



## Exercise Metabolism - 2nd Edition

By Mark Hargreaves, Lawrence Spriet



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*Exercise Metabolism, Second Edition*, provides a systematic, in-depth examination of the regulation of metabolic processes during exercise. Exercise physiologists, exercise biochemists, and biochemists will find this book a comprehensive reference, using the up-to-date information and the nearly 1,000 references in their own research and writing. In addition, graduate students in these disciplines can learn firsthand about the various regulations of metabolic processes during exercise as they prepare for careers in exercise physiology or biochemistry.

Written by internationally recognized researchers, *Exercise Metabolism, Second Edition*, is both revised and expanded while retaining the essential elements of the first edition. It delves into the mobilization and utilization of substrates—glucose, lipid, and protein—during physical activity, and it explores metabolic factors in fatigue and metabolic adaptations to endurance training.

Chapter 1 provides an overview of exercise metabolism. Metabolism during high-intensity exercise and the transition from rest to exercise are covered in chapter 2, which details the so-called anaerobic energy pathways. Chapter 3 discusses the effects of exercise on carbohydrate metabolism in skeletal muscle, while chapter 4 provides an overview of the important metabolic functions of the liver during exercise.

Chapter 5 is a new chapter that addresses lactate transport in skeletal muscle, given the increased understanding of this topic since the first edition was published. Chapters 6 and 7 summarize the effects of exercise on lipolysis in adipose tissue and lipid metabolism in skeletal muscle, respectively. The contribution of protein and amino acids to exercise metabolism is discussed in chapter 8. Finally, metabolic factors in fatigue and the metabolic adaptations to endurance training are reviewed in chapters 9 and 10, respectively. Chapter-ending summaries help to condense the information and facilitate understanding.

*Exercise Metabolism, Second Edition*, is a valuable reference to exercise physiologists, exercise biochemists, and biochemists, and it serves as an ideal text for graduate students in these disciplines.

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*“This is a timely and thoughtful monograph which will be lucid and enlightening for the student and scientist of exercise metabolism.”*

John Sutton, MD, DSc, FRACP, FRCPC, FACSM, FACSP  
Professor, University of Sydney (review of first edition)

*“This is a much needed book which provides a comprehensive and authoritative review of the biochemistry of exercise. The authors are all recognized leaders in exercise science, and the quality of the chapters is uniformly high. Researchers looking for an up-to-the-minute review, as well as students taking advanced classes in the physiology and biochemistry of exercise will find this an invaluable guide. It will certainly be one of the first books that I turn to when looking for authoritative comment on exercise metabolism. There is no other book currently available that gives a detailed account of the metabolic response to physical exercise.”*

Ron Maughan, PhD  
Professor, University of Aberdeen (review of first edition)

*“Well-written overviews covering a dynamic field. There is a good balance between past and current research findings for the graduate student and researchers in the field of metabolism.”*

Bengt Saltin, MD  
Professor, The Copenhagen Muscle Research Centre (review of first edition)

*“Exercise Metabolism provides a series of chapters that overview the field of exercise biochemistry. This rapidly growing field has amassed an overwhelming amount of new information; Exercise Metabolism provides an up-to-date summary of the most recent findings. As an investigator in the field of human exercise physiology, I feel this book is a valuable addition to my library. It brings together in one text the concepts and theories that define the role of energy exchange during exercise.”*

David Costill, PhD, FACSM  
Professor and Director, Human Performance Laboratory  
Ball State University (review of first edition)

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