

What's New in Sports Medicine

Posterior Labral Tears and Glenoid Dysplasia

By Dr. William Renner

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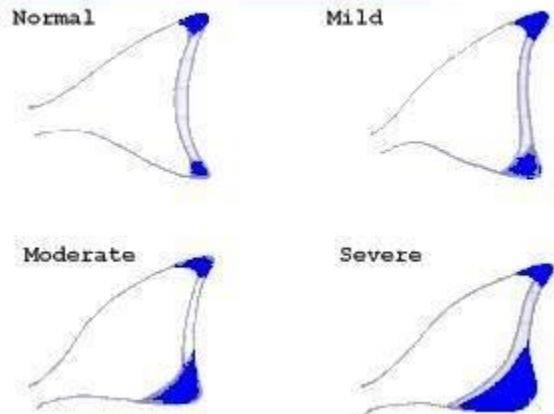
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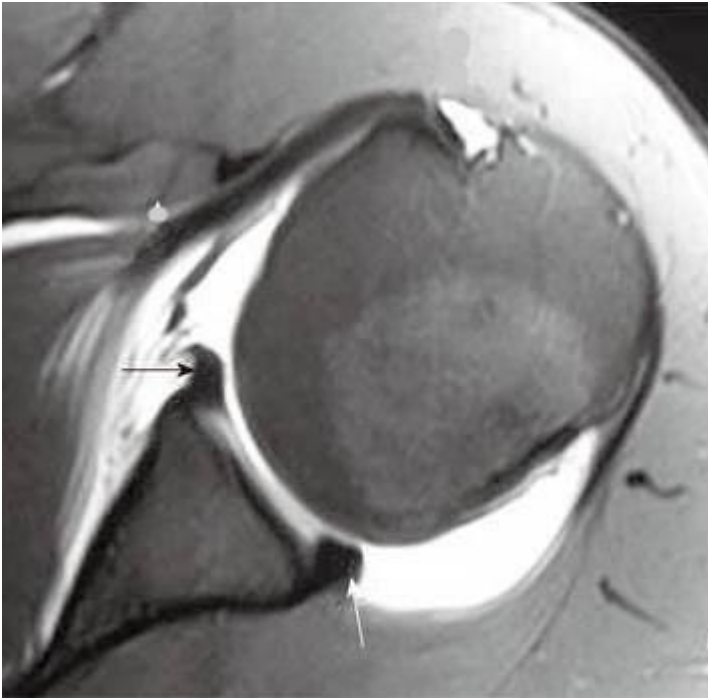
Posterior labral tears and glenoid dysplasia

Glenoid dysplasia is a developmental anomaly of the scapula that results in bony deficiency of the posteroinferior glenoid. The normal glenoid labrum is shaped like a wine glass, with the bony margin extending to both edges. In glenoid dysplasia (also called glenoid hypoplasia or posterior glenoid rim deficiency) there is hypoplasia of the posterior bony glenoid. Since the bone is deficient posteriorly, there is hypertrophy of the labrum to fill-in the space of the deficient bone. However, this hypertrophied posterior labrum is very fragile and susceptible tears.

Glenoid dysplasia classification:



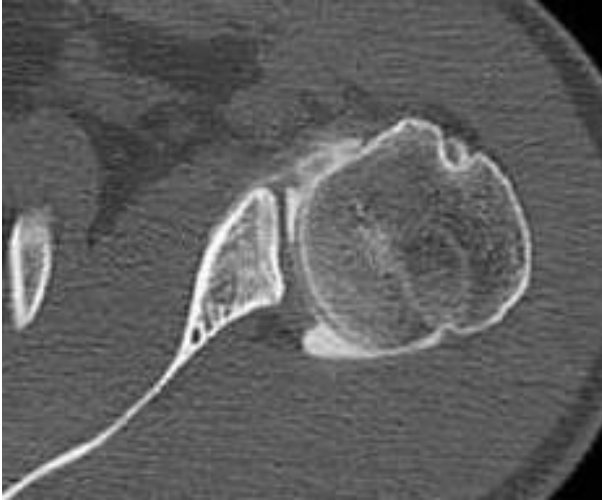
In mild glenoid dysplasia, there is rounding to the posterior inferior glenoid rim with mild thickening of the labrum. In moderate glenoid dysplasia there is more marked rounding of the glenoid and associated labral thickening. With severe glenoid dysplasia, there is marked rounding and sloping of the posterior glenoid with associated markedly thickened labrum replacing the deficient areas of the posterior glenoid rim.



T1 FS Arthrogram. Normal glenoid and glenoid labrum. The anterior (black arrow) and posterior labrum (white arrow) appear as triangular hypointense structures. The bony glenoid is symmetric anteriorly and posteriorly and extends to the posterior edge of the glenoid labrum.

The normal posterior capsule inserts on the posterior labrum.

Posterior Labral Tears and Glenoid Dysplasia



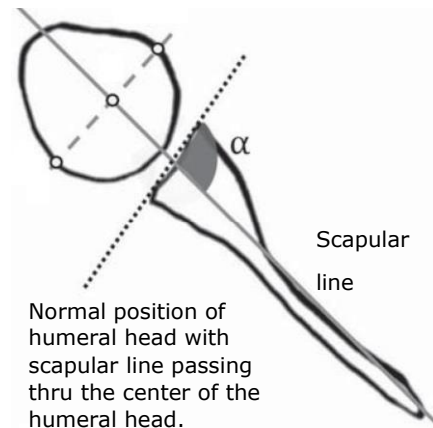
A CT arthrogram reveals the deficiency of the posterior glenoid bone and the resultant hypertrophy of the posterior glenoid labrum. However, this hypertrophied posterior labrum is very fragile and susceptible to labral tears.



Case 108

PD FS arthrogram. Mild glenoid dysplasia with rounded contour of the posterior glenoid rim (arrow). Posterior labral tear (arrowhead) with mild posterior subluxation of the humeral head.

The scapular line is drawn on a transverse image of the shoulder. Deviation of the humeral head below the scapular line results in posterior subluxation of the humeral head. Posterior subluxation of the humeral head suggests posterior labral tear.

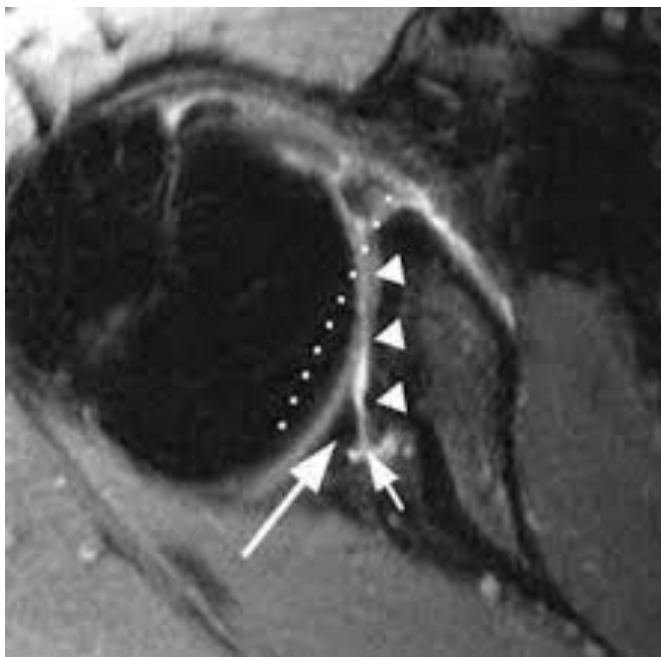


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Case 109



PD FS There is severe osseous deficiency of the posterior glenoid with posterior sloping of the glenoid (arrowheads) consistent with severe hypoplasia of the posterior glenoid. There is marked hypertrophy of the posterior labrum (long arrow) with a posterior labral tear (short arrow).

Findings that are frequently seen in posterior instability include:

1. Glenoid dysplasia of the posterior osseous glenoid and hypertrophy of the posterior labrum
2. Posterior labral tear
3. Reverse Hill-Sachs lesion in the anterior medial humeral head (Notch or trough lesion) secondary to trauma c posterior dislocation.
4. Posterior capsular tear
5. Reverse HAGL with tear of the posterior band of the inferior glenohumeral ligament
6. Fracture of the posterior glenoid margin with posterior labral tear

Posterior dislocation in young people primarily involves weightlifters and contact sport players. During lifting of heavy weights such as in the bench-press, mild subluxation of the humeral head posteriorly frequently occurs. This leads to posterior labral tears. Traumatic posterior dislocation seen in contact sports also leads to posterior labral tear, usually associated with reverse Hill-Sachs lesions with bony impaction fracture of the high medial anterior humeral head (the opposite of the standard Hill-Sachs lesion that creates a high posterior lateral humeral head impaction injury).