



Dynamic Health and Performance

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The Shoulder and Swimming

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The swimming motion places the arm in an overhead position for extended periods of time. Couple that repetitive motion with overdevelopment of the chest muscles, rolled forward position of the shoulder (such as that seen with cycling), potentially weak core and poor control of the muscles that stabilise the shoulder blade/scapula and you have all of the ingredients for shoulder pain. Research has shown altered movements of the shoulder joint and scapula can lead to changes in motion responsible for impingement syndrome.^{1,2,3,4} Impingement syndrome is the pinching of the rotator cuff tendons leading to pain, inflammation and poor function of the rotator cuff.

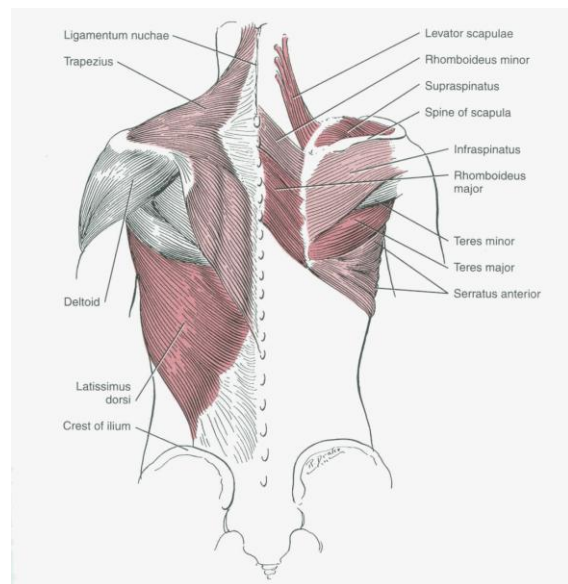
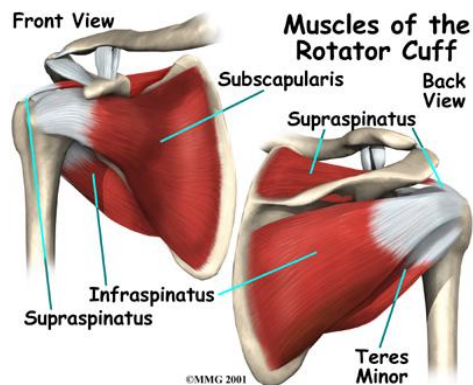
Common symptoms

1. pain that is made worse with overhead activities
2. pain when sleeping on the affected shoulder
3. pain in the front and/or side of the shoulder

There are three major areas that need to be addressed in first preventing an injury but also in the rehabilitation of the injured shoulder.⁵

The Rotator Cuff:

Rotator cuff muscles and tendons stabilize the shoulder joint (the glenohumeral joint or GH joint) relative to the shoulder blade. Increased and abnormal motion of the GH joint results from overuse and fatigue of the rotator cuff muscles. This leading to “pinching” of the tendons or impingement.^{3,4}



The Scapular Stabilisers:

The shoulder needs to have a stable base for arm movement. The only bone that attaches the arm to the body is the collar bone (or clavicle) at the sternum. The muscles that attach to the scapula (should) provide stability to the shoulder. However, these muscles often too tight, underdeveloped, inhibited or weak, and lack proper motor control.^{2,3}

The Core:

The Core musculature is more than just the abdominals – the lower back and deep spinal stabilisers must be addressed as well. Furthermore, proper function of the powerful muscles of the hips, gluteals and thighs to work with the core must be established for proper stability.

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If you have this condition or any injury it is best to seek the help of a licensed health care professional to provide safe effective treatment of the condition. Treatments can include:

- Ice
- Relative rest from over head activities.
- Soft tissue techniques such as ART® to address surrounding muscles and tissue.
- Inflammation reduction - Electrotherapy such as inferential current, micro current and low level laser to control inflammation and pain. Natural Anti inflammatories - high quality omega 3 fatty acid supplements such as cold water fish oils such as salmon, anchovy or sardine oils can help with reducing inflammation.
- Exercise prescription progression
 - Implementation of postural correction with core stability, and scapular stabilisation are implemented first to provide a strong base for arm movements.
 - Improvement of the strength and endurance of the rotator cuff
 - Progression to strengthening and functional/sport activities.

Provided that no anatomical issues are present, treatment of shoulder impingement must be comprehensive in the above mentioned three areas – the rotator cuff, the scapular stabilizers, and the core. Treatments that do not address these will ultimately fail as they make the symptoms feel better but do not address the underlying cause.

1. Buchberger, D. *Shoulder Impingement Syndromes* .Dynamic Chiropractic – September 1, 2003, Vol. 21, Issue 18
2. DePalma, J. *Detecting and Treating Shoulder Impingement Syndrome: The Role of Scapulothoracic Dyskinesis*. The Physician and Sportsmedicine - VOL 31 - NO. 7 - JULY 2003
3. Hammer, W. *Functional Soft Tissue Examination and Treatment by Manual Methods*. Jones and Bartlett 2005:597
4. Ludwig, P. *Translations of the Humerus in persons with Shoulder Impingement Symptoms*. Journal of Orthopedic Sports Physical Therapy 2002;32:248–259.
5. Rodeo ,S. *Shoulder Injury Prevention Network Task Force on Injury Prevention*. **(April 2002)**
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