Bon Secours

Tuckahoe Orthopedics

Determining if it is the Hip or the Back and Common Etiologies

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Disclosures / Conflicts

- None to report

Outline

- History
- Exam
- Diagnostic testing
- Etiologies
  - Clinical presentation
  - Diagnosis
  - Treatment

History

- Location of the pain
  - Low back
  - Pelvis
  - Lateral hip
  - Groin
- Duration
- Radiation
- Injury
- Bowel/bladder dysfunction
- Exacerbating activities
  - Back extension
  - Prolonged sitting/standing
- Activities
  - Sports
  - Sedentary vs active

Exam

- Back
  - Observation
    - Limp?
    - Pain with movement in room
  - Location
    - Pain with palpation?
  - Flexion (Adams forward bending)
  - **Extension**, rotation, side-bending
  - Neuro exam
    - Toe/heel walk
    - Sensation
    - Reflexes
- Hip
  - Observation
    - Ambulation, limp?
  - Location
    - Groin vs lateral hip
    - Along iliac crest?
  - Passive ROM
    - Deep flexion and internal rotation
    - FABER testing
  - Active strength testing
    - Flexion, abduction, adduction

Imaging

- Back
  - Scoliosis vs lumbar spine x-rays
  - MRI
    - Failure of conservative treatment
    - Clinical suspicion for stress fracture/spondylolysis
    - Clinical suspicion for herniated disc
  - CT/SPECT/Bone scan
    - Rarely indicated
- Hip
  - AP and frog leg lateral
  - MRI
    - Failure of conservative treatment
    - Clinical suspicion for labral tear
    - Clinical suspicion for stress fracture, early SCFE/AVN
  - CT/SPECT/Bone scan
    - Surgical planning
    - Rarely indicated

Labs

- Rule out rheumatologic/infectious etiologies
  - CBC with diff, ESR, CRP
  - Atypical presentation
    - Pain in multiple joints
    - Systemic symptoms
  - Life altering pain unexplained by imaging

Etiology

- Back
  - Muscle pain
  - Stress related
    - Stress fracture
    - Spondylolysis
  - Herniated disc
  - Sacroiliac joint pain
- Hip
  - Muscle strain/tendonitis
  - Greater trochanteric bursitis/IT band
  - Iliac apophysitis
  - Stress fracture
  - Labral tear
  - Slipped capital femoral epiphysis
  - Perthes/AVN

Back Pain Overview

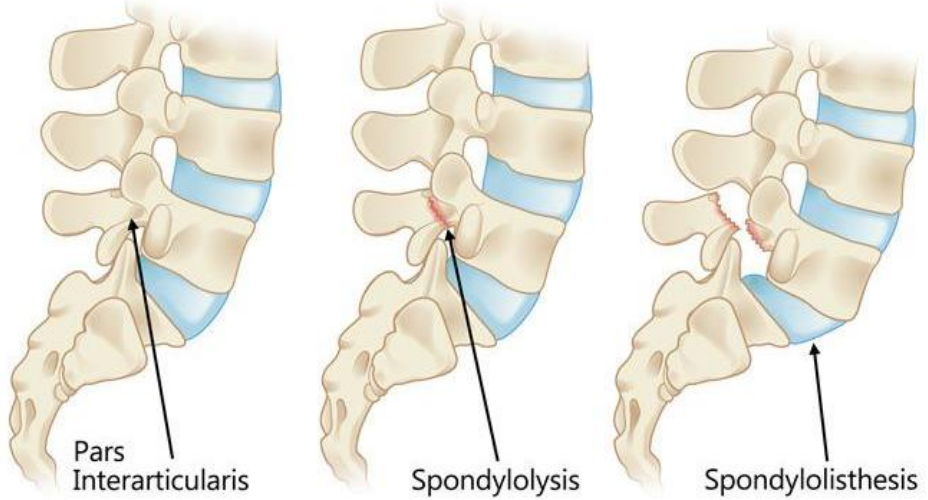
- Greater than 50% have back pain by 15 years of age
- Incidence underestimated
  - Medical attention rarely sought
- Toddler's and younger children usually have "organic" cause
- Adolescents similar to adults
  - Commonly have pain without obvious etiology
  - Most common etiology is muscular back pain

Muscular Back Pain

- Most common in adolescents
  - Often sedentary if no acute injury
  - No injury
- No radiation of pain
- Normal neuro exam, pain with movement
- Treatment
  - Activity modification
  - NSAIDs
  - PT

Stress Fracture / Spondylolysis

- Usually repetitive back extension activities
  - Gymnasts, dancers, cheerleaders, lineman
- Low back pain
  - Alleviated by rest
  - Exacerbated by back extension
- X-rays normal or lytic defect in pars
- MRI is three-dimensional imaging of choice
  - No radiation exposure
  - More useful for other etiologies
  - CT/SPECT can be more sensitive
- Treatment
  - Rest vs Brace and rest



Spondylolysis and Spondylolisthesis - OrthoInfo - AAOS

Spondylolysis in Young Athletes - Physiopedia (physio-pedia.com)

Herniated Disc

- Less common in children/adolescents
- Acute or insidious
- Radiation of pain
- Straight leg raise
- MRI is diagnostic
- Treat most patients conservatively
  - PT and NSAIDs
  - Medrol Dosepak
  - Injection
  - Surgery

Lumbar Disc Herniation - Stechison Neurosurgery Atlanta, LLC

Sacroiliac Joint Dysfunction

- Frequently overlooked, common cause of pain
- Pain over buttock, can radiate
- FABER testing
- X-rays usually normal
- MRI to r/o other causes
- Conservative treatment typically works
  - NSAIDs, PT, pelvic belt
  - Injection
  - Surgery rare

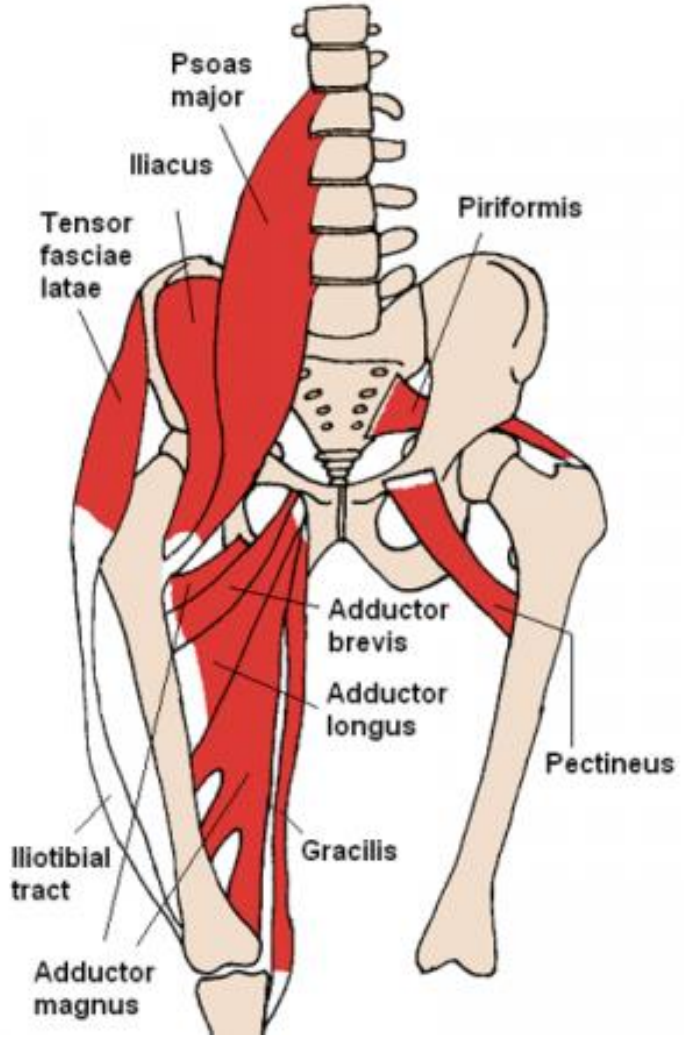
Sacroiliac Joint Dysfunction - Spine - Orthobullets

Back: Other Things to Consider

- Rare etiologies
  - Infection
  - Rheumatologic causes
  - Neoplasm
  - Scheuermann Kyphosis
  - Non-musculoskeletal source of pain
    - UTI
    - Ovarian cyst
    - Inflammatory bowel disease
- Younger children
  - More common to have an "organic" cause of pain
  - Work up until resolves or get an answer
  - Low threshold for labs

Muscular Hip Pain

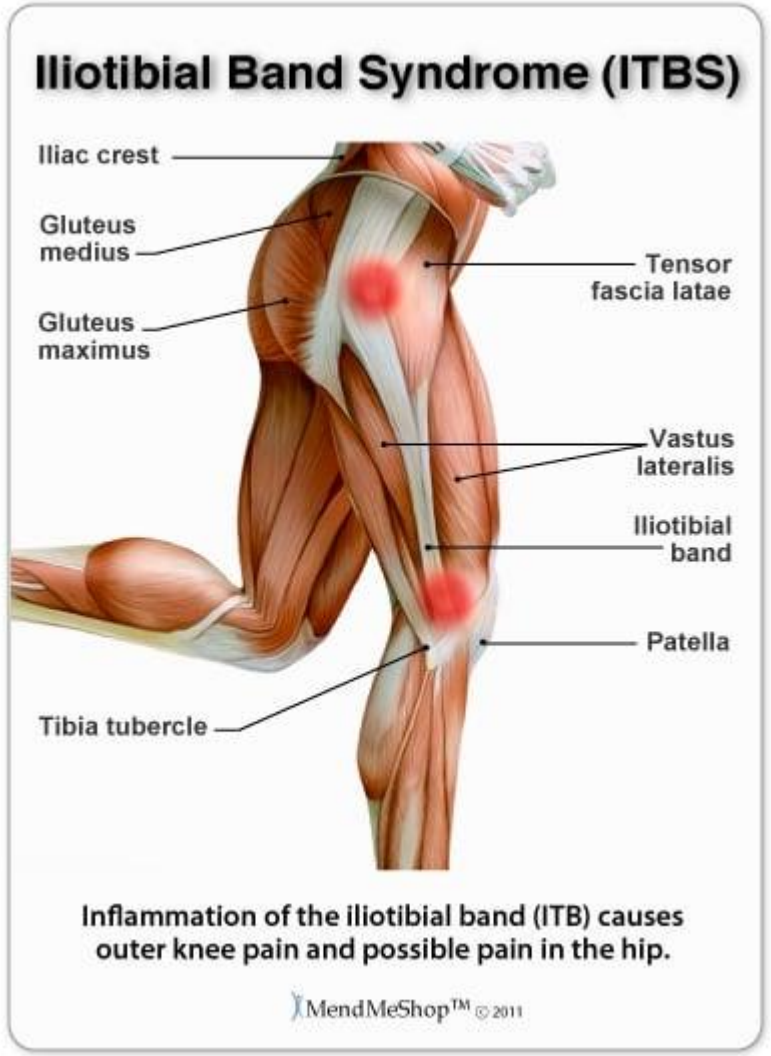
- Overuse (Tendonitis) vs Injury (Strain)
  - Hip flexor: Groin
  - Adductor: Inner thigh
  - Abductor: Lateral thigh
- Normal X-ray
- Rest, NSAIDs, PT
  - Variable duration to recovery
- MRI if not responding as expected



Adductor magnus - Hip Adductors - Physiopedia (physio-pedia.com)

IT Band / Greater Trochanter

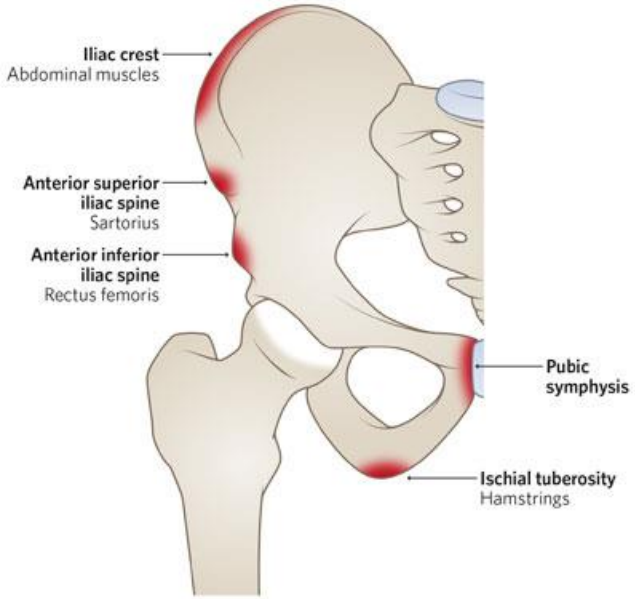
- IT band syndrome vs greater trochanteric bursitis
- Usually overuse, no injury
- Pain lateral
- Normal X-ray
- Rest, NSAIDs, PT
  - Steroid injection
- MRI if not responding



Iliotibial band syndrome (ITBS) (aidyourtendon.com)

Iliac Apohysitis

- Pain along iliac crest
- Overuse
- Patients with open apophysis
  - Can be skeletally mature
- Rest, NSAIDs, PT
- MRI if not responding



Iliac crest avulsion | Sport Med School

Clinical Practice Guidelines : Apophysitis of the Pelvis and Hip - Emergency Department (rch.org.au)

Stress Fracture

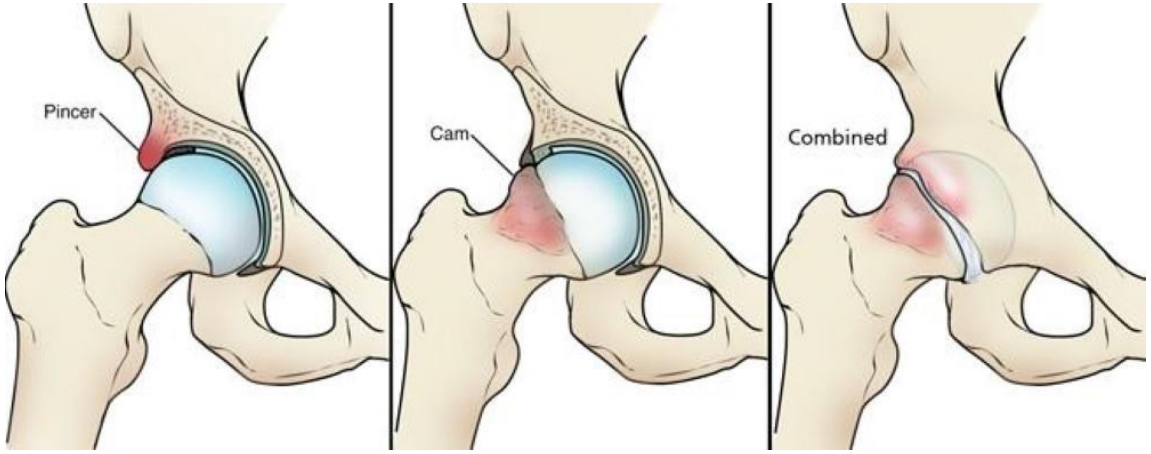
- Overuse
- Pain in groin
- Occasionally seen on x-ray
  - Usually need MRI
- Rest
  - If pain with walking- crutches
  - If pain only with running- stop running
  - 3 weeks to start but as much as needed
- Rarely require surgery

https://emedicine.medscape.com/article/86808-overview

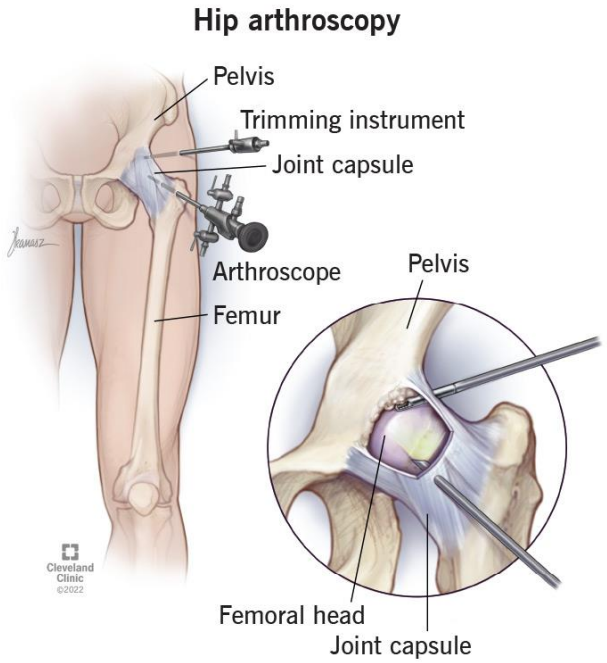
Hip stress fracture | Upper East Orthopaedics Blog (ueortho.com)

Labral Tear

- Injury or hip impingement
- Pain in groin
- Evidence of impingement on x-ray
- MRI needed to diagnose
  - Can be incidental finding
- NSAIDs, PT if presentation not classic
- Surgery if obvious impingement or classic presentation, failed conservative treatment
  - Hip arthroscopy



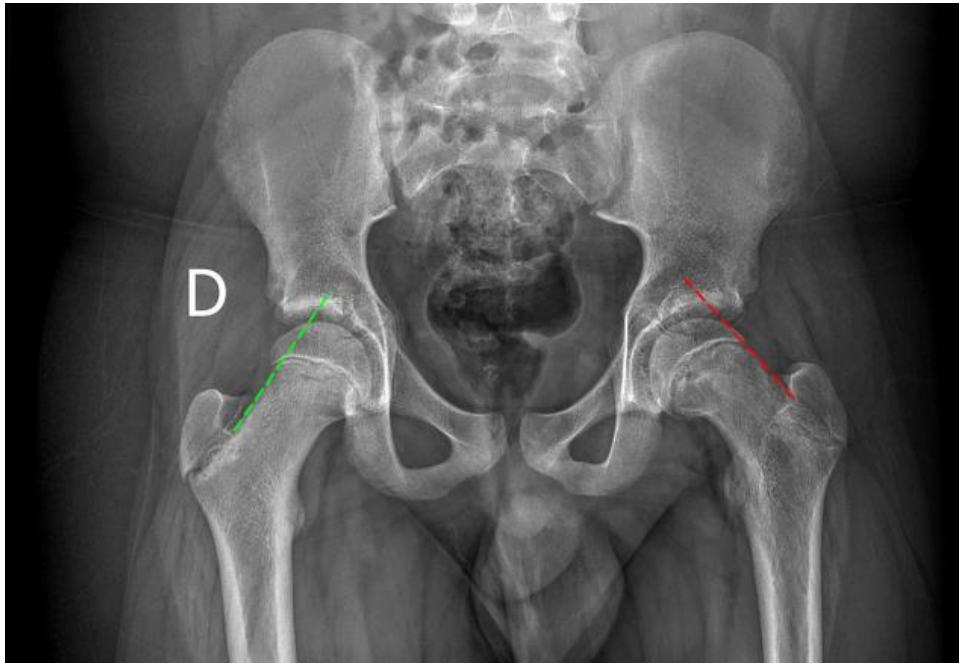
Femoroacetabular Impingement - OrthoInfo - AAOS



Hip Arthroscopy: What It Is, Procedure, and Recovery (clevelandclinic.org)

Slipped Capital Femoral Epiphysis

- Groin/thigh/knee pain
- Unexplained Limp
- Overweight
- Acute vs Chronic
- Stable vs Unstable
- Usually seen on x-ray
  - MRI if concerned about early presentation



Slipped capital femoral epiphysis (SCFE) | Radiology Case | Radiopaedia.org

Perthes Disease

- ~4-8 yo
- Unexplained limp +/- pain
- X-ray usually diagnostic
  - MRI if very early
- Treatment usually observation
  - Relative rest
  - Bracing/casting not beneficial
  - Surgery if >8 yo

Legg–Calvé–Perthes disease - Wikipedia

Bon Secours

Tuckahoe Orthopedics

Thank you

Greg Hale, MD

Greg Hale, MD

Greg is trained to treat all pediatric orthopaedic conditions but is especially interested in complex hip deformities, scoliosis, neuromuscular conditions, and pediatric orthopaedic trauma. He participates in research, publishes papers, and recently co-wrote a book chapter addressing Pediatric Orthopaedic trauma of the pelvis, hip, femur, and knee. Recent research interests include reduction of blood loss during complex hip procedures and reducing the risk of infection in scoliosis surgery in children. He is a resident member of the American Academy of Orthopaedic Surgeons and a member of the Alpha Omega Alpha Honor Society. Dr. Hale is also involved with the World Pediatric Project.