
This book focuses on the most widely used stable isotope techniques, the isotope dilution method and the doubly labeled water method, for the development and monitoring of nutritional interventions to combat both under- and overnutrition globally. The book is intended to provide information on the principles, applications, and methodologies of these stable isotope methods. It includes chapters on the safety of and ethical considerations for the use of these stable isotope methods; theories and assumptions about and potential deviations of these methods for the estimation of body composition and energy expenditure; applications of these methods in various populations; dosage and sample handling/storage considerations; sample calculations; analytic considerations; potential future analytic methods; and recommendations for presentation of results to peer-reviewed journals. It also includes useful appendixes that contain a glossary, sample size requirements, power calculations, sample calculations, sample data sheets, interconversion of common units used in stable isotope methods, measurement by Fourier Transform Infrared spectrometry, laboratory supplies that are needed to carry out the methods, and suppliers of reference materials. The book is useful because it explores various considerations on the application of these stable isotope methods among different age groups as well as under extreme environmental and medical conditions. It also addresses the benefits and pitfalls of different models under the doubly labeled water protocol. The appendixes, which provide definitions of many terminologies that might not be familiar to readers who are not mass spectrometrists or isotope geochemists, are the most informative component of this book. The examples given also serve the readers well because they provide a hands-on approach for a better understanding of the stable isotope methods in the field.

Overall, the book is appropriate for anyone who is interested in better understanding stable isotope methods or is interested in incorporating the methodologies into their nutritional studies.

The author declared no conflicts of interest.

William W Wong
Department of Pediatrics
USDA/ARS Children’s Nutrition Research Center
1100 Bates Street
Houston, TX 77030
E-mail: wwong@bcm.edu