

Entesopathy

Z. Rozkydal

Entesopathy

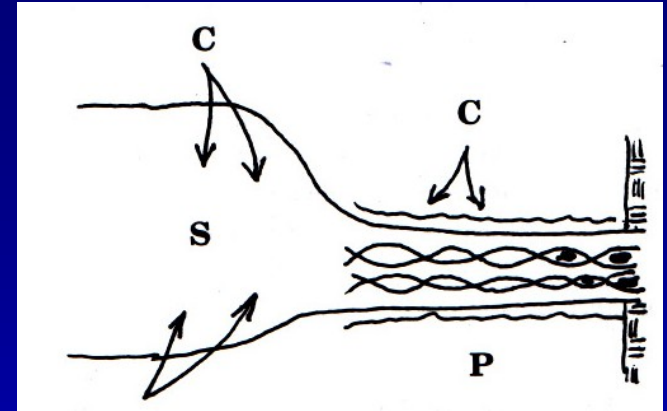
Pathological changes of insertions of tendons, ligaments and joint capsules into the bone

Dystrophia

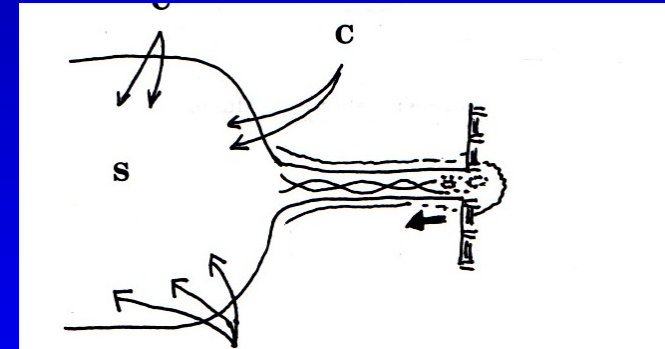
Microruptures of Sharpey's filaments

Periostitis

Ossifications, metaplasia



Normal insertion



Pathological insertion

Tendinopathy: disorders in tendons and tendon sheaths (tenosynovitis)

Causes

Acute and chronic overloading

Microtraumatisation

Repetitive movements and activities

Tennis elbow

Epicondylitis radialis humeri

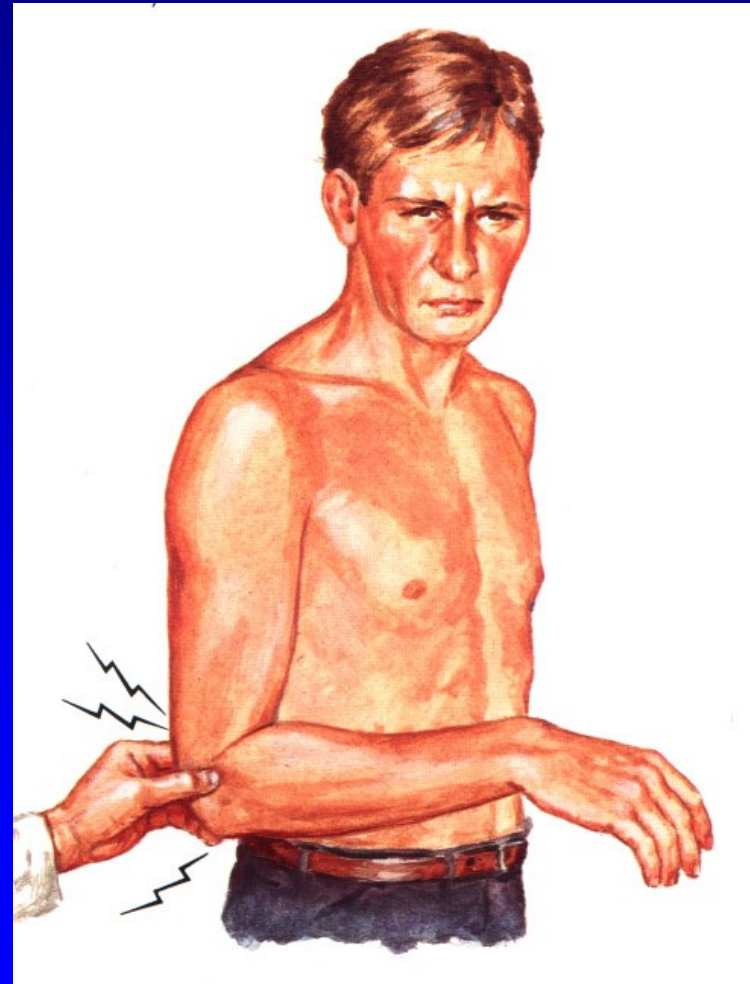
Pain with activity of extensors

Tenderness

Painful supination

Painful resisted dorsiflexion of the wrist
and of the third finger

Chair test



Tennis elbow- the causes

Entesopathy

Bursitis

Ossifications of insertion of extensors

Painful annular ligament

Painful synovial plica

Osteochondrosis dissecans

Pressure of radial nerve

Referred pain from cervical spine and shoulder

Tennis elbow- conservative treatment

Rest, to avoid repetitive movements

NSAID- locally (Voltaren gel, Fastum gel ...)

Corticosteroids locally (depo Medrol injection...)

NSAID – orally

Orthesis, sling

Physiotherapy (ultrasound, laser
PIR, magnetotherapy)

Whirlpool, stretching

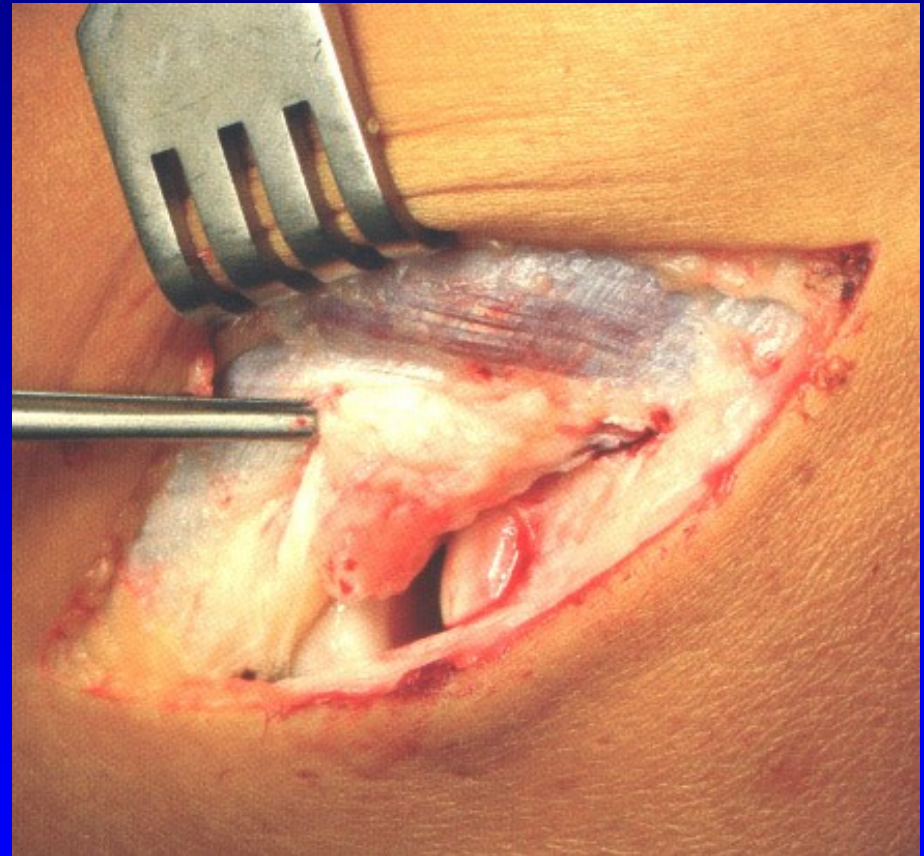
Immobilisation

Tennis elbow- operative treatment

Exceptionally:
disinsertion of extensor
attachment to to the bone
+ it's distalisation

Op. sec. Hohman

Op. sec. Boyd- McLeod



Golf elbow - Epicondylitis ulnaris humeri

Entesopathy of insertions of flexors
on the ulnar epicondyle

Pain, tenderness

Resisted movements

Treatment:
Conservative

Operative
Distalisation of flexor's insertion



Bursitis of olecranon

Swelling and fluid in the bursa
Tenderness

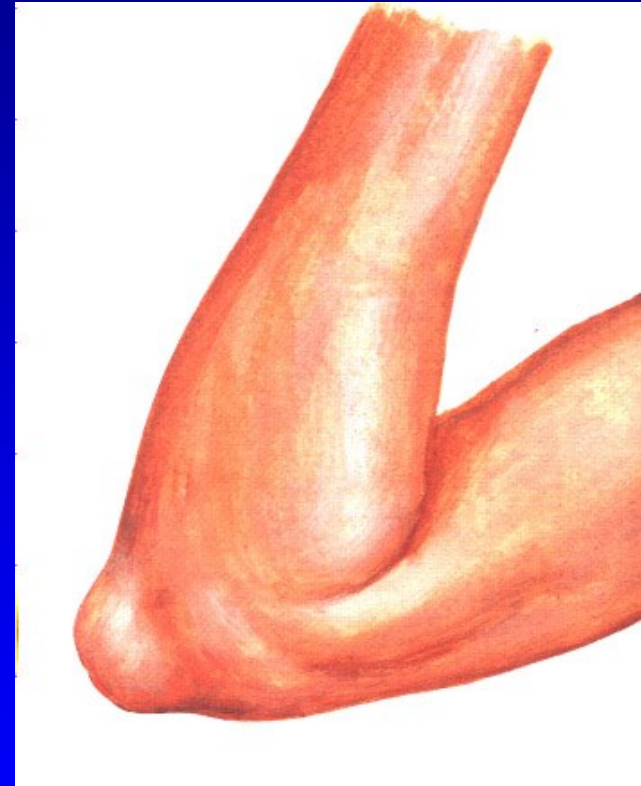
Treatment:

Aspiration, corticosteroids locally

Bandage

Rest

Risk of pyogenic inflammation



M. de Quervain

Stenosing tenosynovitis of
long abductor and short extensor
of the thumb

Tenderness over styloid process
Finkelstein test

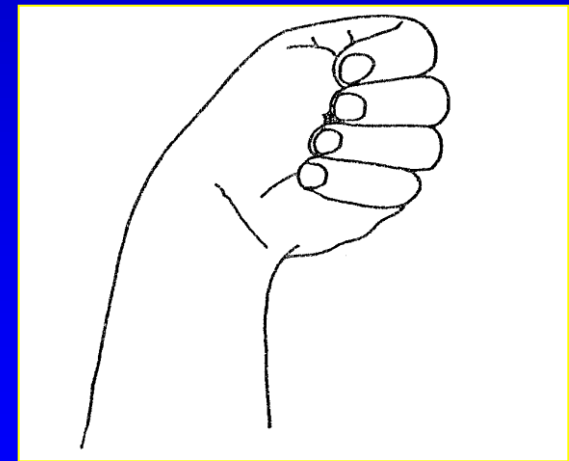
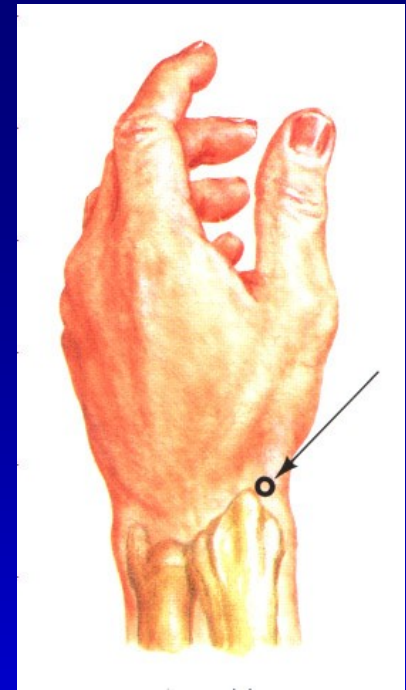
Treatment

Local corticosteroids

Rest, orthosis

NSAID locally

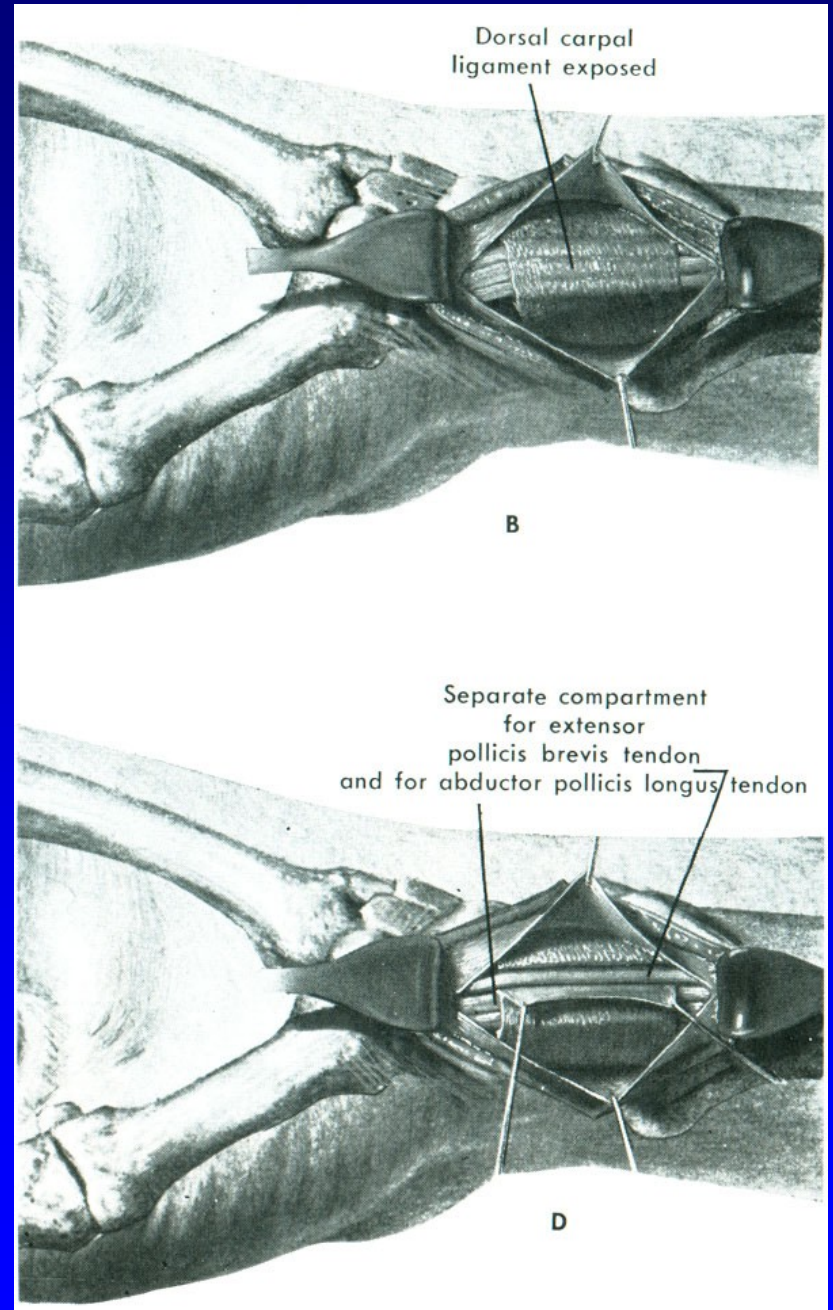
Surgery



Finkelstein test

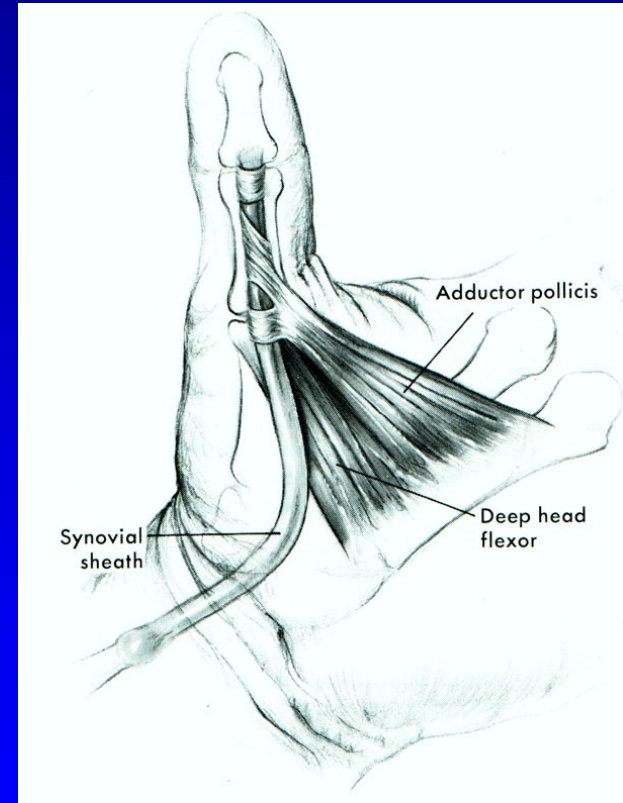
M. de Quervain

Dissection of the tendon sheat



Trigger thumb - pollex saltans

- Snapping of the thumb
- In childhood, in adults
- Narrowing of flexor sheath
- Enlargement of the tendon



Therapy:

Rest

Local corticosteroids

Orthosis

NSAID ointments

Surgery- releasing of tendon sheath

Trigger finger- digitus saltans



Th: , NSA ointments, local cortisteroids, rest, surgery

Differential diagnosis

Carpal tunnel syndrom

Guyon canal syndrom

Carpal tunnel syndrom

Compression neuropathy of median nerve

Pain, diminished muscle power

Hypotrophy of thenar muscles

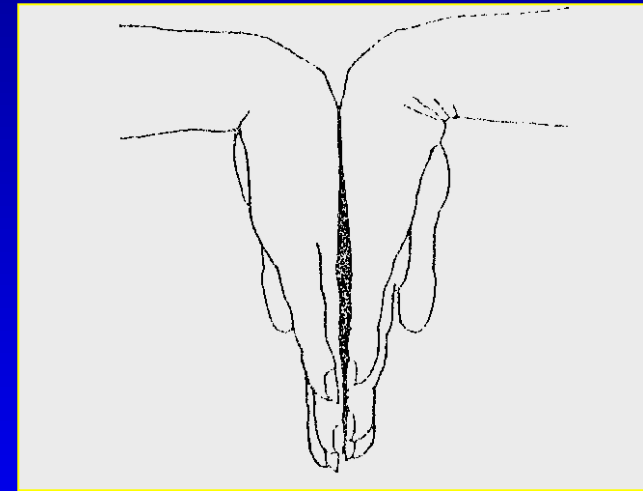
Paresthesia and numbness (thumb, 2-3. finger

Limited function of fingers

Tenderness

Tinnel sign

Phalen test



Phalen test

Carpal tunnel syndrom

Therapy

Conservative

Surgery



Guyon canal syndrom

Compression neuropathy of ulnar nerve
in hand

Paresthesia and numbness on
ulnar side

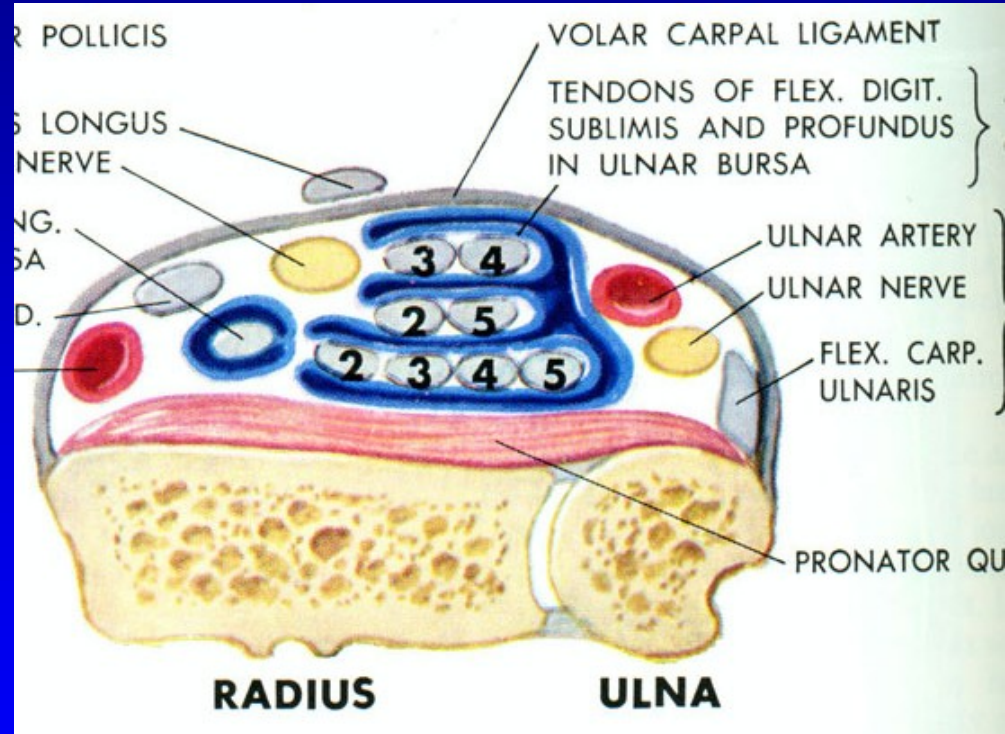
Hypotrophy of hypothenar

Limited function of 4., 5. finger

Therapy

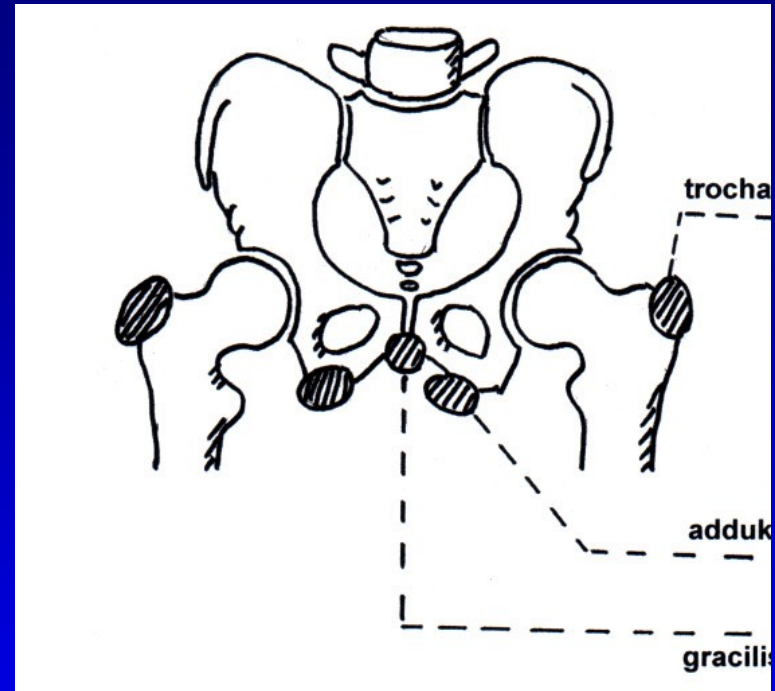
Conservative

Surgery

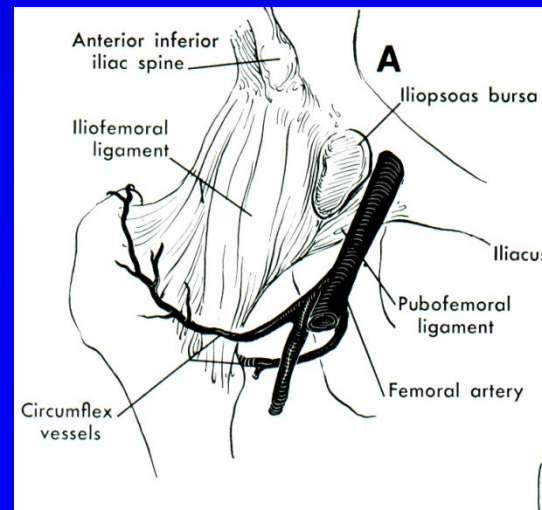


Bursitis and entesopathies in the hip region

Greater trochanter- abductors
Ischial tubercle- hamstrings
Adductor entesopathy
Bursa ileopectinea
Spina iliaca ant. sup.
Spina iliaca ant. inf.
Iliopsoas – lesser trochanter
Painful groin- gracilis syndrom



Therapy:
Conservative
Surgery



Snapping hip

Snapping sensation over greater trochanter
or popping sound in the hip during walking, getting up from a chair

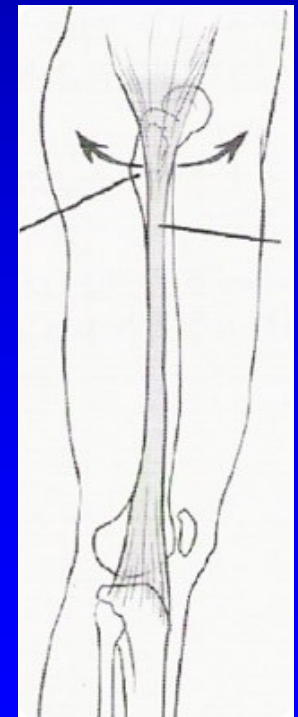
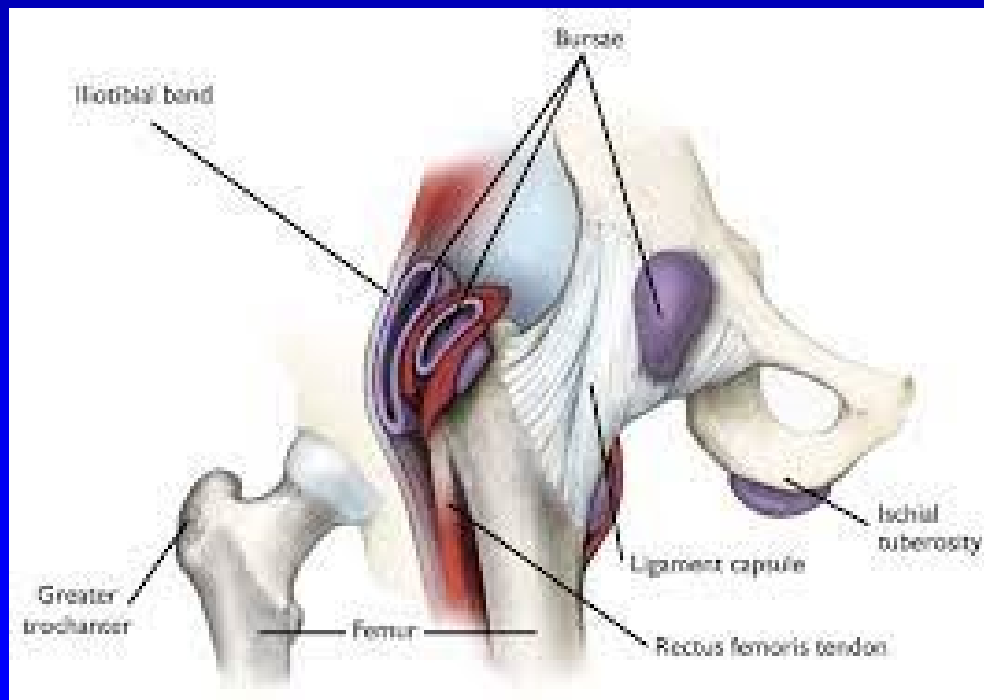
Causes:

Tendons move over a bony protrusion (overlapping)

Thickening of tensor fascia lata

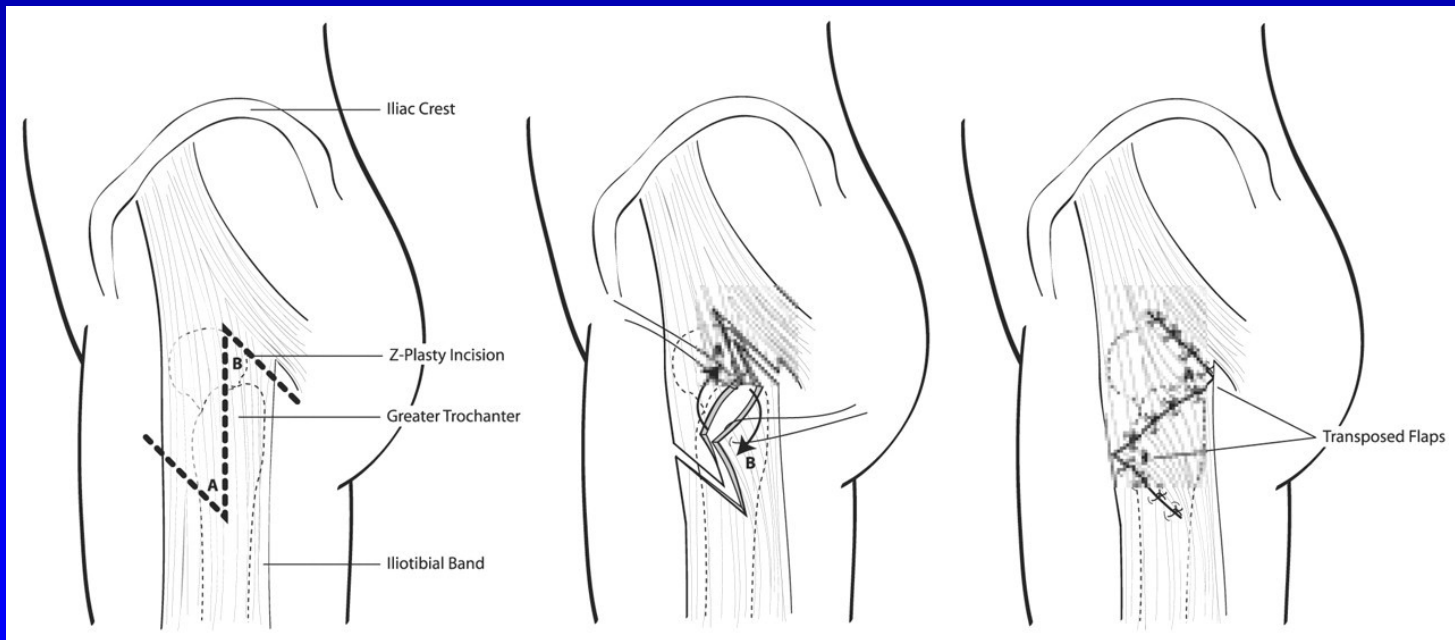
Therapy:

Conservative
Surgery



Snapping hip- surgery

Surgery: Z- plasty



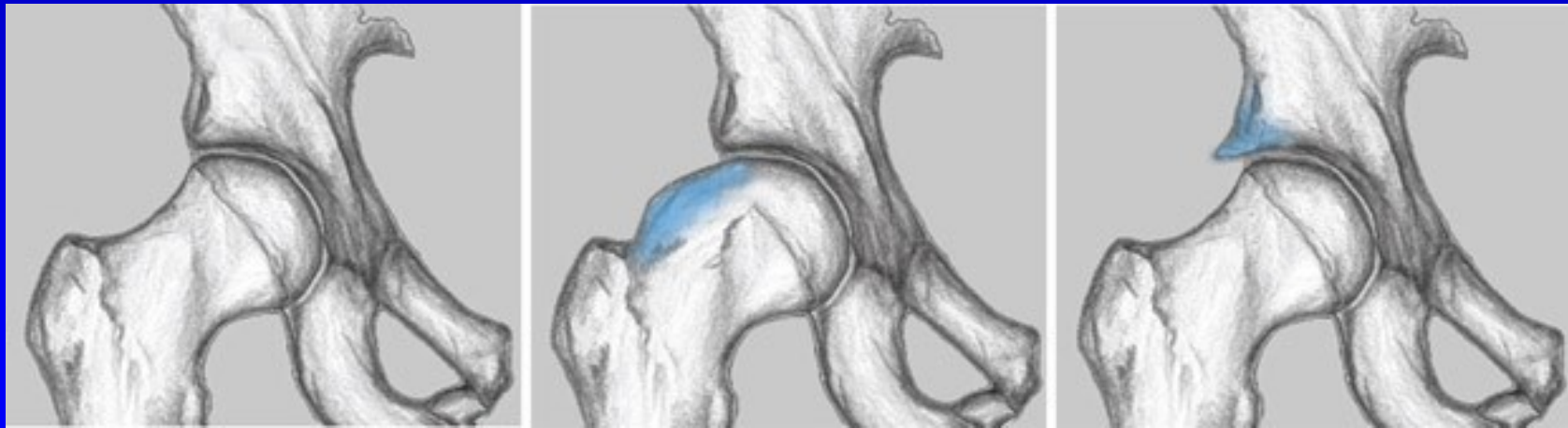
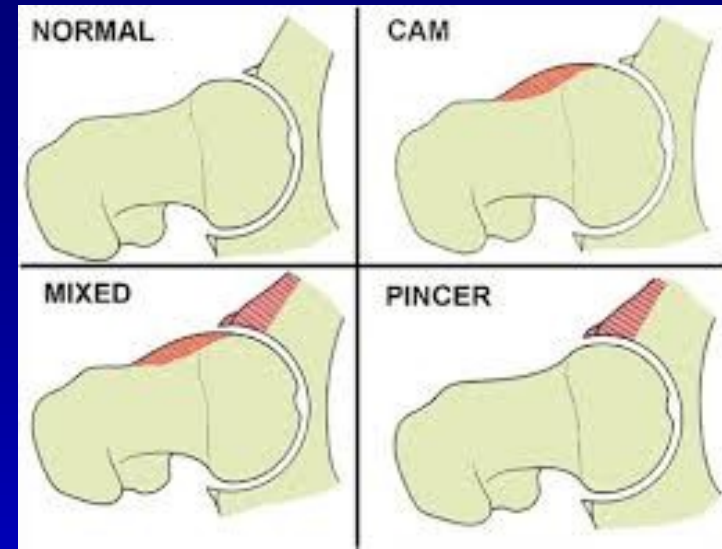
Femoroacetabular impingement

FAI

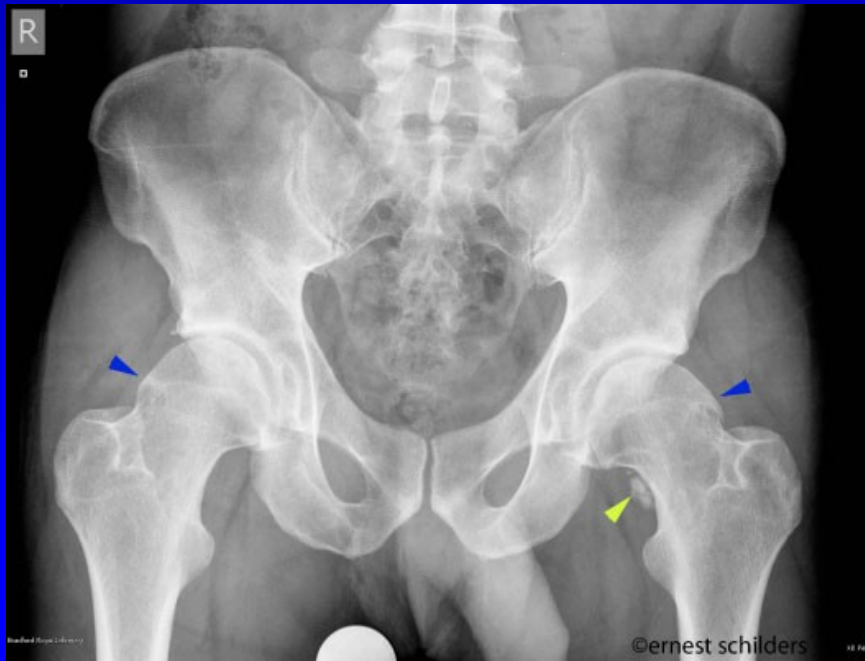
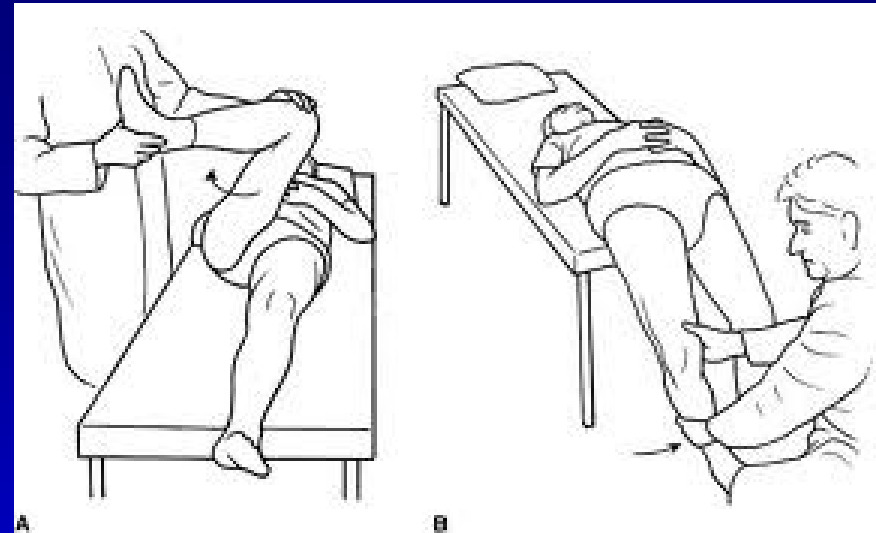
- Pathological contact between femoral head and the acetabulum
- Changes of the shape and orientation of the acetabulum and the femoral head
- Damage to the labrum and cartilage
- Limited movements, pain, progression into O.A

Classification

- CAM type – femur
- PINCER type – acetabulum



- Tests
- Imaging methods
X ray, CT, MRI



Entesopathies in knee region

Jumper's knee

- distal pole of the patella

m. Osgood- Schlatter

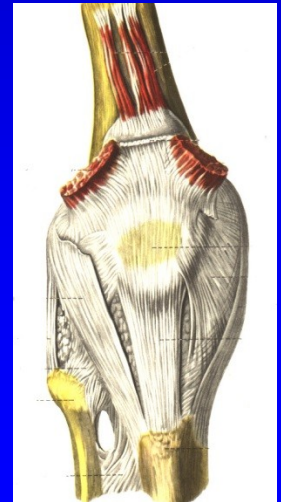


Entesopathy in ligaments insertion

- medial, lateral epicondyle

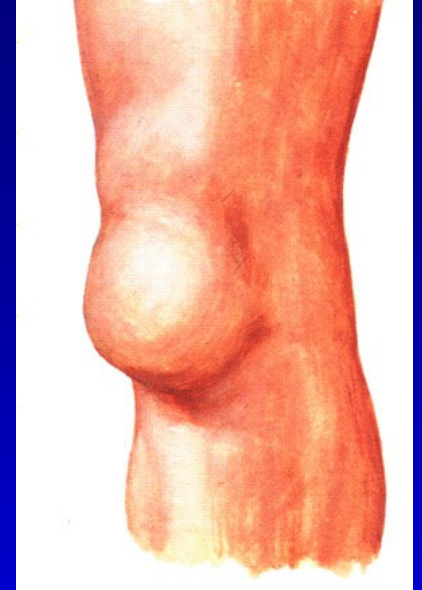
Pes anserinus entesopathy

Entesopathy at Gerdy's tubercle

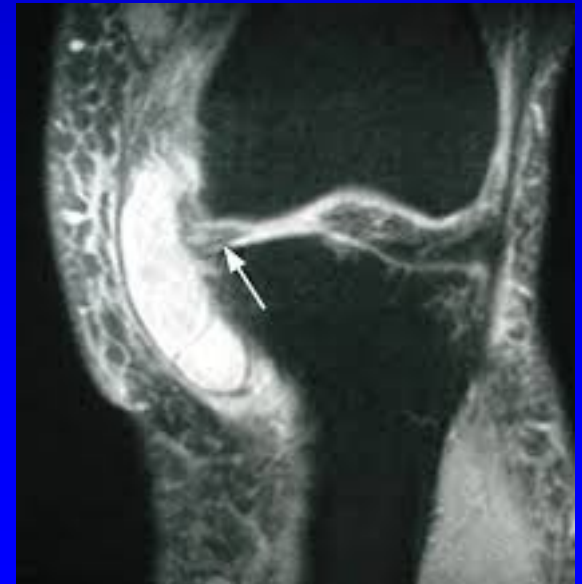


Bursitis in the knee region

Prepatellar bursitis
Infrapatellar bursitis
Bursitis of pes anserinus
Ganglion of the meniscus



Therapy:
Rest, aspiration, corticoids
NSAID, surgery



Baker's cyst

Bursa gastrocnemio- semimembranacea
is connected with joint space
Swelling, soft mass in popliteal region
Limited movements
Pressure onto large veins in
popliteal region.

Secondary to pathology in the knee joint

Therapy:

Conservative – aspiration, local corticoids,
NSAID

Arthroscopy of the knee-

- meniscus, chondropathy, osteoarthritis

Baker's cyst disappears spontaneously

Removal of the bursa- exceptionally



Bursitis and entesopathies in the foot

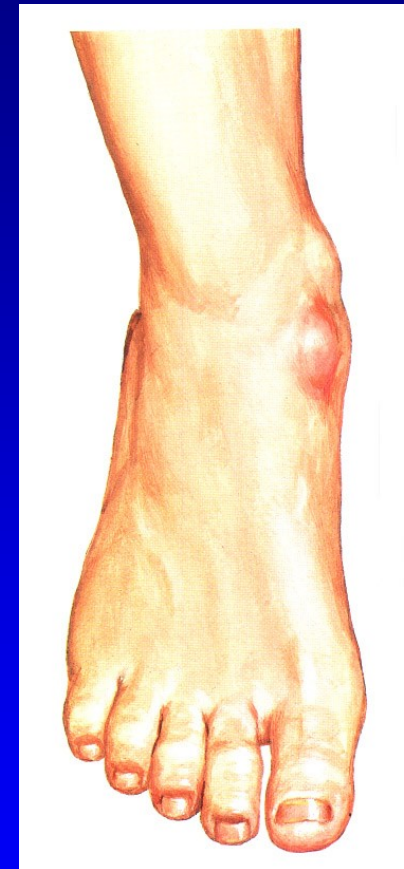
Achilles tendinitis

Calcaneal spur

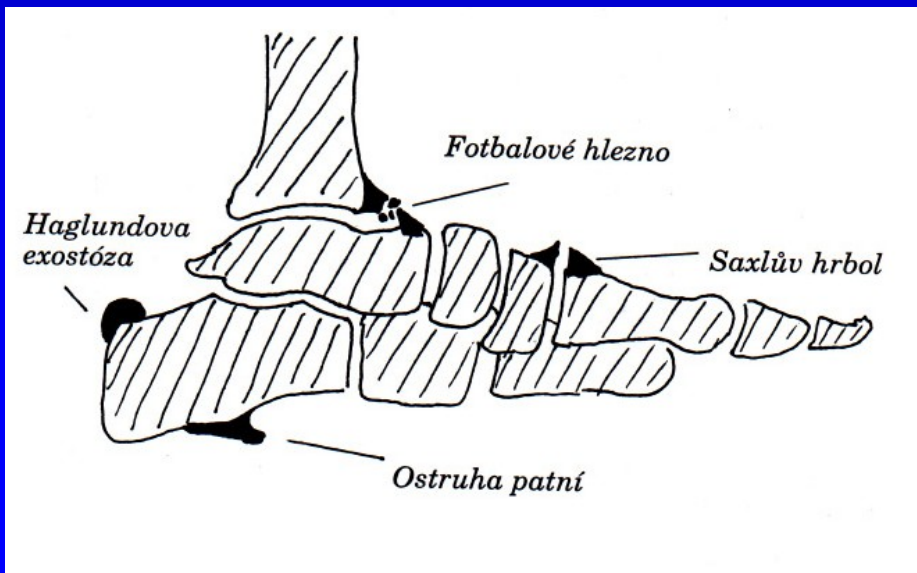
Haglund's exostosis

Osteophytes – dorsal

Os tibiale externum

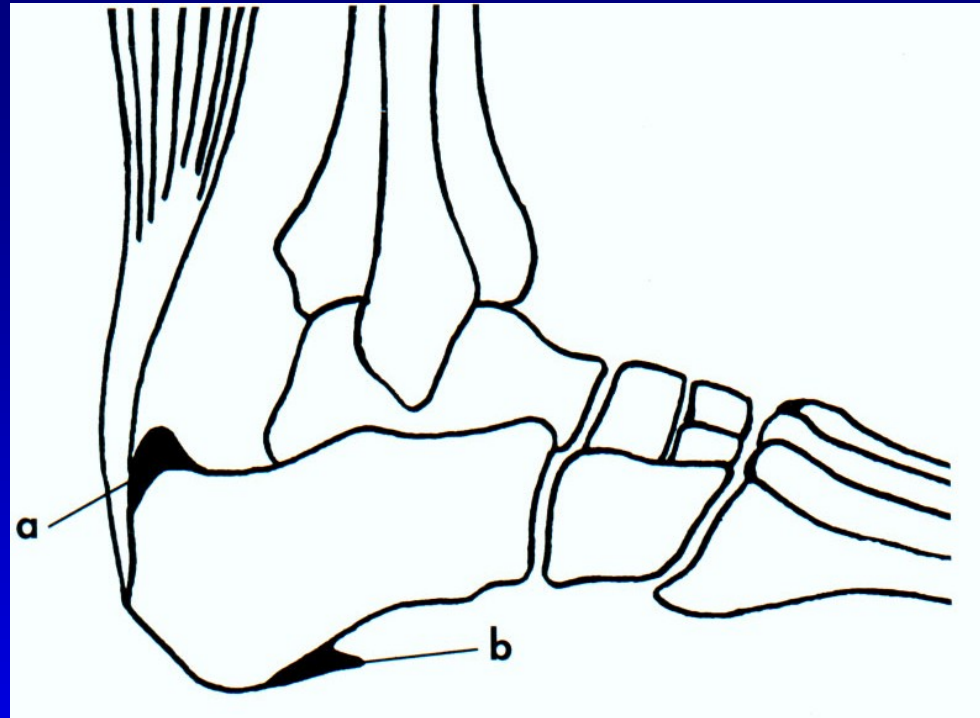


Os tibiale externum



Calcaneal spur

Dorsal exostosis



Calcaneal spur

Therapy:

Soft padding, NSA ointments, corticosteroids locally,

Physiotherapy- magnetotherapy, ultrasound, laser, shock wave therapy,
radiocobalt beams 4 Gy, arthroscopic removal

Achilles tendinopathy

Painful Achilles tendon
at midportion and it's insertion

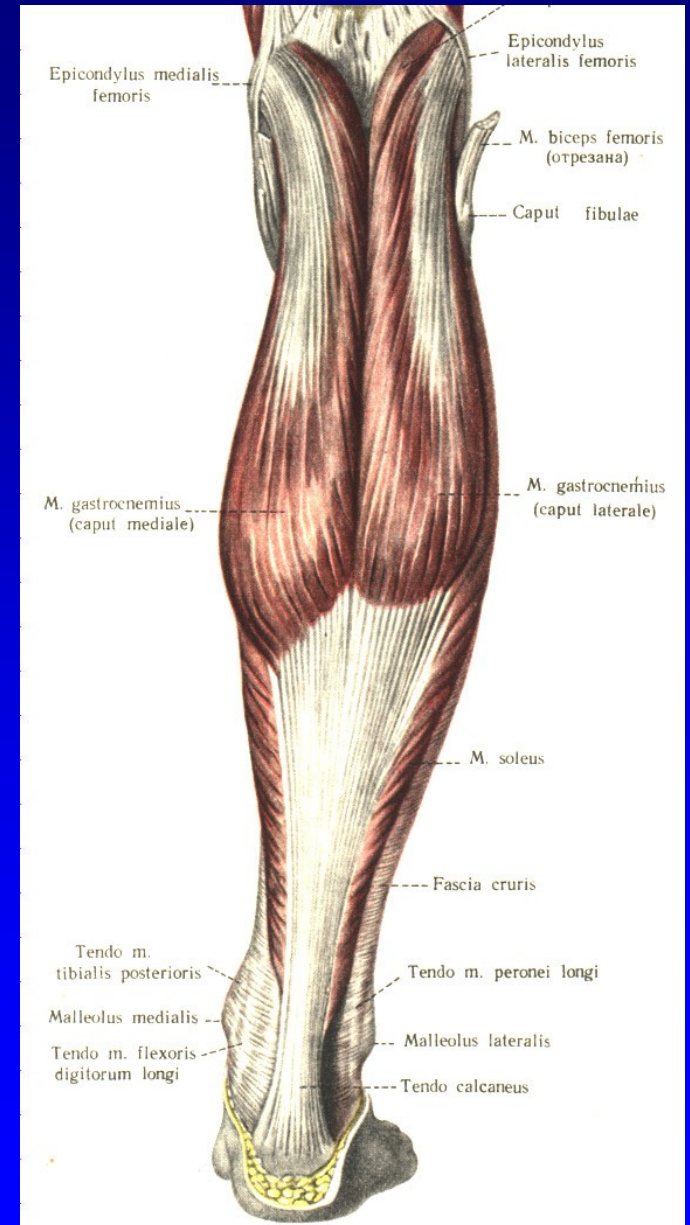
Thickening and pain

Degeneration

Haemorrhage, ruptures

Peritenonitis

The risk of rupture



Achilles tendinopathy

Conservative treatment

Rest, taping, NSAID

Physiotherapy:

Magnetotherapy

Ultrasound

Laser

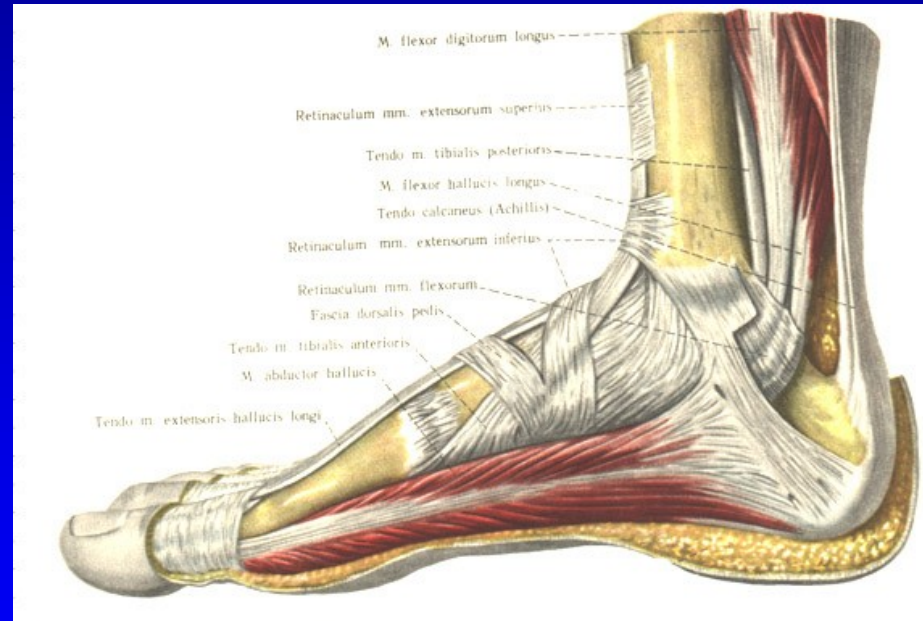
Hiltherapy

Orthosis- soft, rigid

Hyaluronic acid inj.(Hyalotend
Sportvis)

Collagen - GUNA inj.

No corticosteroids-risk of rupture

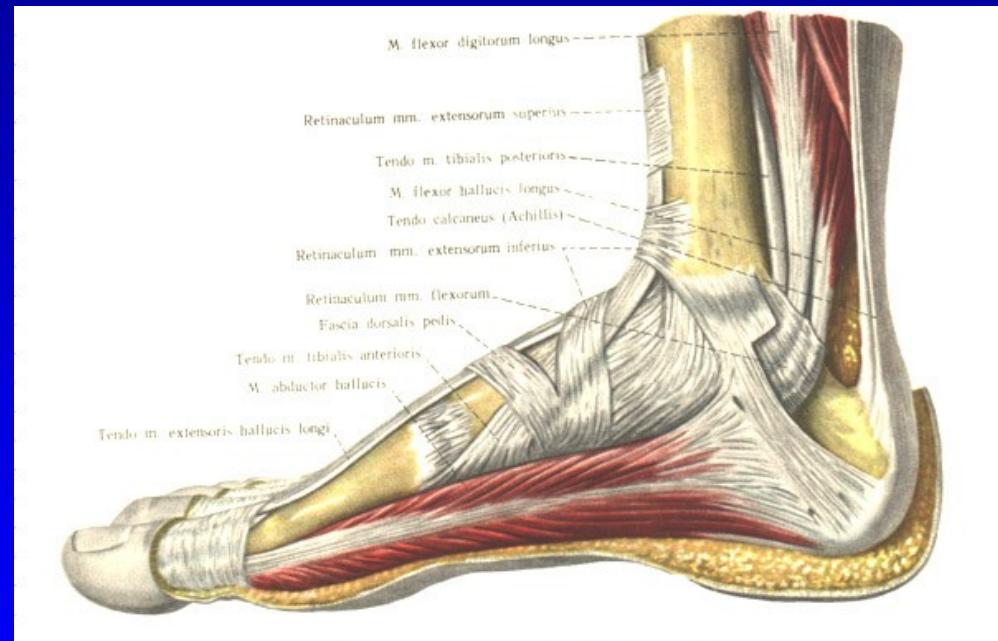


Achilles tendinopathy

Surgery:

Peritenonectomy

Excision of necrotic tissue



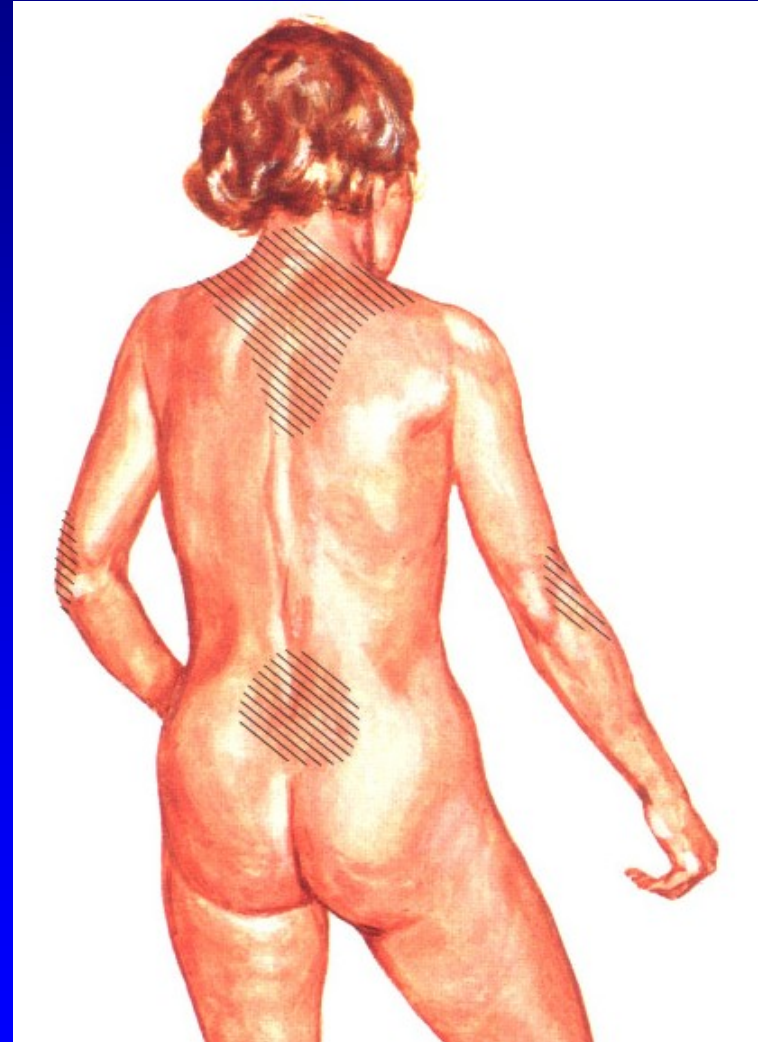
Entesopathy at the spine

Painful insertions of ligaments
and tendons

Transverse or spinal processes

Scapula

Pelvis



Entesopathies and tendinopathies in the shoulder region

Tenosynovitis of tendon of long head of biceps

Rupture of tendon of long head of biceps

Subacromial bursitis

Supraspinatus tendinitis

Rotator cuff tear

Tenosynovitis of long head of biceps

Tenderness

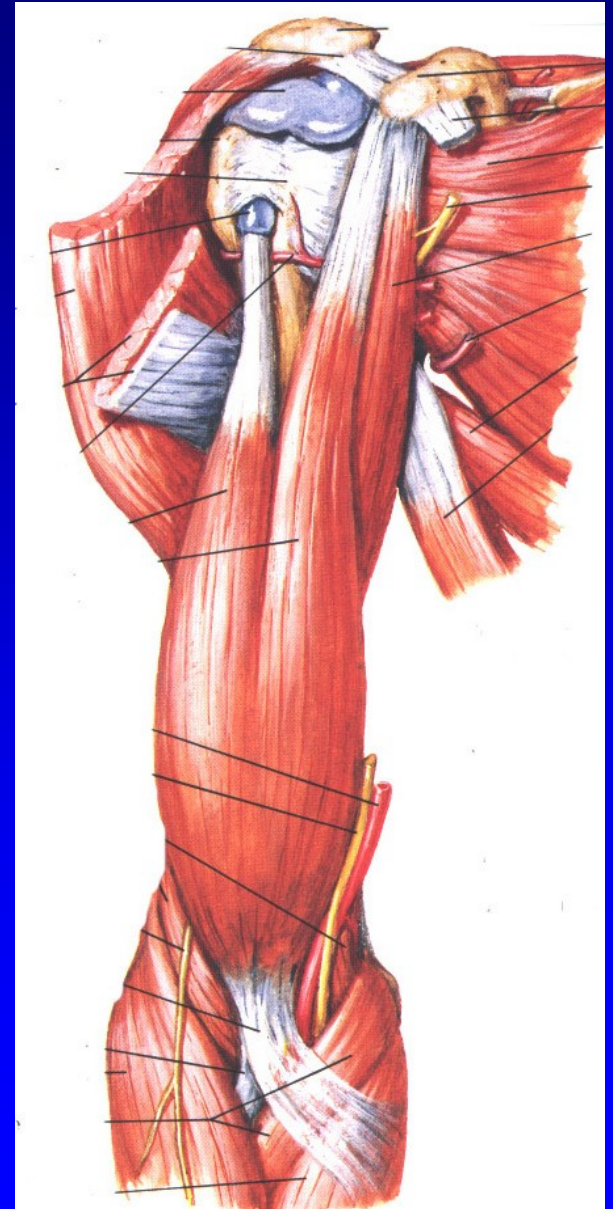
Resisted flexion and supination
of the elbow

Therapy:

Corticosteroids locally

Rest, sling

NSAID

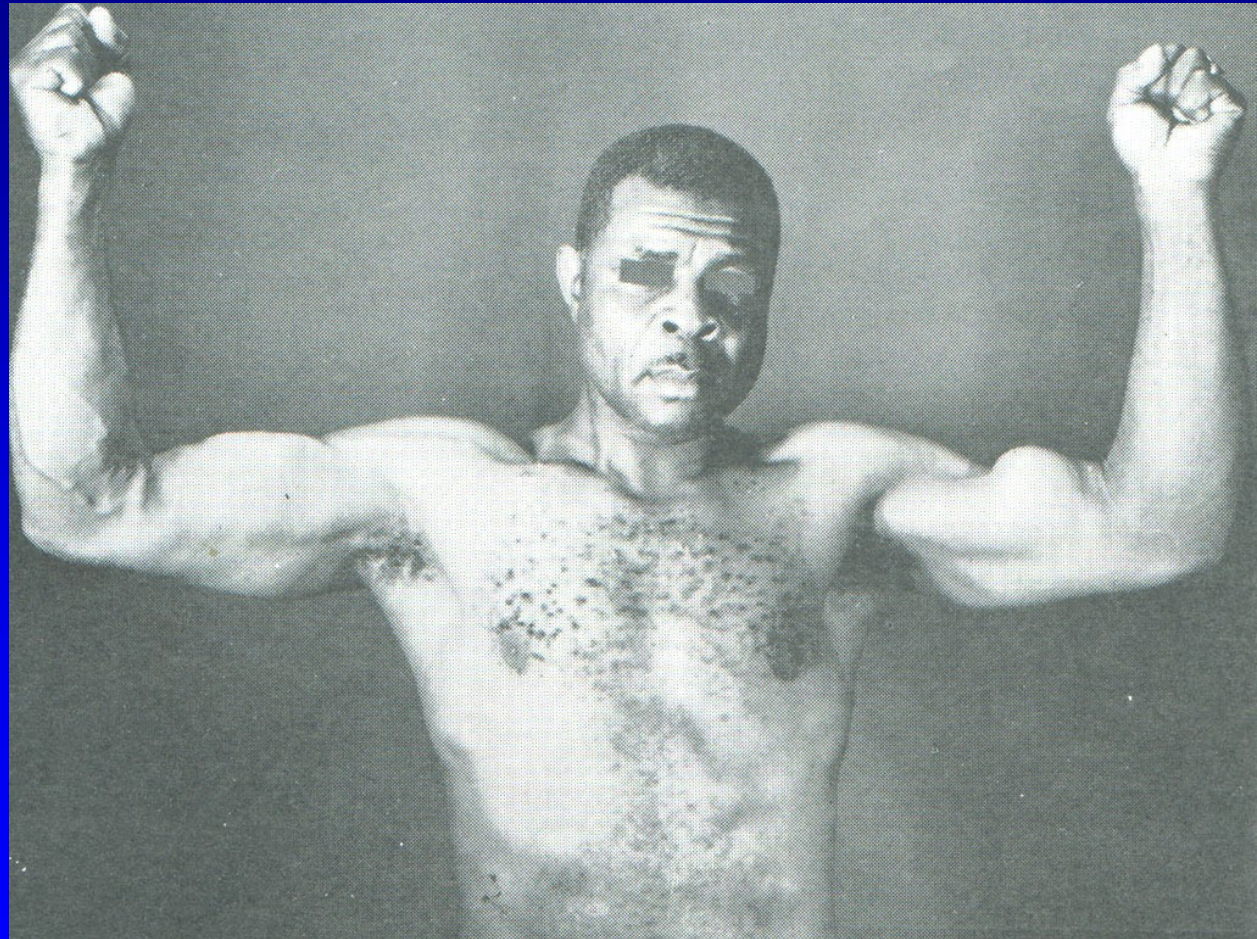


Rupture of long head of biceps

Tenderness

Distalisation of
muscle belly

Diminished strength



Rupture of long head of biceps

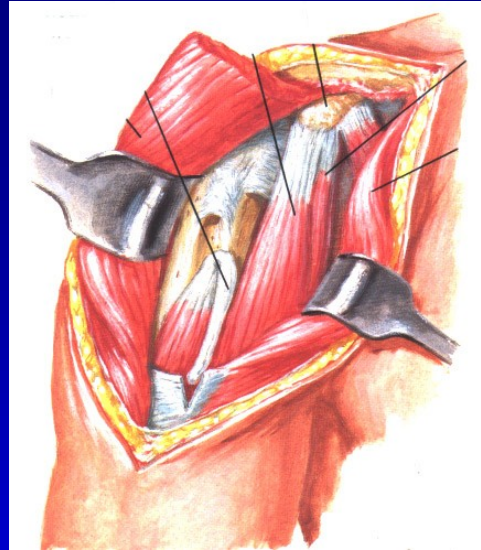
Therapy:

Rest, sling

NSAID

Surgery – up to 40 years

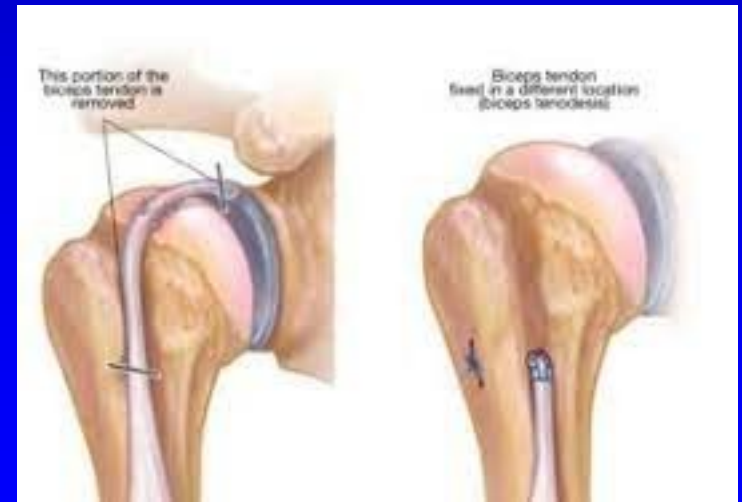
Conservative- over 40 years



Surgery:

Subpectoral tenodesis

Suture to the short head of biceps



Subpectoral tenodesis

Subacromialis bursitis

Inflammation

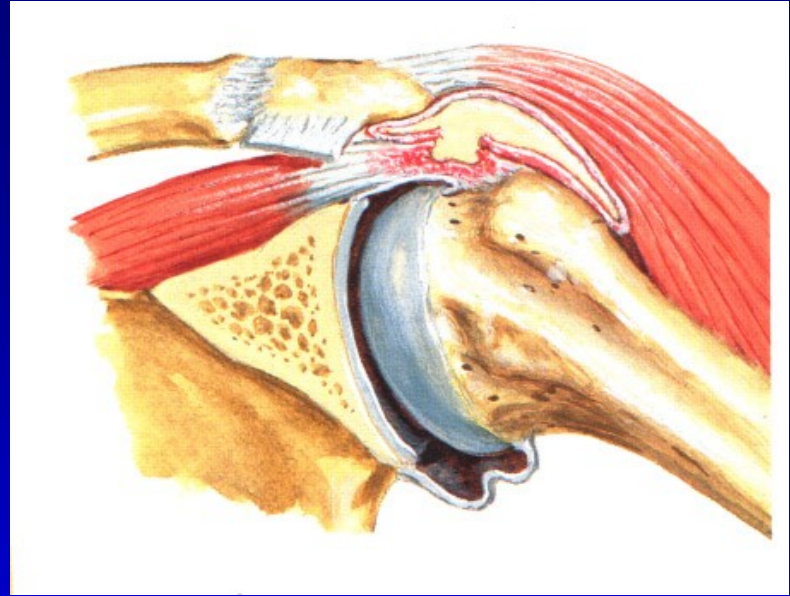
White fluid

Severe, burning pain

Restricted movements

Tenderness

Calcifications



Subacromial bursitis

Conservative treatment:

Rest, sling

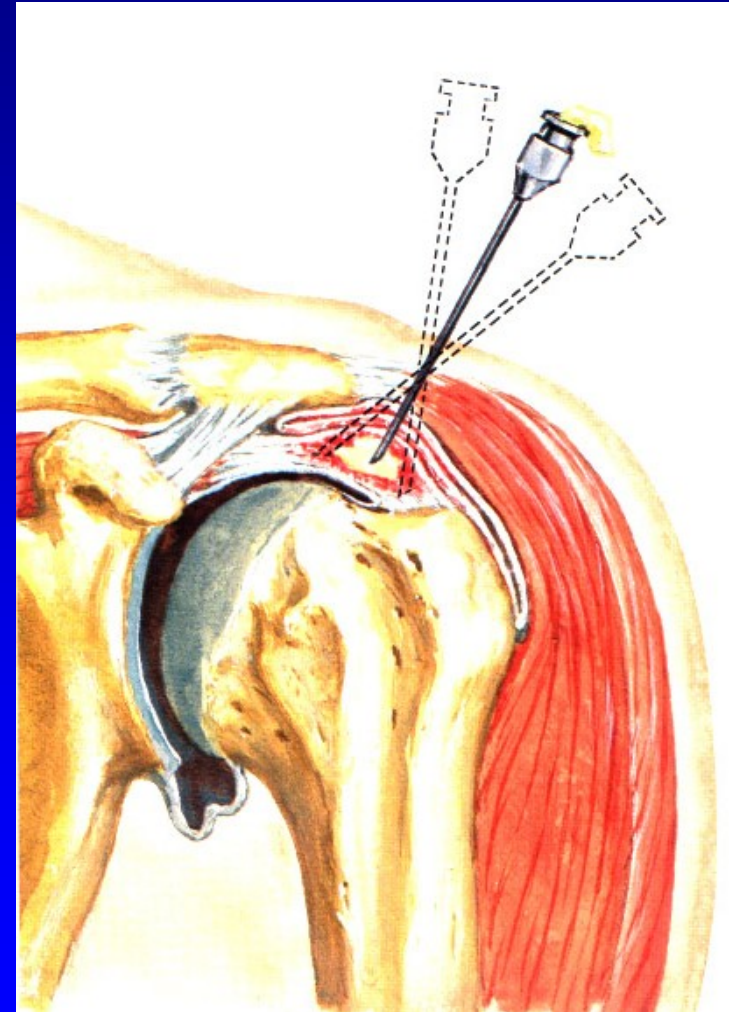
Corticosteroids locally

NSAID

Later- physiotherapy

Surgery:

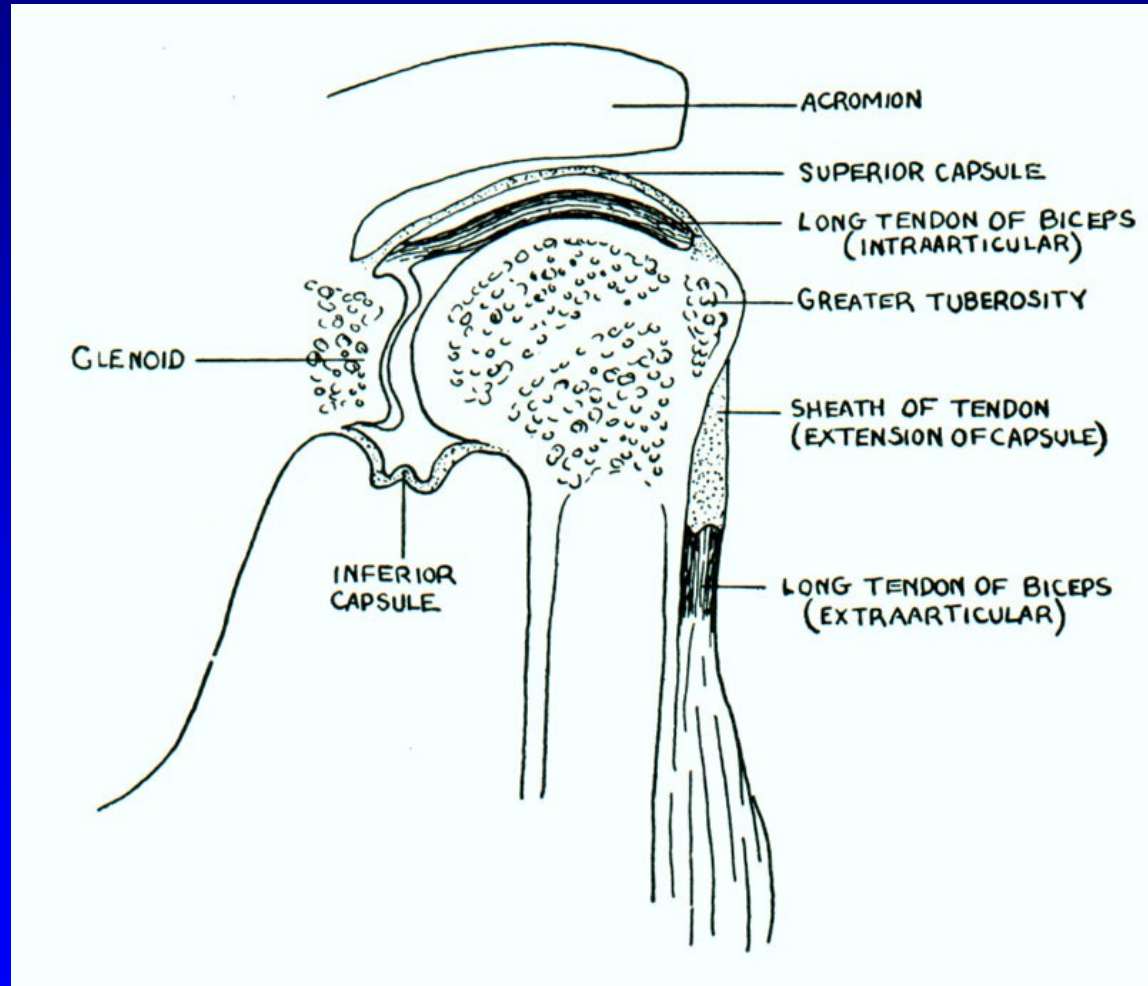
Arthroscopy- removal of bursa



Supraspinatus tendinitis

Tenderness over greater tuberosity
Limited movements

Therapy:
Rest, NSAID
Corticosteroids
Physiotherapy



Rotator cuff

Rotator cuff:

m. supraspinatus

m. infraspinatus

m. teres minor

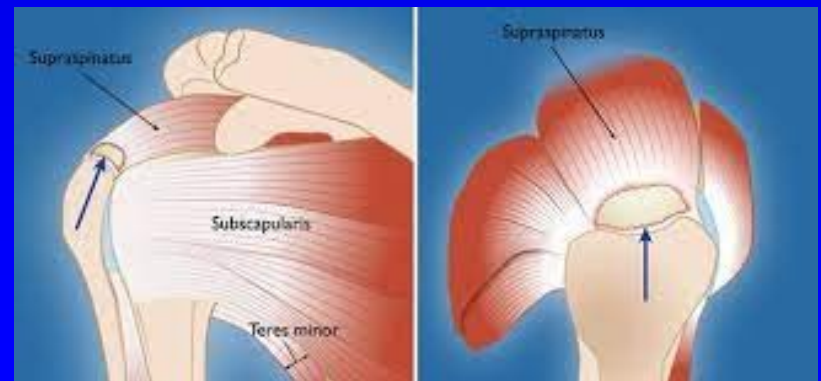
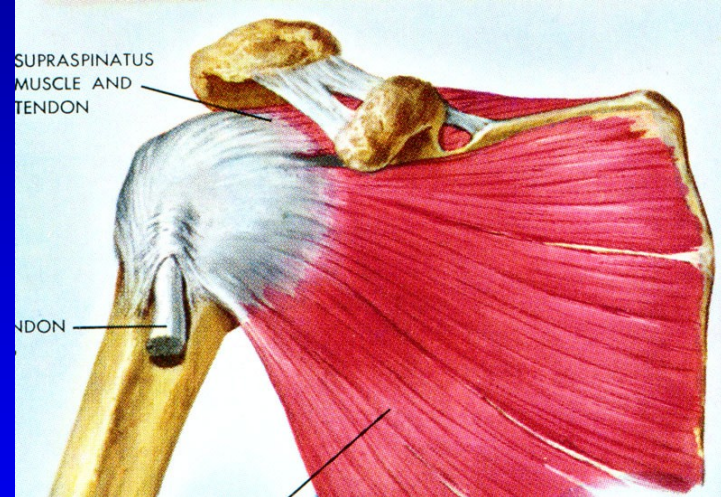
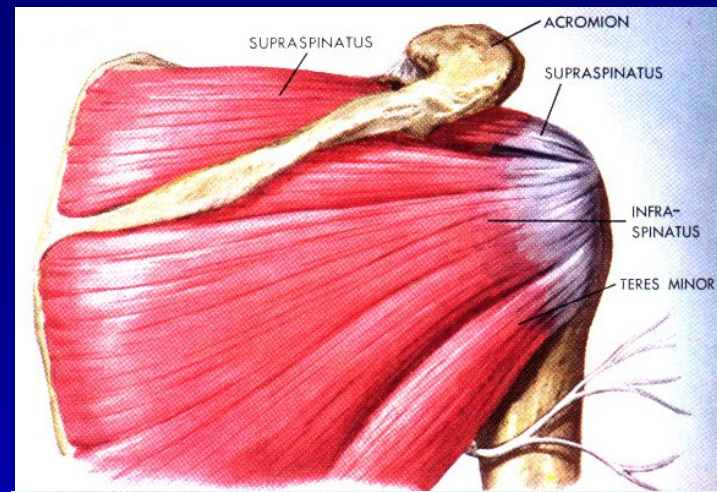
m. subscapularis

Function:

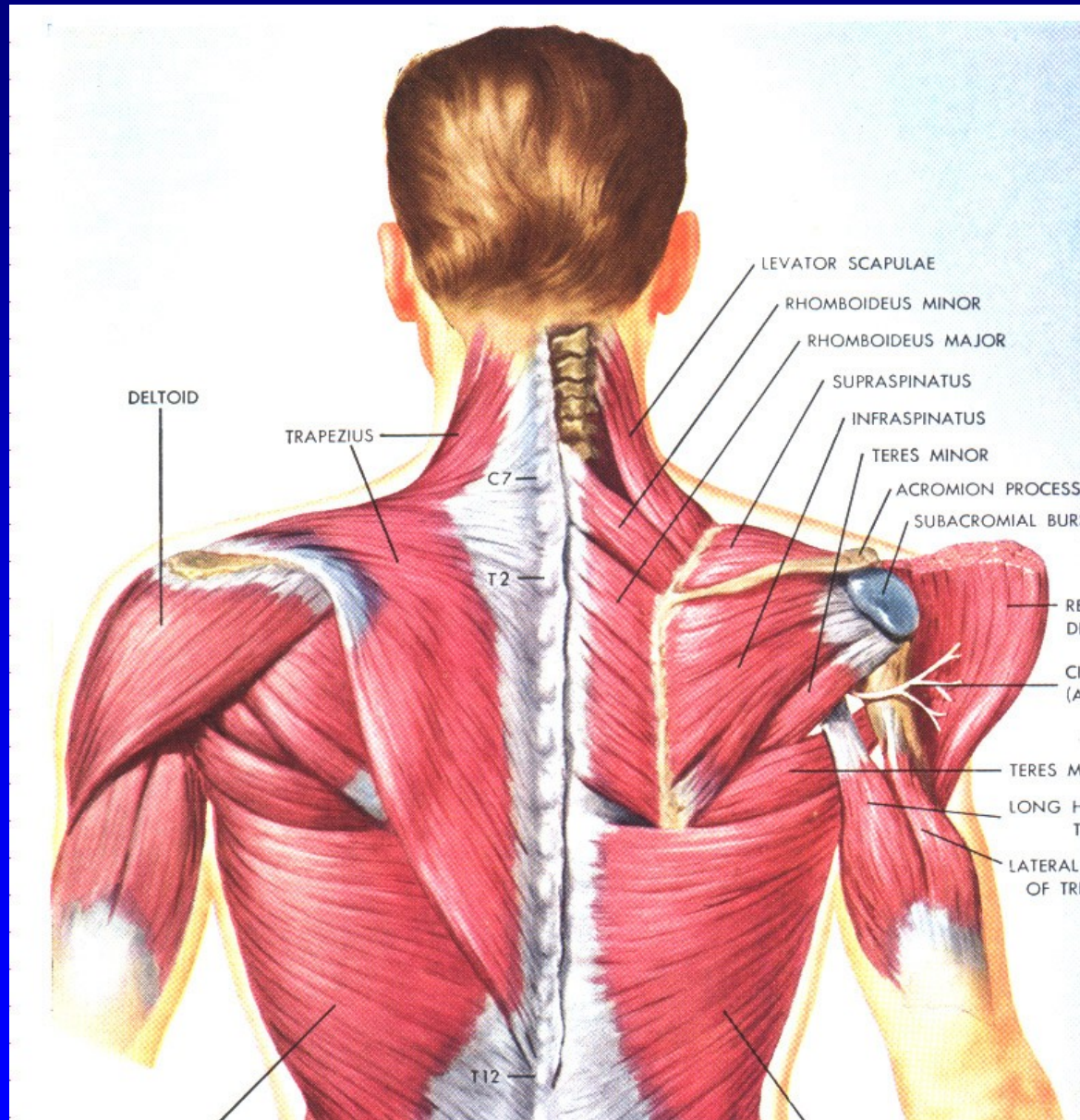
First 30° of abduction

Pressure of the humeral head into glenoid cavity

Depressor of the humeral head



Anatomy of the shoulder



Rotator cuff tear

Partial tear:

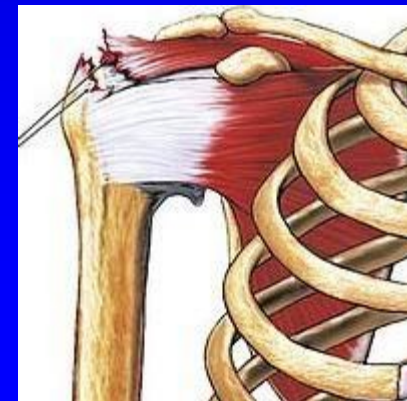
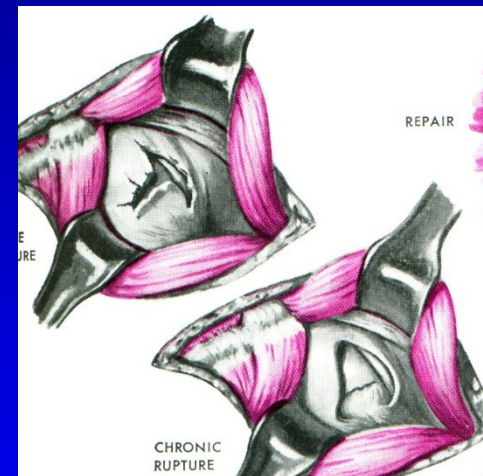
Severe pain

Painful abduction

Keeps the arm in position
of adjusted abduction

Ultrasonography

Management: usually conservative



Rotator cuff tear

Complete tear:

No active abduction

Lifting of the shoulder

Drop arm test

Pain

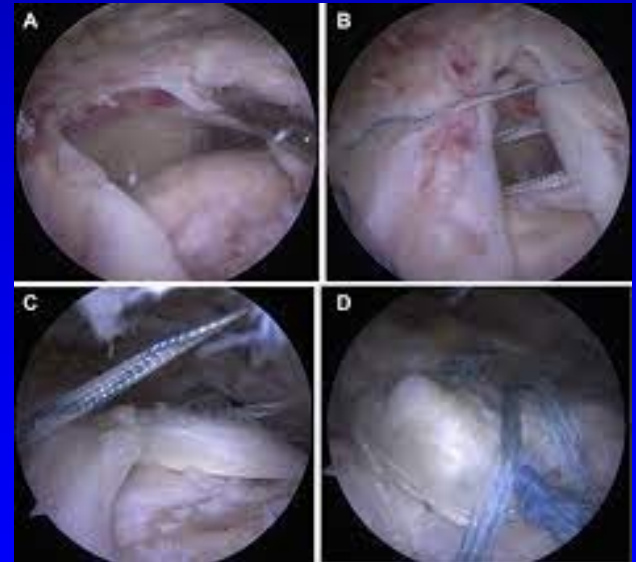
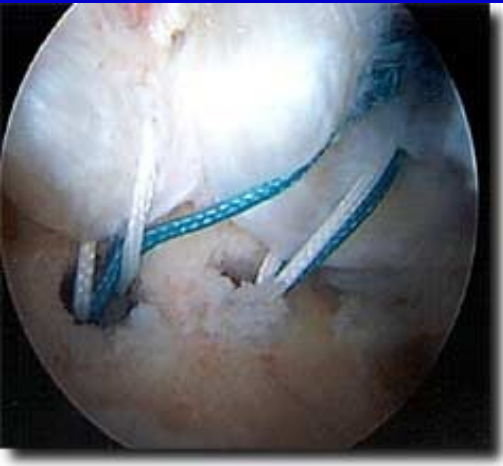


X-ray

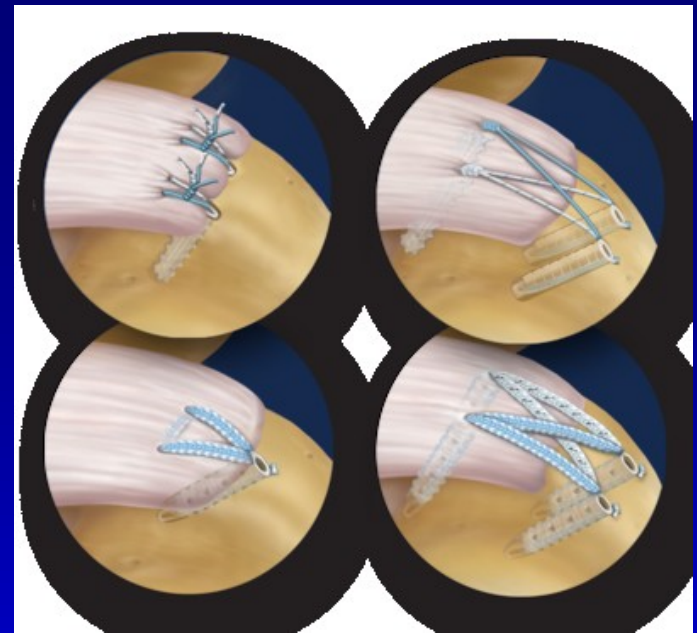
MRI

Management:
suture: Arthroscopy

The aim: attachment to greater
tuberosity



Suture of RC



Management:
suture: Open surgery

The aim: attachment to greater
tuberosity

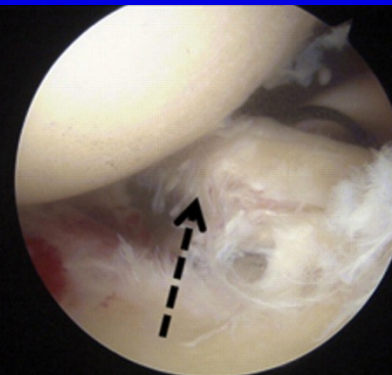
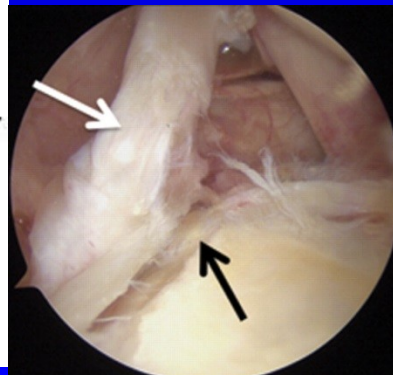
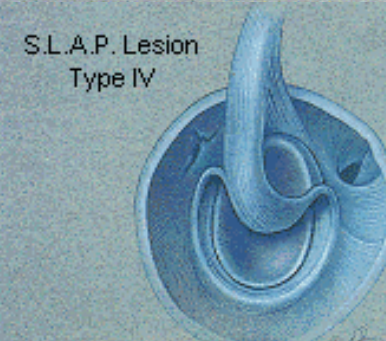
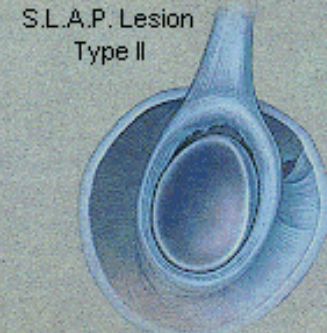
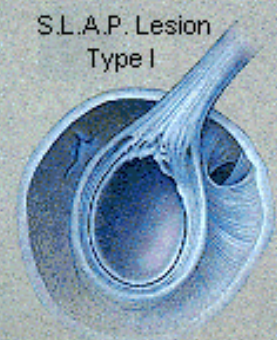


SLAP lesion

= superior labrum anterior, posterior

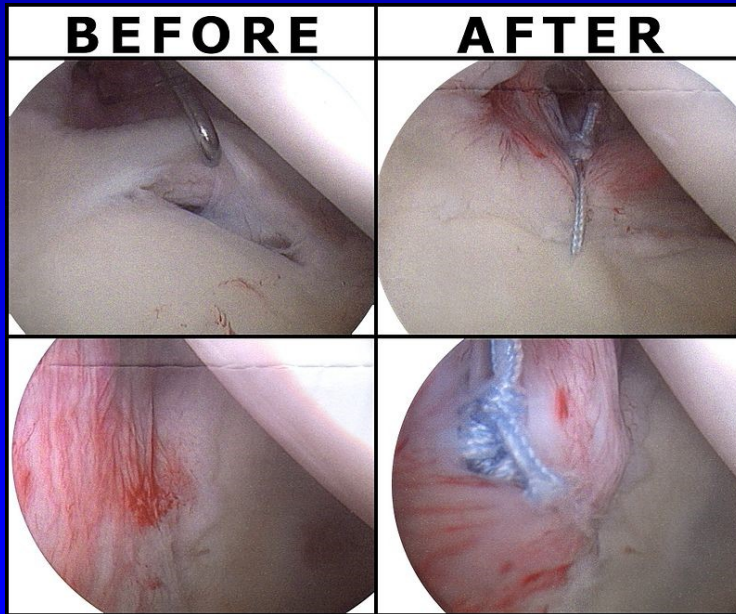
Causes

- Subluxation, dislocation
- Microtraumatisation
- Throwing shoulder



SLAP - management

Conservative
Arthroscopy- debridement, suture
Tenotomy
Subpectoral tenodesis



suture



Subpectoral tenodesis

Other disorders of painful shoulder

Impingement syndrom

Frozen shoulder syndrom

Osteoarthritis of glenohumeral joint

Rotator cuff arthropathy

Disorders of acromioclavicular joint

Disorders of sternoclavicular joint

Inflammations

Tumors

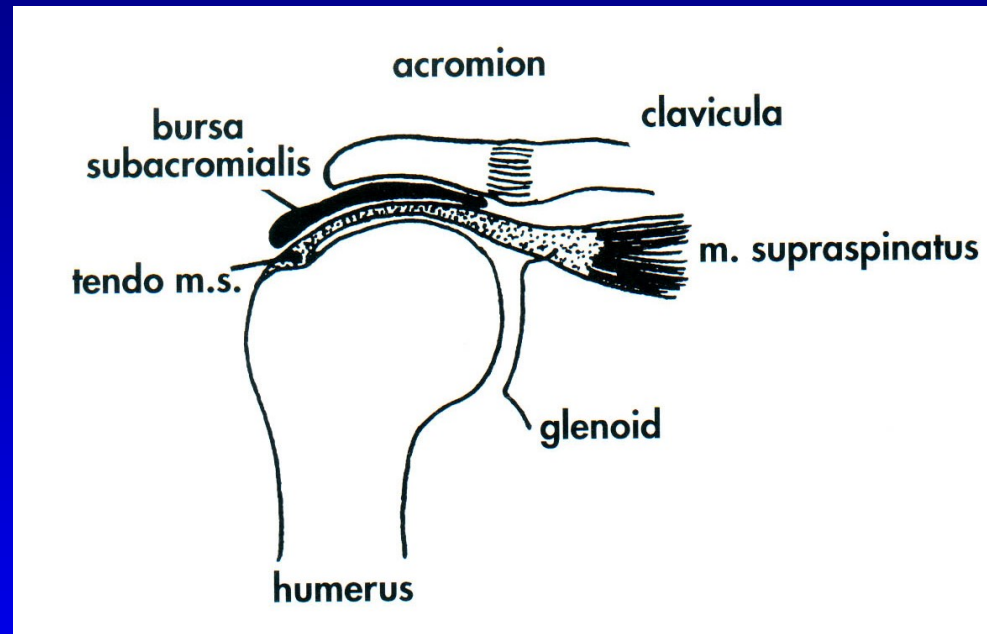
Referred pain to the shoulder

Impingement syndrom

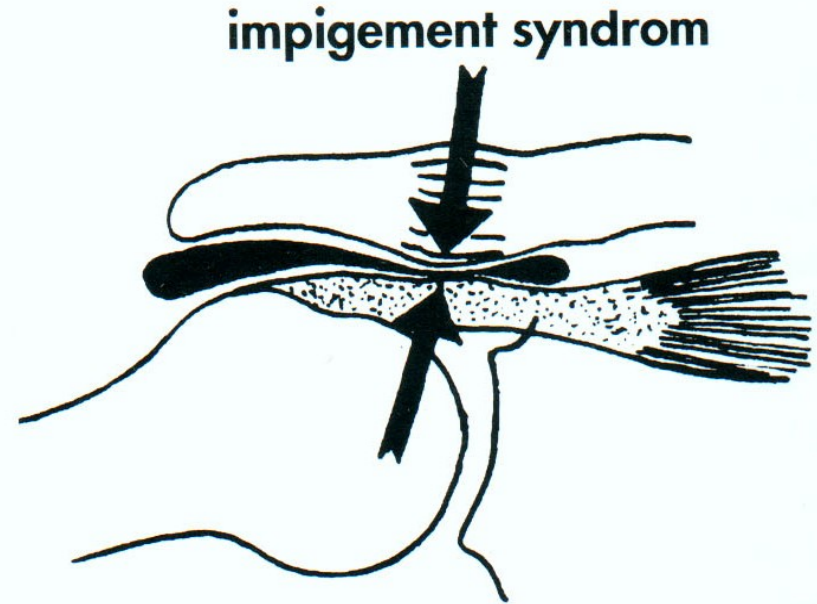
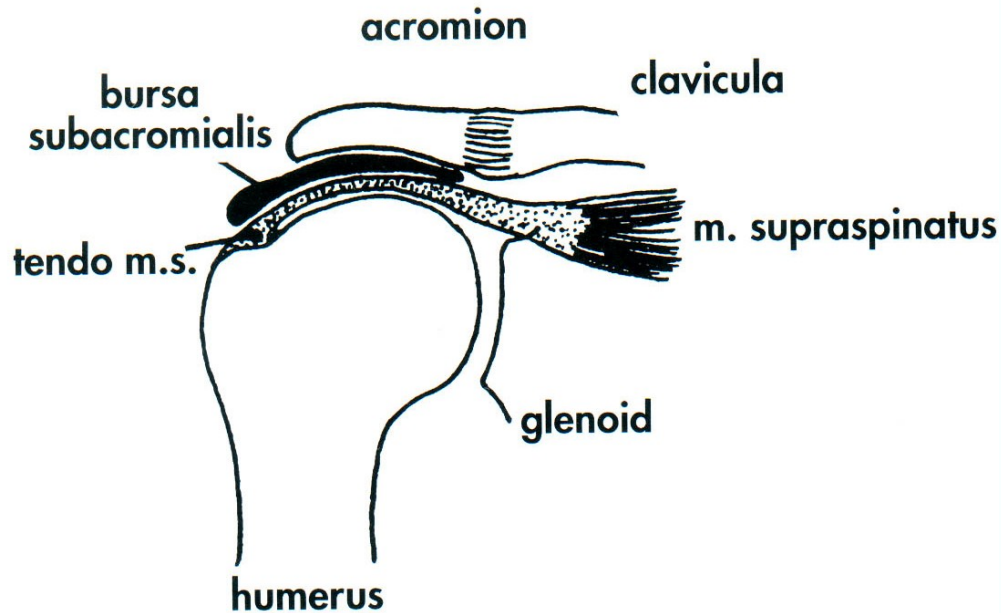
Greater tuberosity impinges
to distal surface
of acromion and
coracoacromial ligament

Narrowing of subacromial
space

Causing damage of corator cuff

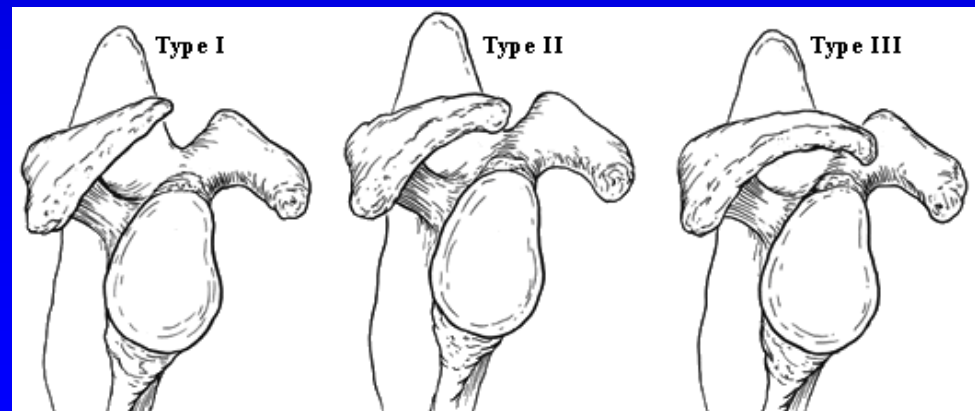


Impingement syndrom



Causes

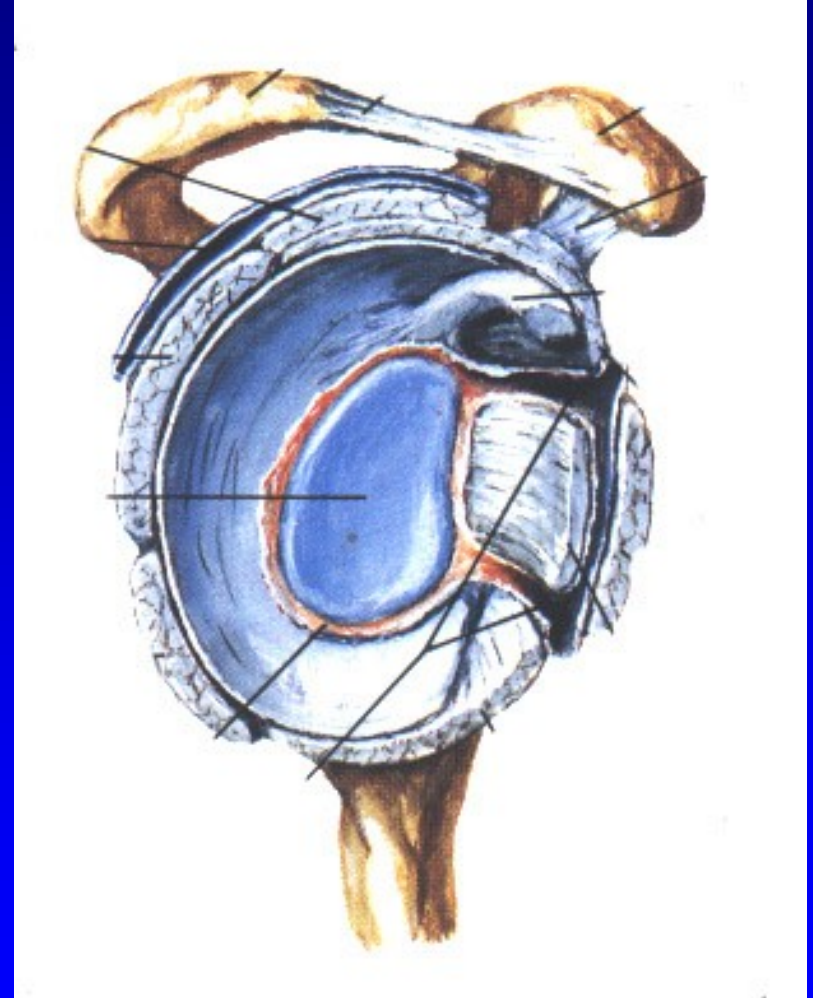
- Acromion spur
- Changes of acromion
- Distal osteophytes of AC
- Prominence of tuberculum maius



Impingement syndrom

Stages:

1. Swelling, hemorrhage of supraspinatus
2. Fibrosis, tendinitis, bursitis
degenerative changes of cuff
3. Rupture of rotator cuff
and long biceps tendon



Impingement syndrom

Symptoms:

Painful arc

Impingement sign

Impingement test

Jobe test

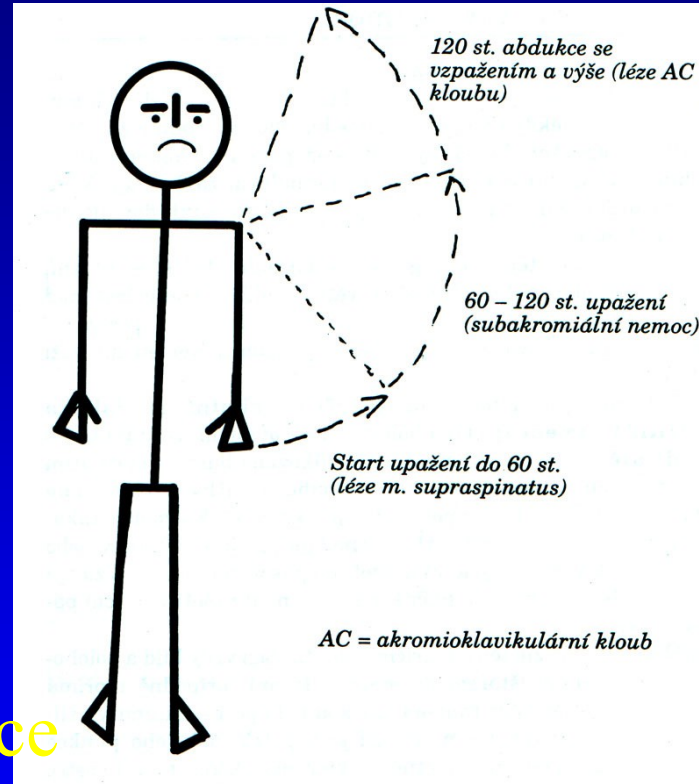
X-ray:

Narrowed subacromial space

Y view- outlet view

Arthrography

Ultrasonography



60-120 grades

painful arc

Impingement syndrom

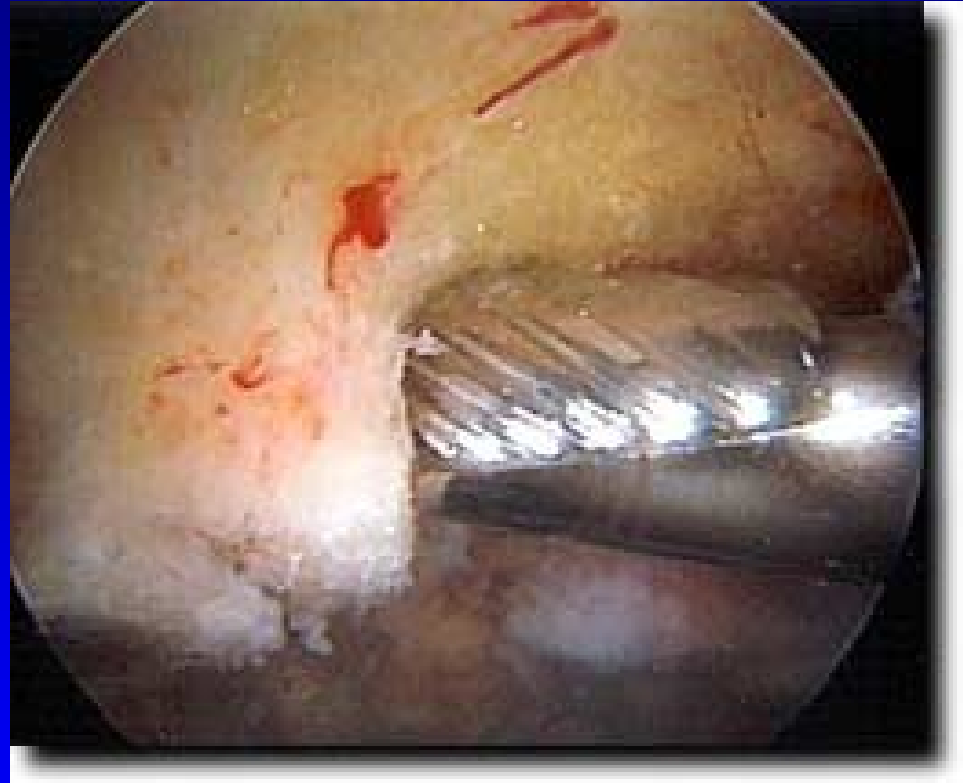
Therapy:

1. stage: conservative

Rest, NSAID,
Physiotherapy,
Local corticosteroids

2. stage: the same
+ bursectomy,
subacromial decompression

3. stage:
subacromial decompression



Frozen shoulder- capsulitis adhesiva

Progressive limitation
of movements

Pain

No motivation for movement

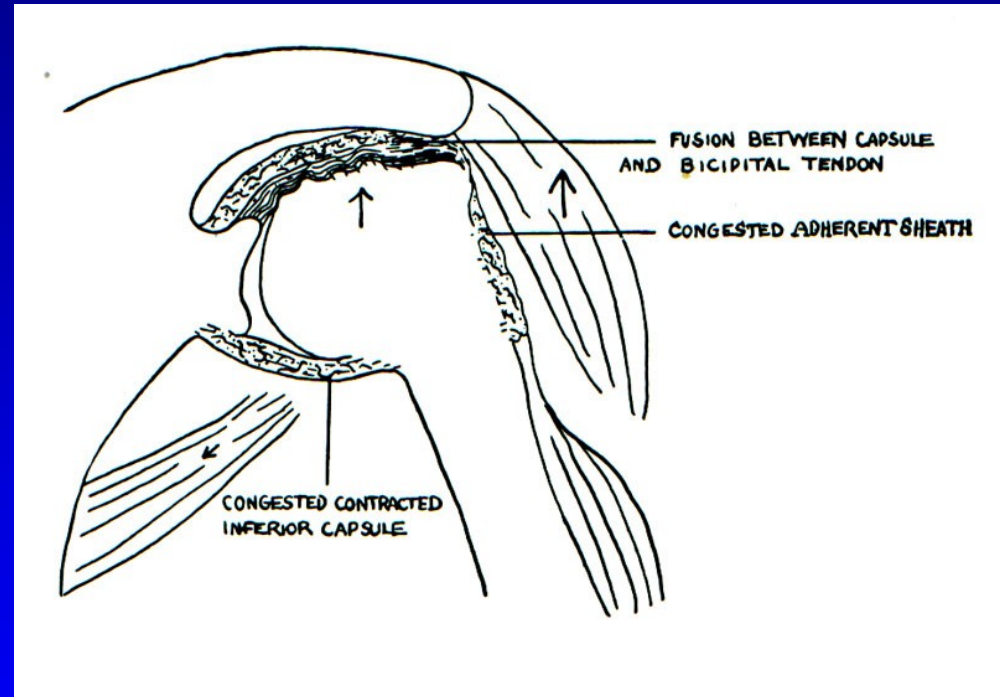
Shrinkage of capsule

Adhesions in distal recessus

Tightening of soft tissue

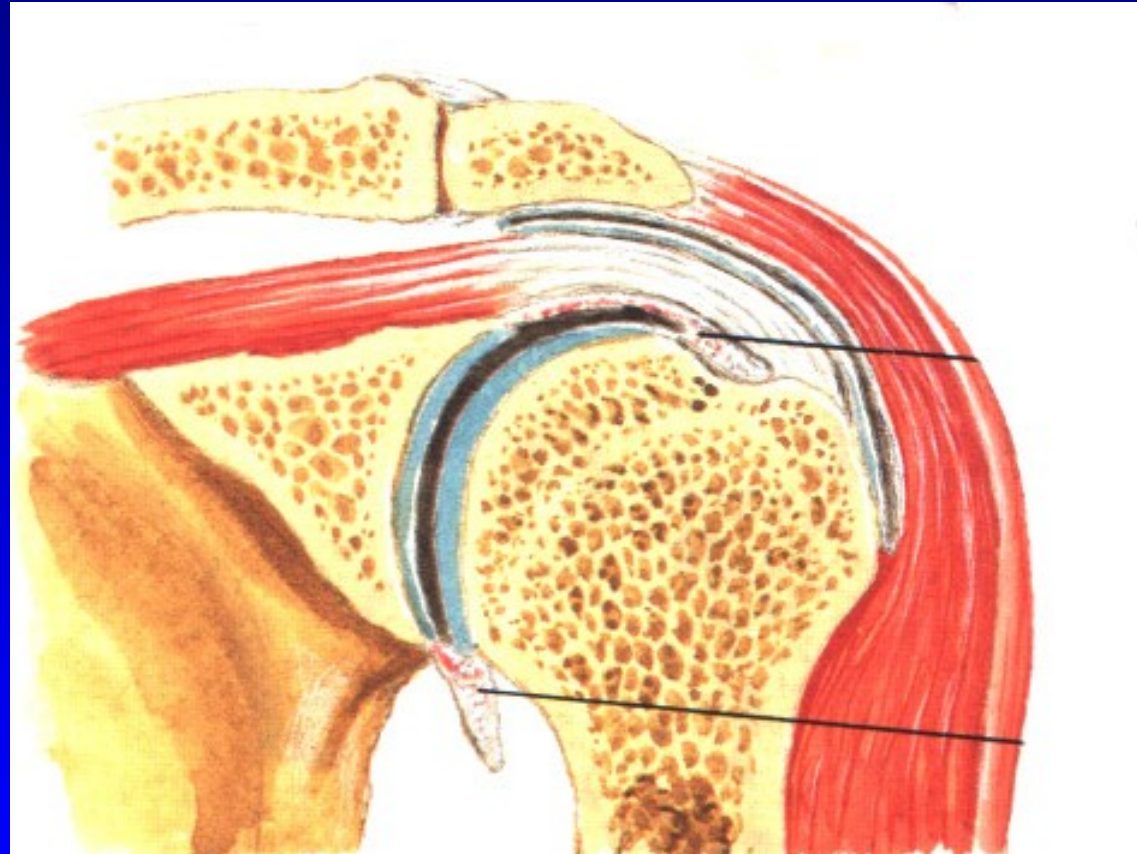
Muscle spasm

Low capacity of joint space



The cause

All conditions limiting
joint movements:
Impingement syndrom
Arthrosis of AC joint
Posttraumatic conditions
Inflammations
Thoracic outlet syndrom
Tumors of the lungs
Disorders of pleura
Cardiac disorders



Frozen shoulder

Management:

Long lasting period

Heat

Passive movements

Positioning

Active movements

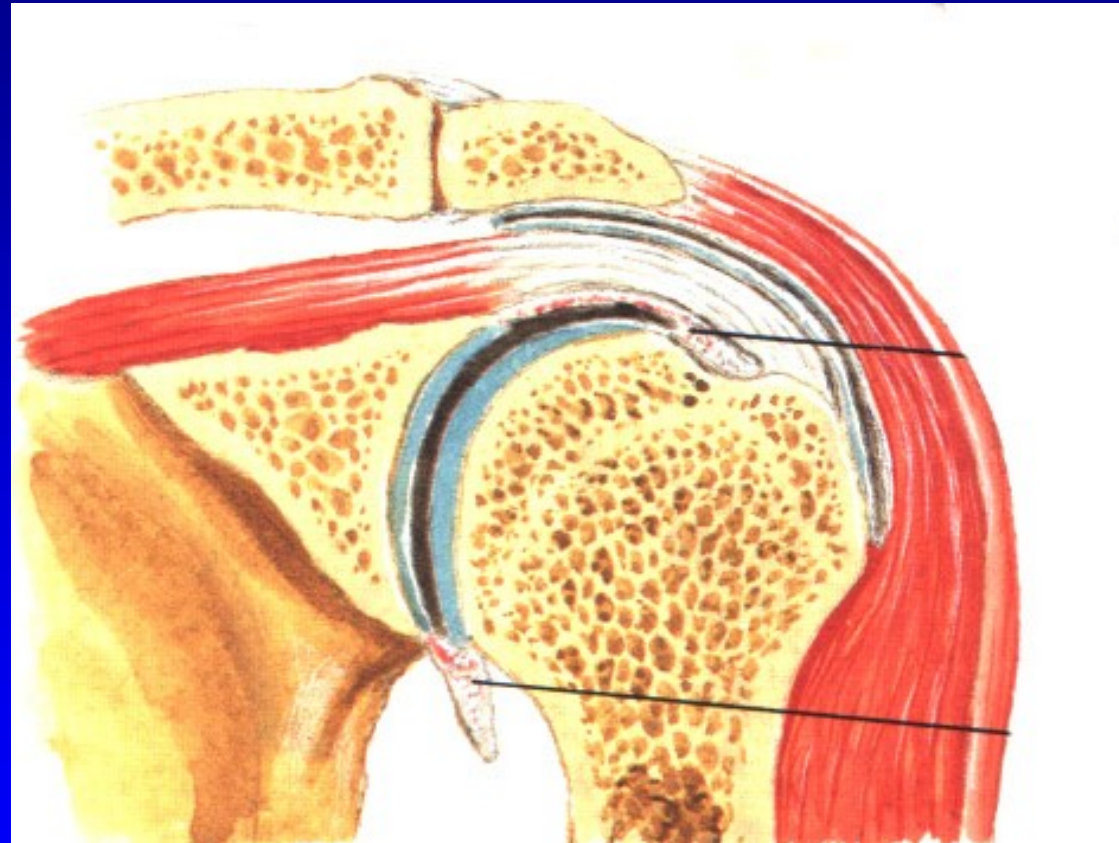
Physiotherapy

NSAID

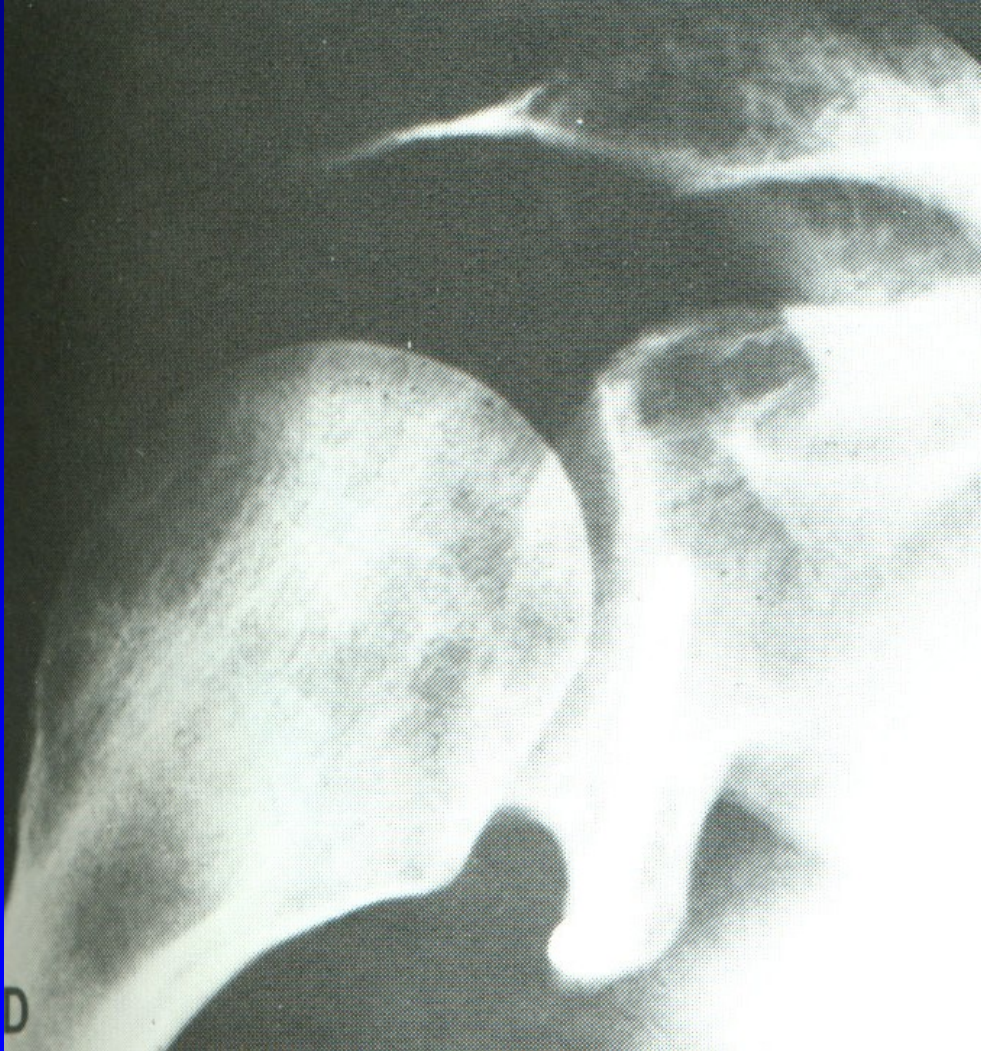
Local corticosteroids

ASC- decompression

Removal of adhesions



Glenohumeral osteoarthritis - omarthrosis

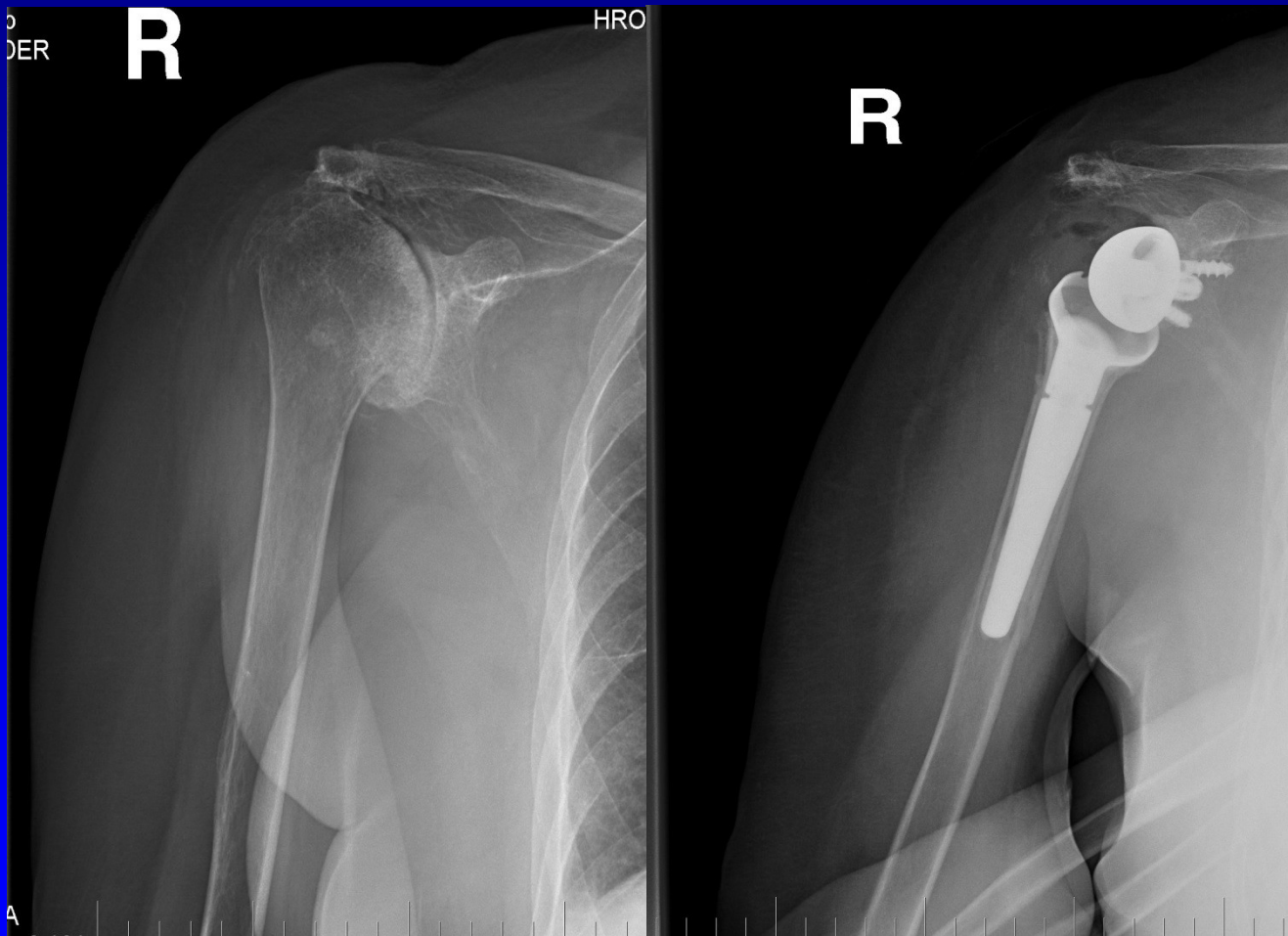


Therapy:

Conservative

Total shoulder replacement

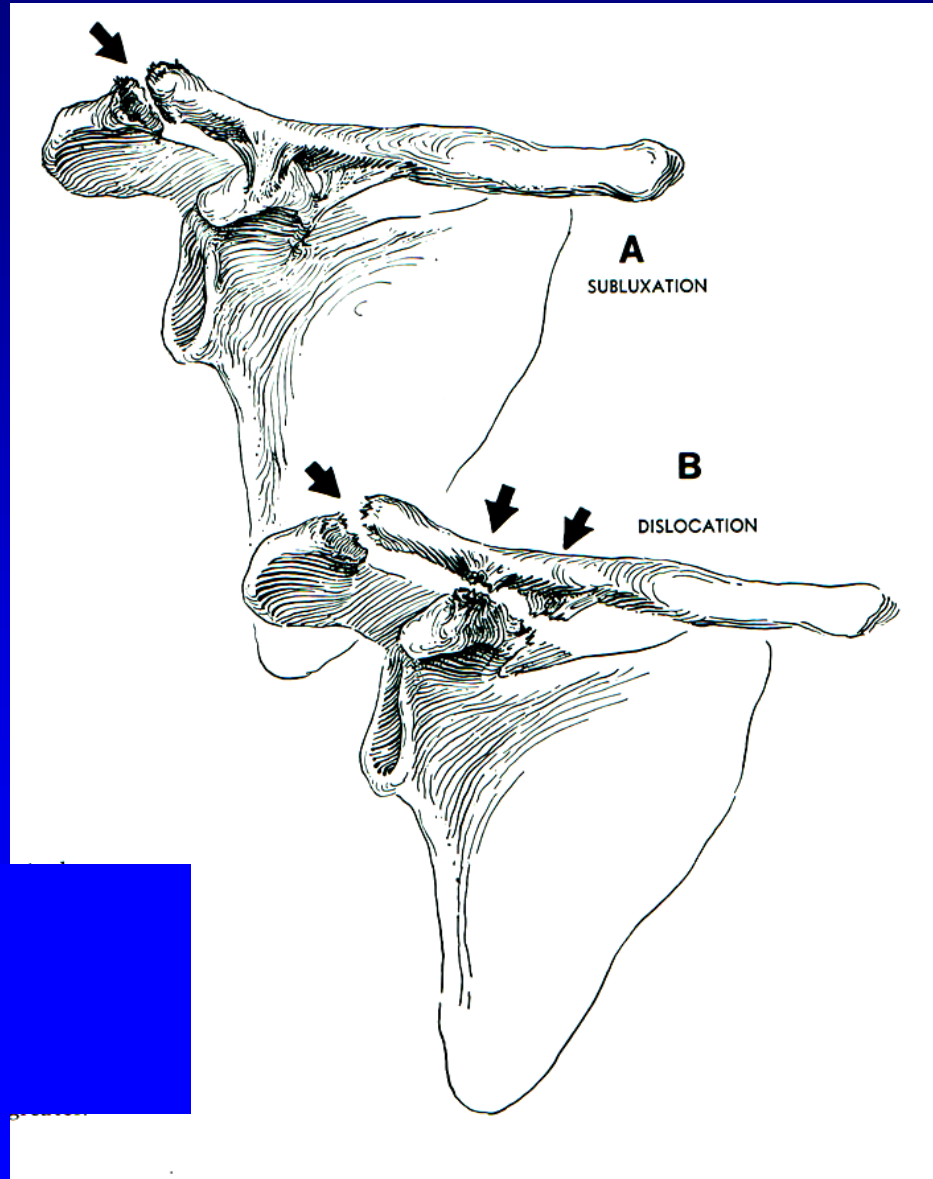
Rotator arthropathy



Reverse total shoulder arthroplasty

Disorders of acromioclavicular joint

Synovitis
O.A.
Sprain
Subluxation
Dislocations



Disorders of sternoclavicular joint

Synovitis

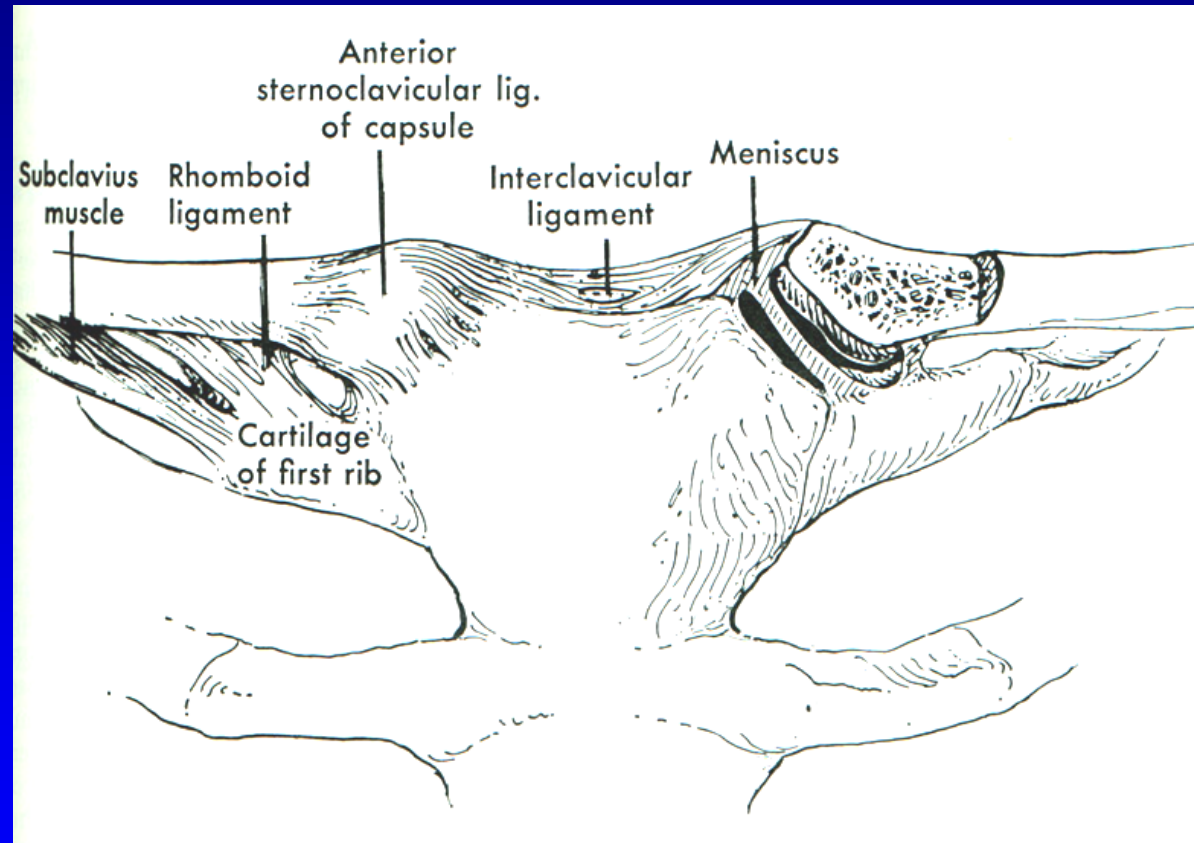
O.A.

Sprain

Subluxation

Dislocations

Chronic subluxation



Referred pain to the shoulder

Cervical spine

Thoracic outlet syndrom

Cardiac diseases

Lung and pleura disorders

Herpes zoster neuralgia