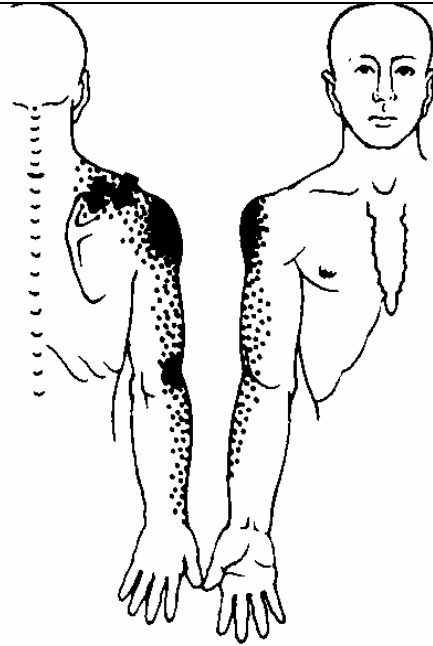


# ROTATOR CUFF TENDINITIS



**SUPRASPINATUS**

## WHAT IS IT?

- inflammation of one of the rotator cuff muscles or their tendons that attach to the front or outside part of the shoulder joint

## HOW DO THE MUSCLES AND TENDONS WORK?

- the term 'rotator cuff' describes a group of 4 muscles that come from the shoulder blade and attach to the shoulder itself
  - supraspinatus
  - infraspinatus
  - subscapularis
  - teres minor
- they form a CUFF surrounding the ball and socket joint of the shoulder
- the 'weak link' in this unit are the tendons and get irritated and inflamed for a variety of reasons
- tendons are the part of the muscle that attaches to bone

**TENDINITIS ~ inflammation of a tendon**

THESE MUSCLES AND TENDONS ARE VERY IMPORTANT FOR PRECISE  
FUNCTIONING OF THE SHOULDER

1. provide movement ~ rotation of the arm and assist in elevation of the arm
2. assist in stabilizing the joint, and also 'fine tune' the joint position during repetitive, overhead activity
3. take strain off the ligaments and other muscles in the area when working properly

Therefore the 'rotator cuff' has 2 very important jobs:

1. to provide **movement** as most muscles do
2. to **support** the shoulder joint

### WHAT HURTS?

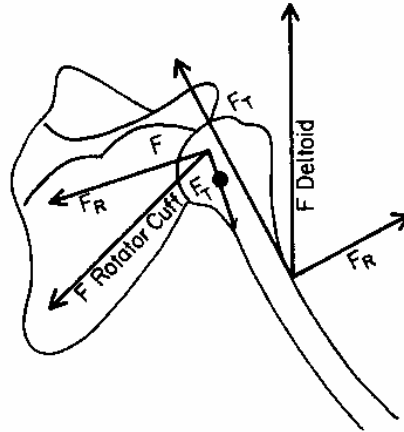
- pain & tenderness in the front, outside or back of the shoulder area, often radiating into the upper arm and occasionally into the forearm to the wrist
- pain with overhead activities eg. throwing, serving in tennis, golf swing, swimming
- pain with certain daily activities
  - lifting
  - carrying objects
  - putting clothing on
  - reaching into the back seat of the car
  - washing hair
  - reaching and lifting from a shelf
  - removing object from back pocket

### WHAT SHOWS UP ON X-RAY?

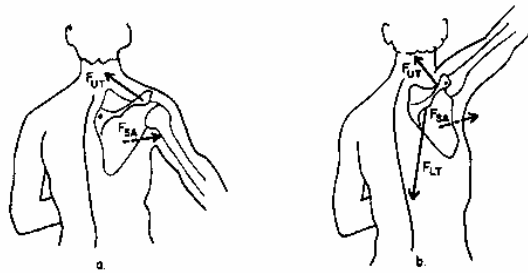
- usually nothing
- calcium deposit in advanced chronic stage only occasionally
- arthritic (wear and tear) degenerative changes of the shoulder joint
- degenerative changes of the joint just above the shoulder the acromioclavicular (AC) joint, which may predispose the rotator cuff to getting injured

### WHAT CAUSES IT?

- overuse, sport or daily activity related
- weak rotator cuff muscles ~especially the 'lateral rotators'
- imbalance of strength between the rotator cuff muscles or the rotator cuff group as a whole in relation to the other larger chest and shoulder muscles ('pecs' and deltoid) in the area
- improper technique eg. golf swing, tennis stroke, throwing motion, swimming stroke
- improper training schedule ie. 'too much too soon'
- direct trauma eg. fall directly onto the shoulder or onto outstretched arm
- a 'loose' shoulder ie. a previous separation, dislocation or just born with a 'lax' joint - makes the rotator cuff muscles work harder because they have to stabilize / support this loose joint
- impingement of one of the rotator cuff tendons (ie. a 'pinching' of the tendon due to overuse, improper joint mechanics, excess scar tissue formation from recurrent irritation or previous injury)



*Force couple of deltoid and rotator cuff muscles. The rotatory forces, acting on opposite sides of the axis of motion, combine to produce upward rotation. The translatory forces cancel each other out.  $F_R$ , rotary force;  $F_T$ , translatory force.*



*Force couple of muscles acting at the scapula.  $F_{UT}$ , force of upper trapezius;  $F_{LT}$ , force of lower trapezius;  $F_{SA}$ , force of serratus anterior. a, Axis of scapular rotation from 0-30°; b, axis of scapular rotation from 30-60°.*

- neck (cervical or upper thoracic spine) stiffness / restriction
- cervical spine nerve pinching or adverse neural tension (lack of mobility / flexibility of nerve tissue supplying the shoulder area)
- weak shoulder blade area muscles (remember, the rotator cuff muscles come from here before going to and attaching around the shoulder; therefore, if the shoulder blade isn't kept in its proper position ('stabilized') when we use the arm, its easier to injure the rotator cuff muscles / tendons)
- poor posture ("forward head posture") can cause or perpetuate pain and tendon irritation

### WHAT DO I DO?

- rest from painful activities
- use ice ('acute' stage of injury, sharply painful) or heat (chronic stage of injury, stiffness or ache); if unsure, please consult your physiotherapist
- analyze cause, address biomechanical causes with appropriate mobilizing and stretching of shortened structures and strengthening of supported structures as outlined by your physiotherapist ~ ie. Treat the cause, **NOT** just the symptoms (as you can see from the previous heading, there are several potential causes and areas that should be looked at)
- correct technique in noted sporting activities and adjust / find a training regime that is right for you
- deep transverse friction massage breaks down scar tissue, relieves pain, and assists tissue healing
- anti-inflammatory medication (if necessary) as prescribed by your physician
- therapeutic modalities: ultrasound, interferential current, TENS
- cortisone injection (only if necessary in very few cases)

## HOW DO I PREVENT IT?

- avoid overuse by gradually increasing intensity, frequency, and duration of activity
- proper technique / positioning
- maintain flexibility and strength of muscles in the region (especially rotator cuff and shoulder blade muscles)
- a balance between rotator cuff muscle strength and that of larger muscles of shoulder and chest is important
- maintain mobility of potentially restrictive structures, including neck and upper back regions

## WHAT ELSE CAUSES PAIN IN THIS AREA?

- rotator cuff tendon partial tear
- joints of the cervical and upper thoracic spine
- other muscles in the region (biceps, deltoid, chest muscles and upper trapezius muscle)
- subdeltoid bursa (bursitis of the shoulder)
- shoulder joint capsule and ligaments
- small fracture of bone or tear of cartilage (the labrum lines the 'socket' part of the joint) especially if trauma / fall involved
- other joints in the area, especially joint above on top of the shoulder (the AC - acromioclavicular joint)
- systemic medical disorder such as rheumatoid arthritis

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