Timothy E. Hewett, PhD is the Director of the Sports Medicine Biodynamics Center at Children's Hospital Research Foundation. He is an Assistant Professor in Pediatrics and Orthopaedic Surgery in the College of Medicine and an Adjunct Associate Professor in Rehabilitation Sciences at the University of Cincinnati and Cincinnati Children's Hospital Medical Center. Dr. Hewett is best known for his work in the area of the prevention of knee injuries in female athletes.

Dr. Hewett possesses a doctorate in Physiology and Biophysics and postdoctoral training in Molecular Biology. His research interests range from the molecular alteration of muscle contraction to the development new methods for injury prevention and athletic development.

Dr. Hewett has lectured and published on the topic of dynamic neuromuscular joint control strategies and their use for preventing knee injuries across the country, from Harvard University to the University of Florida. He has been a keynote speaker at The Mayo Clinic and Kentucky Sports Medicine and a visiting professor at Texas Tech University.

Dr. Hewett's work has been featured by the news media across the country, from the front page of the New York Times to Good Morning America. He has published over sixty of his research articles in medical journals, and his research has received numerous awards, including the Excellence in Research and Odonohue Awards from the American Orthopaedic Society for...
Publications, Most Recent


Research

- Muscle Physiology

Special Interests

- Sports Injury Prevention and Advanced Athletic Development

Personal Statement

Research Description

My research interests lie in the molecular physiology of muscle contraction and the adaptive responses of muscle and nerve to changes in functional demands. More specifically, I am interested in the effects of physiological and pathological stresses such as development, growth, exercise, and heart disease on the neural inputs to muscle and the quantity and quality of the contractile proteins, myosin and actin, and how alterations in these proteins quantitatively effect contraction.

The goal is to combine data from whole body biomechanics, skeletal muscle function and cardiac muscle function to study the physiological and pathological adaptations of muscle and nerve to the changes in functional requirements that occur following physiological and pathological stress. Our work should aid in the elucidation of the mechanisms of neuromuscular control in healthy athletes and in patients with neuromuscular disease.

We are using complementary biomechanical and molecular approaches to analyze neuromuscular adaptation to stress using cutting-edge methodologies that will enhance our ability to develop new tools for preventing injury, increasing athletic performance and improving the quality of life in people ranging from professional athletes to children with developmental diseases.

Related Areas:

- University of Cincinnati Department of Pediatrics (research)
- University of Cincinnati Department of Pediatrics
- Sports Medicine
- Molecular Cardiovascular Biology (research)