



The Shoulder: Anatomy and disorders

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Why Study the Shoulder?

Shoulder pain is one of the most common musculoskeletal complaints

Essential for daily activities: dressing, lifting, reaching overhead

Most mobile joint in the body

Learning Objectives

Understand basic shoulder anatomy

Explain how stability is maintained

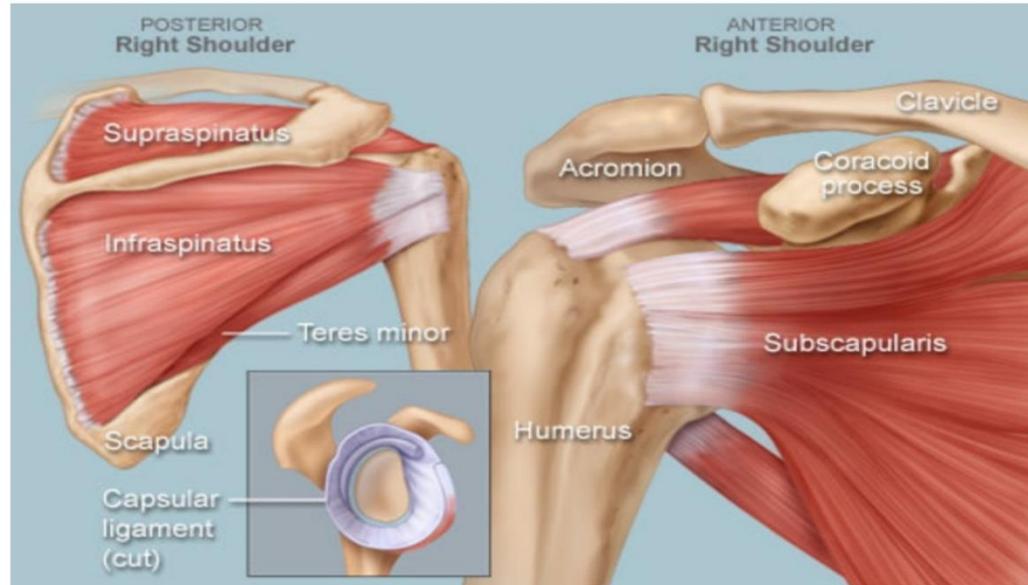
Recognize three common shoulder disorders:

- Shoulder dislocation
- Rotator cuff disease
- GH osteoarthritis

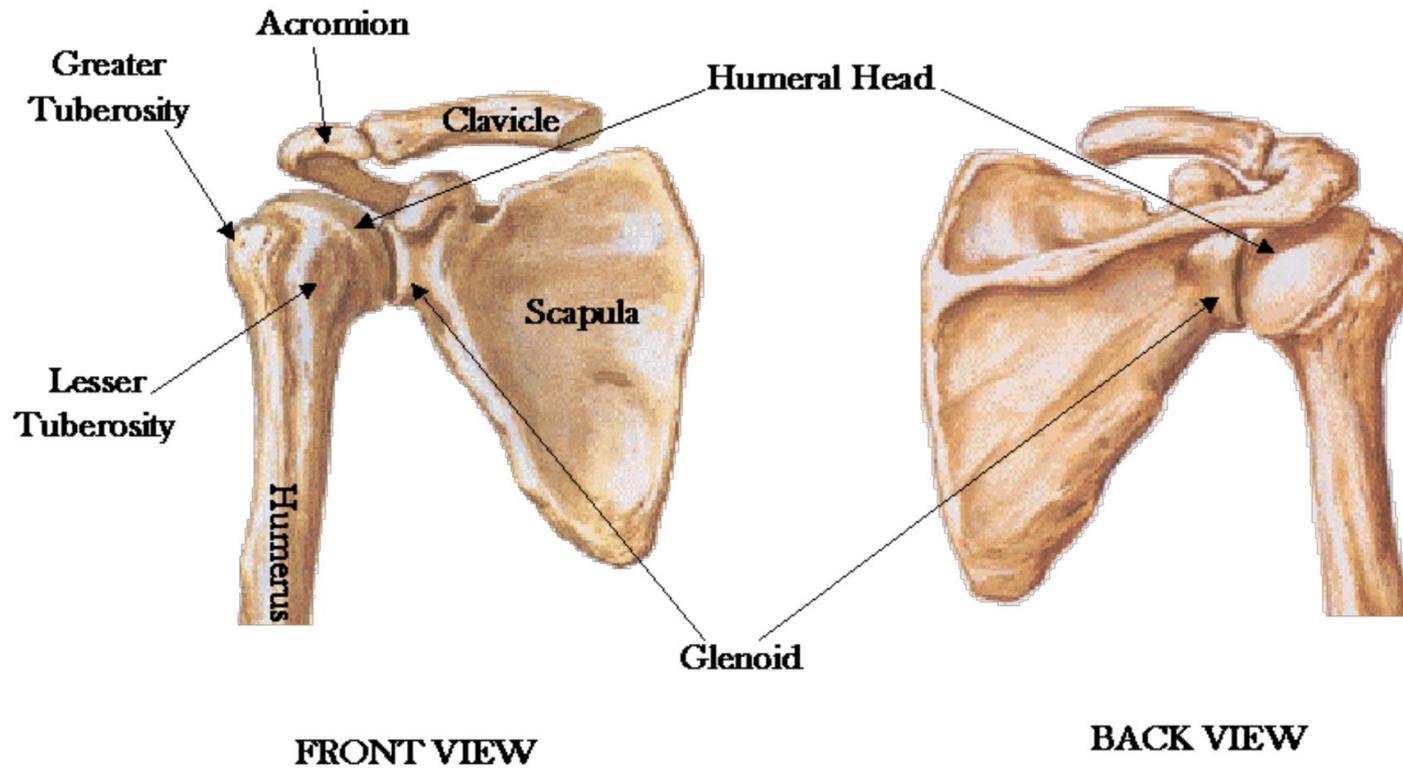
Shoulder Anatomy Overview

Recall The **Anatomy**..

- Bones
- Muscles
- Capsules
- Ligaments

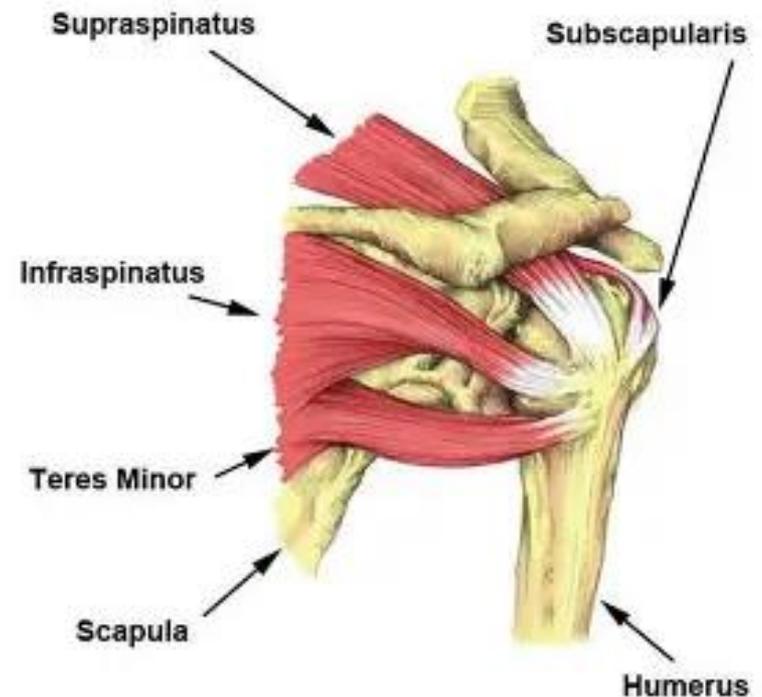


Bones



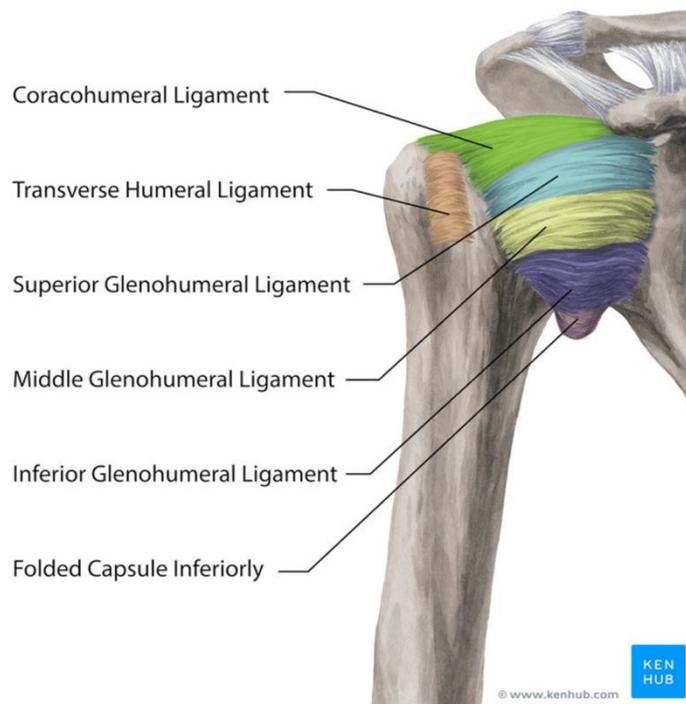
Rotator cuff muscles

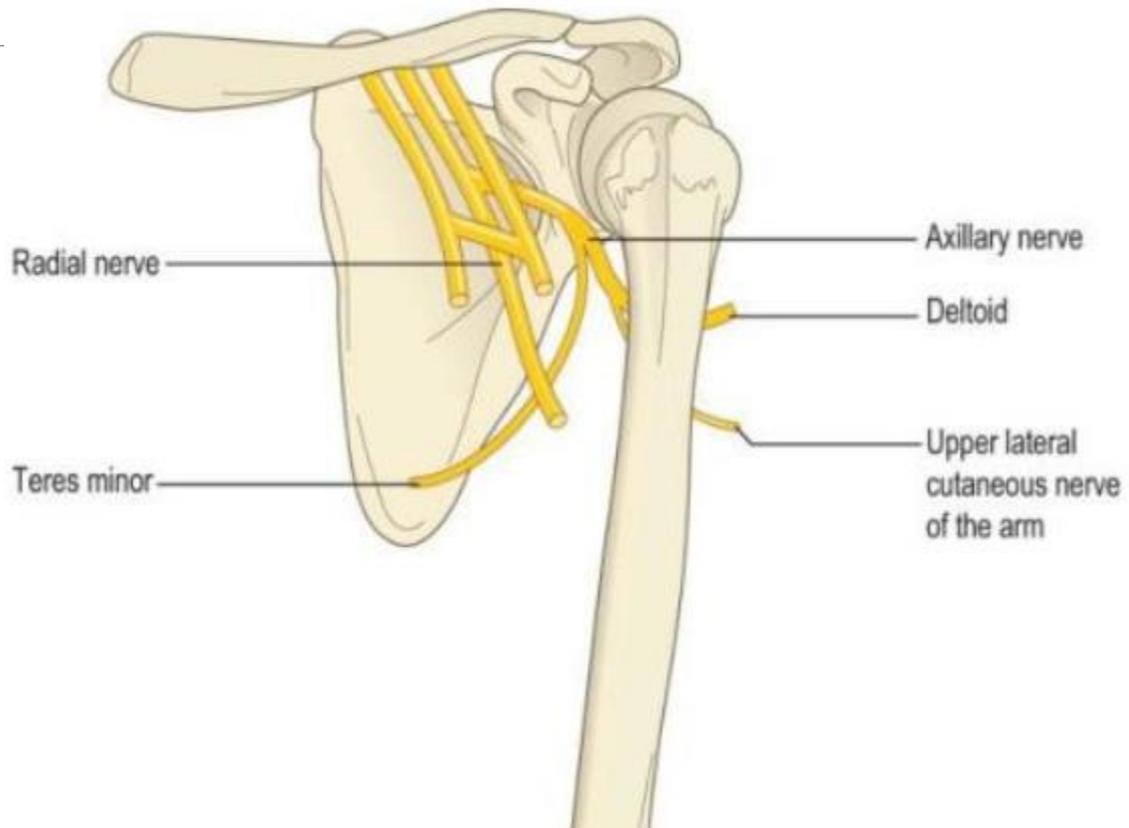
- Supraspinatus –
abduction
- Infraspinatus –
external rotation
- Teres minor –
external rotation
- Subscapularis –
internal rotation



Shoulder Ligaments

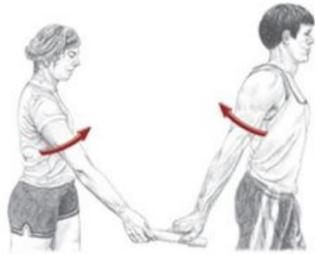
Ligaments





Has a wide range of motion

Shoulder (glenohumeral joint)

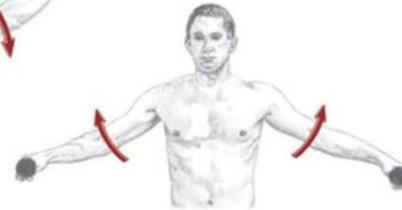


Flexion

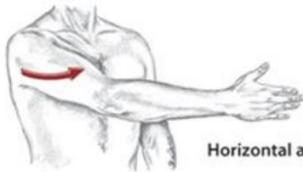
Extension



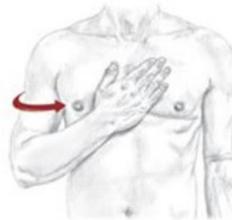
Adduction



Abduction



Horizontal adduction



Medial rotation
(internal rotation)



Lateral rotation
(external rotation)



Horizontal abduction

Clinical Case 1

22-year-old football player falls on
outstretched hand.

Severe pain and deformity.

Numbness over lateral shoulder

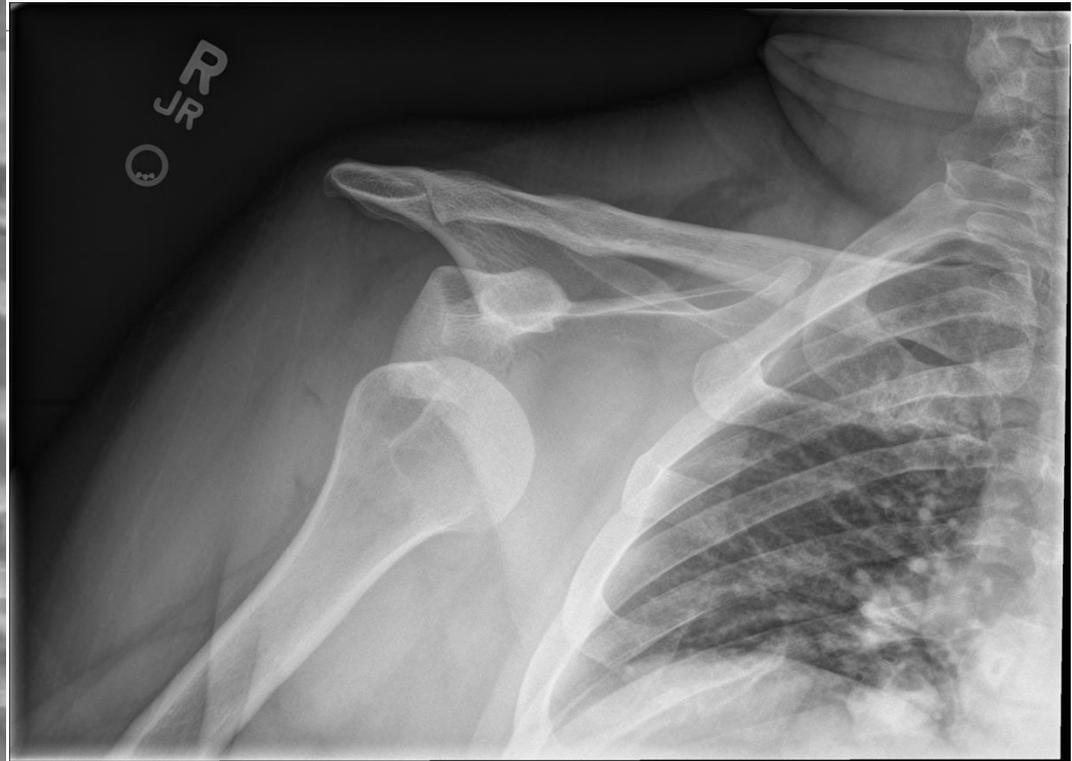
likely diagnosis?



Shoulder dislocation

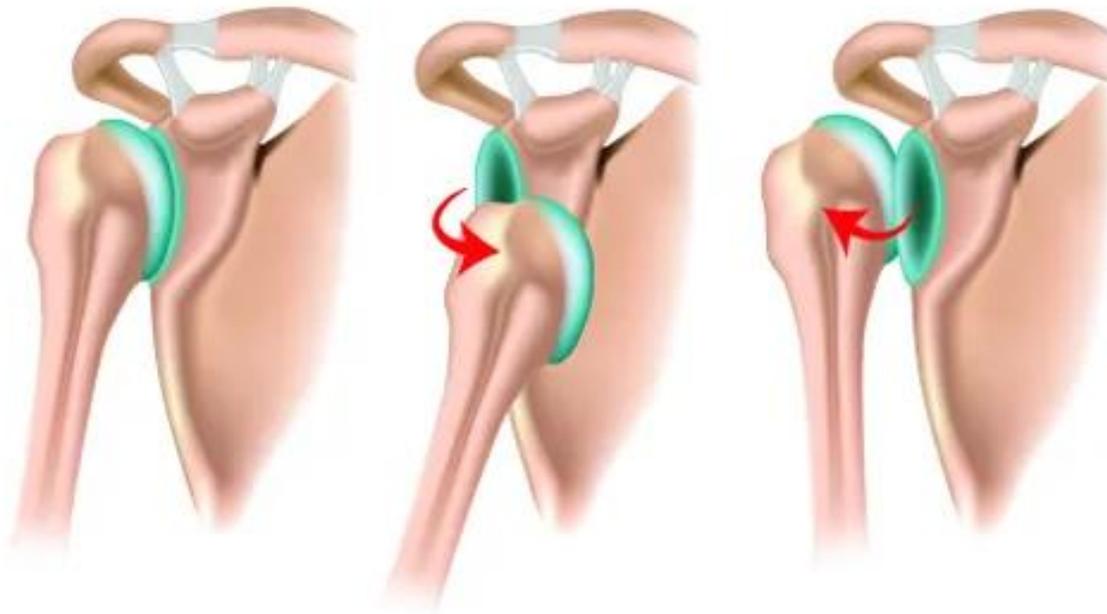


**Normal
anatomy**



**Anterior
dislocation**

Shoulder Dislocation



Normal
anatomy

Anterior
dislocation

Posterior
dislocation

Shoulder stabilizers

Gleno-humeral ligament

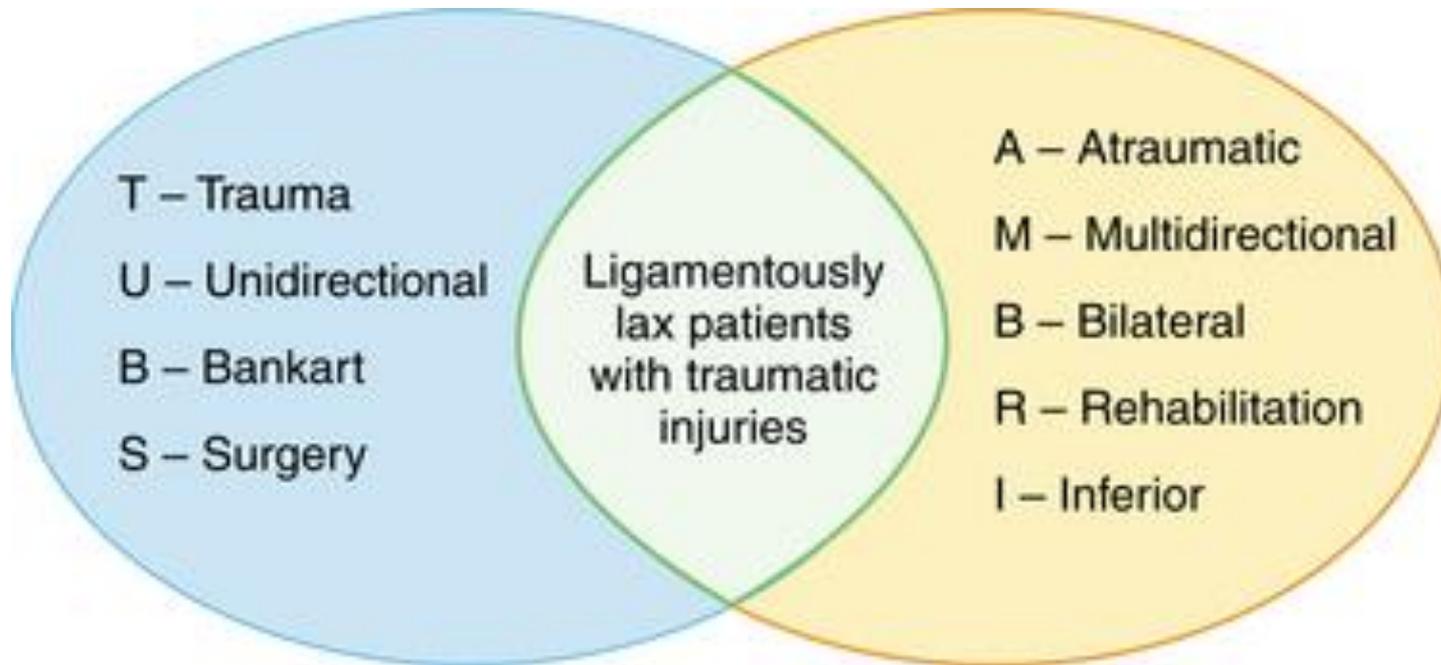
Glenoid labrum

Bony anatomy

Negative pressure inside capsule

Rotator cuff muscles

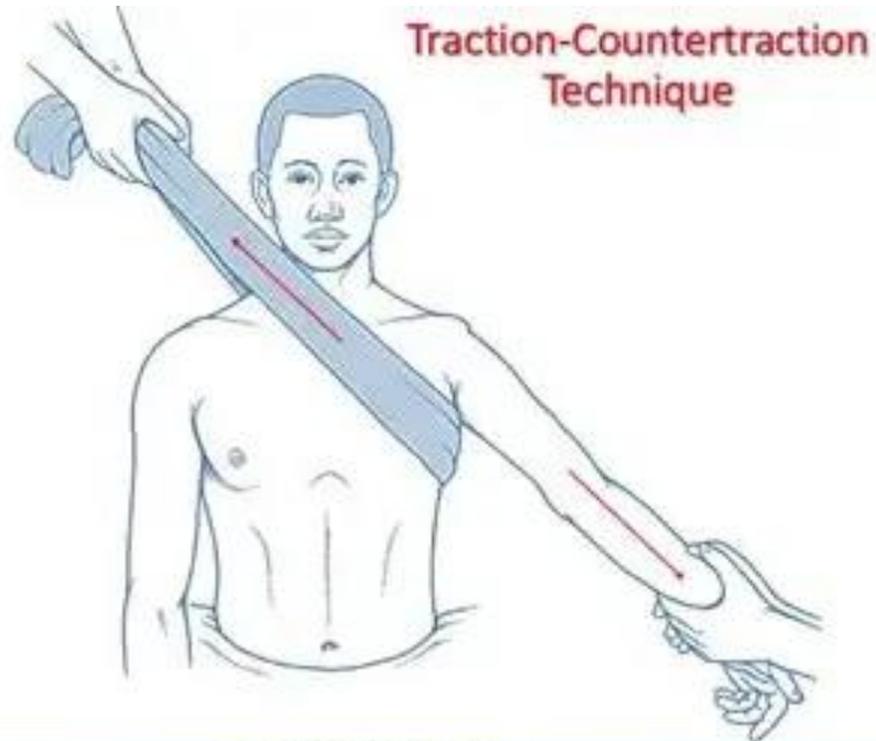
Pathophysiology



Labral tear



Acute management



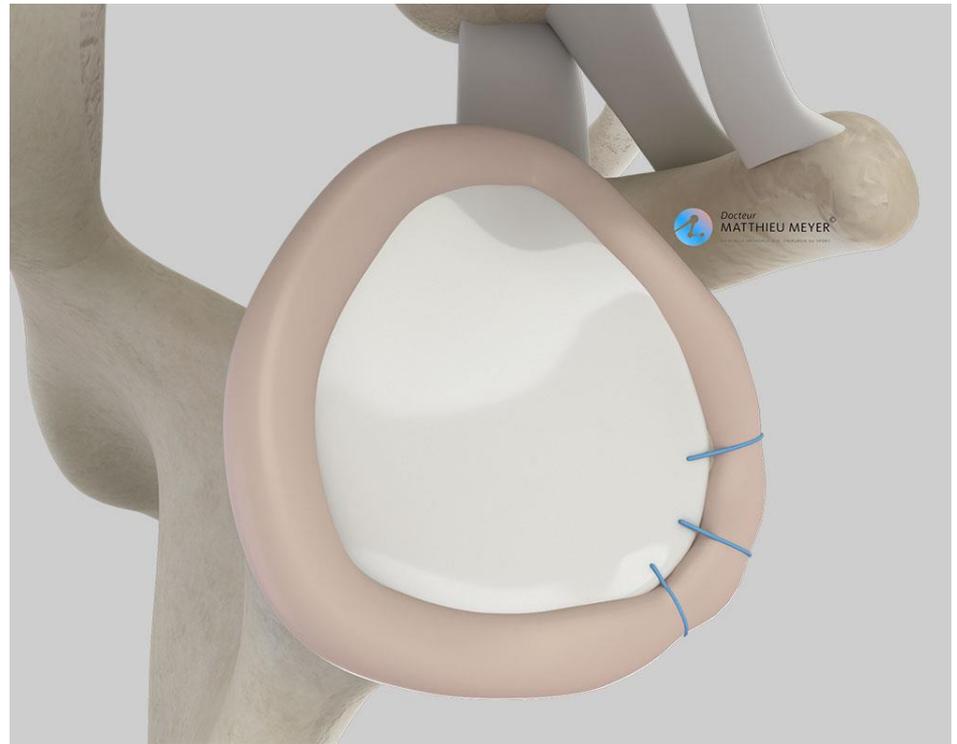
Ongoing management

Risk of recurrent dislocation → young

Physiotherapy

Shoulder stabilization surgery

- ***Repairing labral tear***



Clinical Case 2

52-year-old man with shoulder pain for 6 months

Pain lifting the arm and reaching overhead

Night pain

Weakness in abduction

Rotator Cuff Tear

Rotator cuff tear

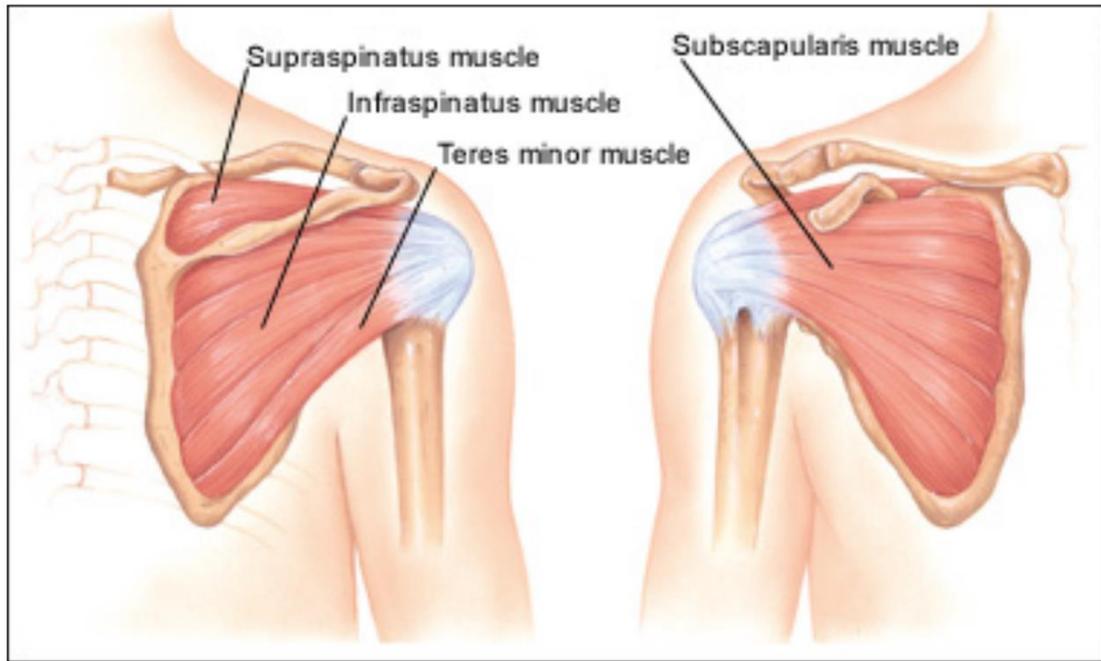
Important functions:

- Counterbalance the upward pull of the deltoid on the humerus.
- Hold the head of the humerus secure in the glenoid.
- Externally rotate the shoulder which is important during arm elevation.



Rotator Cuff Muscles

Rotator Cuff Muscles



Presentation

Pain around shoulder

Sleep disturbed by pain

Weakness with specific movements relating to the muscle



Rotator Cuff MRI

Investigations



Figure 1

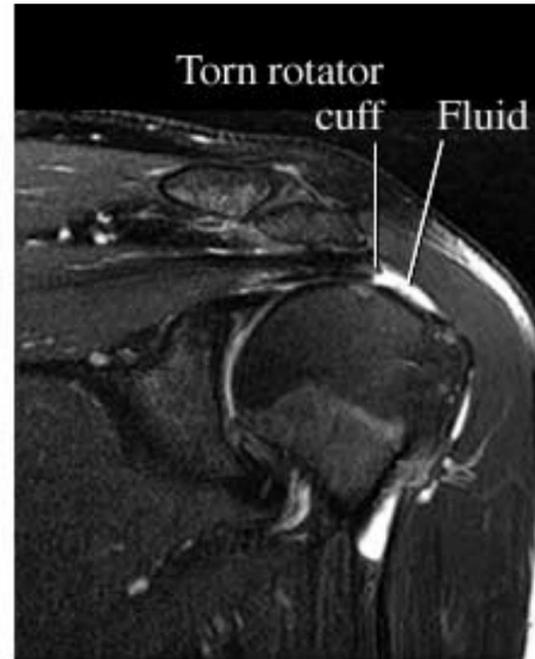


Figure 2

Management

Rest and adapted activities

Analgesia

Physiotherapy

Steroid injection

Surgery → Arthroscopic rotator cuff repair



Clinical Case 3

75-year-old lady with chronic shoulder pain

Gradually worsening stiffness

Difficulty reaching overhead

Glenohumeral Osteoarthritis

Degenerative joint disease of the shoulder

Affects articular cartilage

Pain, stiffness

Crepitus , muscle wasting and reduced range of motion (**External rotation**)

Risk factors

Old age, post – trauma, family history, inflammatory arthritis

Investigations :

Shoulder X-ray :

General osteoarthosis changes:

- 1) Narrowed joint space
- 2) Subchondral sclerosis
- 3) Osteophytes
- 4) Subchondral cysts



Management

Analgesia

Activity modification

Physiotherapy – Deltoid strengthening

Steroid injections

Surgery – Shoulder replacement



Take-Home Messages

Young trauma → dislocation

Middle age pain → rotator cuff tear

Old age → Glenohumeral Arthritis

Anatomy explains shoulder pathology