Shoulder Pain and the Rotator Cuff

The shoulder is the most mobile joint in the human body. Its unique design allows a multitude of motions and positions for work and play. The great mobility of the shoulder is achieved at the expense of stability however and the shoulder is a common site of pain and injury. Sports and work activities that require repetitive stress especially in the overhead position often overstress the muscles, ligaments and the capsule of the shoulder. Some individuals are also predisposed structurally to problems with the shoulder that may be exacerbated by certain activity. Shoulder complaints are most common in sports such as weight lifting, swimming and in throwing sports or in occupations that require overhead work. Even relatively mundane tasks can irritate the shoulder as well. Vacuuming, yard work, computer work and other daily tasks may also cause shoulder problems.

The Shoulder Joint

The shoulder joint is composed of three joints. First is the joint of the humerus (upper arm) to the scapula (shoulder blade) which is called the gleno-humeral joint. Second is the joint of the clavicle or collar bone to the scapula (called the AC joint). Third is the joint of the clavicle (collar bone) to the sternum or the SC joint. Often the crackling sounds heard on shoulder motion originate from the joints of the clavicle (collar bone) with the sternum and shoulder blade. Previously injured A-C joints are especially prone to crackling and popping with shoulder motion. The joints of the shoulder are not exceptionally strong and rely almost totally on the muscles and ligaments of the rotator cuff and shoulder to provide strength and stability.

The Rotator Cuff

The rotator cuff is comprised of four muscles that act to hold the arm in the proper position to the scapula. These four muscles act to protect the shoulder joint from uncontrolled movement. The rotator cuff muscles all attach on the shoulder blade and form a cuff around the humerus or upper arm bone. The rotator cuff muscles include the supraspinatus, infraspinatus, teres minor and subscapularis. Of these muscles the supraspinatus is the most common site of injury and complete tear.

The muscles that accomplish most of the motion of the shoulder are the deltoids, pectorals, latissimus dorsi and trapezius. Shoulder problems often are exacerbated by imbalance in strength between the stronger pectorals and lats and the weaker muscles of the rotator cuff and back. Tendonitis of the muscles of the rotator cuff is common and can be successfully treated with a combination of myofascial release and stretching/strengthening exercises.
Common Conditions of the Shoulder

Impingement Syndrome

Impingement syndrome often occurs in individuals who perform overhead work or sports activities such as swimming or overhead racket sports. Usually pain is felt at the front of the shoulder and the pain becomes worse with overhead activity or exercise. In impingement the muscles of rotator cuff are irritated by contact with the collar bone resulting in pain and limited range of motion. Often an imbalance of strength of the muscles of the rotator cuff and the pectorals or lats may exacerbate impingement of the shoulder. Treatment of impingement involves specific exercises to strengthen the rotator cuff as well as specific stretches. Myofascial release techniques are often very helpful in cases of impingement. Myofascial release reduces the adhesions in muscles and tendons and allows a return to normal biomechanics. Case specific exercise routines are also recommended for impingement conditions that strengthen the rotator cuff and reduce contact with the clavicle. Chiropractic manipulation of the shoulder is also often helpful with the goal of reducing irritation of the rotator cuff and pain. Patients are also encouraged to limit overhead activities and use ice after work or exercise. Impingement syndrome may also be referred to as bursitis of the shoulder.

Adhesive Capsulitis

Adhesive capsulitis is a condition of unknown cause that primarily effects people over the age of 40. Often patients will complain of pain that limits shoulder movement. Usually, there is no specific triggering incident. Often adhesive capsulitis results in adhesions of the shoulder joint that stick the shoulder to the capsule and result in limited range of motion. Some people may be predisposed to adhesive capsulitis such as people with diabetes, thyroid conditions, or lung conditions. Management of adhesive capsulitis involves gentle Chiropractic manipulation of the shoulder to reduce adhesions in the shoulder joint. Specific exercise is also effective in reducing the pain and improving range of motion of the shoulder.

Biceps Tendonitis

Pain in the front of the shoulder is often due to the condition known as biceps tendonitis. Biceps tendonitis occurs when the tendon of the biceps becomes irritated in the bicipital groove of the humerus (upper arm/shoulder). Activities that may irritate the biceps tendon usually involve forward raising of the arm. In lifting weights such motions include bench press and forward raises. Often vacuuming or office work may irritate the biceps tendon as well. Throwing motions are particularly irritating to the biceps tendon. Myofascial release is the treatment of choice and is often able to reduce inflammation of the tendon as well as increase flexibility of the biceps. Avoiding aggravating activities and using ice are also helpful.
Tear of the Glenoid Labrum

The glenoid labrum is composed of cartilage and helps to stabilize the shoulder. It is similar to the meniscus in the knee. The labrum may often be torn due to traumatic injury or in dislocation of the shoulder. Labrum tears result in sudden pain and often cause a feeling of instability of the shoulder. Labrum tears are most often treated surgically.

A-C Joint Separation

The A-C joint is the joint at the top of the shoulder between the clavicle (collar bone) and the scapula (shoulder blade). A-C joint separations most often occur from a fall on the point of the shoulder and may cause immediate injury to the A-C joint. Often the outer end of the clavicle may stick up as much as an inch in an A-C separation. Fracture of the clavicle may also result from a fall on the point of the shoulder. This injury is common in road biking racers and was recently suffered by Lance Armstrong.

Rotator Cuff Tear

Rotator Cuff Tears often result from a traumatic event such as lifting a heavy weight or falling on an outstretched arm. Older people may not recall any traumatic event however. Tears of the rotator cuff usually causes pain and weakness in raising the arm. The most common rotator cuff tears are in the supraspinatus tendon. Partial tears of the rotator cuff can be successfully treated with specific exercises and a strengthening program. Usually rest from sports of occupational activities is needed as well. Myofascial release and Chiropractic manipulation of the shoulder is effective in reducing many of the symptoms of pain and weakness in a partial tear. Full-thickness tears are usually surgically repaired in younger individuals.