History: 38-year-old man with fall two days prior while hiking with persistent pain
Additional Stryker notch view
Coronal IR through anterior shoulder

Axial PD
Axial IR through middle to inferior glenoid

Axial PD through same location
Serial axial PD images
Serial axial PD images
Serial axial PD images
Serial axial PD images
Serial axial PD images
Serial axial PD images
Coronal IR of posterior shoulder

Coronal PD of posterior shoulder
Serial oblique sagittal PD images
Serial oblique sagittal PD images
Serial oblique sagittal PD images
Serial oblique sagittal PD images
Serial oblique sagittal PD images
Findings

• The initial 3 radiographs presented are unrevealing but the Stryker notch view shows cortical irregularity of the posterior glenoid and impaction of the anteromedial humeral head. These findings are confirmed on the MRI as are a tear of the posterior inferior labrum with a hyperintense posterior labral capsular junction. There is a hyperintensity of the posterior band of the inferior glenohumeral ligament (IGHL) but there is no disruption of the humeral attachment.

• There is a defect seen of the anterior labrum which is contiguous with a sublabral foramen. A small amount of synovitis has insinuated into this area. No cartilage shearing injury has been sustained. There is a heterogeneous and hyperintense biceps pulley situated about the rotator interval but the rotator interval is not patulous.
Impaction at anteromedial Humeral head

Fracture of posterior glenoid
Fracture of anteromedial humerus

Fracture of posterior glenoid
Labral tear
Labral tear
Labral tear
Hyperintensity of posterior joint capsule but with attachment to humerus maintained.
Partial disruption of biceps pulley (will be denoted with arrows)
Top image was not shown previously and is superior glenoid with demonstration of sublabral foramen which further inferiorly is insinuated with a small amount of synovitis.
Diagnosis: Posterior Shoulder Dislocation

Posterior shoulder dislocations are much less frequent than anterior dislocations and are as a result of axial loading to an adducted and internally rotated shoulder. In an acute setting, the humeral head may be persistently internally rotated and posteriorly positioned, if the head does not reduce. Once reduction is achieved typical findings are as shown in this case. These findings include an impaction fracture of the anteromedial humerus referred to as a reverse Hill Sachs or McGlaughlin lesion.

Posterior labral and glenoid injuries are analogous to their anterior counterpart as relates to the myriad of soft tissue Bankart injuries or an osseous Bankart injury. Although not present in this case there may be a concealed chondral injury or Kim’s lesion. Evaluation of the capsule is paramount particularly with concern of the posterior band of the IGHL and a humeral detachment which frequently necessitates an open stabilization. As shown in this case, a posterior translation can yield injury about the rotator interval. This is also critical to evaluate as this area may also require stabilization at the time of surgery to achieve a satisfactory outcome.