

# Athletic Footwear and Orthoses in Sports Medicine

Matthew B. Werd · E. Leslie Knight  
Editors

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 Springer

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# Foreword

As the preface to this book tells us, its intent “is to provide a comprehensive resource on athletic footwear and orthoses for the entire sports medicine team, from all backgrounds and training.” This goal is achieved. The book covers it all, from the complex science that underlies those underlayments found in the athletic shoes of many athletes, the orthosis, to the aim of, as the authors say at the beginning of Chapter 14, Prescribing Athletic Footwear and Orthoses, “maximizing athletic performance and minimizing injury through the use of an appropriate prescription for athletic footwear and orthoses.” To the best of the editors’ knowledge, this is the first book of its type. And the editors, Drs. Matthew Werd and Les Knight, have done an outstanding job in assembling a talented and knowledgeable group of authors for their effort.

Speaking as someone who owns a variety of athletic shoes, running, pace walking, cycling, and downhill skiing, and does not take a step in any of them without an orthosis between my foot and the shoe’s insole, I was fascinated to discover how much there is to know and learn about this subject. For example, we learn in some detail the history of the development of the modern running shoe, which development goes back to the time of the ancient Greeks. There is a comprehensive review of the history and literature on the development of orthoses, a theoretical and practical science that continues to evolve. A whole chapter is devoted to the design and characteristics of the various types of athletic socks. Separate chapters detail virtually every type of specialty athletic footwear, from the running shoe to the snow sport boot (downhill and cross-country skiing and snowboarding).

This book will indeed be useful for all health professionals who deal with patients who are athletes of one kind or another. All sports other than swimming require a shoe of one kind or another. Many patients and clients who are athletes, or thinking simply of becoming regular exercisers, will have questions about shoes and about orthoses. Many who might benefit from the latter do not know about them or might think that one bought from a drugstore shelf will do the trick when indeed that is not the case. While for the podiatrist this book presents a good deal of technical information in one place, for the non-podiatric health care provider this book provides very helpful information on when and how to make appropriate referrals. Some chapters provide the detail required by the specialist, while others provide more general information useful to all potential readers.

Finally, this book does not have to be read through to be very helpful, and in fact most readers will likely not read it from cover to cover. Therefore, the repetition of essential information that does appear is very useful, for that repetition increases the chances that every reader will get to see it. Whether your patients are looking for basic comfort, improved performance, or injury avoidance/prevention in their footwear, this is the guidebook for you.

Steven Jonas, MD, MPH  
Stony Brook, NY

# Preface

The intent of this book is to provide a comprehensive resource on athletic footwear and orthoses for the entire sports medicine team from all backgrounds and training, including physicians (MD, DO, DPM, DC), athletic trainers (ATC), physical therapists (PT, DPT), researchers (MA, PhD), massage therapists (LMT), and all other professionals who are involved in sports medicine and the evaluation and treatment of the athlete.

We were approached to author this text as a result of the overwhelming interest stimulated on this topic through numerous lectures and workshops which have been presented at the American College of Sports Medicine regional and national meetings by the American Academy of Podiatric Sports Medicine.

This book should serve to educate professionals to make an informed decision on recommending and prescribing athletic footwear and orthoses, as well as to provide insight to appropriate referral to a specialist.

The approach to this text has been to include as much evidenced-based medicine as available, and contributors have referenced the most current studies and literature. The science and research is available which clearly documents the efficacy of functional foot orthoses in treatment of lower extremity biomechanical pathology. The use of proper athletic footwear and orthoses has been shown to optimize an athlete's performance, as well as to help limit the risk of certain injuries.

Questions such as "What is the best athletic shoe?" and "What is the best orthotic device for this condition?" and "Which athletic shoe or orthosis is most appropriate for that sport?" are frequently posed in a busy sports medicine practice; however, very little written information is available that addresses these important concerns. Although several excellent books are currently available regarding lower extremity biomechanics, *Athletic Footwear and Orthoses in Sports Medicine* offers a unique focus on athletic footwear and orthoses, as well as sport-specific recommendations.

The American Academy of Podiatric Sports Medicine is represented prominently throughout this text and has provided the majority of contributors through its members, fellows, and past-presidents. AAPSM's shoe review committee is comprised of practicing sports medicine podiatric physicians, and it maintains a current unbiased list of recommended athletic shoes based on a number of objective criteria,

which is posted on the Academy's website, [www.AAPSM.org](http://www.AAPSM.org). We hope that this book will be a valuable and practical resource on athletic footwear and orthoses in sports medicine for the entire sports medicine team.

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# Acknowledgments

Each contributing author has been selected for their recognized expertise and experience as leading educators and practitioners in the area of athletic footwear, orthoses, and lower extremity biomechanics. The time and effort given by each contributor in order to help educate the general sports medicine profession has been tremendous, and each contributor is to be commended. Special thanks also to Steven Jonas, MD, PhD, for his critical review of the manuscript and his comments in the Foreword.

A number of extremely talented individuals who share a passion for sports medicine have provided both inspiration and motivation in pursuing a career in sports medicine. Credit goes to my mentor and residency director at South Miami Hospital, Dr. Keith B. Kashuk, for his influence on my career and for his commitment as an educator, who is always challenging students, residents, and physicians to be their best.

The American Academy of Podiatric Sports Medicine's members, fellows, board members, and past-presidents should be commended for their enthusiasm and continued support of the Academy and its mission. Special thanks to Dr. James Losito, who provided me early guidance and opportunities within the Academy, as well as colleagues including Drs. Edward Fazekas, Marvin Odro, Timothy Dutra, Gerald Cosentino, Rich Bouche, and Douglas Richie, as well as AAPSM's Executive Director, Rita Yates, for being a steady force and tremendous resource.

The American College of Sports Medicine provides an opportunity to interact and collaborate with sports professionals from diverse fields, all of whom share the same common passion for sports medicine. Several key individuals should be recognized for their guidance, friendship, and inclusion of podiatric sports medicine, including Drs. E. Leslie Knight, William Roberts, Robert Sallis, and Jeffery Ross.

The Prescription Foot Orthosis Laboratory Association (PFOLA) is a non-profit professional worldwide association dedicated to promoting and improving the efficacy of custom, prescription foot orthoses to the medical professions. PFOLA has been instrumental in the dissemination of on-going research on the effectiveness of functional foot orthoses; many of our book contributors are also leaders within PFOLA.

I am also grateful to my colleagues at Florida Southern College and the athletic training program and staff for including me as part of the outstanding sports



medicine team, especially Sue Stanley-Green, ATC, Al Green, ATC, and Drs. Mick Lynch and Susan Ott.

I am grateful to my parents, wonderful wife Heather, and my children Madalyn, Matthew, and Melody. Their smiling faces provide inspiration each and every day and provide a constant reminder of the value and importance of balance in life.

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