

Why?

- Live longer designed for 40 years max – "the Older Shoulder"
- Sitting lack of metabolic activity
- 'Under-loading' then overuse
- Occupational above head activity & hand postures
- Sports
- Lifestyle factors
- Smoking & tendon repair
- ST failure



Shoulder Function

- Evolutionary changes
 - Changes in visual field to upright
 - Compare scapula evolution
 changes in clavicle shape
 - changes in G/H alignment
 - Leads to mechanical compromise of the sub acromial space
 - Human shoulder is great up to 90 degrees



Job

 MRI (2004) study of people working in same job for over 10 years. Normal Vs working the in an elevated position:
 Car mechanics,

House painters,

Machinists,

100% - RC or Severe Shoulder Pathology

 (Svensdsen et al 2004 Work above shoulder level and degenerative alterations of the RC tendons: and MRI study. Arthritis Rheum 150 (10) 3314-3322)



Sport

 Swimmers employing a stroke that does not place the shoulder at end of range are less likely to suffer pathology

 (Yanai T, Hay JG, Miller GF – 2000 – Med Sci sports Exerc. 32(1) 30-40









Rotator Cuff Muscle Trigger Point Maps



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Rotator Cuff Tear Presentation

Typical History:

- Patient usually over 40
- Sudden onset of pain
- Pain may be severe
- Band like around Deltoidius insertion
- Onset may be associated with trauma or no apparent reason (degenerative)
- apparent reason (degenerative)
- Weakness is a predominant feature
 Patient may complain of restriction of movement

Typical Signs:

- Full passive range of movement
 Limited, painful, active range of motion
- Weakness on manual muscle testing
 Positive Drop arm test
- Adventitious movements



Natural History

 Stage I occurs in patients < 25 years with swelling (oedema) and hemorrhage of the tendon and bursa.

Three stages:

- Stage II involves tendinitis and fibrosis of the rotator cuff in patients aged between 25 and 40 years of age.
- Stage III involves tearing of the rotator cuff, either partial or full-thickness, and occurs in patients > 40 years of age.

Research has demonstrated that 10% of partialthickness tears heal and 10% become smaller, but 53% of tears will propagate and 28% progress to full-thickness tears.

A full thickness tear will not heal spontaneously.



Ultrasound & Shoulder Pathology – All is not as it seems

Girish et al 2011 Ultrasound of the shoulder. Asymptomatic findings in men. American journal or Roentgenology

51 Asymptomatic men aged 40-70 US scans 25 right shoulder, 26 left shoulder Findings:

- (1) Sub acromial bursal thickenings = 78%
- Acromioclavicular joint degen = 65%
- ③ Supraspinatus tendinosis = 39%
- (4) Subscapularis tendinosis = 25%
- 5 Partial thickness tear SS = 22%
- 6 Posterior glenoid labral anomoly = 14%





Trigger Points and shoulder pain

- Trigger points may play a hugely important role in activating, perpetuating and also relieving shoulder pain
- Peripheral and central sensitization
- Nociceptive drive
- Dorsal Horn Wind-up























Long Head of Biceps Tendon Originates from the supraglenoid tubercle of the scapula and the superior glenoid labrum, with an intraarticular portion that passes over the humeral head Exits the glenohumeral joint through the bicipital groove where it becomes extraarticular. · Slides passively on the humeral head during abduction and rotation. Slides up to 18 mm in and out of the glenohumeral joint during forward flexion and internal rotation. · Approximately 9 cm long and 5-6 mm in diameter · Classified into four types: entirely posterior, posterior dominant, equal, and entirely anterior. Sliding portion is relatively Avascular the rest is supplied by the brachial artery. · Musculocutaneous (Motor) Nerve + a rich network of sympathetic fibres Vangsness (%) Tuoheti (%) Entirely posterior 22 28 Posterior dominant 33 55 37 17 Equal Entirely anterior 8 0





SYMPTOMS:

- Aching pain over front of shoulder
- Restricted range of shoulder movement
- Decreased external rotation
- Inability to reach behind back (Apley scratch test)
- Stroke (hemiplegia)
- Rotator Cuff Tendinopathy
- Adhesive capsulitis (frozen shoulder)
- Weakness is ruptured









