



GETTING YOU BACK FROM INJURY FASTER

Shoulder Injuries Causes and Treatment

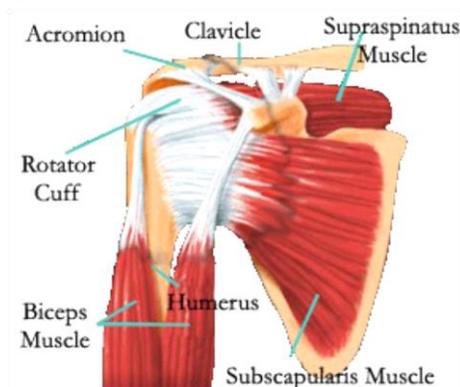
Shoulder Injuries

Causes and Treatment

The shoulder joint is actually a complex of several joints that combine with tendons and muscles to allow a wide range of motion in the arm - from scratching your back to throwing the perfect pitch. However; mobility has its price. Increased mobility of the shoulder may lead to increasing problems with instability or impingement of the soft tissues or bony structures, resulting in pain. You may feel pain only when moving the shoulder in certain directions, or all the time. The pain may be temporary, or it may persist and require medical diagnosis and treatment. Most shoulder problems fall into four major categories: tendon inflammation or tear, instability, impingement, or arthritis.

Tendon Dysfunction

Within the shoulder complex, there are many soft tissue structures that can generate pain and dysfunction. Tendons are connective tissue that attach your muscles to bone. **Tendonitis** is a condition that occurs over time as faulty mechanics within the joint cause wear and tear on the tendon. There are two



main types of tendonitis - acute and chronic. Acute tendonitis occurs with excessive movements such as throwing a ball or repetitive overhead activities. Chronic tendonitis, or **tendinopathy**, is secondary to degenerative changes such as arthritis or repetitive wear and tear on the tendon that occurs with age.

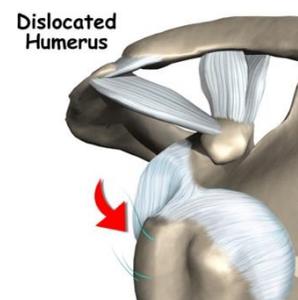
The last type of tendon dysfunction is due acute injury or degenerative changes that result in splitting or **tearing of the tendon**. The tears may be partial or complete, and can often be managed with PT. Most complete tears involve tendon being pulled away from bone, and the most common muscles affected are the rotator cuff and biceps tendon.

Impingement

Impingement occurs when the acromion puts pressure on the muscle tendons that attach to the humerus and lift your arm. Without balanced strength between the muscles surrounding the shoulder blade and the muscles of the shoulder and rotator cuff, the mechanics of the arm are altered. This causes the humeral head to shift up and run into the acromion with overhead motion, which results in pain. If not properly managed, this can lead to tendonitis or even a rotator cuff tear.

Instability

Overuse or injury can cause the head of the humerus to become loosened from the shoulder socket. If the head comes only partially out of the socket, this is called a **subluxation** while a complete **dislocation** is when the humeral head is completely separated from the socket. If you sustain either of these injuries, it puts you at a higher risk at recurrent injury due to the loosening



of the ligaments, tendons, and muscles that stabilize the joint. Repeated dislocations can lead to tears in the tissues, pain, or unsteadiness with overhead movements. This can also put you at a higher risk of developing arthritis.

Arthritis

The most common type of arthritis is **osteoarthritis** which is known as wear and tear on the joint. Symptoms include swelling, pain, and stiffness, and typically occur in middle age. OA develops slowly and worsens over time. Many factors contribute to OA, and can include sports or overuse injuries, rotator cuff tears, infection, or inflammation in the joint lining. Often times, people will try to avoid shoulder movements to lessen pain, but this can lead to increased stiffness and painful restrictions in motion. It is important to speak with a doctor or physical therapist about treatment options and activity modification to manage OA.



Physical Therapy

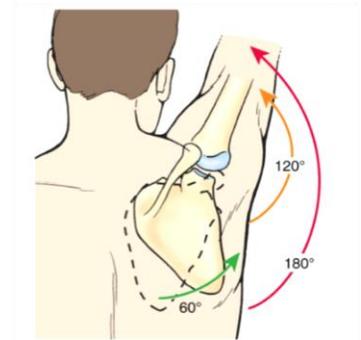
How we can help

A comprehensive rehabilitation program is critical for treatment of shoulder pain, and includes stretching, stabilization activities, and strengthening of the arm, shoulder, and muscles around the scapula. An important concept of shoulder rehabilitation is what is called “scapulohumeral rhythm”. This refers to the fact that full motion of the arm and shoulder is dependent on proper motion of the scapula, humerus, and clavicle (pictured right). If one or more of these joints do not move properly, the shoulder kinematics are altered, which can lead to any of the conditions discussed above.

Manual Therapy

Since there are so many various movements in the shoulder controlled by many muscles, your physical therapist will focus on stretching muscles that are short, mobilizing the joints in directions that are restricted, and using manual techniques to release any muscle tension you may have to improve the biomechanics of the complex as a whole. Some of the common muscles that become tight or tender include the upper trapezius, pec minor, levator scapulae, biceps, and scalenes. Some common joint problems include elevated first rib or tightness in the shoulder capsule.

muscles function in an endurance capacity. This means that we will focus on lower weights and higher repetitions early on, resulting in the ability of the muscles to stabilize the complex throughout an entire day of activity. Progression timing will depend on response to treatment, as well as the extent of your injury or condition.



Exercise

With any shoulder injury, it is important to strengthen the muscles around the scapula in order to promote stability and proper biomechanics with shoulder movement. Restoration of these muscles helps improve scapular function which relieves stress on the tendons passing through the joint. Typically, strengthening programs begin by focusing on the parascapular muscles, helping to normalize the scapulohumeral rhythm necessary for normal arm function. One important thing to recognize about the muscles of the shoulder and rotator cuff is that these

Once there has been a decrease in pain and increase in strength, we will incorporate core work to promote stabilization, and progress to dynamic stability using perturbations that require alternating muscle contraction. This comprehensive program will be individually tailored to your injury to help you return to activity without pain as quickly as possible.

