Shoulder
Elbow

MMT Program Mod 2

Shoulder pain is extremely common in fact it is the 2nd most common complaint

Difficult joint to examine

Multi directional ROM

Must make an accurate dx of the cause of the symptoms (look for the root cause) in order for it not to keep reoccurring

# Anatomy

Glenohumeral Joint- ball and socket synovial type of joint

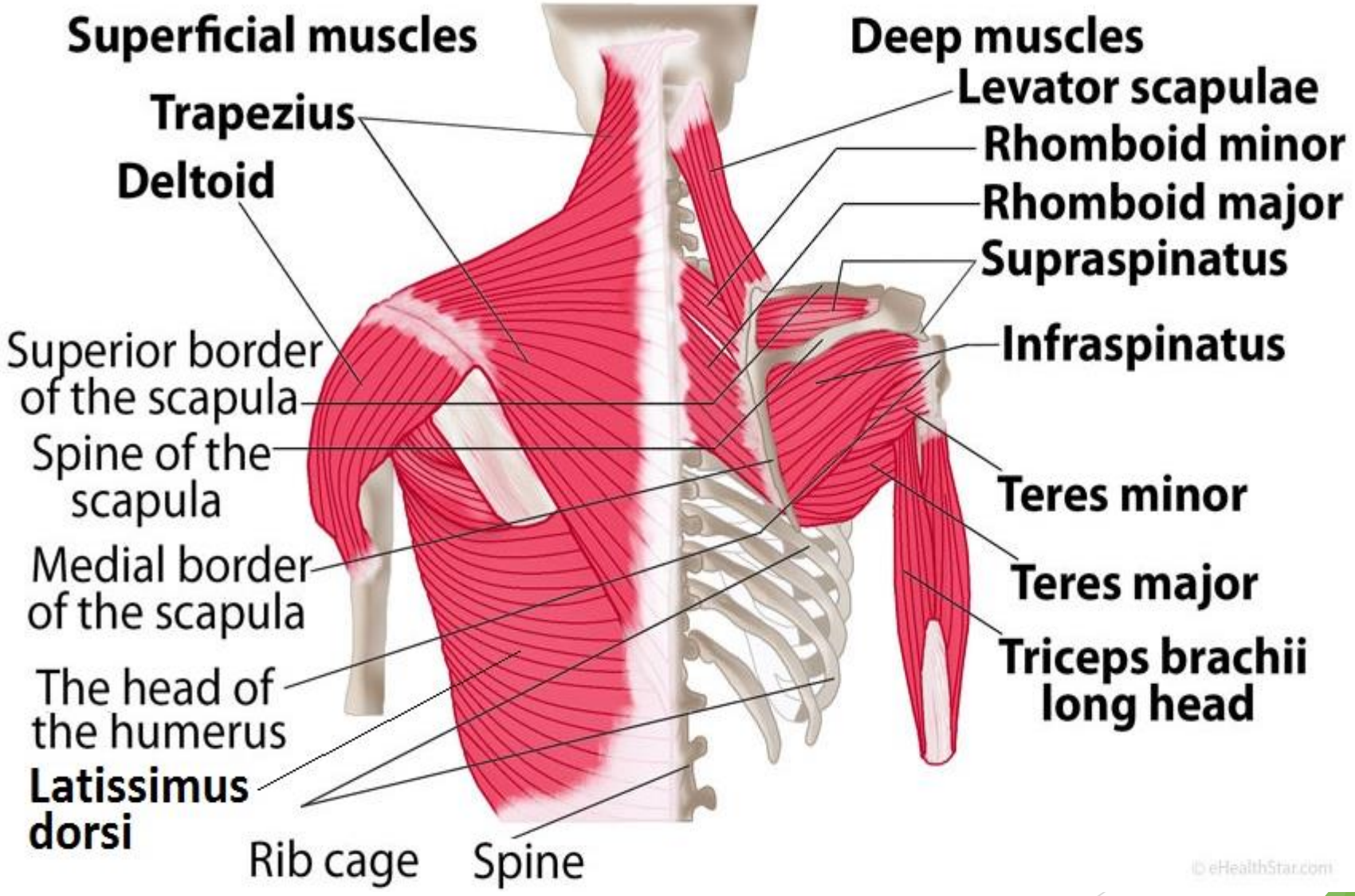
Highly dependent and guarded by muscles and ligaments

When relaxed the head of the humerus is centered in the glenoid cavity

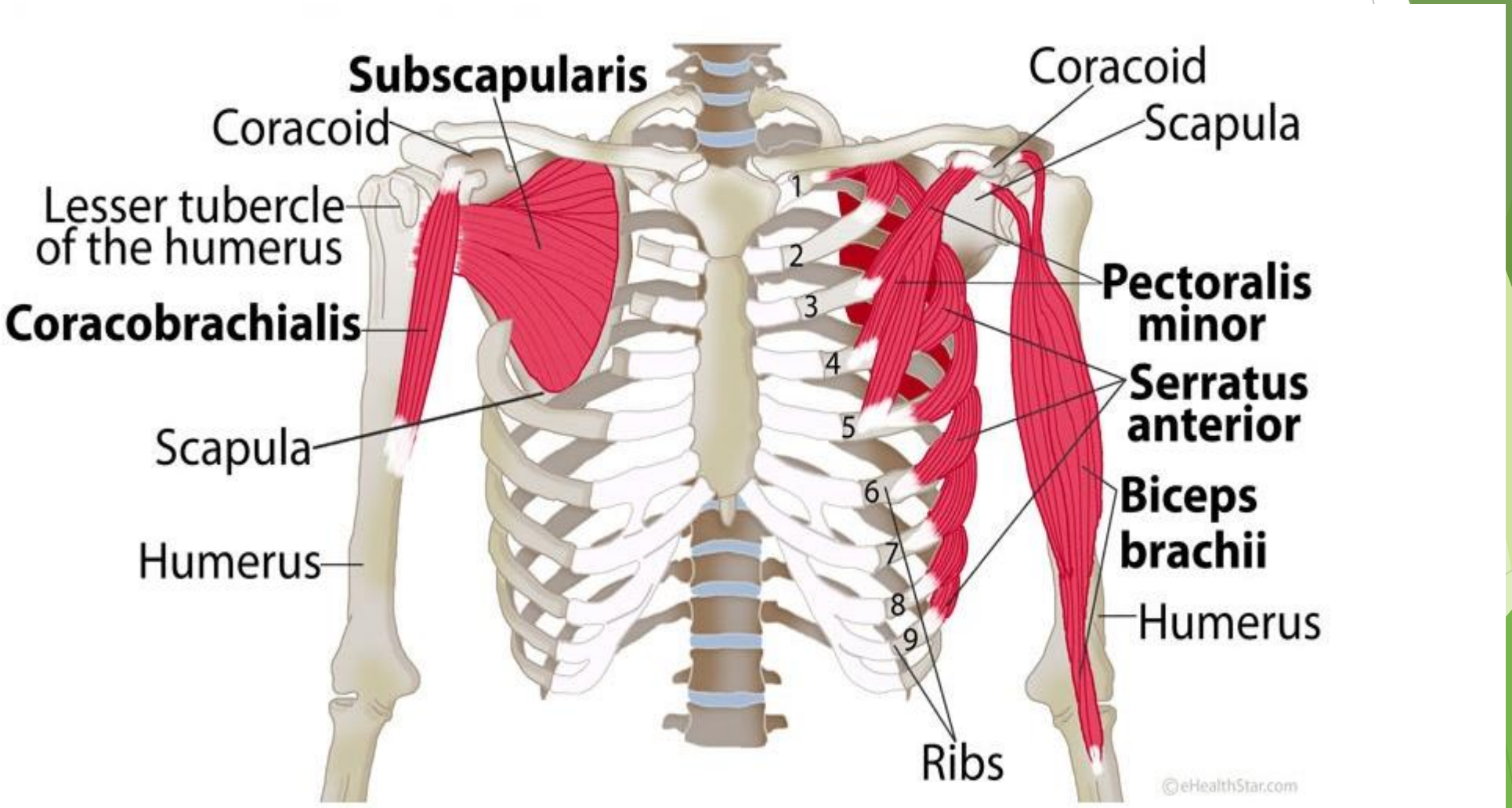
Rotator Cuff mm plays vital role in stability and support


The shoulder joint

# Pectoral/Shoulder girdle muscles from the back



# Pectoral/Shoulder girdle muscles from the front



# Occupational Stresses to the Shoulder

# Median Days Away From Work (%) of Total MSDs Shoulder vs. Back (2011)

| | Shoulder | Back |
|---|---|---|
| ALL OCCUPATIONS | 21 (13%) | 7 (42%) |
| Nurses assistants | 7 (13%) | 5 (55%) |
| Laborers and freight- stock, and material movers-hand | 30 (16%) | 7 (44%) |
| Janitors and Cleaners | 21 (12%) | 6 (49%) |
| Heavy and tractor-trailer truck drivers | 35 (16%) | 13 (36%) |
| Registered Nurses (2010) | 13 (13%) | 7 (53%) |

(www.bls.gov/news.release/osh2.nr0.htm)

# Adhesive Capsulitis

Frozen Shoulder Syndrome

Disorder in which the shoulder capsule becomes inflames and stiff greatly restricting the normal ROM

Unless trauma is present the etiology is mostly unknown

Progressive pain and increasing stiffness which sometimes will resolve spontaneously after 18 month

Pain is worse at night and shoulder movement is severely restricted

# Clinical Presentation

Usually effects persons in the age from 40-60 and mostly females

Slight wasting of muscular tissue surrounding the joint with palpable tenderness

Pain is gradual in onset

External rotation is most inhibited of the ROM

# Common Shoulder Injuries

- Impingement Syndrome
- Rotator Cuff Sprain Strain
- Rotator Cuff Tear
- Glenoid labral Tear
- Tendonitis
- Bursitis
- AC Separation
- Adhesive Capsulitis (Frozen Shoulder)

Where is the pain coming from?

Rotator cuff? Bursa (bursitis)

Glenohumeral disorders (capsulitis, frozen shoulder), arthritis

Acromioclavicular pathology

Trauma (minor dislocation)

Referred, neck and upper back pain

Fibromyalgia

Internal disorders (lung malignancy cardiovascular)

# Impingement syndrome

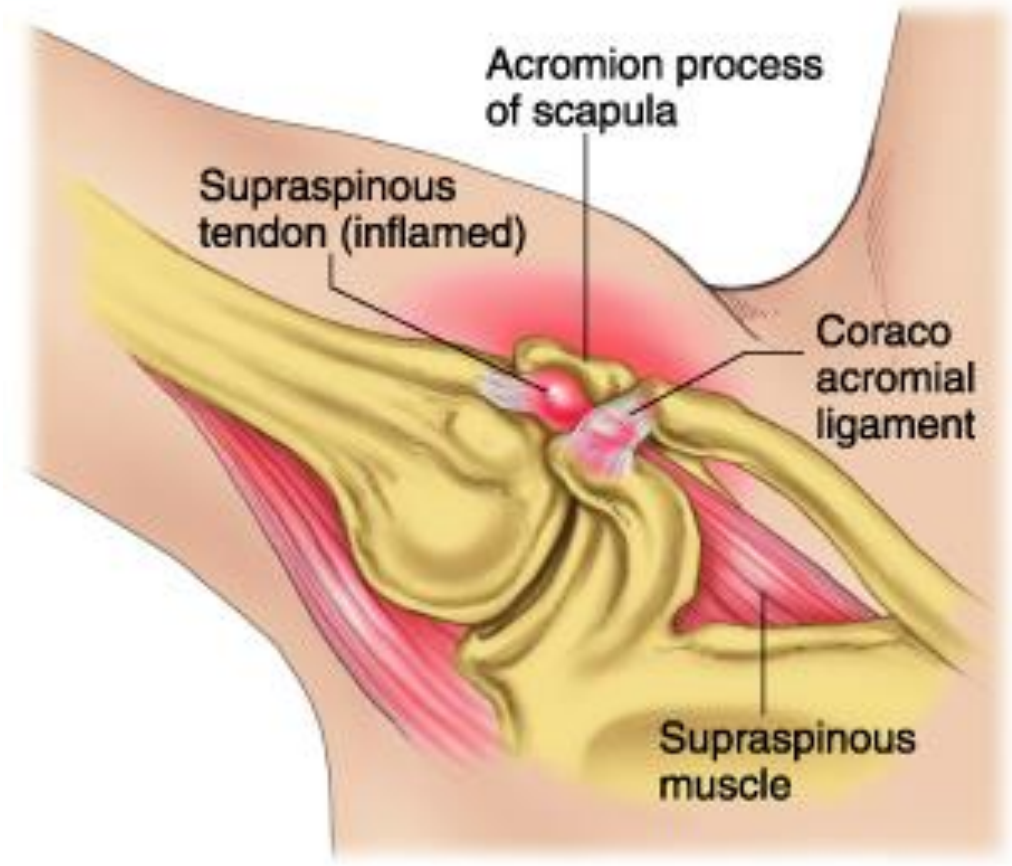
This occurs when the space between the humeral head and the acromion above becomes narrowed

The three things that usually get “pinched” are

1. Joint capsule itself
2. Tendons of the rotator cuff muscles
3. Bursa sac

This can create either a bursitis or tendonitis depending on the Structures involved.
Overhead usage workers and athletes are more likely to have Issues such as this

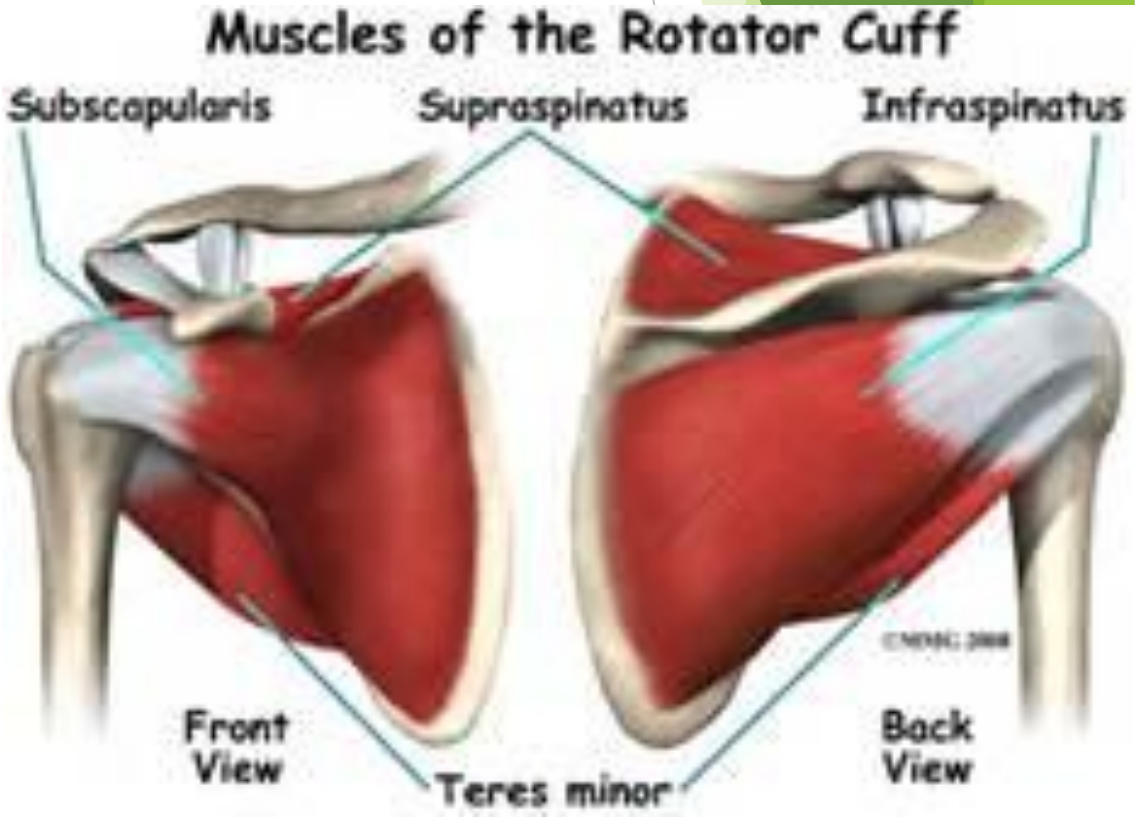
Approx 1/3 of shoulder problems are due to impingement



# Rotator Cuff Muscles

SITS

Supraspinatus
Infraspinatus
Teres Minor
Subscapularis



**The four rotator-cuff muscles are:**

1. Supraspinatus muscle: this muscle acts to initiate abduction (lifting up at the side).
2. Infraspinatus muscle: this muscle externally rotates your arm.
3. Teres minor muscle: this muscle externally rotates your arm.
4. Subscapularis muscle: this muscle internally rotates your arm.

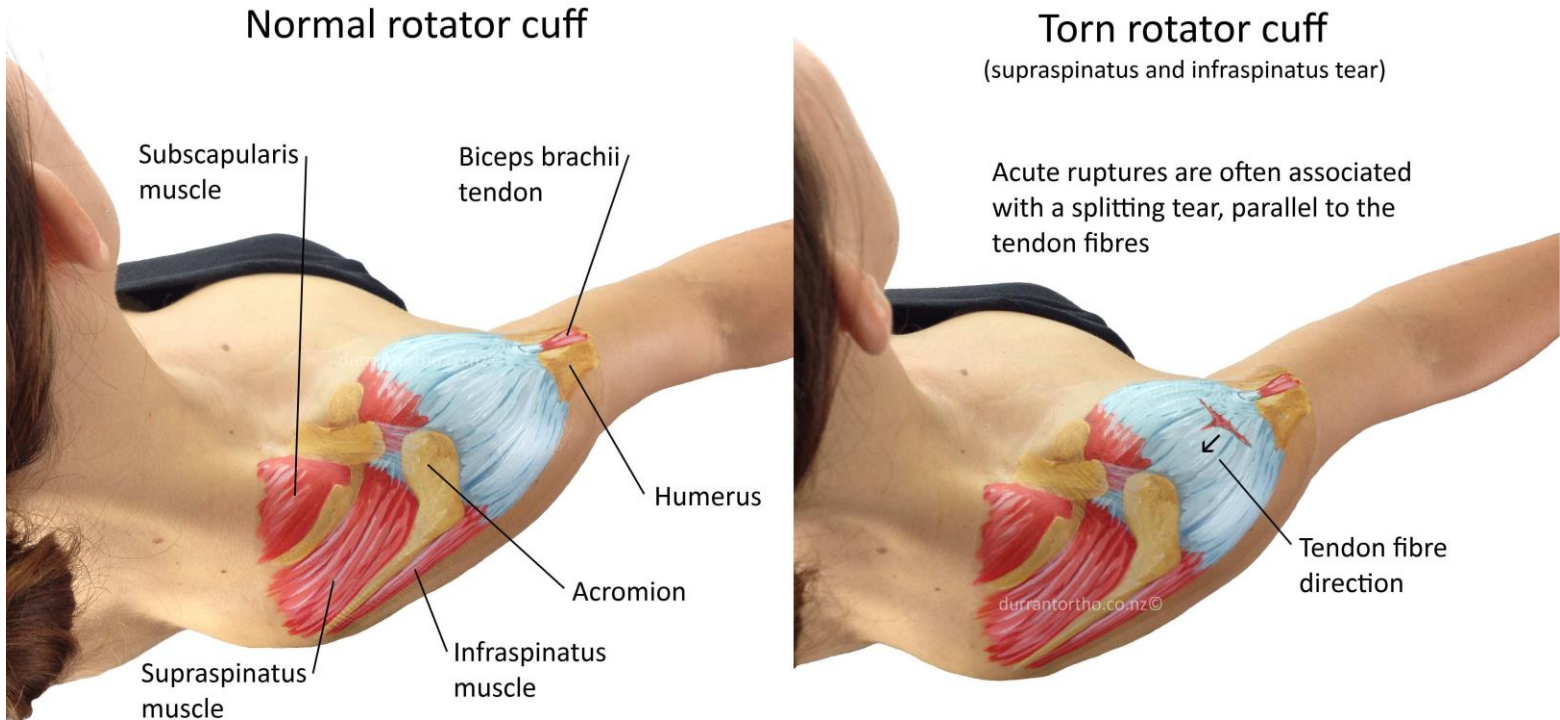
# Rotator Cuff Tears

YOUNG PERSON
Usually is more due to a traumatic type injury from a hanging or falling on an outstretched arm

A person can have a chronic injury such as a repetitive stress syndrome that can lead to a tear

OLDER PERSON

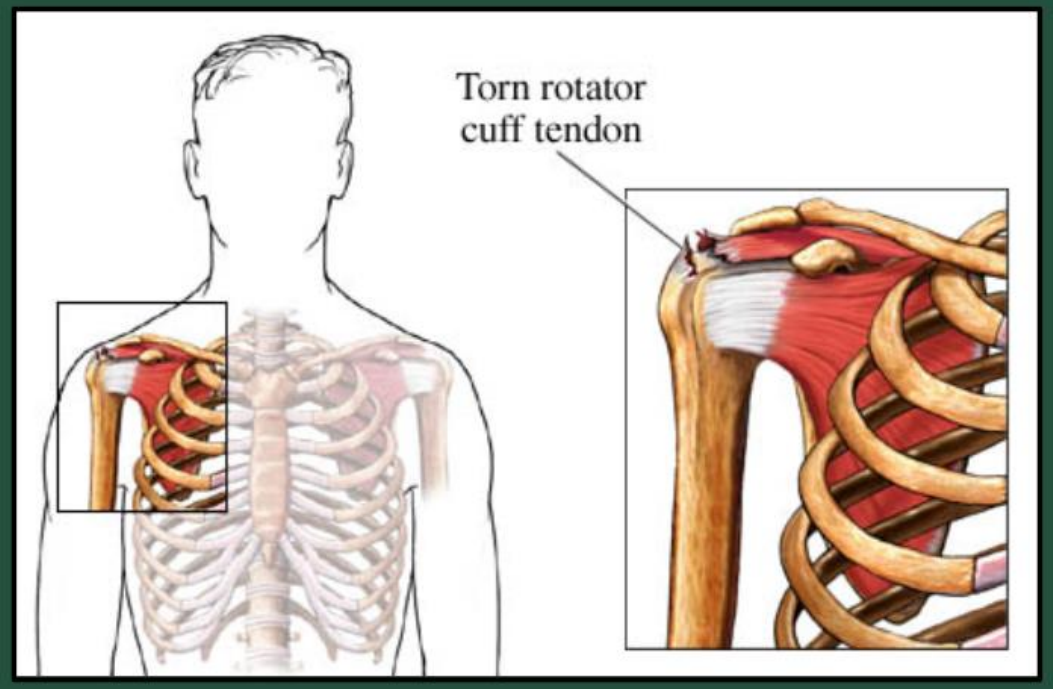
It is more likely due to loss of elasticity within the muscle and tendon which can result in
A tear from doing basic everyday activities.



# Rotator Cuff Tears Symptoms

- Atrophy of the muscles around the shoulder
- Pain when someone else lifts the arm
- Pain when lowering the arm from a fully raised position
- Weakness when moving the arm
- Crackling or grinding sensation when arm is passively moved
- With a partial tear the person will feel pain but still have normal ROM
- With a complete tear there is pain but not normal ROM
- Overhead motions are most difficult
- A shoulder shrugging motion is present

# Rotator Cuff Tear




# Shoulder MRI

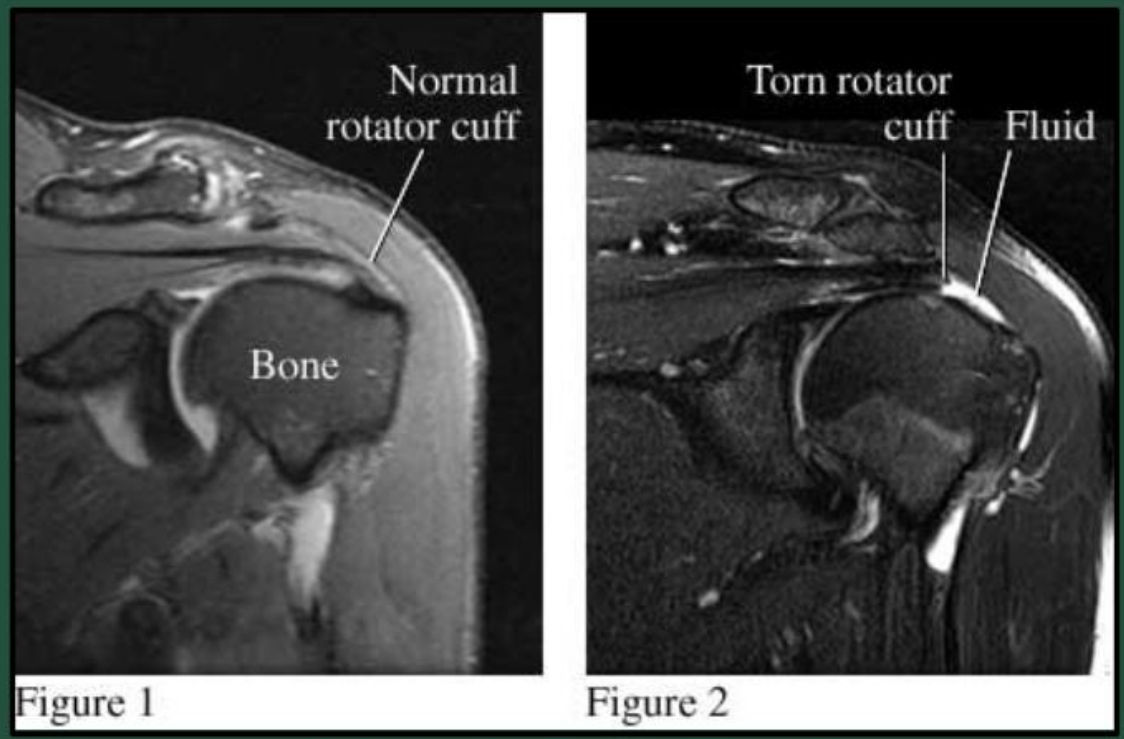



Figure 1 Figure 2

EBPP rating (I), Insufficient Recommended

# Tendinitis of the Supraspinatus

Sup Tendinitis is a common condition of the shoulder that causes anterior shoulder pain

Present usually in abduction

The painful arc is between 60 and 90 deg of abduction.

Pt usually starts leaning body away from arc to avoid excessive abduction

Pain sleeping on the affected side

Catching of the shoulder during use

Pain on BOTH AROM and PROM

Palpable tenderness

# Supraspinatous Tendinitis Test

With pt seated abduct the arm to 90 deg against resistance

POS pain or weakness over the insertion of the Supraspinatous tendon may indicate tendinitis or tear
Pain over the deltoid mm may indicate a strained medial or anterior deltoid mm.

Watch for pt leaning away sign as well.
Always perform on the non involved side first to get a baseline ROM and resistance pressure

# Apley ScratchTest

With pt seated place hand of affected shoulder behind head to touch the upper part of the back.

POS indicates tendinitis of the tendons of the supraspinatous tendon


Apley's scratch test: Shoulder flexion, external rotation, and scapular abduction

Apley's scratch test: Shoulder extension, internal rotation, and scapular adduction

# Bursitis

The subacromial bursa overlies the rotator cuff tendons

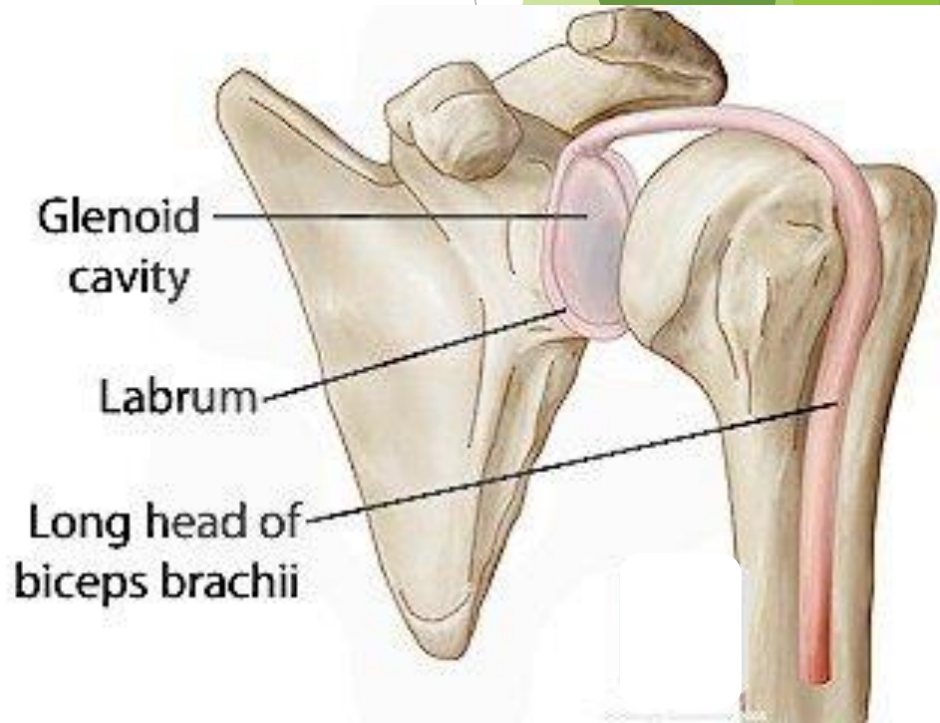
Bursitis is associated with tendinitis of the of the adjacent supraspinatus tendon
Causes of bursitis are trauma, overuse, multiple traumas, improper excecuted activity

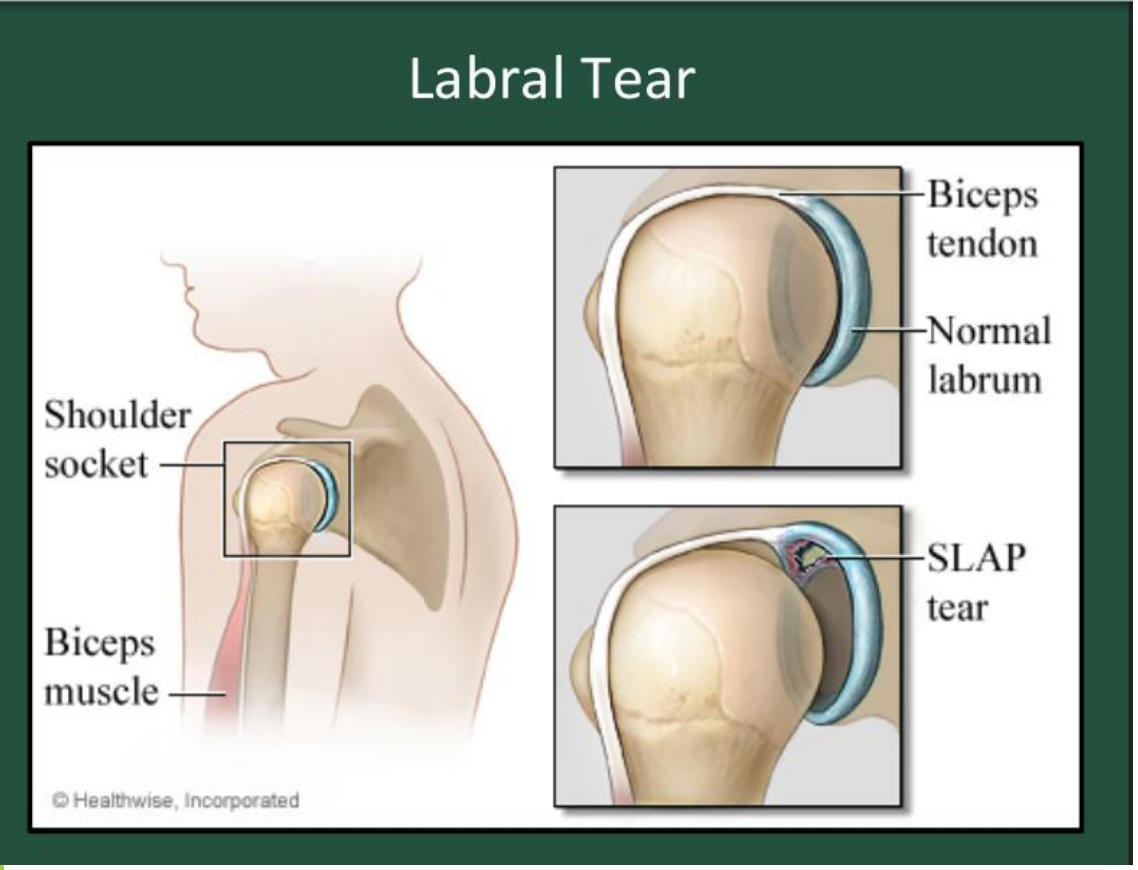
**Clinical Signs and Symptoms**

Anterloateral shoulder pain
Pain sleeping on affected side
Stiffness
Pain on AROM and PROM

# Glenoid Labrum

The glenoid Labrum is a ring of cartilage attached to the margin of the Glenoid cavity of the scapula
This labrum acts to keep the humeral head positioned on the glenoid by blocking Unwanted movement.






A SLAP tear is an injury to the labrum of the shoulder, which is the ring of cartilage that surrounds the socket of the shoulder joint.

The term SLAP stands for Superior Labrum Anterior and Posterior. In a SLAP injury, the top (superior) part of the labrum is injured

Injuries to the superior labrum can be caused by acute trauma or by repetitive shoulder motion. An acute SLAP injury may result from:

A motor vehicle accident
A fall onto an outstretched arm
Forceful pulling on the arm, such as when trying to catch a heavy object
Rapid or forceful movement of the arm when it is above the level of the shoulder
Shoulder dislocation
People who participate in repetitive overhead sports, such as throwing athletes or weightlifters, can experience labrum tears as a result of repeated shoulder motion.

# 3 Main types of instability

1. Anterior
2. Posterior
3. Multi Directional

## *Anterior Instability*

- Most common. (~95%)
- 50%→ under 25 yrs, 50% develop recurrency (the labrum and capsule are detached from the anterior rim of the glenoid)
- Occurs as a sequel to **acute anterior dislocation** of the shoulder, with detachment or stretching of the glenoid labrum and capsule.
- Mechanism:
  - abduction, external rotation, and extension.
  - falling on outstretched hand, forcing the arm into abduction and external rotation
- It can result in damage to the axillary artery.
- Recurrent dislocation →
  - trivial trauma.
  - Between episodes shoulder looks normal.

# Posterior Instability 5% of cases

Painful arc (PROM and AROM) if dislocated
Feeling of shoulder slippage
Apprehension on any movement
Crepitus on movement
Increase shoulder girth if dislocated

TEST
Pt is supine, forward flex and internally rotate the shoulder.
Apply an ant-post pressure on the elbow

POS

Pain or apprehension on the pts face.

Shoulder Drawer Sign
Manually assessing translation the examiner places hand on upper humeral while stabilizing at the distal end and checks for excessive movement. This can also be done sitting as well with placing hand on scapula and posterior shoulder for support while moving the humeral head.

Apprehension test modified

Pt arm is placed in abduction, extension, and external rotation while stressing it in anterior translocation. If patient becomes “apprehensive” or reports pain this is a pos finding.

# What is Multidirectional Instability of the Shoulder?

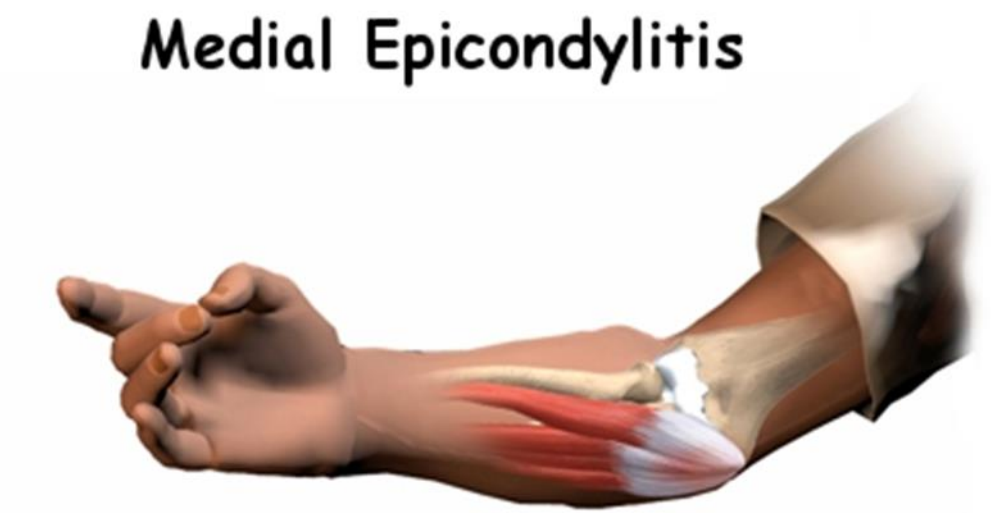
MDI of the shoulder is defined as generalized laxity (looseness) of the joint due to increased mobility and joint weakness. The shoulder joint may "slip" in and out of its socket in a forward (anterior), backward (posterior), or downward (inferior) direction. This "laxity" may be exaggerated in people who participate in activities that require repeated overhead movement of the arm, such as baseball pitchers or swimmers. The most common cause of MDI is overuse of the shoulder or repetitive stress .

# Golfers Elbow

Inflammation of the flexor tendons at the
Medial epicondyle

Repetitive flexing of the wrist due to golf, pitching, mechanic ratcheting etc.

Misleading name because golfer actually make up a small %



# Golfers Elbow

Golfer's elbow can last a week, a month, or a year or two, depending on how well or poorly the strained fibers heal. If the person keeps repeating the activity that caused the strain, adhesive scar tissue may form and prolong the healing time. If the client cannot or does not stop the pain-causing activities, the treatment will take much longer.

Referred pain is minimal in the elbow, but if the injury worsens, the person may experience the pain as radiating from the elbow toward the wrist. In that case, what's actually happening is that the injury is spreading throughout the muscle-tendon unit.

## Friction Therapy and Deep Massage

A combination of these two treatments is generally very effective within four to six weeks. The muscle-tendon unit is easily accessible.

To perform the friction, it's best to have the client's elbow bent at a 90-degree angle and the forearm slightly supinated. Place the tip of your thumb at the edge of the flexor carpi radialis tendon, just inferior to and up against the edge of the medial epicondyle; this is the tenoperiosteal junction. Now press laterally against the bone to compress the tendon, and friction in a medial direction. Continue for five or six minutes, take a break, and repeat, for a total of 10-12 minutes of frictioning. Then massage the upper arm and forearm to maximize blood circulation to the tendon.

An important caution when working in this area: the flexor carpi radialis is near the ulnar nerve. If your client feels tingling or electric sensations down the arm, that means you've hit the nerve and you need to shift where you're working.

# Our procedure

Start with wrist passively flexed (within pain tolerance)

Start with mod pressure up at wrist with thumb

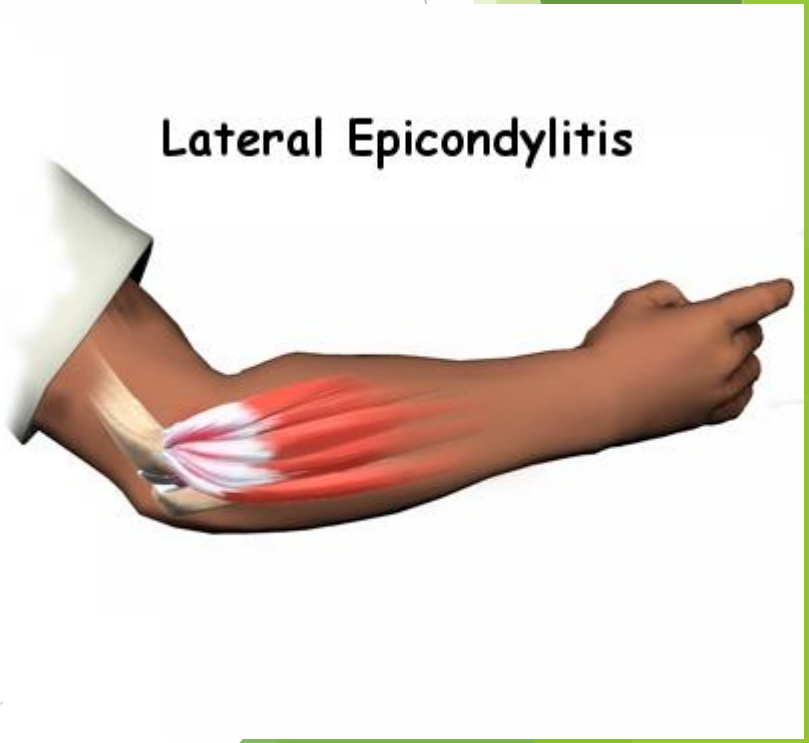
Strip the muscle slowly toward elbow while slowly extending the wrist.

# Lateral Epicondylitis
# Tennis Elbow

Inflammation of the extensor muscles/tendons at the lateral epicondyle of the elbow

Repetitive extension movements of the wrist. Throwing, turning, twisting, screwdrivers
Hammers

Pain during extension may radiate down arm to wrist. Palpable point tenderness



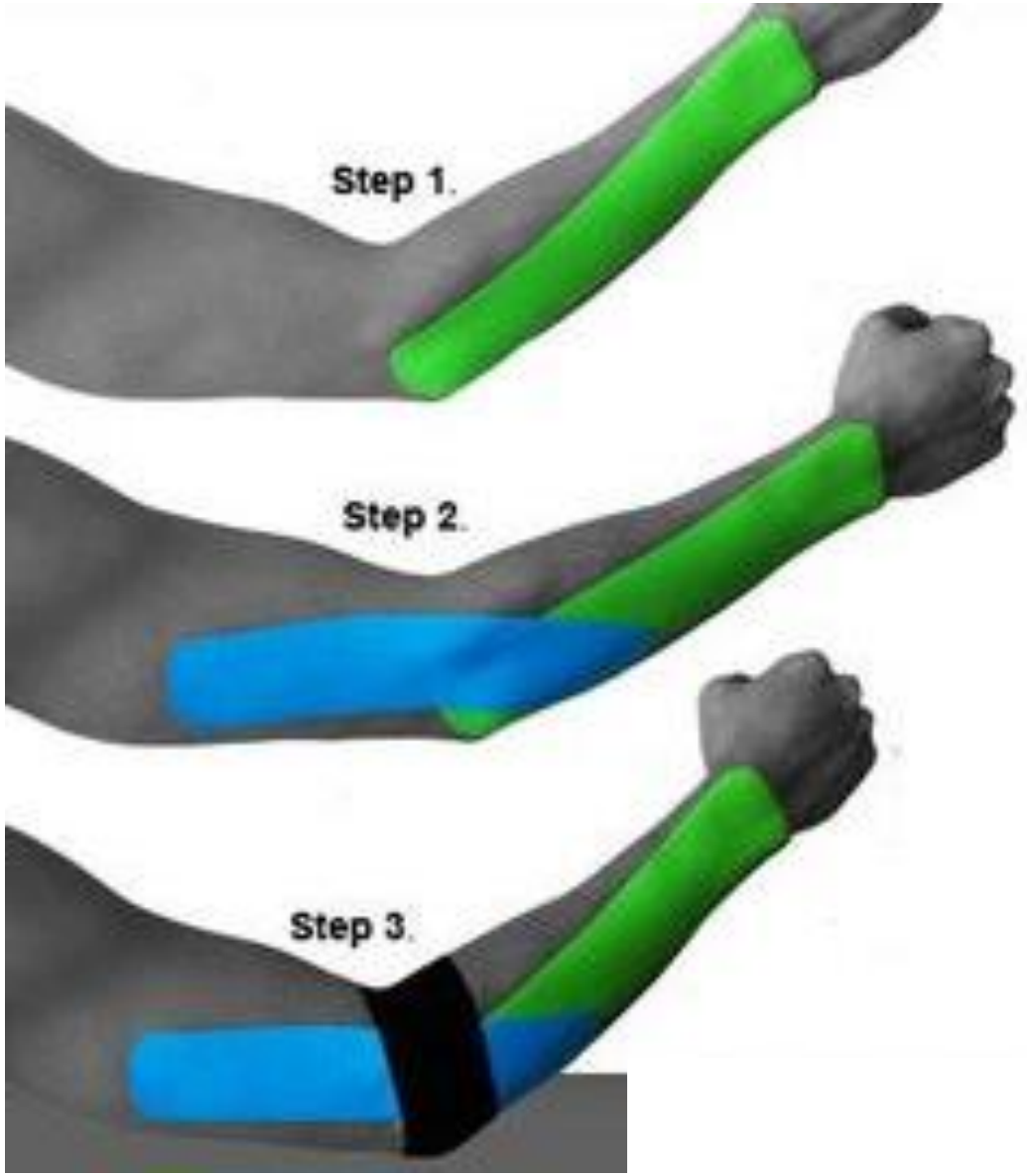
Same principle as the golfers elbow only we are working the extensors

Start with the wrist slightly extended

Place your thumb at the posterior wrist junction

As you strip the extensor muscles towards the elbow Start flexing the wrist passively.

You may even couple this motion with external rotation for a greater effect


Step 1.
Step 2.
Step 3.


Step 1.
Step 2.
Step 3.

MMT Treatment sessions will vary greatly depending on the individual case

Usually the first week is

2 at 30 min

1 at 45 the next week if improvement is made
Followed by weekly treatments for approx. 3 weeks after that the client should be responding well especially if initial causative conditions are remedied.

You can follow up with ice massage if there is swelling