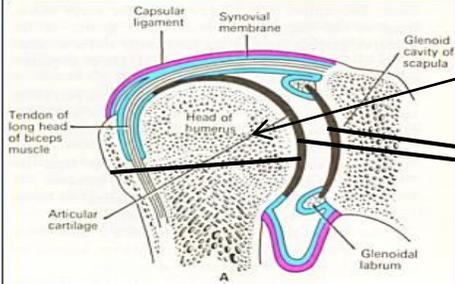


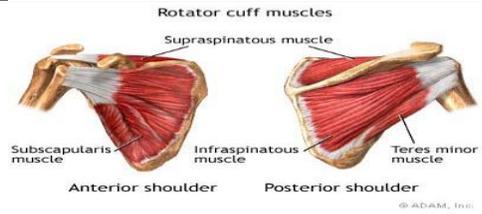
From where	SHOULDER JOINT	
1. Type of joint.	<ul style="list-style-type: none"> ♥ Synovial ♥ Polyaxial ————— Free movment ♥ Ball (head of the humerus) ♥ Socket (the glenoid cavity of the scapula) <p style="text-align: right;">According to the shape</p>	
2. Articular surfaces.	<p>a)Head of <u>humerus</u> b)Glenoid cavity of <u>scapula</u></p> <ul style="list-style-type: none"> - Each of the articular surfaces is covered by hyaline cartilage. - The glenoid cavity is deepened by labrum glenoidal. <p>&what is the labrum glenoidal? a fibro-cartilaginous rim&</p> <div data-bbox="1149 478 1555 730" style="border: 1px solid black; padding: 5px;">  <p>• hyaline cartilage.</p> <p>• labrum glenoidal.</p> </div>	
3. Capsule	<p>Dif: (covers margins of articular surfaces). Consider the Fibres Bag</p> <ul style="list-style-type: none"> • Medially attached to the margins of the glenoid cavity outside the labrum glenoidal. • Laterally is attached to the anatomical neck of the humerus, except inferiorly where it extends about 1 cm to the shaft. <div data-bbox="337 982 1377 1266" style="display: flex; align-items: center;">  <div style="margin-left: 20px;"> <div data-bbox="998 993 1377 1066" style="border: 1px solid black; background-color: #f4a460; padding: 5px; text-align: center;">Anatomical Neck</div> <div data-bbox="998 1119 1349 1192" style="border: 1px solid black; background-color: #f4a460; padding: 5px; text-align: center;">Hyaline Cartilage</div> </div> </div>	
4.Synovial membrane	<p>Dif: (lines the inner of the capsule).</p> <ul style="list-style-type: none"> -It lines all the structures inside the capsule of the shoulder joint EXCEPT the articular cartilage (hyaline cartilage) -It forms a tubular sheath <p>&what is the FUN of a tubular sheath ?around the tendon of long head of biceps& # called intra-capsular, extra-synovial structure #</p>	
5. Ligaments related TO SHOULDER JOINT (---- humeral)	<p>1- False ligaments: Char/dif: be a part of something EX:- glenohumeral ligaments (Thickenings of the Capsule):</p> <div data-bbox="625 1549 1490 1612" style="border: 1px solid black; background-color: #f4a460; padding: 5px; text-align: center;"> ligament هي في الأصل Capsule ولكن حدث لها Thickening لذلك اعتبرت </div> <p>2- True ligaments:</p> <div data-bbox="625 1623 1490 1665" style="border: 1px solid black; background-color: #f4a460; padding: 5px; text-align: center;"> Connects the glenoid cavity of the scapula with humerus </div> <ol style="list-style-type: none"> 1. Coraco-humeral ligament. <div data-bbox="755 1686 1466 1749" style="border: 1px solid black; background-color: #f4a460; padding: 5px; text-align: center;"> Connects the coracoid process with humerus </div> 2. Transverse humeral ligament: DIF: (bridges over the bicipital groove) 3. coracoacromial ligament: <div data-bbox="722 1822 1485 1875" style="border: 1px solid black; background-color: #f4a460; padding: 5px; text-align: center;"> Connects the coracoid process of scapula with acromion process </div> <ul style="list-style-type: none"> - It protect the superior aspect of the joint - It prevent superior displacement of head of humerus above the glenoid cavity - Ligament + coracoid process + acromion process = coracoacromial arch 	

--Stability of shoulder joint

- The shoulder joint is an **unstable joint**

@why the shoulder joint **unstable** joint?

- 1- **Small shallow** glenoid cavity
- 2- The capsule is **lax**
- 3- The ligaments are **weak**
- 4- The inferior aspect **not supported by muscle** @



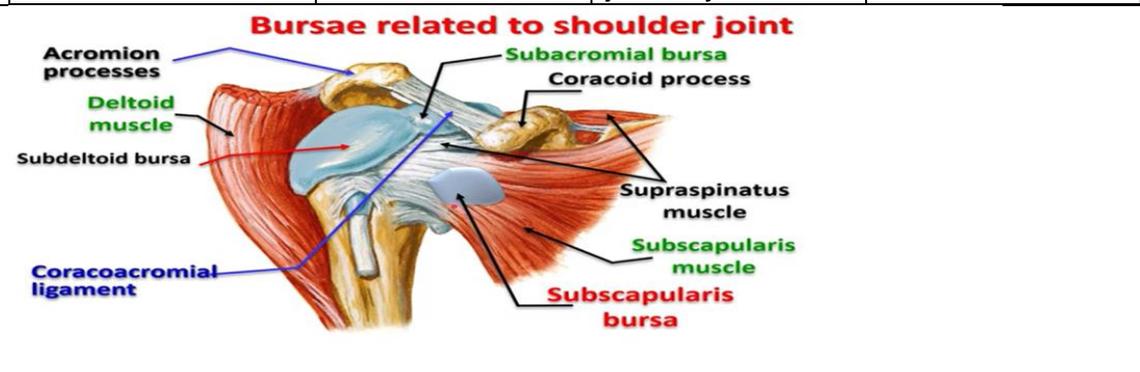
-The **stability** of shoulder joint depends on:

- 1- Rotator cuff of muscles **adherent** to the capsule of the joint
- 2- Glenoid labrum **increase the depth** of the cavity
- 3- Long head of biceps **passes** above the head of humerus intracapsular (Synovial membrane), **hence prevents its upward displacement**
- 4- Coracoacromial arch **\$FUN\$**
 - 1- **forms** the secondary socket of the joint
 - 2- **protect** the joint from above
 - 3- **prevent** the upward dislocation of the head of humerus
- 5- Long head of triceps **plays an important role** during abduction

--bursae related to the joint

From where	Subscapularis bursa	Subacromial bursa	Infraspinatus bursa
located	- Between The tendon of subscapularis and capsule	-lies between The Coracoacromial arch above and supraspinatus tendon and capsule below	Between the tendon of infraspinatus and capsule
Char	- It communicates with the joint cavity	- it continues downwards beneath the deltoid with subdeltoid bursa - it is the largest synovial bursa in the body and facilitates the movement of supraspinatus tendon under the Coracoacromial arch - it does not communicate with the joint cavity	

--bursae related to the joint

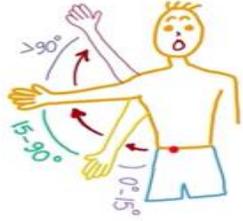


Relation of the sholder joint	<ul style="list-style-type: none"> ♥ Anteriorly:- anterior fibers of the deltoid Subscapularis ♥ Superiorly:- middle fibers of the deltoid Supraspinatus Long head of biceps ♥ Posteriorly:- Posterior fibers of the deltoid Infraspinatus Teres minor ♥ Inferiorly:- Long head of triceps Axillary nerve Posterior circumflex humeral vessels 	
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6. Movements and muscles producing it:

-(from NS of surrounding MS)

movement	Muscle
flexion	(muscle in front) <ul style="list-style-type: none"> ♥ anterior fibers of the deltoid ♥ pectoralis major ♥ coracobrachialis ♥ short head of biceps
extension	(muscle in the back) <ul style="list-style-type: none"> ♥ Posterior fibers of the deltoid ♥ Teres major ♥ Latissimus dorsi
abduction	<ul style="list-style-type: none"> ♥ From 0 to 15 by Supraspinatus muscle ♥ From 15 to 90 by middle fibers of the deltoid ♥ More than 90 to 180 by <ul style="list-style-type: none"> 1- combined action of lower 5 digitations of serratus anterior muscle 2- trapezius ♥ After 90 degree of abduction <ul style="list-style-type: none"> - head of humerus is locked by Coracoacromial arch - the scapula rotates upward and lateral to raise the arm above the head
adduction	By: <ul style="list-style-type: none"> ♥ the 3 muscle inserted into the bicipital groove : <ul style="list-style-type: none"> 1-Pectoralis major 2-Latissimus dorsi 3- Teres major ♥ 3 rotator cuff muscle : <ul style="list-style-type: none"> 1-Subscapularis 2-Infraspinatus 3-Teres minor
Medial rotation	By: <ul style="list-style-type: none"> ♥ anterior fibers of the deltoid ♥ 3 muscle inserted into the bicipital groove: <ul style="list-style-type: none"> 1-Pectoralis major 2-Latissimus dorsi 3- Teres major
Lateral rotation	By: <ul style="list-style-type: none"> ♥ Posterior fibers of the deltoid ♥ Infraspinatus ♥ Teres minor
circumduction	(happen in freely mobile joint) Include: <ul style="list-style-type: none"> ♥ Flexion ♥ Abduction ♥ Extension ♥ Adduction ♥ Done in succession

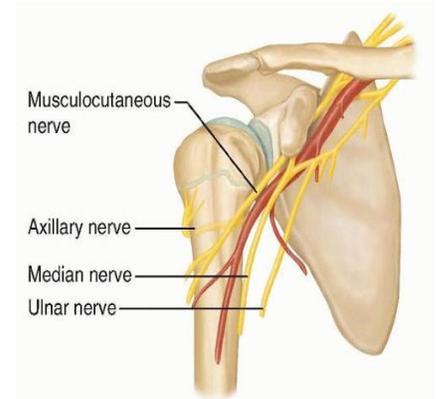


7. Nerve supply (AXILLARY NERVE)

- It **arises** from **the posterior cord** of the brachial plexus.
- It **passes backwards** through the **quadrangular space** to **turn around** the surgical neck of the humerus.
- root value :C5,C6

• Branches:

- ♥ **Muscular branches:** to
 - 1- the deltoid
 - 2- teres minor muscle.
- ♥ **Cutaneous branch:** Upper lateral cutaneous nerve of arm which **supplies** the skin over the lower half of deltoid.

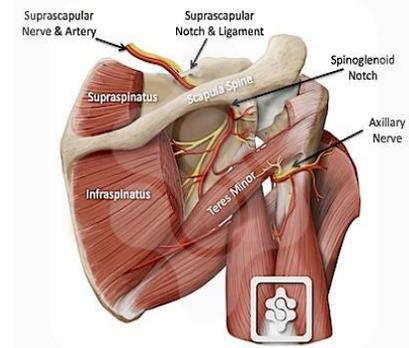


the the

• In case of **fracture** surgical neck humerus, the axillary nerve will be **injured** which will result in:

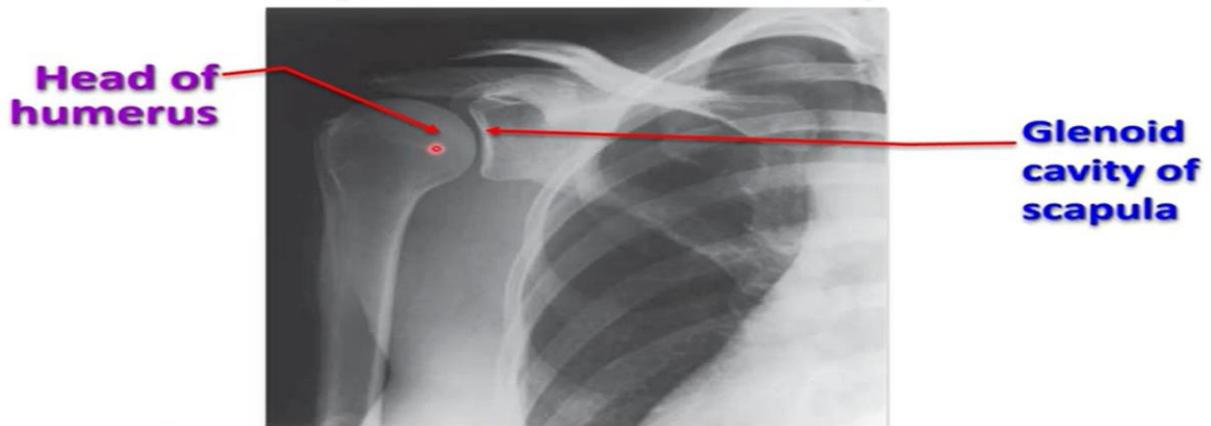
- Weakness** of abduction of the arm.
- Wasting** of the deltoid muscle (flat shoulder).
- Loss** of sensation over the lower half of deltoid

#why not loss abduction of the arm when injury the axillary
Because the arm has other muscle that do the beginning of abduction (up to 90) #



nerve?

Shoulder (Glenohumeral Joint)



X ray of shoulder joint

-Muscle do many movement:

- anterior fibers of the deltoid:- Flexion,, Medial rotation
- Pectoralis major:- Flexion,, adduction,, Medial rotation
- Posterior fibers of the deltoid:- extension,, Lateral rotation
- Teres major:- extension,, adduction
- Latissimus dorsi:- extension,, adduction,, Medial rotation
- Infraspinatus:- adduction,, Lateral rotation
- Teres minor:- adduction,, Lateral rotation

