

Canine Sports Medicine and Rehabilitation

Edited by

M. Christine Zink | Janet B. Van Dyke



 WILEY-BLACKWELL

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and Rehabilitation*

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Foreword

Sports-specific injuries often represent a unique and complex clinical picture, and the diagnosis and treatment of these conditions can be challenging. It has been said that it is easier to repair a fracture into anatomic position than to restore normal joint function once major soft-tissue structures are damaged. Like many advances in veterinary medicine, the treatment of sports-related injuries and the application of scientifically based principles of training and rehabilitation have evolved, in part, from experiences in human athletes. However, modifications regarding the application, timing, duration, intensity, and specificity of these therapeutic modalities and their adaptation to canine patients have been developed through the patience, expertise, and dedication of a diverse and growing group of veterinary health-care professionals.

Drs. Christine Zink and Janet Van Dyke have been key figures in the evolution of veterinary sports medicine and rehabilitation, and their significant contributions to this developing specialty have been recognized by their peers in their selec-

tion as charter diplomates in the American College of Veterinary Sports Medicine and Rehabilitation. As editors of *Canine Sports Medicine and Rehabilitation*, Drs. Zink and Van Dyke have gathered together a stellar collection of veterinary health-care specialists, including surgeons, internists, nutritionists, physical therapists, and rehabilitation specialists, to share their insight, experience, and expertise in the care and treatment of the canine athlete. *Canine Sports Medicine and Rehabilitation* represents a state-of-the-art reference text, which not only provides a comprehensive review of the diagnosis and treatment of sports-specific injuries, but also discusses the practical application and scientific rationale for a myriad of therapeutic modalities aimed at the management and rehabilitation of the canine athlete. The importance of integrating principles of medicine, surgery, and physical therapy into a comprehensive approach to the treatment of the canine athlete is superbly illustrated in the case examples that accompany each chapter. Thus, the text provides an important and

practical reference for students, practitioners, and all veterinary health-care professionals who treat sports-related injuries.

While this text focuses on the canine athlete, it is important to remember that, just as in human sports medicine, advances in the treatment of the canine athlete can also translate to improved health care in the general canine population. The chapters addressing nutrition, pain management, and rehabilitation of the geriatric patient are excellent examples of information that has broad application to all breeds.

As noted by the editors, the specialty of canine sports medicine and rehabilitation is constantly evolving, and I am confident that the information presented in *Canine Sports Medicine and Rehabilitation* will contribute significantly to the continued growth of this discipline. I commend the editors

and their talented contributors for their dedication to the care and treatment of the canine athlete and for sharing their expertise in this superb text.

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Preface

For well over a decade, veterinarians, veterinary technicians, physical therapists, occupational therapists, and physical therapist assistants interested in helping canine patients recover from injury, especially those returning to work or sport, have been searching for the definitive textbook that could give them the information they need to better address the myriad issues presented to them each day. In response, we gathered experts in the fields of veterinary sports medicine and rehabilitation, asking each to provide their unique knowledge. Many of the contributing authors are among the founding diplomates of the American College of Veterinary Sports Medicine and Rehabilitation. Others bring years of experience working in the field of canine rehabilitation, with a focus on sporting and working dogs. We were overwhelmed by the willingness of this highly motivated, but highly overworked group to commit their knowledge and experiences to paper. Their materials flowed in, broad in scope but deep in science and experience. It was a daunting task to compile this information and to trim it to a size that was manageable in a single volume.

Our principal aim with this text is to provide residents, interns, veterinary students, practicing veterinarians, and physical therapy professionals with a resource for their daily practice as well as a basis for future research. This text addresses the needs of this group by providing the following:

- The basic science of exercise physiology, nutrition, and physical therapy concepts
- The current veterinary approaches to common canine injuries and developmental disorders
- The current physical therapist's approach to these injuries and impairments
- Case examples in each chapter to better illustrate the concepts covered there.

This textbook provides basic science and introductory information regarding canine sports medicine and canine rehabilitation in the initial two sections. Treatment options and rehabilitation approaches to canine injuries and disorders follow in the third section, with chapters alternating between impairments involving the forelimb, pelvic limb, and spine. The fourth section addresses issues specific to sports medicine practice, including advanced imaging, emergency case management, and integrative medicine.

The evidence base available to us is incomplete, but growing daily. We have compiled the evidence currently available, adding those techniques that have proven successful in the hands of our highly experienced authors. The editors and authors of this textbook firmly believe that applying the currently available science, adapting techniques that show promise in the field, and sharing our findings will help this field to grow to the level expected by our dog-owning clients, and deserved by our canine friends.

**M. Christine Zink
Janet Van Dyke**

Acknowledgments

You would not be holding this book in your hands if it were not for the foresight of Erica Judisch and Nancy Turner, our editors at Wiley-Blackwell, who recognized the need for the information contained herein well before the formal organization of the newest veterinary specialty college, the American College of Veterinary Sports Medicine and Rehabilitation. Throughout the writing and production process they have been patient, constructive, accommodating, and most generous with their time.

We are grateful to Marcia Schlehr, a lifetime student of canine structure and function, for her outstanding, anatomically correct illustrations. Thank you also to the graphic designers at Wiley, who acquiesced to our desire for an easy-to-read, full color book and a cover that appropriately illustrates the outcome of canine sports medicine and rehabilitation: a healthy, active dog.

We are grateful to Samra Zelman for her excellent help with manuscript review. Chris Bartizal and

Mary Ellen Goldberg provided expert technical assistance in graphics and reference management.

Most of all, we thank the 30 authors of this book, each of whom agreed to share his or her knowledge hard-earned through detailed reviews of the current literature admixed with their own unique experiences.

While they might not realize how grateful we are, we also thank all of the dogs that have taught the authors so much about canine sports medicine and rehabilitation throughout the years and that have posed interminably for photos and videos.

Finally, we give our personal thanks to Bruce Van Dyke, who is relieved to have his wife back, and to Randy Armstrong, who made it possible for Chris Zink to spend many more evenings at the computer than would otherwise have been possible.

MCZ and JVD