



MEDICAL ART

graphics for use

Diane Abeloff, M.A., A.M.I.
medical illustrator



WILLIAMS & WILKINS
Baltimore/London

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322
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To my father, David Kaufman, a fellow artist,
who started me on my way,
and to my husband, Martin, and daughters, Elisa and Jennifer,
who keep me going.

Acknowledgments

I want to thank my colleagues at Williams & Wilkins for their encouragement and hard work in bringing this project to fulfillment. I am grateful to editors Susan Vitale and Maureen Vardoulakis for their enthusiasm and guidance and gentle prodding. My appreciation is extended to Wayne Hubbel for his diligence and patience in putting this book together and to Bob Och for his expertise in its overall design. None of this could have been accomplished without the long term support of Toni Tracy, Vice President and Editor-in-Chief, and Sara Finnegan, President, of Williams & Wilkins' Book Division.

A handwritten signature in cursive script, reading "Diane Ardoff". The signature is written in dark ink and is positioned to the right of the main text block.

About the author

Diane Abeloff, a native of New Haven, Connecticut, currently resides in Baltimore, Maryland. She is a graduate of the High School of Music and Art in New York City and the City College of the City University of New York. Following graduation from the City College, she accepted a fellowship in the art department there and worked primarily in medical and biological illustration as well as in independent research in the biology department.

She then went to The Johns Hopkins University as a student in the Department of Art as Applied to Medicine. In 1967, she received her degree of Master of Art in Medical Illustration from The Johns Hopkins University School of Medicine. Her thesis was "Patterns of Alteration of Mucosal Architecture: A Three Dimensional Study."

While a student, she was a member of Phi Beta Kappa and received both the CCNY Alumni Award from City College and the Annette Burgess Award for Ophthalmologic Illustration from Johns Hopkins.

Following the awarding of her degree from Johns Hopkins, she worked as assistant to the director of the Department of Art as Applied to Medicine at The Johns Hopkins University School of Medicine for two years, then began doing free-lance work in medical illustration. In 1979 she became associated with the Union Memorial Hospital as a consultant in medical illustration, while continuing her independent work. She is an active member of the Association of Medical Illustrators.

Her illustrations have appeared in numerous journals, exhibits, and publications, for many of which she was the sole illustrator. These publications include: *History of Cardiac Surgery*, Johnson, The Johns Hopkins University Press (1970); *Muscles — Testing and Function*, Kendall, Kendall, and Wadsworth, Williams & Wilkins (1971); *Cardiovascular Surgery*, Beebe, Lippincott (1972); *Biology*, Moment and Haberman, Williams & Wilkins (1973); *Understanding Genetics*, Rothwell, Williams & Wilkins (1971); *Use of Microspheres in Nuclear Medicine* (a teaching videotape), Wagner and Strauss, the 3M Corp (1974); *Chemistry*, Fine, Williams & Wilkins (1978); *Atlas of Emergency Medicine*, Rosen and Sternbach, Williams & Wilkins (1979); *Psychology*, Meyer et al., Oxford University Press (1979); *Orthopaedic Traction Manual*, Brooker and Schmeisser, Williams

& Wilkins (1980); *Physical Diagnosis*, 16th edition, Burnside, Williams & Wilkins (1981); and *Foundations of Animal Development*, Hopper and Hart, Oxford University Press (1980). Two publications currently in press are *Reconstructive Surgery for Mastectomy*, McGibbon, University Park Press, and *Primary Anatomy*, 8th edition, Basmajian, Williams & Wilkins.

Ms. Abeloff lives in the Mount Washington area of Baltimore with her husband, an oncologist, and her two daughters, ages 9 and 12.

Introduction

The idea of this book, or service if you will, did not just surface. Since 1969, when I began my independent work as a medical illustrator, I have thought about the need for high quality available art for those in the medical profession and others who were unable or found it inconvenient to utilize the services of a professional artist.

The need for good medical illustrations in pre-photographic times was obvious. Communication of knowledge required graphic depiction in the basically visual and tactile field of early diagnostic medicine. Even in more modern times, illustrated procedures and diagrams were needed to augment photography.

Presently, in an era of rapid advances in the biomedical sciences, there continues to be a great need for illustrations. Modern illustrators can offer a clear cogent depiction of a procedure, a schematic diagram of abstract ideas, or a less than literal translation of graphic information in all modern media and techniques.

I was trained at The Johns Hopkins University School of Medicine in the Department of Art as Applied to Medicine. This institution was one of the first to recognize the importance of artists who were well trained in the field of medical art specifically. The department's founder, Max Brödel, a contemporary of many of the greats of Hopkins, established the tradition of excellence which has been maintained to the present time. I had the good fortune to continue my work there for two years as the assistant to the head of the department, Ranice Crosby.

The training of a medical illustrator includes in-depth knowledge of anatomy, frequently learned side-by-side with medical students, as well as a working knowledge of histology, embryology, pathology, and physiology. Special illustrative techniques are developed, such as dust on chalkboard which results in a photographic-like realism, careful rendering in watercolor and pen and ink, and more recently airbrush and audiovisual media. In addition, the development of professional skills for communicating and working with physicians and other scientists, colleagues in the audiovisual field, and patients are emphasized.

Professionally trained illustrators can be found at hospitals, pharmaceutical houses, and publishing firms. Many, like myself, are free-lancers, who

find themselves doing work for all of the above and for some surprising sources.

The expansion of medicine, especially in the field of research and publishing, has ensured the continuing need for a growing number of illustrations. This continuing need for high level work, together with the fact that illustrators tend to cluster in large metropolitan areas and universities, results in great geographical expanses where illustrators are not readily available. In addition, the expense of illustrations is prohibitive to some institutions and to some individuals.

When I first discussed my idea of a book consisting of a collection of good quality artwork which could be cut out and used or reproduced without copyrights to Susan Vitale, a senior editor at Williams & Wilkins, I was pleased with her enthusiastic response. My assessment of the need for such a book was confirmed by the editorial staff of this major medical publishing firm with whom I have worked for many years. This gave me the confidence to proceed with developing the project.

The artwork in this book carries a copyright. It is not intended to deter the legitimate user but prohibits the mass resale of the collection in another ready-to-use art collection or stock cuts.

Unlike artwork "borrowed" from other printed matter, there is no need for time-consuming permission correspondence nor is there any charge (other than the cost of the book) in order to use the artwork.

Those who will find this collection useful include:

Those medical institutions without illustrators on their staff to prepare slides for teaching purposes, lectures, or rounds or to illustrate journal articles.

Private physicians lacking access to an artist who could provide those same services. In cases of deadline, a fast addition or deletion makes the artwork ready for individual use.

Teaching institutions needing accurate and professional illustrations for classroom work, testing, and dittos.

Professional medical illustrators using the collection to supplement their own work. It can serve as source material which can be altered or not, as desired.

Advertising agencies and medical publications utilizing accurate and high quality illustrations for pharmaceutical or medical service advertising.

Students using the artwork for study and reference guides. They can color-code, combine, label or not according to their needs.

These suggested uses do not imply that this is an anatomy text, although all the drawings are anatomically correct. Rather it is meant to imply that for teaching uses, the publication should be seen as a supplement to other texts and, for graphics use, it is a valuable and practical resource.

These original drawings are mostly basic representations covering a general field of anatomy based on the demand I have found in my own practice. The views they are drawn from are also fairly traditional in most cases. It is obvious, if a very special conceptual representation is called for, nothing can replace the one-to-one relationship of an artist working with a client from the inception of an idea. In such a case, the services of a trained medical illustrator will afford the best results.

There are many ways to use the artwork in this book. The figures may be used in slides, as dittos, in overhead projectors, and in all kinds of printed material from journal papers to books.

The figures have been printed on one side of a fine stock of paper. The most direct way of using a particular drawing is to actually cut the needed figure out and adhere it to a clean piece of paper or board using a good rubber cement or waxing technique. These are available at good art supply stores. If the illustration is to be labeled, "press type" letters can be easily utilized. These, too, are found at art supply or drafting stores.

Each drawing has a rendered sample and one that has been kept in a simple line drawing form; depending on the detail needed in the drawing either one can be used. If many internal labels or markings will be added, the line drawing might be kept clearer. The artwork can, in this way, be made specific for individual needs, by directly marking on the surface of the drawing. The stock was chosen for this possibility so that ink, felt-tipped pens, press-on type, designs, patterns, and color all work well on the surface.

Of course, if there is a means of reproducing the figure available, either by photography or by a solid black xerox method, these are camera-ready as well.

In either method, using the original figure or a reproduction of it, the finished "mechanical" should be kept flat and clean before it is delivered to the printer.

These introductory remarks summarize the reasons I undertook the project and describe the ways in which *Medical Art: Graphics for Use* would be helpful. Since this represents a new concept in medical publishing, I am interested in responses from readers.

Contents

Acknowledgments
About the author
Introduction

1 Anatomical Orientation

Anatomic Position and Surface
Anatomy
Planes of Sections

2 The Skeletal System

Full Skeleton
Skull
Hand
Foot
Vertebral Bodies
Scapula
Hip Bone
Pelvis
Coccyx
Joints of the Body

3 The Muscular System

Muscles of the Body
Muscles of the Hand

4 The Circulatory System

Arteries of the Body
Great Vessels
Heart
Vessels of the Head and Neck
Veins of the Hand and Arm
Arteries of the Hand
Celiac Trunk
Portal System
Spleen

5 The Nervous System

General Scheme of the Nervous System

Brain

Distribution of Cutaneous Nerves (Dermatomes)

Cross-section of the Spinal Cord at Various Levels

Diagram of Organ and Distribution of a Typical Spinal Nerve

Cross-section of the Spinal Cord and Nuclei and Spinal Tracts

Autonomic Nervous System

6 The Digestive System

Median Section of the Head and Neck

Mouth

Digestive Tract

Liver

Gallbladder and Pancreas

Stomach

Vascularization

Portal System

7 The Respiratory System

Median Section of the Head and Neck

Lungs and Trachea

Larynx

8 The Urogenital System

The Kidney

Renal Corpuscles and Henle's Loop

Median Section of Male and
Female Pelvis
Perineum of Male and Female
Male Urogenital System
Uterus and Ovaries
Mammary Glands

9 The Sensory Organs

Eye
Ear
Nose
Tongue

10 The Endocrine System

Position of the Endocrine Glands

Anatomical Orientation

1

- 1.1 Male, front view
- 1.2 Female, front view
- 1.3 Male, side view
- 1.4 Female, side view
- 1.5 Planes of section



