Shoulder Dysfunction

Rehabilitation Sciences Shoulder Research Lab

Projects

The Influence of Shoulder Alignment and Fatigue on Three Dimensional Scapulothoracic Motion in Overhead Athletes

Investigators

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Summary / Overview

Shoulder impingement syndrome (SIS) is a significant cause of shoulder pain in overhead athletes. Current evidence suggests that impaired shoulder girdle tissue flexibility and muscle performance, altered shoulder resting alignment, and repetitive arm motion-induced fatigue contribute to the development of this syndrome. Although evidence exists to support an association between shoulder
alignment, repetitive arm motion, and SIS, the mechanisms underlying these associations are not well understood. Potential mechanisms that may explain these relationships include reduced blood flow to muscles and tendons, microtrauma and resultant tissue injury, and abnormal shoulder girdle motion patterns. The focus of this study is to address the latter mechanism by: 1) determining the relationships between pectoralis minor muscle length, trapezius muscle performance, and shoulder alignment in overhead athletes who present with and without a depressed and forward shoulder (DAFS), 2) determining three-dimensional (3-D) scapulothoracic (ST) motion patterns in overhead athletes with and without a DAFS, and 3) determining the effects of resting shoulder alignment and repetitive arm motion-induced fatigue on 3-D ST motion in overhead athletes with and without a DAFS. The results of this study will help to elucidate potential mechanisms underlying overuse rotator cuff disease. This information will provide health care professionals with a foundation for developing scientifically based examination, intervention, and prevention techniques designed to restore the ability to participate in physical activities.

Participating Sites

Drexel University Physical Therapy Services

Physiotherapy Associates, West Chester, PA

Articles


Presentations


Contact us

If you are interested in learning more about current shoulder studies being conducted through the Rehabilitation Sciences Shoulder Research Lab at Drexel University, please contact Dr. David Ebaugh at 215.762.1957 or debaugh@drexel.edu.