
Preface

Recorded sports medicine dates to the advent of the Olympic Games. Scholars have suggested that Hippocrates himself learned his orthopedics from treating athletes. Sports injuries are unmistakable in the chiseled sculptures of ancient athletes—centuries of weathered wear still reveal the corpulent auricular hematoma of the grappler and saddle nose deformity of the pugilist. The notable absence of muscle injuries enshrined in marble reflects the devastating effect of muscle injuries on performance. The victor and veteran may be marred by their craft, but they must be fit to function in order to compete.

Like ancient Greece, we are seeing a modern resurgence of physical culture and a renewed appreciation for the intertwined nature of exercise and health. If exercise is medicine, then sports medicine is medicine *sine qua non*. As muscle is the engine of movement and movement is the basis for sport and health, then a detailed knowledge of muscle should be foundational to sports medicine. As sports medicine professionals, we must consider that muscle injuries are arguably the most important injuries for our patients' health and performance.

Muscles make up almost half of our bodies; it is the stratum of sport, a remarkable engine for our ingenuity. With muscles, we do, we move and react, we rally and retreat. In professional sport, we see the headlines reporting the sprinter laid low or pitcher lost from the lineup due to muscle injuries. But the greatest burden of muscle injuries is not found on the sports pages, rather it is the countless recreational athletes unable to run, cycle, and play basketball or soccer. This book is dedicated to the colossal toll muscle injuries have on physical activity and to the hobbled masses yearning to run free. Through a dedicated and detailed examination of muscle injuries of the posterior leg, I hope this book also provides a robust foundation to understand muscle injuries more generally.

Muscular injuries of the posterior leg have a rich history. Originally, it was termed “tennis leg,” a reference to the lawn tennis of the 1800s, not the Wimbledon of the Williams sisters. Tennis leg is emblematic of modern sports injuries and perhaps the first sport-specific injury described in the medical literature. At one time, tennis leg prompted spirited investigation and professional debate, but the focus on muscular injuries has slowly faded, replaced by more glamorous injuries that are amenable to heroic treatments. Today, beyond the brief refrain of rest, ice, compression, and elevation (RICE) and rehab, little is found in medical texts about tennis leg or other muscle injuries.

Yet, muscle injuries continue to be a source of significant morbidity for our patients. Message boards and blogs abound with stories of patients suffering from the lasting effects of muscle injuries and requests for help.

This book aims to put the focus back on muscle injuries, to restore the primacy and place of these widespread maladies, long displaced by the pathology popularized by our peers and in the press. Anterior cruciate ligament (ACL) tears and Tommy John's repairs represent the modern paradigm of sports medicine, and their treatment brings professional prestige and public notoriety, as evermore heroic treatments are performed by physicians utilizing novel procedures backed by remarkable technological innovation.

I think you will find that the optimal evaluation and treatment of muscle injuries has all the subtlety and gratification of the more heroically treated injuries that currently dominate sports medicine. Skeletal muscle is the paradigm for the biological structure–function relationship. At any scale, skeletal muscle intricately links structure and function. Appreciating this link between structure and function forms the basis for diagnosis, treatment, and prevention of muscle injuries. With increased knowledge of the basic science of muscle and muscular injuries, we are entering a new era of understanding and innovative treatment options.

It is time to revisit our roots to acknowledge and appreciate the tremendous consequence muscle injuries have on athletes and active people, to take back professional pride in the thoughtful treatment of muscular malfunction, and to collaborate and not delegate the care of this important class of injuries. Your interest in this book shows you care about muscle injuries and I commend your commitment to learning more about these failures of the flesh. I know from experience that your commitment will be rewarded by thankful patients and excited collaborators in treatment of these injuries. I welcome your feedback on this book or specific questions on the optimal care of your patients. I look forward to joining you in future discussion and investigations on the assessment, treatment, and prevention of muscular injuries.

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Muscular Injuries in the Posterior Leg
Assessment and Treatment

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2016, XII, 172 p. 46 illus., 33 illus. in color., Hardcover

ISBN: 978-1-4899-7649-9