Hip Joint and Iliopsoas

Jon A. Jacobson, M.D.

Professor of Radiology
Director, Division of Musculoskeletal Radiology
University of Michigan

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Hip Effusion:
• Separation of anterior and posterior layers
• Capsule distention at femoral neck > 7 mm or difference of 1 mm from opposite side
• Extension & abduction improves visualization
• Do not internally rotate hip: capsule thickens

1Radiology 1999; 210:449
2Scand J Rheumatology 1989; 18:113
3Acta Radiologica 1997; 38:867

Hip Effusion: misconception
• It is incorrect to assume that joint fluid may not be seen anterior due to gravity
• Native hip: joint fluid distributes around femoral neck
• In no cases was fluid only seen posterior
• Exception: after hip surgery

Moss et al. Radiology 1998; 208:43

Hip Effusion: septic effusion

Hip Effusion:
• Cannot predict infection by ultrasound
• Negative power color Doppler does not exclude infection
• Guided aspiration

* AJR 1998; 206:731
Pigmented Villonodular Synovitis

Juvenile Idiopathic Arthritis

Head Erosion

Hip Labrum

- Normal:
  - Hyperechoic, triangular
- Degeneration: hypoechoic
- Tear: anterior
  - Anechoic cleft
  - Sensitivity 82%, specificity 60%, accuracy 80%*

Labral Tear and Paralabral Cyst

- Associated with labral tear
  - Full-thickness or detachment
  - Anechoic to hypoechoic
  - Multilocular

Chondrocalcinosis

Hip Arthroplasty:

- Metal components demonstrate posterior reverberation
- Artifact occurs deep to prosthesis away from fluid collection (unlike MRI, CT)

Total Hip Arthroplasty:

- Ultrasound cannot differentiate small effusion from post-op change
- Suspect infection:
  - Pseudocapsule > 3.2 mm: suspect infection
  - Extra-articular fluid collection
  - Not visualized with arthrography if non-communication


Courtesy of D. Fessell, Ann Arbor, MI

Femoral Head

Acetab

Head

Femoral Head

Acetab

Femoral Head

Acetab

Femoral Head

Acetab

1 Weybright PN et al. AJR 2003; 181:215
2 AJR 1994; 163:381
Metal-on-Metal Arthroplasty: pseudotumor

Anterior

Lateral

Snapping Hip Syndrome: iliopsoas

- Image long axis to inguinal ligament superior to femoral head
- Extension of flexed abducted and externally rotated hip
- Abrupt movement of iliopsoas as iliacus muscle interposed between tendon and bone moves

Deslandes et al. AJR 2008; 190:576

Snapping Hip Syndrome: iliopsoas

Iliopsoas Bursa

- Hip joint communication in 10%
  - Increased with hip joint pathology
  - After joint replacement
- May extend cephalad into abdomen
- May be mistaken for psoas abscess
  - Look for hip joint communication

Radiology 1995; 197:853

Iliopsoas Bursal Fluid

Axial T1w post-gadolinium

Twitter handle: @jjacobsn