

## Foreword

The important role of nutrition in promoting health and preventing disease is well established. Although scientific understanding of the roles of various nutrients in human health has progressed rapidly over the past century, nutritional deficiencies remain a threat to the lives and health of millions of people throughout the world, particularly children. At the other end of the nutritional spectrum, a global epidemic of obesity is also threatening the lives and health of millions. Despite appearances, overweight and obesity are often associated with poor nutrition. Although poor nutritional status has long been associated with increased risk of infectious disease, a large body of evidence now supports the association of poor nutrition with increased risk of noninfectious chronic diseases.

Obesity is associated with an increased risk of several cancers, including colon cancer and postmenopausal breast cancer. It has been estimated that diet modification could potentially prevent as many as one third of cancers worldwide. Epidemiologists at Harvard have estimated that as much as 70% of stroke and colon cancer, 80% of coronary heart disease and 90% of type 2 diabetes could be prevented by a healthy diet, regular physical activity, and avoidance of smoking. After reviewing the large body of evidence linking diet and chronic disease risk, a number of expert panels have made surprisingly similar recommendations for a healthy diet:

- Achieve and maintain a healthy body weight
- Increase consumption of fruits, vegetables, legumes, and nuts
- Replace saturated and *trans* fats with unsaturated fats

- Replace refined grains with whole grains
- Limit sugar and salt intake
- Drink alcohol in moderation (if at all)

Although basic to health, the study of nutrition is complex and integrates knowledge from disciplines as varied as physiology, molecular biology, chemistry, psychology, sociology, economics and public policy. In this edition of the *Pocket Atlas of Nutrition*, Professors Biesalski and Grimm are providing health and nutrition professionals, students and motivated consumers with a useful nutrition resource that is broad in its scope yet concise in its delivery. The first section of the book provides the reader with an important foundation in nutrition science, including essential topics such as body composition, energy requirements, appetite regulation, and the physiology of nutrient digestion and absorption. Subsequent chapters on macronutrients (carbohydrates, proteins and fats) and micronutrients (vitamins and minerals) discuss relevant clinical issues, as well as current intake recommendations. A section on nutrition in specific life situations addresses important nutritional issues specific to the elderly, pregnant and lactating women, young children, and athletes, while a section on nutritional medicine provides additional information on the role of nutrition in chronic disease prevention and treatment. Throughout the book detailed figures clarify and expand on information discussed in the text.

Unlike some nutrition texts, the *Pocket Atlas of Nutrition* does not shy away from controversy. In addition to presenting the often-criticized U.S. Department of Agriculture Food Guide pyramid, the

authors also discuss the merits of the Healthy-Eating Pyramid created by the Harvard School of Public Health and a pyramid based on the Mediterranean diet. Discussions of food quality, food additives and food safety that cover controversial topics from the genetic modification of foods to bovine spongiform encephalopathy (BSE) will be of interest to consumers and clinicians alike.

Despite the fact that there is general agreement among scientists regarding the basic components of a healthy diet, the proportion of the population that actually follows these guidelines is relatively small. Although consumers are interested in the relationship between diet and health, many are confused about what they should eat and whether they should take supplements.

Contributing to this confusion are seemingly contradictory nutritional sound bites supplied by the news media and well-funded marketing campaigns from food, dietary supplement, and weight loss industries. Now, more than ever, there is a need for nutrition and health professionals who understand and communicate consistent and accurate information regarding healthy diets and lifestyles. The *Pocket Atlas of Nutrition* will be a useful study guide and an excellent reference for those who want to learn more about the science of nutrition.

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