History: 10 year old boy with recent trauma to left hip
Coronal inversion recovery images of the pelvis
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Axial proton density (PD) image of pelvis
Coronal PD images of the left hip
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Coronal PD images of the left hip
Coronal PD images of the left hip
Sagittal PD images of the left hip
Axial proton density images of the left hip
Axial proton density images of the left hip
Axial proton density images of the left hip
Axial proton density images of the left hip
What's the Diagnosis – Case 45

Axial proton density images of the left hip
Axial proton density images of the left hip
Axial proton density images of the left hip
Findings

AP radiograph demonstrates a widening along the medial aspect of the left hip joint particularly when compared to the contralateral side. Coronal IR images demonstrate a moderate sized joint effusion and a moderate amount of edema seen extending into particularly the posterior soft tissues. Surface sagittal, coronal, and axial images of the left hip demonstrate a subtle fracture of the posterior wall (lip) of the acetabulum and a tear of the posterior labrum leading to a bucket handle displacement of the posterior labrum and transverse acetabular ligament into the joint space. Disruption is seen of the posterior joint capsule with a lower grade injury sustained to the iliofemoral ligament. Displaced chondral fragment is also identified.
Widening of the medial aspect of the left hip joint
Joint effusion

Posterior extracapsular edema
What's the Diagnosis – Case 45

- Normal joint without displaced labrum/ligament
- Displaced posterior labrum and portion of the transverse ligament
- Normal posterior labrum
- Expected position of posterior labrum
Displaced posterior labrum and transverse ligament
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Displaced posterior labrum and transverse ligament
Displaced posterior labrum and transverse ligament
Partial disruption of anterior joint capsule

Displaced posterior labrum and transverse ligament
Displaced posterior labrum and transverse ligament
Displaced posterior labrum and transverse ligament

Thick, hyperintense, and partially disrupted posterior joint capsule
Displaced posterior labrum and transverse ligament

Cartilage fragment

Posterior lip fracture
What's the Diagnosis – Case 45

- Displaced posterior labrum and transverse ligament
- Cartilage fragment
- Posterior lip fracture
Displaced posterior labrum and transverse ligament
Displaced posterior labrum and transverse ligament
Diagnosis

Posterior hip subluxation with acetabular fracture and displaced labrum
Discussion

Posterior translation events of the hip are typically associated with high speed motor vehicle accidents where the flexed knee impacts the dashboard with a flexed hip driving the femoral head posteriorly. This can yield fractures of the posterior acetabulum, femoral head, and potential injury to the sciatic nerve. Gaining increased recognition is that athletes may sustain posterior subluxations either related to a flexed knee impacting the ground with a flexed hip, blow from behind while on all four limbs, or impaction of the foot on the ground with an extended leg and locked knee transmitting force posteriorly to the hip.

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Surgical treatment with fixation of displaced labrum and reduction of displaced labrum/transverse acetabular ligament

Reconstitution of normal architecture of the joint with no widening of the medial joint space
Resources


http://www.wheelessonline.com/ortho/posterior_frx_dislocations_of_the_hip