

Taking Care of Your Shoulder

Shoulder Anatomy

The shoulder is an intricate system of bones, muscles, tendons, ligaments, and bursae that work in precise harmony with each other.

The shoulder has three major joints: the glenohumeral (GH) joint, the acromioclavicular (AC) joint, and the scapulothoracic (ST) joint. Each joint can become dysfunctional and painful.

The anatomy of the glenohumeral joint (GH) permits the greatest flexibility and range of motion of any joint in the human body; it can also allow the shoulder to become unstable.

The *acromioclavicular joint (AC)*, joins the *scapula* (shoulder blade) to the clavicle. The AC joint can become separated; this commonly occurs in contact sports, such as when a football player falls on the tip of the shoulder.



The third shoulder joint is the *scapulothoracic (ST)*, which is where the scapula lies over the thorax (back of the rib cage). The ST joint is attached to the thorax by muscles and tendons. Posture is closely linked with the healthy functioning of the ST joint, which in turn affects the shoulder structure.

Four muscles in this region form the **rotator cuff**, a complex of muscles that encircles the shoulder joint. This complex is a major source of muscular stability in the shoulder. The rotator cuff can be prone to tears and weakening due to a number of causes, including strain and overuse.

Tendons are strong fibrous cords that attach muscles to bones. Inflammation of the tendons is called *tendinitis*. An additional structure essential to this system is the bursa. **Bursae** are fluid-filled membranes within and around the shoulder; they cushion the joints and help minimize friction. Inflammation of the bursae is known as bursitis.

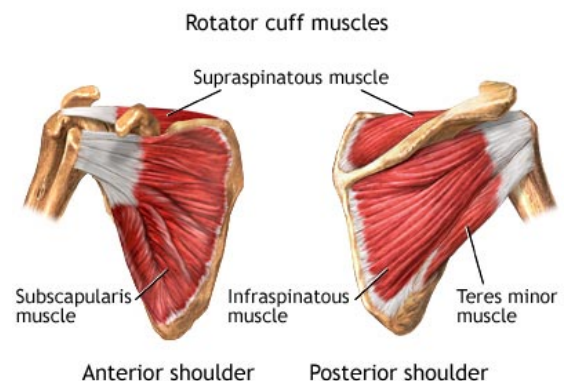
What causes shoulder problems?

Tendinitis is perhaps the most common of all shoulder problems. As we move into our 30s and 40s our muscles and tendons begin to undergo a structural weakening because of the aging process. By age 40 or 45, simple tendinitis can degenerate into actual tearing of the muscle tissue.

What's worse, each episode of tendinitis weakens the muscles further. Ultimately, this cumulative damage can lead to larger tears in the muscles and tendons. This is why conservative treatment of tendinitis at an early stage, along with education about the way the shoulder works and proper exercise, is crucial to preventing further injury.

Rotator Cuff Injuries. Tears in the rotator cuff can result from the progressive worsening of tendinitis, repetitive strain through overuse, or trauma - especially as a result of athletics.

The gradual tearing of the rotator cuff is a process similar to a shirt wearing out - it gets more and more threadbare until the edges fray or a hole appears. This sort of rotator cuff injury can be difficult to repair surgically, and conservative treatment under the direction of a physiotherapist is often the best course of action. A "clean" tear to the rotator cuff (due to trauma) can often be repaired surgically.



Bursitis goes hand-in-hand with tendinitis. Inflamed bursae may become thickened and reduce the "free" space in the joint, thus restricting movement. In extreme cases some of the bursae can be removed surgically; otherwise, the therapeutic approach to treating bursitis and tendinitis is similar.

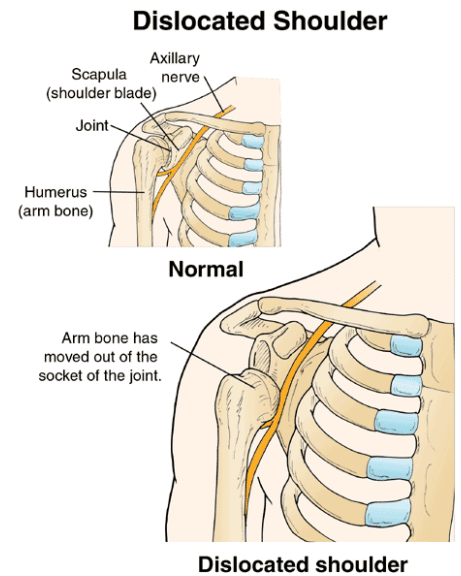
Osteoarthritis is a condition in which the joint cartilage deteriorates and the joint becomes gritty and rough. *Degenerative arthritis* is often associated with wear-and-tear in the joints over a long period of time. The AC joint is particularly susceptible because, as we age, it degenerates faster than any other joint in the body. Arthritis in the glenohumeral joint usually appears somewhat later, and may be related to trauma earlier in life or rotator cuff problems.

Besides being painful, shoulder injuries can lead to "**frozen shoulder**," which is the inability to fully move the arm due to tightness in the joint; attempts at movement in the later stages of the condition are usually painful.

Subluxation is a quick, spontaneous "pop-in/pop-out" or partial dislocation of the shoulder joint. Subluxations can occur while playing "overhead" (throwing, tennis, and swimming) sports, though the activity need not be strenuous to cause an occurrence. Subluxations usually happen to people who are approximately 14 to 30 years of age. Subluxations may, over time, contribute to problems of wear and tear in the shoulder region.

A **dislocation** is far more serious, involving tissue damage, stretching, and tearing. Unlike a subluxation, the shoulder doesn't "pop back in." The first step in treating a dislocated shoulder is almost always a trip to the emergency department. People under 20 and over 50 are most prone to dislocations, with younger individuals more prone to experience further dislocations in the future.

Both subluxations and dislocations require physiotherapy to restore motion and build up strength. The goal is to enhance shoulder stability and reduce the chances of a recurrence.



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Shoulder symptoms and treatment

- Pain in the shoulder sometimes at rest and often worse at night.
- Pain can be referred to the mid arm or even as far as the hand.
- Restricted movement at the shoulder e.g. reaching behind your back, above your head and/or across to your other shoulder.
- Daily activities such as sleeping, dressing and carrying loads is difficult.

Sport Medicine Physician

Your sport medicine physician can also diagnose your shoulder problem. If you are not improving with physiotherapy, other treatment options such as anti-inflammatory medications and cortisone injections are available. Your sport medicine physician can discuss the benefits and risks of these treatments with you. They can also order tests such as MRIs, ultrasounds and x-rays.

What physiotherapy can do to help

- We advise you on how to avoid pain and the injury.
- We use manual therapy to restore joint movement and reduce pain.
- We use acupuncture/electrotherapy to relieve pain, facilitate healing and restore movement.
- We teach you a progressive strengthening program of exercises to the shoulder girdle to restore the balance of strength and flexibility.
- We progressively return you to daily activities, sports and leisure activities.