

## Frozen Shoulder

Frozen Shoulder is a term applied to a number of pathologies that result in a stiff, painful shoulder. Frozen shoulder can result from surgical or traumatic injury, but adhesive capsulitis is an idiopathic, chronic inflammation of the capsule of the shoulder joint that leads to pain and a gradual loss of motion. The average woman has up to a 20% chance of experiencing adhesive capsulitis.

Adhesive capsulitis involves women between the ages of 40 and 60. Associated risk factors include diabetes, smoking, hypothyroid, and heart disease. Other risks include posture, repetitive use, and computer use. Loss of motion in an individual under 40 years of age is very rarely adhesive capsulitis and is more commonly GIRD, an acquired loss of motion from repetitive overhead sports (baseball, softball, volleyball, water polo, swimming). **Glenohumeral Internal Rotation Deficit** occurs in young throwers and should be treated with physical therapy.

The shoulder is a ball and socket joint where the ball (humerus) is quite large and the socket (glenoid) is very small. The joint can be thought of as a golf ball (humerus) sitting on a tee (glenoid). The ball is held in place by the rotator cuff muscles and the capsule. The capsule is like the casing of a drumstick on a holiday turkey. It is this casing that becomes thickened in adhesive capsulitis and restricts motion.

Patients present with loss of motion and pain. The pain keeps the patient, and their spouse, awake at night. Night pain is the most common complaint that brings the patient to seek treatment. The patient will often present with difficulty performing activities of daily living – brushing their teeth, combing their hair, etc.

Adhesive capsulitis is diagnosed by history and physical exam, but X-ray and MRI can be used to rule out other concomitant pathology. Calcification of the rotator cuff and rotator cuff tears can be associated with a frozen shoulder.

Adhesive capsulitis is usually thought of as “self limiting” or running a course of pain and limited range of motion that worsens then resolves over a 1 year period. Physical therapy and home exercise programs have been shown to decrease pain and improve motion. Nonsteroidal anti-inflammatories (ibuprofen, naprosyn, etc) and intra-articular steroid injections have been proven to provide temporary pain relief without long lasting effects. For some patients, a good night’s sleep is worth the pain of the injection! For patients with persistent loss of motion after 6 months of treatment, surgical intervention is an option. Manipulation under anesthesia involves putting the patient to sleep and gently breaking the adhesions to regain motion. However, manipulation lacks precision and can result in the unintentional injury of vital structures (rotator cuff tendons, nerve palsy, etc). For my resistant cases, an arthroscope is inserted into the shoulder and the shoulder capsule is released using an arthroscopic scissor and electrocautery until normal motion is restored. This arthroscopic method of release allows for precise release of the pathologic tissue and decreases the risk of collateral damage.