What’s Hip: Common Hip Problems and Kids and Adults

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I have no relevant disclosures.
Most Common Hip Pathologies

- **STAIRS**
  - Strain
  - Trochanteric Pathology
  - Arthritis (and Avulsion)
  - Impingement
  - Referred pain
  - Stress Fracture

Big 3- Questions to Ask

- Chronicity- When did it happen?
- Mechanism- How did you injure it?
- Location- Where is the pain?
Chronicity

- Acute
- Chronic
  - Overuse
  - Repetitive microtrauma
  - Degenerative
  - No specific injury

Mechanism of Injury

- Contact
- Non-contact
  - Twisting
  - Squatting
  - Flexion/extension
  - “Pop”
Location, Location, Location

- Anterior/groin
  - FAI
  - Arthritis
  - Flexor strain
- Lateral/thigh
  - Trochanteric pathology
  - Snapping hip
- Buttock/posterior
  - Low back/sciatic nerve
  - Referred pain

Anatomy
Anatomy

Strain (Muscle Strain)

- Most common injury in hip and pelvis
  - All ages
- Most common location at muscle-tendon junction
- Most prone to strain if cross 2 joints (hip and knee)
  - Hip flexors (anterior)
    - Rectus femoris
    - Sartorius
    - Iliopsoas
  - Proximal Hamstrings (posterior)
Muscle Strain Treatment

- Non-operative treatment
- Rest, Ice, Compression, NSAIDs
- Gentle range of motion exercises when pain improves
- Strengthening once full ROM regained

- Return to play (RTP): 1-3 weeks

Trochanteric Pathologies

- Trochanteric bursitis
- IT Band Syndrome
- Gluteus tear

- All have lateral sided hip pain
Trochanteric Bursitis

- Chronic pain from inflamed trochanteric bursa
- Pain over lateral hip
- Pain with direct palpation of greater trochanter
- More common in females age 40-70

Treatment
- PT, CSI
- If refractory >3 months then endoscopic bursectomy is option

IT Band Syndrome

- Chronic pain over lateral thigh/hip pain from overuse
- Age group 20-40
- Can cause contracture/tightness- External snapping hip
- Common in runners and bikers

Treatment
- Rest, icing, stretching,
- PT, foam roll
- Endoscopic IT band release

RTP: 2-4 weeks
Gluteus Tears

- Chronic trochanteric bursitis can cause gluteus medius and minimus tearing
- Chronic but can be from acute fall
- Females 50-70
- Lateral pain and WEAKNESS with abduction on exam
- Trendelenburg sign

Treatment
- PT, CSI
- Endoscopic gluteus repair is an option

Physical Exam

- Hip Abduction Testing
- Normal
- Trendelenburg sign
Gluteus Medius Tear
Arthritis of the Hip

- Osteoarthritis most common
  - Chronic pain, no specific injury
  - Pain in groin, anterior thigh, deep
  - Age >55
- Rheumatoid Arthritis
  - Family history
  - Multiple joints involved
  - Age >35
Clinical Presentation

- Physical Exam
  - Decreased range of motion
  - Pain in groin, lateral and posterior
  - Crepitus with ROM
  - Altered gait

Radiographic Findings

- AP Pelvis
  - Joint space narrowing
  - Subchondral sclerosis
  - Osteophytes
Treatment

- Conservative
  - Physical Therapy
    - Gluteal and core strengthening
  - Cortisone injection
    - Ultrasound or fluoroscopic guidance
- Operative treatment
  - Total hip arthroplasty
    - Anterior, anterolateral, posterior approach

Avulsions (Apophyseal Avulsion)

- Occurs in Children
- Usually non-contact, quick acceleration mechanism
- Avulsion of bone at tendon attachment
  - ASIS- sartorius
  - ILIS- rectus
  - Ischial tuberosity- hamstring
  - Lesser trochanter- iliopsoas
- Treatment- rest, ice, protected weightbearing (crutches) until pain improved, ROM and strengthening, rarely surgery
- RTP: 2-3 months
Apophyseal Avulsions

**Impingement**

- Femoroacetabular Impingement (FAI)
  - Abnormal bony anatomy that forms during development
- Age group 15 to 45 years old
- More commonly chronic injury (can be acute)
- Can lead to intra-articular injury to labrum and cartilage
- Can lead to early arthritis
FAI

- Cam-Type- femoral head neck asphericity
- Pincer Type- acetabulum overcoverage
- Mixed Type- both Cam and Pincer

Hip Labral Tear- can be acute event
FAI - Common symptoms

- Common Symptoms
  - Anterior groin and in c-shaped band
  - Worse with prolonged sitting
  - Activity related (walking, running, jumping, squats)

- Physical Exam
  - Pain with Flexion Adduction Internal Rotation (FADIR)

Imaging

- Radiographs (AP pelvis, Dunn Lateral)
- MRI/MRA
Prevalence of FAI in Athletes

- Football - 90% of players at NFL Combine (2009-2010) had at least 1 sign of FAI on x-rays

- Hockey - 75% of Elite Youth Hockey players in Colorado had Cam lesion on MRI

- Soccer - 72% of male and 50% of female elite soccer players (MLS, US national team) had radiographic FAI

FAI and Arthritis

- For patients <50 years old with hip arthritis
  - 45% due to FAI, 45% hip dysplasia, 10% trauma/other
Treatment

- Conservative treatment
  - Rest
  - PT- core strengthening, gluteal strengthening
  - CSI
- Surgical treatment
  - Hip Arthroscopy
    - Labral repair
    - Osteochondroplasty

Surgical Treatment- Hip Arthroscopy
Cam Decompression

Pre-op

Post-op

Pincer Decompression
Labral Repair

Outcomes

- Byrd et al 2011
- 200 athletes with 2 year follow up after hip arthroscopy
- 90% returned to sport (95% pro, 85% collegiate)
Does FAI Surgery Prevent Arthritis?

- Quantitative MRI to assess for early cartilage injury in hip
- NIH funded study at UCSF- actively recruiting patients

![Image of MRI scan]

Referred Pain

- Hip pain can be referred from the lumbar spine or the knee
- Can be acute (lumbar disk herniation)
- Usually located posterior in buttock region and radiates down the leg
- Age group- >40

![Image of referred pain]

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Referred pain

- Lumbar radiculopathy
  - Ask about radiating or shooting pain, numbness or tingling
  - Pain that shoots from the hip down past the knee is usually from the spine and not the hip
  - Obtain L-spine films if needed

- Knee pain
  - Femoral nerve can cause referred hip pain when source is from the knee (and vice versa)
  - Check radiographic and knee exam if hip films and exam is normal

Stress Fracture

- Acute on chronic injury (overtraining)
- Age group 18-60 (more commonly >40 years old)
- Pain in groin, anterior thigh, deep in joint, worse with weightbearing
- PE- painful hop test
- Females >males
- Female athletic triad
  - Stress fracture
  - amenorrhea
  - eating disorder
Stress Fracture (Proximal Femur)

- Sports-Track and field most common
- MRI or bone scan for diagnosis
- Treatment
  - Rest, counseling, protected weight bearing
- RTP: 3-4 months

STAIRS

- **Strain**
  - Hip flexor/Proximal Hamstrings
- **Trochanteric Pathology**
  - Bursitis, IT Band, gluteus tear
- **Arthritis/Avulsion**
  - Arthritis is older adults, avulsion in kids
- **Impingement**
  - FAI, Labral tears
- **Referred pain**
  - Lumbar spine/knee
- **Stress Fracture**
  - Female athlete triad
Thank you

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References


