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# 16-Common Shoulder Disorders

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## Objectives:

- ◆ Specify the symptoms, signs and potential immediate complications of common shoulder disorders.
- ◆ Outline the assessment and appropriate investigation and to outline the immediate and long-term management of patients common shoulder disorders.
- ◆ Demonstrate knowledge of indications for non-operative and operative treatment and to know the most common non-operative and operative measurements used for common shoulder disorders.

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**References:** slides + Toronto notes, 435 team

# Shoulder Anatomy

The anatomy in the shoulder is very special. In joints we have two things to consider: Range of motion and Stability you have to sacrifice one to gain the other. E.g. the **ROM** in the knee is limited only in one axis: flexion and extension (although it's not very accurate to say one axis), but the shoulder has many axes: abduction, adduction, forward flexion, extension, internal rotation, external rotation and circumduction (basically all kind of ROM).

Stability is either by static structure (always there, always acting the same way) or dynamic:

◆ Stability by static structures can be due to:

- **Bony structures:**

→ Humeral head is big, glenoid is wide (humerus head is much bigger than glenoid) which can give you some stability but not the best, Shoulder injury caused by low energy; certain movements can get your shoulder out. **Scapula (Glenoid, Acromion, Coracoid, scapular body), Clavicle, Sternum.**

→ unlike the femoral head which is more like spherical in shape and the acetabulum is covering most of it → more stability, It typically takes a major force or trauma to dislocate the hip (It's a big issue to have someone with hip dislocation!)

**Scapula (Acromion): Type I = Flat, Type II = curved, Type III = hooked**

- Ligaments: the shoulders' ligaments are not as big and strong as the knees' ligaments, why?

The ligaments in the shoulder are just thickening of the capsule.<sup>1</sup> There are 3 anterior ligaments which prevent anterior dislocations: superior, middle and inferior Glenohumeral ligaments. You have to keep in mind! 95 % of the dislocations are anterior (**commonly anterior-inferior**), while the posterior is extremely rare and only certain traumas will cause the inferior, posterior or superior dislocations.

◆ The anterior dislocation happens when the shoulder is abducted in 90 degree and externally rotated, So in this position Which one of the three ligaments has more chance to get strained and also affected in the anterior dislocation? inferior glenohumeral ligaments

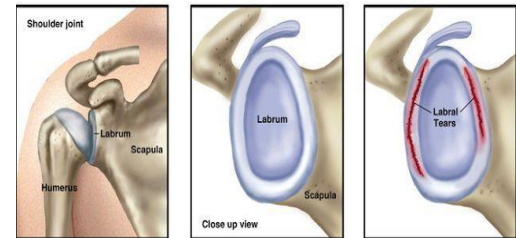
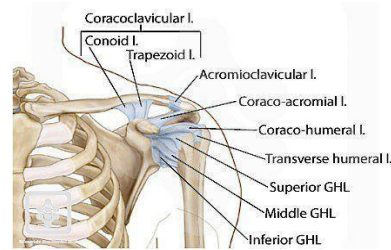
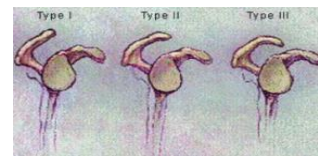
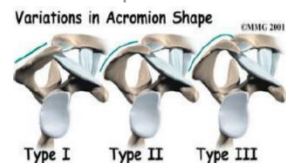
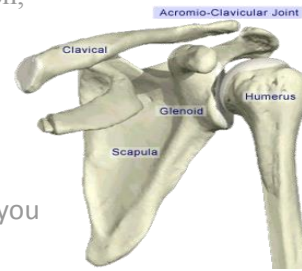
→ How? While abducting and externally rotating the shoulder → the inferior ligament will be more stretched, but the ligaments are stronger than any structures although they are only thickening but still they are the strongest → they will not tear but they will detach the labrum from the bone when there is dislocation<sup>2</sup>

**Very IMP I WILL ASK YOU ABOUT IT!!** (What is called? What will you see in MRI? **BANKART LESION** (anterior inferior part of the labrum is detached and causing instability)<sup>3</sup> يصير المريض أي حركة مثل ابدكشن أو أكسترنال روتيشن يطلع الكتف معه Labrum is fibrocartilage that gives the depth for accommodating the head also the ligaments attach to it.

○ Acromion is very important, it's a landmark for almost everything you do around the shoulder, and it's supporting the rotator cuff and acts like a roof over the glenohumeral joint. In case of abduction if there was a proximal migration what will happen? The GT will hit the acromion → the supraspinatus<sup>4</sup> will impinge.

○ Coracoid is attached to the conjoint tendon (tendons of short head of biceps and coracobrachialis)

○ Long head of biceps is a trouble maker passes through the bicipital groove and attached to superior labrum (doesn't attach to bone which is unusual) with age there will be pulling out and detachment of labrum which is called (SLAP lesion superior labrum anterior posterior lesion) or becomes inflamed in old people, very common problem in the West (white ethnicity) but here it is not bad as in the West, what do we do for them? (Shoulder arthroscopy). فصل اليايسيز In women base of thumb is usually affected by instability then arthritis in the West, here is not that common.



<sup>1</sup> Capsule is attached between proximal humerus and glenoid

<sup>2</sup> Not like the ACL in the knee if it's stretched the tear will happen in the middle of it (midsubstance tear), avulsion happens only in children نقشع من طرفه

<sup>3</sup> How to treat it? Suture it at 5 o'clock by 2 or 3:30 or 4:30 (postgraduate level) not required

<sup>4</sup> The supraspinatus passes beneath the acromion and then inserts in the greater tubercle

<p style="text-align: center;"><b>Joints</b> (all of them called the shoulder girdle) but when we say shoulder joint we mean GHJ</p>	<ul style="list-style-type: none"> <li>- Glenohumeral joint: The main joint, Most <u>commonly</u> dislocated joint &amp; Lacks bony stability.</li> </ul> <p>#Composed of:</p> <ol style="list-style-type: none"> <li>1. Fibrous capsule</li> <li>2. Ligaments</li> <li>3. Surrounding muscles</li> <li>4. Glenoid labrum</li> </ol> <ul style="list-style-type: none"> <li>- Acromioclavicular (AC) joint</li> <li>- Sternoclavicular (SC) joint</li> <li>- Scapulothoracic joint</li> </ul>	
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<p style="text-align: center;"><b>Muscles</b></p>	<ul style="list-style-type: none"> <li>- Rotator Cuff Muscles: <b>Depress humeral head against glenoid</b></li> </ul> <ol style="list-style-type: none"> <li>1. Supraspinatus: Initiation of abduction + external rotation</li> <li>2. Infraspinatus: External rotation</li> <li>3. Teres Minor: External rotation</li> <li>4. Subscapularis: Internal rotation</li> </ol> <ul style="list-style-type: none"> <li>- Deltoid: largest &amp; strongest muscle of the shoulder</li> <li>- Biceps</li> <li>- Pectoralis major</li> <li>- Posterior scapular muscles             <ol style="list-style-type: none"> <li>1. Trapezius</li> <li>2. Rhomboids</li> <li>3. Levator scapulae</li> </ol> </li> <li>- Latissimus dorsi</li> <li>- Serratus anterior</li> </ul>	
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- ◆ Supraspinatus initiates the abduction and the deltoid precedes the abduction but can't initiate it, so they have a synergistic effect.
- ◆ Supraspinatus also keeps head of humerus in its place.

<p style="text-align: center;"><b>Subacromial bursa</b></p>	<ul style="list-style-type: none"> <li>◆ Between the acromion and the rotator cuff tendons.</li> <li>◆ Protects rotator cuff tendons from grinding against acromion.</li> <li>◆ <b>Pathology</b> → irritation → thickening → subacromial space narrowing → further impingement.</li> </ul>	
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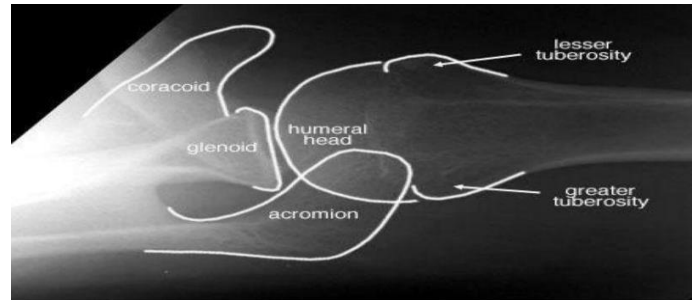
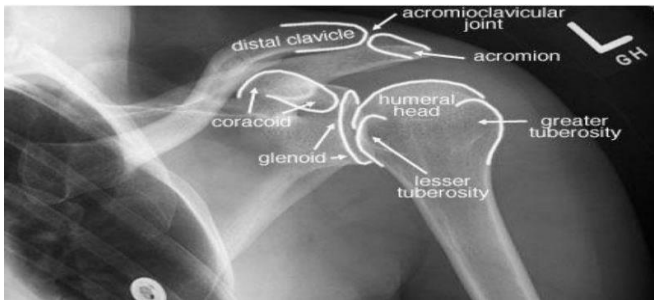
Bursa: what is it? it's a fibrous tissue usually found on prominent bones like: tibial tuberosity, ankle, acromion

- It helps in the sliding of the bones to prevent friction, compression on the skin
- Protect tendons and structures from compression by bones

In case of impingement the acromion is pressing on supraspinatus so it gets inflamed as well and becomes thick and narrows the space.

It's also found in the tibial tuberosity which can be inflamed and cause bursitis which is also called (Housemaid's knee or prepatellar bursitis) من أكثر ما الناس يجلسون على الأرض ويسجدون ويصلون أو مثلاً مثل أول الخادمت أو ربات البيوت كانت البيوت خشب وينزلون ويمسحون الأرض كثير ويصير عندهم احتكاك كبير بين التيبال تيبروسيتي والأرض الصلبة

Radiology of the shoulder (extra)

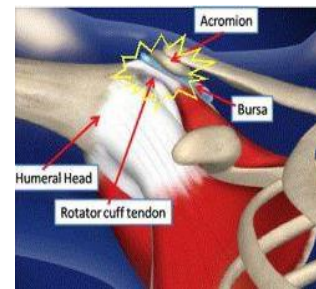


## Impingement Syndrome (متلازمة الانحشار)

(Most common shoulder problem) [Toronto notes](#) [Dr Nabil](#)

### ★ Mechanism:

Describes a condition in which the supraspinatus and bursa are pinched as they pass between the head of humerus (greater tuberosity) and the lateral aspect of the acromion usually happens with the proximal migration. It is the **most common** disorder of shoulder, accounting for 44– 65 % of all complaints of shoulder pain during a physician's office visit. Normally there is enough space, but sometimes the muscle gets bigger when it inflamed so it will impinge or with time some people develop spurs and greater tuberosity hypertrophy so the space become narrower but most cases are combination of both.



### ★ Risk factors:

- Age (over 40y) due to two reasons: 1- changes in the tendons structure 2- weakness of the rotator cuff that causes proximal migration. We see it in 30s and 20s too.
- **Overhead activity** e.g. lifting, swimming, tennis, baseball, combing hair, wearing مدرس , نقاب و ثوب يكتب أو حتى في الجيم
- **Bursitis and supraspinatus tendinitis.**
- **Acromial shape: type II & III acromion** but keep in mind! Not all people with type two have the impingement syndrome, why? Basically it could be due to two reasons: first their muscles are strong so there is no proximal migration, the second thing is their tendons are stronger when they are young, fresher, healthy, it has water content and healthy collagen, the older you get changes happen.
- **AC (Acromioclavicular joint) arthritis** or AC joint **osteophytes** may result in impingement and mechanical irritation to the rotator cuff tendons if you imagine, with arthritis there are osteophytes, spurs and abnormal growth which help in putting on pressure the supraspinatus
- Posterior shoulder capsule stiffness<sup>5</sup>.
- Rotator cuff weakness.<sup>6</sup>

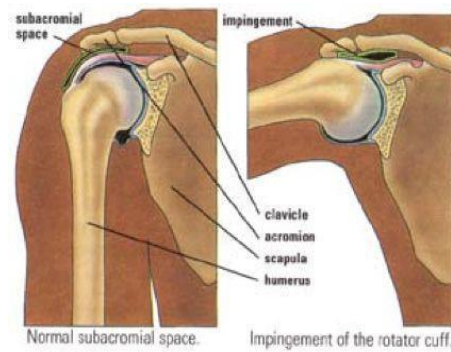
<sup>5</sup> Posterior capsule tightness is thought to be a factor in Subacromial impingement syndrome. One reason is that superior-anterior migration of the humeral head occurs during shoulder flexion in the shoulder joint with posterior capsule tightness.

<sup>6</sup> Glenohumeral muscle weakness leading to abnormal motion of humeral head



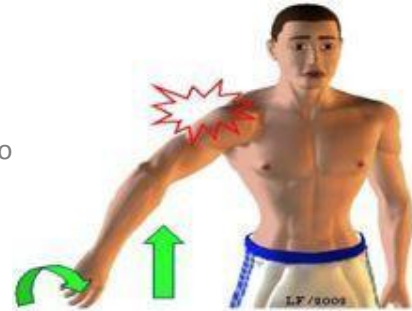
## ★ Symptoms:

- Pain in the acromial area when the arm is flexed and internally rotated  
→ Inability to use the overhead position.
- Pain could be due to Subacromial bursitis or rotator cuff tendinitis.
- Pain when sleeping on the affected side.
- Worse at night as the subacromial bursa becomes hyperemic after a day of activity.
- Decrease ROM especially **abduction**. Mostly with abduction and forward flexion.
- Weakness.



## ★ Differential diagnosis: for inflammation and pain.

- Rotator cuff tears<sup>7</sup>. Impingement with time becomes rotator cuff tear
- Calcific tendinitis<sup>8</sup>. Calcifications around the insertion of Supraspinatus due to trauma or other reasons, they present with impingement like symptoms.
- Biceps tendinitis<sup>9</sup>.
- Cervical radiculopathy.
- Brachial plexus compression syndrome (الأبهر) can't raise his arm due to rotator cuff impingement, so compensating by sliding the scapula forward (protraction) that causes contraction of the neck muscles and spasm which causes pressure in Brachial Plexus, so patients with impingement can develop BPCS.
- Acromioclavicular arthritis.
- Glenohumeral instability.
- Degeneration of the glenohumeral joint.



## ★ Diagnosis: Accurate diagnosis of impingement requires:

- History.
- Physical examination.
- Imaging.

## ★ Physical examination<sup>10</sup>:

- Pain on "impingement tests".
- Rotator cuff muscles atrophy.
- ↓ ROM → IR and **Abduction**.
- Weakness in flexion and external rotation.
- Pain on resisted abduction and external rotation.

#Impingement tests done passively (do it yourself! don't ask the patient to do it!)

→ **Neer's impingement test:** (not specific because it can be positive with other) Passive elevation of the internally rotated arm in the sagittal plane (shoulder forward flexion). Internal rotation and forward flexion (to bring GT forward and cause it to hit the Anterior part of acromion) positive if he felt pain.

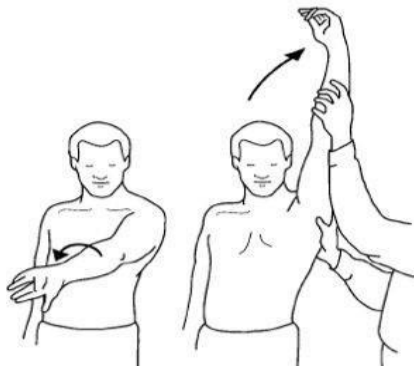
→ **Hawkins' impingement test:** With the elbow flexed to 90 degrees, the shoulder passively flexed to 90 degrees and internally rotated. Positive test when there is limited abduction and weakness, more sensitive.

<sup>7</sup> **Ruling in Rotator Cuff Tears** – 98% probability of rotator cuff tear if all 3 of the following are present: Supraspinatus weakness - External rotation weakness - Positive impingement sign(s)

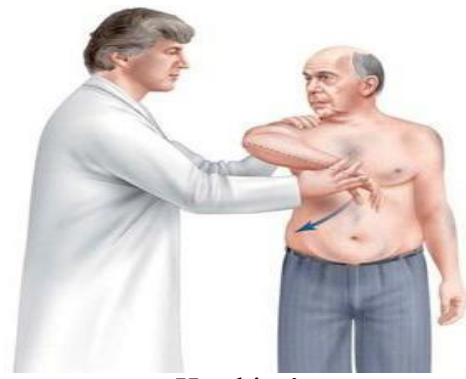
<sup>8</sup> **Calcific tendinitis** is a disorder characterized by deposits of hydroxyapatite (a crystalline calcium phosphate) in any tendon of the body, but most commonly in the tendons of the rotator cuff (shoulder), causing pain and inflammation.

<sup>9</sup> **Biceps tendinitis** is inflammation of the tendon around the long head of the biceps muscle. Biceps tendinosis is caused by degeneration of the tendon from athletics requiring overhead motion or from the normal aging process. How to rule out bicep tendinosis: Speed test; SLAP lesion: O'Brien's test

<sup>10</sup> **Rotator Cuff Tests read about it!!** [click here](#)



Neer's test



Hawkins' test

### ★ Radiological findings:

- ✓ **Plain X-rays:** Mostly it's normal.
  - Acromial spurs<sup>11</sup>
  - AC joint osteophytes
  - Subacromial sclerosis
  - Greater tuberosity cyst



There is a special view called supraspinatus view but we don't use it very often with the presence of MRI.

- ✓ **MRI:** To confirm dx and rule out rotator cuff tear.

### ★ Management:

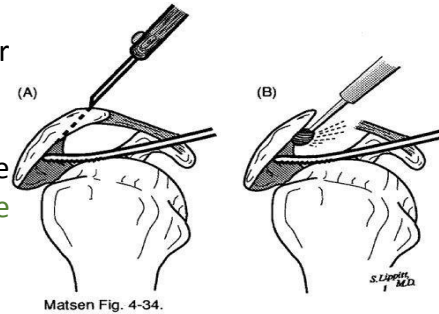
**#Conservative treatment:** Always **Start** with it.

- Avoid painful activities → especially overhead activities.
- Physiotherapy:
  - 1- Stretching and range of motion exercises.
  - 2- Strengthening exercises.
- NSAIDs.
- Subacromial space steroid injection.



**#Operative:** Indicated when conservative measures fail after 6 months.

- Goal → remove the impingement and create more subacromial space for rotator cuff.
- The anterolateral edge of the acromion is removed.
- Open (called: Acromioplasty) *نعدل شكله وتكون العملية اوبن* or arthroscopic technique (called: subacromial decompression *يكونه عشان تزيد المساحة*) and at the same time we do bursectomy *يقصون جزء منها*
- Success rate 70-90%



## Rotator cuff pathology (قطع العضلات المدورة)

[Toronto notes](#)

[osmosis high yield notes](#)

[osmosis video](#)

### ★ Function of rotator cuff muscles:

- **Keep the humeral head centered on the glenoid** regardless of the arm's position in space.
- Generally work to depress the humeral head while powerful deltoid contracts.

<sup>11</sup> spurs is another name for osteophyte but usually used for acromion.

★ **Causes of rotator cuff tears:** (Generally: traumatic 'less common', degenerative 'over use')

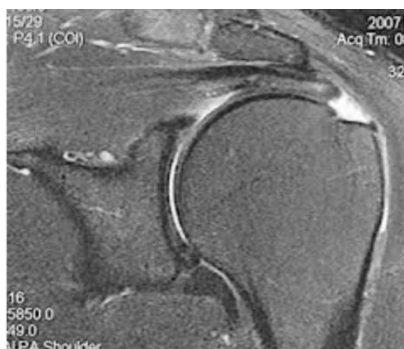
Mostly it's caused by two reason, either trauma like falling or pulling something heavy, or degenerative which is made worse by existents of impingement: الكبار في السن يكون أحياناً عندهم امبجمنت ويتصبرون عشان  
 suprascapular tear مايشغلون عيالهم بس شكواهم دايم كتفي يوجعني لحد ما يصير

Intrinsic factors	Extrinsic factors	Traumatic
- Vascular, decrease vascular supply - Degenerative (age-related) more related with old age because of long time of use (مثل زيت السيارة):	- Impingement: 1- Acromial spurs 2- AC joint osteophytes - Repetitive use.	e.g. a simple fall or trying to catch or lift a heavy object or <b>after a shoulder dislocation in age &gt;40</b> when you have pt. over 40 with dislocation don't reduce and discharge you must <b>do MRI</b> to check for rotator cuff tear <b>!!!!!!</b>

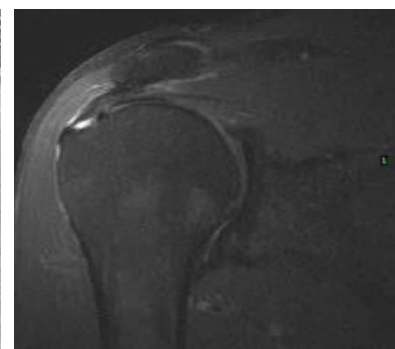
★ **Diagnosis:**

- History, Physical examination (like empty can, lift off test, and resisted EX rotation)
- X-rays (AP view may show high riding humerus relative to glenoid indicating large tear)
- MRI (Sensitivity of 84% and a specificity of 96%, **Best for RC evaluation**)
- Ultra sound (Highly operator dependent, Does not provide information regarding concomitant pathologies). Cheaper

يجي بقولك نفس سيناريو الامبجمنت وهذا كرونك، وأحياناً يقول والله يادكتور انا عادي احركها بس من يوم ما طحت معد قدرت هذا أكبوت، وفيه سيناريو بالنص يقول دكتور كانت عندي الأم من اول بس بسيطة بس بعد ما طحت ما قدرت احركها وهذا اكبوت اون توب اوف كرونك



Full thickness tear



Partial tear

★ **Wide spectrum:**

- Partial thickness
- Complete it should be full thickness
  - Small
  - Large
  - Massive (**irreparable**) tear is far 5 or more cm away from insertion

★ **Treatment:**

#Non-operative Treatment (start):

**Indications:**

- All partial thickness tears.
- Full thickness tear:
  - Chronic + degenerative.
  - Elderly low demanding + not active. **Degenerative & young?? OR!**

**Modalities of treatment:**

- Activity modification
- NSAID
- Physical therapy:

- Range of motion.
- Strengthening of the rotator cuff and periscapular musculature.

- o Corticosteroid injections

#Surgical treatment:

**Indications:**

- o **Acute traumatic tear** even if he is old and did not complain of pain before (acute on chronic)
- o Failed non-operative treatment **more than 6m**
- o Full thickness tear:
  - Acute, Young, painful. **if young regardless of the cause do surgery**
  - Old but active patient.

**Options:**

- **Rotator cuff repair (Arthroscopic or open)**
- **+/- Subacromial decompression (SAD)**

★ **Natural history:**

**If not treated** → chronic pain and loss of motion and with time becomes irreparable → **rotator cuff arthropathy**<sup>12</sup> الروتيتير تقاوم اكشن الديلتويد، فإذا وقفت تشغل ترتفع الهيميرال هيد وتضرب في الاكرومين وهنا يصير عندنا اوستيوارثرايتيس

It could lead with time and stiffness to arthroplasty instead of rotator cuff repair (مفصل صناعي)

**#Complications of surgery:** **not improving, stiffness** and re-rupture.

Remember: Impingement and rotator cuff tear are continuum: Impingement → tendinitis → partial tear → tear → proximal migration → arthropathy



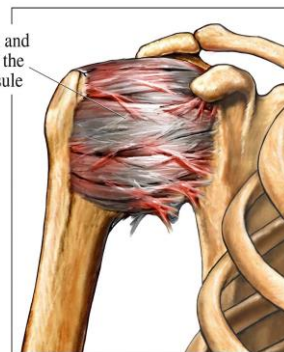
## Adhesive Capsulitis<sup>13</sup> الكتف المتجمد أو تلاحقات في الكتف

Toronto notes

Scenario: **DM** pt with severe pain and **limited range of motion in all directions.**

- o Also called **"frozen shoulder"** which is not specific term and should not be used.
- o It is characterized by pain and restriction of **all** movements of the shoulder (global stiffness) **even passively** due to fibrosis and contracture of the capsule.
- o Usually self-limiting (typically begins gradually, worsens over time and then resolves but may take >2 years to resolve).
- o 10 % is bilateral. **It's idiopathic.**

Inflammation and thickening of the shoulder capsule



السبب؟ لا نعرف

★ **Risk factors:**

✓ **DM** very important

- Hypo and Hyperthyroidism.
- Following injury or surgery to the shoulder (Called secondary adhesive capsulitis).
- Hyperlipidemia
- More common in females
- **Stroke**

★ **Stages:** 1- **Pain** (freezing stage)  
 2- **Stiffness** (frozen stage)  
 3- **Resolution** (thawing stage) ذوبان

<sup>12</sup> The combination of a large rotator cuff tear with arthritis is termed rotator cuff arthropathy.

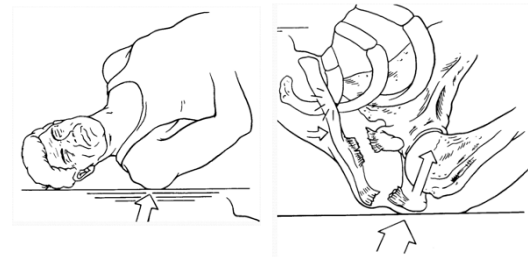
<sup>13</sup> Disorder characterized by progressive pain and stiffness of the shoulder usually resolving spontaneously after 18 mo





## ★ Traumatic AC joint separation/dislocation

- Almost always a direct blow or fall onto acromion.
- The joint is stabilized by three ligaments: **Acromioclavicular and Coracoclavicular**. When the pt. falls the ligaments rupture and nothing holds the clavicle so it moves.



## ★ Treatment:

#Conservative: partial dislocation.

#Surgical: complete dislocation, If pt. active or athletic we offer surgery but if not active or not athletic we offer conservative.

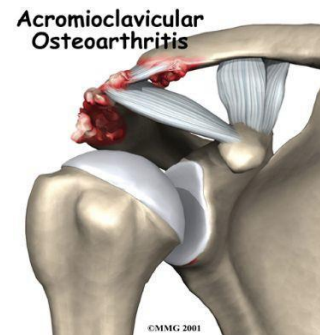


## ★ AC arthritis:

- Arthritis is a condition characterized by loss of cartilage in the joint, which is essentially wear and tear of the smooth cartilage which allows the bones to move smoothly.
- Motions which aggravate arthritis at the AC joint include reaching across the body toward the other arm.

## ★ Causes of AC Arthritis: mostly primary

- Degenerative osteoarthritis. (wear and tear in old aged people)
- Rheumatoid Arthritis
- Gouty Arthritis
- Septic Arthritis in drug addicts
- Atraumatic distal clavicle osteolysis in **weight lifters**. (result of repeated movements that wear away the cartilage surface found at the acromioclavicular joint)
- Post-traumatic osteolysis of lateral end of clavicle. (like dislocation or a fracture)



## ★ Signs and Symptoms:

- Pain:
  - ✓ Worsens with movement and progressively worsens.
  - ✓ The patient may suffer a night pain which is a sign of arthritis.
- It is commonly associated with impingement syndrome.

## ★ Diagnosis: Clinical and by x-rays

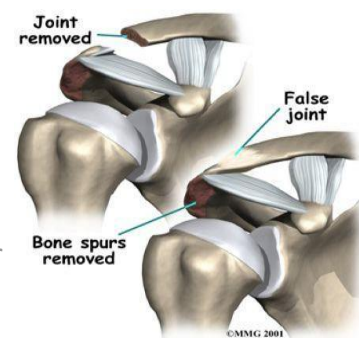
## ★ Treatment:

### #Non-surgical Treatment:

- Rest, avoid weightlifting and push-up.
- Pain medications and NSAID to reduce pain and inflammation.

### #Surgical:

- Number of different approaches involving AC/CC ligament reconstruction or screw/hook plate insertion.
- Distal clavicle resection **less than 1 cm**



# Dislocation of the Shoulder Toronto notes osmosis high yield notes

**Acute dislocation is a surgical emergency and demands urgent relocation.**

- The shoulder joint has the greatest ROM of any joint in the body.
- It relies on soft-tissue restraints, including the capsule, ligaments, and musculature, for stability.
- Therefore, this joint is at the highest risk for dislocation.
  - ↳ **Most frequently dislocated joint of the body.**

## Classification

Atraumatic (AMBRI) → <u>Conservative</u>	Traumatic (TUBS) → <u>Surgery</u>
<ul style="list-style-type: none"> <li>- Multidirectional instability.</li> <li>- <b>Generalized ligamentous laxity.</b></li> <li>- <b>Bilateral.</b></li> <li>- Responds well to nonsurgical management.</li> <li>- Habitual. يقولك احس احياناً ان كتفي يطلع ويرجع.</li> </ul> <p><b>AMBRI:</b> A= Atraumatic, M= Multidirectional, B= Bilateral, R= Rehabilitation, I= inferior.</p> <p><b>TUBS:</b> Trauma, Unidirectional, Bankart, Surgery.</p>	<ul style="list-style-type: none"> <li>- 96% FOOSH mechanism mostly</li> <li>- Unidirectional.</li> <li>- Further classified by the direction of the humeral head dislocation:                             <ul style="list-style-type: none"> <li>● <b>Anterior</b> &gt; 95%</li> <li>● Posterior &lt; 4%</li> <li>● Inferior &lt; 1%</li> </ul> </li> </ul> <p>Usually comes with bankart's lesion on MRI</p>

★ Acute **anterior** traumatic shoulder dislocation: **important**

Avulsion anterior labrum (the **Bankart's** lesion) and sometimes anterior rim of the glenoid (Bony **Bankart's** lesion) يلعب كرة طائرة وطاح على يده، حادث، ضربه أحد من وراء وانخلع كتفه

★ Mechanism of acute anterior shoulder dislocation:

- ⇒ Usually **Indirect** fall on **Abducted** and **extended shoulder** (external rotation)
- ⇒ May be **direct** when there is a blow on the shoulder from behind humerus pushed anteriorly.

★ Anterior Shoulder dislocation:

- It is anterior inferior.
- **Bankart's Lesion** it is inferior detachment of anterior Labrum (fibrocartilage) from the glenoid, معظم الريكرنت يكون هو سببها. if it was **posterior** shoulder dislocation we call it **revers bankart**.

★ Clinical Picture:

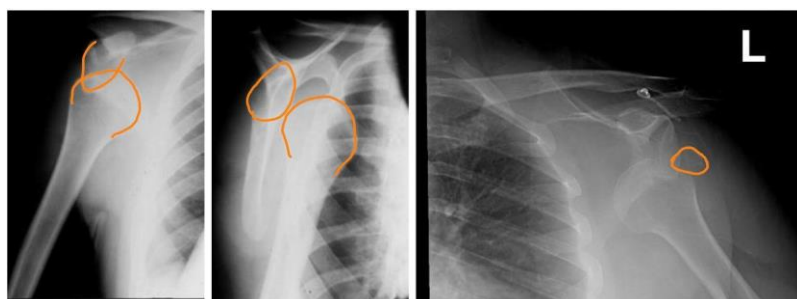
- Patient is in **Sever pain**.
- **Holds the injured limb with other hand close to the trunk.** Pic →
- The shoulder is abducted and the elbow is kept flexed.
- There is **loss of the normal contour of the shoulder** (Deltoid)
- Loss of the contour of the shoulder may appear as a step.
- Anterior bulge of head of humerus may be visible or palpable. **If pt thin**
- A gap can be palpated above the dislocated head of the humerus.



★ X-ray anterior shoulder dislocation →

You must obtain AP, Lateral & most imp **axillary view**. أول شيء نسويه سريع

Anterior dislocation and Greater tuberosity fracture. It is hard to do PE when the patient in pain. You have to check neurovascular (axillary n)



If you see overlap between humeral head and glenoid this is a big question mark (shoulder dislocations easily missed)  
 فيه صور لليوستيروير ديسلوكيشن بس الدكتور قال محد بيسألكم عنها عمومًا:

Post. Dislocations commonly happen with epileptic pt, drinkers, electric shock exposure.

★ **Associated injuries of anterior Shoulder Dislocation:**

- Injury to the neurovascular bundle in axilla.
- Injury of the **Axillary Nerve** (Usually stretching leading to temporary neuropraxia) and sometimes all brachial plexus is affected.
- Associated fracture.



#**Axillary Nerve Injury:** “neuropraxia” usually resolves with time.

- It is a branch from posterior cord of Brachial plexus, It is sensory and motor so, you have to examine both, sometimes only the sensory part is affected or only the motor part is!!!!
- It hooks close round neck of humerus from posterior to anterior
- It pierces the deep surface of **deltoid** and supply it and the part of **skin** over it.

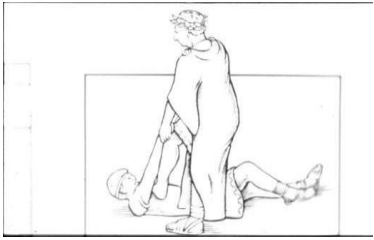
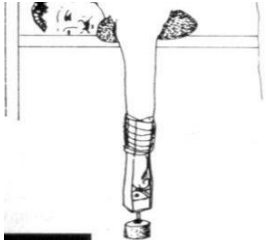
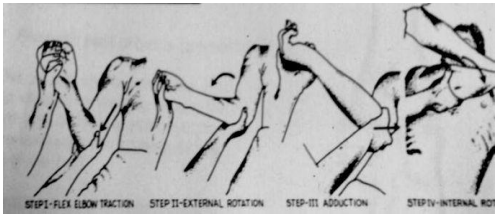
★ **Management of Anterior Shoulder Dislocation:**

X-ray first to diagnose

- Is an **Emergency** (Examine neurovascular → reduce → NVE → surgery → NVE)
- It should be reduced in **less than 24** hours or there may be Avascular Necrosis of head of humerus If you try in the ER and you cannot do it, take the patient to OR under GA
- Following reduction the shoulder should be immobilized strapped (sling) to the trunk for 3-4 weeks and rested in a collar and cuff.

إذا أول مرة مانسوي عملية بس اذا تكررت نسويها، لكن كل ماكان المريض صغير ٢٠-٢٥ وتحت نسوي العملية من أول مرة لأن في كل مرة يخلع labrum يتأذى.

★ **Methods of Reduction of anterior shoulder Dislocation:**


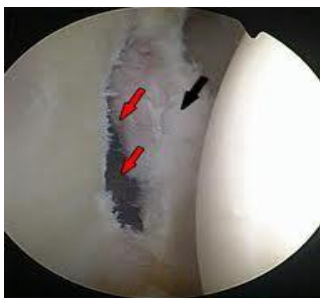

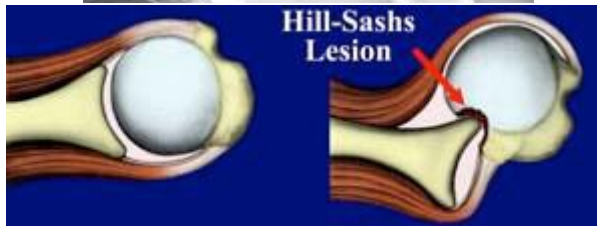
Hippocrates Method	Stimpson’s technique	Kocher’s technique
A form of anesthesia or pain abolishing is required.	Some sedation and analgesia are used but No anesthesia is required.	It is the method used in <b>hospitals</b> under general anesthesia and muscle relaxation. This is what we nowadays do with <u>conscious</u> sedation.
		
<ul style="list-style-type: none"> <li>- Put your foot in axilla to counteract and pull the elbow.</li> <li>- An old way used now by soldiers in wars.</li> </ul>	<ul style="list-style-type: none"> <li>- There is a lot of spasm in muscles after dislocation bc of pain which makes the reduction harder.</li> <li>- This technique need strong analgesia (midazolam..).</li> <li>- Put pt in Prone position and put Axillary pad to prevent brachial plexus strain put traction (3-4 kg or less) leave him (15-20 min) until muscles relaxes, most of the time it reduces by itself.</li> </ul>	<ul style="list-style-type: none"> <li>- Efficient and quick technique.</li> <li>- The dislocation in this case is inferior internal.</li> <li>- We need good muscle relaxation and good analgesia.</li> </ul> <p><b>How to reduce?</b>                      Exaggerate the deformity by: Apply traction ‘pull the arm down’, hold arm and do external rotation then push up and internal rotation. (Need someone to support the axilla)</p>



★ **Complications of anterior Shoulder Dislocation:**

Early	Late
<ul style="list-style-type: none"> <li>- Neurovascular injury (rare)</li> <li>- Axillary nerve injury (brachial plexus)</li> <li>- Associated Fracture of neck of humerus or greater commonly or lesser tuberosities</li> </ul>	<ul style="list-style-type: none"> <li>- Avascular necrosis of the head of the Humerus (high risk with delayed reduction) After 24h AVN (Anterior humeral circumference artery runs around the head of humerus so if there is anterior dislocation it will get kinked and thus resulting in decreased the blood supply to the humeral head)</li> <li>- <b>Recurrent shoulder dislocations (Most important one)</b> في البداية the younger the pt. the more common. يتكرر الخلع من حركات قوية بس مع الوقت ابسط حركة ممكن تخلعه.</li> <li>Scenario: 20y old pt, first dislocation from trauma there will be 90% chance of dislocates it again but the older they get the less likely they dislocate.</li> <li>- Dislocates the inferior glenohumeral ligament pulls the labrum causing Bankart's lesion. The younger the pt is the higher chance to have it.</li> </ul>
<p>- Rotator cuff tear (most common over age 40y)</p>	

★ **Associated Injuries:**

Bankart's lesions	Hill-Sachs lesion
<p>Detachments of the anterior labrum from the glenoid rim 85%. We reattach it with surgery</p>	<p>an impaction fracture زى الانطعاج of the posterolateral humeral head on the glenoid rim 40-90%</p>
  <p>Rx: Surgery = Bankart's (we do reattachment)</p>	 
<p><b>RCT or fracture of the greater tuberosity 33%</b></p>	<p><b>Neurological injury 13%</b></p>
<p>Dislocation + Patients &gt; 40 years high risk of RCT (20-54%)</p>	<p>Axillary nerve most common</p>

★ **Post-reduction rehabilitation**

- The goal of rehabilitation is to regain maximum ROM while retaining stability.
- The affected arm can be immobilized for 3 weeks, and limited physical rehabilitation is recommended.

#أعيد وأكرر: شولدر ديسلوكيشن في مريض أكبر من 40 فگر معاه بروتيتر كفا! مب تخليه وحنا ما ندري عن قطع العضلة نجى بعد كم شهر والمريض ما تحسن نسوي ام ار أي ونلقى الروتيتر خلاص صار لها ريتراكشن! (العضلة تقصر)

#المانجمنت للريكنت شولدر ديسلوكيشن: أي واحد ريكنت نسوي عملية سواء صغير أو كبير. تمام؟ هذي فاكت. لكن لازم ننتبه هنا إننا نتكلم عن الناس الريكنت اللي السبب حقهم بالبداية "أول خلع" تروماتيك!!

النوع الثاني اللي ما كان سبب أول خلع لهم تروما هذولا المانجمنت حقتهم فيزيو فيزيو فيزيو لين خلاص (ترا ما عندهم بانكرت ليجن هم الكابسول صار مرتخي فيخلع الكتف معهم). ليه يا دكتور مو عملية؟ لأن ببساطة مافي شيء أسويه! ما عندهم قطع أحيطة وأسوي ري اتاشمنت نفس النوع الأول. لأن الباثولوجي حقهم كل ما شدت المنطقة بترجع ترتخي وتخلع، مشكلتهم الأساسية اللاكزتي أو young الإرتخاء وهذا النوع شائع بال  
فضروري إذا جاك بيشنت ريكرننت الهيستوري عشان تقدر تعرف هل هم أول خلع كان تروما أو مشكلتهم إرتخاء؟ إذا كان ما يتذكر نسوي اكزامينيشين ونشوف جسمه هل فيه لاکزتي؟ بالأخير نسوي ام ار أي عشان نتأكد إن مشكلتهم اللاكزتي.

### **Important questions read them!**

Q1: 45y lady with Shoulder Pain with overhead activity and limited abduction = rotator cuff and impingement.

Q2: a 20y old male who was involved in car accident and was unable to abduct- MRI shows tear of supraspinatus? SURGERY

Q3: What is the treatment for 50y old have chronic pain for long time and unable to abduct? Conservative