

NEW IN REVIEW

BOOKS

CLINICAL NUTRITION OF THE ESSENTIAL TRACE ELEMENTS AND MINERALS

Edited by John D. Bogden, PhD, and Leslie M. Klevay, MD, SD, in Hyg. Totowa, NJ: Humana Press, 2000. Hardcover. Pp. 397. Price. \$125. ISBN 0-89603-407-0

Research on the role of trace minerals in disease prevention and treatment has expanded considerably over the past several decades. This book provides a current reference on many aspects of mineral nutrition in health and disease, and is designed for a broad range of health professionals and health science students. The book is divided into three sections, including basic concepts of mineral nutrition, mineral needs during different stages of the life cycle, and the impact of mineral nutrition on various disease states and immune function. Well-qualified individuals author each of the twenty-one chapters with expertise in the given topic. The focus of the book is on the trace elements, but information on calcium, phosphorus, and magnesium is included when these impact a disease or organ system.

The book contains scientifically accurate literature reviews with extensive reference lists related to each of the topics. The basic roles of the minerals are addressed throughout the book, as they relate to the various chapter topics. This is an advantage to the reader who would turn directly to a topic and find a quick review of all pertinent information. The book is primarily text, although some chapters include helpful tables that summarize research data.

Particularly useful chapters in Part I include chapters covering the most recent epidemiological data on mineral intake in the US, laboratory assessment of mineral status, and mineral safety. A thorough review of the possibly essential trace elements is also included, which will help health professionals address client questions concerning these materials. Part II provides good reviews of mineral nutrition in pregnancy, lactation, adolescence and aging. The third section includes interesting and thorough chapters covering genetic disor-

ders of mineral metabolism, and the role of minerals in immune function and HIV infection. Chapters on endocrine and skeletal disorders, and gastrointestinal, renal, eye, and ischemic heart disease are very useful in that they inform the reader about current research in these areas. Clinicians should be able to apply this information as they review nutrition care guidelines for these disease states. In summary, this will be an excellent reference text for all health professionals interested in micronutrient nutrition, particularly those involved in research and teaching. — *Joan G. Fischer, PhD, RD, department of foods and nutrition, University of Georgia, Athens.*

BIOCHEMICAL AND PHYSIOLOGICAL ASPECTS OF HUMAN NUTRITION

Edited by Martha H. Stipanuk, PhD. Philadelphia, Penn: W. B. Saunders Company, 2000. Hardcover. Pp. 1,007. Price: \$75. ISBN 0-7216-4452-X

This is a truly outstanding comprehensive human nutrition text and reference. It has been expertly developed from beginning to end. It certainly meets stated goals and objectives and fulfills a definite need.

In the preface the author states that this text and reference book covers the biological bases of human nutrition at the molecular, cellular, tissue and whole-body levels. This statement calls to mind another text with a similar objective – the classic *Nutrition: An Integrated Approach* by Pike and Brown – of which there are only two editions. This approach of effectively bringing together the scientific disciplines and the levels of life functioning that explain human has long been a definite need, which this new text meets very well. This is an advanced text that assumes the reader has background coursework in biochemistry and physiology. Also, the book is interesting, clear, and surprisingly enjoyable to read given the typical perception of advanced, specialized works dealing with complicated issues.

Brief inserts such as "Nutrition Insights," "Clinical Correlations," and "Life Cycle Considerations" are included throughout the text, giving practical insights and explanations not found in other

texts. It is both a text for upper-level nutrition courses and reference, a text students will want to keep. Practitioners will find it very useful as a knowledge base for pragmatic applications.

There is a total of fifty-two contributors who are all experts in their respective areas, forty-two chapters, and thirty-nine reviewers. The text does not reflect the problems traditionally associated with publications whose objectives are similar to this book. Publications that use resources in high numbers are prone to erroneous information. The contributors maintain contradictory attitudes and arguments. These publications tend to be fragmented, disconnected, and repetitive. In this book, however, there is a cohesion and fluidity between every chapter.

The first three chapters of the book (Unit 1) are concerned with structure and properties of the three macronutrients: carbohydrates, proteins, and amino acids, and lipids. This unit is basically a brief course or review in the biochemistry of these nutrients. Although these topics may seem like a traditional beginning, this is an essential and very interesting part of this text because of the clarity and style of the writing.

An example of a small insert, "Nutrition Insight," in Chapter 2, "Structure and Properties of Proteins and Amino Acids," is an explanation of the use of milk proteins in other foods. Using familiar illustrations it explains how and why the two main groups of milk proteins (casein and whey) can be separated from each other and their different novel properties. It tells how casein in the presence of lipids can form micellar structures and mentions that it is these structures that are responsible for the opaqueness of milk. That simple description of chemical and physical properties of casein leads the reader on to an understanding of the various uses of casein or whey proteins in different food products such as adding flavoring agents, such as thickener, or as a fat substitute. Another "Nutrition Insight" is a one-paragraph explanation and a well-designed original figure on Vitamin C and Connective Tissue Protein Synthesis.

Unit II covers Digestion and Absorption of the Macronutrients, Unit III covers their metabolism, and Unit IV is concerned with energy metabolism. Vitamins and minerals are covered in Units V and VI. Again, the arrangement is excellent because unlike some texts where coverage seems disjointed, here vitamins and