP19, 30, 77–78
Apical trabeculations, 224
Aponeurosis, of external abdominal oblique muscle, 359, 363
Appendicular artery, 280, 294–295, 305
Appendicular vein, 298–299
Appendix, BP62, T5.1, 137, 282
of epididymis, 369, 371
of testis, 369, 371
Arachnoid, 111, 113
Arachnoid-dura interface, 113
Arachnoid granulations, 111–113, 120
Arachnoid mater, 120, 174, 177
Arch of aorta, BP56, BP51, 202, 210, 214–216, 218–219, 225, 229, 235–237, 240, 246
lung groove for, 205
Arcuate artery, BP110, BP115, 314, 503, 512, 521, 527
Arcuate eminence, 18, 105
Arcuate ligament
inferior, 343
lateral, 201, 265
medial, 201, 265
Arcuate line, 250, 254, 256, 258, 262, 334, 338–339, 342, 476
of ilium, 340
Arcuate nucleus, 158
Arcuate popliteal ligament, 499
Arcuate pubic ligament, 359, 365
Arcus tendineus fasciae pelvis, 354
Areola, 188
Areolar glands (of Montgomery), 188
Areolar tissue, 185, 349
loose, 113
Areolar venous plexus, 259
Arm
arteries of, BP100, 424
muscles of
anterior views of, 421
posterior views of, 422
radial nerve in, 468
serial cross sections of, 425
Arrector pili muscle, 1–2
innervation to, 172
Arteriae rectae, 294–295
Arterial arches, superficial palmar, 450
Arterial rete, marginal, 107
Arterial wall, BP16
avascular zone, BP16
matrix of, BP16
vascular zone, BP16
Arteries. *See also specific arteries*
of anal canal, 380
of brain
frontal section of, 152
frontal view of, 152
inferior view of, 150
lateral view of, 153
medial view of, 153
of deep face, 63
of ductus deferens, BP98, 380, 383
of duodenum, 291, 293
of esophagus, BP55, 240
of eyelids, 99
of hypothalamus and hypophysis, BP30
of large intestine, 295
of liver, 290–291
of malleolar stria, 107
of mammary gland, 189
of nasal cavity, 47
of oral and pharyngeal regions, 83
of orbit, 99
of pancreas, 291, 293
of pelvic organs, female, 382
of pelvis
female, 383
male, BP98, 385
of penis, T6.2
of perineum, 386
male, 387
of posterior cranial fossa, 154
of rectum, 380
of round ligament, 382
of scalp, T2.2
of small intestine, 294
of spinal cord
intrinsic distribution, 177
schema of, 176
of spleen, 290–291

www.Booksmedicos06.com ///////

Arteries *(Continued)*
of stomach, 290
of testis, 383
Arteriole
intralobular, 286
macular
inferior, 103
superior, 103
nasal retinal
inferior, 103
superior, 103
periportal, 286
portal, 286
temporal retinal
inferior, 103
superior, 103
Artery of Adamkiewicz, 176
Articular branch, 492, 529
Articular cartilage, BP5, BP106, BP114, 428, 460–461, 477
Articular cavity, BP19, 193, 460–461, 502
of sternoclavicular joint, 408
Articular disc, BP102, 24–25, 60, 193
of sternoclavicular joint, 408
Articular facet
cervical, 26
inferior, 27
superior, 26
of dens, posterior, 30
inferior, 168
for sacrum, 164
thoracic, superior, 163
vertebral body for, 193
inferior, 193
superior, 193
transverse, 193
Articular nerve, recurrent, 533
Articular process
cervical
inferior, 26–28
superior, BP18, 27–28
lumbar
inferior, 164, 167–168
superior, 164, 167–168
sacral, superior, 166
thoracic
inferior, 163
superior, 163
Articular surface, superior, 505
Articular tubercle, 13, 17, 25, 56
Articularis genu muscle, T8.3, 480, 498, 502, 529
Aryepiglottic fold, 75, 79, 91
Arytenoid cartilage, 90
muscular process of, 90–91
vocal process of, 90–91
Arytenoid muscle
oblique, T2.9, 75, 80, 91–92
action of, 93
aryepiglottic part of, 91–92
transverse, T2.9, 75, 77, 80, 91–92
action of, 93
Ascending cervical artery, 176
Ascending colon, 344, 348
as site of referred visceral pain, BP13
Ascending fibers, 321, 399
Asterion, 13
Atlantoaxial articulation, BP35
Atlantoaxial joint, BP34
lateral, 29
capsule of, 29–30
median, 30
Atlantoaxial ligament, 30
Atlantoaxial membrane, posterior, BP19
Atlantooccipital joint, capsule of, 29–30
Atlantooccipital junction, BP19
Atlantooccipital ligament, anterior, 30
Atlantooccipital membrane
anterior, BP19, 29, 77–78
posterior, BP19, 29
Atlas (C1), BP5, BP18, 22, 28–30, 169
anterior arch of, BP35, BP42, BP34
anterior tubercle of, 28
anterior view of, 162
arch of
anterior, BP19, BP17, 14, 26, 28, 77
imaging of, 160
posterior, 26
dens of, articular facet for, 26
groove for vertebral artery of, 26
inferior articular surface of, BP35
inferior longitudinal band of cruciate ligament of, BP19
inferior view of, 26
lateral mass of, 12, 26
left lateral view of, 162
posterior arch of, BP35, BP19, BP17, BP34, 184
posterior tubercle of, 182
posterior view of, 162
superior articular facet for, 26
superior longitudinal band of cruciate ligament of, BP19
superior view of, 26
transverse foramen of, 26
transverse ligament of, BP19, 30
tubercle for, 26
transverse process of, 26, 29, 37, 182
tubercle of
anterior, 26, 30
posterior, 26, 181
vertebral foramen of, 26
Atonic stomach, BP60
Atrial appendage. *See* Auricle (atrial appendage)
Atrioventricular (AV) bundle (of His), 229
Atrioventricular (AV) node, 229
Atrioventricular valve
left, 220–221, 225–229, 248
anterior cusp of, 225–228
left fibrous ring of, 226
posterior cusp of, 225–228
right, 220–221, 224, 226–228
anterosuperior leaflet (cusp) of, 224, 226–228
inferior leaflet (posterior cusp) of, 224, 226–228
orifice of, 248
right fibrous ring of, 226, 229
septal leaflet (cusp) of, 224, 226–228
Atrium, 228
left, BP56, BP51, 217–220, 224–225, 227–228, 244, 248
oblique vein of (of Marshall), 218–219, 222, 225
right, BP51, 216, 218–221, 227–228, 234, 244, 248
Auditory canal, internal, imaging of, BP32
Auditory ossicles, BP4
Auditory tube, 27–29, 105–107, 109, 137
cartilaginous part of, BP29, 49, 56, 67, 72, 75, 78
lateral lamina of, BP29
medial lamina of, BP29
groove for, 17
opening of, 43
pharyngeal opening of, 72, 77, 79
Auerbach's plexus, BP54. *See also* Myenteric (Auerbach's) plexus
Auricle (atrial appendage), BP28, 14, 105, 110
concha of, 106
left, 56–57, 216, 218–219, 222–223, 225, 228–229
lobule of, 106
right, BP51, 216, 224, 228
Auricular artery
anterior, 10
deep, 57–58, 107
posterior, 10, 41, 57, 60, 83, 107, 112, 147, 149, 184
Auricular cartilage, 49
Auricular muscle, branches to, 134
Auricular nerve
great, 9, 38–40, 140, 183
posterior, BP21, 54, 59, 134
occipital branch of, 134
Auricular surface, 166
of sacrum, 167, 476
Auricular tubercle (of Darwin), 106
Auricular vein, posterior, 10, 39, 84
Auricularis muscle
anterior, BP20, T2.4, 31
posterior, T2.4, 31
superior, T2.4, 31
Auriculotemporal nerve, 9, 25, 53, 56–57, 59–60, 82–83, 133, 136, 145
roots of, 60
Auscultation
of heart, 217
precordial areas of, 217
Autonomic nerves. *See also* Motor (autonomic) nerve
in head, 142
in neck, 141
in thorax, 213
Autonomic neurons, postganglionic, BP11
Autonomic reflex pathways, 307
Axilla
anterior view, 419
posterior wall of, 414
Axillary artery, BP23, BP56, BP100, 4, 189, 195, 204, 258, 416, 418–419, 423–424
acromial branch of, BP100
clavicular branch of, BP100
left, 199
pectoral branch of, BP100
right, 199
Axillary fasciae, 416
Axillary fold
anterior, 187
posterior, 187
Axillary fossa, 245–247
Axillary lymph nodes, 7, 41–42, 416
anterior, 190
apical, 190–191
central, 190–191, 416
lateral, 190–191, 407
pectoral, 416
posterior, 190–191
Axillary nerve, T7.1, 404, 414, 417, 419–420, 422, 464–466, 468–469
branches of, 414
superior lateral brachial cutaneous nerve from, 183, 404
Axillary region, 2
Axillary tail (of Spence), 189
Axillary vein, BP56, BP99, 5, 195, 204, 259, 407, 416
intercostal tributaries, 259
right, 217
Axis (C2), BP18, 22, 28–30, 169
anterior view of, 26, 162
body of, 26, 29
dens of, BP19, 12, 14, 26, 28, 77
inferior articular process, 26
inferior articular surface of lateral mass for, 26
interarticular part of, 26
left lateral view of, 162
odontoid process of, BP34
pedicle of, 26
posterior view of, 162
posterosuperior view of, 26

////// facebook : Booksmedicos06

Axis (C2) *(Continued)*
spinous process of, BP19, 26, 180, 182
superior articular facet of, BP35
transverse process of, 26
posterior tubercle of, 37
vertebral body of, imaging of, 160
Axolemma, BP11
Axon hillock, BP11
Axon nerve, BP11
Axons, BP11
myelinated, cell membrane of, BP12
Azygos vein, BP84, BP57, 198, 200, 210–211, 213, 220, 234, 241, 247–248, 328
arch of, 236
lung groove for, 205

B

Back, 161–186
lumbar region of, 185
muscles of
deep layers, 182
intermediate layers, 181
superficial layers, 180
nerves of, 183
surface anatomy of, 161
Ball-and-socket joints, BP5
Bartholin's gland, 360–361, 371, 386
opening of, 358
primordium, 371
Basal nuclei, 121
Basal vein (of Rosenthal), 155–157
Basement membrane, BP8, BP93, BP16
Basilar artery, 147, 149–152, 154, 176
imaging of, 31–32, 159–160
Basilar membrane, 109
Basilic hiatus, BP99
Basilic vein, BP99, 5, 402, 405–407, 419, 425, 441, 458
median, BP99
Basivertebral vein, BP42, 178
Batson, internal vertebral venous plexus of, 177–178
Biceps brachii muscle, T7.3, T7.1, 187, 402, 409, 413–414, 416, 419, 421, 423, 425, 439–440, 463, 465
long head of, 245
tendon of, 246–247
Biceps brachii tendon, T7.1, 412, 415, 417, 421, 423, 428, 436–438
Biceps femoris muscle, T8.3, T8.1, 471, 480–481, 484–485, 492–493, 496–497, 501, 506–507, 510
long head of, 395, 471, 510, 531
tendon of, 494
short head of, 395, 471, 510, 531
superior bursa of, 494
Biceps femoris tendon, 497–498, 501–502, 505, 508–512, 533
Bicipital aponeurosis, 406, 421, 423, 436, 463
Bicipital groove, 409
Bifid spinous process, 27
Bifurcate ligament, 518
Bifurcation. *See* Pulmonary trunk
Bile ducts, 137, 173, 286
common, BP62, BP87, 274, 278–279, 284–285, 287, 290–293, 329
sphincter, 287
innervation to, 172
Biliary disease, areas of referred pain in, 309
Bipolar cells, 131
Bladder, T6.1, BP88, BP109, BP89, 351, 359. *See also* Urinary bladder
fundus of, 352
lateral ligament of, 347
Bladder *(Continued)*
neck of, 352
pubocervical fascia, 354
trigone of, 352, 356
uvula of, 352, 366–367
Bladder-prostate gland junction, 400
Blood, composition of, BP15
Blood vessels. *See* Vessels
Bloodless fold of Treves, 280. *See also* Ileocecal fold (bloodless fold of Treves)
Body cavities, BP3
dorsal, BP3
ventral, BP3
Body planes, terms and relationship of, 1
Bohler's angle, 517
Bone marrow, 7
Bones
architecture of, BP7
of foot, 515
of nasal cavity, 52
of paranasal sinuses, 52
of thorax, 192
Bony labyrinth, 108–109
Bony spicule, 27
Bouton, BP11
Brachial artery, T7.2, 4, 100–101, 189, 418–419, 421, 424–425, 436–438, 463
branches of, 435
lateral cord of, 423
medial cord of, 423
middle collateral branch of, 435
muscular branch of, 423
pulses at, 4
in situ, 423
Brachial cutaneous nerve
inferior lateral, 405, 422, 468–469
medial, 405, 419–420, 423, 425, 463–466
posterior, 405, 422, 464, 468–469
superior lateral, 183, 405, 414, 417, 422, 468–469
Brachial fascia, 416, 425
Brachial plexus, 8, 36, 38–40, 82, 169, 189, 195, 199, 204, 210, 215, 232, 234–236, 416–417, 419
anterior divisions of, 420
inferior trunks of, 414, 420
lateral cord of, 221, 416, 420, 464–466
medial cord of, 416, 420, 464–466
middle trunks of, 414, 420
posterior cord of, 416, 420, 464–466
posterior divisions of, 420
roots of, 420
schema of, 420
superior trunks of, 414, 420
terminal branches of, 420
trunks of, 37, 414
Brachial region
anterior, 2
posterior, 2–3
Brachial veins, BP99, 5, 419, 425
Brachialis muscle, T7.3, 409–410, 419, 421, 423, 425, 436, 438–439, 463, 465
Brachiocephalic artery, 217
Brachiocephalic trunk, BP23, 40, 87–89, 147, 149, 196, 199, 210, 215–216, 218, 221, 236, 240, 245
Brachiocephalic vein, 5, 87, 196, 212
left, BP51, BP57, 84, 88, 179, 198, 210, 215–216, 221, 234–236, 241, 245
lung groove for, 205
right, BP51, BP57, 88, 179, 198, 210, 215–217, 234, 237, 241, 245
Brachioradialis muscle, T7.3, 402, 409, 421–423, 425, 434–437, 439–441, 463, 468–469
Brachioradialis tendon, 438, 441
Brain, BP22, 6, 50
arteries of, 147
frontal section of, 152
frontal view of, 152
inferior view of, 150
lateral view of, 153
medial view of, 153
schema of, 149
axial and coronal MRIs of, BP32
inferior view of, 118
lateral view of, 116
medial view of, 117
veins of
deep, 156
subependymal, 157
ventricles of, 119
Brainstem, 124
cranial nerve nuclei in, 127–128
Breast, 217
lymphatic drainage of, 191
pathway to/from opposite, 190
suspensory retinacula of, 188
Bregma, 16
Bridging vein, T2.2, 111, 113–114, 120
imaging of, BP31, 159
Broad ligament, 344–346, 353, 371
anterior lamina of, 357
posterior lamina of, 357
Bronchi, BP41, 173, 208–209
extrapulmonary, 208
inferior lobar, 208
anterior basal, 209
anteromedial basal, 209
lateral basal, 209
medial basal, 209
posterior basal, 209
innervation to, 172
intermediate, 205
intrapulmonary, 208
lingular, 208–209
inferior, 209
superior, 209
main
left, BP44, BP57, 205, 208, 210–211, 220, 235–238, 247
right, BP44, BP57, 208, 211, 217, 220, 234, 236, 244, 247
major, 208
middle lobar, 208
lateral, 209
medial, 209
nomenclature of, schema of, 209
superior division, 208
anterior, 209
apicoposterior, 209
superior lobar, 208
anterior, 209
apical, 209
posterior, 209
right, 210
Bronchial artery, BP49, 211, 234–235
esophageal branch of, 211
left, 205
inferior, 211, 240
superior, 211, 240
right, 205, 211, 240
Bronchial veins, 211
left, 211
right, 211
Bronchioles
respiratory, 48–49
terminal, BP48
elastic fibers of, BP48
smooth muscle of, BP48
Bronchomediastinal lymphatic trunk, 212
Bronchopulmonary (hilar) lymph nodes, 193, 234–235

www.Booksmedicos06.com

Bronchopulmonary segments, 206–207
anterior, 206–207
basal, 206–207
anteromedial basal, 206–207
apical, 206–207
apicoposterior, 206–207
inferior lingular, 206–207
lateral, 206–207
basal, 206–207
medial, 206–207
basal, 206–207
posterior, 206–207
basal, 206–207
superior, 206–207
lingular, 206–207
Bronchus intermedius, BP57
Buccal artery, 57, 83
Buccal nerve, 9, 57, 59–60, 66, 82, 133
long, 68
Buccinator lymph nodes, 85
Buccinator muscle, T2.4, BP22, 20–21, 31, 34, 50, 53, 55–56, 59, 67–68, 78, 81, 83, 134
Buccopharyngeal fascia, 33, 68, 77–78
Buck's fascia, 364. *See also* Deep (Buck's) fascia
intercavernous septum of, 367
of penis, BP88, BP98, 349, 362–365, 369, 377–378, 387
Bulbar conjunctiva, BP26, 94, 100–101
Bulboreticulospinal tract, BP43
Bulbospongiosus muscle, BP90, T6.3, 324, 349, 352–353, 356, 359–361, 363, 365, 377–378, 386–387, 399
Bulbourethral (Cowper's) gland, 256, 324, 349, 352, 365–367, 371
duct of, 365
primordium, 371
Bulbourethral ducts, 366–367
Buttock, nerves of, 493

C

Calcaneal artery
lateral, 525–526
medial, 525–526
Calcaneal bursa, subcutaneous, 520
Calcaneal nerve
lateral, 525–526
medial, 525–526
Calcaneal sulcus, 517
Calcaneal tendon, BP111, T8.1, 471, 507–510, 518, 520, 535
soleus muscle into, 508
Calcaneal tuberosity, 471, 507–508
medial process of, BP116
Calcaneocuboid ligament, 518, 527
dorsal, 518
Calcaneofibular ligament, 505, 517
Calcaneonavicular ligament, 518
Calcaneus bones, T8.1, BP116, 515–516, 519, 535
tuberosity of, 519, 525–526
Calcar avis, 122–123
Calcarine sulcus, 116–118, 122, 131
Callosomarginal artery, 152–153
Calot's triangle, 287
Calvaria, 113
inferior view of, 16
superior view of, 16
Camper chiasm, 451
Camper's fascia, BP88. *See also* Fatty (Camper's) fascia
Camper's layer, 252, 324, 359
of superficial fascia, 362
Canal of Schlemm, 101, 103–104
Canine teeth, 73–74
Capillaries, BP6
in Haversian canal, BP7
Capillary lumen, BP50
Capillary plexus, BP50
Capitate bone, BP102, 442–443, 445–447, 452
Capitohamate ligament, 444–445
Capitotriquetral ligament, BP102
Capitulum, 409–410, 426–427
Capsular branches, BP98
Capsular ligaments, 412
Cardiac branches, 172
Cardiac impression, 205
Cardiac notch, 239, 276
of left lung, 202, 205
Cardiac orifice, 277
Cardiac plexus, 39–40, 137, 213, 230–231, 243
Cardiac veins, BP52
anterior, 222
great, 222
middle, 218, 222
small, 222
variations of, BP53
Cardiac zone, 277
Cardinal (Mackenrodt's) ligament, 346, 353–354
with uterine artery, 347
Cardiophrenic angle, 217
Cardiovascular system, T6.2, T3.1, T5.2, 41–42
composition of blood and, BP15
general organization of, BP14
Carina, 217
Carinal lymph nodes, inferior, 212
Caroticotympanic artery, 148
Caroticotympanic nerve, 134
Carotid artery, 41
common, T2.2, 10, 33, 38, 40–41, 64, 76, 82–84, 87–89, 136, 139, 141–142, 144–145, 147, 149, 196, 204, 236, 240
left, BP51, 4, 179, 199, 210, 215–218, 221, 245
right, BP23, 4, 37, 179, 199, 210, 217
external, 10, 32, 35, 38, 41, 47, 53, 57, 60, 63–64, 68, 70, 76, 82–84, 87–89, 107, 112, 136, 141–142, 145, 147, 149
left, 58
right, BP23, 58
schema of, 41
internal, BP27, 10, 41, 49, 56, 60, 62, 64, 76, 82–83, 87–89, 99, 107, 112, 115, 136, 139, 141–145, 147, 149–152
caroticotympanic branch of, 149
in carotid canal, 19–20
cavernous part of, 148
cavernous segment of, 115
cerebral part of, 148
cervical part of, 148
imaging of, 31–32, 159–160
left, 153–154
meningohypophyseal trunk of, 112
petrous part of, 148
in petrous part of temporal bone, 148
right, BP23, 153
pulses at, 4
Carotid body, 41, 136, 141, 147, 214
Carotid canal, 17, 19–20
Carotid-cavernous sinus fistula, T2.3
Carotid groove, 18
Carotid nerve
external, BP39, 172
internal, 62, 64, 141–142, 144, 172, 232
Carotid plexus, 107, 142
common, 141–142
external, 141–142, 144
internal, 20, 97, 134, 142–143, 172
Carotid sheath, 32–33
Carotid sinus, T2.3, 136, 141, 147, 214
Carotid sinus nerve (of Hering), 136, 141–142
Carotid tubercle (of Chassaignac), 28
Carpal arch, dorsal, 459
Carpal artery, dorsal, BP101, 424
Carpal articular surface, 429
Carpal bones, BP4, 442–461
Carpal ligament
palmar, 406, 436–437, 444, 449–450, 452, 456, 467
transverse, BP104
Carpal tunnel release, BP104
Carpometacarpal joint, 443, 445
1st, BP102
Carpometacarpal ligaments
dorsal, BP102
palmar, BP102, 448
Cartilage, BP6
articular, BP6
of larynx, 90
of thyroid, 8
Cartilage end plate, 168
Cast-off cytoplasm, BP93
Cauda equina, T3.1, 169–170, 185
anterior roots forming, 177
nerve roots, within thecal sac, BP38
posterior roots forming, 177
radiology of, 165
Caudal, as term of relationship, 1
Caudate nucleus, 121
anterior vein of, 156–157
body of, 117, 121
head of, 121–123, 154, 156
imaging of, BP32, 160
posterior terminal vein of, 157
posterior vein of, 156
tail of, 119, 121, 123
transverse veins of, 156–157
Caval foramen, 265
opening of, 201
Cave of Retzius, 324
Cavernous nerves, BP40, T6.2
of penis, 392, 398
Cavernous plexus, 132
Cavernous sinus, 99, 115, 147, 151
Cavernous tissue, T6.2
Cavernous vein, 385
Cavernous venous plexus, of urethra, BP90
Cavum septum pellucidum, 111
Cecal artery, 305
anterior, 280, 294–295
posterior, 280, 294–295
Cecal folds, 280, 344, 348
Cecal vein
anterior, 299
posterior, 298–299
Cecum, BP62, BP66, 85–86, 137, 270, 272, 282–283, 344, 348
peritoneal attachment of, BP66
as site of referred visceral pain, BP13
vascular fold of, 280
Celiac branch, 392
Celiac ganglion, BP39, BP41, BP84, T5.2, 172–173, 300–301, 303–306, 309–310, 320–322, 391–392, 396–399
Celiac nodes, 242, 268
Celiac plexus, 301, 304–305, 321, 392, 397
posterior vagal trunk to, 243
Celiac trunk, BP57, 4, 201, 233, 236, 240, 266, 271, 288, 292–293, 303, 310, 324, 392
arteriogram of, 292
variations in, BP72
Central arteries
anterolateral, 148, 150–152, 154
anteromedial, 151
posteromedial, 151
Central axillary nodes, 190
Central canal, 128
of spinal cord, 120, 125

////// facebook : Booksmedicos06

Central nervous system, 6
Central sulcus (of Rolando), 116–117
Central tendon, of diaphragm, 200
Central vein, 285–286
Cephalic vein, BP99, 187, 194–195, 221, 259, 402, 405–407, 413, 416, 419, 425, 441, 458
accessory, 405–406
median, 406
Cerebellar artery
inferior
anterior, 147, 149–152, 154, 159, 176
posterior, 147, 149–150, 152, 154, 176
tonsillar branch of posterior, 154
superior, 147, 149–152, 154, 176
imaging of, BP32, 159
Cerebellar hemispheric veins, inferior, 155
Cerebellar notch
anterior, 126
posterior, 126
Cerebellar nuclei, 126
dentate of, 126
emboliform of, 126
fastigial, 126
globose of, 126
Cerebellar peduncle, 125
inferior, 124–126, 135
middle, 124–126
imaging of, BP32, 160
superior, 124–126
decussation of, 126
Cerebellar vein
precentral, 155
superior, 155
Cerebellomedullary cistern, posterior, 120
Cerebellum, BP35, 110, 117, 122, 125–126, 157
anterior lobe of, 126
biventer lobule of, 126
flocculonodular lobe of, 126
flocculus of, 124, 126
fourth ventricle of, 126
horizontal fissure of, 126
imaging of, BP32, 160
medullary velum of
inferior, 126
superior, 126
posterior lobe of, 126
posterolateral fissure of, 126
postlunate fissure of, 126
primary fissure of, 126
quadrangular lobule of, 126
retrotonsillar fissure of, 126
secondary fissure of, 126
semilunar lobule of
inferior, 126
superior, 126
simple lobule of, 126
tonsil of, 126
vermis of, 125
central lobule of, 125
culmen of, 125
declive of, 125
folium of, 125
lingula of, 125
nodulus of, 125
pyramid of, 125
tuber of, 125
uvula of, 125
Cerebral aqueduct, T2.2, 50, 117–118, 120, 125, 128, 157–158
imaging of, 160
Cerebral arterial circle (of Willis), T2.3, 150–151
Cerebral arteries, 113
anterior, 147–152, 154, 156
cingular branches of, 153
imaging of, 31–32, 159
Cerebral arteries *(Continued)*
left, 153
medial frontal branches of, 152–153
terminal branches of, 153
middle, 147–152, 154
branches of, 148
imaging of, 31–32, 159
left, 153
occipitotemporal branches of, 153
temporal branches of, 152
posterior, 147–152, 154
calcarine branch of, 153–154
imaging of, 31–32, 159
parietooccipital branch of, 153–154
right, 153
temporal branches of, 154
terminal branches of, 153
Cerebral crus, 118, 124, 126, 150
Cerebral fissure, longitudinal, 118, 154, 156
imaging of, 160
Cerebral hemisphere, 113
Cerebral peduncle, 50, 117, 125
Cerebral sulcus, lateral, 152
Cerebral veins
anterior, 155–157
inferior, 113, 115
internal, 117, 122, 155–157
imaging of, BP31, 159
left, 157
right, 157
middle
deep, 111, 155–157
superficial, 111, 113, 115, 156
superficial, 113
superior, 113
opening of, 112
Cerebrospinal fluid
circulation of, 120
radiology of, 165
within thecal sac, BP35
Cerebrum
frontal lobe of, 116
frontal pole of, 116, 118
inferior (inferolateral) margin of, 118
occipital lobe of, 116
occipital pole of, 116, 118
parietal lobe of, 116
temporal lobe of, 116
temporal pole of, 116, 118
Cervical artery
ascending, BP23, 40, 82–83, 87–89, 149, 176, 418
deep, BP23, 149, 176
superficial, 183
transverse, BP23, 39–40, 89, 418–419
deep branch of, BP23
superficial branch of, BP23, 183
Cervical cardiac branch, BP40
Cervical cardiac nerves, BP39, 213, 232
inferior, 141, 231
middle, 141, 230–231
superior, 76, 83, 141, 230–231
Cervical fascia, 34, 194
deep
prevertebral layer of, 33
superficial layer of, 31–33, 77, 413
Cervical ganglion
middle, 39–40, 76, 139, 141, 230–231, 243
superior, 62, 64, 76, 136, 139, 141–145, 172, 230–231, 243
Cervical lordosis, 162
Cervical lymph nodes, 7
anterior deep, 85
anterior superficial, 85
deep lateral, 86
inferior deep lateral, 85
Cervical lymph nodes *(Continued)*
posterior lateral superficial, 85
superior deep lateral, 85
superior lateral superficial, 85
Cervical muscles, deep, 33
Cervical nerve, transverse, 9, 39–40, 140
Cervical pleura, BP44, T4.1, 87
Cervical plexus, T2.2, 169, 183
branches from, 9
schema of, 40, 140
Cervical region
anterior, 2
lateral, 2
posterior, 3
Cervical ribs, related anomalies and, BP45
Cervical spinal cord, BP35
Cervical spinal nerves, 33
C1, 82, 138, 169–170
anterior rootlets of, 82, 124
posterior rootlets of, 124
vertebrae relation to, 182
C2, 82, 138, 170
anterior ramus of, 39
dermatome of, 171
vertebrae relation to, 182
C3, 138, 170
anterior ramus of, 39
dermatome of, 171
C4, 82, 138, 170
dermatome of, 171
vertebrae relation to, 184
C5, 170
anterior ramus of, 39
dermatome of, 171
vertebrae relation to, 184
C6, 170
dermatome of, 171
vertebrae relation to, 184
C7, 170
C8, 169–170
enlargement of, 170
groove for, 27–28
posterior rami of, 9
Cervical spine, radiographs of, BP34
MRI, BP35
open-mouth, BP35
Cervical sympathetic ganglion, BP41
superior, 68
Cervical sympathetic trunk, BP39
Cervical sympathetic trunk ganglion, 232
Cervical vein, deep
left, 179
right, 179
Cervical vertebrae, T2.1, 162, 217
anulus fibrosus of, 28
arteries, 176
body of, 27–28
C3, 22, 26
bifid spinous process of, 27
costal lamella of, 27
inferior articular facet for, 26–27
inferior articular process of, 27–28
inferior aspect of, 27
lamina of, 27
pedicle of, 27
superior articular process of, 28
transverse foramen of, 27
transverse process of, 27
tubercles of, 37
vertebral body of, BP18, 27
vertebral foramen of, 27
C4, 26–27
anterior view of, 27
articular surface of, 27
body of, 27

www.Booksmedicos06.com ///////

Cervical vertebrae *(Continued)*
groove for spinal nerve, 27
inferior articular facet of, 27
inferior articular process of, 27
lamina of, 27
left uncinate process of, 27
spinous process of, 27
superior articular facet of, 27
superior articular process of, 27
superior aspect of, 27
transverse foramen of, 27
transverse process of, 27
uncinate process of, 27
vertebral body of, 27
C6
anterior tubercle of, 29
transverse process of, 147
C7, BP18, 22, 27, 169
anterior view of, 27, 162
articular surface of, 27
body of, 27
costal lamella of, 27
inferior articular process of, 27
lamina of, 27
lateral view of, 162
pedicle of, 27
posterior view of, 162
septated transverse foramen of, 27
spinal nerve of, groove for, 27
spinous process of, 27, 29, 161, 180, 413
superior articular process and facet of, 27
superior view of, 27
transverse process of, 27
posterior tubercle of, 37
uncinate process of, 27
articular surface of, 27
vertebral body of, 27
vertebral foramen of, 27
degenerative changes in, BP18
intervertebral disc of, 28
nucleus pulposus of, 28
transverse foramen of, 28
transverse process of, 28
uncinate processes of, 28
uncovertebral joints of, 28
upper, 26
Cervicofacial division, 54
Cervicothoracic (stellate) ganglion, BP39, 141, 213, 230–231, 243
Cervix, T6.1, 354, 397
of uterus, 345–347, 353, 355–356
Chest scans, axial CT images, 244
Chiasma, BP91
Chiasmatic cistern, 120
Choanae, BP29, 17, 23, 43, 45, 56, 67, 75, 79
Cholinergic synapses, BP41
schema of, BP41
Chorda tympani, BP27, 59–60, 82, 106–107, 133, 135, 142, 144–145
Chordae tendineae, 224–225, 227
Choroid, 100, 103
Choroid plexus, 122–123, 125
of third ventricle, 117
Choroid vein, superior, 156–157
Choroidal artery
anterior, 148, 150–152, 154
posterior lateral, 150, 154
posterior medial, 150
Ciliary arteries
anterior, 103–104
recurrent branch of, 104
posterior, 99
long, 103–104
short, 103–104
Ciliary body, 100–103
blood vessels of, 103
orbiculus ciliaris of, 102
Ciliary ganglion, BP40, 61, 64, 97–98, 132–133, 142–143, 173
branch to, 132–133, 143
oculomotor root of, 143
parasympathetic root of, 97, 132, 142
schema of, 143
sensory root of, 97, 142
sympathetic root of, 97, 132, 142–143
Ciliary muscle, T2.4, 100, 132, 143
circular fibers of, 101
meridional fibers of, 101
Ciliary nerves
long, 61, 97–98, 132–133, 142–143
short, 61, 97–98, 132–133, 142–143
Ciliary process, 100–102
Ciliary vein, anterior, 101, 103–104
Cingulate gyrus, 117
isthmus of, 117–118
Cingulate sulcus, 117
Circular esophageal muscle, 239
Circular folds (valves of Kerckring), 279, 287
Circular intramuscular plexus, 308
Circular muscle, BP54, 375–376
Circulation, prenatal and postnatal, 233
Circumflex fibular branch, BP108, BP110, 503
Cisterna chyli, 7, 268, 300, 325
Claustrum, 121
Clavicle, BP34, BP57, T7.1, 4–5, 8, 31–32, 34–36, 38, 187–188, 191, 193–196, 202–204, 217, 221, 234–235, 245, 402, 408–416, 418–419, 470
acromial end of, 408
acromial facet of, 408
conoid tubercle, 408
sternal articular surface of, 408
sternal end of, 408
Clavicular head. *See also* Pectoralis major muscle
of sternocleidomastoid muscle, 8
Clavipectoral fasciae, 194, 416
Clinoid process
anterior, 14–15, 18, 98
posterior, 18
Clitoral artery, 361
internal, 386
Clitoris, 360–361, 377
body of, 345, 370
crus of, 345, 352–353, 356, 360–361
deep artery of, 361, 386
deep nerve of, 361
dorsal artery of, 386
dorsal nerve of, 395–396, 487
dorsal vein of, deep, 339–341, 345, 347, 350, 361
frenulum of, 358
glans of, 358, 370
prepuce of, 356, 358
suspensory ligament of, 359–361
Clivus, BP35, 18, 30
imaging of, 160
Clunial nerves
inferior, 183, 393, 395, 474, 492–493, 531
medial, 474, 492
middle, 183
superior, 183, 474, 492
CN I. *See* Olfactory nerve (CN I)
CN II. *See* Optic nerve (CN II)
CN III. *See* Oculomotor nerve
CN IV. *See* Trochlear nerve (CN IV)
CN V. *See* Trigeminal nerve
CN VI. *See* Abducens nerve (CN VI)
CN VII. *See* Facial nerve
CN VIII. *See* Vestibulocochlear nerve (CN VIII)
CN IX. *See* Glossopharyngeal nerve
CN X. *See* Vagus nerve
CN XI. *See* Accessory nerve (CN XI)
CN XII. *See* Hypoglossal nerve (CN XII)
Coccygeal cornu, 166
Coccygeal nerve, 169–170, 489
Coccygeal plexuses, 487, 489
Coccygeus muscle, T6.1, T6.3, 265, 339–343, 384–385, 392–394
nerve to, 487, 489
Coccyx, BP4, BP109, 166–167, 169–170, 250, 334, 337–340, 360, 373
anterior view of, 162
lateral view of, 162
measurements of, 336
posterior view of, 162
tip of, 341, 343, 362, 364, 377, 400
transverse process of, 166
Cochlea, BP28, 64, 108, 110
course of sound in, 105
duct of, BP28
helicotrema of, BP28, 105, 108–109
modiolus of, 109
scala tympani of, BP28, 105
scala vestibuli of, BP28, 105
section through turn of, 109
Cochlear aqueduct, 109
Cochlear cupula, 108
Cochlear duct, 108–110
Cochlear nerve, BP28, 105, 108–110, 135
Cochlear nucleus, 135
anterior, 127–128, 135
posterior, 127–128, 135
Cochlear recess, 108
Cochlear (round) window, BP28, 21, 105, 108
fossa of, BP27, 106
Cochlear (spiral) ganglion, 135
Cockett's veins. *See* Perforating veins
Colic artery
ascending branch, 380
descending branch, 380
left, 266, 294–295, 300, 305, 316, 380
middle, 288, 291, 294–295, 304, 324
right, 294–295, 316
variations in, 73–74
Colic flexure
left, splenic, 270, 272–273, 276, 278, 283, 323
right, hepatic, 270, 272–273, 276, 278, 283, 285, 318
Colic impression, 284
Colic nodes, right, BP82
Colic vein, 297
left, 298–299
middle, 298–299
right, 298–299
Collagen
in arterial wall, BP16
fibers, in connective tissues and cartilage, BP6
lamellae of anulus fibrosus, 168
Collar of Helvetius, 239
Collateral artery
middle, BP100, 422, 424–425
radial, BP100, 422, 424–425
Collateral eminence, 122
Collateral ligament, BP106, 448, 454
accessory, 448
of ankle, medial, 505
fibular, 497–502, 505, 508–510, 512
of foot, 519
medial, T8.1
radial, BP102, 428
tibial, 497–500, 502, 505, 508–509, 511
ulnar, BP102, 428
Collateral sulcus, 117–118
Collateral trigone, 122
Collecting vessels
apical, 86
basal, 86
central, 86
marginal, 86

////// facebook : Booksmedicos06

Colles' fascia, BP88, BP90, 352–353, 359–365, 373, 377–378, 386–387, 393
superficial, 349
Colliculus
facial, 125
inferior, 117, 122, 124–125
brachium of, 122
left, 155
superior, T2.2, 117–118, 122, 124–125, 127, 143, 154
brachium of, 122
left, 155
Colon, T5.1
air within, 217
area for, 311
ascending, 137, 270, 272, 278, 311, 330, 344, 348
as site of referred visceral pain, BP13
circular muscle, 281
descending, BP85, 271, 278, 283, 311, 327, 330–331, 344, 348, 392
innervation to, 172
sigmoid, 344, 346, 348, 356, 373–376, 392, 394
innervation to, 172
as site of referred visceral pain, BP13
splenic flexure of, 282
transverse, 270–272, 274, 278, 283, 287–289, 295, 297, 330–331
Column system, posterior, BP43
Commissure, BP43
anterior, 117, 125, 130, 157–158
of lips, 8
posterior, 117, 122, 125, 370
of semilunar valve cusps, 227
Common bony limb, 109
Common iliac arteries, BP38
Common iliac nodes, 268, 319
Common membranous limb, 108–109
Common tendinous ring (of Zinn), BP26, 96–97, 132
Communicating artery
anterior, 147–153
imaging of, 31–32, 159
posterior, 115, 147–154
imaging of, 31–32, 159
Communicating vein, BP42, 38, 179
Compressor urethrae muscle, T6.3, 339, 351, 360–361, 386
Concha, inferior, 23
Condylar canal, 17, 20
Condylar fossa, 17
Condylar process
head of, BP24
of mandible, 24
head of, 13
Condyles
of femur
lateral, 479, 498–501
medial, 479, 499–501
of fibula
lateral, 505
medial, 505
of knee
lateral, BP112
medial, BP112
mandibular, 14
occipital, 15, 17–18, 23, 37
of tibia
lateral, 484, 504, 510
medial, 498
Cone of light, 106
Cones, 131
Confluence of sinuses, 110, 114–115, 155–156
imaging of, 159
Conjoined longitudinal muscle, 343, 376
Conjoint tendon, 262–263
Conjunctiva, 104
Conjunctival fornix
inferior, 94
superior, 94
Connective tissues, BP6
dense, BP6
layer of, in hair follicle, BP1
of skull, 113
Conoid ligament, 408, 412, 415
Conoid tubercle, 408
Conus arteriosus, BP51, 216, 224–226
Conus elasticus, 91–92
Conus medullaris, T3.1, 169–170
radiology of, 165
Cooper's ligament, 188. *See also* Pectineal ligament (Cooper's)
Coracoacromial ligament, 412, 415, 417, 421
Coracobrachialis muscle, T7.3, 246–247, 409, 414, 417, 419, 421, 423, 425, 463, 465
Coracobrachialis tendon, 414, 417
Coracoclavicular ligament, 408, 412, 415
Coracohumeral ligament, 412
Coracoid process, 194–195, 409–412, 414–419, 421, 423, 470
of scapula, 192
Cornea, BP26, 94, 100–101, 103–104
Corneoscleral junction, 94
Corniculate cartilage, 90
Corniculate tubercle, 75, 79, 91
Corona radiata, BP95
Coronal plane, 1
Coronal sulcus, 370
Coronal suture, BP17, 11–16, 21
Coronary arteries, 41–42, 222
imaging of, 223
left, 222–223
anterior interventricular branch of, BP52, 216, 222
anterior interventricular sulcus of, BP51, 216
circumflex branch of, BP52, 222–223, 226
interventricular septal branches of, BP52, 223
left (obtuse) marginal branch of, BP52, 223
opening of, 227
posterior left ventricular branch of, 222
posterolateral branches of, 227
opening of, 228
right, BP51, 216, 218, 222–223, 226
anterior oblique views with arteriograms, BP52
atrial branch of, 222
AV nodal branch of, BP52, 223, 226
interventricular septal branches of, 218, 222–223
opening of, 227
posterior interventricular branch of (posterior descending artery), 223, 226
right (acute) marginal branch of, BP52, 223
SA nodal branch of, BP52, 223
variations of, BP53
Coronary ligament
hepatorenal portion of, 284
of liver, 275, 284, 324
Coronary sinus, BP56, 218–220, 222, 225, 248
opening of, 221, 224, 227
valve (thebesian) of, 224
Coronary sulcus, BP51, 216, 218
Coronoid fossa, 409, 426
Coronoid process, 60, 429, 433
of mandible, 13–14, 24
Corpora cavernosa, of penis, 364
Corpus albicans, BP95, 355
Corpus callosum, 117, 122, 152, 154
body of, imaging of, BP32, 160
dorsal vein of, 155, 157
genu of, 117–118, 121, 123, 157
imaging of, 160
Corpus callosum *(Continued)*
right dorsal branch to, 154
rostrum of, 117, 152, 156
imaging of, 160
splenium of, 117–118, 121, 123, 125, 154–157
imaging of, 160
sulcus of, 117
trunk of, 117, 152
Corpus cavernosum, 349, 363, 365, 367
Corpus hemorrhagicum, BP95
Corpus luteum, BP95, BP92, 355
Corpus spongiosum, BP93, 349, 352, 363–364, 367
Corpus striatum, 152
Corrugator cutis ani muscle, 375–376
Corrugator supercilii muscle, T2.4, BP20, 31, 42, 134
Cortex, BP95
of kidney, 314
Cortical bone, BP7
Cortical lymph vessels, 319
Corticospinal tract, anterior, BP43
Costal cartilages, 191, 193, 202, 250, 328, 408
fifth, 200
left, 220
second, 247
seventh, BP44, 204
sixth, BP44, 413
Costal facet, 163
inferior, 163, 193
superior, 163, 193
transverse, 163, 193
Costal groove, 193
Costal impressions, 284
Costal pleura, 235–236
Costocervical trunk, BP23, 40, 147, 149, 179
Costochondral joints, 193
Costoclavicular ligament, 193, 408, 416
Costocoracoid ligament, 416
Costocoracoid membrane, 416
Costodiaphragmatic recess, BP56, 204, 221
Costomediastinal space, 204
Costotransverse joint, 245
Costotransverse ligament, BP33, 193
lateral, BP33, 193
superior, 193
Costoxiphoid ligament, 193
Cough receptors, 214
Cowper's gland, BP93, 349, 352, 365–367, 371. *See also* Bulbourethral (Cowper's) gland
primordium, 371
Coxal bone, BP4, 476
Cranial, as term of relationship, 1
Cranial base
foramina and canals of
inferior view of, 19
superior view of, 20
inferior view of, 17
nerves of, 64
superior view of, 18
vessels of, 64
Cranial cavity, BP3
Cranial fossa
anterior, 18
middle, 18
floor of, BP24
posterior, 18
arteries of, 154
veins of, 155
Cranial imaging, BP31, 159–160
Cranial nerves
motor and sensory distribution of, 129
nuclei of, in brainstem, 127–128
Cranial root, 137
Craniocervical ligaments
external, 29
internal, 30

www.Booksmedicos06.com

Cranium, BP4
Cremaster fascia, 369, 372
Cremaster muscle, BP59, T6.3, 254, 260, 263, 369
lateral origin, BP58, 253
medial origin, BP58, 253, 262
Cremasteric artery, 258, 264
Cremasteric fascia, BP59, 263
Cremasteric vessels, 263, 383
Cribriform fascia, within saphenous opening, 475
Cribriform hymen, BP96
Cribriform plate, 15, 18, 46
foramina of, 20
Cricoarytenoid muscle
lateral, T2.5, 91–92
action of, 93
posterior, T2.7, 75, 80, 91–92
action of, 93
Cricoesophageal tendon, 80
Cricoid cartilage, 21–22, 32, 35, 77–78, 81, 87, 90–92, 202, 208, 210, 237–238
arch of, 90
arytenoid articular surface of, 90
lamina of, 80, 90–91
posterolateral surface of, 238
prominence over lamina of, 79
Cricopharyngeal muscle, 34, 75, 78, 81, 88–89, 92
Cricothyroid artery, 83, 87
Cricothyroid joint, 90, 93
Cricothyroid ligament, 87
lateral, 90
median, 35, 78, 81, 87, 90, 208
Cricothyroid muscle, T2.4, 35, 81, 87, 91–92, 137
action of, 93
oblique part of, 91
straight part of, 91
Crista galli, 15, 18
imaging of, 160
Crista terminalis, 224, 229
Crossing over, BP91
Cruciate ligaments, 30, 498, 505
anterior, T8.1, 499–500
covered by synovium, BP114
posterior, 499–500
Crura, of respiratory diaphragm, 185
Crural artery
anterior, 107
posterior, 107
Crural fascia, 473, 475, 513–514
Crus of diaphragm, BP38
Crypt, 71
Crypts of Lieberkühn, BP62
Cubital fossa, 402
Cubital region, 2
Cubital vein, median, T7.2, BP99, 405, 407
Cuboid bones, 515–516, 518, 527–528, 535
articular surface for, 517
tuberosity of, 519, 527
Cuboidal cells, BP95
Cuboideonavicular ligament
dorsal, 518
plantar, 519
Cumulus oöphorus, BP95
Cuneate fasciculus, BP43
Cuneate tubercle, 124–125
Cuneiform bones, 515–516, 527–528
medial, BP117, 518, 527
Cuneiform tubercle, 75, 79, 91
Cuneocuboid ligament, dorsal, 518
Cuneonavicular ligaments
dorsal, 518
plantar, 519
Cuneus, 117
apex of, 118
Cutaneous nerves, BP1
brachial
medial, 259
superior lateral, 183
dorsal
intermediate, BP115, 533
lateral, BP115, 473–474, 521, 531–533
medial, BP115, 533
femoral
anterior, 529
lateral, 264, 269, 311, 391, 473–475, 486–488, 490–491, 496, 529–530
posterior, 169, 183, 395, 474, 487, 489, 492–493, 496, 531
of head, 9
of neck, 9, 38
perforating, 393, 395, 474, 487, 489, 493
sural
lateral, 473–474, 492, 507–508, 514, 531–533
medial, BP111, 474, 492, 507–508, 514, 531–532
Cutaneous vein, femoral, anterior, BP107
Cuticle, BP1
Cystic arteries, T5.2, 287, 290–291
variations in, BP69
Cystic duct, 284, 287–288, 290–291
variations in, BP68
Cystohepatic trigone (of Calot), 287, 291
Cystourethrograms, BP89

D

Dartos fascia
of penis, 349, 362–364, 369
of scrotum, BP88, 349, 362, 369, 372, 377, 387
Deep artery
of clitoris, 386
of penis, 363, 365, 387
Deep (Buck's) fascia
of penis, 252–254, 324, 349
of thigh, 362–363
Deep cervical artery, 176
Deep cervical lymph nodes, inferior, 212, 242
Deep cervical lymphatic chain, T2.3
Deep cervical vein, BP42
Deep fascia, of hand, 457
Deep vein of thigh, BP107
Deeper membranous layer, 359
Deltoid ligament. *See also* Collateral ligament
tibiocalcaneal part of, BP116
Deltoid muscle, T7.3, 32, 36, 161, 180, 183, 187, 221, 245–247, 402, 408–410, 413–414, 416–417, 419, 421–423, 425, 463, 468, 470
Deltoid region, 3
anterior, 2
Deltoid tuberosity, 409–410
Deltopectoral groove, 402
Deltopectoral triangle, 413
Dendrite, BP11
Denonvilliers' fascia, 343, 349, 366, 373, 378. *See also* Rectoprostatic (Denonvilliers') fascia
Dens, BP5, BP42, 30
abnormalities of, BP19
apical ligament of, BP19, 30, 77–78
of atlas, 26
of axis, 12, 14, 26, 28
posterior articular facet of, 30
Dental plexus, inferior, 133
Dental pulp, 74
Dentate gyrus, 117, 119, 122–123, 130
Dentate line, 375. *See also* Pectinate (dentate) line
Dentate nucleus, 125
Denticulate ligament, 174, 177
Dentine, of teeth, 74
Depressor anguli oris muscle, T2.4, 20–21, 31, 55, 134
Depressor labii inferioris muscle, T2.4, 20–21, 31, 55, 134
Depressor septi nasi muscle, T2.4, BP20, 31, 42, 134
Dermal papilla, 1–2
Dermatomes, 171
levels of, 171
schematic demarcation of, 171, 472
of upper limb, 403
Dermis, BP1
Descemet's membrane, 101
Descending aorta. *See* Thoracic aorta
Descending colon, 173, 344, 348, 392
Descending fibers, 321, 399
Desmosome, BP16
Detrusor muscle, of bladder wall, BP90
Diagonal conjugate, 336
Diaphragm, BP57, 392. *See also* Respiratory diaphragm
central tendon of, 235
silhouette, BP36
Diaphragmatic constriction, 237
Diaphragmatic ligament, 368, 371. *See also* Suspensory (diaphragmatic) ligament
Diaphragmatic recess, right, 217
Digastric fossa, 24
Digastric muscle, T2.4, 75
anterior belly of, BP22, 34–36, 38, 41, 50, 53, 59, 69, 81
intermediate tendon of, 70
mastoid notch for, 17
phantom, 41
posterior belly of, 32, 35–36, 41, 53, 57, 59, 68–70, 75, 81, 86, 134
Digastric tendon, intermediate, 68
fibrous loop for, 32, 35, 69–70
Digestive system, T6.1, T5.1
Digestive tract, BP10
Digital arteries
dorsal, BP110, BP115, 459–461, 503, 512, 521, 527
palmar, BP101, 424, 449
common, BP101, 424, 450, 453, 455–456
proper, BP101, 450, 456, 459–461
proper, 424
plantar, branches of, 512
Digital fibrous sheaths, 448
Digital nerve
dorsal, 406, 458, 460–461, 473, 511
of foot, 533
lateral, 473
palmar, 406, 449–450
common, 456, 466–467
proper, 450, 456, 458–460, 466–467
proper plantar, branches of, 512
Digital vein
dorsal, 406, 473
palmar, BP99, 406
dorsal, 458
Digits
extensors of, 431
flexors of, 433
Dilator pupillae muscle, T2.1, T2.4, 101, 132, 143
Diploë, 16
Diploic vein, 111, 113
anterior temporal, 111
frontal, 111
occipital, 111
posterior temporal, 111
Direct vein, lateral, 156–157
Distal, as term of relationship, 1
Distal interphalangeal (DIP) joint, BP102, 402, 447–448

////// facebook : Booksmedicos06

Dorsal arteries
of clitoris, 386
of penis, 363, 365, 383
deep, BP98
Dorsal interossei muscle, T8.3
Dorsal nerves
of clitoris, 395
of penis, 363, 365, 387, 391–393, 395, 398
Dorsal plane, 1
Dorsal rami, spinal, 174
Dorsal root, BP38
Dorsal veins
deep
of clitoris, 339–341, 345, 347, 350, 361
of penis, BP98, 342–343, 349, 365, 383, 385, 387
superficial, of penis, BP98, 333, 363, 385
Dorsal venous arch, BP107
Dorsal venous network, 406
Dorsalis pedis artery, BP117, 4, 512, 527
foot, proximal, T8.2
pulses at, 4
Dorsiflexion, of lower limbs movements, 472
Dorsolateral fasciculus, BP43
Dorsum, 443
of foot, 3, 522
of hand, 3
Duct of gland, 71
Duct systems, of liver, 285
Ductuli efferentes testis, BP93
Ductus arteriosus, 233
Ductus (vas) deferens, BP93, T6.2, BP98, BP59, BP109, 256, 262, 264, 266, 348–349, 352, 366, 368–369, 371–373, 385, 391–392, 398, 475
ampulla of, BP93, 366
arteries of, BP98, 266, 369, 380, 383, 385
covered by peritoneum, 263
Ductus reuniens, 109
Ductus venosus, 233
Duodenal bulb, 277, 279
Duodenal flexure
inferior, 279
superior, 279
Duodenal fossa
inferior, 271
superior, 271
Duodenal impression, 284
Duodenal papilla
major, 287
minor, 279, 287
Duodenal wall, layers of, BP61
Duodenojejunal flexure, 271, 278–279, 288, 318, 323
Duodenojejunal fold, 271
Duodenojejunal junction, 185
Duodenomesocolic fold, 271, 278
Duodenum, BP62, T5.1, 137, 271, 274–276, 284–285, 311, 316, 318, 323, 326–327
arteries of, 291, 293
ascending part of, 271, 278
autonomic innervation of, 301–303
descending part of, 185, 271, 273, 278–279
inferior part of, 271, 278
longitudinal muscle of, 278, 287
as site of referred visceral pain, BP13
in situ, 278
superior part of, 278, 287, 329
suspensory muscle of, 271
veins of, 296
Dura mater, BP35, BP42, 45, 106, 109, 111–112, 120, 130, 177, 179
endostial layer of, 113
meningeal layer of, 113
radiology of, 165
spinal, 169, 185
Dura-skull interface, 111, 113
Dural sac, termination of, 165
Dural venous sinuses, T2.3
sagittal section of, 114
superior view of, 115

E

Ear
ampulla of, 108–109
bony and membranous labyrinths of, 108–109
course of sound in cochlea and, 105
external, 106
pediatric, anatomy of, BP28
vestibule of, 108–109
Ear ossicles, T2.1
Edinger-Westphal nucleus. *See* Accessory oculomotor nucleus
Efferent ductules, 371–372
Ejaculatory ducts, BP97, 366–367, 371
in prostatic urethra, 400
Elastic fibers, BP1, BP6
Elastic membrane, of arterial wall
external, BP16
internal, BP16
Elbow
anterior region of, 2
bones of, 426–441
ligaments of, 428
posterior region of, 3
radiographs of, 427
Elliptical recess, 108
Emissary vein, 20, 111, 113
condylar, 179
mastoid, 10, 111, 179
in mastoid foramen, 19
occipital, 111
parietal, 10, 111
Enamel, of teeth, 74
Endocrine system, T4.1, T5.1, BP10
Endolymphatic duct, 20, 108
Endolymphatic sac, 109
Endometrium, of uterus, 379
Endomysium, BP8
Endoneurium, BP12
Endopelvic fascia, T6.1, 347
deep perineal pouch with, BP88
paravesical, 352
Endosteal surface, BP7
Endothelial cell, BP6
Endothelium, of arterial wall, BP16
Eosinophils, BP15, BP6
Epicolic nodes, BP82
Epicondyles
of femur
lateral, 479, 483, 498
medial, 479, 492, 497–498
of knee, medial, BP112
Epicranial aponeurosis, BP20, 10, 31, 113, 184
Epicranius muscle
frontal belly (frontalis) of, 20–21
occipital belly (occipitalis) of, T2.6
Epidermis, 1–2
Epididymal duct, 372
Epididymis, BP93, 368–369, 371–372, 398
appendix of, 369, 371
body, 372
head, 372
sinus of, 369
tail, 372
Epidural fat, BP42
radiology of, 165
Epidural space, fat in, 177
Epidural venous plexus. *See* Internal vertebral venous plexus, anterior
Epidural vertebral venous plexus. *See* Internal vertebral venous plexus, anterior
Epigastric artery
inferior, BP59, BP108, 266–268, 317, 347, 380, 382, 503
cremasteric branches of, 256, 266
pubic branches of, 256, 266, 348
superficial, BP108, 254, 258, 266, 503
superior, 194–197, 215, 258–259
Epigastric node, inferior, 268
Epigastric region, 251
Epigastric veins
inferior, 259, 267, 382
superficial, BP107, 259, 267, 333, 473
superior, 196, 198
Epigastric vessels
inferior, BP98, 254, 256, 262, 264, 344, 348, 356, 383, 385
pubic branches of, 262
superficial, BP58, 252, 254
superficial circumflex, 490
Epiglottis, BP44, 22, 71–72, 75, 77, 79–80, 89–92, 146, 237
Epimysium, BP8
Epineurium
inner, BP12
outer, BP12
Epiphyseal plate, 495
Epiphysis, 460–461
nutrient branch to, 460–461
Epiploic appendices. *See* Omental (epiploic) appendices
Episcleral artery, 103
Episcleral space, BP26, 100
Episcleral vein, 103–104
segment of, 104
Epithelial cord, BP95
Epithelial tag, 370
Epithelium
gingival, 74
superficial, germinal, BP95
Epitympanic recess, 27–28, 105–106
Eponychium, 460–461
Epoöphoron, 371
Erector spinae muscle, T3.2, BP85, 161, 180, 182, 186, 197, 245, 261, 312
Esophageal artery, 211
Esophageal hiatus, 201
Esophageal impression, 284
Esophageal mucosa, 80, 239
Esophageal muscle, 77, 208
circular, 75, 78, 80, 239
longitudinal, 75, 78, 80, 88, 239
cricoid attachment of, 75, 78
Esophageal plexus, 39–40, 137, 210, 213, 220, 234–236, 243, 303
sympathetic branch to, 213
Esophageal prominence, 219
Esophageal submucosa, 80
Esophageal veins, T5.2, 241, 299
Esophagogastric junction, 221, 239, 328–332
cross-sectional anatomy, 328–332
Esophagus, BP56, BP44, BP9, 33–34, 76–77, 79, 81, 89, 91, 137, 200, 210–211, 220–221, 234–235, 237, 241, 243–248, 265, 267–268, 271, 305, 311, 324
abdominal part of, 236–237, 240, 276
air within, BP36
arteries of, 240
variations in, BP55
autonomic innervation of, 303
cervical part of, 236, 240
longitudinal muscle of, 277
lung area for
left, 205
right, 205
lung groove for
left, 205
right, 205

www.Booksmedicos06.com ///////

Esophagus *(Continued)*
lymph vessels and nodes of, 242
musculature of, 238
nerves of, 243
variations in, intrinsic and, BP54
recurrent branch of, 201, 266
in situ, 236
thoracic part of, 236, 240
topography and constrictions of, 237
veins of, 241
ventral surface of, bare are on, 238
Estrogen, BP92
Ethmoid bone, 11, 13, 15, 18, 44–45
anterior ethmoidal foramen of, 21
cribriform plate of, 15, 18, 43–45, 130
crista galli of, 15, 18, 45
nasal concha of
highest, 44
middle, 11, 15, 44
superior, 15, 44
of newborn, 21
orbital plate of, 11, 13, 21
perpendicular plate of, 11, 15, 45
uncinate process of, 44, 52
Ethmoid sinus, imaging of, 160
Ethmoidal artery
anterior, 20, 99
anterior meningeal branch of, 112
posterior, 20, 99, 112
lateral nasal branch of, 47
septal nasal branch of, 47
Ethmoidal bulla, 43–44
Ethmoidal cells, BP26, BP22, 50–51
anterior, 98
middle, opening of, 43–44
posterior, openings of, 44
Ethmoidal foramen
anterior, 20
posterior, 20
Ethmoidal nerve
anterior, 20, 61, 97–98, 132–133
external nasal branch of, 9, 46, 48, 61
lateral internal nasal branch of, 46
medial internal nasal branch of, 46, 98
posterior, 20, 61, 97–98, 132–133
Ethmoidal sinus, 12
Ethmoidal vein
anterior, 20
posterior, 20
Eustachian tube. *See* Auditory tube
Eversion, of lower limbs movements, 472
Extension, of lower limbs movements, 472
Extensor carpi radialis brevis muscle, T7.3, 402, 422, 431, 434–435, 439–441, 468–469
Extensor carpi radialis brevis tendon, 434–435, 441, 457, 459–460
Extensor carpi radialis longus muscle, T7.3, 402, 409, 422, 425, 431, 434–435, 439–441, 468–469
Extensor carpi radialis longus tendon, 434–435, 441, 457, 459–460
Extensor carpi ulnaris muscle, T7.3, 402, 422, 431, 434, 439–441, 468–469
Extensor carpi ulnaris tendon, 434–435, 441, 459–460
Extensor digiti minimi muscle, T7.4, 431, 434, 439–441, 469
Extensor digiti minimi tendon, 434–435, 441, 459–460
Extensor digitorum brevis muscle, T8.3, 510, 512, 520, 527, 533
Extensor digitorum brevis tendon, 511–512, 522
Extensor digitorum longus muscle, BP116, BP111, T8.3, 484, 498, 506, 510–512, 514, 520, 533
Extensor digitorum longus tendon, 116–117, 471, 510–512, 521, 527
tendinous sheath of, 521
Extensor digitorum muscle, T7.4, 422, 431, 434, 439–441, 468–469
Extensor digitorum tendon, 105–106, 402, 434–435, 441, 459–460
Extensor expansion, 105–106, 454, 460
system, 521, 527
Extensor hallucis brevis muscle, BP117, T8.3, 512, 521, 533
Extensor hallucis brevis tendon, BP117, 511–512, 522, 527
Extensor hallucis longus muscle, BP116, BP111, T8.3, 506, 510–512, 514, 522, 533
Extensor hallucis longus tendon, 116–117, 471, 510–512, 521, 527
tendinous sheath of, 520
Extensor indicis muscle, T7.4, 431, 435, 440–441, 469
Extensor indicis tendon, 105–106, 402, 431, 434, 441, 459–460
Extensor pollicis brevis muscle, T7.4, 431, 434–435, 440, 469
Extensor pollicis brevis tendon, 434, 438, 441, 457, 459–460
Extensor pollicis longus muscle, T7.4, 431, 435, 440–441, 469
Extensor pollicis longus tendon, 402, 434, 441, 453, 457, 459–460
Extensor retinaculum, 406, 434–435, 457–460
inferior, 510–511, 520, 533
superior, BP116, 510–511, 520
Extensor tendon, 453–454
common, 409–410, 431, 434–435, 439
long, 454
External abdominal oblique muscle, 484
External capsule, 121
imaging of, 160
External genitalia, 358, 362–363
homologues of, 370
nerves of
female, 395
male, 391
External iliac vein, BP107
External oblique muscle, 344, 348
External occipital protuberance, 13–15, 17, 23, 161
External os, 355
of uterus, 357
External pudendal vein, BP107
External vertebral venous plexus, anterior, BP42
Extrahepatic bile ducts, 287
Extraperitoneal fascia, BP59, 254, 263–264, 394
Extraperitoneal space, 374
Extreme capsule, 121
Extrinsic muscle, of eye, 96
innervation of, 96
Eye, 173
anterior chamber of, 94, 100, 102–103
extrinsic muscles of, 96, 103
innervation of, 96
innervation to, 172
intrinsic arteries and veins of, 103
muscles of, T2.1
posterior chamber of, 94, 100, 102–103
vascular supply of, 104
Eyeball, BP22, 50
fasciae of, BP26
imaging of, 160
posterior chamber of, 101
transverse section of, 100
Eyelashes, 94
Eyelids, 94
arteries and veins of, 99
tarsus of, BP26

F

Face, BP4
arterial supply sources of, 10
deep
arteries of, 63
nerves of, 63
musculature of, BP21
superficial arteries and veins of, 10
Facial artery, 10, 38, 41–42, 49, 53, 57–58, 68, 76, 83–84, 88, 99, 142, 144, 147, 149
pulses at, 4
tonsillar branch of, 72
transverse, 10, 41–42, 53, 58, 83, 99
Facial canal, 135
prominence of, BP27, 106
Facial colliculus, 125
Facial expression, muscles of, T2.1, 31, 68
anterior view of, BP20
Facial muscles, 134
Facial nerve (CN VII), T2.2, BP40, 20, 27–28, 41, 49, 57, 59–60, 62, 64, 66, 68, 76, 82, 105, 107, 110, 115, 124, 128, 133–134, 142, 145–146
branches of, 53–54, 173
buccal, BP21, 54
cervical, BP21, 54
digastric, 54
lateral nasal, 47
marginal mandibular, BP21, 38, 54
stylohyoid, 54
temporal, BP21, 54
zygomatic, BP21, 54
communication to, 136
distribution of, 129
geniculate ganglion of, BP27, 127, 142
imaging of, BP32
internal genu of, 128
motor nucleus of, 134
motor root of, 135
proper, 54
schema of, 134
stylomastoid foramen and, 19
Facial nerve (CN VII) intermediate nerve, 144
chorda tympani of, 19
Facial nodes, 85
Facial nucleus, 127–128
Facial vein, 10, 38–39, 49, 53, 68, 70, 84, 99
common, 10, 39
deep, 10, 84, 99
transverse, 10, 84
Falciform ligament, 255–256, 270, 276, 284, 299, 327
Fallopian tube, 344–346, 353–356, 371, 382, 394, 397. *See also* Uterine (fallopian) tube
left, 356
right, 356
False ribs, 192
Falx cerebri, BP22, 45, 50, 113–115, 155
Fascia
of hand, 453
of orbit and eyeball, BP26
Fascia lata, 252–253, 389, 473, 475, 490, 496
Scarpa's layer of, 252
of thigh, 353, 359, 362–363
Fascial sheath, lumbrical, 450
Fascicle, BP12
Fasciculi proprii, BP43
Fasciculus
cuneate, 125
gracile, 125
lateral, 125

////// facebook : Booksmedicos06

Fasciculus *(Continued)*
longitudinal
dorsal, 158
medial, BP43, 125–126
mammillothalamic, 117
septomarginal, BP43
Fat, BP10
Fat body, suprapatellar, 502
Fat cells, BP6
Fat pads, 235, 428
Fat tissue, 188, 401
Fatty (Camper's) fascia, BP88
Fauces, 72
Female, anterior view of, 2
Femoral artery, BP110, BP108, 4, 258, 266, 362, 400–401, 475, 483, 490, 495–496, 503
ascending branch of, BP108
deep, 4, 401. *See also* Profunda femoris artery
in femoral triangle, T8.2
lateral circumflex, BP108, 490–491, 495, 503
medial circumflex, BP108, 491–492, 495, 503
muscular branches of, BP108, 503
perforating branches, 503
pulses at, 4
transverse branch of, BP108
Femoral canal, 475
lymph nodes (Cloquet's), 264
Femoral cutaneous nerve
lateral, 260, 391
posterior, 169
perineal branch of, 395
posterior, 393
Femoral nerve, BP86, BP109, 169, 256, 262, 264, 269, 389, 391, 400–401, 475, 486–488, 490–491, 529–530
anterior cutaneous branches of, 473
anterior femoral cutaneous branches of, 391
branches of, 496
terminal branch of. *See* Saphenous nerve
Femoral region, BP58
anterior, 2
posterior, 3
Femoral ring, T5.1, 262, 264, 344, 347–348, 475
Femoral sheath, 254, 256, 264, 490
femoral vein in, 253, 264
Femoral vein, BP86, BP107, BP58, 259, 263, 267, 362, 400, 473, 475, 483, 490, 496
circumflex
lateral, BP107
medial, BP107
deep, 5
in femoral sheath, 253, 264
greater, 401
opening of, 265
Femoral vessels, 383, 389
Femur, BP113, BP4, 479, 496, 498, 501–502, 534
adductor tubercle of, 479
articular surface of, BP114
body of, 479
calcar of, 479
condyle of
lateral, 479, 498–501
medial, 479, 499–501
epicondyles of
lateral, 479, 483, 498
medial, 479, 492, 497–498
gluteal tuberosity of, 479
head of, BP109, 400, 477–479, 534
arteries of, 495
fovea for ligament of, 479
ligament of, BP109, 477
radiograph of, 335
intercondylar fossa of, 479
intertrochanteric crest of, 479
intertrochanteric line of, 479
Femur *(Continued)*
lateral supracondylar line of, 479
linea aspera of, 479
medial condyle of, 479
medial epicondyle of, 479
medial supracondylar line of, 479
midshaft of, T8.1
neck of, T8.1, 400–401, 477–479, 534
arteries of, 495
nutrient artery of, 495
nutrient foramen of, 479
pectineal line of, 479
popliteal surface of, 479
quadrate tubercle of, 479
radiograph of, 335
retinacular foramina of, 479
trochanter of
greater, BP109, 161, 334, 401, 471, 477–479, 483, 485–486, 492–493, 534
lesser, 265, 334, 477–479, 534
radiograph of, 335
trochanteric fossa of, 479
Fibrin, BP95
Fibroblast, BP6
in arterial wall, BP16
nuclei, BP6
Fibrocartilaginous labrum. *See* Acetabular labrum
Fibroelastic membranes, of esophagus, 238
Fibrofatty tissue, 374
Fibromuscular extension, BP90
Fibromuscular stroma, 366
Fibrous appendix, of liver, 284
Fibrous capsule, BP114, BP5, 289
Fibrous pericardium, 204, 219, 235
Fibrous septum, 376
transverse, 375
of ischioanal fossa, 374, 376–377
Fibrous sheaths, 525–526
Fibrous trabecula, 158
Fibrous trigone
left, 226
right, 226
Fibula, T8.1, BP113, BP116, BP111, BP4, 501, 504–505, 510–511, 514, 517–518, 521–522, 535
anterior border of, 504–505
apex of, 504
calcaneal branches of, 507
common, 497
condyle of
lateral, 505
medial, 505
fibular notch of, 504
head of, 482–484, 498, 500, 502, 504–505, 508–512, 533
ligament of, 505
posterior ligament of, 502
inferior articular of, 504
interosseous border of, 504–505
lateral malleolus of, 504, 520–522
medial crest of, 504
medial surface of, 504
neck of, BP112, 504
nutrient foramen for, 504
oblique line of, 504
soleal line of, 504
surface of, lateral, 504–505
Fibular artery, BP108, 4, 110–111, 503, 507–509, 513–514
calcaneal branches of, 508
communicating branch of, 509
lateral calcaneal branch of, 509
lateral tarsal branch of, BP110
perforating branch of, BP110, 503, 509, 512, 521–522
posterior, BP110
posterior lateral malleolar branch of, 509
Fibular collateral ligament, 483–484
Fibular nerve
common, BP111, T8.2, 485, 487, 489, 492, 497–498, 501, 507–512, 531–533
sural communicating branch of, 474
deep, BP111, 115–116, 512, 514, 521–522, 533
dorsal digital branch of, 511–512, 521–522
lateral branch of, 521–522, 533
medial branch of, BP117, 511–512, 521–522, 533
recurrent branch of, 512
superficial, BP115, 473, 510–512, 521–522, 531, 533
dorsal digital branches of, 521–522
intermediate dorsal cutaneous branch, 473
medial dorsal cutaneous branch, 473
Fibular retinaculum, 518
inferior, 509–510, 518, 520
fibular tendon in, 517
superior, 507–510, 518, 520
Fibular vein, BP107, 513–514
Fibularis brevis muscle, BP111, T8.4, 506, 510–512, 514, 520, 522, 533
Fibularis brevis tendon, 507–510, 512, 522, 526–527
common tendinous sheath of, 520
Fibularis longus muscle, BP111, T8.4, 471, 484, 497–498, 506, 508, 510–512, 514, 520, 533
Fibularis longus tendon, 507–510, 512, 522, 526–527
common tendinous sheath of, 520
passing to plantar region of foot, 510
Fibularis tertius muscle, BP111, T8.4, 506, 514
Fibularis tertius tendon, 510–511, 520, 522, 527
Filiform papillae, 71
Filum terminale externum, 169–170
Filum terminale internum, 169–170, 177
Fimbriae, 355
of uterine tube, 357
Fimbriated fold, 65
Finger, 461
extensor tendons in, 454
fibrous tendon sheath of, 453, 460–461
flexor tendon of, 454, 460
flexor tendon sheath of, 450, 461
index, 447
little, 447
middle, 447
ring, 447
tendon sheath of, 450–451, 453
Fixed retrocecal appendix, 282
Flexion, of lower limbs movements, 472
Flexor carpi radialis muscle, T7.4, 421, 423, 432, 436, 438–439, 441, 463, 466
Flexor carpi radialis tendon, 402, 437–438, 441, 444, 450, 452–453, 463
Flexor carpi ulnaris muscle, T7.4, 402, 422, 432, 434–437, 439–441, 463, 467
Flexor carpi ulnaris tendon, BP102, 402, 438, 441, 444, 450, 452, 455
Flexor digiti minimi brevis muscle, T7.4, BP117, T8.4, 452, 467, 524–527, 532
Flexor digiti minimi brevis tendon, BP117
plantar, 519
Flexor digitorum brevis muscle, BP117, T8.4, 520, 524–525
Flexor digitorum brevis nerve, 532
Flexor digitorum brevis tendon, BP117, 524–526
plantar, 519
Flexor digitorum longus muscle, BP111, T8.4, 506, 509, 513–514, 532

www.Booksmedicos06.com

Flexor digitorum longus tendon, 116–117, 507–509, 524–526
plantar, 519
tendinous sheath of, 520
Flexor digitorum profundus muscle, T7.4, 433, 438–441, 463, 466–467
Flexor digitorum profundus tendon, 105–106, 433, 441, 444, 448, 450–454, 460–461
Flexor digitorum superficialis muscle, T7.4, 409, 433, 436–439, 441, 463, 466
Flexor digitorum superficialis tendon, 105–106, 402, 433, 436, 441, 444, 448, 450–454, 460–461, 463
Flexor hallucis brevis muscle, T8.4, 524–525, 532
lateral head of, BP117, 525–527
medial head of, BP117, 525–527
origin of, medial, 527
Flexor hallucis brevis nerve, 532
Flexor hallucis brevis tendon, origin of, lateral, 527
Flexor hallucis longus muscle, BP116, BP111, T8.4, 506, 509, 513–514, 532
Flexor hallucis longus tendon, 116–117, 507–509, 524–527
groove for, 517
plantar, 519
tendinous sheath of, 520
Flexor muscles, superficial, 436, 514
Flexor pollicis brevis muscle, T7.4, 452, 455–456, 466–467
Flexor pollicis longus muscle, T7.4, 409, 433, 437–439, 441, 450, 453, 463, 466
Flexor pollicis longus tendon, 105–106, 438, 444, 452–453
Flexor retinaculum, BP116, 437, 444, 450, 452–453, 455–456, 463, 507–509, 513, 520, 525–526, 532
Flexor sheath, common, 450–453, 456
Flexor tendon, 453, 456
common, 409–410, 432–433, 436, 439
fibrous sheaths of, 524
sheaths, 450
at wrist, 452
Floating ribs, 192
Fluid-filled follicular cavity, BP95
Foliate papillae, 71, 146
Follicle-stimulating hormone, BP92
Follicles
developing, BP95, BP92
stages of, BP95
Follicular cavity, fluid-filled, BP95
Fontanelle
anterior, BP17, 21
posterior, 21
Foot
arteries of, 114–115, 527
bones of, 515
cross-sectional anatomy of, 115–116
digital nerves of, dorsal, 473
dorsal venous arch of, 513
dorsal venous network of, BP107
dorsum of, 3, 522
muscle of, 521
interosseous muscle of, 527–528
ligaments of, 519
muscle of sole of
second layer, 525–526
nerves of, 114–115
plantar region of, fibularis longus tendon passing to, 510
plantar surface of, 471
tendon of, 519
Foramen
interventricular (of Monro), 119–120, 125, 156–157
Foramen *(Continued)*
of Luschka, 119–120
of Magendie, 117, 120, 125, 128
transverse section through S2, 166
Foramen cecum, 18, 20, 71, 77
Foramen lacerum, BP29, 17, 19–20
recurrent artery of, 148
Foramen magnum, BP29, 15, 19–20, 23, 138
posterior margin of, BP19
Foramen ovale, BP29, 13, 17, 19–20, 23, 56, 59–60, 233
branch to, 148
valve of, 225
Foramen rotundum, 12, 20, 61
branch to, 148
Foramen spinosum, BP29, 17, 19–20, 23, 59
branch to, 148
Forearm
arteries of, BP101
bones of, 429
cutaneous nerves of, 406
muscles of
anterior, T7.1
attachments of, 439–440
deep layer, 435, 438
extensors of wrist and digits, 431
flexors of digits, 433
flexors of wrist, 432
intermediate layer, 437
posterior, T7.1
rotators of radius, 430
superficial layer, 434, 436
proximal, arteries of, BP100, 424
radial nerve in, 469
serial cross sections of, 441
superficial veins of, 406
Fornix, 117, 123, 158
anterior, 354
body of, 117, 123, 125
columns of, 117, 121–123, 154, 156
commissure of, 123
crus of, 117, 121, 123
Fossa ovalis, 221, 224, 233
limbus of, 224
Fovea
centralis, 103
inferior, 125
superior, 125
Free nerve endings, BP1
Free taenia, 272, 280–281, 283
Frenulum, 281
artery to, 70
of clitoris, 358
of labia minora, 358
of lower lip, 65
of penis, 364
of tongue, 53, 65
of upper lip, 65
Frontal artery, 10
Frontal bone, BP17, 8, 11, 13–18, 42, 44–45, 94–95
anterior meningeal vessels of, groove for, 18
foramen cecum of, 18
frontal crest of, 18
glabella of, 11, 13
nasal spine of, 44–45
of newborn, 21
orbital part of, superior surface of, 18
orbital surface of, 11
sinus of, 15, 44–45
squamous part of, 21, 44–45
superior sagittal sinus of, groove for, 18
supraorbital notch of, 11, 13, 21
Frontal crest, 16, 18, 45
Frontal gyrus
inferior
opercular part of, 116
orbital part of, 116
triangular part of, 116
medial, 117
middle, 116
superior, 116
Frontal (metopic) suture, BP17, 21
Frontal nerve, BP26, 61, 97–98, 132–133, 142
Frontal pole, of cerebrum, 116, 118
Frontal region, 2
Frontal sinus, BP22, BP44, 12, 14, 43–45, 50–51, 77
growth of, 52
Frontal sulcus
inferior, 116
superior, 116
Frontal vein, 10
Frontobasal artery
lateral, 150, 153
medial, 148, 150, 152–153
Frontonasal canal, opening of, 44
Frontonasal duct, opening of, 51
Frontopolar artery, 152–153
Fundic glands. *See* Gastric (fundic) glands
Fundic zone, 277
Fundiform ligament, 252
of penis, 262, 349
Fundus
of stomach, BP57, 237, 239, 276, 328
of urinary bladder, 349–350, 352
of uterus, 345, 355, 379
Fungiform papillae, 71, 146
Furrow, 71

G

Gallaudet's fascia, BP90, 349, 352–353, 359–360, 363–365, 373, 377–378
Gallbladder, BP62, BP87, T5.1, BP9, 137, 173, 202, 270, 273, 276, 282, 284, 287–288, 291, 327, 329
innervation to, 172
as site of referred visceral pain, BP13
Ganglion, 243
inferior, 136, 145
superior, 136
of trigeminal nerve, 142
Ganglion cells, 131
Gartner's duct, 371. *See also* Mesonephric (Gartner's) duct
Gas exchange, BP50
Gastric artery
left, 240, 273, 290, 300–301, 303, 392
esophageal branch of, 240, 290
right, 279, 287, 290–291, 301–303
short, 290
Gastric folds (rugae), 239, 277, 328
Gastric (fundic) glands, BP60
Gastric impression, 284, 289
Gastric nodes, left, 242
Gastric plexus, 392
Gastric veins
left, 241, 296–298
esophageal tributary of, 241
right, 241, 296–297, 299
short, 241, 296, 299
Gastric zone, 277
Gastrocnemius muscle, BP111, T8.4, 471, 481, 484–485, 492, 497–498, 506–514, 531–532
lateral head of, 471, 501–502
lateral subtendinous bursa of, 501
medial head of, 471, 501–502
medial subtendinous bursa of, 501
Gastrocnemius tendon, BP116

////// facebook : Booksmedicos06

Gastrocolic ligament, 273
anterior layers of, 273
posterior layers of, 273
Gastroduodenal artery, 279, 287, 291–293, 303–304, 309
Gastroduodenal plexus, 304
Gastroepiploic artery. *See* Gastroomental (gastroepiploic) artery
Gastroepiploic vessels. *See* Gastroomental (gastroepiploic) vessels
Gastroesophageal junction, T5.1
Gastrointestinal system, BP9
Gastrointestinal tract, BP41
Gastrolienal ligament. *See* Gastrosplenic (gastrolienal) ligament
Gastroomental (gastroepiploic) artery, 273, 290–291
anastomosis of, 273
left, 291
plexus on, 301–302
Gastroomental (gastroepiploic) vessels, 275, 289
left, 296
right, 296, 298
Gastroomental vein
left, 241
right, 241
Gastrophrenic ligament, 273
Gastrosplenic (gastrolienal) ligament, 273–274
Gelatinous substance, BP43
Gemellus muscle
inferior, T8.4, 395, 400–401, 480–481, 485, 492–494
nerve to, 487, 489
superior, T8.5, BP109, 395, 480, 492–494
nerve to, 487, 489, 492
Gemellus tendon, superior, BP109
Genicular artery
descending, BP110, BP108, 491, 503
articular branch of, BP110, BP108, 490
saphenous branch of, BP110
descending, saphenous branch of, BP108, 490
lateral
inferior, BP110, BP108, 503, 508–512
superior, BP110, BP108, 492, 503, 507–509, 511–512
medial
inferior, BP110, BP108, 490–491, 503, 508–509, 511–512
superior, BP110, BP108, 490–492, 503, 507–509, 511–512
middle, BP110, BP108, 503
superior lateral, 510
Genicular veins, BP107
Geniculate body
lateral, 118, 121–122, 124, 127, 131, 143, 150, 154–156
medial, 118, 121–122, 124, 150, 154–156
Geniculate ganglion, 59–60, 62, 107, 110, 134–136, 146
Genioglossus muscle, T2.1, T2.4, BP22, 45, 50, 68, 70, 77, 139
Geniohyoid fascia, 33
Geniohyoid muscle, BP22, T2.5, 33, 50, 69–70, 77–78, 139–140
Genital cord, 371
Genital tubercle, 370
Genitalia
external, 173, 358, 362–363
female, 395
homologues of, 370
innervation to, 172
male, 391
nerves of, 391
internal, homologues of, 371
Genitalia *(Continued)*
lymph nodes of
female, 388
male, 390
lymph vessels of
female, 388
male, 390
Genitofemoral nerve, T5.2, 264, 269, 311, 316, 391, 486–488, 530
femoral branches of, 260, 264, 269, 391, 473, 487
genital branch of, 260, 262, 264, 269, 369, 391, 473, 487
Gerdy's tubercle, BP112, 484, 500, 504–505
iliotibial tract to, 498
Gerota's fascia. *See* Renal (Gerota's) fascia
Gimbernat's ligament. *See* Lacunar ligament (Gimbernat's)
Gingiva, lamina propria of, 74
Gingival epithelium, 74
Gingival groove, 74
Glabella, 8, 11, 13
Gland lobules, 188
Glans, of clitoris, 370
Glans penis, 333, 364, 367, 370
corona, 364
neck, 364
Glassy membrane, BP1
Glenohumeral joint, BP57, 470
capsule of, 422
Glenohumeral ligament
inferior, 412
middle, 412
superior, 412
Glenoid cavity, of scapula, 192, 409, 411–412, 470
Glenoid labrum, 412
inferior, 470
superior, 470
Glial process, BP11
Glisson's capsule. *See* Perivascular fibrous (Glisson's) capsule
Glomerulus, 130
Glossoepiglottic fold
lateral, 71
median, 71
Glossoepiglottic ligament, median, 91
Glossopharyngeal nerve (CN IX), 40–41, 49, 64, 66, 72, 76, 83, 115, 124, 127–128, 134, 137, 141–142, 144–146, 214
branch of, 173
carotid sinus nerve of, 41
distribution of, 129
inferior (petrosal) ganglion of, 64, 146
in jugular foramen, 20
in jugular fossa, 19
lingual branch of, 146
schema of, 136
tympanic branch of, 19
Gluteal aponeurosis, 492
over gluteus medius muscle, 257, 312, 484–485
Gluteal artery
inferior, BP98, 266, 317, 380, 384–385, 492
superior, BP98, 266, 317, 380, 384–385, 489, 492
Gluteal fold, 161, 471
Gluteal lines, 476
anterior, 338, 476
inferior, 338, 476
posterior, 338, 476
Gluteal nerves
inferior, 169, 487, 489, 492–493
superior, 169, 487, 489, 492–493
Gluteal region, 3
Gluteal surface. *See* Ilium, ala of
Gluteal vein
inferior, 267
superior, 267, 298
Gluteus maximus muscle, BP86, T8.4, BP109, 161, 180, 183, 257, 312, 343, 360, 363–364, 377, 392–393, 395, 400–401, 471, 481, 484–485, 492–494, 496, 534
sciatic bursa of, 494
trochanteric bursa of, 494
inferior extension of, 494
Gluteus maximus tendon, BP109
Gluteus medius muscle, T8.1, T8.4, BP109, 161, 395, 400–401, 471, 481–482, 486, 490–494
gluteal aponeurosis over, 484–485
trochanteric bursae of, 494
Gluteus minimus muscle, BP86, T8.4, BP109, 480–481, 485, 490–494
Gluteus minimus tendon, 400
Gonadotropic hormone, BP92
Gonads, 371
retroperitoneal, 368
Graafian follicle, BP95
Gracile fasciculus, BP43, 124
Gracile tubercle, 124–125
Gracilis muscle, T8.1, T8.4, 395, 480, 482–483, 485, 490–492, 496–498, 501, 507, 530
Gracilis tendon, 471, 482–483
Granular foveolae, 16, 111, 113
Granulosa, BP95
Gray matter, BP43
imaging of, BP32, 160
lateral horn of, 174, 322
of spinal cord, 174
of spinal nerves, 174
Gray rami communicantes, BP41, BP39, 141, 143–145, 172, 174, 177, 197, 213, 231–232, 234–235, 243, 269, 300, 303, 320–321, 392, 394, 397–399, 488–489
Great auricular nerve, 184
Great cardiac vein, 222
Great cerebral vein (of Galen), 114–115, 117, 125, 155–157
imaging of, BP31, 159
Great saphenous vein, BP107, 5
Great vessels, of superior mediastinum, 210
Greater occipital nerve, 184
Greater omentum, 270, 272, 283, 285
Greater thoracic splanchnic nerve, BP39, 201, 213, 234–235
left, 200, 220, 243
right, 200, 243
Gubernaculum, 368, 371

H

Habenula, 121
Habenular commissure, 117, 122, 125
Habenular trigone, 122
Hair
bulb of, BP2
cortex of, BP2
cuticle of, 1–2
matrix of, BP1
medulla of, BP2
root sheath of
external, BP2
internal, BP2
shaft of, BP2
Hair cells
inner, 109
outer, 109
Hair follicle, BP41, BP1
external sheath of, BP1
internal sheath of, BP1
papilla of, BP1
Hamate bone, BP102, 442–443, 445–446, 452

www.Booksmedicos06.com ///////

Hamstring muscle, T8.1
Hand
arteries of, 456, 459
bones of, 446
bursae of, 453
cross section of, 105–106
cutaneous innervation of, 462
cutaneous nerves of, 406
dorsal fascia of, 453
dorsum of, 3
extensor zones of, BP103
flexor zones of, BP103
intrinsic muscles of, 455
nerves of, 456, 459
radial nerve in, 469
radiographs of, 447
spaces of, 453
superficial palmar dissections of, 449
superficial radial dissection of, 457
superficial veins of, 406
tendon sheaths of, 453
Hard palate, BP22, 72, 77
imaging of, 160
posterior nasal spine of, BP19
Haustra, 280, 283
Haversian canals, capillaries in, BP7
Head, 8–160
autonomic nerves in, 142
bony framework of, 22
cutaneous nerves of, 9
lymph vessels and nodes of, 85
nerves of, 82
radiate ligament of, BP33
superior articular facet on, BP33
surface anatomy of, 8
Heart, BP41, BP10, 137, 173
anterior aspect of, BP51
anterior exposure of, 216
apex of, BP51, 216, 218, 248
auscultation of, 217
base and diaphragmatic surface of, 218
conducting system of, 229
CT angiograms, 217
inferior border of, 216
innervation of, 172, 231
left border of, 202, 216
radiographs of, 217
right border of, 202
in situ, 215–233
valves and fibrous skeleton of, 226–227
Heart valves
aortic, T4.2, BP57, T4.1, 217, 221, 225–229
mitral, 217, 220–221, 225–229, 248
pulmonic, 217
tricuspid, 217, 220–221, 224, 226–228
Heel, 2
Helicotrema, of cochlea, BP28, 105, 108–109
Helix, 8, 106
crux of, 106
Hematopoietic cells, BP7
Hemiazygos vein, 198, 200, 220
accessory, 198, 211, 235, 241, 247
Hemidiaphragm, right, 217
Henle layer, BP2
Hepatic arteries, 287
branch of, 286
common, 273, 275, 279, 287, 290–291, 293–294, 300, 303, 309
intermediate, 291
left, 290–291
nerve branches of, BP63
proper, 274, 278–279, 284–285, 288, 290–293, 303, 324, 329
right, 290
variations in, BP70
Hepatic duct, 287
common, BP62, 284, 287, 291
left, 288
right, 288
variations in, BP68
Hepatic plexus, 137, 301–302, 304
Hepatic portal vein, T5.2, 221, 233, 241, 274, 276, 278–279, 284, 287–288, 296–299, 324, 326
tributaries of, 299
variations and anomalies of, BP71
Hepatic veins, 236, 241, 267, 284–285, 296
Hepatoduodenal ligament, 273, 276, 279, 329
Hepatogastric ligament, 276, 285
Hepatopancreatic ampulla, sphincter of, 309
Hepatorenal recess (Morison's pouch), BP84
Hepatorenal space (of Morrison), 278
Hering-Breuer reflex, 214. *See also* Stretch receptors (Hering-Breuer reflex)
Hernial sac, BP59
neck of, BP59
Hesselbach's triangle. *See* Inguinal (Hesselbach's) triangle
Hilar lymph nodes, 205. *See also* Bronchopulmonary (hilar) lymph nodes
Hilum, 205, 289
Hinge joints, BP5
Hip
arthrogram of, 534
cross-sectional anatomy of, BP109
MRI of, 534
muscle of, 484–485
bony attachments of, 480–481
nerves of, 493
radiograph of, 534
Hip bursa, 494
Hip joint, T8.1, 477
anteroposterior radiograph of, 478
iliofemoral ligament of, 486
ligaments of, 483
Hippocampal sulcus, 123
Hippocampus, 119, 122–123
alveus of, 123
fimbria of, 117, 119, 121–123, 130
pes of, 122–123
Homologous chromosomes, BP91
Hook of hamate, BP102, 432, 438, 442, 444, 446–448
Horizontal cells, 131
Horizontal fissure, of lungs, right, 205
Horizontal plate, of palatine bone, BP29, 11, 17, 23, 43–45, 67, 73
Horn
anterior, BP43
posterior, BP43, 174
Humeral artery
anterior circumflex, BP100, 417–419, 421, 423–424
posterior circumflex, BP100, 417–419, 422–424
Humeral ligament, transverse, 412
Humeral lymph nodes, 190–191
Humeral vein, posterior circumflex, 405
Humerus, T7.1, 4–5, 217, 409, 411, 423, 425–428
anatomical neck of, 409–410
anterior view of, 409
body of, 247
capitulum of, 409
coronoid fossa of, 409
epicondyles of
lateral, 409–410, 421–422, 426–428, 430–433, 435, 438, 469
medial, 409–410, 421–423, 426–428, 430–438, 467–468
greater tubercle of, 409–412, 417, 421
crest of, 409
Humerus *(Continued)*
head of, 409–411, 470
intertubercular sulcus, 409
lateral supracondylar ridge, 409–410
left
head of, 217
shaft of, 245
medial supracondylar ridge, 409–410
posterior view of, 410
radial fossa of, 409
right, surgical neck of, 245
shaft of, 246
surgical neck of, 409–410, 470
trochlea of, 409
Huxley layer, BP2
Hyaloid canal, 100
Hydatid of Morgagni, 355
Hydrocele, 369
Hymen, variations of, BP96
Hymenal caruncle, 353, 358
Hyoepiglottic ligament, 77, 90
Hyoglossus muscle, T2.5, 34–36, 41, 68–70, 72, 78, 81, 139
Hyoid bone, BP34, BP4, 22, 32, 35–36, 38, 41, 53, 68, 70, 75, 77–78, 81, 87, 89–90, 92
body of, 22, 69
greater horn of, 22, 69, 81
tip of, 88
lesser horn of, 22, 69
Hyperplastic lateral lobe, BP98
Hyperplastic middle lobe, BP98
Hypertonic stomach, BP60
Hypochondriac region
anterior, 2
left, 251
posterior, 3
right, 251
Hypogastric nerve, BP39, 305, 320–321, 391–392, 396–399
left, 394
right, 394
Hypogastric (neurovascular) sheath, 347
Hypogastric plexus, 392
inferior, 306, 320–321, 391–392, 394, 396–399
superior, 172, 299, 305–306, 320, 344, 348, 392, 394, 396–399
uterovaginal, 397
Hypogastric region, 2, 251
Hypoglossal canal, BP19, 15, 17, 19–20
Hypoglossal nerve (CN XII), 39–41, 49, 59, 64, 68, 76, 82–84, 86, 115, 124, 128, 139–140
distribution of, 129
in hypoglossal canal, 19–20
meningeal branch of, 139
nucleus of, 127–128, 139
schema of, 139
vena comitans of, 70, 84
Hypoglossal trigone, 125
Hypophyseal artery
inferior, 148, 151
superior, 148, 151
Hypophyseal fossa, of newborn, 52
Hypophyseal portal system, primary plexus of, BP30
Hypophyseal portal veins
long, BP30
short, BP30
Hypophyseal veins, efferent, 151
Hypophysis, 115, 117–118, 158
arteries and veins of, BP30
in sella turcica, 43
Hypothalamic area, lateral, 146
Hypothalamic artery, 151
Hypothalamic nucleus
paraventricular, 158
supraoptic, 158
Hypothalamic sulcus, 117, 125, 158

////// facebook : Booksmedicos06

Hypothalamic vessels, BP30
Hypothalamohypophyseal tract, 158
Hypothalamus, BP10, 119, 158
arteries and veins of, BP30
principal nuclei of, 158
arcuate (infundibular), 158
dorsomedial, 158
mammillary body, 158
paraventricular, 158
posterior, 158
supraoptic, 158
ventromedial, 158
Hypothenar compartment, BP104
Hypothenar eminence, 402
Hypothenar muscles, BP105, 447, 449–450, 453, 467
Hypotonic stomach, BP60

I

Ileal arteries, 294–295
Ileal orifice, 283
Ileal papilla, 281
Ileal veins, 297
internal, 298
Ileocecal fold (bloodless fold of Treves), 280
Ileocecal junction, BP85
Ileocecal lips, 281
Ileocecal recess
inferior, 280
superior, 280
Ileocecal region, 279–281, 304
Ileocolic artery, 280, 294, 305, 316
Ileocolic nodes, BP82
Ileocolic plexus, 305
Ileocolic vein, 297–299
Ileum, 85–86, 270, 279, 283, 297, 331
circular muscle layer of, 279
terminal part of, 272, 280–281, 344, 348
Iliac artery
common, BP85, 4, 300, 311, 316–317, 380, 382, 384–385, 394
left, 384
right, 384
deep circumflex, BP108, 491, 503
ascending branch of, 258, 266
external, 4, 108–109, 266, 300, 311, 316, 353, 380, 382, 384, 394, 491, 503
internal, BP86, 4, 266, 293, 295, 300, 311, 316–317, 356, 380, 382, 384, 394
superficial circumflex, BP108, 254, 266, 503
Iliac crest, BP85, 161, 167, 180–183, 249–250, 257, 311–312, 333–334, 337–338, 471, 474, 476, 484–486, 492–493
iliac tubercle of, 338
inner lip of, 250, 334, 338, 476
intermediate zone of, 250, 334, 338, 476
outer lip of, 250, 334, 338, 476
tuberculum of, 250, 334, 476
Iliac fascia, 264, 347
Iliac fossa, 337–338, 344. *See also* Ilium, ala of
Iliac lymph nodes, 7
common, 268, 388, 390
external, 268, 319, 390, 475
inferior, 388
superior, 388
internal, 268, 319, 388, 390
Iliac plexus
common, 394
external, 394
internal, 394
Iliac spine
anterior
inferior, 250, 265, 334, 337–338, 342, 476–477
Iliac spine *(Continued)*
superior, BP58, T5.1, 249–250, 252–253, 262–263, 265, 333–334, 337–338, 359, 362, 471, 476–477, 482, 484, 486, 490
posterior
inferior, 167, 476
superior, 161, 167, 337–338, 476
Iliac tubercle, 337
Iliac tuberosity, 250, 334, 476
Iliac vein
common, BP86, 5, 267, 381
deep circumflex, 267
tributaries to, 259
external, BP107, BP109, 5, 267, 353, 381, 491
internal, T6.2, 5, 267, 381
superficial circumflex, BP107, 259, 267, 333, 473
Iliac vessels
common, BP98, 272, 383, 394
deep circumflex, BP98, 256, 264, 347
external, BP98, 256, 262, 264, 280, 344–349, 356–357, 374, 383, 385
covered by peritoneum, 263
left, 385
internal, BP98, 347, 383
right, 385
superficial circumflex, BP58, 252, 490
Iliacus fascia, 374
Iliacus muscle, T8.4, T5.3, T6.3, 262, 265, 311, 347, 374, 400, 480, 482, 486, 488–489, 495, 529
muscular branches to, 488
nerve to, 487
Iliococcygeus muscle, T6.3, 339–343, 353, 377
Iliocostalis cervicis muscle, 181
Iliocostalis lumborum muscle, 181
Iliocostalis muscle, 181
Iliocostalis thoracis muscle, 181
Iliofemoral joint capsule, 495
Iliofemoral ligament, BP109, 477, 495
of hip joint, 486
Iliohypogastric nerve, T5.2, 169, 183, 269, 311–312, 391, 396, 486–488, 530
anterior branch of, 487
anterior cutaneous branch of, 260, 269, 391
lateral cutaneous branch of, 257, 260, 474, 487
Ilioinguinal nerve, T5.2, 169, 263, 269, 311, 391, 396, 486–488, 530
anterior scrotal branches of, 269, 391, 473
labial branch of, anterior, 395
Iliolumbar artery, BP98, 266, 317, 384–385
Iliolumbar ligament, 167, 312, 337
Iliolumbar vein, 267
Iliopectineal bursa, 477, 486
Iliopectineal line, 374
Iliopsoas muscle, BP109, 256, 400–401, 480–481, 483, 490–491, 496. *See also* Iliacus muscle
Iliopsoas tendon, 495
Iliopubic eminence, 250, 334, 337–338, 342, 476–477
Iliopubic tract, 262, 344, 347–348
Iliotibial tract, T8.1, 395, 471, 480, 482, 484–485, 496–499, 501, 505–507, 510–512
bursa deep to, 497–498
to Gerdy's tubercle, 498
vastus lateralis muscle deep to, 492
Ilium, 476, 478
ala of, 250, 334, 338, 342, 476, 534
arcuate line of, 340
body of, 338, 476
radiology of, 165, 335
Incisive canal, 15, 43, 45–46, 48, 77
anastomosis in, 57
Incisive fossa, 17, 19, 23, 67, 73
Incisive papilla, 67
Incisor teeth, 73–74
Incus, BP28, 60, 105–106, 109, 135
lenticular process of, BP27, 106
long limb of, BP27, 106
posterior ligament of, BP27
short limb of, BP27, 106
superior ligament of, BP27
Indirect inguinal hernia, BP59
Inferior, as term of relationship, 1
Inferior articular facet, of L4, BP36
Inferior articular process, 163–164
of L1, BP37
of L2, 165
of L3, BP37
Inferior fascia, 349
of pelvic diaphragm, 359
Inferior hypogastric plexus, 39–40, 172
Inferior mesenteric ganglion, BP41, BP39
Inferior mesenteric plexus, BP39
Inferior nodes, 389
Inferior phrenic nodes, 268
Inferior pubic ligament, 250
Inferior pubic ramus, 250
Inferior vena cava, BP38, BP87, BP98, BP84, 5, 267, 273–276, 278, 284, 288, 293, 296, 311–313, 323, 326–332, 344, 347–348, 381–384, 394
Inferior vertebral notch, of L2 vertebra, BP37
Inferolateral lobe, BP97
Inferoposterior lobe, BP97
Infraclavicular fossa, 2
Infradiaphragmatic fascia, 239
Infraglenoid tubercle, 409–410
Infraglottic cavity, 92
Infrahyoid artery, 87
Infrahyoid fascia, 33
Infrahyoid muscle, fascia of, 32–33
Inframammary lymph nodes, 191
Inframammary region, 2
Infraorbital artery, 10, 42, 57, 63, 83, 94, 99
Infraorbital foramen, BP17, 11–13, 42
of newborn, 21
Infraorbital groove, 11
Infraorbital margin, 8
Infraorbital nerve, BP26, 9, 42, 61–64, 66, 82, 94, 98, 132–133
internal nasal branches of, 48
superior alveolar branches of, 133
Infraorbital vein, 10, 84
Infrapatellar bursa
deep, 502
subcutaneous, 502
Infrapatellar fat pads, 498–499, 502
Infrapatellar synovial fold, 498–499
Infrascapular region, 3
Infraspinatus fascia, 180, 183, 257, 413
Infraspinatus muscle, T7.4, 161, 186, 197, 245–247, 410, 413, 415–418, 422, 468
Infraspinatus tendon, 412, 415, 417, 422
Infraspinous fossa, 410
of scapula, 192
Infratemporal crest, 13
Infratemporal fossa, 13, 23
superior view of, 60
Infratrochlear nerve, 9, 42, 61, 97, 133
left, 98
right, 98
Infundibular process, 158
capillary plexus of, BP30
Infundibular recess, 117
Infundibular stem, 158
Infundibulum, 124, 158, 355
of uterine tube, 357
Inguinal canal, BP109, 263–264
Inguinal falx, BP58, 253–254, 256, 262–263
Inguinal fold, 371

www.Booksmedicos06.com ///////

Inguinal (Hesselbach's) triangle, T5.1, 256, 262
Inguinal ligament (Poupart's), BP107, BP58, T5.1, 249, 252–254, 262–265, 333, 340, 356, 359, 362–363, 389, 471, 473, 475, 482, 488, 491
reflected, 253–254, 262
Inguinal lymph nodes, 7
deep, 475
Inguinal nerve, 260
anterior scrotal branch of, 260
Inguinal nodes
of Cloquet, proximal deep, 388–390
deep, 268, 388–390
superficial, 268, 388–390, 475
inferior, 475
superolateral, 475
superomedial, 475
Inguinal region, BP58, 2
dissections of, 262
left, 251
right, 251
Inguinal ring
deep, BP59, T5.1, 254, 256, 262, 344, 346–348, 368
lateral crus, 262
medial crus, 262
superficial, BP58, 252, 262–263, 359, 363, 368–369
Inhibin, BP92
Inion, 13–15, 17, 23
Initial segment, BP11
Insula (island of Reil), 116, 121, 152
central sulcus of, 116
circular sulcus of, 116
limen of, 116
long gyrus of, 116
short gyrus of, 116
Integumentary system, T5.1
Interalveolar septa, 24
Interarytenoid notch, 79
Interatrial septum, 224, 248
Intercalated node, 85–86
Intercapitular veins, BP99, 406, 458
Intercarpal ligament, dorsal, 445
Intercartilaginous ligaments, 208. *See also* Anular ligaments
Intercavernous septum, of deep fascia, 363–364, 367
Intercavernous sinus
anterior, 114–115
posterior, 114–115
Interchondral joints, 193
Interclavicular ligament, 193
Intercondylar area
anterior, 504–505
posterior, 505
Intercondylar eminence, 499, 501, 504–505
Intercondylar fossa, 479
Intercondylar tubercles, 505
Intercostal artery, 197, 258
anterior, 196–197
collateral branches of, 196
cutaneous branches
anterior, 260
lateral, 260
lower, anastomoses, 258
posterior, 176, 194–195, 197, 234–235, 417
dorsal branch of, 177, 197
lateral mammary branches of, lateral cutaneous branches of, 189, 197
right, 197, 211, 240
spinal branch of, 197
supreme, BP23, 147, 149
Intercostal membrane
external, 186, 197, 417
innermost, 186
internal, 186, 197
Intercostal muscles, BP56, 188, 204, 221, 245–247, 258
external, T4.3, 182, 186, 194–195, 197, 253, 258, 261, 417
internal intercostal membrane deep to, 197, 234–235
innermost, T4.3, 196–197, 234–235, 258, 261
internal, T4.3, BP47, 186, 194–197, 258, 261, 417
Intercostal nerves, T5.2, T4.1, 169, 188, 195–197, 232, 234–235, 487
anterior cutaneous branches of, 194, 196–197, 417
anterior ramus of, 177, 186
collateral branches of, 196
cutaneous branches of
lateral, 183
posterior, 183
eight, 213
first, 231
lateral cutaneous branches of, 194–195, 197, 417
anterior branch of, 197
lower, 199
sixth, 213
third, 243
Intercostal nodes, 242
Intercostal veins, 5
anterior, 196, 198
collateral branches of, 196
posterior, 198, 234–235
right, 241
superior
left, 235, 241
right, 198, 234, 241
Intercostobrachial nerve, 195, 260, 404–405, 417, 419, 463
Intercrural fibers, BP58, 252, 262–263
Intercuneiform ligaments, dorsal, 518
Interdigitating fibers, of perineum, 341
Interfascicular fasciculus, BP43
Interfoveolar ligament, 256
Intergluteal cleft, 161
Interlobar lymph vessels, 212
Interlobular arteries, 314
Intermaxillary suture, 17, 42
Intermediate bronchus, right, BP56
Intermediate nerve (of Wrisberg), 107, 134, 142, 146
motor root of, 135
Intermediate sulcus, posterior, BP43
Intermediolateral cell column, 322
Intermediolateral nucleus, BP43
Intermesenteric (abdominal aortic) plexus, 269, 300, 304–305, 321, 392, 394, 396–399
Intermetacarpal joints, 445
Intermuscular septum
anterior, 514
lateral, 421–422, 425, 435, 438, 468
medial, 421–422, 425, 435, 437–438
posterior, 514
transverse, 514
Intermuscular stroma, 308
Internal abdominal oblique muscles, 185
Internal capsule, 119, 121, 152
anterior limb of, 121
imaging of, 160
cleft for, 121
genu of, 121
imaging of, 160
posterior limb of, 121
imaging of, 160
retrolenticular part of, 121
Internal carotid nerve, BP41, BP39
Internal carotid plexus, BP39, 19
Internal genitalia, homologues of, 371
Internal jugular vein, left, 179
Intervertebral (neural) foramen, BP34
exiting L4 nerve root, BP38
Internal oblique muscle, 344, 348
Internal occipital protuberance, 18
Internal os, 355
Internal vertebral venous plexus, anterior, BP42
Interosseous artery
anterior, 100–101, 424, 435, 437–438, 441
common, 100–101, 424, 437–438, 441
posterior, 100–101, 424, 435, 438, 441
recurrent, 100–101, 424, 435
Interosseous compartments
dorsal, BP104
palmar, BP104
Interosseous fascia
dorsal, 453
palmar, 453
Interosseous intercarpal ligaments, 445
Interosseous membrane, BP102, BP110, BP116, BP111, BP108, 429, 431, 433, 441, 444, 501–503, 509, 512, 514, 517
Interosseous muscle, BP105, BP117, 454, 519, 527
dorsal, T7.4, BP106, 453, 455, 460, 522, 527–528
first, BP105, 435, 450, 455, 457, 467
palmar, T7.4, 453, 455, 467
Interosseous nerve
anterior, 438, 441, 466
crural, 532
posterior, 435, 441, 469
Interosseous veins, anterior, BP99
Interpectoral (Rotter's) lymph nodes, 190–191
Interpeduncular cistern, 120
imaging of, BP32
Interpeduncular fossa, 50
Interphalangeal (IP) joint, 519
Interphalangeal ligaments, 448
Interscapular region, 3
Intersigmoid recess, 272, 316
Intersphincteric groove, 374–376
Interspinales muscle, T3.2
Interspinalis cervicis muscle, 182
Interspinalis lumborum muscle, 182
Interspinous ligament, 167–168
Interspinous plane, 251
Intertendinous connections, 460
Interthalamic adhesion, 117, 121–122, 125, 157–158
Intertragic notch, 106
Intertransversarii muscle, T3.2
Intertransversarius laterales lumborum muscle, 182
Intertransverse ligament, 193
Intertrochanteric crest, 477, 493
Intertrochanteric line, 477
Intertubercular plane, 251
Intertubercular sulcus, 409
Intertubercular tendon sheath, 412, 417, 421
Interureteric crest, 352
Interventricular artery, anterior, diagonal branch of, 222
Interventricular branch
anterior, 223
diagonal branches of, 223
inferior, 223
Interventricular foramen (of Monro), 117, 120, 125, 156–157
imaging of, 160
left, 117
Interventricular septal branches, 222
Interventricular septum, 228, 248
membranous part of, 224
muscular part of, 224–225, 227–229

////// facebook : Booksmedicos06

Interventricular sulcus
anterior, BP51, 248
inferior, 218–219
Intervertebral disc space, BP37
C6-C7, BP34
L4-L5, BP36
Intervertebral discs, T3.1, BP33, 164, 168
C6-C7, BP35
cervical, 28–29
L1-2, cross section at, 331
lumbar, 167
L2-L3, 165
lumbosacral, 338
T12-L1, cross section at, 330
Intervertebral foramen, BP37, T3.1, BP36, BP34, T3.2, 28, 164, 166–168, 186
narrowing of, BP18
Intervertebral vein, BP42, 178
Intestinal arteries, T5.2
Intestinal trunk, 268
Intestines, 173, 233. *See also* Large intestine; Small intestine
autonomic innervation of, 306
enteric plexus of, 308
lymphoid nodules of, 7
mesenteric relations of, 271
superior, 172
Intima, of arterial wall, BP16
Intraarticular ligament, BP33
of head of rib, 193
Intraarticular sternocostal ligament, 193
Intraclavicular node, 407
Intraculminate vein, 155
Intralaminar nuclei, 122
Intralobular arteriole, 286
Intralobular bile ductules, 286
Intraparietal sulcus, 116
Intrapulmonary airways, 209
schema of, BP48
Intrapulmonary blood circulation, schema of, BP49
Intrapulmonary lymph nodes. *See* Pulmonary (intrapulmonary) lymph nodes
Intrarenal arteries, 315
Intrinsic back muscles, T3.1
Intrinsic muscle
of larynx, 91
action of, 93
of tongue, 71
Inversion, of lower limbs movements, 472
Investing fascia, BP90, 353, 359–360, 363–365, 373, 377
deep, 349, 352
Iridocorneal angle, 100–101, 103
Iris, 94, 100, 102–103
arteries and veins of, 104
folds of, 101
major arterial circle of, 101, 103–104
minor arterial circle of, 101, 103–104
Irritant receptors, 214
Ischial ramus, 478
Ischial spine, T6.1, 167, 250, 265, 334, 337–342, 380, 393, 395, 476–477, 493
measurements of, 336
radiograph of, 335
Ischial tuberosity, T6.1, 167, 250, 334, 337–338, 341, 343, 359–360, 362–365, 374, 377, 401, 476–478, 485, 492–493
radiograph of, 335
ramus of, 476
measurements of, 336
Ischioanal fossa, 360, 374
anterior recess of, 256, 352–353
fat body of, 359, 362, 374, 400
fibrous septum of, transverse, 376–377
levator ani muscle roofing, 363
transverse fibrous septum of, 374
Ischiocavernosus muscle, T6.3, 345, 352–353, 359–361, 363–365, 373, 377, 386–387
Ischiofemoral joint capsule, 495
Ischiofemoral ligament, BP109, 477, 495
Ischiopubic ramus, 337–338, 343, 349, 353, 359–360, 362, 364–366, 377
Ischium; *See* Ischial tuberosity
Island of Reil. *See* Insula (island of Reil)
Isthmus, 355
of uterus, 355

J

Jejunal arteries, 294–295
anastomotic loop (arcade) of, 279, 294
Jejunal veins, 297
Jejunum, 270–271, 278–279, 297, 327, 330–331
circular muscle layer of, 279
longitudinal muscle layer of, 279
submucosa of, 279
Joint capsule, BP6, BP117, 428, 448, 497, 499, 511
attachment of, 502
of foot, 519
synovium lining, BP114
Joint fluid, BP109
Joints
ball-and-socket, BP5
connective tissues and cartilage of, BP6
hinge, BP5
pivot, BP5
plane, BP5
saddle, BP5
synovial, BP5
types of, BP5
Jugular foramen, 15, 20, 115, 136–138
Jugular fossa, BP27, 17, 19
Jugular nerve, 141
Jugular notch, 8, 32, 187, 202
of sternum, 192
Jugular trunk, 85
Jugular vein
anterior, 38, 87
termination of, 84
external, T2.2, 5, 8, 10, 38–39, 53, 84, 87, 204, 210, 215, 241
internal, 5, 10, 32–33, 35, 37–38, 40–41, 49, 53, 64, 70, 76, 84, 86–89, 105, 107, 110, 139, 191, 195–196, 204, 212, 215, 236, 241
imaging of, BP31, 159
inferior bulb of, 88, 179
in jugular fossa, 19
left, 216, 221
right, T2.2, 210, 217
superior bulb of, 179
Jugulodigastric node, 85–86
Juguloomohyoid node, 85–86

K

Kidneys, BP38, BP57, T5.1, BP10, 173, 185, 233, 273, 278, 285, 368, 382
autonomic nerves of, 320
gross structure of, 314
inferior pole of, 314
innervation of, 172
autonomic, 321
lateral border of, 314
left, BP87, BP84, 203, 274, 289, 316, 323
lymph vessels and nodes of, 319
major calyces of, 314
medial border of, 314
medulla (pyramids) of, 314, 330
minor calyces of, 314
parenchyma of, blood vessels in, BP78
pole of, 278
Kidneys *(Continued)*
renal capsule of, 314
renal column (of Bertin) of, 314
renal sinus of, 314
right, 203, 274–276, 284, 310–311, 316, 318, 323, 326–327
sagittal view of, 278
as site of referred visceral pain, BP13
in situ
anterior view of, 311
posterior view of, 312
superior pole of, 314
superior pole of, 314
Knee, 497–503
anterior region of, 2
arteries of, BP108
bursa of, 499
condyle of
lateral, BP112
medial, BP112
epicondyle of, medial, BP112
joint capsule of, 497
osteology of, BP112
posterior region of, 3
radiograph of, BP113, 501
transverse ligament of, 500

L

L5/S1 vertebrae, T3.1
Labia majora
commissure of, anterior, 358
posterior commissure of, 358
Labia minora, 356
frenulum of, 358
Labia minus, 345
Labial artery
inferior, 42, 83
posterior, 361, 386
superior, 42, 83
Labial nerves
posterior, 395–396
Labial vein
inferior, 84
superior, 84
Labioscrotal swelling, 370
Labium majus, BP90, 345, 350, 353, 358, 370
Labium minus, BP90, 345, 350, 353, 358, 361, 370
Labrum
anterior, BP109, 534
posterior, BP109, 534
Labyrinthine artery, 20, 107, 150–152, 154
left, 147
Lacrimal apparatus, 95
Lacrimal artery, 99, 149
recurrent meningeal branch of, 112
Lacrimal bone, 11, 13, 44, 50
of newborn, 21, 52
Lacrimal canaliculi, 95
Lacrimal caruncle, 95
Lacrimal gland, BP26, BP40, 50, 97–99, 144, 173
excretory ducts of, 95
innervation to, 172
orbital part of, 95
palpebral part of, 95
Lacrimal nerve, BP26, 61, 63, 97–98, 132–133, 142
palpebral branch of, 9, 61
Lacrimal papilla
inferior, 94–95
superior, 94–95
Lacrimal punctum
inferior, 94–95
superior, 94–95

www.Booksmedicos06.com

Lacrimal sac, 94–95
fossa for, 11, 13
Lactiferous ducts, 188
Lactiferous sinus, 188
Lacuna magna, 367
Lacuna (of Trolard), lateral (venous), 111–112
Lacunar ligament (Gimbernat's), 253–254, 256, 262, 264–265
Lambda, 16
Lambdoid suture, BP17, 12, 14–16, 21
Lamina, BP38, T3.1, 164, 167–168
anterior, of broad ligament, 357
of C6, BP34
of L1, 165
of L4 vertebra, BP37
lumbar, 167
of mesosalpinx, 357
of mesovarium, 357
posterior, of broad ligament, 357
thoracic, 163
Lamina affixa, 122
Lamina propria, of arterial wall, BP16
Lamina terminalis, 117–118, 125, 158
Large intestine, BP9, 283
arteries of, 295
autonomic innervation of, 305
lymph vessels and nodes of, BP82
veins of, 298
Laryngeal artery
inferior, 92
superior, 41, 80, 83, 87–89, 92, 147
Laryngeal inlet (aditus), 77, 79–80
Laryngeal nerve
recurrent, T2.2, 33, 40, 76, 82, 92, 141, 236, 243
left, 87–89, 137, 199, 210, 213–214, 216, 230, 235–236, 243, 245–246
right, 34, 80, 87–89, 92, 137, 230, 243
superior, 76, 137, 141–142, 146, 214, 243
external branch of, 82, 87–89, 92, 137
internal branch of, 75, 78, 80, 82, 87–89, 92, 137, 146
Laryngeal prominence, 90
Laryngeal vein, superior, 84
Laryngopharynx, BP44, 77, 79
Larynx, BP41, BP44, 146, 173, 214
cartilages of, 90
coronal section of, 92
innervation to, 172
intrinsic muscles of, 91
action of, 93
nerves of, 92
Lateral, as term of relationship, 1
Lateral aortic nodes, 268
Lateral aperture, 120
left, 117
Lateral circumflex femoral vein, BP107
Lateral corticospinal tract, BP43
Lateral direct vein, 157
Lateral ligament, of ankle, 518
Lateral node, 390
Lateral plantar vein, BP107
Lateral recess, 125
left, 117
Lateral rectus (semilunar) plane, BP62
Lateral semilunar plane. *See* Lateral rectus (semilunar) plane
Lateral sulcus
anterior, BP43
posterior, BP43
Latissimus dorsi fascia, 416
Latissimus dorsi muscle, T7.4, T3.2, 161, 180, 183, 185–187, 194, 248, 252–253, 257, 260–261, 312, 328, 409–410, 413–414, 416–417, 419, 421, 423
digitations of costal origin of, 257
left, 246
Latissimus dorsi tendon, 246–247, 423, 425
Least thoracic splanchnic nerve, 213
Left bundle
Purkinje fibers of, 229
subendocardial branches of, 229
Left lateral region, 251
Leg
anterior compartment of, T8.1
anterior region of, 2
arteries of, BP110
deep veins of, T8.2
muscle of, 507–512
attachments of, 506
posterior region of, 2–3
serial cross sections of, BP111
venous drainage of, 513
Lens, BP26, 94, 100–103
axis of, 102
capsule of, 100–102
cortex of, 102
equator of, 102
nucleus of, 101–102
supporting structures of, 102
Lentiform nucleus, 121
globus pallidus of, 119, 121
putamen of, 119, 121
imaging of, 160
Lesser occipital nerve, 9
Lesser thoracic splanchnic nerve, BP39, 201, 213
Lesser tubercle, 409, 411–412, 421
crest of, 409
Levator anguli oris muscle, BP20, T2.5, 55, 134
Levator ani fascia, superior, 347
Levator ani muscle, BP90, T6.1, BP109, T6.3, 256, 265, 283, 299, 306, 324, 340–341, 345, 351–353, 359–360, 365, 375–376, 380, 384–386, 392–393, 489
fibromuscular extensions of, 343
iliococcygeus, 341–343, 377
left, 339
levator plate of, 340
medial border of, 343
median raphe of, 341
muscle fibers from, 342–343
muscular trochlea of, 265
nerve to, 487, 489
of pelvic diaphragm, 345, 349, 364, 373–374, 378
prerectal muscle fibers from, 343
puboanalis (puborectalis), 341, 377, 400–401
pubococcygeus, 341–343, 377
roofing ischioanal fossa, 363
tendinous arch of, 339–343, 347, 350, 352–353, 360, 374
Levator costarum muscle, T4.3, 182
Levator labii superioris alaeque nasi muscle, BP21, T2.5, 31, 55, 134
Levator labii superioris muscle, T2.5, 20–21, 31, 55, 134
Levator palpebrae superioris muscle, BP26, T2.1, T2.5, 94, 96–98, 132
insertion of, 94
Levator scapulae muscle, T7.4, 32–33, 36, 39, 180, 183, 410, 413, 417–418, 468
Levator veli palatini muscle, T2.1, T2.5, BP27, 49, 56, 67, 72, 75, 78, 81, 137
interdigitating fibers of, 67
Levatores costarum muscles, 182
brevis, 182
longus, 182
Level of Carina, BP36
Ligament of Treitz, 271
Ligamenta flava, 29
Ligaments
of ankle, 518
of elbow, 428
of foot, 519
of pelvis, 357
of uterus
fascial, 354
round, BP90, 344–346, 352–354, 356, 359, 371, 382
of wrist, BP102, 444–445
Ligamentum arteriosum, 41–42, 210, 216, 225, 233, 235
aortic arch lymph node of, 212
Ligamentum flavum, BP19, 167–168
radiology of, 165
Ligamentum teres, of liver, 233, 285
fissure for, 284
Ligamentum venosum, 233
fissure for, 284
Limb, lower, 471–535
Limen nasi, 43
Linea alba, BP86, BP84, BP58, T5.1, 187, 194, 249, 252–255, 261–262, 333, 344, 348
Linea semilunaris, 249, 333
Linea terminalis, 166, 353
of pelvis, 347–348
Linea translucens, 101
Lingual artery, 10, 41, 57–58, 68, 70, 83, 88, 144, 147, 149
deep, 65
dorsal, 70
tonsillar branch of, 72
Lingual glands, 71
Lingual gyrus, 117
Lingual muscle, longitudinal
inferior, T2.5, 70
superior, T2.8
Lingual nerve, 25, 53, 56–57, 59, 65–66, 68–70, 82, 133–134, 142, 144–146
Lingual tonsil, 71–72, 77
Lingual vein, 10, 70, 84
deep, 65
dorsal, 70
Lingula, 24, 69, 126, 205
Lip
commissure of, 8
lower, frenulum of, 65
philtrum, 8
superior, tubercle of, 8
upper
frenulum of, 65
tubercle of, 65
vermillion border of, 8
Lister's tubercle, 429
Liver, BP62, BP38, T5.1, BP9, 56–57, 137, 173, 202–203, 217, 221, 233, 241, 273, 278, 287, 318, 324, 326, 328–329
area for, 311
arteries of, 290–291
autonomic innervation of, 309
bed of, 284
caudate lobe of, 273, 276, 284–285
coronary ligament of, 275
falciform ligament of, 258
fibrous appendix of, 284
inferior border of, 276
innervation to, 172
left lobe of, 270, 276, 285
lymph vessels and nodes of, BP83
pathway to, 190
quadrate lobe of, 276, 284
right lobe of, BP87, 270, 276, 285
round ligament of, 256, 284, 299
as site of referred visceral pain, BP13
structure of, 286
surfaces and bed of, 284
topography of, BP63

////// facebook : Booksmedicos06

Liver *(Continued)*
variations in form of, BP62, BP64
vascular systems of, 285
Lobules, 8, 372
Locus coeruleus, 125
Longissimus capitis muscle, 181, 184
Longissimus cervicis muscle, 181
Longissimus muscle, 181
Longissimus thoracis muscle, 181
Longitudinal esophageal muscle, 239
Longitudinal fasciculi
dorsal, 158
medial, BP43, 125–126
Longitudinal fold, 287
Longitudinal ligament
anterior, BP35, BP19, 29, 77–78, 167–168, 185, 193, 337, 344, 348
posterior, BP35, BP19, BP33, 30, 167–168
Longitudinal muscle, BP54, 375
conjoined, 374–376
lateral mass of, 238
Longitudinal pharyngeal muscle, 75, 78, 80
Longitudinal vessels, BP12
Longus capitis muscle, T2.6, 36–37, 49, 68
Longus colli muscle, T2.6, 33, 37, 236
innervation of, 420
Loop of Heiss, 351
Lower limb, 471–535
arteries of, T8.2
cutaneous anatomy of, 473–475
lymphatics of, 7
surface anatomy of, 471
veins of, BP107
Lumbar arteries, 266
Lumbar artery, 176
Lumbar ganglion, 1st, 172
Lumbar lordosis, 162
Lumbar lymph nodes, 7, 268
lateral, 388
Lumbar lymph trunks, 319
Lumbar plexus, 169, 486, 488, 529–530
anterior rami of, 488
Lumbar region
anterior, 2
posterior, 3
Lumbar spinal nerves, 185
enlargement, 170
L1, 164–165, 169
anterior ramus of, 392
anterior view of, 162
dermatome of, 171
left lateral view of, 162
posterior view of, 162
vertebrae relation to, 170
L2, 164
anterior ramus of, 167, 399
dermatome of, 171
ganglion, 394
superior view of, 164
vertebrae relation to, 170
L3, 164
anterior ramus of, 397
dermatome of, 171
posterior view of, 164
superior view of, 164
vertebrae relation to, 170
L4, 164, 167
dermatome of, 171
posterior view of, 164
vertebrae relation to, 170
L5, 164, 169, 394
anterior ramus of, 392
anterior view of, 162
dermatome of, 171
left lateral view of, 162
posterior view of, 162
vertebra, body of, 167
vertebrae relation to, 170
Lumbar spine
MRIs, BP38
radiographs of, MRI, BP38
T2-weighted sagittal MRI of, 165
Lumbar splanchnic nerves, BP39
Lumbar triangle (of Petit), 161, 180, 257
Lumbar trunk
left, 268
right, 268
Lumbar trunk ganglion
lower, 232
upper, 232
Lumbar veins
ascending, 267
right, 267
Lumbar vertebrae, BP37, 162, 164, 176
articulated, lateral view of, 164
body of, 164
L1
body of, 167
spinal nerve relation to, 170
transverse process of, 201
L2, spinal nerve relation to, 170
L3
body of, 344, 348
spinal nerve relation to, 170
L4, 379
body of, 338
intervertebral disc, 379
radiograph of, 335
spinal nerve relation to, 170
L5, BP37, T3.1
body of, 338, 379
intervertebral disc, 379
radiograph of, 335
spinal nerve relation to, 170
radiographs of, BP37
section through, 177
transverse process of, 250, 334
Lumbar vertebral body, 168
Lumbocostal ligament, 312
Lumbocostal triangle, 201
Lumbosacral plexus, 269, 487
Lumbosacral region, vertebral ligaments, 167
Lumbosacral trunk, 269, 320, 392, 486–489, 529–530
Lumbrical muscles, T8.5, T7.4, 105–106, 450–455, 466–467, 524–525, 527
tendon of, 526
Lumbrical tendons, 451, 519
distal, 451
Lumen, 308
Lunate (articular) surface, 338
Lunate bone, BP102, 442–443, 445–447
articulation with, 429
Lunate sulcus, 116
Lunate surface, 476
Lungs, BP41, 173, 177, 188
apex of, T4.1, 202, 217
innervation to, 172
left, 205, 215, 219–221, 244–247
anterior border of, 205
apex of, 203, 205
bronchopulmonary segments of, 206–207
cardiac impression of, 205
cardiac notch of, 202, 204
diaphragmatic surface of, 205
esophagus area of, 205
hilum of, 216
inferior border of, 202–203
inferior lobe of, 204–205
lower lobe of, BP57
lymph vessels and nodes of, 212
oblique fissure of, 202–203, 205, 246
root of, 199
superior lobe of, BP56, 204–205
trachea area of, 205
upper lobe of, BP57
Lungs *(Continued)*
lymph nodes of, 212
lymph vessels of, 212
lymphatic drainage routes of, 212
medial views of, 205
right, 205, 215, 220–221, 245–247
anterior border of, 205
apex of, 205
bronchopulmonary segments of, 206–207
cardiac impression of, 205
diaphragmatic surface of, 205
esophagus area of, 205
hilum of, BP44, 216
horizontal fissure of, BP56, 202–205
inferior border of, 202
inferior lobe of, 204–205
lymph vessels and nodes of, 212
middle lobe of, BP56, 204–205
oblique fissure of, BP56, 202, 205
root of, 199
superior lobe of, 204–205
trachea area of, 205
in situ, anterior view of, 204
topography of
anterior view of, 202
posterior view of, 203
Lunotriquetral ligament, 444
Lunula, 227
Lunule, 460–461
Luteal cells, BP95
Luteinizing hormone, BP92
Lymph follicles, 71
Lymph nodes, 401
axillary, 7
cervical, 7
of esophagus, 242
in femoral canal, 264
of genitalia
female, 388
male, 390
of head, 85
iliac, 7
inguinal, 7
lumbar, 7
of lungs, 212
of mammary gland, 7, 190
mediastinal, 7
of neck, 85
paraaortic, T6.2
of pelvis, T6.2
female, 388–389
male, 390
of pharynx, 86
popliteal, 475
preaortic, T6.2, 388
submandibular, 68
tongue, 86
tracheobronchial, T6.2
Lymph vessels, T8.2, 286
along arcuate arteries, 319
along arteries, 319
along interlobar arteries, 319
of esophagus, 242
of genitalia
female, 388
male, 390
of head, 85
of lungs, 212
of mammary gland, 190
medullary, 319
of neck, 85
of pelvis
female, 388–389
male, 390
of pharynx, 86
superficial, 475
tongue, 86

www.Booksmedicos06.com ///////

Lymphatic drainage
of breast, 191
of lungs, 212
of pharynx, 86
of prostate gland, 390
of tongue, 86
Lymphatic duct, right, 7, 191, 212
Lymphatic system, T6.2, T4.2, T5.2, T4.1, 7
Lymphatic trunk
bronchomediastinal, 212
jugular, 212
Lymphatics, abdominal and pelvic, 325
Lymphocytes, BP15
Lymphoid nodule, solitary, 279

M

Mackenrodt's ligament, 346, 353–354. *See also* Cardinal (Mackenrodt's) ligament
with uterine artery, 347
Macrophage, BP6
Macula, 103
Macular arteriole
inferior, 103
superior, 103
Macular venule
inferior, 103
superior, 103
Mallear fold
anterior, BP27, 106
posterior, BP27, 106
Malleolar arteries, anterior
lateral, BP110, BP115, 503, 512, 521–522
medial, BP110, 503, 512, 521–522
Malleolar region, medial, 00001#
Malleolar stria, arteries of, 107
Malleolus
lateral, 471, 505, 507–512, 521–522
medial, BP116, 471, 505, 507, 509, 511–513, 520–522
Malleus, 60, 106, 109
anterior ligament of, 106
anterior process of, BP27
handle of, BP27, 106–107
head of, 27–28, 105–106, 135
lateral process of, 106
superior ligament of, BP27, 106
Mammary gland, T4.1
anterolateral dissection of, 188
arteries of, 189
lymph nodes of, 7, 190
lymph vessels of, 190
sagittal section of, 188
Mammary region, 2
Mammillary bodies, BP30, 50, 117–119, 123–124, 158
imaging of, BP32, 160
Mammillary process, 164
Mammillothalamic fasciculus, 117
Mammillothalamic tract (of Vicq d'Azyr), 158
Mandible, 11–13, 22, 24, 33, 77
of aged person, 24
alveolar part of, 24
angle of, 8, 12, 22, 24, 76, 79
base of, 24
body of, BP22, 11–13, 22, 24, 36, 50
buccinator crest of, 81
condylar process of, 22, 24
head of, 13
condyle of, BP17, 12, 14
coronoid process of, BP17, 13–14, 22, 24, 49
head of, 24
mandibular foramen of, 24
mandibular notch of, 13
mental foramen of, 11, 13, 24
mental protuberance of, 8, 11, 24
mental spines of, 24
mental tubercle of, 11, 24
Mandible *(Continued)*
mylohyoid groove of, 24
mylohyoid line of, 24
neck of, 24, 49
oblique line of, 13, 24, 81
opening of, BP24
pterygoid fovea of, 24
ramus of, BP24, 11–13, 22, 24, 36, 68
retromolar fossa of, 24
sublingual fossa of, 24
submandibular fossa of, 24
Mandibular foramen, 24, 69
Mandibular fossa, BP29, 13, 17, 21, 25
Mandibular nerve, 9, 19–20, 25, 59–60, 66, 82, 97–98, 115, 132–133, 136, 142, 144–146
anterior division of, 59
auricular branches of, 133
meningeal branch of, 19–20, 59, 97, 133
motor root of, 59
parotid branches of, 133
posterior division of, 59
sensory root of, 59
superficial temporal branches of, 133
Mandibular nodes, 85
Mandibular notch, BP24, 13, 22, 24
Manubriosternal joint, 193
Manubriosternal junction, 247
Manubriosternal synchondrosis, 408
Manubrium, 245–246, 408
of sternum, 32–34, 36, 77, 192, 196, 204
Marginal artery, T5.2, 294–295, 380
left, 222
right, 222–223
Marginal sulcus, 117
Masseter muscle, T2.6, 32, 36, 49, 53, 55, 60, 68
deep part of, 55
insertion of, 55
superficial part of, 55
Masseteric artery, 55–58, 60, 83
Masseteric fascia, 31
Masseteric nerve, 55–57, 59–60, 82
nerve to, 133
Mast cell, BP6
Mastication, muscles involved in, T2.1, 55–56
Mastoid cells, BP34, 12, 14, 49
Mastoid angle, 18
Mastoid antrum, BP27, 107
Mastoid canaliculus, 17, 19
Mastoid cells, BP27, 64, 107
Mastoid emissary vein, 10, 111
in mastoid foramen, 19
Mastoid fontanelle, 21
Mastoid foramen, 17, 19–20, 23
Mastoid nodes, 85
Mastoid process, BP29, BP24, 12–13, 17, 22–23, 32, 36–37, 69–70, 182
Maturation, BP91
Mature follicle, BP95, BP92
Maxilla, BP17
Maxillary artery, 25, 41, 47, 55–60, 63, 82–83, 107, 112, 142, 144–145, 147, 149
posterior lateral nasal branch of, 57
proximal, 58
Maxillary bone, 11, 13, 15, 17, 44–45, 49
alveolar process of, BP22, 11, 13, 15, 23, 44, 50
anterior nasal spine of, 11, 13, 15, 42, 44–45
frontal process of, 11, 13, 42, 44, 94
incisive canal of, 15, 44–45
incisive fossa of, 17
infraorbital foramen of, 11, 13
infratemporal surface of, 13
intermaxillary suture of, 17
nasal crest of, 45
nasal surface of, 15
of newborn, 21, 52
orbital surface of, 11
Maxillary bone *(Continued)*
palatine process of, BP29, 15, 17, 23, 43–45, 50, 67, 73
tuberosity of, 13, 23
zygomatic process of, 11, 17
Maxillary nerve, 9, 20, 46, 59–61, 63–64, 66, 82, 97–98, 115, 132–133, 142, 144–146
meningeal branch of, 97, 133
nasal branch of anterior superior alveolar branch of, 48
posterior superior lateral nasal branch of, 48
zygomaticofacial branch of, 133
zygomaticotemporal branch of, 133
Maxillary ostium, 64
Maxillary sinus, BP22, 12, 14, 49–51, 62, 64, 96
alveolar recess of, BP22
growth of, 52
imaging of, BP32
infraorbital recess of, BP22
opening of, BP22, 43–44, 50–51
postsynaptic fibers to, 62
recesses of, 50
transverse section of, 49
wall of, 63
zygomatic recess of, BP22
Maxillary vein, 84, 99
McBurney's point, 281
McGregor's line, BP19
Media, of arterial wall, BP16
Medial, as term of relationship, 1
Medial circumflex femoral vein, BP107
Medial eminence, 125
Medial ligament, of ankle, 518
Medial plantar vein, BP107
Median aperture, 117, 120, 125, 128
Median fissure, anterior, BP43
Median lobe, BP97
Median nerve, T7.1, 404, 419–421, 423, 425, 436–438, 441, 444, 450, 452, 455, 462–466
articular branch of, 466
branches of, 455–456
common palmar digital branch of, 463
communicating branch of, 456
palmar branch of, 404, 406, 436–437, 449, 456, 462, 466
palmar digital branches of, 404
proper, 462–463
recurrent branch of, T7.1, 456, 463
Median nuclei, 122
Median raphe, of levator ani muscle, 341
Median sulcus, posterior, BP43, 125
Mediastinal lymph nodes, 7, 245
Mediastinal nodes
anterior, pathway to, 190
posterior, 242
Mediastinal pleura, 200, 216
Mediastinum
anterior, lung area for, 205
cross section of, 220
anterior, 200
lateral view
left, 235
right, 234
of testis, 369, 372
Medulla oblongata, BP35, BP41, 20, 49, 62, 117, 125, 135, 145–146, 173, 306, 321
in foramen magnum, 19
imaging of, 160
Medullary artery, segmental, 176
Medullary lamina
external, 122
internal, 122
Medullary vein, anteromedian, 155
Medullary velum
inferior, 117, 125
superior, 117, 124–125
Meiosis, BP91

////// facebook : Booksmedicos06

Meissner's corpuscle, BP1
Meissner's plexus, BP54. *See also* Submucosal (Meissner's) plexus
Melanocyte, BP1
Membranous labyrinth, 108–109
Membranous (Scarpa's) fascia, BP88
Membranous septum, 225–229
  atrioventricular part of, 220, 224–229
  interventricular part of, 220, 225–229
Membranous urethra, BP93, BP89, 367
Mendelian inheritance, BP91
Meningeal artery, 112
  accessory, 19–20, 57, 60, 112
  anterior, 99
  dorsal, 148
  middle, T2.3, 20, 25, 56–60, 82–83, 107, 111–113, 115, 142, 147–149
    accessory branch of, 107
    branches of, 113
    frontal (anterior) and parietal (posterior) branches of, 112
    left, 147
  posterior, 20
    in mastoid foramen, 19
Meningeal vein, middle, 20, 111, 113
Meningeal vessels
  anterior, groove for, 18
  middle, 19
    groove for, 18
    grooves for branches of, 15–16
  posterior, groove for, 18
Meninges, 20, 111, 113
  arteries to, 147
Meningohypophyseal trunk, 148
  tentorial branch of, 148
Meniscofemoral ligament, posterior, 499–500
Meniscus, BP114, BP5, 445
  articulating surfaces of, BP114
  lateral, 498–500, 502
  medial, T8.1, 498–499
Menstrual cycle, BP92
Mental foramen, 11, 13, 24
Mental nerve, 9, 59, 66, 82, 133
Mental protuberance, 8, 11, 24
Mental region, 2
Mental spine, superior, 69
Mental tubercle, 24
Mental vein, 84
Mentalis muscle, BP20, T2.6, 31, 55, 134
Meridional fibers, 101
Mesencephalic nucleus, of trigeminal nerve, 133, 146
Mesencephalic vein
  lateral, 155
  posterior, 155, 157
Mesenteric artery
  inferior, 4, 271, 295, 311, 313, 316–317, 380, 382–383, 392
  superior, T5.2, BP57, 4, 185, 233, 271, 279–280, 291–295, 297, 303–304, 311, 313, 316–317, 324, 327, 331, 392
Mesenteric ganglion
  celiac, 269
  inferior, 172, 300, 305, 320, 391–392, 396–399
  superior, 172, 269, 300, 303, 305, 320–321, 391–392, 396, 398–399
Mesenteric nodes
  inferior, 266, 268
  superior, BP82, 268
Mesenteric plexus, inferior, 392
Mesenteric vein
  inferior, 241, 271, 288, 298–299, 381
  superior, 241, 278–279, 294, 296–299, 318, 330
Mesentericoparietal recess, 271
Mesentery, 185, 271, 279, 308
  root of, 288, 316, 344, 348
Mesoappendix, BP62, 280, 304
Mesocolic taenia, 280, 283
Mesocolon
  sigmoid, 373
  transverse, 270–271, 273–274, 278, 283, 297
    attachment of, 275
Mesometrium, 355
Mesonephric (Gartner's) duct
  caudal, residua of, 371
  cranial, 371
Mesonephric tubules, 371
  caudal, 371
  cranial, 371
  vestigial, 372
Mesonephric (wolffian) duct, 368, 371
Mesosalpinx, 346, 355
  laminae of, 357
Mesovarium, 353, 355
  laminae of, 357
Metacarpal arteries
  dorsal, 459
  palmar, BP101, 424, 455
Metacarpal bones, BP102, BP104, BP4, 442–446, 448, 454
  fifth, BP105, 434–435, 438, 447
  first, 435, 438, 447, 452, 457
  fourth, 105–106
  second, 105–106, 435
  third, 105–106, 443, 447
Metacarpal ligaments
  deep transverse, BP106, 448, 455
  dorsal, BP102
  palmar, BP102, 448
  superficial transverse, 406, 449
Metacarpal veins
  dorsal, 406, 458
  palmar, BP99
Metacarpophalangeal ligaments, 448
Metacarpophalangeal (MP) joint, BP102, 448
Metaphyseal bone, BP114, BP5
Metaphysis, nutrient branches to, 460–461
Metatarsal arteries, dorsal, BP110, BP115, 512, 521–522, 527
  anterior perforating branches to, 526
Metatarsal bones, BP117, BP4, 515–516, 519, 527
  fifth, 509–510, 528
    tuberosity of, 526–528
  first, 509, 518, 528
  tuberosity of, 520
Metatarsal ligaments
  deep transverse, 519, 527
  dorsal, 518, 527
  plantar, 527
  transverse, superficial, 523
Metatarsal veins, dorsal, 473
Metatarsophalangeal (MTP) joint, 519
  first, T8.1
Metopic suture. *See* Frontal (metopic) suture
Midbrain, imaging of, 160
Midcarpal joint, 443, 445
Middle colic nodes, BP82
Middle sacral node. *See* Promontorial nodes
Midline groove, 71
Midpalmar space, 450–451, 453
Minimus muscle, T8.1, 486
Minute fasciculi, 449
Mitochondria, 11–12
Mitral cell, 130
Mitral heart valve. *See* Atrioventricular valve, left
Modiolus, 31
Molar teeth, 73–74
  growth of, 52
Monocytes, BP15, BP6
Mons pubis, 358
Morison's pouch. *See* Hepatorenal recess (Morison's pouch)
Motor (autonomic) nerve, BP1
Motor nucleus, 133
  of trigeminal nerve, 146
Mucosa
  of ileum, 279
  of intestine, 308
  of jejunum, 279
Mucous glands, 71
  innervation of, 173
Müllerian duct, 371. *See also* Paramesonephric (Müllerian) duct
Müller's muscle. *See* Tarsal (Müller's) muscle, superior
Multifidus lumborum muscle, 182
Multifidus muscle, T3.2, 185
Multifidus thoracis muscle, 182
Muscles, BP8. *See also specific muscles*
  of arm
    anterior views of, 421
    posterior views of, 422
  of back
    deep layer, 182
    intermediate layers, 181
    superficial layers, 180
  contracted, BP8
  of dorsum of foot, 521
  of eye, T2.1
  of face, facial expression, T2.1, 31, 68
    anterior view of, BP20
  of facial expression, T2.1, 31, 68
  fascicles of, BP8
  fiber of, BP8
  of forearm
    anterior, T7.1
    attachments of, 439–440
    deep layer, 435, 438
    extensors of wrist and digits, 431
    flexors of digits, 433
    flexors of wrist, 432
    intermediate layer, 437
    posterior, T7.1
    rotators of radius, 430
    superficial layer, 434, 436
  of hip, 484–485
  hypothenar, BP105, 447, 449–450, 453, 467
  intercostal, BP56, 188, 204, 221, 245–247, 258
  lumbrical, T8.5, T7.4, 105–106, 450–455, 466–467, 524–525, 527
  of mastication, T2.1, 55–56
  of neck
    anterior view of, 32
    infrahyoid and suprahyoid, 35
    lateral view of, 36
    scalenus and prevertebral, 37
  of pharynx
    lateral view of, 81
    medial view of, 78
    partially opened posterior view of, 75
  relaxed, BP8
  of sole of foot
    second layer, 525–526
  table, 32–33
Muscular artery, 103–104
Muscular branches. *See* Sural branches
Muscular system, T3.1, T6.1, T4.1, BP8, T5.1
Muscular vein, 103
Muscularis mucosae, 308, 375
  of anal canal, 375–376
  of rectum, 376
Musculocutaneous nerve, 419–421, 423, 425, 438, 462–466
  anterior branch of, 465
  articular branch of, 465
  posterior branch of, 465
  terminal part of, 404

www.Booksmedicos06.com

Musculophrenic arteries, 195–196, 204, 215, 258
Musculophrenic vein, 195–196, 259
Musculus uvulae, T2.1, T2.9, 67
Myelin sheath, BP11
Myenteric (Auerbach's) plexus, 308
Mylohyoid artery, 57
  nerve to, 69
Mylohyoid groove, 24
Mylohyoid line, 24
Mylohyoid muscle, BP22, T2.6, 32, 34–36, 38, 41, 50, 53, 59, 68–70, 77–78, 81
  nerve to, 56, 59, 68–69, 82, 133
Mylohyoid nerve, 25, 57
Myofibril, BP8
Myofilaments, BP8
Myometrium, of uterus, 379

N

Nail bed, 460–461
Nail body, 461
Nail fold
Nail matrix, 460–461
Nail root, 460–461
Nares, 8
  anterior, 8
Nasal artery
  external, 10, 42, 57, 83, 99, 149
  lateral, 42
Nasal bone, BP17, 8, 11–13, 15, 42, 44–45, 50
  of newborn, 21, 52
Nasal cartilage, accessory, 42
Nasal cavity, BP26, BP22, BP44, 52, 95
  arteries of, 47
  autonomic innervation of, 62
  bones of, 52
  floor of, 43
  lateral wall of, 43–44, 46
  medial wall of, 45
  nerves of, 46, 48
  postsynaptic fibers to, 62
Nasal concha
  inferior, BP22, 11–12, 15, 43–44, 49, 51, 79, 95
    ethmoidal process of, 44
    growth of, 52
  middle, BP22, 11, 15, 43–44, 51, 95
    growth of, 52
  superior, 43–44
Nasal concha turbinate
  inferior, 50
  middle, 50
Nasal meatus
  highest, lower border of, 52
  inferior, BP22, 43, 50, 95
  middle, BP22, 50
    atrium of, 43
    opening into, 51
  superior, 43, 52
    lower branch of, 52
Nasal nerve
  external, 42
  posterior, 144
Nasal region, 2
Nasal retinal arteriole
  inferior, 103
  superior, 103
Nasal retinal venule
  inferior, 103
  superior, 103
Nasal septal cartilage, 42, 45, 49
  lateral process of, 42, 44–45
Nasal septum, BP22, 12, 23, 46–48, 50, 77, 79
  growth of, 52
  schematic hinge of, 47–48
Nasal slit, 20
Nasal spine
  anterior, BP17, 11, 13, 15, 42, 45
  posterior, 17
Nasal turbinates, BP44
Nasal vein, external, 10, 84
Nasal vestibule, 43–45, 49
Nasalis muscle, BP21, T2.6, 31, 134
  alar part of, BP20, 31, 42
  transverse part of, BP20, 31, 42
Nasion, BP17, 11
Nasociliary nerve, BP26, 61, 97–98, 132–133, 142–143
Nasofrontal vein, 10, 84, 99
Nasolabial lymph nodes, 85
Nasolacrimal canal, opening of, 44
Nasolacrimal duct, 95
  opening of, 43, 95
Nasolacrimal foramen, of newborn, 52
Nasopalatine nerve, 46, 48, 62–63, 66
  groove for, 45
  in incisive fossa, 19
Nasopalatine vessels, groove for, 45
Nasopharyngeal adenoids, 34–35
  imaging of, 160
Nasopharynx, BP44, BP28, 77, 79, 105, 115
  airway to, 43
Navicular bones, 515–516, 518, 527, 535
  tuberosity of, 519, 522, 527
Navicular fossa, 349, 367
Neck, 8–160
  autonomic nerves in, 141
  bony framework of, 22
  cutaneous nerves of, 9, 38
  fascial layers of, 33
  lymph vessels and nodes of, 85
  muscles of
    anterior view of, 32
    infrahyoid and suprahyoid, 35
    lateral view of, 36
  nerves of, 39–40, 82
  posterior triangle of, 194
  of scapula, 192
  superficial veins of, 38
  surface anatomy of, 8
  triangle of, 184
    posterior, 180
  vessels of, 39–40
Nephron, BP77
Nerve fiber bundles, BP12
Nerve fibers, 109
Nerves. *See also specific nerves*
  of abdominal wall
    anterior, 260
    posterior, 269
  of back, 183
  of buttocks, 493
  of cranial base, 64
  of deep face, 63
  of esophagus, 243
  of external genitalia
    female, 395
    male, 391
  of head, 82
    regions, 82
  of hip, 493
  of larynx, 92
  of nasal cavity, 46, 48
  of neck, 39–40
    regions, 39–40, 82
  of orbit, 97
  of perineum
    female, 395
    male, 393
Nervous system, T6.2, T3.1, T5.2, T4.1
  general organization of, 6
Nervus spinosus, 60
Neural foramen. *See* Intervertebral foramen
Neuroendocrine G cell, BP60
Neurofilaments, BP11
Neuroforamina; *See* Intervertebral (neural) foramen
Neurons, BP11
Neurotubules, BP11
Neurovascular compartment, 425
Neurovascular sheath, 347. *See also* Hypogastric (neurovascular) sheath
Neutrophils, BP15
Newborn, skull of, 21
Nipple, 187–188, 333
Node of Cloquet/Rosenmüller, 268
Node of Ranvier, BP12
Nose, 42
  ala of, 8
  innervation of, 173
  transverse section of, 49
Nostril, 8
Nuchal ligament, BP19, 29, 161
Nuchal line
  inferior, 17, 23
  superior, 17, 23, 180
Nucleus ambiguus, 127–128, 136–138
Nucleus pulposus, 28, 164, 168
Nutrient artery, of femur, 495
Nutrient foramen, of femur, 479

O

Obex, 125
Oblique cord, 429
Oblique fibers, 497
Oblique fissure, of lungs, 204
  left, 205
  right, 205
Oblique line, 24, 90
Oblique muscle
  external, BP58, BP109, T5.3, 85–86, 249, 252–258, 260–263, 265, 312, 330
    abdominal, BP47, 180–181, 183, 185, 187–188, 194, 197, 333, 359, 362–363
    aponeurosis of, BP58, 253–255, 260, 262, 264, 312
    aponeurotic part, 252
    muscular part of, 252
  inferior, T2.5, 96, 98, 132
    tendon of, 98
  internal, BP86, BP109, T5.3, 253–258, 260, 262–263, 265
    aponeurosis of, 254–255, 260
  internal abdominal, BP47, 180–181, 185, 194
    in lumbar triangle (of Petit), 180
    tendon of origin of, 185
  superior, BP26, T2.8, 96–98
Oblique popliteal ligament, 499, 501
Obliquus capitis inferior muscle, T3.2, 181–182, 184
Obliquus capitis superior muscle, T3.2, 181–182, 184
Obturator anastomotic, 267
Obturator artery, BP98, BP108, 266, 317, 346–347, 380, 382, 384–385, 392, 400, 477, 495, 503
  accessory, 380, 384
  acetabular branch of, 477, 495
  anterior branch, 477
  posterior branch, 477
Obturator canal, 338–340, 342, 346–347, 350, 384, 491
Obturator crest, 338, 476
Obturator externus muscle, T8.5, 401, 480–481, 483, 491, 530
Obturator fascia, 339–340, 342, 346, 353, 360, 384, 393
  over obturator internus muscle, 350

////// facebook : Booksmedicos06

Obturator foramen, 250, 334, 476, 478, 534
radiograph of, 335
Obturator groove, 476
Obturator internus fascia, 347, 374
Obturator internus muscle, T8.5, BP109, T6.3, 256, 265, 339–343, 350, 352–353, 365, 374, 380, 384, 393, 395, 400–401, 480–481, 485, 489, 492–494, 534
nerve to, 487, 489, 492–493
sciatic bursa of, 494
Obturator internus tendon, BP109, 341, 343
Obturator membrane, 338, 353, 477
Obturator nerve, T8.2, 256, 264, 269, 382, 392, 400, 486–488, 496, 529–530
accessory, 269, 487–488
adductor hiatus, 530
anterior branch of, 491, 530
articular branch of, 530
cutaneous branch of, 473–474, 491, 530
posterior branch of, 491, 530
Obturator node, 388
Obturator vein, 267, 298, 381, 400
Obturator vessels, 256
accessory, 262, 264
right, BP98
Occipital artery, 10, 41, 76, 83–84, 112, 147, 149, 184
descending branch of, 41, 184
groove for, 17
mastoid branch of, 112, 147
medial, 153
meningeal branch of, 10
sternocleidomastoid branch of, 41
Occipital bone, BP17, 13–18, 29, 169–170
basilar part of, 15, 17–18, 29, 37, 43–45, 67, 72, 75, 78–79
clivus of, 18
condylar canal and fossa of, 17
condyle of, 18
foramen magnum of, 15, 17
groove
for inferior petrosal sinus, 15, 18
for occipital sinus, 18
hypoglossal canal of, 15, 17
jugular foramen of, 15
jugular process of, 37
of newborn, 21
nuchal line of
inferior, 17
superior, 17
occipital crest of
external, 17
internal, 18
occipital protuberance of
external, 15, 17
internal, 18
pharyngeal tubercle of, 17, 77
posterior meningeal vessels of, groove for, 18
superior sagittal sinus of, groove for, 18
transverse sinus of, groove for, 15, 18
Occipital condyle, BP29, 15, 17, 23, 37, 139
lateral mass for, superior articular surface of, 26
superior articular surface for, 26
Occipital crest
external, 17, 23
internal, 18
Occipital nerve
greater, 9, 140, 183–184
lesser, 9, 39–40, 140, 183–184
third, 9, 183–184
Occipital nodes, 85
Occipital pole, of cerebrum, 116, 118
Occipital (posterior) horn, 120
Occipital protuberance
external, 13–15, 17, 23, 161
internal, 18
Occipital region, 3
Occipital sinus, 114
groove for, 18
Occipital sulcus, transverse, 116
Occipital vein, 10, 84
internal, 157
Occipitofrontalis muscle
frontal belly of, T2.4, 31, 42, 98, 134
occipital belly of, 31, 134, 184
Occipitomastoid suture, 23
Occipitotemporal gyrus
lateral, 117–118
medial, 117–118
Occipitotemporal sulcus, 117–118
Oculomotor nerve (CN III), T2.2, BP40, 60, 96–98, 115, 124, 127–128, 142, 155
distribution of, 129
inferior branch of, BP26, 97, 132
innervation of, 173
schema of, 132
superior branch of, BP26, 97, 132
in superior orbital fissure, 20
Oculomotor nucleus, 127–128, 132
Odontoid process, of C2, BP35
Olecranon fossa, 410, 426–427
Olfactory bulb, BP22, 46, 50, 118, 130
contralateral, 130
Olfactory bulb cells, 130
Olfactory cells, 130
Olfactory mucosa, 130
distribution of, 46
Olfactory nerve (CN I), T2.2, 20, 46, 48
distribution of, 129
schema of, 130
Olfactory nerve fibers, 130
Olfactory nucleus, anterior, 130
Olfactory stria
lateral, 130
medial, 130
Olfactory sulcus, 118
Olfactory tract, 46, 117–118, 124, 130
Olfactory tract nucleus, lateral, 130
Olfactory trigone, 130
Olfactory tubercle, 130
Oligodendrocyte, cell body of, BP12
Olivary complex, inferior, 128
Olive, 124
Omental bursa, 274, 324
cross section of, 274
stomach reflected, 273
superior recess of, 284, 324
Omental (epiploic) appendices, 272, 283
Omental foramen, 273–274, 276, 285, 324
Omental taenia, 280, 283
Omental veins, 241
Omentum
greater, 270, 272, 283, 285, 331
lesser, 285, 324
anterior layer of, 287–288, 301
posterior layer of, 301
right free margin of, 278
window cut in, 285
Omohyoid muscle, T2.7, 33, 35, 38, 69, 194, 204, 409, 413, 416, 419
inferior belly of, 8, 35–36, 39, 139–140
phantom, 41
superior belly of, 32, 35–36, 38, 139–140
Oogenesis, BP91
Oogonium, BP91
Operculum
frontal, 116
parietal, 116
temporal, 116
Ophthalmic artery, T2.2, 20, 57, 64, 99, 143, 147–149, 151, 154
continuation of, 99
in optic canal, BP26
Ophthalmic nerve, 9, 59–61, 64, 66, 97–98, 115, 132, 142–146
frontal branch of, 20
lacrimal branch of, 20
nasociliary branch of, 20
tentorial (recurrent meningeal) branch of, 97, 133
Ophthalmic vein
inferior, 99, 104
superior, BP26, 20, 84, 99, 104, 115
Opponens digiti minimi muscle, T7.5, 452, 455, 467
Opponens pollicis muscle, T7.5, 452, 455–456, 466
Optic canal, 11, 15, 20
Optic chiasm, BP22, BP30, 50, 115, 117–118, 124, 131, 148, 151–152, 156–158
imaging of, 160
Optic disc, BP26, 103
Optic nerve (CN II), BP22, 20, 50, 64, 96–98, 100, 103, 115, 117–118, 143, 154–155
distribution of, 129
internal sheath of, vessels of, 104
left, 148
meningeal sheath of, 97, 100, 104
in optic canal, BP26
right, 148
schema of, 131
Optic nerve tract, imaging of, BP32
Optic radiation, 131
Optic tract, 50, 118–119, 123–124, 131, 150, 155
Ora serrata, 100, 102–103
Oral cavity, BP22, BP44, BP9, 45, 50, 77
afferent innervation of, BP25, 66
floor of, 69
inspection of, 65
roof of, 67
Oral region, 2
arteries of, 83
veins of, 84
Orbicularis oculi muscle, T2.7, BP21, 31, 134
orbital part of, 20–21, 31
palpebral part of, 20–21, 31, 94
Orbicularis oris muscle, 20–21, 31, 42, 55, 68, 134
Orbit, T2.1, 51
anterior view of, 98
arteries of, 99
fasciae of, BP26
growth of, 52
medial wall of, BP22, 50
nerves of, 97
right, frontal and slightly lateral view of, 11
superior view of, 98
surface of, 11
veins of, 99
Orbital fat, BP22
Orbital fat body, BP26
Orbital fissure
inferior, BP26, BP17, 11, 13, 23
superior, BP26, BP17, 11–12, 20
Orbital gyri, 118
Orbital muscles, BP22
Orbital plate, of newborn, 21
Orbital process, of palatine bone, 11
Orbital region, 2
Orbital septum, 94
Orbital sulcus, 118
Oropharynx, BP44, 33, 72, 77, 79, 237
Orthotonic stomach, BP60
Osseous cochlea, 109
Osseous spiral lamina, 108–109
Osteoblasts, active, BP7
Osteocytes, BP7
Osteoid, BP7
Ostium, of auditory tube, BP44

www.Booksmedicos06.com ///////

Otic capsule, 109
Otic ganglion, 25, 56, 59–60, 107, 133–134, 136, 142, 144–146, 173
schema of, 145
Ova, BP95
Ovarian artery, 382, 394, 397. *See also* Testicular artery
uterine, 386
Ovarian cycle, BP92
Ovarian hormone, BP92
Ovarian plexus, 394, 397
Ovarian vein, 267, 382. *See also* Testicular vein
Ovarian vessels, 316, 344, 347, 386
tubal branches of, 386
Ovaries, BP95, T6.2, BP10, 316, 344–346, 353, 355, 371, 382, 394, 397
blood vessels, BP95
corpus albicans of, 355
corpus luteum of, 355
follicle (graafian), 355
infant, BP95
left, 356
ligaments of, 344, 356, 371
proper, 345–346, 353–355
suspensory, 344–347, 355–357, 371, 382
right, 356–357
Ovum, BP95, 91–92
stages of, BP95

P

Pacinian corpuscle, BP1
Pain, referred visceral, sites of, BP13
Palate
growth of, 52
innervation of, 173
postsynaptic fibers to, 62
uvula of, 65, 72, 75, 79
Palatine aponeurosis, 67, 78
Palatine artery
ascending, 57, 72, 83
tonsillar branch of, 72
descending, 63–64, 83
greater, 47, 57, 63–64, 67
lesser, 47, 57, 63–64, 67, 72
tonsillar branch of, 72
Palatine bone, 15, 17, 44
horizontal plate of, BP29, 11, 17, 23, 43–45, 67, 73
nasal crest of, 45
nasal spine of, posterior, 17, 44–45
of newborn, 21, 52
orbital process of, 11, 44
palatine foramen of
greater, 17, 45
lesser, 17, 45
perpendicular plate of, 11, 44–45
pyramidal process of, 17, 21, 23
sphenoidal process of, 44
Palatine fold, transverse, 67
Palatine foramen
greater, 19, 44, 47, 67, 73
lesser, 19, 44, 47, 67, 73
Palatine gland, 67, 72, 77
Palatine nerve, 46, 144
descending, 144
greater, 46, 48, 62–64, 67, 82, 133, 142, 144
in greater palatine foramen, 19
posterior inferior lateral nasal branch of, 46, 48, 142
lesser, 46, 48, 62–64, 67, 82, 133, 142, 144
in lesser palatine foramen, 19
Palatine process, 15, 23
Palatine raphe, 67
Palatine tonsil, 65, 67–68, 71–72, 77, 79
Palatine vein, 84
external, 84
Palatine vessels
greater, 19
lesser, 19
Palatoglossal arch, 65, 71–72
Palatoglossus muscle, T2.7, 67, 70–72, 137
Palatomaxillary suture, 17
Palatopharyngeal arch, 65, 71–72, 79
Palatopharyngeal ridge, 78
Palatopharyngeus muscle, T2.7, 67, 70–72, 75, 78, 80, 137
Palm, 443
Palmar aponeurosis, 406, 432, 436, 444, 449–450, 453
Palmar arch, 4
carpal, 455
deep, BP101, BP99, 424, 455
superficial, BP101, BP99, 424, 452, 456, 463
Palmar digital veins, 5
Palmar ligament, 448, 451, 454, 460–461
Palmar longus muscle, 438
Palmar plate, BP106
Palmar region, 2
Palmar venous arches, 5
Palmaris brevis muscle, T7.5, 449, 467
Palmaris longus muscle, T7.5, 432, 436, 439, 441, 466
Palmaris longus tendon, 402, 436–437, 441, 444, 449–450, 452
Palpebral arterial arches
inferior, 99
superior, 99
Palpebral artery
lateral, 99
inferior, 99
superior, 99
medial, 99
inferior, 99
superior, 99
Palpebral conjunctiva, BP26, 94
inferior, 94
superior, 94
Palpebral ligament
lateral, BP26
medial, BP26, 94
Pampiniform (venous) plexus, T6.2, BP98, 259, 369
Pancreas, BP38, BP56, T5.1, BP9, 137, 173, 185, 274, 276, 323–324, 329
autonomic innervation of, 310
body of, 273, 276, 288
head of, 273, 276, 278–279, 287, 327
arteries of, 293
as site of referred visceral pain, BP13
innervation to, 172
lymph vessels and nodes of, BP80
in situ, 288
Pancreatic arteries, 291
dorsal, 290–291, 294
great, 291
inferior, 291, 293–294
Pancreatic duct, BP62, BP87, BP67, 287–288
accessory (of Santorini), 279, 288
sphincter of, 287
variations in, 67–68
of Wirsung, 279
Pancreatic islets, BP10
Pancreatic pain, areas of referred pain in, 310
Pancreatic tail, BP87, 273, 289, 291
Pancreatic veins, 296, 298
great, 296
Pancreaticoduodenal arteries
anterior
inferior, 291, 293, 303
superior, 273, 290–291, 293–294, 303
inferior, 291, 293–295, 304
posterior
Pancreaticoduodenal arteries *(Continued)*
inferior, 291, 293, 303
superior, 290–291, 293, 303
Pancreaticoduodenal vein
anterior
inferior, 296, 298
superior, 296, 299
posterior
inferior, 296, 298
superior, 296, 299
Papilla, 74
keratinized tip of, 71
Papillary muscle, 220, 248
inferior, 224–225, 227
anterior, 229
left, 228
right, 228
septal, 227–228
superoposterior, 224–225, 227
anterior, 229
left, 228
right, 228
Parabrachial nucleus, 146
Paracentral artery, 152–153
Paracentral lobule, 117
Paracentral sulcus, 117
Paracolic gutter
left, 272, 344, 348
right, 272, 280, 344, 348
Paracolic nodes, BP82
Paradidymis, 371
Paraduodenal fossa, 271
Parahippocampal gyrus, 117–119, 130
Parallel fibers, 497
Paramesonephric (Müllerian) duct, 371
Paranasal sinuses, 21–22
bones of, 52
changes with age, 52
coronal section of, 50
innervation of, 173
sagittal view of, 51
transverse section of, 50
Pararectal fossa, 344, 346, 348, 374
Pararenal fat, 185
Paraspinal muscle, BP38
Parasternal lymph nodes, 190–191
Parasympathetic fibers, 309
of autonomic reflex pathways, 307
of kidneys and upper ureters, 321
of lower ureter, 399
postsynaptic, BP41
presynaptic, BP41
in reproductive organs, 397
male, 398
of tracheobronchial tree, 214
of urinary bladder, 399
Parasympathetic nervous system, BP40
general topography, BP40
schema of, 173
Parathyroid gland, BP10, 76, 89
inferior, 88–89
superior, 88–89
Paratracheal lymph nodes
left, 212
right, 212
Paratracheal nodes, 242
Paraumbilical veins, T5.2, 299
in round ligament of liver, 259
tributaries of, 259
Paraurethral glands, primordium of, 371
Paraurethral (Skene's) ducts, BP90
openings of, 358
Paraurethral (Skene's) gland, 371
Paravertebral anastomoses, 177
Paravesical endopelvic fascia, 352
Paravesical fossa, 346
Parental generation, BP91

////// facebook : Booksmedicos06

Parietal artery, 10
anterior, 152–153
posterior, 152–153
Parietal bone, BP17, 11, 13–18
mastoid angle of, 18
middle meningeal vessels of, groove for, 18
of newborn, 21
tuber (eminence) of, 21
Parietal emissary vein, 10, 111
Parietal foramen, 16
Parietal lobule, superior, 116
Parietal nodes, posterior, 242
Parietal peritoneum, BP84, 264, 272, 274–275, 309, 324, 332, 344, 348
Parietal pleura
cervical, 202–203, 234
costal part of, 199–200, 204, 210, 215, 235
left border, 203
right border, 203
costal pleura, 234
diaphragmatic part of, BP44, 199–200, 204, 210, 215, 236
mediastinal part of, BP44, 199–200, 204, 210, 215–216, 219–220, 235–236
Parietal region, 3
Parietal vein, 10
Parietooccipital sulcus, 116–117
Paroöphoron, 371
Parotid duct (of Stensen), 53–56, 83
Parotid fascia, 31
Parotid gland, BP41, T2.1, BP40, 32, 36, 38, 49, 53–54, 60, 68, 79, 105, 136, 145, 173
accessory, 53
innervation to, 172
Parotid lymph node, superficial, 85
Parotid space, 41
Parous introitus, BP96
Pars distalis, 158
Pars flaccida, 106
Pars interarticularis, 164
Pars intermedia, 158
Pars tensa, BP27, 106
Pars tuberalis, 158
Parturition, neuropathways in, 396
Passavant's ridge, 78
Patella, BP4, 113–114, 471, 482–484, 491, 497–498, 502, 510–511
articular surface of, BP114
Patellar anastomosis, BP110, BP108, 490–491
Patellar ligament, T8.1, 471, 482–484, 491, 497–499, 502, 505, 510–512
insertion of, BP111
Patellar nerve plexus, 473
Patellar retinaculum
lateral, 482, 484, 497–498, 510–512
medial, 482–483, 491, 497–499, 511–512
Patellar tendon, BP113
Pecten, 375
Pecten pubis, 250, 334, 338, 476
Pectinate (dentate) line, 375
Pectinate ligament, 101
Pectinate muscles, 224
Pectineal fascia, 254
Pectineal ligament (Cooper's), 253–254, 256, 262, 264–265
Pectineus muscle, T8.5, BP109, 400–401, 480–483, 490–491, 495–496, 529
Pectoral fasciae, 188, 416
Pectoral girdle, BP4
Pectoral lymph nodes, 190–191
Pectoral nerve
lateral, 194, 416, 419–420
medial, 194, 419–420
Pectoral region
anterior, 2
lateral, 3
Pectoralis major muscle, T4.3, T7.5, 32, 36, 38, 187–188, 191, 194–195, 197, 204, 220–221, 244–249, 252–254, 402, 408–409, 414, 416, 419, 421, 423, 425
abdominal part of, 413
clavicular head of, 187, 413
pectoral fasciae and, 188
sternal head, 187
sternocostal head of, 413
Pectoralis major tendon, 423, 425
Pectoralis minor muscle, T4.3, T7.5, 194–195, 204, 221, 245–247, 409, 414, 416, 419, 423
Pectoralis minor tendon, 414, 417, 419, 421
Pedicle, BP33, 163, 167–168
of C5, BP34
cervical, 27
of L1, BP36
of L3, BP37
of L4, 165
lumbar, 164
thoracic, 163
Pedis artery
dorsal, BP110, 503, 521–522
medial tarsal branch of, BP110
dorsalis, BP115
Pelvic brim, 353
sacral part of, 166
Pelvic cavity, BP3
contrast medium in, 357
Pelvic diaphragm, 349
fascia of, 378
female, 339–341
inferior fascia of, 359–360, 364, 374, 376, 387
levator ani muscle of, 345, 364, 373–374, 378
male, 342–343
superior fascia of, 347, 350, 359, 374, 376
Pelvic fascia, tendinous arch of, 347, 352
Pelvic floor, T6.1
Pelvic foramina, anterior, 342
Pelvic girdle, BP4
Pelvic outlet, measurements of, 336
Pelvic plexus
inferior, 391–392, 394, 396–399
superior, 391
uterovaginal, 397
Pelvic sacral foramina. *See* Sacral foramina, anterior
Pelvic splanchnic nerves, BP41, 487
S2-4, BP40
Pelvic surface, 166
Pelvic viscera
female, 345–346
nerves of, 394
male, 349
nerves of, 392
Pelvis, 333–401
arcus tendineus fasciae, 354
bones and ligaments of, 337–338
bony framework of, 334
electronic bonus plates in, BP97, BP92, BP93, BP96, 88–89
female
arteries of, 382–383
contents, 344
diaphragm, 339–341
fasciae of, BP88
lymph nodes of, 388
lymph vessels of, 388
measurements of, 336
radiograph of, 335
relationships, 356
urethra, 401
vagina, 401
veins of, 382
viscera, 345
greater, 338
lesser, 338
Pelvis *(Continued)*
ligaments of, 357
linea terminalis of, 347–348
male
arteries of, BP98, 385
bladder-prostate gland junction, 400
contents, 348
diaphragm, 342–343
fasciae of, BP88
lymph nodes of, 390
lymph vessels of, 390
measurements of, 336
radiograph of, 335
veins of, BP98, 385
viscera of, 349
sagittal T2-weighted MRIs in, 379
surface anatomy of, 333
Penile fascia, superficial, BP88
Penile urethra, BP93
Penis, 364, 379
arteries of, T6.2
body (shaft) of, 333, 370
bulb of, 364–365, 367
artery of, 365, 387
cavernous nerves of, 392, 398
corpora cavernosa of, 364–365
crus of, 352, 363–364, 367
Dartos fascia of, 349, 362–364, 369
deep arteries of, 363, 365, 367, 387
deep (Buck's) fascia of, BP88, BP98, 252–254, 324, 349, 362–365, 369, 377–378, 387
dorsal arteries of, 363, 365, 383, 387
deep, BP98, 387
left, 385
dorsal nerves of, 363, 365, 387, 391–393, 395, 398, 487, 493
dorsal veins of
deep, BP98, 342–343, 349, 363, 365, 383, 385
superficial, BP98, 252, 259, 333, 363, 385
fundiform ligament of, 262
glans, 333, 349, 364, 370
corona, 364
neck, 364
ligament of
fundiform, 349
suspensory, 349
raphe of, 370
skin of, 362–364, 369
superficial fascia of, 253–254
suspensory ligament of, BP58, 253
Perforated substance
anterior, 118, 124, 130
posterior, 118
Perforating artery
first, 492
fourth, 492
second, 492
third, 492
Perforating branches, 491
anterior, 527
posterior, 527
Perforating cutaneous nerves, 393, 395
Perforating radiate artery, 314
Perforating veins, BP99, 405–406, 513
anterior, 198
Perianal skin, 376
sweat glands in, 375
Perianal space, 374–375, 378
Perianal tissues, 370
Pericallosal artery, 152–153
Pericardiacophrenic artery, 196, 210, 215–216, 220, 234–235, 258
left, 199–200
right, 199

www.Booksmedicos06.com

Pericardiacophrenic vein, 196, 210, 215–216, 220, 234–235
left, 200
right, 200
Pericardiacophrenic vessels, 219
Pericardial cavity, BP3, 220
Pericardial reflection, 218, 224–225
Pericardial sac, 219
oblique, 219
Pericardial sinus
oblique, 219–220, 248
transverse, BP51, 216, 219, 224–225
Pericardium, T4.2, BP44, T4.1, 33, 200, 210, 215–216, 219, 236
bare area of, 202
central tendon covered by, 200
diaphragmatic part of, 219
sternocostal part of, 219
Perichoroidal space, 100–101
Pericranium, 113
Pericyte, BP6
Periglandular plexus, 308
Periglomerular cell, 130
Perimysium, BP8
Perineal artery, BP98, 353, 361, 385–387
transverse, 387
Perineal body, BP88, T6.1, 343, 349–351, 359–360, 364–366, 373, 377, 387
Perineal compartment, superficial, 378
Perineal fascia, BP88
deep, BP90, 349, 352–353, 359–360, 363–365, 373, 377–378
transverse, 366
superficial, BP90, 349, 352–353, 359–365, 373, 377–378, 386–387, 393
Perineal ligament, transverse, 340, 342, 347, 349–350, 359, 365, 387
Perineal membrane, BP88, BP98, BP90, 256, 265, 324, 339, 343, 345, 349–350, 352–353, 359–361, 363–366, 373, 377, 386–387, 393, 395, 399
anterior thickening of, 350, 365
Perineal muscles
deep, 373
fascia of, 340
transverse
deep, 339, 345, 349, 360–361, 365–366, 378, 385–386
superficial, T6.4, 339, 359–361, 363–365, 373, 377–378, 386–387
superior, 387
Perineal nerves, 361, 374, 392–393, 395, 487, 493
deep, 393
branches of, 361, 393, 395
superficial, 393
branches of, 361, 393, 395
Perineal pouch
deep, with endopelvic fascia, BP88
superficial, BP88
Perineal raphe, 358, 370
Perineal region, 2
Perineal spaces
deep, 361
male, 365
perineal, 386
superficial, 349, 353, 359–361, 363–364, 386–387
Perineal vein, 387
Perineopelvic spaces, 378
Perineum, 333–401
arteries of, 386
deep, 360
electronic bonus plates in, BP88, BP95, BP98, BP94, 90–91
female, 345, 358, 360
fasciae of, BP88
Perineum *(Continued)*
lymph nodes of, 389
lymph vessels of, 389
nerves of, 395
superficial dissection, 359
interdigitating fibers of, 341
male, 348, 362–363
arteries of, 387
fasciae of, BP88
nerves of, 393
veins of, 387
surface anatomy of, 333
veins of, 386
Perineurium, BP12
Periodontium, 74
Periorbita, BP26
Periosteal vessels, BP7
Periosteum, BP7
Peripheral arteries, BP41
Peripheral nerve, features of, BP12
Peripheral nervous system, 6
Periportal arteriole, 286
Periportal bile ductule, 286
Periportal space, 286
Perirenal fat, 185
Perisinusoidal spaces, 286
Peritoneal cavity, 271–272
Peritoneal reflection, 373, 375
Peritoneal vessels, testicular vessels in, 348
Peritoneum, BP88, BP59, T6.1, 185, 239, 255–256, 263, 283, 304, 311, 323, 345, 359, 374, 382, 394
inferior extent of, 397–398
paravesical pouch, 353
parietal, BP84, 264, 272, 274–275, 309, 324, 332, 348–350, 352
uterus through overlying, 356
visceral, 274
Perivascular fibrous (Glisson's) capsule, 285
Permanent teeth, 73–74
Peroneal nerve, deep, BP116
Peroneal retinaculum. *See* Fibular retinaculum, superior
Peroneus brevis muscle, BP116. *See also* Fibularis brevis muscle
Peroneus brevis tendon, BP116
Peroneus longus muscle. *See* Fibularis longus muscle
Peroneus longus tendon, 116–117
Peroneus tertius tendon, BP116
Perpendicular plate, 11, 15
Pes anserinus, 480, 482–483, 497–498
Petit, lumbar triangle of, 161, 180
internal oblique muscle in, 180
Petropharyngeus muscle, 75
Petrosal artery, superficial, descending branch of, 107
Petrosal nerve
deep, 46, 62, 134, 136, 142, 144
greater, BP27, 19–20, 60, 62, 64, 97, 136, 142, 144
in foramen lacerum, 19
groove for, 18, 110
hiatus for, 20
from intermediate nerve, 134
lesser, 19–20, 59–60, 97, 106, 133–134, 136, 145
groove for, 18
hiatus for, 20
Petrosal sinus
inferior, 20, 114–115
groove for, 15, 18
superior, 110, 114–115
groove for, 15, 18
Petrosal vein, 115, 155
Petrosquamous fissure, 21
Petrotympanic fissure, 17, 19
Peyer's patches (aggregate lymphoid nodules), 279
Phalangeal bones, 448
foot, BP4, 516
distal, 515, 519
middle, 515, 519
proximal, 515, 519
hand
distal, BP4, 446–448, 460–461, 466
middle, BP102, BP4, 446–448, 460–461
proximal, BP102, BP105, BP4, BP106, 446–448
Pharyngeal aponeurosis, 75, 78, 80
Pharyngeal artery, 57, 63
ascending, 41, 57, 64, 76, 83, 107, 147, 149
meningeal branch of, 20, 112, 147
pharyngeal branch of, 72
tonsillar branch of, 72
Pharyngeal constrictor muscle, 77, 92
inferior, T2.5, 36, 75, 78, 80–81, 88–89, 92, 137, 237–238
cricopharyngeal part of, 80, 237–238
middle, T2.6, 36, 70, 72, 75, 78, 80–81, 88, 137
superior, T2.8, 56–57, 67–68, 70, 72, 75, 78, 80–81, 83, 88, 137
glossopharyngeal part of, 70, 78
Pharyngeal nerve, 144
Pharyngeal nervous plexus, 76
Pharyngeal plexus, 136–137, 141–142
Pharyngeal raphe, 43, 72, 75, 77–78, 88, 238
Pharyngeal recess, 43, 49, 72, 79
Pharyngeal region
arteries of, 83
veins of, 84
Pharyngeal tonsil, 43, 45, 72, 75, 77, 79
Pharyngeal tubercle, 17, 29, 45, 72, 75, 78
Pharyngobasilar fascia, 67, 70, 75, 78, 81, 86
Pharyngoepiglottic fold, 75, 80
fibers to, 78
Pharyngoesophageal constriction, 237
Pharyngoesophageal junction, 80
Pharynx, BP44, BP9
afferent innervation of, BP25, 66
lymph vessels and nodes of, 86
lymphatic drainage of, 86
medial view of, 77
muscles of
lateral view of, 81
medial view of, 78
partially opened posterior view of, 75
opened posterior view of, 79
posterior view of, 76, 88
posterior wall of, 65
zone of sparse muscle fibers, 80–81, 88
Philtrum, 8, 65
Phrenic arteries, inferior, 236, 240, 266, 273, 290, 300–301, 322–323, 392
left, 243
Phrenic ganglion, 201
Phrenic lymph nodes, inferior, pathway to, 190
Phrenic nerve, T4.1, 33, 37–40, 82–83, 87, 141, 195–196, 199, 204, 210, 215–216, 220, 230, 234–236, 299, 417, 419–420
anterior branch of, 201
left, 199–201, 219, 235
inferior, 201
pericardial branch of, 199
phrenicoabdominal branches of, 199
right, 199–200, 219, 246, 322
inferior, 201
Phrenic nodes, superior, 242
Phrenic plexus, 300–301, 322
Phrenic veins, inferior, 267, 311
left, 241
Phrenicocolic ligament, 273

////// facebook : Booksmedicos06

Phrenicoesophageal ligament, 239
Pia mater, 111, 113, 177
overlying spinal cord, 174
Pial plexus, 176
arterial, 177
peripheral branches from, 177
venous, 178
PICA. *See* Posterior inferior cerebellar artery
Pigment cells, 131
Pillar (rod) cells, 109
Pilosebaceous unit, BP2
Pineal body, 121
Pineal gland, BP10, 117, 122, 124–125
Pineal recess, 117
Piriform cortex, 130
Piriform recess, 79, 91
Piriformis muscle, T8.1, T8.5, T6.3, 265, 339–342, 384, 392–395, 480, 485, 489, 492–494
bursa of, 494
left, 385
nerve to, 487, 489
tendon of, 494
Pisiform bone, BP102, 432, 436–438, 442–450, 452, 455
Pisohamate ligament, BP102, 444
Pisometacarpal ligament, BP102, 444
Pituitary gland, BP10, 115, 117–118, 158
anterior lobe (adenohypophysis) of, BP30, 151, 158
cleft of, 158
imaging of, 160
posterior lobe (neurohypophysis) of, BP30, 151, 158
Pituitary stalk, imaging of, 160
Pivot joint, BP5
Plane joint, BP5
Plantar aponeurosis, T8.1, 520, 523, 525, 535
digital slips of, 523
lateral band of, 523
origin of, BP116
Plantar arch, BP110, BP115, 503, 527
deep, 522
perforating branches from, posterior, 512
Plantar arterial arch, deep, 526
Plantar artery
deep, BP110, 503, 512, 521, 527
lateral, BP116, 509, 513, 520, 525–527
deep branch of, BP117
plantar metatarsal branch of, 524
superficial branch of, BP117
medial, BP116, 509, 513, 520, 523, 525–526
deep branch of, BP117, 525–526
superficial branch of, 523–526
Plantar calcaneocuboid ligament, 519
Plantar calcaneonavicular ligament, 518, 527
Plantar digital arteries, 521–523, 527
common, BP115, 525, 527
Plantar digital nerves
common, 525, 532
proper, 532
Plantar fascia
lateral, 523
medial, 523
Plantar interosseous muscle, T8.5, 526
Plantar ligaments, 519, 527
of foot, 519
long, 518, 527
short, 518
Plantar metatarsal arteries, BP115, 524, 526–527
perforating branches from, 522
Plantar metatarsal ligaments, 519
Plantar nerve
lateral, 115–117, 513, 520, 525–526, 531–532
deep branch of, 525–526
plantar cutaneous branches of, 474
Plantar nerve *(Continued)*
plantar digital branches of, 524
proper plantar digital branches of, 525–526
superficial branch of, 525–526
medial, BP116, 509, 513, 520, 523, 525–526, 531–532
deep branches of, BP117, 526
plantar cutaneous branches of, 474
plantar digital branches of, 524
proper plantar digital branches of, 525–526
superficial branches of, 526
Plantar vein
lateral, BP107
medial, BP107
Plantar venous arch, BP107
Plantarflexion, of lower limbs movements, 472
Plantaris muscle, T8.5, 481, 484–485, 492, 497, 501–502, 506–509, 513, 531–532
Plantaris tendon, BP116, BP111, 485, 507–508, 513–514
Plasma, composition of, BP15
Plasma cell, BP6
Plasma proteins, BP15
Platelets, BP15
Platysma muscle, T2.7, 20–21, 31–33, 38, 134
Pleura, 177, 205
visceral, BP49
Pleural cavity, BP3, 220
costodiaphragmatic recess of, 202–203, 234–235
costomediastinal recess of
left, 200
right, 200
Pleural reflection, T4.1, 202–204
Plica semilunaris, 94–95
Polar body, BP91
Pons, BP35, 117, 124–125, 145–146
imaging of, BP32, 160
Pontine arteries, 150–151, 154
basilar and, 152
Pontine vein
lateral, 155
transverse, 155
Pontomesencephalic vein, anterior, 155
Pontoreticulospinal tract, BP43
Popliteal artery, BP110, BP108, 4, 492, 503, 507–509, 513
of knee, in deep popliteal region, T8.2
pulses at, 4
Popliteal fossa, 3, 471
Popliteal ligament
arcuate, 499, 501–502
oblique, 502
Popliteal vein, BP107, 5, 475, 492, 507–508, 513
Popliteal vessels, 485
Popliteus muscle, T8.5, BP111, 481, 485, 501–502, 506, 508–509, 513–514, 532
nerve to, 532
Popliteus tendon, 499–500
origin of, 498
Porta hepatis, 284
Portacaval anastomoses, 299
Portal arteriole, 286
Portal space, limiting plate of, 286
Portal triad, 285, 288, 329
Portal vein, BP57, 329
branch of, 286
Postanal space
deep, 378
superficial, 378
Postcentral gyrus, 116
Postcentral sulcus, 116
Posterior chamber
of eye, 94, 100, 102–103
of eyeball, 101
Posterior cord, 414
Posterior cutaneous branches, 183
Posterior horn. *See* Occipital (posterior) horn
Posterior inferior cerebellar artery (PICA), 176
Posterior plane, 1
Posterior ramus, 177
Posterior root, 144
rootlets of, 174
Posterior root ganglion, 197, 399. *See also* Spinal sensory (posterior root) ganglion
Posterior sacral foramen, BP86
Posterior tibial artery, pulses at, 4
Posterior tibial veins, BP107
Postganglionic fibers
of lower ureter, 399
in reproductive organs, 397
male, 398
of urinary bladder, 399
Postnatal circulation, 233
Postsynaptic cell, BP11
Postsynaptic membrane, BP11
Poupart's ligament, 249, 252–254, 262–265, 333, 340. *See also* Inguinal ligament (Poupart's)
Preaortic nodes, 390
Precentral gyrus, 116
Precentral sulcus, 116
Prechiasmatic groove, 18
Preculminate vein, 155
Precuneal artery, 153
Precuneus, 117
Prefrontal artery, 150, 152
Preganglionic fibers
of lower ureter, 399
in reproductive organs, 397
male, 398
of urinary bladder, 399
Premolar teeth, 73–74
Prenatal circulation, 233
Preoccipital notch, 116
Prepatellar bursa, subcutaneous, 502
Prepontine cistern, 120
Prepuce, 349, 370
Preputial gland, 364
Prepyloric vein, 296, 298
Presacral fascia, 347, 378
Presacral space, 347, 378
Presternal region, 2
Presymphyseal node, 390
Presynaptic membrane, BP11
Pretracheal fascia, 77
visceral layer of, 208
Pretracheal lymph nodes, 87
Pretracheal space, 34
Pretracheal (visceral) fascia, 33
Prevertebral anastomoses, 177
Prevertebral fascia, 68, 77
Prevertebral soft tissue, BP34
Prevesical fascia, umbilical, 350
Prevesical plexus, 390
Prevesical space, 349–350. *See also* Retropubic (prevesical) space
fat in, 343
of Retzius, 378
Primary oocyte, BP91
Primary ova, BP95
Primary spermatocytes, BP93, BP91
Primordial follicles, BP95
Princeps pollicis artery, BP101, 424
Procerus muscle, T2.7, 20–21, 31, 42, 134
Processus vaginalis, 368
Profunda brachii artery, BP100, 417, 419, 422–425
Profunda femoris artery, BP108, 483, 490–491, 495–496, 503
perforating branches of, BP108

www.Booksmedicos06.com ///////

Profunda femoris vein, 496
Profundus flexor tendons, 453
Progesterone, BP92
Promontorial nodes, 319, 388, 390
Promontory, BP28, 105
  sacral, 166, 334
    measurements of, 336
Pronator quadratus muscle, T7.5, 430, 438–439, 441, 453, 455, 466
Pronator teres muscle, T7.5, 409, 421, 423, 430, 435–441, 463, 466
Prostate, BP97, T6.1, BP109, 379
Prostate gland, BP41, 173, 256, 349, 352, 365–367, 371, 373, 385, 400
  apex of, 366
  base of, 366
  branch to, BP98
  capsule of, BP97, 352
  central zone of, 366
  innervation to, 172
  lymphatic drainage from, 390
  peripheral zone of, 366
  primordium of, 371
  transitional zone of, 366
Prostatic ducts, 366–367
Prostatic lobules, BP93
Prostatic plexus, T6.2, 320, 392, 398–399
Prostatic sinuses, BP97, 366–367
Prostatic urethra, BP97, BP93, BP89, 352, 367, 400
Prostatic utricle, BP97, 366–367, 371
Prostatic venous plexus, 385
Proximal, as term of relationship, 1
Proximal interphalangeal (PIP) joint, BP102, 402, 447–448
Proximal palmar crease, 402
Psoas minor tendon, 265
Psoas muscle, BP38, 400, 486, 495
  major, T5.3, 85–86, 185, 201, 262, 265–267, 269, 278, 311–312, 344, 347–348, 382, 482, 486, 488–489, 529
    nerves to, 487
  minor, T5.3, 265, 344, 348, 486
    nerves to, 487
  muscular branches to, 488
Psoas tendon, 400
Pterion, T2.1, 13
Pterygoid artery, 57
  lateral, 57
  medial, 57
Pterygoid canal
  artery of, 57, 63–64, 107, 148
  nerve (vidian) of, 46, 48, 61–62, 64, 107, 133–134, 136, 142, 144, 146
Pterygoid fossa, 23
Pterygoid fovea, 24
Pterygoid hamulus, BP29, 13, 15, 23, 56, 59, 67, 72, 78
  of newborn, 52
Pterygoid muscle
  lateral, 24–25, 49, 55–59
    inferior head of, BP24, 34, 60
    nerve to, 82, 133
    superior head of, BP24, 60
  medial, T2.6, 49, 56–57, 59–60, 67–68, 75, 82
    nerves to, 133
Pterygoid nerve, medial, 56
Pterygoid plate
  lateral, BP29, 22–23, 49, 56, 81
  medial, BP29, 23, 56, 67, 72, 78
    hamulus of, 22
    right, 64
Pterygoid plexus, 60, 84, 99
  deep facial vein from, 10
Pterygoid process, 17, 23
  hamulus of, 13, 17, 23
  lateral plate of, 13, 15, 17, 23
Pterygoid process *(Continued)*
  medial plate of, 15, 17, 23
    of newborn, 52
  pterygoid fossa of, 17
  scaphoid fossa of, 17
Pterygoid venous plexus, T2.2
Pterygomandibular raphe, 22, 56–57, 67–68, 72, 78, 81
Pterygomaxillary fissure, 13
Pterygopalatine fossa, 13, 23, 51
Pterygopalatine ganglion, BP40, 46, 48, 61–64, 82, 132–134, 136, 142, 144, 146, 173
  branches to, 61
  pharyngeal branch of, 46
  posterior and superior lateral nasal branches of, 142
  posterior superior lateral nasal branches from, 46
  schema of, 144
Pubic arch, 250, 334
  measurements of, 336
Pubic bone, 324, 339–340, 351, 365, 379, 401
Pubic branch, 347
Pubic crest, 262
Pubic ligament, inferior (arcuate), 334, 340–343, 347, 349–350, 359, 365
Pubic ramus, T6.1
  inferior, 250, 334, 341, 345, 352, 476–478, 486, 534
  superior, 250, 334, 337–338, 345, 349, 364, 476–478, 486, 489, 534
    radiograph of, 335
Pubic symphysis, T6.1, 249–250, 262, 265, 333–334, 337, 340–341, 343, 345, 347, 349–350, 356, 359, 361–362, 365, 384, 401
  measurements of, 336
  radiograph of, 335
  superior portion of, 400
Pubic tubercle, BP58, 249–250, 253–254, 262, 265, 333–334, 337–338, 343, 359, 364, 476, 482–483, 534
Pubic vein, 267
Pubis, 476
  body of, 400
  radiograph of, 335
  superior ramus of, 342, 483
  symphyseal surface of, 394
Puboanalis (puborectalis) muscle, T6.3, 324, 341–343, 373, 377
  left, 339
Pubocervical fascia
  distal portion of, 354
  horizontal portion of, 354
Pubococcygeus muscle, T6.3, 339–341, 343, 353, 377
Pubofemoral ligament, BP109, 477
Puboprostatic ligament, medial, 347, 350
Puborectalis muscle, 341–343, 373. *See also* Puboanalis (puborectalis) muscle
  left, 339
Pubovesical ligament
  lateral, 347
  median, 350
Pudendal artery
  deep external, 258, 266
  external
    deep, BP108, 503
    superficial, BP108, 258, 266, 503
  internal, BP98, 266, 317, 361, 365, 380, 384–387, 400, 489
    in pudendal canal (Alcock's), 386
Pudendal canal (Alcock's), 374, 380–381, 387, 393
  pudendal artery, internal, 384, 386
  pudendal nerve of, 395
    internal, 387
  pudendal vessels, internal, 387
Pudendal cleft, 358
Pudendal nerve, T6.2, 169, 269, 306, 361, 374, 392–400, 487, 489, 492–493
  internal, 401
  nerve to, 489
  in pudendal canal, 395
Pudendal vein
  external, BP107, 259
    superficial, 473
  internal, 298, 381, 385, 400
Pudendal vessels
  external, 385
    deep, 383, 490
    superficial, 252, 254, 267, 383
  internal, 374, 401
  superficial, 490
Pudendum, 358
Pulmonary arteries, BP50, T4.2, BP49, T4.1
  left, 56–57, 205, 210, 216–217, 225, 233, 235, 244, 247
  right, 56–57, 205, 210, 216, 218, 224–225, 233–234, 244, 247–248
Pulmonary heart valve, 224, 229
  anterior semilunar cusp of, 224, 226
  left semilunar cusp of, 224, 226
  right semilunar cusp of, 224, 226
Pulmonary (intrapulmonary) lymph nodes, 212
Pulmonary ligament, 205, 212, 234–235
Pulmonary plexus, 39–40, 137, 214, 243
  anterior, 213
  posterior, 213
Pulmonary trunk, BP57, 210, 216–217, 219, 221, 224, 228–229, 233, 244, 247
  outflow to, 228
Pulmonary veins, 217
  inferior
    left, 205, 218, 220
    right, 205, 218, 220, 224
  left, 210, 218–219, 225, 228, 233, 235
  right, BP50, BP57, 210, 219, 225, 229, 233–234, 244
  septum of, BP49
  superior
    left, 205, 216, 218, 225
    right, 205, 216, 218, 224, 228
Pulses, 4
  brachial artery, 4
  carotid artery, 4
  dorsalis pedis artery, 4
  facial artery, 4
  femoral artery, 4
  popliteal artery, 4
  posterior tibial artery, 4
  radial artery, 4
  ulnar artery, 4
Pulvinar, 118, 121–122, 124–125
  left, 155
  right, 155
  of thalamus, 150, 154, 156
Pupil, 94
Purkinje fibers
  of left bundle, 229
  of right bundle, 229
Pyloric canal, 329
Pyloric glands, BP60
Pyloric orifice, 279
Pyloric zone, 277
Pylorus, 276, 278, 329
Pyramidal eminence, BP27, 106–107
Pyramidal process, 17, 21, 23
Pyramidal tract. *See* Lateral corticospinal tract
Pyramidalis muscle, T5.3, 254, 262
Pyramids, 124
  decussation of, 124–125

////// facebook : Booksmedicos06

Q

Quadrangular space, 417
Quadrate ligament, 428
Quadrate tubercle, 479
Quadratus femoris muscle, T8.5, 395, 480–481, 483, 485, 491–494
  nerve to, 487, 489, 493
Quadratus lumborum fascia, 185
Quadratus lumborum muscle, T5.3, 182, 185, 201, 265–267, 269, 311–312, 344, 348, 486, 488
Quadratus plantae muscle, T8.5, 116–117, 525–526, 532
Quadratus plantae nerve, 532
Quadriceps femoris muscle, 480, 529
Quadriceps femoris tendon, 471, 482, 491, 497–498, 502, 510, 512
Quadriceps muscle. *See* Rectus femoris muscle
Quadriceps tendon, BP113
Quadrigeminal cistern, 120
  imaging of, BP32

R

Radial artery, BP100, T7.2, BP101, 4, 423–424, 435–438, 441, 444, 450, 452, 455–457, 459–460
  dorsal carpal branch of, 457
  palmar carpal branch of, 438, 455
  pulses at, 4
  superficial palmar branch of, BP101, 424, 437–438, 444, 450, 455–456
Radial collateral ligament, BP102, 428
Radial fossa, 409, 426
Radial groove, 410
Radial longitudinal crease, 402
Radial metaphyseal arcuate ligament, dorsal, 445
Radial nerve, T7.1, 404, 414, 417, 419–420, 422, 425, 437–438, 462–466, 468–469
  communicating branches of, 458
  deep branch of, 437, 441, 463, 469
  dorsal digital branches of, 457, 462, 469
  dorsal digital nerves from, 404
  inferior lateral brachial cutaneous nerve from, 404
  lateral branch of, 457
  medial branch of, 457
  posterior brachial cutaneous nerve from, 404
  superficial branch of, 404, 406, 434, 437, 441, 458–459, 462–464, 469
Radial recurrent artery, 100–101, 423, 437–438
Radial styloid process, 442
Radial tubercle, dorsal, 442
Radial tuberosity, 421, 427
Radial vein, BP99, 5
Radialis indicis artery, BP101, 424
Radiate ligament, of head of rib, 193
Radiate sternocostal ligament, 193, 408
Radicular artery
  anterior, 176–177
  posterior, 177
Radicular vein, 178
  segmental
    anterior, 178
    posterior, 178
Radiocarpal joint, 443, 445
  articular disc of, 443, 445
Radiocarpal ligament
  dorsal, BP102, 445
  palmar, BP102
Radiolunate ligament
  long, 444
  palmar, 444
  short, 444
Radioscaphocapitate ligament, 444
Radioulnar joint, distal, 445
Radioulnar ligament
  dorsal, BP102, 445
  palmar, BP102
Radius, BP102, BP4, T7.1, 426–433, 435, 438–445, 447, 455, 460
  anterior border of, 429
  anterior surface of, 429
  anular ligament of, 428
  articular surface of, 447
  head of, 421, 426–427, 429
  interosseous border of, 429
  lateral surface of, 429
  neck of, 426–427, 429
  posterior border of, 429
  posterior surface of, 429
  rotators of, 430
  styloid process of, 429, 447
  tuberosity of, 426
Rami communicantes, 396, 487
Rathke's pouch, vestigial remnant of, 52
Recombinant chromatids, BP91
Rectal artery
  inferior, BP98, 295, 380, 384–387
  middle, BP98, 266, 295, 316, 347, 380, 382, 384–385
  superior, 266, 295, 300, 305–306, 316, 347, 380, 382, 392
Rectal canal, 375
Rectal fascia, BP88, 346–347, 359, 366, 373–376, 378
Rectal nerves, inferior, T6.2, 361, 392–393, 395–396
Rectal plexus, 305, 320, 322, 392, 394
  external, 381
  internal, 381
  perimuscular, 381
  superior, 392
Rectal veins, T6.2
  inferior, 298–299, 381
  middle, 267, 298–299, 381
  superior, T5.2, 298–299, 381
Rectal venous plexus, 267
  external, 298, 376
    in perianal space, 375
  internal, 375–376
  perimuscular, 298, 381
Rectalis muscle, 377
Rectocervical spaces, 346
Rectococcygeus muscle, 265
Rectoprostatic (Denonvilliers') fascia, 324, 343, 349, 366, 373
Rectosigmoid arteries, 380
Rectosigmoid junction, 283, 373, 375–376
Rectourethralis superior muscle, 343
Rectouterine fold, 346
Rectouterine pouch, of Douglas, T6.1, 345–346, 355–356, 373
Rectouterine (sacrouterine) ligament, 346
Rectovaginal spaces, 346–347
Rectovesical fascia, 366, 378
Rectovesical pouch, 324, 348–349, 373
Rectovesical space, 378
Rectum, BP88, T6.1, BP109, 173, 265, 272, 283, 311, 324, 339–341, 344–345, 347–350, 356, 359, 366, 373, 379, 382, 394, 401
  ampulla of, 350
  arteries of, 380
  circular muscle of, 376
  innervation to, 172
  longitudinal muscle of, 376
  muscularis mucosae of, 376
  radiology of, 165
  in situ
    female, 373
    male, 373
Rectum *(Continued)*
  transverse folds of, 375
  veins of, 381
Rectus abdominis muscle, BP47, BP109, T5.3, 187, 194–195, 197, 249, 253–256, 258, 261–262, 324, 333, 344, 347–349, 359, 379
Rectus capitis muscle
  anterior, T2.7, 37, 49, 86
  lateral, T2.7, 37
  posterior
    major, T3.2, 181–182, 184
    minor, T3.3, 181–182, 184
Rectus femoris muscle, T8.5, BP109, 400–401, 471, 480–482, 484, 490–491, 496, 529. *See also* Quadriceps femoris muscle
Rectus femoris tendon, 471, 482–483, 498, 511
Rectus muscle
  inferior, 25–26, 96, 98, 132
    branches to, 97
  lateral, 25–26, 50, 96–98
    check ligament of, BP26
    tendon of, 100
  medial, BP26, 50, 96–98, 132
    branches to, 97
    check ligament of, BP26
    tendon of, 100
  superior, BP26, T2.8, 96–98
    tendon of, 104
Rectus sheath, 252–253, 359
  anterior layer of, BP58, 194, 253–255, 260, 262, 349
  cross section of, 255
  posterior layer of, 254–255, 258, 260, 262
Recurrent artery
  of Heubner, 150–153
  tibial
    anterior, BP110, BP108, 503, 512
    posterior, BP110, 503, 509
Recurrent process, 130
Red blood cells, BP15, BP6
Red nucleus, 118, 127–128
Referred pain, visceral, sites of, BP13
Reinforcing fibers, 287
Reissner's membrane. *See* Vestibular (Reissner's) membrane
Renal artery, 4, 317, 321, 382, 399
  left, 266, 292, 305, 323, 392
  right, 266, 292, 300, 303, 310, 313
  in situ, 313
  variations in, BP75
Renal column (of Bertin), 314
Renal corpuscle, histology of, BP76
Renal cortex, 278, 330
Renal (Gerota's) fascia, 185, 318, 323, 331
  anterior layer of, 318
  posterior layer of, 318
  transverse section of, 318
Renal ganglion, 320–322, 398–399
Renal impression, 284, 289
Renal plexus, 320–322, 399
  left, 392
Renal segments, 315
Renal vein, 5, 317, 324, 382
  left, 241, 267, 323, 327
  right, 241, 267, 310, 313
  in situ, 313
  variations in, BP75
Renal vessels, 383
Reproduction, genetics of, BP91
Reproductive organs, innervation of
  female, 397
  male, 398
Reproductive system, T6.1
  male, BP93

www.Booksmedicos06.com ////////

Respiration
muscle attachment of, BP46
muscles of, BP47
Respiratory bronchioles, 48–49
Respiratory diaphragm, BP62, BP56, T4.3, BP47, BP44, T4.1, BP3, T5.3, 196, 204, 210, 213, 215, 217, 221, 234, 236–237, 239–241, 255, 258, 265, 267, 273–274, 276, 284, 289, 311–312, 325, 328, 488
abdominal surface of, 201
central tendon of, 201, 265
costal origin of, slips of, 196
costal part of, 201
crura of, 185
left, 201, 236, 265, 271
right, 201, 236, 271
dome of
left, 202–203
right, 202–203
esophageal hiatus of, T5.1
lumbar part of, 201
sternal part of, 196, 201
thoracic surface of, 200
Respiratory system, BP44, T4.1
Rete testis, BP93
Reticular fibers, BP6
in arterial wall, BP16
Reticular nuclei, 122
Retina
ciliary part of, 100–101
optic (visual) part of, 100, 102
structure of, 131
Retinacula cutis, BP1
Retinacular arteries, 495
Retinal artery, 103
central, 99–100, 103–104
Retinal vein, 103
central, 100, 103–104
Retrobulbar fat, BP26, 50
Retrocecal recess, 272, 280
Retrodiscal tissue (bilaminar zone), BP24
inferior layer of, BP24
upper layer of, BP24
Retromandibular vein, 10, 38–39, 49, 53, 68, 70, 84, 99
anterior branch, 39
posterior branch, 39
Retromolar fossa, 24
Retroperitoneal space, 356
Retropharyngeal nodes, 86
Retropharyngeal space, 33–34, 77–78
Retroprostatic fascia, 378
Retropubic (prevesical) space, 324, 347, 349–350
fat in, 254, 343
of Retzius, 378
Retropubic venous plexus. *See* Vesical (retropubic) venous plexus
Retrotonsillar vein, superior, 155
Retzius, retropubic space of, 254
Rhinal sulcus, 117–118
Rhomboid major muscle, T3.3, T7.5, 180, 183, 186, 197, 245, 247, 257, 410, 413, 468
Rhomboid minor muscle, T3.3, T7.5, 180, 183, 410, 413, 468
Rhomboid muscle, 246
Ribs, BP4, T4.1, 246–247, 274
angle of, 192–193
associated joints and, 193
body, 192
costal groove of, 193
eight, 192, 220
eleventh, 192
false, 192
fifth, 192, 217
Ribs *(Continued)*
first, BP34, BP57, 22, 28, 37, 87, 169, 192, 198, 202–203, 215, 234–236, 408, 419–420
costal cartilage of, 245
lung groove for, 205
floating, 192
fourth, 192
head of, 192–193
intraarticular ligament of, 193
radiate ligament of, 193
left, T4.1
muscle attachment of, BP46
neck of, 192–193
ninth, 192
posterior of, BP36
radiate ligament of, BP33
second, 34, 188, 192, 408
seventh, 163, 192, 248
sixth, 188, 192
posterior view of, 193
superior articular facet on, BP33
tenth, 192
third, 192, 217
true, 192
tubercle of, 192–193
twelfth, 169, 180, 192, 201, 486
radiology of, 165
Right bundle
Purkinje fibers of, 229
subendocardial branches of, 229
Right lateral region, 251
Risorius muscle, T2.7, 20–21, 31
Rod cells. *See* Pillar (rod) cells
Rods, 131
Root ganglion, posterior, 139, 143
Rotation, of lower limbs movements, 472
Rotator cuff muscles, T7.1, 415
Rotatores cervicis muscle, 182
brevis, 182
longus, 182
Rotatores muscle, T3.3
Rotatores thoracis muscle, 182
brevis, 182
longus, 182
Rotter's lymph nodes, 190–191. *See also* Interpectoral (Rotter's) lymph nodes
Round ligament, 357
of artery, 382
of liver, 256, 276, 284, 299
of uterine artery, 386
of uterus, BP90, 344–346, 352–354, 356, 359, 371, 382
Round window. *See* Cochlear (round) window
Rubrospinal tract, BP43
Rugae, 277. *See also* Gastric folds (rugae)
Ruptured follicle, BP95, BP92

S

Saccule, 108–109, 135
Sacral arteries
lateral, BP98, 176, 266, 317, 384–385
spinal branches of, 176
median, 266, 293, 295, 317, 347, 380, 384–385
Sacral canal, 166, 342
Sacral cornu, 166
Sacral crest
intermediate, 166
lateral, 166
median, 166, 339
Sacral foramina, BP37
anterior, 166, 337, 342
radiograph of, 335
posterior, 166, 337
Sacral ganglion, 1st, 172
Sacral hiatus, T3.1, 166
Sacral kyphosis, 162
Sacral nerve, perineal branch of, 487, 489
Sacral nodes
lateral, 268, 388, 390
middle, 268, 388, 390
Sacral plexus, 169, 321, 392, 397–399, 489
Sacral promontory, BP86, 250, 334, 337–338, 340, 345–346, 348, 394
measurements of, 336
Sacral region, 3
Sacral spinal nerves
S1, 169
anterior ramus, 392, 396
dermatome of, 171
vertebral body of, 379
S2, dermatome of, 171
S3, dermatome of, 171
S4, dermatome of, 171
S5, 169
dermatome of, 171
Sacral splanchnic nerves, BP39, 172
Sacral sympathetic trunk, 305
Sacral tuberosity, 166
Sacral veins
lateral, 267
median, 298, 381, 385
Sacral vessels, median, BP98, 346, 382
Sacrococcygeal ligaments
anterior, 337, 340, 342, 347
lateral, 167, 337–338
posterior, 167, 337–338
Sacrogenital fold, 348, 374. *See also* Vesicosacral (sacrogenital) fold
Sacroiliac joint, BP86, 342, 478
measurements of, 336
radiograph of, 335
radiology of, 165
Sacroiliac ligaments
anterior, 337
posterior, 167, 337–338
Sacrospinous ligament, 167, 337–339, 341, 343, 392, 395, 485, 493
Sacrotuberous ligament, BP109, 167, 337–339, 341, 343, 360, 377, 384, 392–393, 395, 400, 485, 492–493
Sacrouterine ligament, 346. *See also* Rectouterine (sacrouterine) ligament
Sacrum, BP4, 161–162, 166–167, 169–170, 250, 334, 341–342, 379
ala of, radiograph of, 335
apex of, 166
arteries of, 176
articular facet for, 164
auricular surface for, 167, 476
base of, 166
radiology of, 165
Saddle joints, BP5
Sagittal plane, 1
Sagittal sinus
inferior, 111, 114–115, 155–157
superior, 111–115, 117, 120, 155–156
emissary vein to, 20
groove for, 16, 18
imaging of, 31–32, 159
Sagittal suture, BP17, 12, 16, 21
Salivary gland, BP9, 53, 68
lingual minor, 65
molar minor, 67
sublingual, 68
submandibular
deep lobe, 68
superficial lobe, 68
Salivatory nucleus
inferior, 127–128, 136, 145
superior, 62, 127–128, 134, 144
Salpingopharyngeal fold, 72, 79

////// facebook : Booksmedicos06

Salpingopharyngeus muscle, T2.7, 72, 75, 78, 137
Saphenous nerve, BP115, BP111, 473, 490–491, 512, 529, 532
branches of, 474
great, 496, 514
infrapatellar branch of, 473, 490–491, 511–512, 529
medial crural cutaneous of, 529
small, 492
Saphenous opening, BP58, 253, 259, 359, 362, 473
cribriform fascia and, BP58, 259, 475
falciform margin of, 264
Saphenous veins, T8.2
accessory, BP107, 473–474
great, BP107, BP116, BP111, BP58, 252–253, 259, 267, 362, 471, 473–475, 513–514
greater, 116–117, 401
lesser, BP116
small, BP107, 471, 473–475, 507, 513–514
Sarcolemma, BP8
Sarcomere, BP8
Sarcoplasm, BP8
Sartorius muscle, T8.5, BP109, 400–401, 471, 480–482, 484–485, 490–491, 496–497, 501, 507, 529
insertion of, 511
Sartorius tendon, 482–483, 497–498
insertion of, BP111, 512
Satellite cell, BP8
Scala tympani, 108–109
Scala vestibuli, 109
Scalene lymph nodes, inferior, 212
Scalenus muscle, 32, 35–37, 417
anterior, BP56, T2.7, 33, 36–40, 46–47, 82–84, 87, 195–196, 199, 204, 210, 215, 221, 234–236, 417–419
innervation of, 420
medius, T2.7, 33, 36–37, 39, 46–47, 82–84, 195, 417
posterior, BP56, T2.7, 33, 36–37, 46–47, 195, 236, 417
Scalp, 10, 31
arteries of, T2.2
skin of, 31
superficial arteries and veins of, 10
superficial fascia of, 31
Scaphocapitate ligament, 444
Scaphoid bone, BP102, T7.1, 442–443, 445–447, 457
articulation with, 429
Scaphoid fossa, BP29, 106
Scapholunate ligament, 445
Scaphotrapeziotrapezoid ligament, 444
Scapula, BP4, 186, 197, 217, 245–247, 409, 416–417
acromial angle of, 409–410
acromion of, 192
anastomoses around, 418
anterior view of, 409
body of, 416
coracoid process of, 192, 217, 409–411
glenoid cavity of, 192, 409, 411–412
inferior angle of, 161, 248, 409–410
infraglenoid tubercle, 409–410
infraspinous fossa of, 192
lateral border of, 409–411
medial border of, 161, 409–410
neck of, 192, 409–410
posterior view of, 410
spine of, 161, 180, 183, 192, 203, 217, 410, 413, 415–418, 470
subscapular fossa of, 192
superior angle of, 409–410
superior border of, 409–410, 415
Scapula *(Continued)*
suprascapular notch of, 192
supraspinous fossa of, 192
Scapular artery
circumflex, BP23, BP100, T7.2, 417–419, 421, 424
dorsal, BP23, T7.2, 39–40, 179, 418–419
Scapular ligament, transverse, 412
inferior, BP23
superior, BP23, 414–415, 417–418
Scapular nerve, 419
dorsal, 420, 468
lower, 419
Scapular notch, superior, 409–410, 417
Scapular region, 3
Scapulohumeral dissection, 417
Scapulothoracic dissection, 417
Scarpa's fascia, BP88, 324, 362. *See also* Membranous (Scarpa's) fascia
Scarpa's layer, 359
of superficial fascia, 362–363
Schwalbe's line, 101
Sciatic bursa
of gluteus maximus muscle, 494
of obturator internus muscle, 494
Sciatic foramen
greater, 167, 337–339, 531
lesser, 167, 337–338
Sciatic nerve, BP109, 169, 395, 401, 485, 487, 489, 492–494, 496, 531
left, 400
muscular branches of, 492
right, 400
tibial division of, 531
Sciatic notch
greater, 250, 334, 476
lesser, 250, 334, 476
Sclera, BP26, 94, 100–103
lamina cribrosa of, 100
Scleral spur, 100–101
Scleral venous sinus, 100–101, 103–104
Scrotal arteries, posterior, BP98, 385, 387
Scrotal branches, posterior, 395
Scrotal ligament, 371
Scrotal nerves, posterior, 392–393, 493
Scrotal veins, anterior, 259
Scrotal vessels, anterior, 385
Scrotum, 333, 368–370
Dartos fascia of, BP88, 349, 362, 369, 372, 377, 387
septum of, 349, 369, 372, 377, 387
skin of, 369, 372
superficial fascia of, 253–254
Sebaceous glands, 1–2, 94
Secondary oocyte, BP91
Secondary spermatocytes, BP93, BP91
Segmental medullary arteries, T3.1, 176–178
Sella turcica, BP34, 14–15, 18, 45, 77
dorsum sellae of, 18
hypophyseal fossa of, 18
hypophysis in, 43
posterior clinoid process of, 18
tuberculum sellae of, 18
Semicircular canal
anterior, 64, 108–109
plane of, 110
lateral, 108–110
prominence of, BP27, 105
posterior, 108–109
plane of, 110
Semicircular duct
anterior, 108–110
lateral, 108–110
ampulla of, 135
posterior, 108–110
ampulla of, 135
superior, ampulla of, 135
Semilunar folds, 72, 283
Semilunar hiatus, 51
of newborn, 52
Semimembranosus bursa, 497, 502
Semimembranosus muscle, T8.1, T8.5, 395, 481, 484–485, 492, 496–497, 501, 506–507, 531
bursa of, 501
Semimembranosus tendon, 497, 499, 501–502, 508–509
groove for, 504
Seminal colliculus, BP97, 352, 366
Seminal vesicles, BP93, 256, 348–349, 366, 371, 373, 385
Seminiferous epithelium, BP93
Seminiferous tubules, convoluted, BP93, 372
Semispinalis capitis muscle, 180–182, 184
Semispinalis cervicis muscle, 182, 184
Semispinalis muscle, T3.3
Semispinalis thoracis muscle, 182
Semitendinosus muscle, T8.1, 85–86, 395, 471, 480–481, 485, 492–494, 496–498, 501, 507, 531
tendon of, 497
Semitendinosus tendon, 482–483
Sensory cortex, 146
Sensory nerves, BP1
Septal papillary muscle, 224
Septate hymen, BP96
Septomarginal fasciculus, BP43
Septomarginal trabecula, 224, 228–229
Septum, 372
bulging, 43
nasal, 12, 23, 45
of scrotum, 387
Septum pellucidum, 117, 121–122, 152, 154, 156, 158
posterior veins of, 157
vein of, 156–157
Serosa (visceral peritoneum), BP62, 279, 289
Serous glands of von Ebner, 71
Serratus anterior fascia, 416
Serratus muscle
anterior, T4.3, T7.5, BP46, 180, 186–188, 197, 221, 245–249, 252–253, 257, 260–261, 333, 402, 409, 413–414, 417, 419
digitations of, 194–195
posterior, T4.3
inferior, T3.3, T4.3, 180–181, 185, 257, 312
superior, T3.3, T4.3, 180–181
Sertoli cell, BP93
Sesamoid bones, BP4, 443, 446, 515–516, 525–528
foot, 519
Shoulder
anteroposterior radiograph of, 411
arthrogram of, 470
computed tomography of, 470
glenohumeral joint of, 412
joint capsule of, 417
magnetic resonance imaging of, 470
muscles of, 413
nerves of, 468
Sibson's fascia. *See* Suprapleural membrane (Sibson's fascia)
Sigmoid arteries, 266, 293, 295, 305, 316, 380
Sigmoid colon, BP65, 173, 270, 272, 283, 344, 346, 348, 356, 373–376, 392, 394
innervation to, 172
as site of referred visceral pain, BP13
Sigmoid mesocolon, 272, 283, 294–295, 310, 316, 373
Sigmoid sinus, 64, 76, 110, 114–115
groove for, 15, 18
imaging of, BP31, 159
in jugular foramen, 20

www.Booksmedicos06.com ///////

Sigmoid veins, 298–299, 381
Sinuatrial (SA) nodal artery, 229
Sinuatrial (SA) node, 41–42, 229
Sinuses. *See also specific sinuses*
confluence of, 110, 114–115, 155–156
prostatic, BP97
Sinusoids, 285–286
Skeletal system, T3.1, T6.1, T4.1, T5.1
axial and appendicular, BP4
Skene's ducts, BP90. *See also* Paraurethral (Skene's) ducts
openings of, 358
Skene's glands, 371. *See also* Paraurethral (Skene's) gland
primordium of, 371
Skin, 33, 113
cross section of, BP1
radiology of, 165
of scalp, 10, 31
Skin ligaments, BP1
Skull, BP4
anterior view of, 11
base of, 79
lateral view of, 13
midsagittal view of, 15
of newborn, 21
nuchal line of, superior, 181
orientation of labyrinths in, 110
radiographs of
lateral view of, 14
posterior view of, 12
Waters' view of, 12
reconstruction of, BP17
superior nuchal line of, 182
Small intestine, BP9, 137, 270, 282, 324
area for, 311
arteries, 294
autonomic innervation of, 304
lymph vessels and nodes of, BP81
mucosa and musculature of, 279
as site of referred visceral pain, BP13
veins of, 297
Small saphenous veins, BP107
Smooth muscle cell, BP16
Soft palate, 43, 45, 65, 72, 77, 79
imaging of, 160
muscles of, 78
Sole, muscle of
second layer, 525–526
Soleus muscle, BP116, BP111, 85–86, 497, 506–514, 520, 522, 531–532
arch of, 485
into calcaneal tendon, 508
nerve to, 507–508
tendinous arch of, 508–509
Soleus tendon, BP116
Solitary lymphoid nodule, 279
Solitary tract, nuclei of, 127–128, 134, 136–137, 146, 231, 321
Somatic fibers, BP41
Space of Poirier, BP102
Space of Retzius, 350
Spermatic cord, 256, 263, 363–364, 400
exiting, external spermatic fascia on, 262
external spermatic fascia over, 387
testicular vessels in, 383
Spermatic fascia
external, BP59, 253–254, 260, 262, 349, 362–364, 369, 372
spermatic cord and, 264, 387
testis and, 387
internal, BP59, 254, 369, 372
origin of, 263
Spermatids, BP93, BP91
Spermatogenesis, BP93, BP91
Spermatogonium, BP93, BP91
Spermatozoa, BP93, BP91
Sphenoethmoidal recess, 43–44
Sphenoid bone, 11, 13, 15, 17–18, 22, 44–45, 49
anterior clinoid process of, 15, 18
body of, 15, 18, 45
jugum of, 18
prechiasmatic groove of, 18
sella turcica of, 18
carotid groove of, 18
clivus of, 18
crest of, 45
foramen ovale of, 17
foramen spinosum of, 17
greater wing of, BP17, 11, 13–15, 17–18, 21
groove for middle meningeal vessels, 18
infratemporal crest of, 13
lesser wing of, 11–12, 15, 18
of newborn, 21, 52
optic canal of, 15
orbital surface of, 11
pterygoid process of, 17, 23, 44
hamulus of, 13, 15, 17, 23, 44
lateral plate of, 13, 15, 17, 21, 23, 44–45
medial plate of, 15, 17, 21, 23, 44–45
pterygoid fossa of, 17
scaphoid fossa of, 17
sella turcica of, 15, 18
dorsum sellae of, 18
hypophyseal fossa of, 18
posterior clinoid process of, 18
tuberculum sellae of, 18
sphenoidal sinus of, 15, 44–45
spine of, 17, 23
Sphenoidal emissary foramen (of Vesalius), 20
Sphenoidal fontanelle, of newborn, 21
Sphenoidal sinus, BP26, BP22, BP34, BP44, 14–15, 43, 45, 50–51, 64, 72, 77, 98, 115, 148
imaging of, 160
opening of, 43–44, 51
Sphenomandibular ligament, 25, 56–58, 60
Sphenooccipital synchondrosis, 77
Sphenopalatine artery, 47, 57, 63, 83
posterior lateral nasal branches of, 47, 63
posterior septal branches of, 47, 57
Sphenopalatine foramen, 13, 15, 23, 44, 47–48, 57
Sphenopalatine vessels, in incisive fossa, 19
Sphenoparietal sinus, 114–115
Spherical recess, 108
Sphincter muscle
external
deep part of, 375
subcutaneous part of, 375
superficial part of, 375
internal, 375
Sphincter pupillae muscle, T2.1, T2.8, 101, 132, 143
Sphincter urethrae, BP97, 345, 350, 359, 378
muscle, BP90, T6.4, 339, 343, 351–352, 360
Sphincter urethrovaginalis muscles, T6.4, 350, 353, 359–361
Sphincters, female, 351
Spinal artery
anterior, 149–150, 152, 154, 176–177
anastomotic loops to, 176
posterior, 150, 152, 176–177
anastomotic loops of, 176
left, 154, 177
right, 177
segmental medullary branches of, 149
Spinal branch, 177
Spinal canal, 326
Spinal cord, BP38, 6, 62, 169, 245–246
anterior rami and, 169
arteries of
intrinsic distribution of, 177
schema of, 176
central canal of, 120, 125
cross sections, BP43
fiber tracts, BP43
descending tracts in, 214
gray matter of, 174
imaging of, 160
lateral horn of, 174
lumbar part of, 399
upper, BP41
pia mater overlying, 174
principal fiber tracts of, BP43
sacral part of, BP41, 399
sections through, BP43
segments, 321
sulcal (central) branches to, 177
termination of, 170
thoracic part of, BP41, 143–145, 214
thoracolumbar, 306
veins of, 178
white matter of, 174
Spinal dura mater, 169, 185
termination of, 170
Spinal ganglion, 399
posterior root of, 174, 177, 186
Spinal meninges, T3.1
nerve roots and, 174
Spinal nerve, 174, 177, 186, 232
anterior ramus of, 174, 261
anterior root of, 174, 303
C8, 169
dorsal ramus of, 177
lateral branch of, 177
medial branch of, 177
L5, posterior ramus of, 167
meningeal branch of, 177
origin of, 175
cross section of, 175
posterior ramus of, 174
T1, 169
Spinal nerve roots
anterior root of, 174
posterior root of, 174
S1, 170
S2, 170
S3, 170
S4, 170
S5, 170
vertebrae relation to, 170
Spinal nerve trunk, 261, 276
Spinal nucleus, 133
Spinal sensory (posterior root) ganglion, 303, 306, 309–310, 321
Spinal tract, 133, 137
Spinal vein
anterior, 155, 178
posterior, 155, 178
Spinalis cervicis muscle, 181
Spinalis muscle, 181
Spinalis thoracis muscle, 181
Spinocerebellar tract
anterior, BP43
posterior, BP43
Spinohypothalamic fibers, BP43
Spinomesencephalic fibers, BP43
Spinoolivary tract, BP43
Spinoreticular fibers, BP43
Spinothalamic fibers, BP43
Spinous process, BP38, BP18, 163–164, 167–168
of C2, BP34
of C7, BP35, T3.1, BP34, 181–182
cervical, 27, 29

/////// facebook : Booksmedicos06

Spinous process *(Continued)*
of L1, 165, 185
of L2, radiology of, 165
of L3, BP37, 164
of L4, BP37
lumbar, 163
of T12, 161, 180–181, 183
thoracic, 163
Spinous processes, T3.1
Spiral ganglion. *See* Cochlear (spiral) ganglion
Spiral ganglion of Corti, 109
Spiral lamina
hamulus of, 108
osseous, 108–109
Spiral ligament, 109
Splanchnic nerves, 305, 396
greater, 172, 391, 396
thoracic, 300–301, 303–304, 309–310, 320, 322
least, 172, 391, 396
lesser, 172, 391, 396
thoracic, 300–301, 303–304, 320–322
lumbar, 172, 306, 320, 322, 391–392, 394, 396–397, 399
fifth, 392
first, 321–322
upper, 398
pelvic, 173, 305–306, 321, 392, 394, 396–399, 489
sacral, 172, 306, 320, 392, 394, 399, 489
sympathetic, T5.2
thoracic, 392
greater, 397–398
least, 398
lesser, 397–398
Spleen, BP38, BP87, BP56, T5.2, BP84, BP57, 202–203, 217, 273–274, 285, 289, 323, 326–327, 330
anterior extremity of, 289
area for, 311
inferior border of, 289
posterior extremity of, 289
as site of referred visceral pain, BP13
in situ, 289
superior borders of, 289
Splenic artery, 217, 289–291, 293–294, 300–301, 303, 309–310, 329
splenic branches of, 290
Splenic flexure, of colon, 282
Splenic notch, 290
Splenic plexus, 301
Splenic red pulp, 289
Splenic trabeculae, 289
Splenic vein, 217, 241, 274, 294, 296–299, 323–324, 326
Splenic white pulp, 289
Splenius capitis muscle, T3.3, 36, 180, 184
Splenius cervicis muscle, T3.3, 180–181, 184
Splenorenal ligament, 273, 289
Spongy urethra, BP89
bulbous portion of, 352, 367
pendulous portion of, 367
Squamous suture, BP17, 21
Stapedius muscle, T2.8, 107
nerve to, 134
tendon of, BP27
and tendon of, 106
Stapes, 106–107
footplate of, 106
limbs of, 27–28, 105
Stellate ganglion, 213, 230–231, 243. *See also* Cervicothoracic (stellate) ganglion
Sternal angle (of Louis), T4.1
Sternal head, of sternocleidomastoid muscle, 8
Sternalis muscle, 194
Sternoclavicular joint, 202, 245, 408
Sternoclavicular ligament, anterior, 408
Sternocleidomastoid muscle, T2.1, BP47, T2.8, 32–33, 36, 38–39, 41, 53, 68, 86, 138, 140, 180, 184, 187, 194, 204, 408, 413–414, 419
clavicular head of, 8, 32, 36, 187
medial margin of, 87
sternal head of, 8, 32, 36, 187
Sternocleidomastoid nodes, 85
Sternocleidomastoid region, 3
anterior, 2
Sternocostal articulations
anterior view of, 193
left anterolateral view of, 193
right posterolateral view of, 193
Sternocostal head. *See* Pectoralis major muscle
Sternocostal joint, 408
Sternocostal triangle, 196
Sternohyoid muscle, T2.8, 32–33, 35–36, 38, 69, 139, 194, 196, 204, 408
Sternothyroid muscle, T2.8, 32–33, 35–36, 38, 92, 139–140, 194, 196, 204
Sternum, BP44, BP4, 186, 197, 200, 217, 220, 244, 413
angle, 192
body of, 187, 192, 194, 196, 198, 248–250
jugular notch of, 192
manubrium of, 31–34, 34–35, 36, 77, 196, 204
xiphoid process of, 187, 192, 194
Stomach, BP87, BP56, T5.1, BP9, 173, 202, 221, 236, 240, 270, 274, 282, 284, 287, 289, 324, 326
air within, 217
arteries of, 290
autonomic innervation of, 301–303
body of, 276
cardiac part of, 237, 239, 276
fundus of, BP57, 237, 239, 276, 328
greater curvature of, 276
innervation to, 172
longitudinal muscle layer of, 278
lymph vessels and nodes of, BP79
mucosa of, 277
oblique muscle layer of, innermost, 239
outer longitudinal muscle layer of, 239
posterior surface of, 273
pyloric part of, 276
as site of referred visceral pain, BP13
in situ, 276–283
variations in position and contour of, BP60
veins of, 296
Straight arteries, 279, 294–295
Straight gyrus, 118
Straight sinus, 110, 114–115, 117, 120, 155–157
imaging of, BP31, 159
Straight veins, 297
Stratum basale, BP1
Stratum corneum, BP1
Stratum granulosum, BP1
Stratum lucidum, BP1
Stratum spinosum, BP1
Stretch receptors (Hering-Breuer reflex), 214
Stria medullaris, 125
of thalamus, 117
Stria terminalis, 117, 122–123
Striate artery, long medial, 148, 150–153
Striated muscle, BP41
Stroma, BP97
Styloglossus muscle, T2.8, 49, 57, 68, 70, 78, 81, 139
Stylohyoid ligament, 22, 70, 72, 78, 81
Stylohyoid muscle, T2.8, 32, 35–36, 41, 49, 53, 57, 59, 68–70, 75, 81, 134
Styloid process, BP24, 13, 17, 21–23, 25, 36–37, 41, 49, 69–70, 75, 79, 81, 107
Stylomandibular ligament, 22, 25, 60
Stylomastoid artery, 76, 107
posterior tympanic branch of, 107
stapedial branch of, 107
Stylomastoid foramen, BP29, 17, 19, 134, 136
Stylopharyngeus muscle, T2.8, 68, 70, 72, 75–76, 78, 80–81, 136–137
Subacromial bursa, 412, 421
Subaponeurotic space, dorsal, 453
Subarachnoid space, 100, 111, 113, 120, 177
Subcallosal area, 117, 130
Subcallosal gyrus, 117
Subcapsular lymphatic plexus, 319
Subchondral bone, BP114, BP5
Subclavian artery, BP23, 4, 37, 39–40, 76, 82–84, 87, 89, 141, 147, 149, 176, 189, 195–196, 204, 215–216, 236, 240, 258, 266, 417–419
grooves for, BP46
left, 88, 179, 210, 217–218, 235, 245
lung groove for, 205
right, BP23, 88, 137, 179, 210, 234
Subclavian lymph nodes, 190–191
Subclavian lymphatic trunk, 212
Subclavian node, 85
Subclavian region, 2
Subclavian trunk, 85
right, 268
Subclavian vein, T2.2, 5, 37, 39–40, 84, 87, 195–196, 204, 212, 215–216, 236, 241, 259, 417, 419
grooves for, BP46
left, 88, 179, 210, 235
right, 88, 179, 210, 234
Subclavius fascia, 416
Subclavius muscle, T7.5, T2.8, BP46, 188, 195, 221, 234–235, 408, 414, 416, 419
fascia investing, 416
groove for, 408
Subcostal muscles, T4.3, 261
Subcostal nerve, T5.2, 169, 269, 311–312, 391, 396, 486–488
anterior branch of, 487
cutaneous branch of
anterior, 260
lateral, 257, 269, 473
lateral branch of, 487
Subcostal plane, 251
Subcostal vein, 267
Subcutaneous artery, BP1
Subcutaneous bursa, 520
lateral malleolus of, 520
Subcutaneous fat, radiology of, 165
Subcutaneous olecranon bursa, 428
Subcutaneous space, dorsal, 453
Subcutaneous vein, BP1
Subdeltoid bursa, 412
Subdiaphragmatic lymph nodes, pathway to, 190
Subhiatal fat ring, 239
Sublime tubercle, 426
Sublingual artery, 53, 70
Sublingual fossa, 24
Sublingual gland, BP22, BP40, 50, 53, 59, 65, 69, 134, 144, 172
innervation to, 173
Sublingual nerve, 59
Sublingual vein, 53, 70
Sublobular veins, 285–286
Submandibular duct (of Wharton), 53, 65, 68–70
Submandibular fossa, 24
Submandibular ganglion, BP40, 53, 59, 70, 82, 133–134, 142, 144, 173
schema of, 144
Submandibular glands, BP40, 8, 32, 34, 36, 38, 53, 59, 69, 79, 83–84, 134, 144, 172
innervation to, 173

www.Booksmedicos06.com

Submandibular node, 85–86
Submental artery, 57, 83
Submental node, 85–86
Submental vein, 38, 84
Submucosa
esophageal, 239
of ileum, 279
of intestine, 308
of jejunum, 279
Submucosal glands, 308
Submucosal (Meissner's) plexus, 308
Submucous space, 374–375, 378
Suboccipital nerve, 29, 184
Suboccipital triangle, 184
Subparotid node, 85
Subperiosteal circumferential lamellae, BP7
Subpleural capillaries, BP49
Subpleural lymphatic plexus, 212
Subpopliteal recess, 498–499
Subpubic angle, radiograph of, 335
Subscapular artery, BP23, BP100, 417–419, 424
Subscapular fossa, 409
of scapula, 192
Subscapular lymph nodes, 190–191
Subscapular nerve
lower, 414, 417, 420, 468
upper, 414, 419–420
Subscapularis muscle, BP56, T7.6, 186, 197, 245–247, 409, 412, 414–417, 421, 423
Subscapularis tendon, 412, 415, 417
Subserous fascia, 394
Subserous neural plexus, 308
Substantia nigra, 118, 128
Subsynovial arteries. *See* Retinacular arteries
Subtendinous bursa, 502, 520
of subscapularis muscle, 412
Subungual space, 460–461
Sulcal artery
central, 153
precentral, 153
prefrontal, 153
Sulcal central vein
anterior, 178
posterior, 178
Sulcus
calcarine, 116–118, 122, 131
central
of insula, 116
of Rolando, 116–117
cingulate, 117
collateral, 117–118
of corpus callosum, 117
frontal
inferior, 116
superior, 116
hippocampal, 123
hypothalamic, 117, 125, 158
intertubercular, 409
lateral (of Sylvius), 116, 118
anterior ramus of, 116
ascending ramus of, 116
posterior ramus of, 116
lunate, 116
marginal, 117
median, 71, 125
nasolabial, 8
occipital, transverse, 116
occipitotemporal, 117–118
olfactory, 118
orbital, 118
paracentral, 117
parietooccipital, 116–117
postcentral, 116
rhinal, 117–118
Sulcus *(Continued)*
temporal
inferior, 116, 118
superior, 116
terminal, 71
Sulcus limitans, 125
Sulcus terminalis, 218
Superciliary arch, 8
Superficial capsular tissue, BP102
Superficial circumflex iliac vein, BP107, 249
Superficial epigastric veins, BP107, 249
Superficial fascia, BP88, BP1, 33, 255, 349, 359
deep membranous layer of, 363
deeper membranous layer of, 362
fatty layer of, 324
membranous layer of, 324
penile, BP88
of penis, 252–253
of scalp, 10
superficial fatty (Camper's) layer of, 359, 362
Superficial fibers. *See* Tibial collateral ligament
Superficial fibular nerve, BP111, 514
Superficial inguinal nodes, T8.2
Superficial temporal artery, 49, 57
Superficial vein, T8.2
of forearm, 406
lateral, of penis, 363
of neck, 38
Superficialis flexor tendons, 453
Superior, as term of relationship, 1
Superior articular facet, of L5, BP36
Superior articular process, 164, 167
facets of, 166
of L1, BP37
of L2, 165
of L4, BP37
Superior bulb, in jugular fossa, 19
Superior cervical ganglion, BP39
Superior cervical sympathetic cardiac nerve, 142
Superior cluneal nerves, 257
Superior costal facet, 163
Superior costotransverse ligament, BP33
Superior fascia, of pelvic diaphragm, 350, 359
Superior gemellus muscle, T8.6, 481, 485
Superior hypogastric plexus, BP39
Superior laryngeal vein, 80
Superior mediastinum, BP3
Superior mesenteric artery, 276
Superior mesenteric ganglion, BP41, BP39, 173
Superior mesenteric plexus, 39–40
Superior oblique muscle, 132
Superior petrosal sinus, 64
Superior pubic ramus, 250
Superior rectus muscle, 132
Superior suprarenal artery, left, 201
Superior vena cava vein, 5
Superior vertebral notch, 163
of L3 vertebra, BP37
Superolateral nodes, 389
Superomedial nodes, 389
Supinator muscle, T7.6, 409, 430, 435, 437–441, 463, 469
Supraclavicular nerves, 9, 38–40, 140, 404–405
intermediate, 404–405
lateral, 404–405
medial, 404–405
Supraclavicular nodes, 85
Supracondylar ridge
lateral, 409–410, 426
medial, 409–410, 426
Supradiaphragmatic fascia, 239
Supraduodenal artery, 290–291, 293–294
Supraglenoid tubercle, 409
Suprahyoid artery, 70, 83
Suprahyoid node, 85
Supralevator space, 374
Supramarginal gyrus, 116
Supramastoid crest, 13
Supraoptic recess, 117
Supraopticohypophyseal tract, 158
Supraorbital artery, 10, 42, 57, 94, 99, 149
Supraorbital margin, BP17, 12
Supraorbital nerve, 9, 42, 61, 94, 133
lateral branch of, 97–98
left, 98
medial branch of, 97–98
Supraorbital notch, 8, 11, 13
of newborn, 21
Supraorbital vein, 10, 84, 99
Suprapatellar bursa, 498, 502
Suprapatellar synovial bursa, 499
Suprapineal recess, 117
Suprapleural membrane (Sibson's fascia), 234
Suprarenal arteries
inferior, 266, 323
middle, 266, 313, 323
superior, 266, 313, 323
Suprarenal glands, BP41, BP10, 278, 284, 288, 311–324, 368
arteries of, 323
autonomic nerves of, 322
cross section, 323
innervation to, 172
left, 203, 273, 311, 330
right, BP56, 203, 275, 311, 322
veins of, 323
Suprarenal impression, 284
Suprarenal plexus
left, 305
right, 300
Suprarenal vein, 323
left, 241
inferior, 267, 313
right inferior, 267
Suprascapular artery, BP23, T7.2, 39–40, 87–89, 149, 417–419
infraspinous branch of, 418
Suprascapular foramen, 412, 415, 417–418
Suprascapular nerve, 417, 419–420, 468
Suprascapular notch, of scapula, 192
Suprascapular region, 3
Supraspinatus muscle, BP56, T7.6, 180, 183, 409–410, 412–418, 422, 468, 470
Supraspinatus tendon, T7.1, 412, 415, 417, 422, 470
Supraspinous fossa, 410
of scapula, 192
Supraspinous ligament, 29, 167–168, 185, 337–338
radiology of, 165
Suprasternal space (of Burns), 32–34, 77
Supratonsillar fossa, 72
Supratrochlear artery, 10, 42, 57, 94, 99, 149
Supratrochlear nerve, 9, 42, 61, 94, 97–98, 133
Supratrochlear node, 407
Supratrochlear vein, 10, 84
Supraventricular crest, 224, 228
Supravesical fossa, 256
Sural branches, 509
Sural nerve, BP111, T8.2, 115–116, 474, 531–533
calcaneal branches of, lateral, 474
lateral calcaneal branch of, 509
Surface anatomy
of female, 2
of male, 3
Suspensory (diaphragmatic) ligament, 368
of axilla, 416
of clitoris, 359, 361
of ovary, 345–346, 355–357, 371, 382
of penis, 253, 349
Suspensory retinacula, of breast, 188

////// facebook : Booksmedicos06

Sustentaculum tali, BP116, 516–517
Sutural (wormian) bone, 13, 16
Sweat glands, BP41, BP1
innervation to, 172
in perianal skin, 375
pore of, BP1
Sympathetic fibers, 309
of autonomic reflex pathways, 307
of kidneys and upper ureters, 321
of lower ureter, 399
postganglionic, 232
postsynaptic, BP41
presynaptic, BP41
of renal artery, T5.2
in reproductive organs, 397
male, 398
of tracheobronchial tree, 214
of urinary bladder, 399
Sympathetic ganglion, 177, 186, 197, 391–392, 396–398
sacral
left, 394
right, 394
thoracic, fourth, 231
Sympathetic nerves, BP16, 214
Sympathetic nervous system, BP39
general topography, BP39
schema of, 172
Sympathetic plexus, 64
Sympathetic trunks, 33, 49, 62, 76, 83, 136, 142, 144–145, 197, 201, 213–214, 234–235, 243, 261, 265, 269, 299–300, 309, 320, 322, 344, 348, 391–392, 394, 396–399, 488–489
cervical, 243
ganglia of, 320
left, 200, 220, 310, 322
right, 200, 310, 322, 394
sacral, 399
left, 394
right, 394
Symphyseal surface, 338, 476
Synapses, BP11
Synaptic cleft, BP11
Synaptic endings, schematic of, BP11
Synaptic vesicles, BP11
Synchondrosis, of 1st rib, 408
Synovial bursa. *See* Suprapatellar bursa
Synovial cavities, BP33, 30
Synovial joints, BP114, BP5
Synovial membrane, BP6, 412, 428, 460–461, 498–499, 502
attachment of, 499
protrusion of, 477
Synovium, BP114, BP5
covering femur, BP114
cut edge of, BP114

T

Taenia
fibers of, 376
free, 373, 376
Talar articular surface, 517
Talocalcaneal ligament, 517
lateral, 518
medial, 518
posterior, BP116, 517–518
Talofibular ligament
anterior, BP116, 505, 518
posterior, 505, 517–518
Talonavicular ligament, dorsal, 518
Talus bone, BP116, 515–517, 535
posterior process of, 518
Tarsal artery
lateral, 503, 512, 521, 527
medial, BP115, 503, 512, 521–522, 527
Tarsal bones, BP4
Tarsal glands, 94
openings of, 94
Tarsal (Müller's) muscle, superior, T2.1, 94
Tarsometatarsal joint, 515
Tarsometatarsal ligaments
dorsal, 518, 527
plantar, 519
Tarsus
inferior, 94
superior, 94, 96
Taste buds, 71
Taste pathways, schema of, 146
Tectal plate, 117, 125
Tectorial membrane, BP19, 30, 109
deeper (accessory) part of, 30
Tectospinal tract, BP43, 143
Tectum, imaging of, 160
Teeth, BP9, 73–74
apical foramina of, 74
bone around, 74
canine, 73–74
cement of, 74
crown of, 74
dental pulp of, 74
dentinal tubules of, 74
dentine of, 74
enamel of, 74
incisor, 73–74
interglobular spaces of, 74
interproximal spaces of, 74
molar, 73–74
neck of, 74
odontoblast layer of, 74
permanent, 73–74
premolar, 73–74
root of, 51, 74
Tegmen tympani, BP28, 105–106
Temporal artery
anterior, 153
deep, 58, 83, 111
anterior, 57, 60
posterior, 13, 57, 60
middle, 10, 111, 153
polar, 153
posterior, 153
superficial, 41–42, 53, 57–58, 60, 63, 76, 82–84, 107, 111–112, 145, 147, 149
frontal and parietal branches of, 111
frontal branch of, 10, 99
parietal branch of, 10
Temporal bone, BP17, 11, 13, 15, 17–18, 22
acoustic meatus of
external, BP17, 13, 17
internal, 15
articular tubercle of, 13, 17
asterion of, 13
carotid canal of, 17
cochlear window of, 21
external occipital protuberance of, 13
inferior tympanic canaliculus of, 17
jugular fossa of, 17
lambdoid suture of, 13
mandibular fossa of, 13, 17, 21
mastoid canaliculus of, 17
mastoid foramen of, 17
mastoid notch of, 17
mastoid process of, 13, 17
of newborn, 21
occipital artery of, groove for, 17
oval window of, 21
petrosquamous fissure of, 21
petrotympanic fissure of, 17
petrous part of, BP29, 12, 15, 17–18, 21, 110
arcuate eminence of, 18
greater petrosal nerve of, groove for, 18
internal carotid artery in, 148
Temporal bone *(Continued)*
lesser petrosal nerve of, groove for, 18
sigmoid sinus of, groove for, 18
superior petrosal sinus of, groove for, 18
trigeminal impression of, 18
posterior deep temporal artery of, groove for, 13
sigmoid sinus of, groove for, 15
squamous part of, 13, 15, 18, 21
styloid process of, 13, 17, 21
stylomastoid foramen of, 17
superior petrosal sinus of, groove for, 15
supramastoid crest of, 13
tympanic part of, 21
vestibular aqueduct of, opening of, 15
zygomatic process of, 13, 17, 21, 58
Temporal fascia, 31, 34, 55, 59
deep layer of, 55
superficial layer of, 55
Temporal fossa, 13, 22
Temporal gyrus
inferior, 116, 118
middle, 116
superior, 116
Temporal line
inferior, 13
superior, 13
Temporal lobe, 50, 124, 152
imaging of, 160
medial, BP32
Temporal nerve, deep, 82, 133
anterior, 57, 59–60
posterior, 57, 59–60
Temporal pole, of cerebrum, 116, 118
Temporal region, 3
anterior, 2
Temporal retinal arteriole
inferior, 103
superior, 103
Temporal retinal venule
inferior, 103
superior, 103
Temporal sulcus
inferior, 116, 118
superior, 116
Temporal vein
deep, 111
middle, 10, 111
superficial, 53, 60, 84, 111
frontal and parietal tributaries of, 111
frontal branch of, 10
parietal branch of, 10
tributary of, 113
Temporalis muscle, T2.9, 34, 50, 55, 59–60, 111, 113
Temporalis tendon, 53
Temporofacial division, 54
Temporomandibular joint, T2.1, 25, 56
articular disc of, 55–56
capsule of, 58, 60
joint capsule of, 24–25
Temporomandibular ligament, lateral, 25
Tendinous arch, 81
of levator ani muscle, 339, 342–343, 347, 350, 352–353, 360, 374
of pelvic fascia, 347, 352
Tendinous intersection, 187, 249, 253–254, 333
Tendocalcaneus bursa, 510
Tendon sheath, 452
of ankle, 520
of finger, 450–451, 453
of hand, 453
Tendons, BP8
of ankle, 518
of foot, 519
Tenon's capsule, BP26, 100

www.Booksmedicos06.com

Tensor fasciae latae muscle, BP109, 85–86, 400–401, 471, 481–482, 484, 490–493, 496
Tensor tympani muscle, T2.9, BP27, 59, 106–107
nerve to, 133
Tensor tympani tendon, 107
Tensor veli palatini muscle, T2.9, 56, 59, 67, 72, 78, 81, 106
nerves to, 60, 133
tendon of, 67, 78
Tensor veli palatini tendon, 67, 72
Tentorial artery, 115
Tentorium cerebelli, 97, 114–115, 155–156
Teres major muscle, T7.6, BP100, 161, 180, 183, 186, 246–247, 409–410, 413–414, 416–419, 421–423, 425, 468
Teres major tendon, 422
Teres minor muscle, T7.6, 180, 183, 197, 245–246, 410, 413–418, 422, 468
Teres minor tendon, 412, 415, 422
Terminal bronchiole, BP49
Testicle, 369
Testicular artery, BP98, BP109, 266, 300, 311, 313, 369, 385, 391, 398
Testicular plexus, 391, 398
Testicular vein, 256, 262, 264, 298, 311, 313, 316
covered by peritoneum, 263
Testicular vessels, 348, 383, 390
in spermatic cord, 383
Testis, BP93, BP10, 324, 349, 368–369, 371–372, 390, 398
appendix of, 371
arteries of, 383
descent of, 368
external spermatic fascia over, 387
lobules of, 372
mediastinum of, 369, 372
rete, 372
tunica albuginea of, 369
tunica vaginalis, 369
parietal layer of, 372
visceral layer of, 372
veins of, 383
Thalamic veins, superior, 157
Thalamogeniculate arteries, 154
Thalamoperforating arteries, 151, 154
Thalamostriate vein
inferior, 155, 157
superior, 117, 122, 156–157
Thalamotuberal artery, 151
Thalamus, 119, 121–125, 156, 158, 303
geniculate bodies of, 154
imaging of, 160
left, 155
pulvinar of, 150, 154, 156
stria medullaris of, 117, 122
ventral posteromedial nucleus of, 146
Theca externa, BP95
Theca interna, BP95
Thenar eminence, 402
Thenar muscles, 447, 449–450, 466
Thenar space, 450–451, 453
Thigh
arteries of, BP108, 490, 492
deep vein of, BP107
fascia lata of, 353, 359, 362–363
medial, 2
muscle of, 482, 484–485
bony attachments of, 480–481
nerves of, 490, 492
serial cross sections, 496
Thoracic aorta, 41–42, 177, 197, 200, 220, 235–236, 240
descending, BP57, 244, 247–248
lung groove for, 205
Thoracic aortic plexus, 213
Thoracic artery
inferior, esophageal branch of, 240
internal, BP23, 41–42, 88, 149, 189, 196–197, 204, 210, 215–216, 220, 236, 246–248, 258, 418
anterior intercostal branches of, 195
left, 199–200, 235
medial mammary branches of, 189
perforating branches of, 189, 194, 196, 417
right, 199–200, 234
lateral, BP100, 189, 194–195, 258, 417–419, 424
superior, BP100, 195, 418–419, 424
Thoracic cage, BP4
Thoracic cardiac branches, 213, 231, 243
Thoracic cardiac nerves, 199
Thoracic cavity, BP3
Thoracic constriction, 237
Thoracic duct, BP56, BP84, T2.3, 7, 85, 195, 200, 204, 210, 212–213, 215, 220, 235–236, 241–242, 245–248, 268, 300, 324, 328
Thoracic ganglion
first, 172
fourth, 230
second, 231
section through, 177
sixth, 213
third, 230, 243
Thoracic intervertebral discs, T8-9, 200
Thoracic kyphosis, 162
Thoracic nerve, 417
internal, 258
lateral, 419
long, T7.1, T4.1, 189, 194–195, 260, 417
posterior ramus of, 197
superior, 417
Thoracic region, lateral, 2
Thoracic spinal cord, 214
Thoracic spinal nerves
T1, 143–145, 169
dermatome of, 171
vertebrae relation to, 170
T2, 144–145
dermatome of, 171
vertebrae relation to, 170
T3
dermatome of, 171
vertebrae relation to, 170
T4
dermatome of, 171
vertebrae relation to, 170
T5
dermatome of, 171
vertebrae relation to, 170
T6
dermatome of, 171
vertebrae relation to, 170
T7
anterior ramus, 396
dermatome of, 171
dorsal rootlets of, 169
vertebrae relation to, 170
T8
dermatome of, 171
dorsal rootlets of, 169
vertebrae relation to, 170
T9
dermatome of, 171
vertebrae relation to, 170
T10
anterior ramus, 392
dermatome of, 171
vertebrae relation to, 170
T11
anterior ramus, 396
dermatome of, 171
Thoracic spinal nerves *(Continued)*
T12, 169
dermatome of, 171
dorsal rootlets of, 169
vertebrae relation to, 170
typical, 186
Thoracic splanchnic nerves, 232
greater, 261, 269
left greater, 305
lesser, 261, 269
Thoracic sympathetic trunk ganglion, first, 143
Thoracic trunk ganglion
lower, 232
upper, 232
Thoracic vein
internal, 88, 195–196, 198, 204, 216, 220, 246–248, 259
left, 200
perforating branches of, 196
perforating tributaries to, 259
right, 200
lateral, 259
perforating branch of, 197
Thoracic vertebrae, 162–163
L1, body of, 167
T1, 22, 29
anterior view of, 162
inferior articular facet for, 22
lateral view of, 162
posterior view of, 162
spinal nerve relation to, 170
spinous process of, 203
T2, spinal nerve relation to, 170
T3, spinal nerve relation to, 170
T4, spinal nerve relation to, 170
T5, spinal nerve relation to, 170
T6
lateral view of, 163
spinal nerve relation to, 170
superior view of, 163
T7
posterior view of, 163
spinal nerve relation to, 170
T8, 220
posterior view of, 163
spinal nerve relation to, 170
T9, 165
posterior view of, 163
spinal nerve relation to, 170
T10, spinal nerve relation to, 170
T11, spinal nerve relation to, 170
T12, 217
lateral view of, 162–163
posterior view of, 162
spinal nerve relation to, 170
spinous process of, 413
vertebra, BP36
Thoracic visceral nerves, BP39
Thoracic wall
anterior, 194–195
internal view of, 196
internal, veins of, 198
Thoracoabdominal nerves, 261
anterior root of, 261
collateral branch, 261
communicating branch, 261
cutaneous branch of, 194
anterior, 261
lateral, 261
lateral branch of, 261
medial branch of, 261
meningeal branch of, 261
posterior ramus of, 261
posterior root of, 261

/////// facebook : Booksmedicos06

Thoracoacromial artery, BP100, 194–195, 416, 418–419, 424
acromial branch of, 418–419, 424
clavicular branch of, 418–419, 424
deltoid branch of, 413, 418–419, 424
pectoral branch of, 418–419, 424
Thoracoacromial vein, acromial branch of, 405
Thoracodorsal artery, BP23, BP100, 417–419, 424
Thoracodorsal nerve, 414, 417, 419–420
Thoracodorsal vein, BP99
Thoracoepigastric vein, 252, 259
Thoracolumbar fascia, 180, 182–183, 185, 257, 312
anterior layer, 182, 185
middle layer, 185
posterior layer, 181, 185
Thoracolumbar spinal cord, 306
Thoracolumbar spine
anteroposterior radiograph of, 165
L3
inferior end plate of, BP36
superior end plate of, BP36
lateral radiograph of, BP36
radiographs of, BP36
Thorax, 187–248
autonomic nerves in, 213
bony framework of, 192
coronal CTs in, BP57
coronal section of heart and ascending aorta, BP56, 221
cross section of
at T3-4 disc level, 246
at T3 level, 245–248
at T4-5 disc level, 247
at T7 level, 248
nerves of, 230
surface anatomy of, 187
Thumb, 447
Thymus, BP10, 7, 215, 234–235, 244, 246
lung area for, 205
Thyroarytenoid muscle, T2.9, 91–92
action of, 93
thyroepiglottic part of, 91–92
Thyrocervical trunk, BP23, 39–41, 76, 82–83, 87–89, 147, 149, 236, 240, 418
left, 179
right, 179
Thyroepiglottic ligament, 90
Thyrohyoid membrane, 35, 75, 77–78, 80–81, 87, 89–90, 92
Thyrohyoid muscle, T2.9, 32, 35–36, 38, 69, 92, 139–140
branch to, 41
nerve to, 82, 140
Thyroid artery
inferior, 22–23, 40–41, 76, 87–89, 147, 149, 230, 418
superior, 38, 41, 76, 83, 87–89, 147, 149
laryngeal branch of, 41
Thyroid articular surface, 91–92
Thyroid cartilage, T2.1, 8, 22, 32, 35, 38, 77–78, 80–81, 87, 92, 202, 208, 210, 237–238
inferior horn of, 90
lamina of, 90–91
posterior border of, 75
oblique line of, 35
superior horn of, 75, 80–81, 90
Thyroid gland, T2.2, BP10, 33, 35, 38, 40, 76–77, 84, 89, 92, 202, 204, 210, 221
anterior view of, 87
fibrous capsule of, 89
isthmus of, 87
left lobe of, 87, 89
posterior view, 88
Thyroid gland *(Continued)*
pyramidal lobe of, 87
right lobe of, 87–89
Thyroid ligament, posterior, 89
Thyroid nodes, superior, 85
Thyroid notch, superior, 90
Thyroid vein
inferior, 38, 84, 87–89, 204, 215
internal, 241
middle, 38, 84, 87, 89
superior, 38, 84, 87, 89, 92
Thyropharyngeus muscle, 80
Tibia, T8.1, BP113, BP116, BP111, BP4, 501–502, 504–505, 511–512, 514, 517–518, 520, 522, 535
anterior border of, 471
articulating surface of, BP114
condyle of
lateral, 484, 510
medial, 498
medial malleolus of, 520, 522
superior articular surface of, 499
synovium covering, BP114
Tibial artery, 514
anterior, BP110, BP111, BP108, 4, 115–116, 503, 509, 512, 514, 521–522
posterior, BP110, BP111, BP108, 4, 115–116, 503, 507–509, 513–514, 520, 524–525
medial calcaneal branches of, 523
medial malleolar branches of, 513
posterior medial malleolar branch of, 509
in tarsal tunnel posterior to medial malleolus, T8.2
Tibial collateral ligament, 483, 501, 512
Tibial nerve, BP111, 115–116, 485, 487, 489, 492, 507–509, 513–514, 531–532
articular branch of, 531–532
lateral calcaneal branch of, 532
medial calcaneal branch of, 474, 523, 531–532
posterior, 520, 525
Tibial plateau, 501
Tibial recurrent artery, posterior, BP108
Tibial tendon, posterior, BP116
Tibial tuberosity, 482–483, 497–500, 502, 505, 510–511
Tibial vein, 507, 514
anterior, BP107, 5, 514
posterior, BP111, 5, 507, 509, 513–514
medial malleolar branches of, 513
Tibialis anterior muscle, BP116, BP111, 85–86, 471, 484, 497–498, 506, 510–512, 514, 522, 533
Tibialis anterior tendon, BP116, BP111, BP117, 511–512, 522, 527
tendinous sheath of, 521
Tibialis posterior muscle, BP111, 85–86, 506, 509, 513–514, 532
Tibialis posterior tendon, BP116, 507–509, 513, 518, 525–527
Tibiofibular ligament
anterior, 505, 518
posterior, 517–518
Toe
digital nerves of, dorsal, 473
fifth, vein of, 473
great, phalanx of, 519, 528
Toenail, anatomy of, BP117
Tongue, BP35, BP9, 45, 53, 68, 70–72
apex of, 71
body of, BP22, 50, 71, 77
dorsum of, 71
frenulum of, 53, 65
imaging of, 160
Tongue *(Continued)*
intrinsic muscles of, 71, 139
inferior longitudinal, 139
superior longitudinal, 139
transverse and vertical, 139
longitudinal lingual muscle of
inferior, 68
superior, 68
lymph vessels and nodes of, 86
lymphatic drainage of, 86
root of, 71, 75, 77, 79–80, 91
transverse muscle of, T2.9
transversus linguae muscle of, 68
vertical muscle of, T2.9
verticalis linguae muscle of, 68
Tonsillar artery, 57, 83
Tonsillar branches, 57
Tonsils, 7, 125
Torus tubarius, 43, 45, 72, 79
Trabeculae, BP7, BP30
artery of, BP30
Trabecular bone, BP7
Trabecular meshwork and spaces of iridocorneal angle (of Fontana), 101
Trachea, BP41, BP56, BP34, BP44, BP57, 22, 33, 35, 77–79, 81, 87–91, 137, 173, 202, 204, 208, 210–211, 215, 217, 221, 234, 236–238, 240, 245–246
air within, BP36
connective tissue sheath of, 208
cross section through, 208
elastic fibers of, 208
epithelium of, 208
gland of, 208
innervation to, 172
lung area for
left, 205
right, 205
lymph vessels of, 208
nerve of, 208
small artery of, 208
Trachea air column, BP34
Tracheal bifurcation, 41–42
Tracheal cartilages, 208
Tracheal wall
anterior, 208
posterior, 208
mucosa of, 208
Trachealis muscle, 208
Tracheobronchial lymph nodes, 268
inferior, 212, 242, 247
superior, 242, 246
left, 212
right, 212
Tracheobronchial tree, innervation of, schema of, 214
Tracheoesophageal groove, 81
Tract of Lissauer. *See* Dorsolateral fasciculus
Tragus, 8, 106
Transpyloric plane, 251
Transversalis fascia, BP59, 185, 254–256, 262–264, 266, 324, 344, 347–348, 350, 359
Transverse acetabular ligament, BP109
Transverse cervical nerves, 38
Transverse colon, 270, 274, 278, 283, 287–289, 295, 297, 330–331
Transverse costal facet, 163
Transverse fasciculi, 449, 523
Transverse fibers, BP6
Transverse foramen, 26
bony spicule dividing, 27
septated, 27
Transverse ligament, of atlas, 30
Transverse mesocolon, 270, 273–274, 278, 283, 297
attachment of, 275

www.Booksmedicos06.com ///////

Transverse plane, 1
Transverse process, 163–164, 167–168, 185, 193
of C6, BP34
cervical, 26, 29
of coccyx, 166
lumbar, 163, 167, 334
L1, 165
L3, BP37
thoracic, 163
Transverse ridges, 166
Transverse sinus, 110, 114–115, 156
groove for, 15, 18
imaging of, BP31, 159
left, 155
Transverse vesical fold, 256
Transversospinal muscle, 245
Transversus abdominis muscle, BP47, BP85, T5.3, 181, 195–196, 254, 256, 258–259, 261–262, 265, 269, 283, 311–312, 344, 348, 486, 488
aponeurosis of, 255, 258
tendon of origin, 181, 185
Transversus abdominis tendon, 181
Transversus thoracis muscle, T4.3, 186, 195–197, 220
Trapeziocapitate ligament, 444–445
Trapeziotrapezoid ligament, 444–445
Trapezium bone, BP102, BP5, 442–448, 452, 457
Trapezius muscle, T3.3, T2.1, BP56, T3.1, T7.6, 8, 32–36, 38, 138, 194–195, 197, 245–248, 257, 402, 408–410, 413–414, 416, 419
spine of, T3.2, 161, 180, 183–184, 186
Trapezoid bone, BP102, 442–443, 445–447, 452
Trapezoid ligament, 408, 412, 415
Triangle
anal, 362
of auscultation, 161, 257, 413
cystohepatic (Calot's), 287
deltopectoral, 413
inguinal, T5.1, 256, 262
transversalis fascia within, 262
lumbar (of Petit), 161, 180, 257
lumbocostal, 201
sternocostal, 196
suboccipital, 184
urogenital, 362
Triangular aponeurosis, 454
Triangular fold, 72
Triangular fossa, 106
Triangular ligament
left, 284
right, 275, 283–284
Triangular space, 417
Triceps brachii muscle, T7.6, 161, 187, 402, 409–410, 413–414, 418–419, 422–423, 425, 427, 440, 468
lateral head of, 161, 246–247, 402, 413
long head of, 161, 245–247, 402, 410, 413
tendon of, 161, 402
Triceps brachii tendon, 425, 428, 434–435, 468
Tricuspid valve. *See* Atrioventricular valve, right
Trigeminal cave, imaging of, 160
Trigeminal ganglion, 59, 61, 66, 97–98, 115, 128, 143–146
Trigeminal impression, 18
Trigeminal nerve (CN V), T2.2, 60–61, 64, 66, 110, 124, 128, 142, 144–146, 155, 171
distribution of, 129
ganglion of, 133, 142
imaging of, 160
mandibular division of, 9
maxillary division of, 9
mesencephalic nucleus of, 127–128, 146
motor nucleus of, 127–128, 146
Trigeminal nerve (CN V) *(Continued)*
motor root of, 142
ophthalmic division of, 9
principal sensory nucleus of, 127–128, 133
schema of, 133
sensory root of, 142
spinal nucleus of, 137
Trigeminal tubercle, 125
Trigonal ring, 351
Triquetrocapitate ligament, 444
Triquetrohamate ligament, 444–445
Triquetrum bone, BP102, 442–443, 445–447
Triticeal cartilage, 90
Trochanter of femur
greater, BP109, 161, 250, 334, 400–401, 477–478, 483, 485–486, 492–493, 534
radiograph of, 335
lesser, 250, 334, 477–478, 534
radiograph of, 335
Trochanteric bursae
of gluteus maximus muscle, 494
inferior extension of, 494
of gluteus medius muscle, 494
Trochanteric fossa, 479
Trochanteric region, 2
Trochlea, 96, 409, 426
Trochlear nerve (CN IV), BP26, T2.2, 60, 64, 96–98, 115, 124–125, 127–128, 155
distribution of, 129
schema of, 132
in superior orbital fissure, 20
Trochlear notch, 426–427, 429
Trochlear nucleus, 127–128, 132
True ribs, 192
Tubal artery, 107
Tubal branches
of ovarian vessels, 386
of uterine artery, 386
Tuber cinereum, 117–118, 124
median eminence of, 158
Tubercle
anal, 370
anterior, 122
lateral part of, 370
Tuberohypophyseal tract, 158
Tuberosity, 517
tibial, 504
Tufted cell, 130
Tunica albuginea, BP95, 363, 367, 372
of testis, 369
Tunica vaginalis
cavity of, 368
testis, 324, 369, 372
parietal layer of, 369
visceral layer of, 369
Tympanic artery
anterior, 57–58, 60, 107, 149
inferior, 64, 107
superior, 60
Tympanic canaliculus, inferior, 17, 19
Tympanic cavity, 27–28, 62, 105–107, 109, 135–136
labyrinthine wall of, BP27
lateral wall of, BP27
Tympanic cells, BP27
Tympanic membrane, 27–28, 59, 105–107, 109
Tympanic nerve, 64, 106, 134, 136, 145
inferior, 107
Tympanic plexus, 107, 134, 136, 143, 145
tubal branch of, 136
Tyson's gland, 364

U

Ulna, BP102, T7.1, 4–5, 426–433, 435, 439–445, 447, 455, 460
anterior border of, 429
Ulna *(Continued)*
anterior surface of, 429
coronoid process of, 426
interosseous border of, 429
olecranon of, 402, 422, 426–427, 429, 431, 434–435, 468
radial notch of, 426, 429
styloid process of, 429, 447
tuberosity of, 426
Ulnar artery, 4, 100–101, 423, 436–438, 441, 444, 449–450, 452, 456, 463
deep branch of, 444
deep palmar branch of, BP101, 424, 437, 444, 449–450, 455–456, 463
dorsal carpal branch of, 459
palmar carpal branch of, 438, 455
pulses at, 4
Ulnar collateral artery
inferior, 100–101, 423, 435
superior, 100–101, 423, 425, 434–435
Ulnar collateral ligament, BP102, 428
Ulnar nerve, T7.1, 404, 419–420, 422–423, 425, 434–438, 441, 444, 450, 452, 455–456, 459, 462–467
articular branch of, 467
common palmar digital branch of, 463
communicating branches of, 458
deep branch of, 437–438, 449–450, 455–456, 463, 467
dorsal branch of, 404, 406, 434, 437–438, 441, 458–459, 463, 467
groove for, 410, 426
palmar branch of, 404, 406, 437, 449, 462, 467
digital, 404, 462–463
superficial branch of, 437, 449–450, 456, 463, 467
Ulnar recurrent artery
anterior, 100–101, 424, 437–438
posterior, 100–101, 424, 434–435, 438
Ulnar styloid process, 442
Ulnar tuberosity, 421, 429
Ulnar vein, BP99, 5
Ulnocapitate ligament, 444
Ulnocarpal ligament
dorsal, BP102
palmar, BP102, 444
Ulnolunate ligament, 444
Ulnotriquetral ligament, 444–445
Umbilical artery, BP98, 233, 256, 317, 380, 382, 384–385
fibrous part of, 344, 347–348, 384
obliterated, 357
left, 256
occluded distal part of, 384
patent part, 266
right, BP98
Umbilical fold
lateral, 344, 348
right, 256
medial, 344, 348, 356, 382
right, 256
median, 344, 348
Umbilical ligament
medial, BP98, 233, 254–256, 262–264, 266, 316–317, 344, 347–348, 356, 382, 384
median, BP98, 255–256, 264, 324, 344, 347–348, 350, 356, 382
Umbilical prevesical fascia, 256, 262, 347, 349
Umbilical region, 2, 251
Umbilical vein, T5.2, 233
Umbilicus, T5.1, 249, 256, 299, 333, 379
Umbo, 106, 109
Uncal vein, 156

////// facebook : Booksmedicos06

Uncinate process, 43–44, 51
cervical, 27
left, area for articulation of, 27
right, articular surface of, 27
Uncovertebral articulation, BP34
Uncovertebral joints, 28
Uncus, 28, 117–118, 130
Upper limb, BP4, 402–470
arteries of, 463
cutaneous innervation of, 404
dermatomes, 403
lymph vessels and nodes of, 407
lymphatics of, 7
nerves of, 463–464
cutaneous, 405
superficial veins of, 405
surface anatomy of, 402
veins of, BP99
Urachus, 344, 349, 359, 382
median, BP98, 350
remnant of, 356
Ureter, BP98, T6.1, BP85, 256, 264, 267, 272, 299, 311, 314, 316, 344–350, 353, 355, 366, 373–374, 382–386, 392, 394, 399
in abdomen and pelvis, 316
arteries of, 317
left, 356
autonomic nerves of, 320
lower, innervation of, 399
retroperitoneal space, 356
right, 316, 357
as site of referred visceral pain, BP13
Ureteric branch, middle, 320
Ureteric fold, 344, 346, 348
Ureteric orifice, BP90, 356, 366
left, 352
right, 352
Ureteric plexus, 392
Ureteropelvic junction, 331
Ureterovesical junction, pubocervical fascia, 354
Urethra, BP41, 89–90, 265, 339–341, 343, 345, 350–352, 354, 356, 360, 363, 365–367, 371, 401
beginning of, 400
cavernous venous plexus of, BP90
female, BP90
pelvis, 401
floor of, 367
hiatus of, 342
membranous, BP93, BP89, 367
musculofascial extensions to, 341
penile, BP93
prostatic, BP97, BP93, BP89, 367, 400
pubocervical fascia, 354
roof of, 367
spongy, BP89
bulbous portion of, 352, 367
pendulous portion of, 367
Urethrae muscle
compressor, T6.3, 353, 360–361, 386
sphincter, T6.4, 360
Urethral artery, 365, 387
Urethral branches, BP98
Urethral crest, 366–367
Urethral glands, BP90
of Littré, 367
Urethral lacunae, of Morgagni, 367
Urethral meatus, external, 349
Urethral orifice, external, BP90, 333, 345, 358, 361, 364, 367, 370, 377
Urethral raphe, 370
Urethral sphincter muscle
external, BP88, BP98, 256, 349, 351, 365–367, 399
internal, 351–352, 367
loop of Heiss, 351
Urethral sphincter muscle *(Continued)*
posterior loop, 351
trigonal ring, 351
Urethrovaginalis sphincter muscle, T6.4, 339, 351, 353
Urinary bladder, BP41, 165, 173, 256, 263, 270, 282, 305, 311, 324, 344–350, 356, 365–366, 368, 373, 379, 382, 385, 394, 399
apex of, 349–350
autonomic nerves of, 320
body of, 349–350
female, 352
fundus of, 349–350
innervation of, 172, 399
interior of, 400
male, 352
neck of, BP90, 349–350
orientation and supports of, 350
pulled up and back, 350
trigone of, BP90, 349–350, 366–367
ureteric orifice of, 350
Urinary fascia, 349
Urinary system, T6.1, T5.1
Urogenital diaphragm, 385
Urogenital fold, 370
Urogenital groove, 370
Urogenital hiatus, 351
Urogenital sinus, 371
Urogenital triangle, 362
Uterine artery, T6.2, 316–317, 356–357, 382, 384
branches of, 386
cardinal (Mackenrodt's) ligament with, 347
vaginal branches of, 386
Uterine cavity, contrast within in, 357
Uterine cycle, BP92
Uterine development, BP94
Uterine fascia, 347
Uterine ostium, 355
Uterine veins, 267
superior, 381
Uterine vessels, 346, 353, 386
ovarian branches of, 357
Uterine (fallopian) tube, 344–346, 353–356, 371, 382, 394, 397
ampulla, 357
contrast within, 357
fimbriae of, 357
folds of, 355
infundibulum of, 357
left, 356
right, 356
Uterosacral fold, 316, 344
right, 356
Uterosacral ligament, 345, 347, 354–355
Uterovaginal fascia, BP88, 346, 353, 359
Uterovaginal plexus, 394, 396
Uterovaginal venous plexus, 267
Uterovesical pouch, 357. *See also* Vesicouterine (uterovesical) pouch
Uterus, BP88, T6.1, 353, 355, 359, 371, 373, 394, 397
arteries of, 386
body of, 345–346, 355
cervix of, 345–347, 353, 355–356
endometrium of, 379
external os of, 357
fundus of, 344–346, 350, 355, 379
isthmus of, 355
ligaments of
fascial, 354
round, BP90, 344–346, 352–354, 356, 359, 371, 382
myometrium of, 379
round ligament of, 267
Uterus *(Continued)*
supporting structures, 353
through overlying peritoneum, 356
veins of, 386
Utricle, 108–109, 135
Uvula
of bladder, 366–367
of palate, 65, 72, 75, 79
of vermis, 125

V

Vagal fibers, 137
Vagal trigone, 125
Vagal trunk, 265
anterior, BP40, 137, 213, 236, 243, 300–301, 304–305, 309–310, 320, 322, 392
gastric branches of, 137
hepatic branch of, 137
posterior, BP40, 243, 300–301, 304–305, 309–310, 320, 392
Vagina, BP90, T6.1, 339–341, 345, 350–353, 356, 359–360, 371, 373, 377, 379, 382, 397, 401
horizontal portion of, 354
musculofascial extensions to, 341
pubocervical fascia, 354
supporting structures, 353
vertical portion of, 354
vestibule of, 353, 358, 371
Vaginal arteries, 353, 357, 382, 384, 386
inferior, 350
internal, 347
left, 356
Vaginal fascia, 373
Vaginal fornix, 345
anterior, 345, 356
posterior, 356
Vaginal orifice, BP90, 345, 358, 361, 370
Vaginal vein, 381
Vaginal wall, 353–354
Vaginorectal fascial fibers, 347
Vagus nerve (CN X), 33, 39–41, 40–41, 49, 64, 66, 76, 83, 87–89, 115, 124, 127–128, 136, 138, 141–142, 146, 173, 210, 213–215, 231, 236, 243, 306, 321
auricular branch of, 9, 19, 137
communication to, 136
cervical cardiac branch of
inferior, 137, 230
superior, 137, 141–142, 230
distribution of, 129
dorsal nucleus of, 127, 137
ganglion of
inferior, 64, 76, 137–139, 146, 243
superior, 76, 137–138
in jugular foramen, 20
in jugular fossa, 19
laryngopharyngeal branch of, 141
left, BP51, 88, 199, 210, 216, 230, 235, 245–246
meningeal branch of, 137
pharyngeal branch of, 76, 136–137, 141–142, 243
posterior nucleus of, 128, 231, 306, 321
recurrent laryngeal branch of, T4.1
right, 88, 199, 210, 216, 230, 234, 243, 245
schema of, 137
superior ganglion of, 243
thoracic cardiac branch of, 137, 230–231
Vallate papilla, 71, 146
Vallecula, 71–72
Valves of Houston, 375
Valves of Kerckring, 279, 287. *See also* Circular folds (valves of Kerckring)

www.Booksmedicos06.com

Vas deferens, 348–349, 352, 366, 368, 371, 373, 385, 391–392, 398. *See also* Ductus (vas) deferens
ampulla of, 366
arteries to, 380, 383, 385
Vasa vasorum, BP16
Vascular smooth muscle, innervation to, 172
Vastoadductor intermuscular septum, 482, 491
cover femoral vessels to popliteal fossa, 490
Vastus intermedius muscle, 85–86, 480–483, 498, 529. *See also* Quadriceps femoris muscle
Vastus intermedius tendon, 491
Vastus lateralis muscle, 85–86, 401, 471, 480–484, 490–491, 496–498, 510–511, 529. *See also* Quadriceps femoris muscle
deep to iliotibial tract, 492
Vastus medialis muscle, 85–86, 471, 480–483, 490–491, 496–498, 511, 529. *See also* Quadriceps femoris muscle
nerve to, 490
Veins. *See also* specific veins
of abdominal wall
anterior, 259
posterior, 267
of anal canal, 381
of duodenum, 296
of esophagus, 241
of eyelids, 99
of face, 10
of forearm, 406
of hypothalamus and hypophysis, BP30
of iris, 104
of large intestine, 298
of leg, T8.2
of lower limb, BP107
of oral and pharyngeal regions, 84
of pancreas, 296
of pelvis
female, 382
male, BP98, 385
of perineum, male, 387
of posterior cranial fossa, 155
of rectum, 381
of scalp, 10
of small intestine, 297
of spinal cord, 178
of spleen, 296
of stomach, 296
of testis, 383
of thoracic wall, 198
of uterus, 386
of vertebral column, 178
Vena cava
groove for, 284
inferior, BP87, BP84, 185, 200, 210, 213, 217–219, 221, 225, 229, 233–234, 236, 241, 267, 273–276, 278, 284, 288, 293, 296, 311–313, 323, 326–332
lung groove for, 205
opening of, 227
valve of, 224
superior, BP51, 87–88, 210, 215–221, 224, 228–229, 233–234, 241, 244, 246–248, 325
lung groove for, 205
superior, 198–199
Venae comitantes, 450
Venae rectae, 297
Venous arch
dorsal, 5, 473
posterior, superficial, 513
superficial palmar, 450
Venous communications, body of C3, BP42
Venous plexus, BP98, 64, 350, 357, 369. *See also* Pampiniform (venous) plexus
around vertebral artery, 179
basilar, 114–115
cavernous, of urethra, BP90
external, 374, 381
in foramen magnum, 19
internal, 374
pampiniform, T6.2, 383
pharyngeal, 76
prostatic, BP98, 349, 385
rectal
external, 375–376
internal, 375–376
perimuscular, 381
vaginal, 401
vertebral artery with, BP42
vertebral (of Batson), 114
internal, 177
vesical (retropubic), BP98, 349, 352, 385
Ventral plane, 1
Ventral root, BP38
Ventricles (cardiac), 228
left, BP51, BP57, 216, 218–221, 223–225, 228, 244, 248
branches to back to, 223
posterior vein of, 222
right, BP51, 216–221, 228, 244, 248
Ventricles (of brain), 119, 125
fourth, 117, 125, 157
choroid plexus of, 120, 125
choroidal branch to, 154
imaging of, 160
lateral and median apertures of, 157
outline of, 154
rhomboid fossa of, 124
taenia of, 125
vein of lateral recess of, 155
lateral, 117, 121, 123, 150, 157
central part of, 117
choroid plexus of, 117, 120–121, 150, 154, 156
frontal (anterior) horn of, 117, 160
imaging of, BP32
lateral vein of, 157
medial vein of, 157
occipital (posterior) horn of, 117, 121–123, 154, 157, 160
temporal (inferior) horn of, 117, 119, 122, 157
third, 117, 121–122, 125, 157
choroid plexus of, 117, 119–120
imaging of, BP32, 160
infundibular recess of, 50
tela choroidea of, 119, 122, 156
Ventricular folds, 91
Ventricular veins
hippocampal, 157
inferior, 157
Vermian artery, inferior, 154
Vermian vein
inferior, 155
superior, 155, 157
Vermiform appendix, BP86, 272, 280–281, 283
orifice of, 281
Vermillion border, 8
Vermis, 50, 126
imaging of, BP32
inferior
nodule of, 126
pyramid of, 126
tuber of, 126
uvula of, 126
superior
central lobule of, 126
culmen of, 126
Vermis *(Continued)*
declive of, 126
folium of, 126
Vertebrae, BP4
lamina of, 244
pedicle of, 244
radiology of, 165
Vertebral artery, BP23, 19–20, 29, 39–40, 76, 82, 88–89, 141, 149–152, 176, 179, 184, 230, 240, 418
anterior and posterior meningeal branches of, 112
cervical part of, 147
in foramen magnum, 19
imaging of, 31–32
left, 147, 154, 179
meningeal branches of, 20
anterior, 147, 154
posterior, 147, 154
right, BP42, 147, 179
venous plexus and, BP42, 179
Vertebral body, BP38, 177
articular facet for, 193
inferior, 193
superior, 193
transverse, 193
branch to, 177
of C2, 34–35
cervical, BP18, 27–28
of L2, 185
of L3, BP37
lumbar, 164
posterior intercostal artery branch to, 177
posterior surface of, BP33
of S1, 165
of T12, 165
thoracic, 176
fourth, 234
Vertebral canal, 163–164
Vertebral cavity, BP3
Vertebral column, BP4, 162
veins of, 178–179
Vertebral foramen, T3.1
cervical, 26–27
lumbar, 164
thoracic, 163
Vertebral ganglion, 141, 230–231, 243
Vertebral ligaments, BP33
lumbar region, 168
lumbosacral region, 167
Vertebral notch
inferior, BP36, 163–164
superior, 164
Vertebral plexus, 20, 141
Vertebral region, 3
Vertebral veins, BP42, 241
accessory, 179
anterior, 179
left, 179
right, 179
Vertebral venous plexus, T3.1
anterior, BP42
external, 178
anterior, 179
internal, 178
anterior, 179
Vesical arteries
inferior, BP98, 266, 316, 350, 380, 382–385
posterior branches of, 385
internal, 347
superior, BP98, 256, 317, 347, 380, 382, 384–385
Vesical fascia, BP88, 346–347, 349, 352, 359, 373, 378
Vesical fold, transverse, 344, 348, 356–357

////// facebook : Booksmedicos06

Vesical nodes
lateral, 319
prevesical, 319
Vesical plexus, 305, 320, 392, 394, 396, 398–399
Vesical (retropubic) venous plexus, BP98, 267, 385
Vesical veins
inferior, 381
posterior branches of, 385
superior, 267, 381
Vesical vessels, inferior, 390
Vesicocervical fascial fibers, 347
Vesicocervical space, 347
Vesicosacral (sacrogenital) fold, 348
Vesicouterine (uterovesical) pouch, 345–346, 350, 356–357, 373
Vesicovaginal space, 347
Vesicular appendix, 355, 371
Vessels
blood, innervation of, 214, 232
fibers direct to, 232
of neck, 39–40
Vestibular aqueduct
internal opening of, 108
opening of, 15, 20, 110
Vestibular area, 125
Vestibular fold, 92
Vestibular fossa, 358
Vestibular ganglion (of Scarpa), 108, 135
Vestibular gland, greater, 360–361, 371, 386
opening of, 358
primordium, 371
Vestibular nerve, BP28, 105, 108, 110, 135
inferior part of, 108, 110, 135
superior part of, 108, 110, 135
Vestibular nucleus, 127–128
inferior, 135
lateral, 135
medial, 135
superior, 135
Vestibular (oval) window, 21, 108
Vestibular (Reissner's) membrane, 109
Vestibule, BP28, 92, 105
bulb of, BP90, 352, 359–361, 386
artery of, 353, 361, 386
of ear, 108–109
of vagina, 353, 358, 371
Vestibulocochlear nerve (CN VIII), BP28, 20, 60, 76, 105, 108, 110, 124, 127–128, 142
distribution of, 129
imaging of, BP32
schema of, 135
Vestibulospinal tract, BP43
Vincula longa, 454
Vinculum breve, 454
Visceral arteries, BP41
Visceral fascia. *See* Pretracheal (visceral) fascia
Visceral lymph nodes, 268
Visceral peritoneum, 279, 378. *See also* Serosa (visceral peritoneum)
Visceral pleura, BP49
Vitreous body, 100
Vitreous chamber, 103
Vocal fold, BP44, 77, 91–92
Vocal ligament, 90–91
Vocalis muscle, T2.9, 91–92
action of, 93
Vomer, 11, 15, 17, 45, 49
Vomeronasal organ, 43
Vorticose vein, 99, 103–104
anterior tributaries of, 104
bulb of, 104
posterior tributaries of, 104
Vulva, 358

W

White blood cells, BP15
White commissure, anterior, BP43
White matter, BP43
imaging of, BP32, 160
of spinal nerves, 174
White rami communicantes, BP41, BP39, 141, 143–145, 172, 174, 186, 197, 213, 231–232, 234–235, 243, 269, 300, 303, 306, 321, 392, 394, 397–399, 488
Wirsung, pancreatic duct of, 279
Wolffian duct, 368, 371. *See also* Mesonephric (wolffian) duct
Wormian bone, 13, 16. *See also* Sutural (wormian) bone
Wrisberg, intermediate nerve of, 107, 134, 142, 146
Wrist
arteries of, 452, 459
bones of, 446
cutaneous innervation of, 462
deeper palmar dissections of, 450
extensor tendons at, 460
extensors of, 431
flexor tendons at, 452
flexors of, 432
ligaments of, BP102, 444–445
movements of, 443
nerves of, 452, 459
radiographs of, 447
superficial dorsal dissection of, 458
Wrist *(Continued)*
superficial palmar dissections of, 449
superficial radial dissection of, 457

X

Xiphoid process, 193, 196, 202, 204, 249–250, 252, 328
pubic, T5.1
of sternum, 187, 194

Y

Y ligament of Bigelow. *See* Iliofemoral ligament
Yoke, 18

Z

Zigzag line, 239, 277
Zona orbicularis, 477
Zona pellucida, BP95
Zone of sparse muscle fibers, 238
Zonular fibers, 100–103
equatorial, 102
postequatorial, 102
preequatorial, 102
Zygapophysial joint, BP34, 29, 248
capsule of, 29–30, 168
Zygomatic arch, BP17, 12–13, 22–23, 55
Zygomatic bone, BP17, 8, 11–13, 17, 50, 94
frontal process, 11
of newborn, 21
orbital surface of, 11
temporal process of, 11, 13
zygomaticofacial foramen of, 11, 13, 21
Zygomatic nerve, 61, 63, 98, 132–133
zygomaticofacial branch of, 82
zygomaticotemporal branch of, 82
Zygomatic process, 21
of maxillary bone, 11, 17
of temporal bone, 13, 17
Zygomaticofacial artery, 10, 99
Zygomaticofacial foramen, 11, 13, 21
Zygomaticofacial nerve, 9, 61, 63, 98
Zygomaticofacial vein, 10
Zygomaticofrontal suture, BP17, 12
Zygomaticoorbital artery, 10, 99
Zygomaticotemporal artery, 10
Zygomaticotemporal nerve, 9, 61, 63, 98
Zygomaticotemporal vein, 10
Zygomaticus major muscle, T2.9, 20–21, 31, 55, 134
Zygomaticus minor muscle, T2.9, 20–21, 31, 55, 134

www.Booksmedicos06.com ///////