

# The Painful Shoulder

## Level 1 Meeting

[www.orthosports.com.au](http://www.orthosports.com.au)



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# The Painful Shoulder



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# ANATOMY



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# ANATOMY



**ORTHOSPORTS**

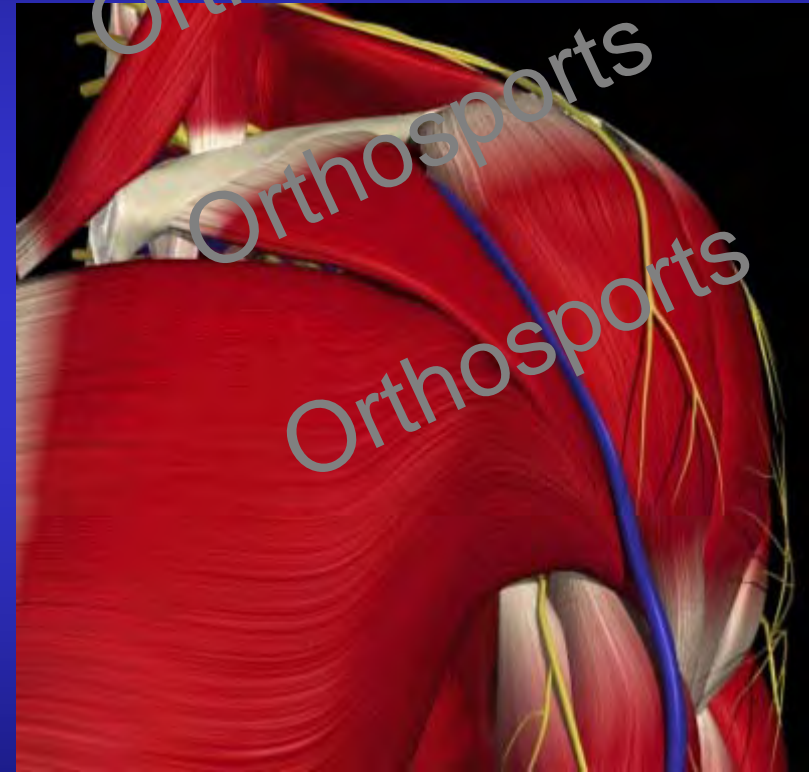
ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# ANATOMY



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# Glenoid labrum

- Deepens Glenoid by 9mm sup-inf and by 5mm AP
- Weakest at 4 o'clock

## Function of labrum

1. Increases s.a. for contact with h.h.
2. Creates a buttress limiting translation
3. Acts as attachment for GH ligaments



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

Orthosports  
Orthosports  
Orthosports  
Orthosports  
Orthosports



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# HISTORY

Orthosports

Orthosports

Orthosports

Orthosports

Orthosports

Orthosports



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



# History

- Age
- Occupation
- Hand dominance
- Sports
- Injury



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# Common Conditions

- Impingement — gradual onset with repetitive activity
- Cuff tear — heavy lifting, fall, dislocation
- Instability — external rotation/abduction, fall
- AC joint — fall on point of shoulder
- SLAP — ballistic movement
- Adhesive capsulitis — no trauma



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# MOST COMMON CONDITIONS

- 20 yrs to 40 yrs - impingement
  - instability (under diagnosed)
  - calcific tendonitis
- 30 yrs to 50 yrs - impingement
  - adhesive capsulitis (overdiag)
- 50 yrs + - impingement / r.c. tear
  - arthritis (uncommon)



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# History

- Pain Profile
  - Location – ant/lat, upper arm
  - Nature
  - Day/night
  - Exacerbating factors (elevation/lifting)
  - Relieving factors
- Disability- loss active ROM/ Dead arm



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# History (Instability)

- Degree of trauma
- Position of arm at time of dislocation
- Frequency of instability episodes
- ‘dead arm’
- Associated symptoms
- Subtle instability symptoms – throwing athlete
- Prior medical treatment – ops & type of physio



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# CONFUSION WITH CERVICAL SPINE & OVERUSE SYMPTOMS

- Posterior shoulder pain
- Not related to shoulder movement
- Pain radiates to forearm and hand
- Paraesthesia
- Occupational overuse



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# Inspection



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# Palpation

- Sternoclavicular joint
- Acromioclavicular joint
- Acromion
- Greater tuberosity
- Lesser tuberosity
- Coracoid



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

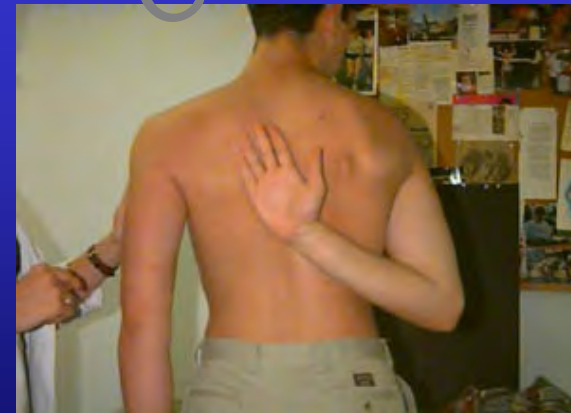


**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



# Range of Motion



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# Range of Motion

- Active and Passive

If Active < Passive – rotator cuff

- neurological

- pain inhibition

If Active and Passive both reduced

- Adhesive capsulitis, osteoarthritis,  
locked posterior dislocation



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# Range of Motion

Components of motion

Glenohumeral vs Scapulothoracic



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# Rotator Cuff

Job's Test – Supraspinatus

90 degrees abduction 30 degrees forward  
thumbs down. Resisted elevation



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

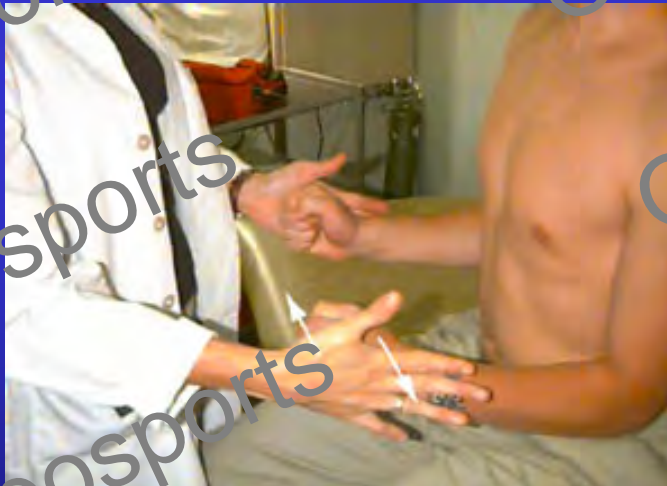


**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# Rotator Cuff

Resisted External Rotation - Infraspinatus



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

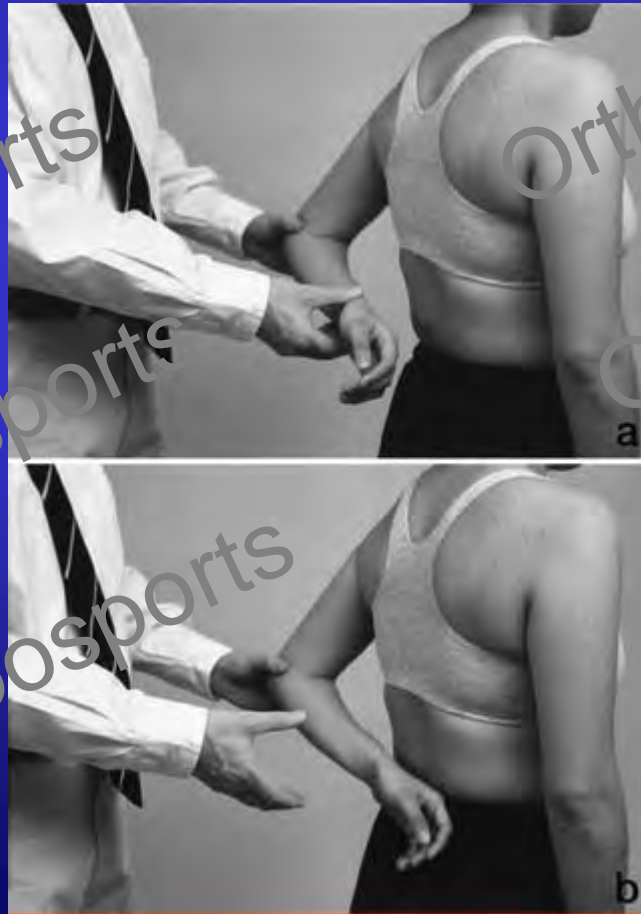


**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# Rotator Cuff

## Lift Off Test - Subscapularis



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

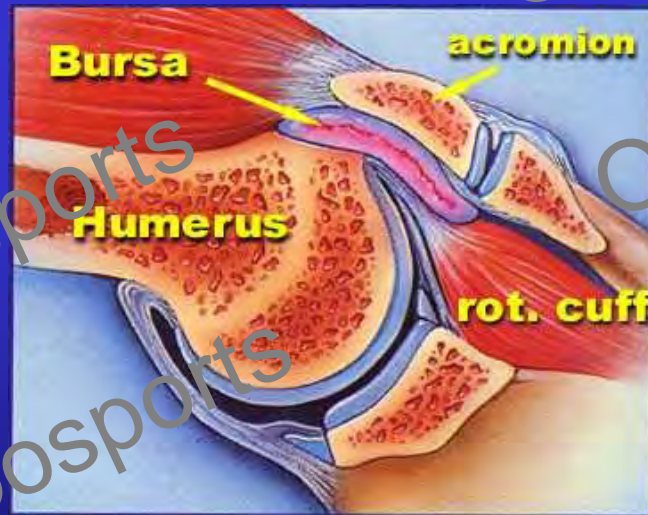


**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# Rotator Cuff

## Impingement Tests



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# Impingement Tests

Neer's



Hawkin's



**ORTHOSPORTS**

PHILOSOPHY: A SPORTS MEDICINE SERVICE



**ORTHOSPORTS**

PHILOSOPHY: A SPORTS MEDICINE SERVICE



# Subacromial Injection

LA and Corticosteroid and retest



10ml 1% Xylocaine  
2 ampoules Celestone



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

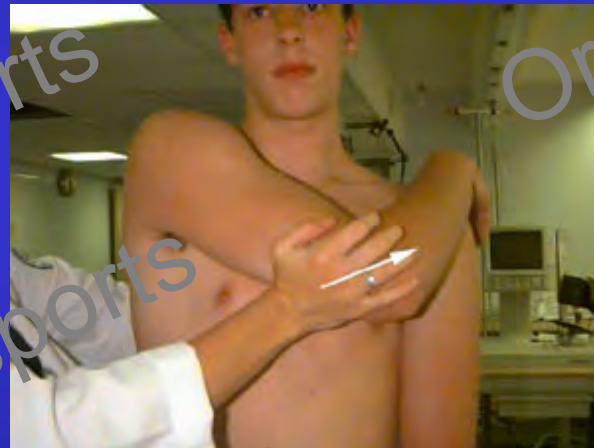


**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# Cross Body Adduction

Acromioclavicular joint – pain



Confirm diagnosis with LA injection



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# Instability Tests

AP Draw



Apprehension/ relocation



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# Physical examination

- Apprehension signs
- Relocation signs
- Sulcus sign



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# Instability Tests

Sulcus - inferior



Jerk - Posterior



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

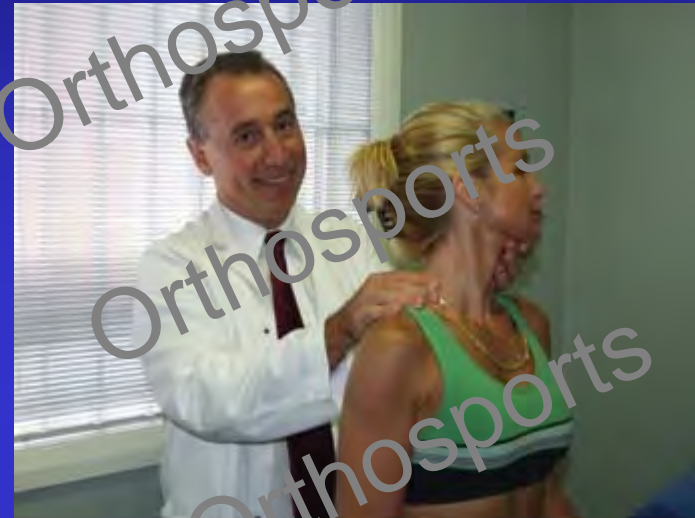


**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# Completion

- Neurovascular
- C Spine
- Ligamentous Laxity



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

Orthosports  
Orthosports  
Orthosports  
Orthosports  
Orthosports



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# XRays

- True AP
- Scapula Lateral
- Axillary Lateral
- Supraspinatus outlet view



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



# True AP - Looks through GH joint



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# AP in plane of Thorax



**ORTHOSPORTS**

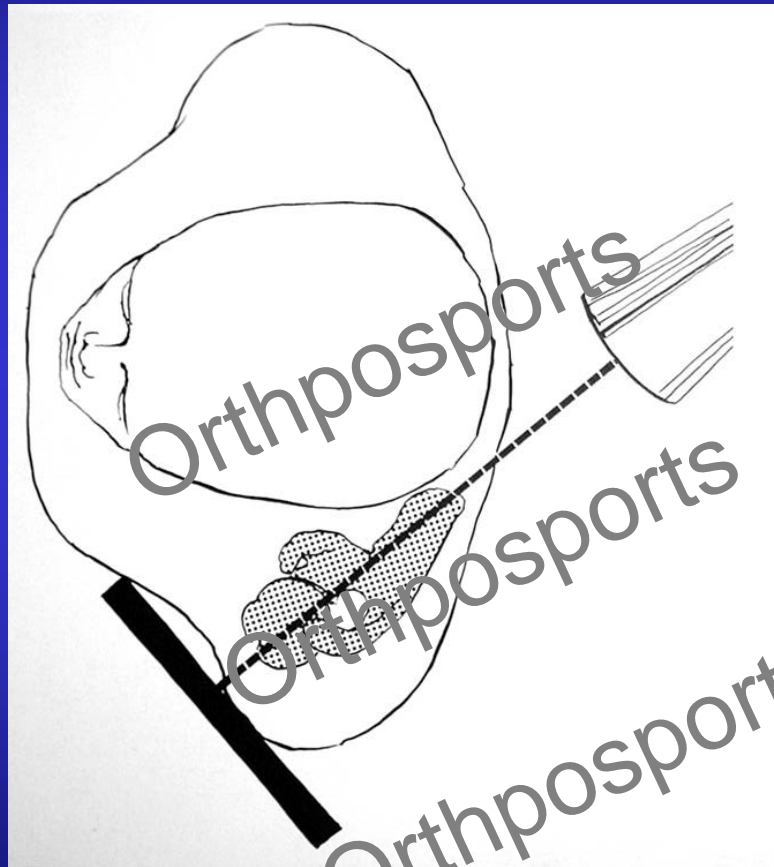
ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# Scapula Lateral



**ORTHOSPORTS**

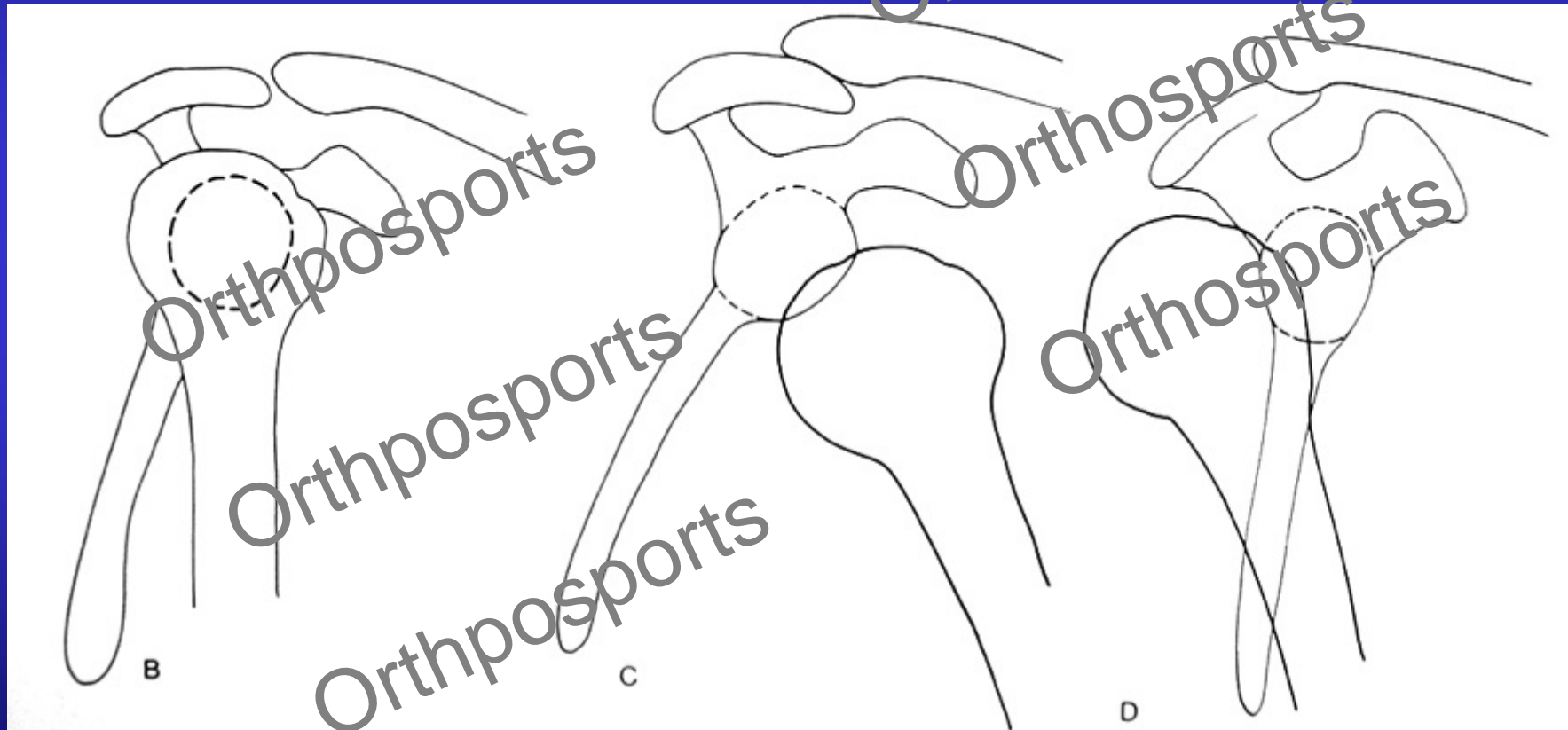
PHILOSOPHY: A SPORTS MEDICINE SERVICE



**ORTHOSPORTS**

PHILOSOPHY: A SPORTS MEDICINE SERVICE

# GH instability



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

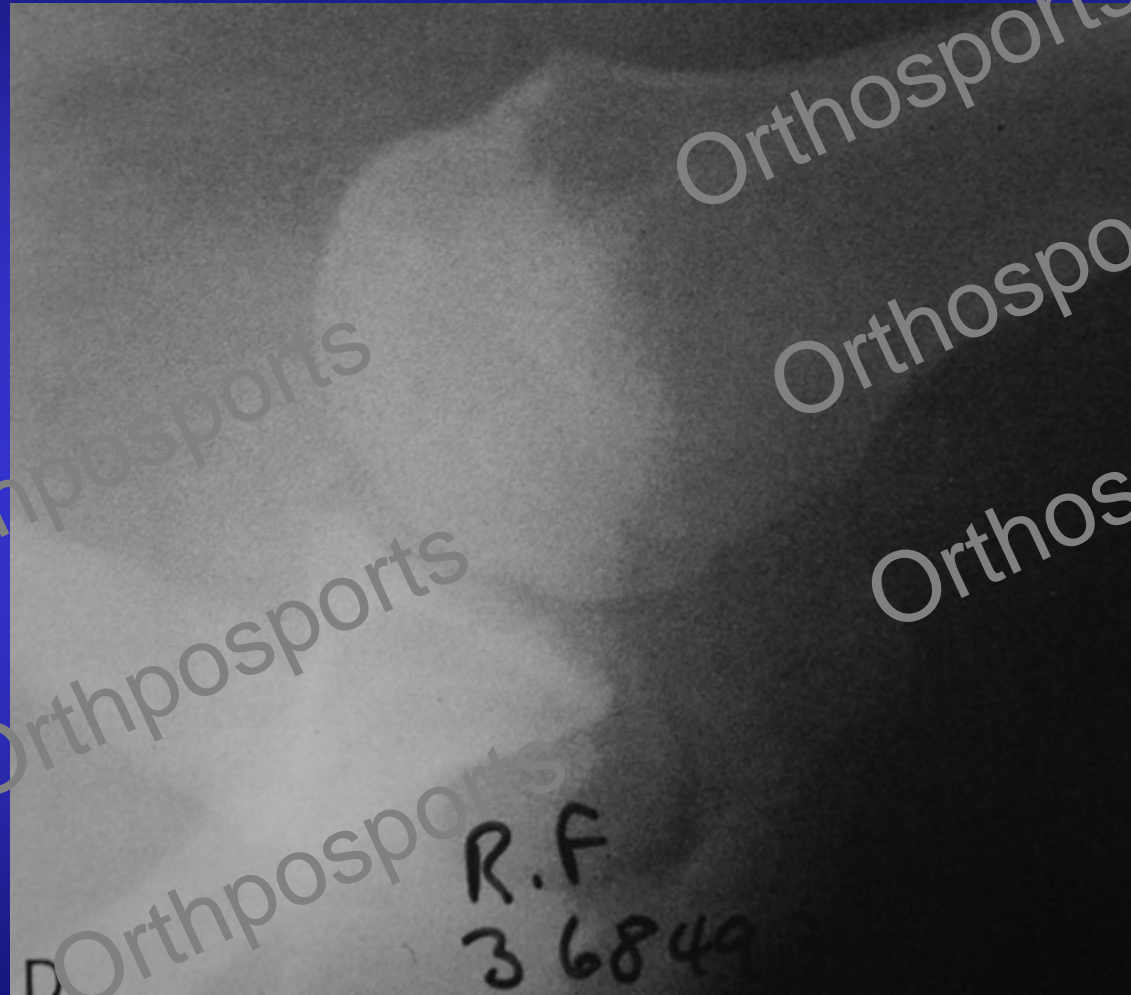
ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# West Point View



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

**Calcified Anterior Glenoid**



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# Reverse Hill Sachs



**ORTHOSPORTS**

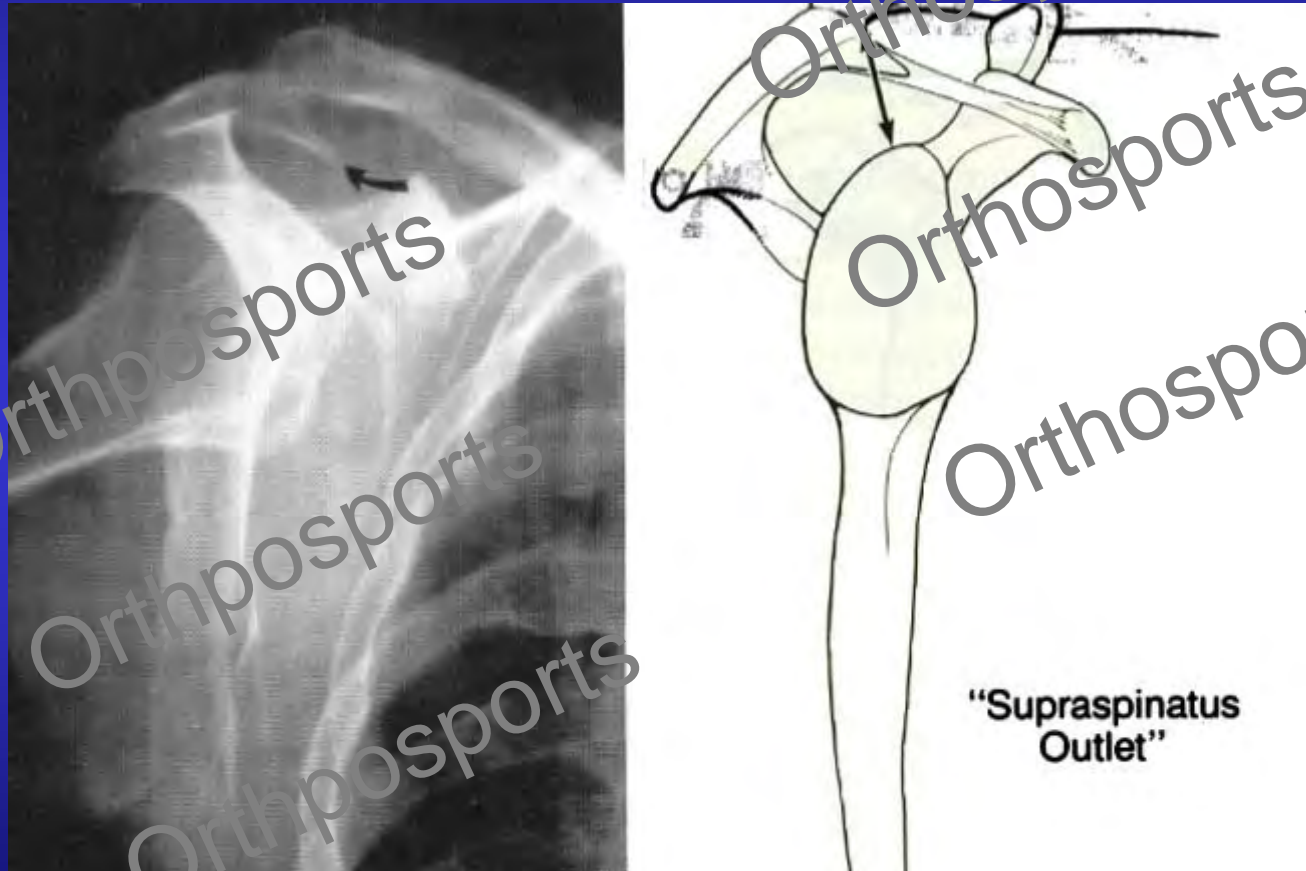
ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# Type III acromion - Impingement



**ORTHOSPORTS**

PHILOSOPHY: A SPORTS MEDICINE SERVICE



**ORTHOSPORTS**

PHILOSOPHY: A SPORTS MEDICINE SERVICE



# AC joint not well visualised



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# Zanca view of AC joint



Tube tipped 10-15° superiorly



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# AC Joint Separation



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# AVN



ORTHO

ORTHOPAEDIC & SPORTS MEDICINE SERVICE



ORTHOSPORTS

ORTHOPAEDIC & SPORTS MEDICINE SERVICE

# Cuff Tear Arthropathy



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

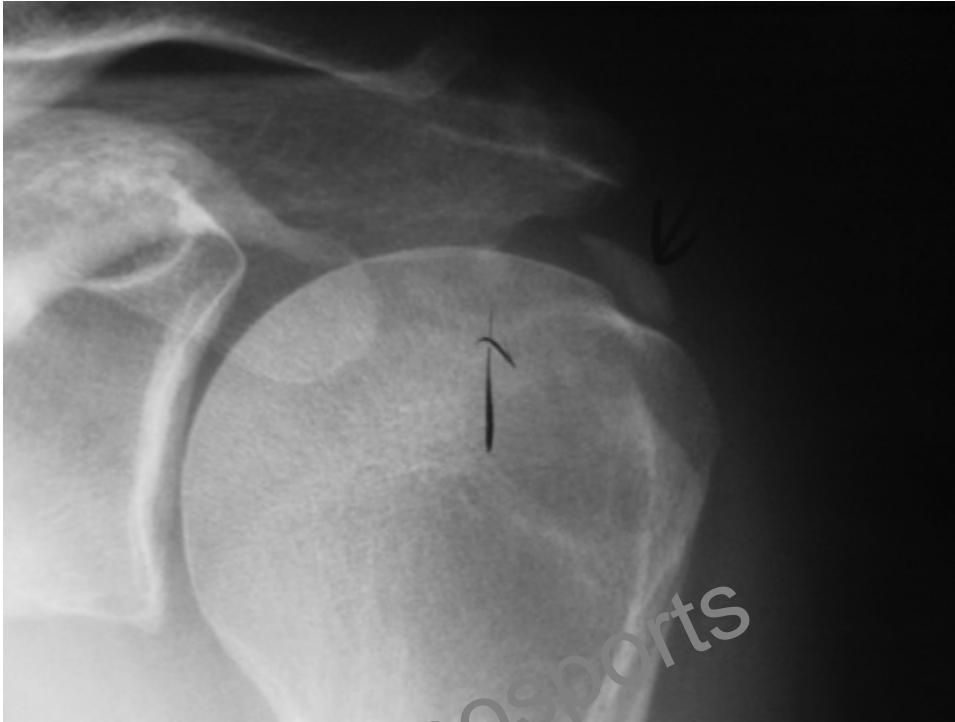


**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# Calcific Tendonitis





**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# Glenoid # best seen on CT



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



OA



**ORTHOSPORTS**

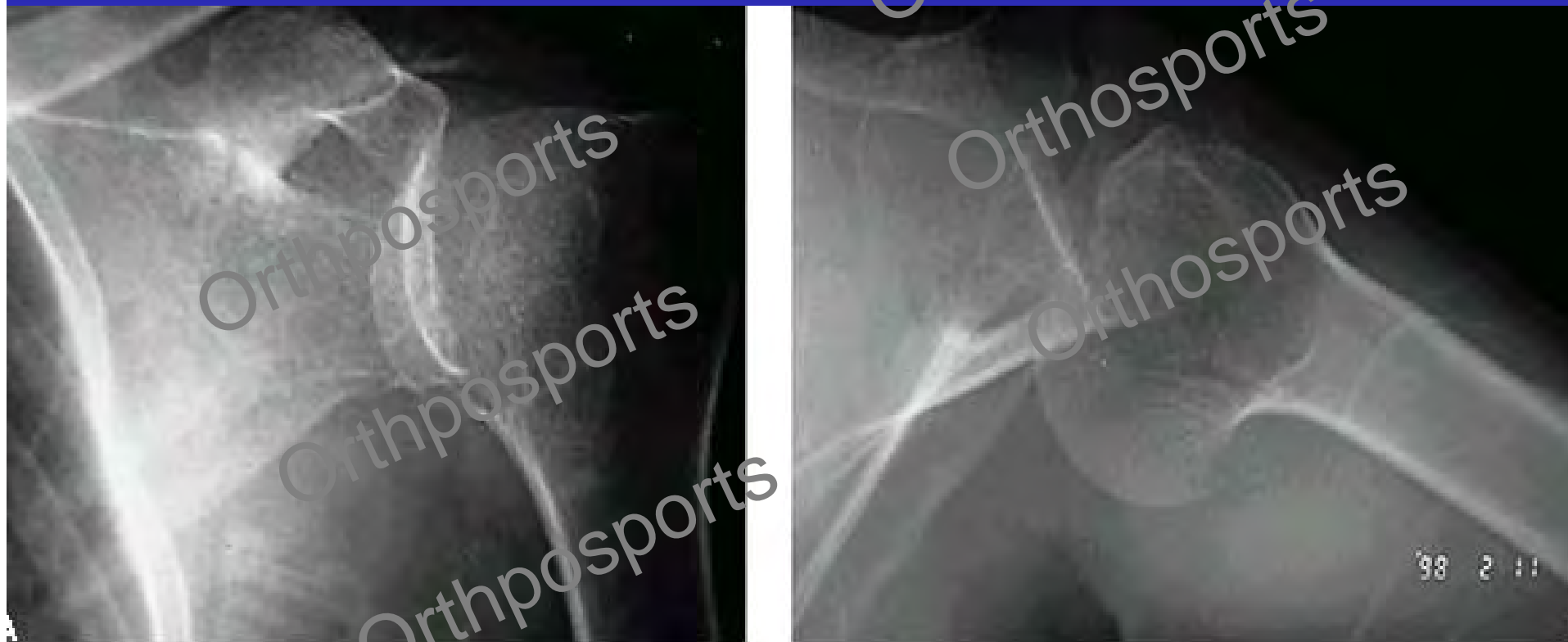
ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# Locked Posterior Dislocation



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# Special Radiographs



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# Imaging

Ultrasound - No role in imaging the rotator cuff  
40% Accurate



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



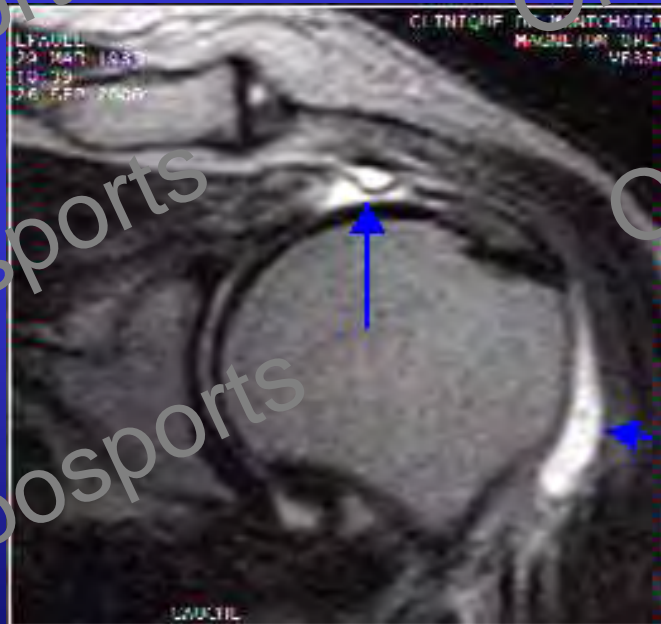
**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# Imaging

MRI – Arthrogram

Soft tissue modality of choice



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

Orthosports  
Orthosports  
Orthosports  
Orthosports  
Orthosports



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# Treatment of Rotator Cuff Tears

Orthosports

Orthosports

Orthosports

Orthosports

Orthosports

Orthosports



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# Rotator Cuff Tears

- Many older people have RC tears
- Many people with RC tears have no pain and full or near full function
- Non operative management gives good outcome in many
- Risk of developing arthritis small



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



# “Functional” Rotator Cuff Tear

- Anatomically deficient
- Biomechanically intact



Patient has a RC tear but has no pain and good function



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# Tear Is Not The Cause Of Pain !!!!

## Pain Caused By

- Impingement
  - Edge of tear instability
  - Synovitis
  - Capsulitis
  - Biceps / s.l.a.p.
- Tears can get bigger with time
    - (especially if they are large and there is a high demand on the shoulder)



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# Absolute Surgical Indications

- Young patient (less than 50 years)
  - tear is likely to get bigger
- Patient involved with heavy or overhead occupation
  - tear likely to get bigger
- Following dislocation in older patient
  - (usually large tears)
- Acute & very large tear
  - NO ER POWER

**Need Surgery Within 1 Month**



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# Non Surgical Treatment

- Patients over 55 years
  - small tears and low demand on shoulder and with **force couples intact**
- Patients older than 65 years
  - RC tear and good function even if **force couples not intact**
- Large tears with poor quality RC

Providing force couples are intact and patient not too young non op treatment is likely to be successful



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# Non Operative Treatment

**80% to 90% successful over 3 months**

- Subacromial cortisone injections
- NSAIDs
- Physiotherapy
  - capsular stretches
  - strengthening

Avoid heavy lifting & overhead activity



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

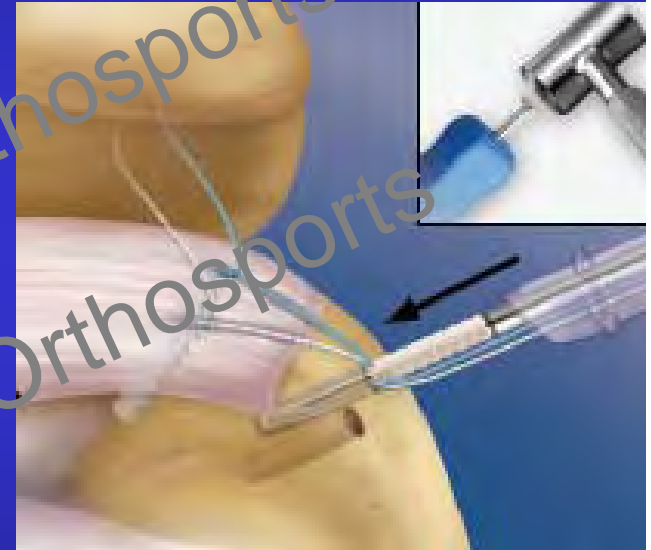


**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# Operative Technique

- Arthroscopic Rotator Cuff Repair
- Biceps Tenotomy or Tenodesis often required
- 6 weeks in a sling
- 1 year for full recovery



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# Treatment of Arthritis

Orthosports

Orthosports

Orthosports

Orthosports

Orthosports

Orthosports



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# Osteoarthritis

- Uncommon
- Non weight bearing joint
- Loss of active & passive motion
- Intraarticular cortisone
- NSAIDs
- Total shoulder replacement



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



# Normal



# Arthritis



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# Osteoarthritis

- Presents with pain and loss of function
- Forceful physio to stretch shoulder capsule **makes it worse**
- Arthroscopic debridement only helps half the time



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# INDICATIONS FOR T.S.R.

- Severe pain unresponsive to NSAIDs and analgesics
- Significant functional loss
- Interference with activities of daily living
- Some patients have severe O.A. on xray but few symptoms
  - we do not operate on the xray appearance but rather the patient's symptoms



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# TOTAL SHOULDER REPLACEMENT

- R.C. must be intact
- Good pain relief
- Expect 60% normal movement only
- Physio post op mainly to strengthen Deltoid and R.C.



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# Arthritis with a rotator cuff tear

Orthosports

Orthosports

Orthosports

Orthosports

Orthosports

Orthosports



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# Cuff Tear Arthropathy

- Massive R.C. tear associated with arthritis
- Difficult problem
- “Reverse” shoulder replacement is a good solution



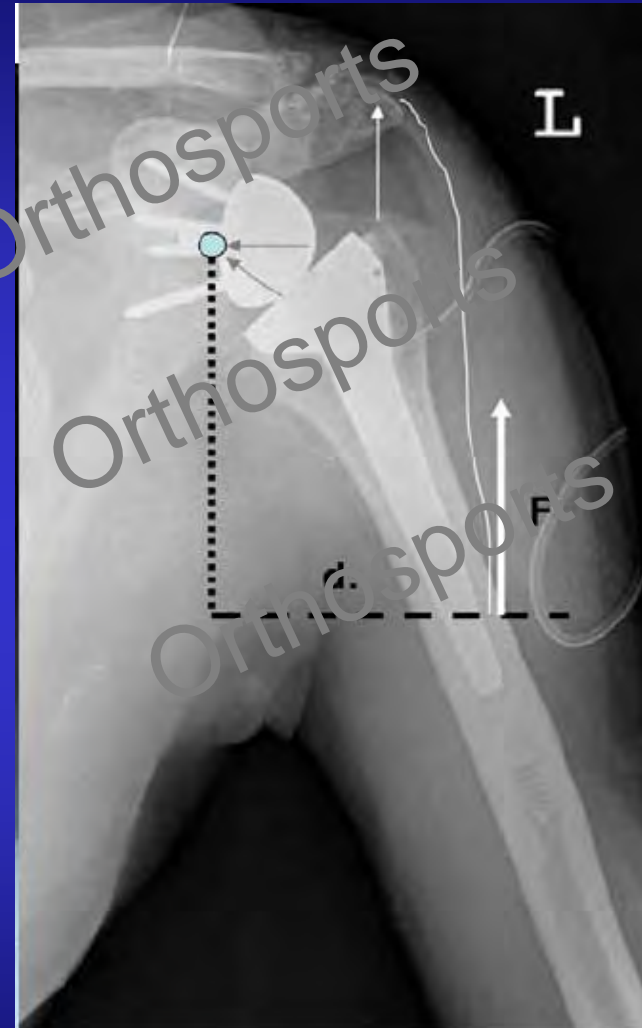
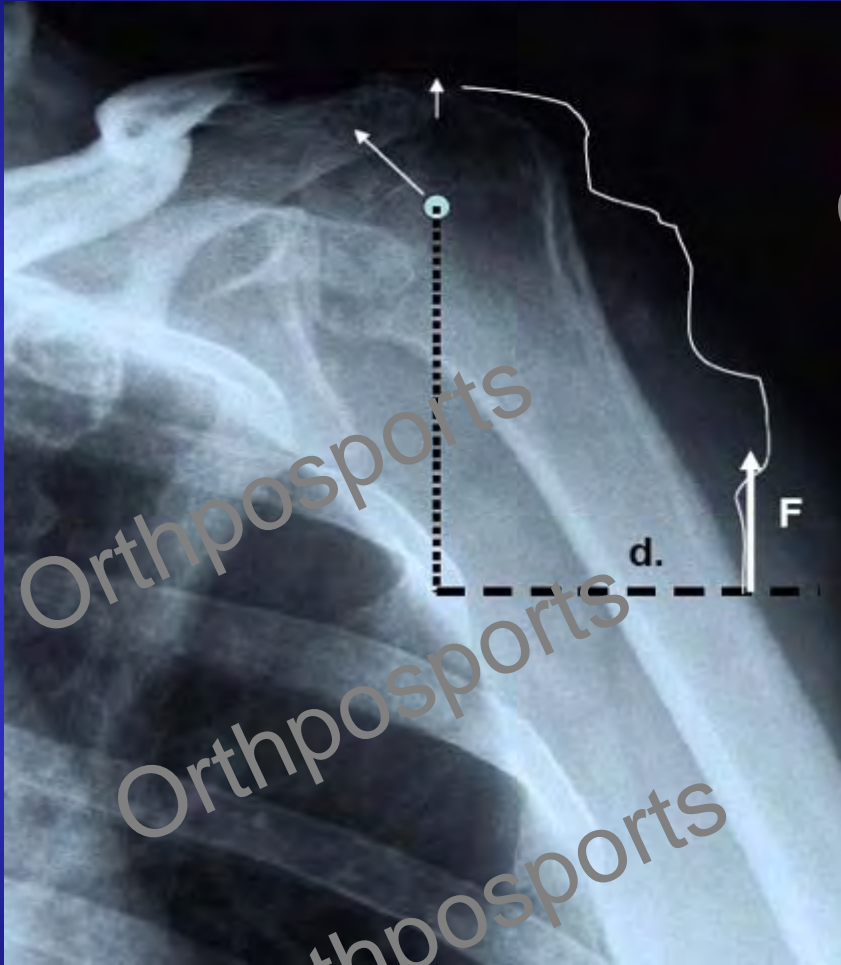
**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



# Instability

- The younger you are the more likely you are to redislocate
- More than one dislocation leads to arthritis of the shoulder
- Surgery now being offered to all first time dislocators



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# Instability

- Dislocation in an older patient usually tears the rotator cuff
- Cuff repair urgent
- They usually don't have ongoing instability



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

Orthosports  
Orthosports  
Orthosports  
Orthosports  
Orthosports



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# Case One

Orthosports

Orthosports

Orthosports

Orthosports

Orthosports

Orthosports



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# HISTORY

- 40 year old housewife
- R hand dominant
- No previous shoulder problem
- Plays social tennis (doubles) once a week for 1 hour
- 4 weeks ago, long singles match followed by service practice session
- Developed R lateral shoulder pain
- Worse with above shoulder activities (hanging clothes on the line, personal care)



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# EXAMINATION

- Painful arc of abduction (45° to 120°)
- Full passive range of elevation
- IR limited (thumb to L4)
- Positive impingement sign
- Positive “empty can test”
- Power and pain returned to normal following an injection of subacromial local anaesthetic



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# INVESTIGATIONS



- X-rays of the shoulder are normal
- No other investigations warranted
- Impingement is a clinical diagnosis (not US)



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# Diagnosis

- SUBACROMIAL IMPINGEMENT



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



# TREATMENT - Impingement

- The patient may require a further 2-3 injections of subacromial cortisone at 6 weeks intervals to allow her to perform her physiotherapy exercises more effectively.
- NSAIDS do work in some patients
- Ice packs (NOT heat)
- Avoid massage to the area



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# Treatment - Impingement

- Physiotherapy is the mainstay of treatment and without the exercises the problem always returns:
  - A) Restore range of motion (active and passive)
  - B) Strengthen rotator cuff muscles
  - C) Stabilise the scapula
  - Improve postural and movement habits
- 90% of patients are cured with non surgical treatment but 10% do go on to an arthroscopic subacromial decompression.



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# Case Two

Orthosports

Orthosports

Orthosports

Orthosports

Orthosports

Orthosports



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# HISTORY

- 53 Year old woman
- Gardening at home
- R hand dominant
- Recalls a 'minor strain' several weeks prior
- Initial pain with active movement
- Was told 'tendinitis'
- No better with physio – possibly worse
- Progressive pain increase and movement restriction
- Night pain worsening
- Sharp, stabbing pain radiating down upper limb with sudden movements (esp lateral)
- Strength is maintained
- Subacromial cortisone did not assist



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# Examination Signs

Depends on the stage

- Wasting
- Tender
- Reduced ROM, rotation reduces later especially ER then IR
- Normal cuff power
- Impingement sign may be positive
- Positive passive external rotation overpressure test (EROP)
- Normal neurology



# Investigations

- Normal Xray
- MRI not needed but must be arthrogram to show loss of capsular volume and scarring of the rotator interval



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# Diagnosis

- Adhesive Capsulitis
- Can be difficult to differentiate from impingement in the early stages



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

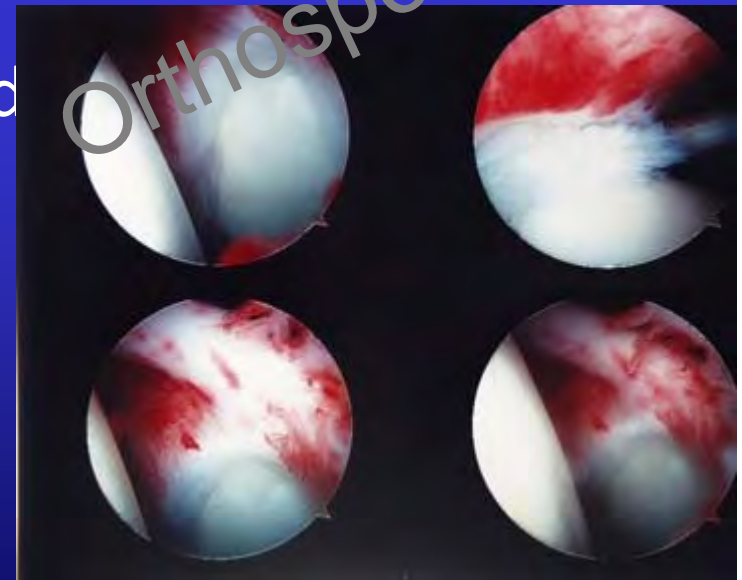


**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# Treatment Options in the 'inflammatory' phase

- Medications – anti-inflammatories, analgesia, sedatives
- ROM exercise within limits
- Strengthening to maintain scapular retractors
- Lifestyle change
- Oral cortisone – ? not recommended
- Manipulation (MUA)
- Education, empathy and follow-up
- Injection options
  - Intra-articular cortisone
  - Hydrodilatation



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



# Traditional phases of adhesive capsulitis

Severity

**pain**

Intervention here  
? hydrodilatation

**stiffness**

'thawing out'



ORTHOSPORTS

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

4

8 (6-7)

12 (8-9)

>24 (9-12)



ORTHOSPORTS

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

Duration of condition (months)

# Diagnosis

- Adhesive Capsulitis
- Treatment usually expectant



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# Case Three

Orthosports

Orthosports

Orthosports

Orthosports

Orthosports

Orthosports



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# History

- 20 year old
- Labourer
- RHD
- He dislocated his Right shoulder in a tackle playing league 3 months ago. It was reduced in the emergency department and he wore a sling for 2 weeks. The shoulder settled and he returned to work and sport after about 6 weeks.



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# History

- He unfortunately redislocated his shoulder when he returned to football 2 weeks ago and again had it reduced in A & E. The arm was abducted and externally rotated at the time of the dislocation.
- He has only mild discomfort with an almost normal range of motion now.
- He wants to return to football ASAP



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



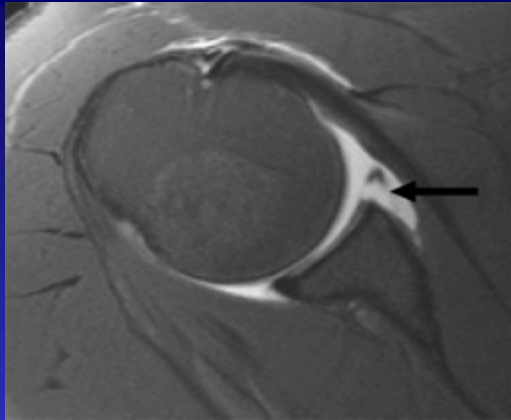
**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# Examination



- Mild deltoid wasting
- Sensation intact on lateral deltoid (sargeant badge area)
  - indicating that he has not injured his axillary nerve
- Some loss of external rotation in adduction
- Rotator cuff power is normal
- no ligamentous laxity
- Positive apprehension and relocation tests



# Radiology

- Plain Xray shows a Hills Sachs lesion
  - Confirms the diagnosis of instability
  - Try to obtain the Emergency department images if possible to document the direction of the dislocation (usually anterior inferior)
- After plain xrays the imaging of choice is a MRI arthrogram.



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# Radiology

- To assess intra-articular pathology
  - Labral tears (Bankart lesion, SLAP tear or a partial thickness rotator cuff tear)
  - Glenoid Fractures (known as a boney Bankart Lesion), Hill Sachs lesions and Ligament avulsions (HAGL, reverse HAGL)
  - Ultrasound not useful
  - If can't have a MRI then a CT arthrogram is the next best test



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



# Treatment

- Recurrence rate after one dislocation is between 70 – 90%
- After two dislocations, close to 100%
  - Even without a return to contact sport
- The treatment required is a surgical stabilization (either arthroscopic or open)



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# Treatment

- After 1 dislocation 20% of patients will develop OA in later life
  - This increases with each subsequent dislocation
- Multiple dislocations cause bone loss may requiring salvage surgery
  - Laterjet procedure



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# Case Four

Orthosports

Orthosports

Orthosports

Orthosports

Orthosports

Orthosports



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# History

- 75 year old female, right handed
- Longstanding right shoulder pain with usage of the arm
- Minimal rest pain
- Worse at night and often wakes her
- No recent injury but progressive deterioration in function and ability to use the arm at or above shoulder height
- Currently complains a recent increase in pain and inability to lift the arm overhead



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# Clinical Examination

- Deltoid wasting, marked atrophy of the Rotator cuff Muscles, particularly supraspinatus
- Significant loss of Active forward elevation – 40 degrees
- Normal Passive motion – 160 degrees
- Significant weakness of rotator cuff, especially external rotation
- Impingement signs positive, no glenohumeral crepitus



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# Imaging

- Always start with a plain xray to rule out arthritis or a rotator cuff tear arthropathy



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# Investigations

Plain x-rays to rule out arthritis or proximal migration



MRI can show tears size, quality of cuff, and muscle atrophy



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# Treatment

- Physiotherapy –strengthen deltoid and retrain remaining rotator cuff muscles
  - takes over function of torn muscles
- Subacromial Cortisone Injections
  - relieve pain to make the exercises easier
- 3-4 injections, 4-6 weeks apart often needed



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



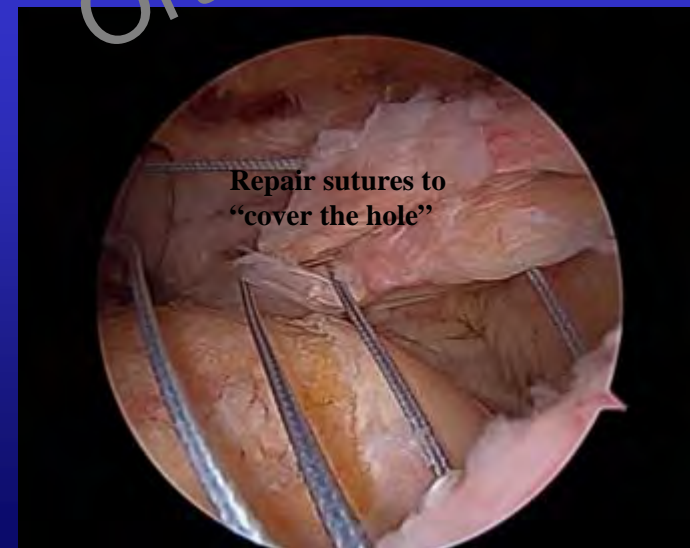
**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



# Treatment

- In the rare circumstance where the patient has had a sudden deterioration of their chronic condition it may be possible to partially repair their rotator cuff repair.



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# Treatment – Pain and loss of motion

- The pseudoparalytic Shoulder - Reverse Shoulder Replacement
- Provides excellent pain relief and some motion but external rotation strength is not restored.
- The deltoid muscle muscle be working



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# Massive Rotator Cuff Tear

Orthosports  
Orthosports  
Orthosports  
Orthosports  
Orthosports



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# Summary

Orthosports

Orthosports

Orthosports

Orthosports

Orthosports

Orthosports



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# MOST COMMON CONDITIONS

- 20 yrs to 40 yrs - impingement
  - instability (under diagnosed)
  - calcific tendonitis
- 30 yrs to 50 yrs - impingement
  - adhesive capsulitis (overdiag)
- 50 yrs + - impingement / r.c. tear
  - arthritis (uncommon)



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES

# The Painful Shoulder

## Level 1 Meeting

[www.orthosports.com.au](http://www.orthosports.com.au)



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES



**ORTHOSPORTS**

ORTHOPAEDIC & SPORTS MEDICINE SERVICES