

posterior instability

M. N. Naderi , MD
Fellowship in shoulder
surgery & arthroscopy



Pathological humeral translation that results in clinical symptoms of pain & dysfunction

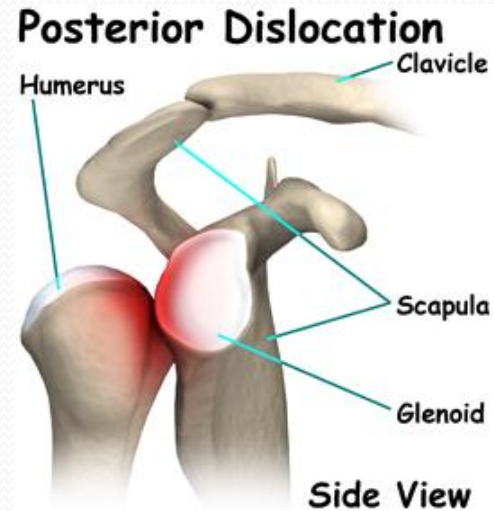
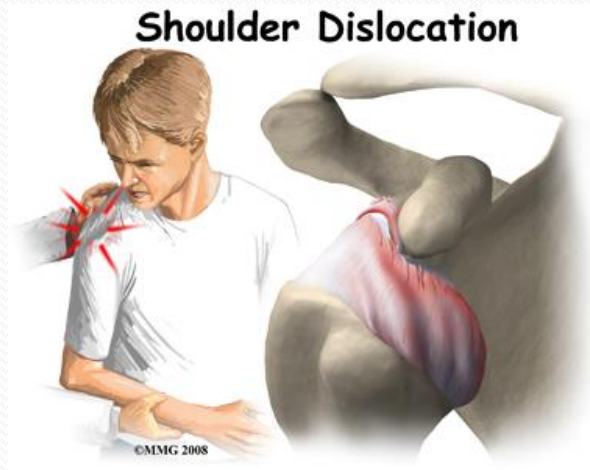
- Instability (symptom)
ranging from a vague sense of shoulder dysfunction to an obvious fixed dislocation
- Laxity (sign)



Laxity \neq Instability

shoulder instability

- Incidence 2% in general population
- Post. Instability < 10 % of shoulder instability
 - Trauma less important
 - Instability symptoms or pain
 - Easily missed



Biomechanics

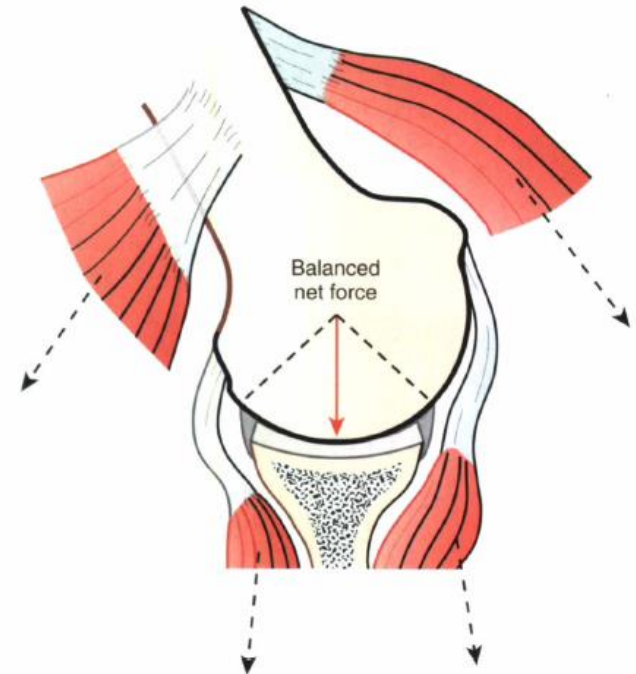
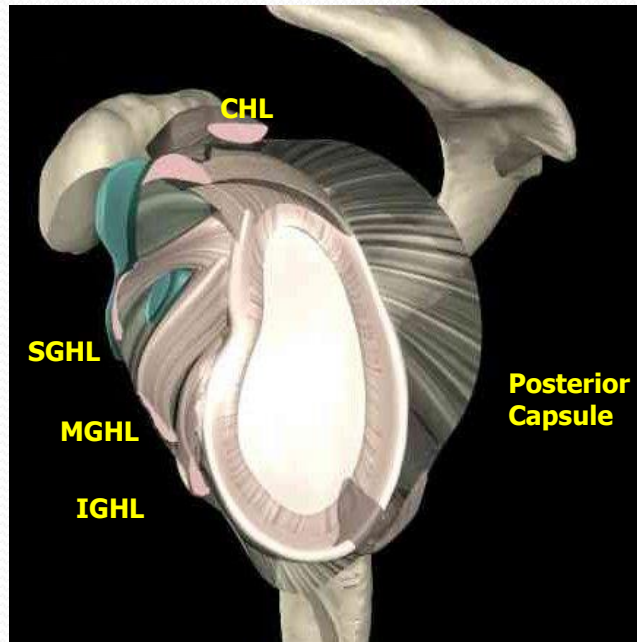


- **Static Restraints**

- Bony architecture, capsule, labrum, GH ligaments

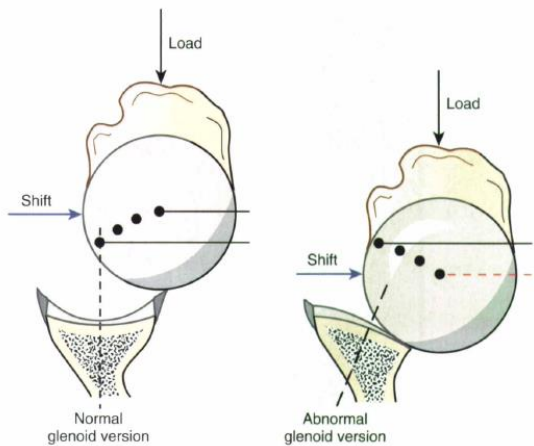
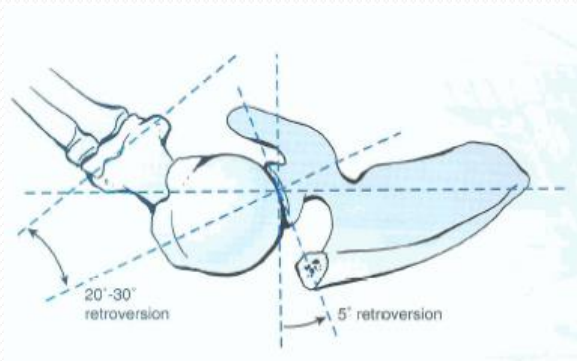
- **Dynamic Restraints**

- RC, deltoid, scapular muscles

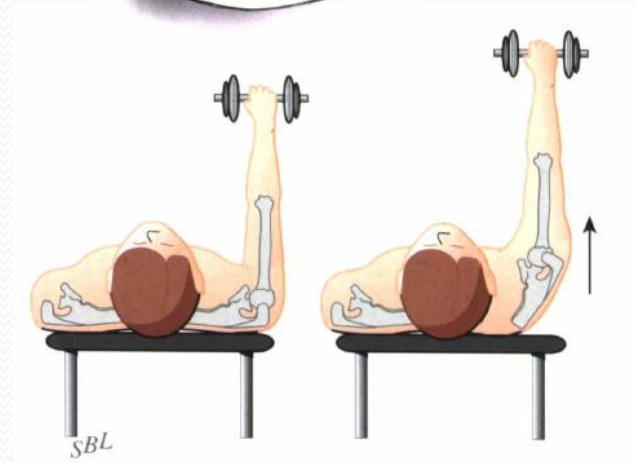
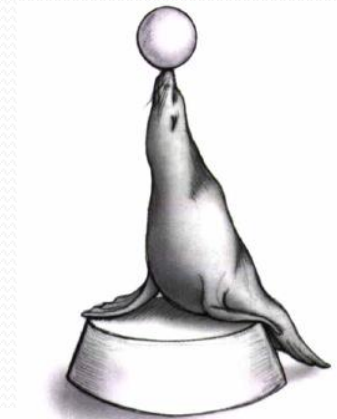


Biomechanics

- **Glenoid version**

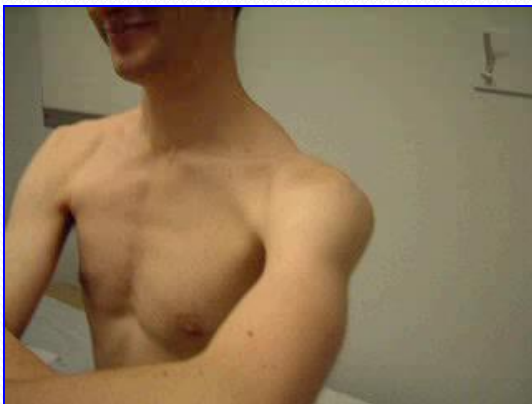


- **Scapular Positioning**



Classification of Posterior Instability

- **Direction**
 - Unidirectional posterior subluxation is (most frequent form)
 - Bidirectional or multidirectional instability
- **Traumatic (acquired) or atraumatic**
- **Voluntary or involuntary**



Evaluation

Shoulder Instability?

When ?

- Acute , Neglected (chronic) , Recurrent

How ?

- Traumatic , Atraumatic , Voluntary

Direction ?

- Anterior , Posterior , Inferior , Multidirectional

Degree ?

- Dislocation , Subluxation

Accompanying symptoms ?

- Pain , Stiffness ,,,

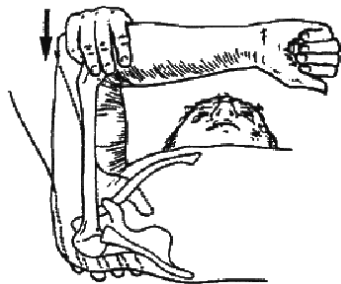
Evaluation



- **In Posterior Instability:**
 - Symptoms more subtle
 - pain and feelings of weakness common
 - Instability symptoms may not be present

Evaluation

- Sulcus sign
- Drawer test (Load and shift test)
- Jerk test



Evaluation

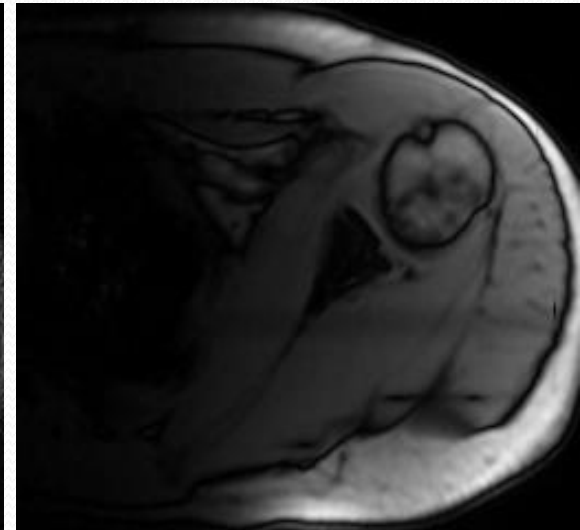
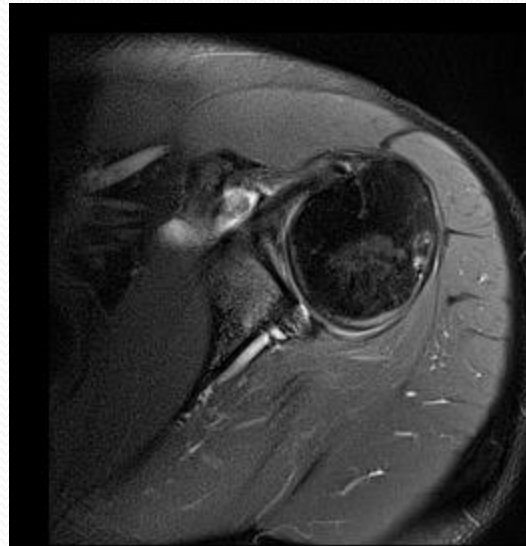
- X-ray
- CT scan
- MRI



A

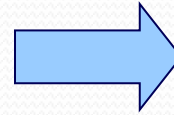


B



Decision Making

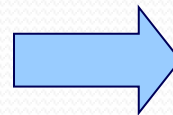
Muscle Patterning
Proprioceptive



Physiotherapy
+ Surgery

Structural

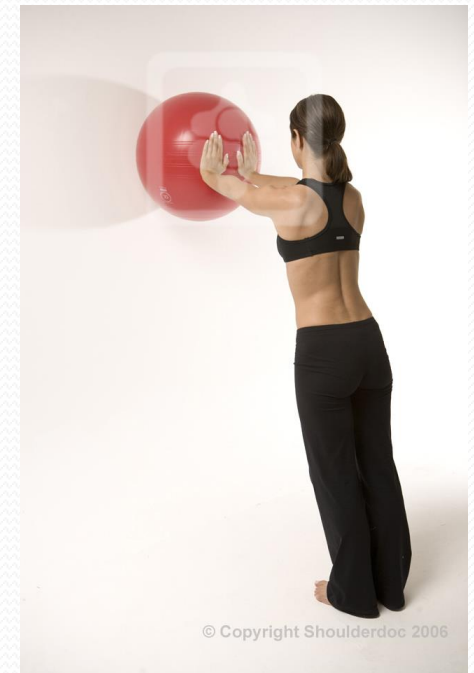
- ✓ Soft tissue
- ✓ Bony



Surgery
+ Physiotherapy

Physiotherapy

- ROM
- Proprioception
- Strength
 - Deltoid & RC muscles
 - Scapular Muscles



E. Tannenbaum, J.K. Sekiya; **Evaluation and Management of Posterior Shoulder Instability.** *Sports Health: A Multidisciplinary Approach* May/June 2011 vol. 3 no. 3 253-263

- Patients who had at least 6 months of physical therapy and still experience instability symptoms should be considered for surgical stabilization directed at their underlying pathology

Decision Making

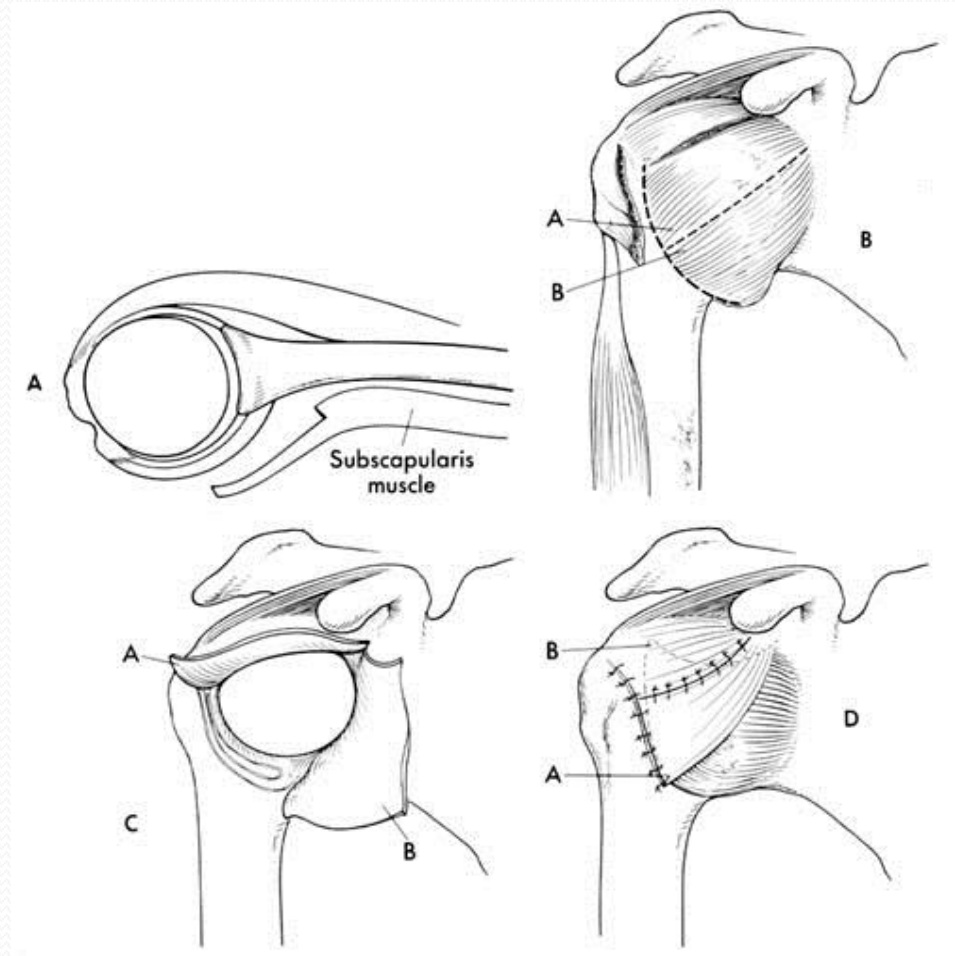
Surgical Decision Making for Posterior Instability According to Pathoanatomy

Pathologic Lesion	Procedure of Choice
Posterior Bankart lesion	Arthroscopic or open posterior Bankart repair
Excessive capsulolabral laxity	Arthroscopic or open posterior capsular shift ± rotator interval closure
Glenoid erosion	Posterior glenoid bone grafting
Increased glenoid retroversion	Posterior opening wedge glenoid osteotomy

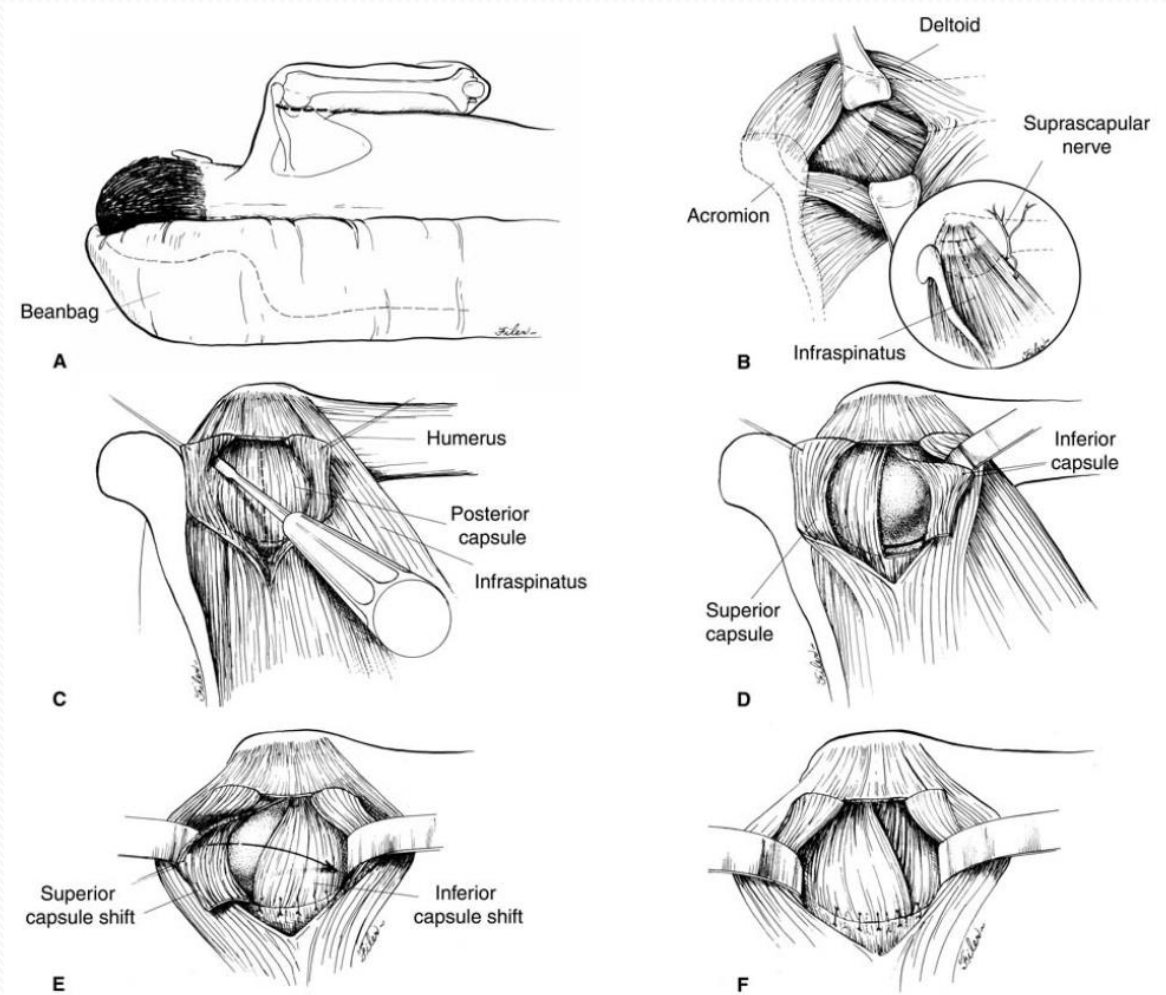
Millett PJ, Clavert P, Hatch GF 3rd, Warner JJ. [Recurrent Posterior Shoulder Instability](#). J Am Acad Orthop Surg. 2006 Aug;14(8):464-76

Surgery (Neer capsular shift)

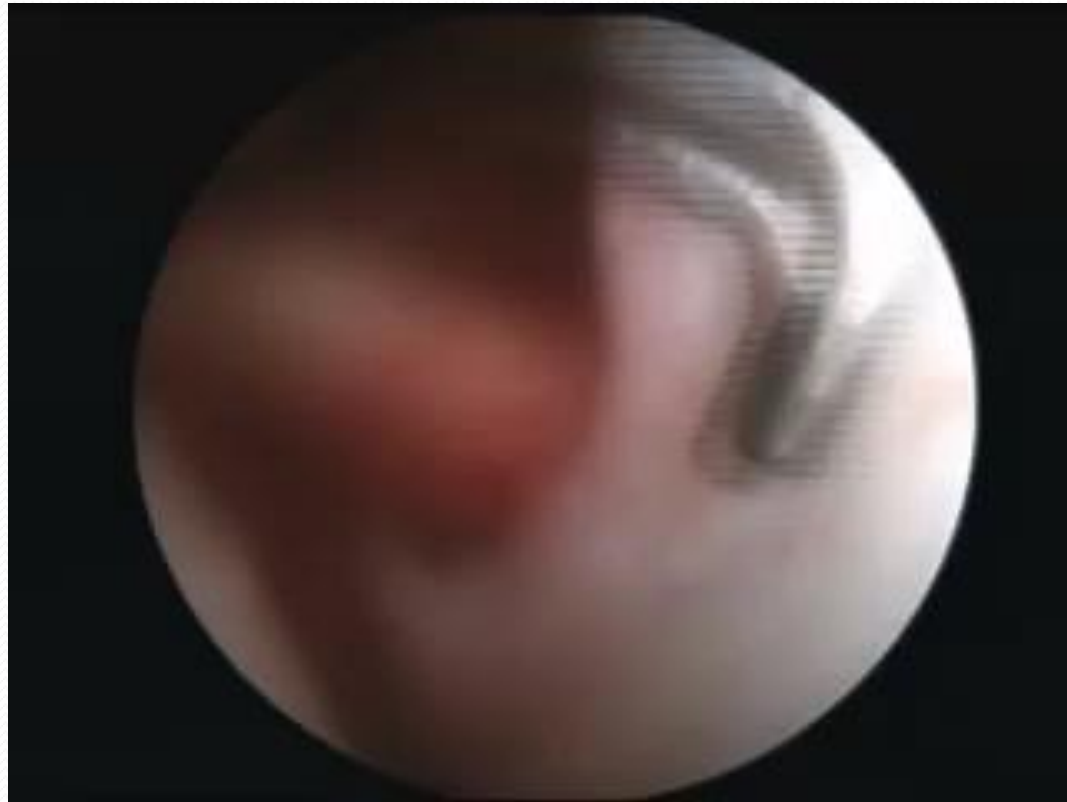
- Correct loose, redundant inf. pouch



Surgery (Open posteroinferior capsular shift)

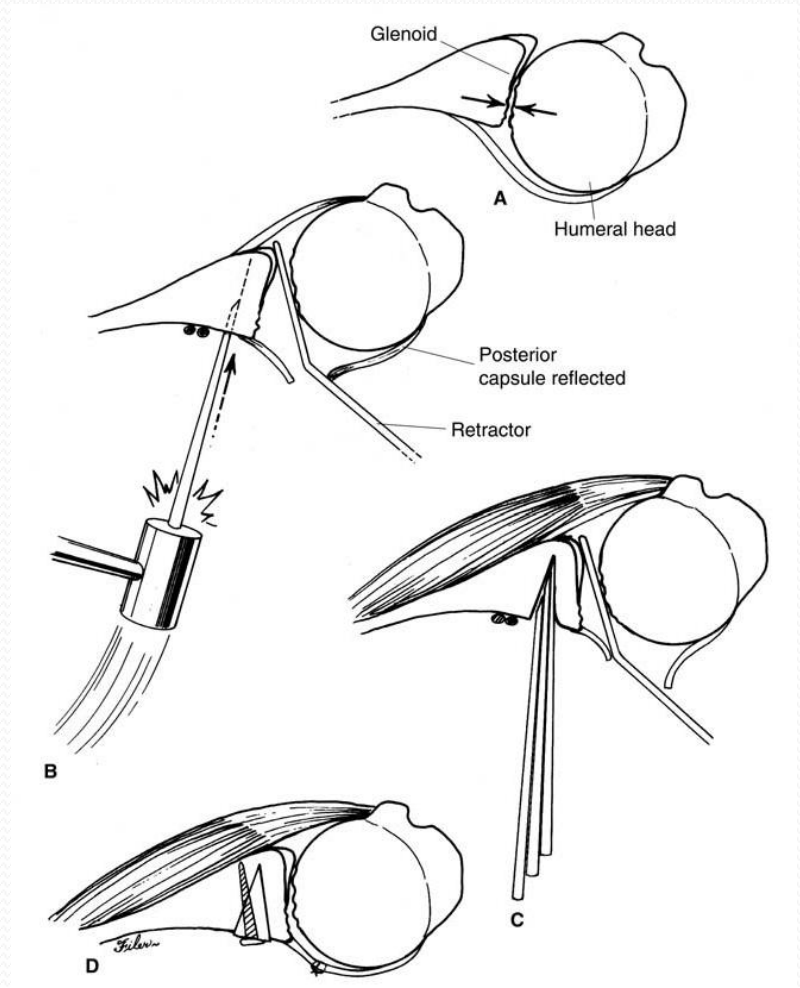


Arthroscopic repair → Posterior bankart repair



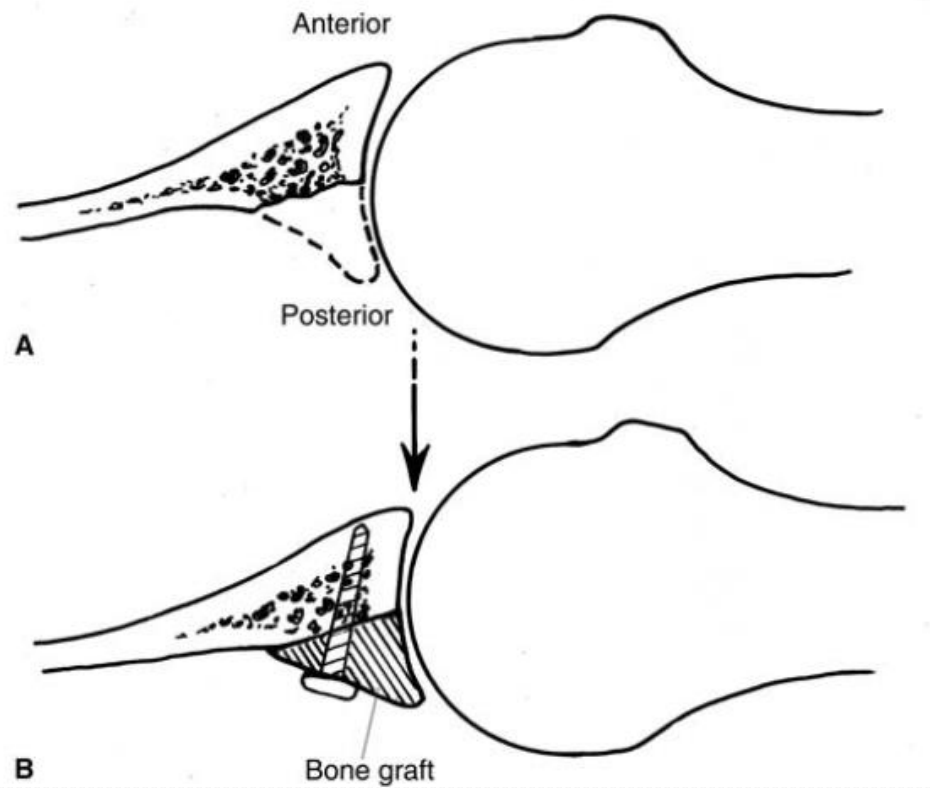
Surgery (Posterior opening wedge osteotomy)

Significant retroversion ($> 20^\circ$)

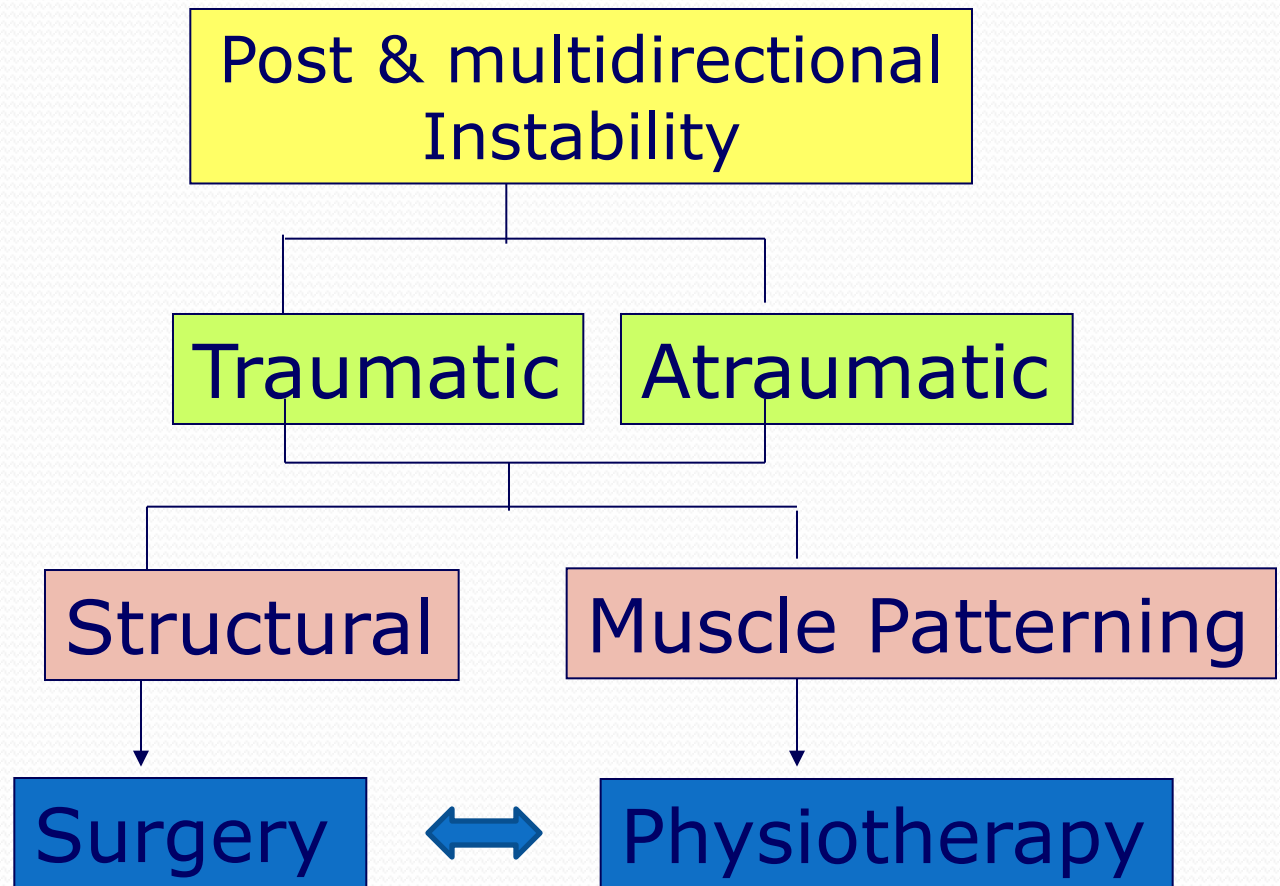


Surgery (Posterior glenoid bone graft)

glenoid defects



Summary



Thank you for attention