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## Calcifying Tendonitis of the Shoulder

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### INTRODUCTION

Acute pain and restricted motion experienced in the shoulder without any precipitating trauma is often a result of the condition known as "Calcifying Tendonitis of the Shoulder". The characteristic calcified nodule within the supraspinatus tendon, above the shoulder is readily shown on a plain radiograph. Calcium deposits in the tissues may occur because of an imbalance in the calcium metabolism as a result of gout, pseudo-gout or renal problems. In these situations calcium may be deposited into normal tissues. However much more commonly calcium is deposited within degenerative, inflamed or damaged tissues. In Calcifying tendonitis of the shoulder most commonly the supraspinatus part of the rotator cuff tendon which lies above the humeral head in the shoulder, is worn or inflamed. This may present as an insidious rotator cuff tendonitis (more information in Orthopaedics100 information sheet on Rotator Cuff Tendonitis). However commonly there are no preceding symptoms, calcium slowly accumulates in the damaged tendon and then there is a sudden or acute presentation of shoulder pain where an x-ray demonstrates a calcium deposit within the tendon. The condition should be differentiated from an acute presentation of rotator cuff tendonitis and an acute rotator cuff tear where an injury may be involved.

### ANATOMY

The shoulder joint is made up of the head of the humerus articulating with the glenoid cavity part of the scapular. Above the shoulder joint itself lies the bony prominence of the scapula call the acromium. Between the acromium and the head of the humerus lies the tendons

which move the shoulder joint. The tendons of supraspinatus, infraspinatus, teres major and teres minor join together to form a tendon sheet above the humeral head. This conjoined tendon is called the rotator cuff. Because it lies between the acromion above and the humeral head below the blood supply to the tendon is poor. As a result of the tendon being caught between the two bones, the poor ability to heal and the attrition of the aging process the tendon wears, becomes degenerative and can tear.

The conditions associated with the rotator cuff are of an inflammation of the tendon : Rotator cuff tendonitis, a tear known as a rotator cuff tear and of calcifying tendonitis. Of the four major tendons of the rotator cuff, the Supraspinatus tendon is the most commonly affected by calcifying tendonitis. On an x-ray, a calcium phosphate deposit may be seen 1-2cm proximal to the tendon insertion onto the outer of lateral aspect of the humeral bone.

## **SYMPTOMS**

The symptoms experienced from this condition vary depending on the stage of the formation of the calcium deposit. Whilst not all calcification in the tendon is associated with pain in a similar way the size of the deposit does not indicate the amount of pain experienced. Early in the condition or in the “formation” phase no symptoms may be experienced. Alternately the patient may describe symptoms of mild chronic and intermittent pain in the top or outer side of the shoulder. This is similar to the pattern of symptoms experienced with mild rotator cuff tendonitis. Later in the development a “resting” phase may occur where little pain is experienced but where the range of motion of the shoulder is limited. The reabsorptive phase is the point at which most patients present for treatment. In this phase an inflammatory reaction occurs as the crystalline deposits are thought to leak into the soft tissues around the shoulder joint. Often this is associated with an acute and sudden onset of severe pain and stiffness of the shoulder. The final phase in the natural history is that of post-calcification or resorption where the calcium deposit slowly resorbs and resolves. Whilst the pain may subside to some degree the shoulder may remain stiff and the symptoms of rotator cuff tendonitis may persist to some degree.

## **TREATMENT**

Many forms of conservative treatment are advocated although the use of most modalities is unsubstantiated by clinical outcome studies. In the acute phase where symptoms usually occur pain relief may be sought with painkillers or anti-inflammatory drugs. Physiotherapy is often useful to relieve some of the pain, re-educate shoulder motion, strengthen the shoulder musculature and to regain or maintain a good range of shoulder movement. Steroid injection with local anaesthetic into the region of the calcifying nodule may relieve the acute symptoms and allow physical therapy to be undertaken. Such injects if successful may be repeated. However if symptoms persist then surgery may be considered.

Surgery in this condition is directed either to relief of pain by removal and debridement of the calcifying nodule or to debride and or repair the rotator cuff tendonitis. The nodule can be removed and the tendon debrided though an arthroscopic technique or minimally invasive surgical technique. The rotator cuff may require the repair of a significant tear. This may also be undertaken using an arthroscopic technique or though a mini-open technique. Such surgery is commonly undertaken as a day case procedure with early and rapid mobilisation and return of function and return to activity, work and sport.

## **PROGNOSIS**

The condition can sometimes resolve spontaneously over a period of time. The acute phase may last approximately 3 weeks although the chronic symptoms may be present for many months or even years.

Persistent pain, restricted movement and weakness may be a result of the chronic symptoms or a partial response to treatment. Intermittent flare up of the inflammatory condition may also result. Following surgery whilst the majority of patients should expect a resolution of the symptoms and full mobility. The underlying degenerative rotator cuff tendon may result in some weakness, occasional discomfort in some activities. Complications from surgery may occasionally result in failure, persistent pain, stiffness or infection. Although the number of such cases is small.

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