

## **Rotator Cuff Strain/Tendinopathy**

The rotator cuff consists of four muscles (supraspinatus, infraspinatus, teres minor, subscapularis) that connect the shoulder blade (scapula) to the top of the arm bone (humerus). They provide the shoulder with stability and assist with rotation.

### **Symptoms**

Pain is usually felt over the front or side of the shoulder, sometimes extending down into the upper arm and is worst on elevation of the arm. There may be an associated feeling of stiffness or tightness. Initially pain may be felt only after activity (usually overhead eg. throwing, swimming, tennis), as the condition progresses pain is present at the start of activity but disappears with warm up, then pain persists throughout activity and finally the ache becomes increasingly constant and is particularly bothersome at night. Lying on the affected side is often very painful. At this stage pain is likely to limit participation in your chosen activity and may also affect day-to-day life.

### **How does it occur?**

The rotator cuff tendons are most commonly injured due to overuse; repetitive movements of the shoulder, particularly with the shoulder in an elevated position and involving rotation. Less frequently tendon damage can occur due to a large load being placed on the shoulder in an awkward position. Either can result in small tears in the fibres, if insufficient rest is allowed the body cannot heal these tears and more extensive damage occurs with continued loading. Overuse injuries are usually associated with an increase in the amount or intensity of an activity for example increased swimming distance or addition of more training sessions to your usual routine.

Rotator cuff tendons are in a vulnerable position passing through a small space between the humerus and part of the scapula (figure). Elevation of the arm reduces the size of this space and can result in the tendon being pinched. This is 'impingement' and responsible for the sharp, catching pain felt with arm elevation. Impingement is more likely if the tendon becomes inflamed as the space is further reduced, it also results in further damage, more inflammation and reduced healing of the tendon.

Other factors may also reduce the size of the gap and predispose toward this problem, they include: stiffness in the joints of the thoracic spine, tight pectoral muscles, weak shoulder stabilisers, poor posture and shoulder joint stiffness. A stiff thoracic spine can refer pain into the shoulder and can also increase stress on the rotator cuff by forcing the shoulders into a poor position during upper limb movements.

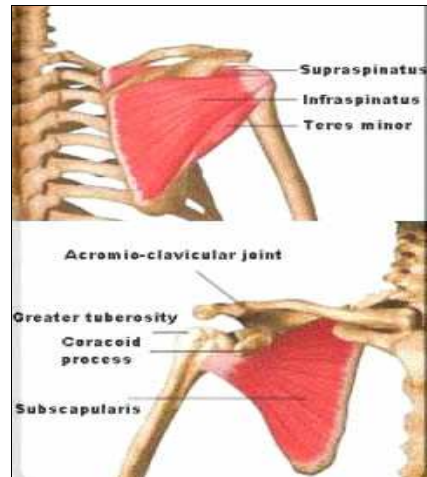
### **Management**

Rest is critical to resolving rotator cuff injuries, that means you must try to avoid all activities that aggravate your shoulder pain, this includes sport and day-to-day activities that involve arm elevation. Ice can be useful in the initial stages and anti-inflammatory medications may also be recommended.

## **Right Shoulder**

### **Posterior (back)**

### **Anterior (front)**



Physiotherapy includes passive range of motion exercises, mobilisation of the shoulder and thoracic spine, stretches and soft tissue techniques. Your physiotherapist will also gradually introduce and progress exercises to improve the stability around your shoulder and provide controlled stress to the injured tendons.

### **What to expect**

Unfortunately tendon injuries tend to heal slowly because of the poor blood supply to these tissues. Depending on severity you may need to avoid overhead activities for a period of up to 6-8 weeks and return to full function can take up to 3 months. Continued aggravation will extend this recovery period and may lead to long-term strength deficits, shoulder instability and further problems.

### **Physiotherapy Tips**

1. Discontinue elevation or painful activities to allow symptoms to settle.
2. Ice and anti-inflammatories as recommended.
3. Perform the stretches and exercises as directed by your Physio.

### **Other sources of shoulder pain**

1. Acromioclavicular (AC) joint injury
2. Biceps tendinopathy
3. Adhesive capsulitis (frozen shoulder)
4. Labral tear
5. Post trauma eg. dislocation, surgery