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## Burgerstein's Handbook of Nutrition

Micronutrients in the Prevention and Therapy of Disease

G. Thieme Verlag, Stuttgart, 2001;  
261 pages, 88 illustrations,  
164 tables; hard cover,  
\$ 59,-; € 71,48. ISBN 1 58890 06 22

This book attends to provide reliable information on vitamins and minerals and their application in medicine. The author tried to be objective (i. e. evidence-based) but also "open minded". Thus, this book is not only based on scientific data but also on the author's own clinical experience. With some modifications, the book is essentially the first English translation of Burgerstein's Handbuch Nährstoffe (Karl F. Haug Verlag, Heidelberg, 1. Auflage 1982). The book was updated.

The layout of the book is conventional. It is subdivided into five chapters and three appendices. Chapter 1 contains basic principles of micronutrition (e. g. mechanism of action, requirements). Chapter 2 is devoted to micronutrients in foods (e. g. food sources including also vegetarian diets). Chapter 3 is a systematic presentation of micronutrients including minerals (calcium, magnesium, potassium) but also fats (omega-3- and omega-6-fatty acids, choline and lecithine) as well as essential amino acids and carnitine. Antioxidants and free radicals as well as coenzyme Q 10 are also considered. Chapter 4 is entitled *Micronutrients through the Life Cycle*. Here we find topics like pregnancy, breastfeeding and infancy, childhood and adolescence and aging and longevity. The scope of this chapter is widely spanned. It also includes information about dietary hazards (e. g. the use of coffee and alcohol during breastfeeding). Chapter 5 discusses *Micronutrients*

as Prevention and Therapy (e. g. in skin care, eye and ear care, oral health, digestive disorders, obesity, cardiovascular disease, disorders of blood sugar regulation, anemia, musculoskeletal disorders, infectious disease, cancer, allergic disorders, insomnia, nervous system disorders, psychiatric disorders, women's health, urinary tract disorders, stress and fatigue, infertility, cigarette smoking, heavy alcohol consumption, exposure to heavy metals, exercise and sport. The appendices are on drug-micronutrient interaction, nutrient-nutrient interaction and laboratory diagnosis of micronutrient status.

The information in each chapter is given in the following format: first, a brief introduction and general information, second, diet and third, micronutrients. To give an example, obesity is presented on 2 pages (pp 174–175). The short introduction is on the definition of obesity (which is outdated) as well as its health hazards. This is followed by general recommendations regarding diet (e. g. less than 20 g fat!), exercise and the use of supplements (i. e. regular use of a balanced multi-vitamin/mineral supplement). Finally, the para *Micronutrients. Obesity* is on fiber (!) and balanced amounts of vitamins (including 100–250 mg vitamin C per day!). These recommendations are referenced by a total of four citations. However none of these references is on micronutrients and obesity. One is on health hazards, another on neuroendocrine factors in the regulation of body weight, and the two other references are on the use of fiber in the treatment of overweight persons.

Breast cancer should serve as another example (see pp 224–225). This topic is presented within a chapter on women's health. After having presented general information (which did not exceed the value of a general dictionary), monounsaturated fats, fiber, vegetables (i. e. particularly cabbages, broccoli, cau-

liflower) and foods rich in isoflavonoides (such as soy products like tofu and soy milk) are recommended. In addition, a daily dose of an antioxidant formula plus 0.5 to 1.0 g vitamin C are suggested to prevent breast cancer. This information is based on 8 of a total of 41 references in this chapter. Here the author does not differentiate between epidemiological observations, case-control studies and intervention studies. The recommended antioxidant formula is presented on p. 118 and contains 250–500 mg vitamin C, 100 to 200 mg vitamin E, 10–15 mg beta carotin, 0.5–1.0 g l-cysteine, 30–100 mg coenzyme Q10, 50–100 µg selenium, 15 mg zinc and 5.0–7.5 mg manganese. These specific recommendations are not referenced.

Within the appendices much useful information is presented. However standard data (e. g. on accuracy and precision of the individual methods used for diagnosis of micronutrient status) is not given. In addition this information is not specifically referenced.

Although I consider some parts of the book to be of value (i. e. the appendices) taken as a whole it does not appeal to nutritionists and clinicians. This is because the information given in the book is not really scientific- or evidence-based. Today, scientists are looking for the best research evidence from practice and teaching evidence-based medicine (EBM). We all have to go straightforward from basic science to patient-oriented clinical research to bring scientifically-based evidence into our daily practice. Evidence-based medicine is a hard job which follows a stringent stepwise approach (see D. L. Sackett et al., Evidence-based Medicine, 2<sup>nd</sup> ed., Churchill Livingstone, Edinburgh, 2000). It is obvious that this job cannot be done by one single author. Faced with the numerous topics and the limited space given to them within the book none of the prob-

lems presented in this book can be discussed seriously. The book is full of misleading and wrong information; it is not really up to date and lacks the systematic approach of the science of nutrition. To be really “open-minded” the author is rec-

ommended to follow the practice of EBM.

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