

# Ligament

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## Five Things You Need to Know About Scapula Stabilization in Rotator Cuff Rehabilitation

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Rehabilitating the shoulder requires understanding the intimate and dynamic relationship between the rotator cuff (RC) and the scapula in providing stabilization during movement. Treating the persistent mechanical and motor control deficits of the rotator cuff and scapula can lead to improved results in shoulder rehabilitation versus only isolating and treating one structure.

**Below are five things you need to know about scapula stabilization in RC rehabilitation.**

### 1. A stable scapula provides efficiency of RC muscles

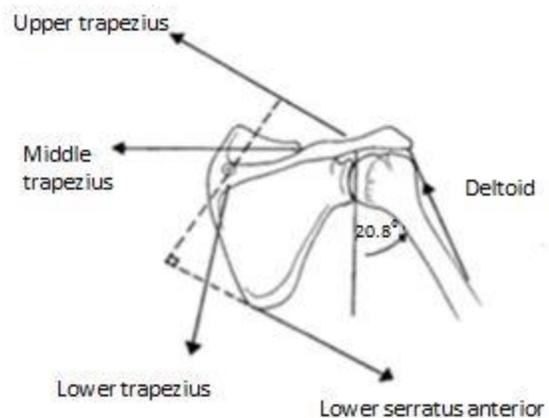
The role of the scapula is to provide a stable base for the rotator cuff muscles to work optimally and efficiently during movement. With a large range of motion available at the shoulder, stabilization is required from compression and precise sequencing of all muscles, the labrum and ligaments. Failure to address the scapula during rehabilitation results in sub optimal treatment

### 2. The attachment of muscles to the scapula provide dynamic stability

As the arm elevates several muscles act on the scapula to create a scapula force couple. The three portions of the trapezius and the serratus anterior all contract to create tension on the scapula to cause upward rotation as the arm elevates. Altered timing of activation of any muscle acting on the scapula can lead to a loss of the scapula force couple and obvious dyskinesia, such as a loss of upward rotation, anterior tilting and excessive winging of the scapula.

### 3. Glenohumeral (GH) joint position affects dynamic scapula stabilization

Similar to the scapula, position of the GH joint during elevation can play a role in altering shoulder mechanics. Excessive anterior and superior translation of the humeral head is a common misalignment seen in patients with shoulder pain due to tightness of the posterior capsule or anterior structures and weakness of rotator cuff muscles. As the arm elevates, the humeral head is unable to glide posteriorly and inferiorly resulting in a decrease in subacromial space creating an impingement pattern.



### 4. Repositioning the scapula and humerus can affect symptoms

The importance of scapula stabilization can be demonstrated in clinic by appropriately repositioning the scapula during arm elevation and observing the effect on a patient's symptoms. If anterior tilting of the scapula and an excessive anterior humeral head is observed, manually placing the scapula & humeral head posteriorly can unload certain structures. Allowing altered mechanics during rehabilitation or during activities will continue to place unwanted stresses on tissues delaying recovery or making the patient worse.

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**5. Rehabilitation begins with dynamic stabilization**

RC rehabilitation begins with providing static and dynamic stability proximally before focusing on more distal joints or structures. The goal is to align the humeral head's center of rotation with the center of the glenoid fossa at rest as well as during movement so that excessive translation is limited. A physiotherapist may use a combination of exercises and manual therapy during rehabilitation to promote optimal alignment and ensure that better motor control occurs during activities.

The intimate and dynamic relationship between the RC and the scapula allows for an incredible amount of mobility but frequently at the expense of stability. Addressing the changes in scapula and humeral mechanics during repetitive movements is an integral part of a physiotherapist's role in RC rehabilitation and are necessary to achieve long term results.

Erin started with GRSM in November, 2012. She graduated with a Masters in Physiotherapy from McMaster University. Erin also has certifications in Fascial Stretch Therapy, Pre & Post Natal Fitness and has experience as a Sports & Conditioning Trainer. Erin has work experience in hospital and physiotherapy clinics. In her free time, Erin enjoys running, basketball and Ultimate Frisbee.



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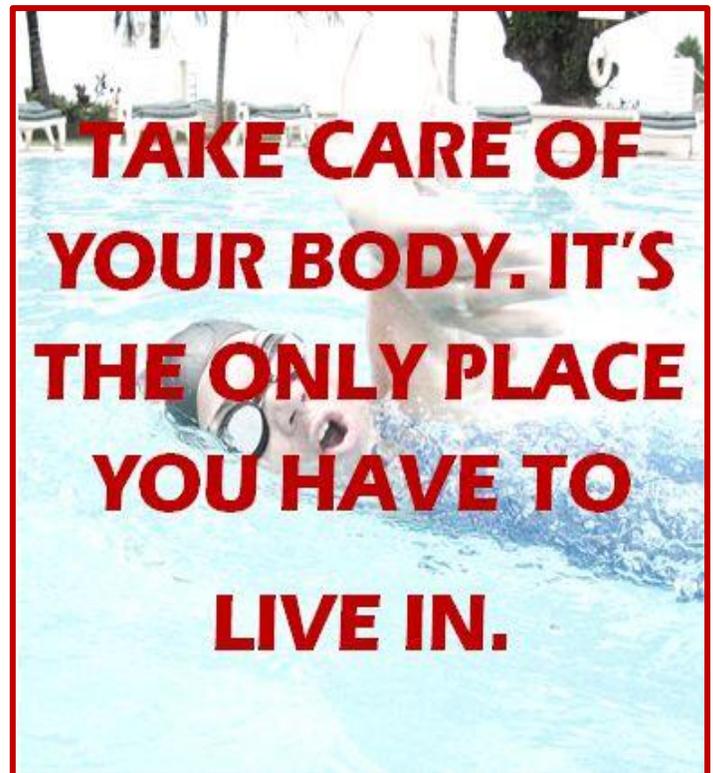
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**Let's Get 'HUMERUS'**

"A business executive injured his leg skiing one weekend. By the time he got home Saturday, the leg was very swollen and he was having difficulty walking, so he called his physician at his home. The doctor told him to soak it in hot water. He tried soaking it in hot water but the leg became more swollen and painful. His maid saw him limping and said, "I don't know, I'm only a maid, but I always thought it was better to use cold water, not hot, for swelling." He tried switching to cold water and the swelling rapidly subsided. On Sunday afternoon he called his Dr. again to complain. "Say, what kind of a doctor are you anyway? You told me to soak my leg in hot water and it got worse. My maid told me to use cold water and it got better." "Really?" answered the doctor, "I don't understand it. My maid said to use hot water."

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