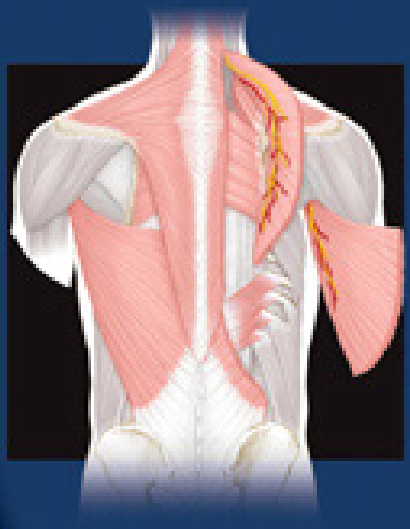
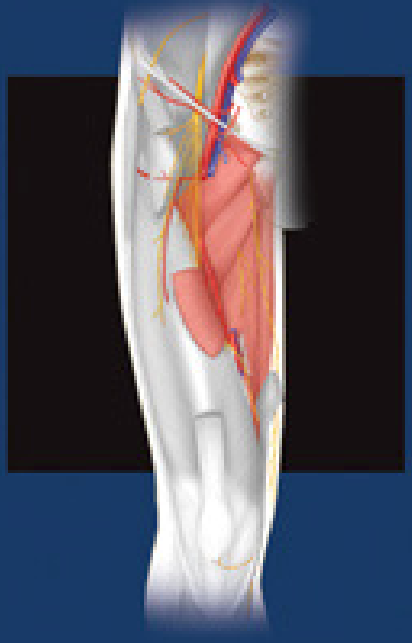
Lippincott's

CONCISE ILLUSTRATED ANATOMY

Back, Upper Limb & Lower Limb

Ben Pansky | Thomas Gest





Volume 1

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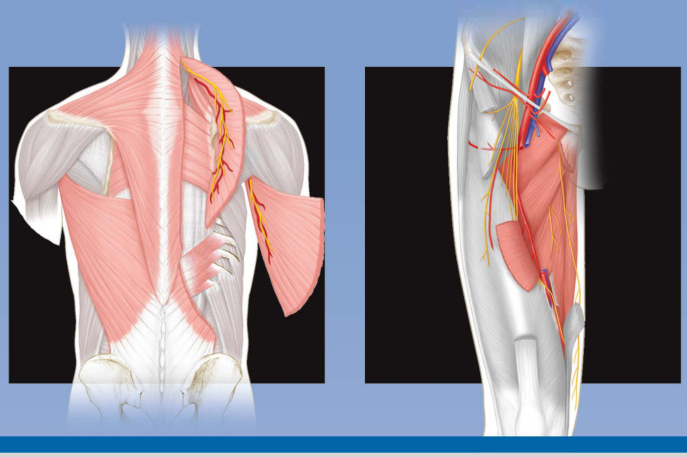

Lippincott's CONCISE ILLUSTRATED ANATOMY:

Back, Upper Limb & Lower Limb

VOLUME I

Ben Pansky, PhD, MD

Professor Emeritus
Department of Surgery
University of Toledo College of Medicine
and Life Sciences
Toledo, Ohio

Thomas R. Gest, PhD

Associate Professor of Anatomy
University of Michigan Medical School
Ann Arbor, Michigan

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I dedicate this new endeavor to my dearly beloved wife **JULIE**, who will live in my loving memory forever, after our more than 50 years together, whose love, patience, understanding, encouragement and constant inspiration, supported me through the seasons of my maturation and productive life.

And to my loving son, **JONATHAN**, who grew up and matured along with me, my writings, illustrations, and stories. He is ever present by my side with love and encouragement helping me maintain the "Spark of Life and Creativity" which has forever glowed brightly within me.

—**Ben Pansky**

For my children, **MADISON** and **TAYLOR**, the most important people in my life.

—**Thomas Gest**

PREFACE

Medical education continues to be in a constant state of change. Dedicated teachers experiment with teaching methods and curricula, always striving to refine, to define, to update, and to narrow the gap between the what, the how, and the why of what is being taught and the state of our present knowledge. Academic traditions are often quite rigid, cemented into place by a "yardstick of established time (hours)," so any effort to change becomes formidable and medical, clinical, and scientific relevance may receive secondary consideration. What the art of medicine always requires, no matter how much manipulating is done, is a strong foundation in the basic sciences. To fully appreciate and understand the complexities and nuances of variation in us all, Anatomy is the keystone in that foundation.

Lippincott's Concise Illustrated Anatomy series presents human gross anatomy in more than a synopsis form and far less than one encounters in a massive traditional text. Each title in the series is a highly illustrated, complete, functionally oriented, clinically informative text, concerned with "living" anatomy and stressing the importance of the relationship between structure and function. Repetition only occurs as needed to emphasize particular points or to demonstrate continuity between regions.

Terminology adheres to the *Terminologia Anatomica* (1998) approved by the Federative Committee on Anatomical Nomenclature (FCAT) of the International Federation of Associations of Anatomists (IFAA). Official English-equivalent terms are used throughout this edition.

Anatomy requires one to think three-dimensionally, which is often a new concept for students and a difficult one for practitioners desiring to review. Studying and palpating a body at a dissection table may be the best way to comprehend the three-dimensional fundamentals of anatomy and the relationships of many of its parts. However, lacking the physical body, this text maintains a tradition utilized in six editions of *Review of Gross Anatomy* by Ben Pansky of being planned and written around its illustrations, which come predominantly from the highly acclaimed *Lippincott Williams & Wilkins Atlas of Anatomy* by Drs. Tank and Gest, together with a reworking of a number of illustrations from Dr. Pansky's 6th edition of *Review of Gross Anatomy*, into beautiful, full-color illustrations closely coordinated with those of the *Atlas*.

The illustrations present anatomical images concisely in a logical sequence, making them easier and faster to use, a critical and essential need in this era of compressed anatomical curricula.

The hundreds of illustrations in full color combined with an abbreviated, outlined, but comprehensive and detailed text convey a simplified, multi-faceted, three-dimensional aspect of the beauty and function of the human body not found in other texts.

Because the overall volume of material (in text and illustration) needed to present the true, complete reality of the human body is so massive, many texts have become larger and larger over the years. It was felt that a huge "tome" of 1,000 or more pages would be too overwhelming and formidable as well as difficult for students to tackle without great trepidation. Thus, we have decided to present three volumes for the seven chapters or units of associated areas of the body—namely, Volume I: Back, Upper Limb & Lower Limb; Volume II: Thorax, Abdomen & Pelvis; and Volume III: Head & Neck. Each volume is approximately 300 pages. Thus, as one studies a respective body region, one needs to essentially carry, transport and study from a single volume at a time. Furthermore, if a student or practitioner is predominantly involved only in one or two major body areas, they may be able to concentrate on the essentials of her/his study or review (i.e., orthopedics, dentistry, ophthalmology, physical therapy, surgery, etc.) without carrying around a large tome. He or she would still have the other volume(s) for reference since the body functions as a unit and one part depends on or is related to the other.

Progression from region to region, from the Back to the Upper and Lower Limbs, to the Thorax, Abdomen, and Pelvis, and to the Head and Neck, allows one to fully appreciate the continuity between the regions. The regional approach duplicates that used in many human

anatomy courses and laboratories of dissection as well as in surgical areas of concentration. However, the illustrations show some overlapping of structures to allow the student to move easily from one region to the next.

The body is discussed from its superficial layers to its deep structures, except for the osteology. Because the bones form the framework of the body and lend themselves to the attachment of soft parts, they tend to appear early in the text and are also to be studied early in most courses. This makes understanding of the relationships of the soft body parts more easily and clearly understood.

By extracting information from within the living organism, the student and practitioner are better able to describe and define both normal and abnormal states. Increasingly, sophisticated tools help them understand that continuum. At first, students of the medical arts used only observations and palpation, then they undertook dissection, and now "tools" have gained momentum, moving quickly from the stethoscopes and ophthalmoscopes to powerful x-rays and imaging technologies. To put this in perspective, x-rays were discovered at the close of the 19th century; nuclear medicine and ultrasonography were introduced in the 1950s; and computed tomography (CT), positron emission tomography (PET), single-photon emission computed tomography (SPECT), digital radiography, and nuclear magnetic resonance (NMR) became available in the 1970s.

Thus, an anatomy text would be incomplete without some discussion and illustration of radiography, CT, PET, SPECT and NMR, which provide a good clinical introduction to the current state of the patient's health. This has been included in our books since the sooner one learns to identify normal anatomy on x-ray film and computer imaging, the easier it becomes to locate and understand the changes brought on by genetics, disease, or trauma and thus, anatomy becomes a "keystone" to all of medicine and its many related fields.

Although much basic and essential clinical consideration has been presented in many areas of our texts, all clinically relevant material cannot be fully discussed for each anatomical region. However, its importance in one's understanding of basic anatomy and how that can be altered is essential for truly appreciating what is generally "normal" before it becomes altered and creates clinical signs and symptoms.

Since walking plays such a strong role in our present concept of physical fitness and health, several units on walking have been included in our discussion of the lower extremity, which correlate structure with kinesiology.

In the same vein, the ability to "get about" from place to place and take care of oneself, handle objects, shower, drive a car, make meals and eat in comfort without stress or pain makes our discussion of range of motion (ROM) of essential body parts and joints very important and essential not only as we age and flexibility diminishes, but in all stages of life. Thus, much effort has been made to outline the ROM of the essential anatomy of the body and delineate, to some degree, what the "normal" ranges are that may be necessary for adequate function.

We, as educators in the anatomical sciences, are aware of the fact that gross anatomy is a subject quickly memorized and just as easily forgotten, unless the student or practitioner constantly reviews the material. Time can be an adversary and multiple duties are often overwhelming. It is our hope that in this series we have been concise, direct, and meaningful, without "running on and on" with excessive nonessentials, and that we have been able to create books that will guide the reader easily and thoughtfully through the very complex detail that makes up the human body and its many parts.

ACKNOWLEDGMENTS

Many thanks to those at Lippincott Williams & Wilkins who participated in the development of this textbook, including Acquisitions Editor Crystal Taylor, Product Manager Julie Montalbano, Art Director Jennifer Clements, and Designer Steve Druding. Additional thanks goes to Kelly Horvath for her editorial guidance.

Marcelo Oliver and Body Scientific International did a superb job of converting many of Dr. Pansky's original black-and-white illustrations into full color, managing to duplicate the tone, color, and beauty of the illustrations from the *Lippincott Williams & Wilkins Atlas of Anatomy* by Drs. Tank and Gest.

Much gratitude is extended to Danelle Mooi, Secretary, Department of Surgery, Division of Neurosurgery, University of Toledo Medical Center for her persistent encouragement, understanding, and great help to Dr. Pansky with her knowledge of the computer and digital world, which made his transgression into the realm of computers and wireless connections possible and a great learning experience; and to Jason W. Levine, M.D., Assistant Professor of Orthopedics, Department of Surgery, Division of Sports Medicine, University of Toledo Medical Center for his discussions with Dr. Pansky on joint movements and range of motion (ROM), and his suggestions for references, which helped Dr. Pansky fully understand the complexities of "living with our bones, muscles, and joints."

And special thanks goes to Patrick Tank, PhD, Professor of Neurobiology and Developmental Sciences, University of Arkansas for Medical Sciences. His inspiration and hard work on the initial chapter of this book helped to get this project underway.

Ben Pansky
Thomas Gest

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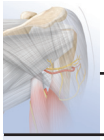

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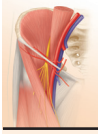

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