Nutrition Guide for Physicians and Related Healthcare Professionals

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Nutrition has been a central element in the prevention and treatment of disease since time immemorial. It was a cornerstone of medicine in the days of Hippocrates and Galen more than 2000 years ago and has continued to be a part of the treatment portfolio of every medical tradition since. Patients ask questions that are sometimes outside the clinical specialty of the healthcare provider, and in this regard there is pressure to be omnipotent. In spite of this long history of nutrition as a central component of medical practice and care of sick patients, many healthcare professionals need a ready source of reliable information about how to apply nutrition to the care of their patients and clients today. The content of this book is designed to meet the need that a healthcare professional has to provide the answer to basic, and the oftentimes "not"-so-basic, questions about how nutrition and clinical practice intersect.

Nutrition is important to all living creatures. It describes the foods that are needed for human beings and other animals to grow and develop and to be healthy. It starts with the knowledge of the nutrients that are provided by the foods we eat. These include both macronutrients and micronutrients. The role of the macronutrients, proteins, fats, and carbohydrates is the development of cardiovascular disease and obesity as well as in their prevention. Keto diets, low-glycemic diets, and low-fat diets have all found their champions, and this book provides evidence to evaluate them. Micronutrients in food are another important element in maintaining food health. This book will focus on both micronutrients and macronutrients in relation to disease and its prevention but also discuss how our understanding of nutrition continues to evolve.

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In a perfect world, good nutrition prevents the need for healthcare, but our limited access to nutritional information during professional education diminishes the potential of nutrition to improve our health. Nutritional knowledge of physicians and healthcare professionals may be inadequate for at least two reasons. The first is that the core of material taught in many professional schools, including medical schools and nursing schools, is limited. There are several reasons for this. Many physicians such as pathologists, radiologists, laboratory scientists and surgeons have little or no need for detailed nutrition in order to practice their specialties, and given the limited time in the medical curriculum, nutrition often gets short shrift.

Observations of the limited availability of nutrition education in the medical curriculum have been documented many times and are legion. The need for nutrition is mainly for physicians and nurses working one on one with patients who ask questions in the clinical setting. For these individuals, a source of reliable information about nutrition is most important, and it is presumed that they will get this information in their postdoctoral training. Yet most primary care training programs only have a limited amount of time for providing nutrition education. A healthcare provider does not need a PhD or MD to answer all questions; they just need a good working knowledge and a good source of basic information needed to answer the oft-asked questions.

A second reason that there is a need for a book like this one is that there are continuing advances in the field that make updating an individual's knowledge of nutrition an ongoing responsibility. There are, of course, continuing education courses that provide updates on the latest knowledge in nutritional science and nutritional practice. But these programs may not always deal with the issues that are of concern for a particular practitioner or for a particular patient. The utility of this book is that it provides information about the best studies that have documented the value of nutritional interventions that may be of value to individual patients—several cases in point. The value of diet in reducing blood pressure was clearly demonstrated in a study called the Dietary Approaches to Stop Hypertension (DASH Trial), and the DASH diet which arose from this trial is described in detail in this book. A second obvious example is the Mediterranean diet which has clear value for improvement of cardiovascular health and general well-being. The Mediterranean diet, too, is described in this volume. The US Food and Drug guidelines indicate that medications for treatment of obesity should be used with a comprehensive lifestyle program that involves diet which is also described in this volume.

The genetic composition of *Homo sapiens sapiens* has not changed very much in the last 40,000 years. However, the foods we can choose to eat, the way we eat, and the reasons we eat have experienced revolutionary changes in the last 40 years, which is arguably about half of the duration of our life cycle. As we know, many of the nutritional decisions made in early childhood do not impact us for decades to come (i.e., future obesity and CVD risk), while other nutritional outcomes are relatively immediate (i.e., DASH and blood pressure). Understanding nutritional changes through the life cycle is critical for improving our understanding of how diets and nutrition can be modified to improve health outcomes. This book is designed for pediatricians, internists, family physicians, physician assistants, and nurse practitioners who work with newborns, with children, with adults, and with the older members of society. We hope that those who use the *Nutrition Guide for Physicians and Related Healthcare Professionals* will find that it fills all of these needs.

The purpose of this book is to provide clinicians with the guidance they need for basic and long-standing problems related to clinical nutrition. COVID-19 in the year of this book's publication has created a myriad of problems on many levels of nutrition. We know that COVID-19 results in losses in olfactory and gustatory senses in approximately 41% of patients [1], and the lack of taste and smell leads to poor nutrition; this was just the tip of the Covid-nutrition iceberg. We know that the COVID-19 lockdown changed food delivery globally [2] in a manner that led to food insecurity for some, nutritional deficiencies for others, and potentially new food delivery systems for nearly everyone. Within a few months of the pandemic, it became almost common knowledge that those who are diabetic, obese, or elderly experience a greater risk of mortality if they contract COVID-19 [3–5].

At the time this was written (March 22, 2021), over 127 million doses of COVID-19 vaccine had been administered in the USA [6]. This number of immunizations will be far greater when this addendum is read by you, the reader, as we target heard immunity in our nation and world. It is the view of many that unlike smallpox and polio even intense global immunization may never lead to completely eradicate COVID-19. It is possible that future COVID-19 infections may become something akin to a common cold [7], and it is also the voice of optimism that the day-to-day clinical impact of COVID-19 in future nutrition in the healthcare setting will be greatly diminished.

The editors of this book believe that our return to a post COVID-19 pandemic period of normalcy will make the content of this book ever more important. It will become ever more important because our resources this last year have gone to understanding and interpreting COVID-19, not the basic nutrition that is the foundation of our health and the focus of many problems that were left, by choice or necessity, clinically unmanaged in this last year of the pandemic.

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