

Kühnel W. Color Atlas of Cytology, Histology, and Microscopic Anatomy, 4th edition. Stuttgart: Georg Thieme Verlag; 2003. 534 pages, 745 illustrations. ISBN 3-13-562404-8; price: €34.95

Field of medicine: Microscopic anatomy, histology, cytology, pathology.

Format: Softcover.

Audience: Teachers and students of medicine, dentistry, veterinary medicine, and biology; as well as clinicians and biomedical researchers working with human tissue or cell samples.

Purpose: To provide an overview of the basic knowledge of microstructure of the human body. Structured as a companion atlas for the study of morphology.

Content: The atlas is divided into 16 chapters, covering all body systems, tissues, and organs. The collection of superb histological photographs starts with the introductory chapter on cells, followed by chapters about basic tissue types: Epithelium, Exocrine Glands, Connective and Supportive Tissue, Muscular Tissue, and Nerve Tissue. The chapter on Blood Vessels, Blood and Immune System presents structural details of the system that integrates different tissues and organs and is distributed in other body systems. The following chapters systematically present the structures characteristic of Endocrine Glands, Digestive System, Respiratory System, Urinary Organs, Male/Female Reproductive Organs, Skin, Somatosensory Receptors, Sensory Organs, and Central Nervous System.

The new feature of the fourth edition of the Atlas is the section with 16 tables, which present characteristic microscopic features or classifications for some tissues, as well as differential diagnosis of the segments or types of organs or tissues. A table is dedicated to frequently used histological stains and the characteristic colors obtained for different tissues, and another one presents the nomenclature of biological fibers.

The fourth edition of the atlas has 745 full color illustrations, which is almost 200 more than in the previous edition. The photographs are accompanied by concise but very relevant and updated descriptions. The book ends with a detailed index which allows quick reference to all relevant pictures.

Highlights: Being an anatomist, I may be partial to morphology atlases, but Kühnel's atlas stands apart

from other atlases by the quality of the preparations and photography. It is equally suited for a medical student, busy clinician, and researcher in biology because each of them will find something new: the student will start unraveling the wonderful and colorful world of human morphology, the clinician will take a moment to reflect back on the basic morphology necessary for his or her specialty, and a researcher in biology will get to know the fascinating complex of supra-molecular and supracellular structures in an organism.

The photographs in all sections are of superb quality and some present special staining to emphasize characteristic biochemical feature of the organ or tissue.

I found the tables at the end of the atlas especially valuable. They systematize the knowledge of different tissues or organs in such a way to emphasize their main morphological characteristics, setting them apart from tissues or organs with similar features. The tables can thus serve as an excellent algorithm for differential diagnosis, or rather "informed recognition", of specific tissue of organ under a microscope. Using the tables for the game of guessing the structure on an unlabeled slide leaves one with a confidence of Sherlock Holmes: "Elementary, my dear Watson!"

Limitations: I really see no limitations to the book. Its age (the first edition was published in 1965) is definitely not a limitation – the atlas has grown to be better and better over the years and the quality of photographs is extraordinary. I recommend the atlas to all those who work and learn and are just interested in the morphology of life. The atlas is worth having even if only to enjoy the amazing colors and diversity of structures in the human body.

Related reading: There are many histological atlases available, including the equally famous Sobotta's Histology Atlas. Kühnel's has something that few others offer: superb quality coupled with pocket size!

Ana Marušić

Higdon J. An Evidence-based Approach to Vitamins and Minerals. New York: Thieme; 2003. 253 pages; ISBN 3-13-132451-1; price: US\$ 54.95

Field of medicine: General and internal medicine, endocrinology and metabolism, nutrition, biology.

Format: Hardcover.

Audience: Medical students, general practitioners, specialists in internal medicine, endocrinology or nutrition, as well as lay people interested in dietary supplements.

Purpose: This comprehensive book may help medical professionals, as well as a wider readership to find the data and references on the micronutrients. It contains evidence-based data that may be used in the physicians' everyday practice.

Contents: The book is divided into 27 chapters, each describing individual vitamins and minerals, their effects, sources, therapeutic indications, and drug interactions. The first thirteen chapters provide information about individual vitamins: biotin, folic acid, niacin, pantothenic acid, riboflavin, thiamin, vitamin A, vitamin B₆, vitamin B₁₂, vitamin C, vitamin D, vitamin E, and vitamin K. Chapters 14 to 26 contain information on the important minerals: calcium, chromium, copper, fluoride, iodine, iron, magnesium, manganese, molybdenum, phosphorus, potassium, selenium, sodium chloride, and zinc. Each chapter is organized in a similar way. Firstly, the function of the vitamin/mineral is described, especially in the context of preserving health and preventing disease. The second section of each chapter discusses the deficiency of the micronutrient, its risk factors, signs, symptoms, and physiological consequences. Each chapter also has a subdivision describing the role of micronutrient in the prevention and/or treatment of specific diseases. Such data mostly rely on studies published in the medical literature, whose design is properly stated, and the studies that were chosen according to their level of evidence. Each chapter also has a specific section about nutritional and supplementary sources of certain micronutrients, as well as a section containing data on the toxicity and adverse effect of the micronutrient. Since the author of this book comes from the Linus Pauling Institute, which is the leading authority in the area of micronutrients and diet, daily intake recommendations of the Linus Pauling Institute are also introduced in each chapter. At the end of the chapter, there is a list of references that serve as a data source and direct the curious reader to the important original studies. Besides Linus Pauling Institute recommendations, the book

also contains recommendations of the US Food and Nutrition Board (FNB) of the Institute of Medicine, whose committees set recommendations for dietary intake of different food components. Recommended dietary allowance (RDA), adequate intake (AI), and tolerable upper levels for each micronutrient are listed in well-organized tables. Food sources are also organized in separate tables. The book contains many schematic drawings that help understand the principle of vitamin metabolism, their target tissues and effects.

The four appendices at the end of the book greatly improve retrieval of information. The first appendix is a table which reviews the interactions between the micronutrients discussed in this book. The second appendix is also a table summarizing the interactions of micronutrients with drugs. The first part of the table generally reviews the interactions with the major classes of drugs, whereas the second part of the table focuses on specific drugs that are known to interact with specific vitamins or minerals. Appendix 3, "Quick reference to Diseases", is a useful guide, providing data for the treatment and prevention of specific diseases, listed alphabetically. Micronutrients that help in the prevention or treatment of each specific condition are stated, followed by the page number of the book where the reader can find more information on this specific topic. Appendix 4 is a glossary that contains explanations of different terms, which mostly belong to the specific field of medicine (symptoms, diagnostic methods, disease) or biochemistry (different substances, enzymes, biochemical reactions). This appendix is really useful for the reader outside the biomedical field. At the end of the book, as an unnumbered appendix, there is the Linus Pauling Institute prescription for health, a list containing recommendations for a healthy diet, lifestyle, and supplementation of micronutrients.

Highlights: This book is a valuable guide for physicians and other health care practitioners, containing specific, concrete and scientifically approved data. The micronutrient dietary supplementation in every day life is widely spread and its usage is still increasing. For this reason it is essential for a physician's everyday practice.

Related reading: Eades MD. The Doctor's Complete Guide to Vitamins and Minerals. New York (NY): Dell Publishing; 2000.

Nataša Kovačić

