Snapping Hips

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Outline:
• Snapping Hip
  – Iliopsoas
  – Greater trochanter
  – Hamstring
• Other snapping conditions

Snapping Hip Syndrome
• Painful snap with hip motion
• Intraarticular
• Extraarticular:
  – Anterior: iliopsoas tendon
  – Lateral: iliotibial tract or gluteus maximus

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

Iliopsoas Complex

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
**Iliopsoas Bursa**

- Oblique-axial plane:
  - Superior to femoral head
  - Lateral to medial
  - Inject between tendon and ilium
- Pain relief = successful iliopsoas surgical release

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**Snapping Hip: lateral**

- Transverse over greater trochanter
- Hip external rotation / flexion
- Abrupt motion of iliotibial tract or gluteus maximus over greater trochanter

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**Greater Trochanter**

Yellow arrow = gluteus medius
White arrow = gluteus minimus

Axial MRI

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[Blankenship DG et al. Skeletal Radiol 2006; 35:565]
Snapping Gluteus Maximus / Iliotibial Band

AF: anterior facet
LF: lateral facet
PF: posterior facet

Snapping Hip Syndrome: iliobial tract

Tissue harmonic imaging and linear streak artifact

Courtesy of David Jamadar, Ann Arbor, MI


Trochanteric Region Bursae

- Trochanteric: deep to gluteus maximus
- Subgluteus medius
- Subgluteus minimus
- Axial or coronal plane

Snapping Conjoined Long Head Biceps Femoris, Semitendinosus + Sacrotuberous Ligament

From Bierry G et al. Radiology 2014;271:162

Spencer-Gardner LS et al. PMR 2015; 7:1102

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Biceps Tendon Dislocation

Impingement: supraspinatus

Isolated Ulnar Nerve Dislocation

Snapping Triceps Syndrome: *dynamic imaging*
Dislocation: extensor carpi ulnaris

Extensor Pollicis Longus: impingement

Patellar Clunk Syndrome

Synovial Fold Syndrome
- Normal capsular tissue
  - Hyperechoic, triangular
- Abnormal:
  - Thickened > 3 mm
  - Heterogeneous
  - Adjacent synovitis

Semitendinosus Snapping over Semimembranosus

Peroneal Subluxation: dynamic imaging
Dislocation: peroneus brevis & longus

Intrasheath Peroneal Subluxation: Type A

Dynamic Evaluation

- Compression
  - Between transducer and palpation
  - Bursae (dorsal) compress, neuromas (plantar) do not
- Sonographic Mulder Sign
  - Scan plantar: coronal plane
  - Neuroma displaces: plantar
  - Palpable click

Torini M et al. AJR 2003; 180:1121
Zanetti M et al. Radiology 1997; 203:516

Dynamic Imaging: Mulder’s Maneuver

Slipping Rib Syndrome

Dynamic Imaging: summary

- Dynamic pathologic conditions
  - Limited number
  - Involve specific structures
- Consider ultrasound for any snapping or painful dynamic situation
Syllabus on line and other educational material:
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