

Differential Diagnosis of Hip Pain

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Disclosures

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Hip: History

- Important to Listen
- Have patient tell you why they are there and let them expand on their symptoms
 - Sit down
 - Ask Open ended questions

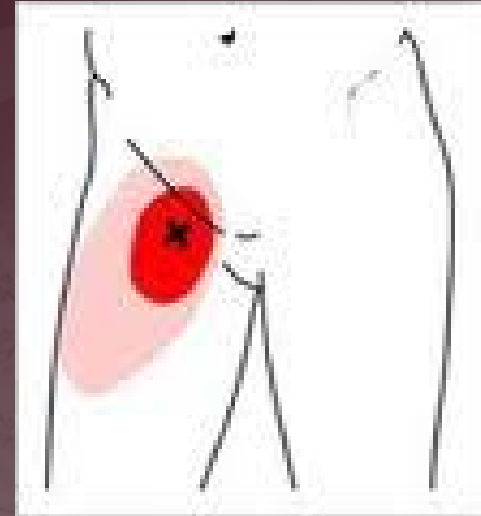


“Hip” Pain

- Patients may present with chief complaint of “hip” pain, but it may not actually be coming from their hip
 - Intra-articular hip
 - Extra-articular hip
 - Lumbar spine
 - Sacroiliac joint
 - Other
 - Intra-abdominal, hernia, GI, GU

History

- Common symptoms
 - Groin Pain
 - Thigh Pain
 - Some lateral pain
 - “C-sign”
- Buttock Pain: More likely lumbar in origin



History

- Knee pain
 - Can be the initial complaint of hip pathology
 - Not uncommon for a patient with hip arthritis to present with knee pain
 - Differentiate with exam, X-rays, injections



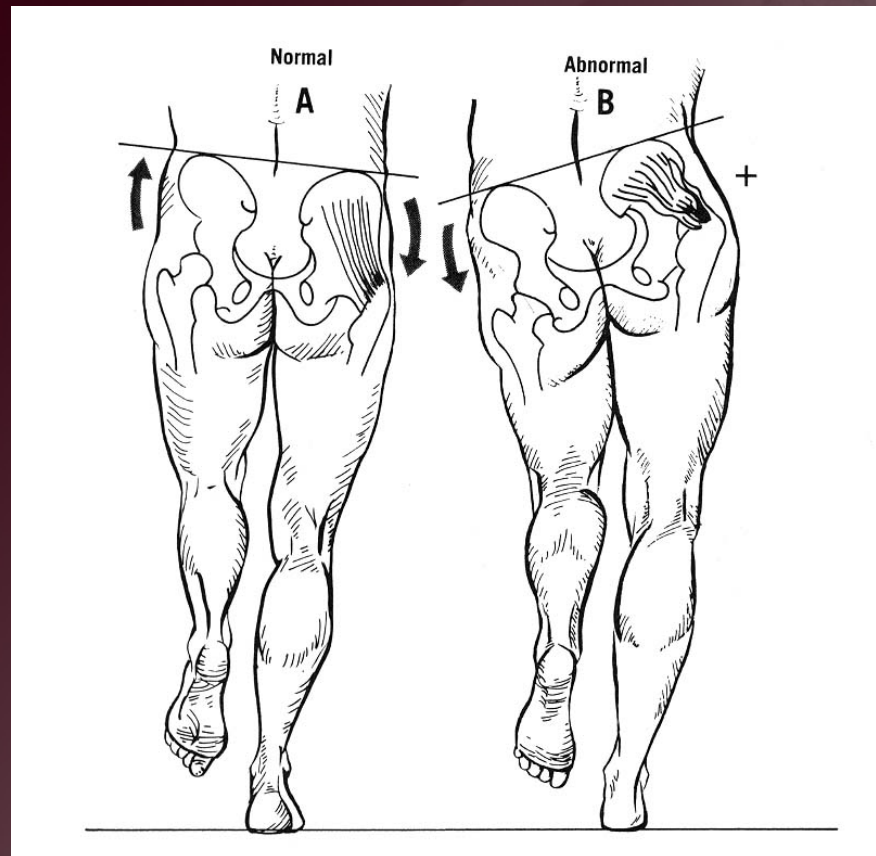
Physical Exam

- Stinchfield
 - Pain with resisted hip flexion



Physical Exam

- Trendelenburg Sign



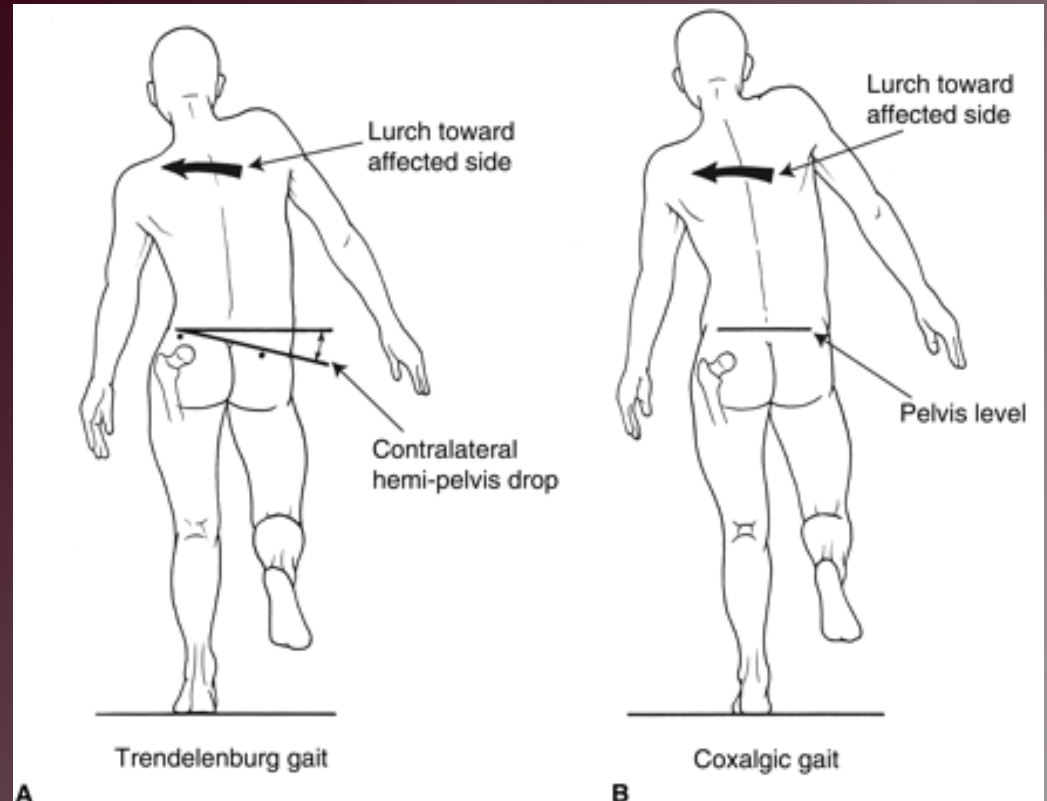
Physical Examination

- Gait description
 - Antalgic – shortened stance phase
 - Trendelenburg – trunk shift to involved side
 - Short leg
 - Combination



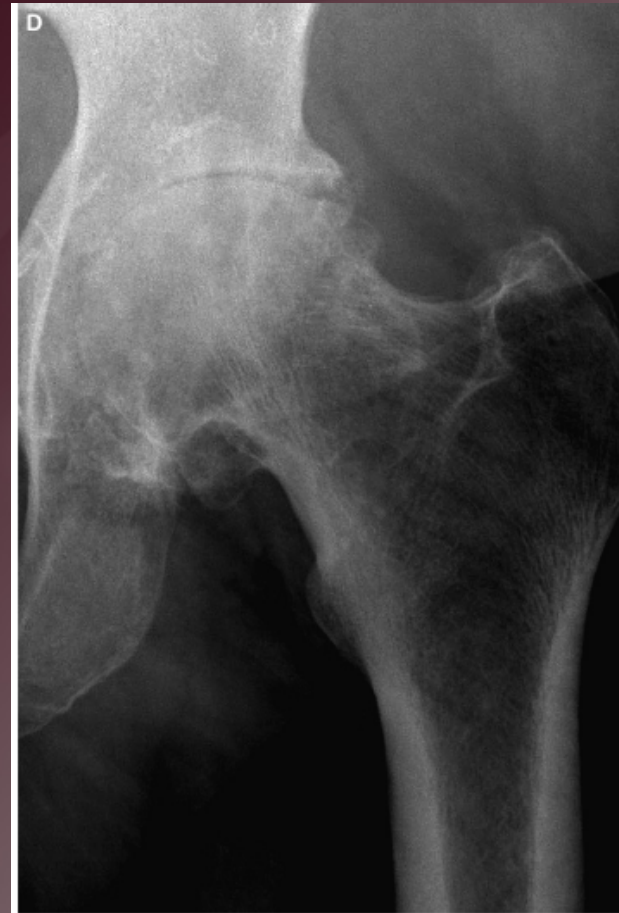
Physical Exam

- Trendelenburg Gait



Imaging

- Standard Imaging
 - AP Pelvis
 - AP of involved hip
 - Frog Lateral
 - Shoot thru Lateral



Unsure if pain is coming from hip?

- Diagnostic/therapeutic injection
 - Perform under imaging
 - Carefully instruct patient and provider to document the response to injection
 - Have patient write it down
 - Specify you are interested in the HOURS after the injection



Differential Diagnosis

- Osteoarthritis
- Rheumatoid arthritis
- Avascular necrosis
- Trochanteric pain syndrome
- Femoral-acetabular impingement
 - Labral tear

Osteoarthritis

- Hip OA accounts for 75-80% THA's
- Hip OA is primary or secondary
 - Secondary
 - FAI, AVN, Post traumatic, DDH
 - Primary
 - No obvious cause-dx of exclusion
- Caucasians 3-6%
 - Males more common
 - 1% or less for Blacks, Chinese, Native Americans

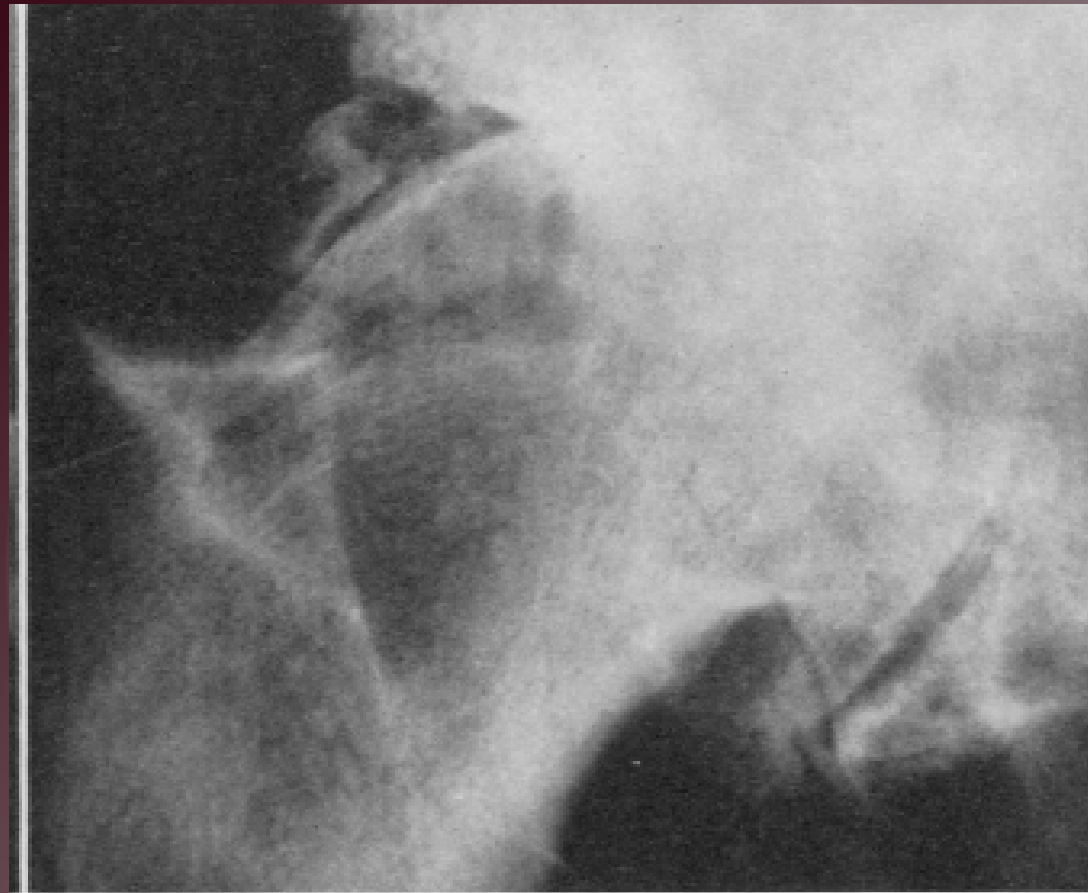
OA- Radiographic Findings

- Joint space narrowing- often asymmetric



OA- Radiographic Findings

- Osteophytes



Grade 4.

OA- Radiographic Findings

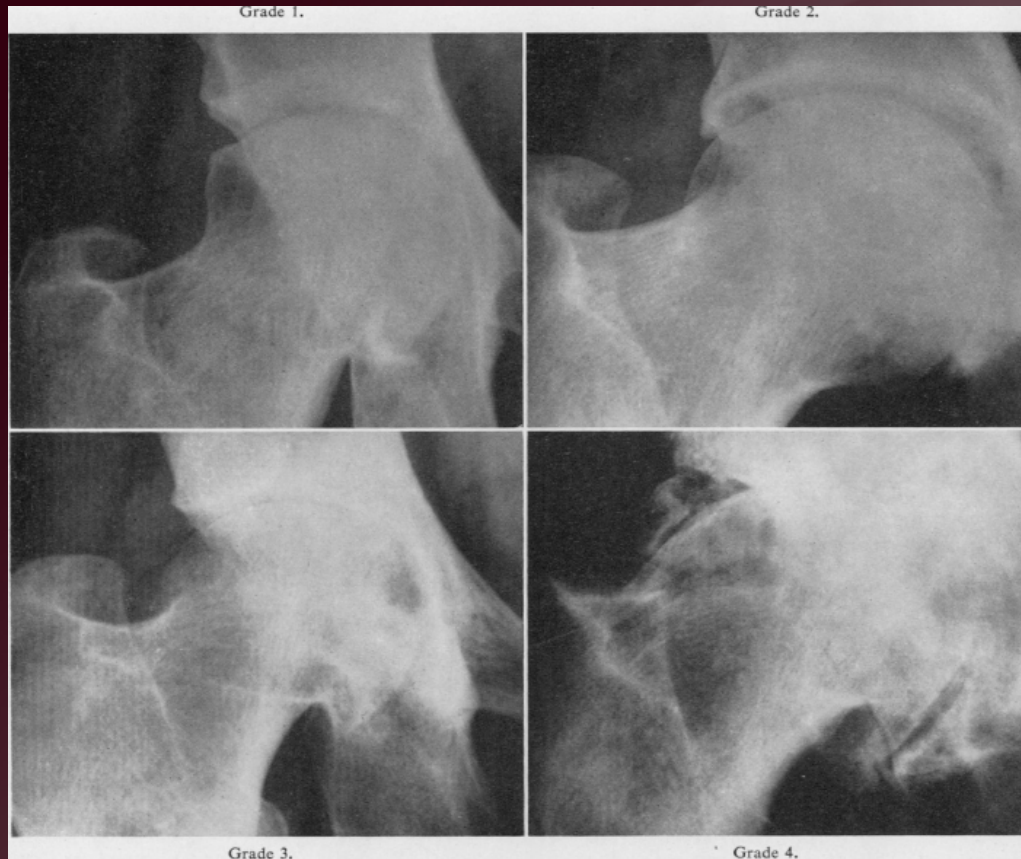
- Subchondral cysts



Radiological Assessment of Osteo-Arthrosis

Kellegren and Lawrence

Ann. Rheum Dis. 1957



G1-Doubtful narrowing, possible osteophytes

G2-Narrowing and osteophytes

G3-Multiple osteophytes, narrowing, sclerosis, possible deformity

G4-Large osteophytes, marked narrowing, severe sclerosis, definite deformity

Inflammatory Arthritis

- Less common source of hip pathology
- Any age- usually begins after age 40
- More common in women
- Can affect multiple joints
- Systemic symptoms
 - Skin, eyes, lungs, blood vessels

Inflammatory Arthritis

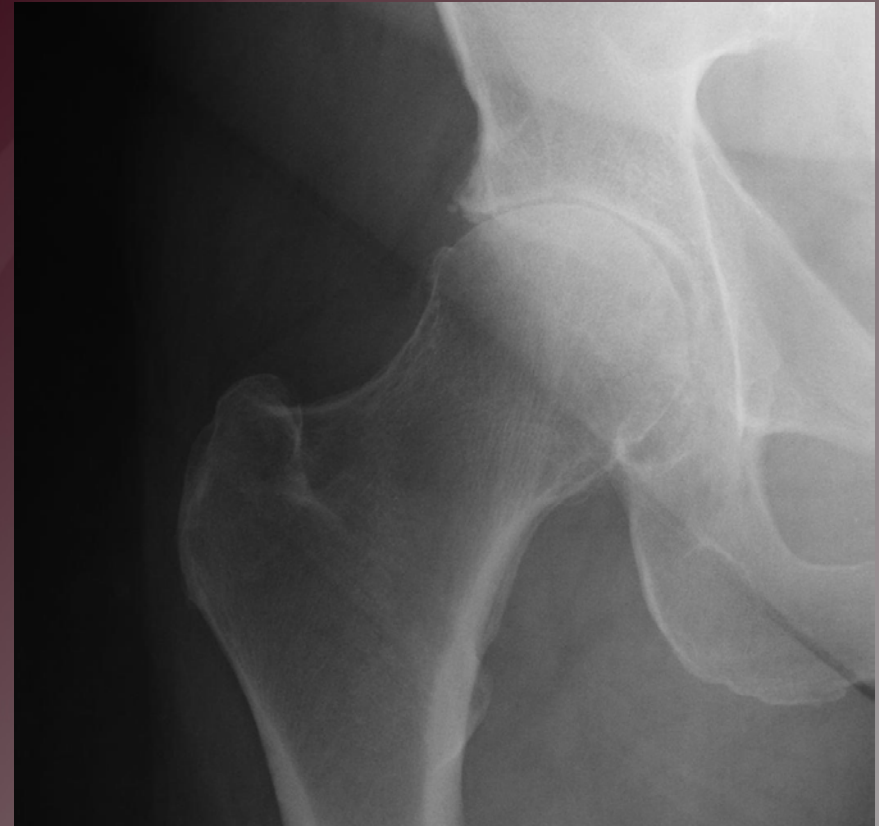
- Early stage, suspected diagnosis
 - Refer to rheumatologist for workup
 - Learn tests to order to work up for yourself
 - Sed rate, Rheum Factor, anti-CCP antibodies, ANA

Inflammatory Arthritis

- Tender, warm, swollen joints
- Morning stiffness that lasts for hours
- Firm bumps of tissue on arms (rheumatoid nodules)
- Fatigue, fever, weight loss
- Hands- RA affects PIP and MCP joints, DIP is OA

Rheumatoid Arthritis- Xray Findings

- Concentric loss of joint space
- Periarticular osteoporosis
- Erosions
- Fewer osteophytes than OA



Avascular Necrosis

- Loss of blood supply to the femoral head
- Age 30-60
- Men > Women

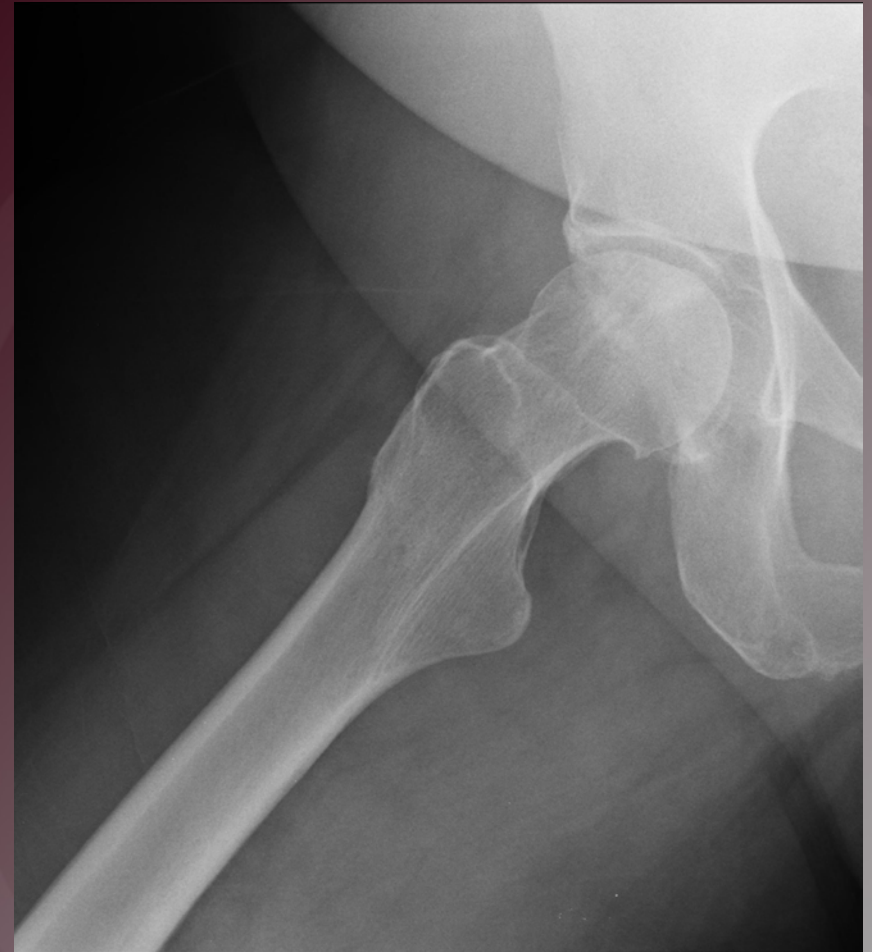
Avascular Necrosis- causes

- Trauma- hip fracture or dislocation
- Steroid use
- Alcoholism
- Systemic diseases
 - Gaucher's, Lupus, Sickle cell, HIV, Caisson's
- Idiopathic



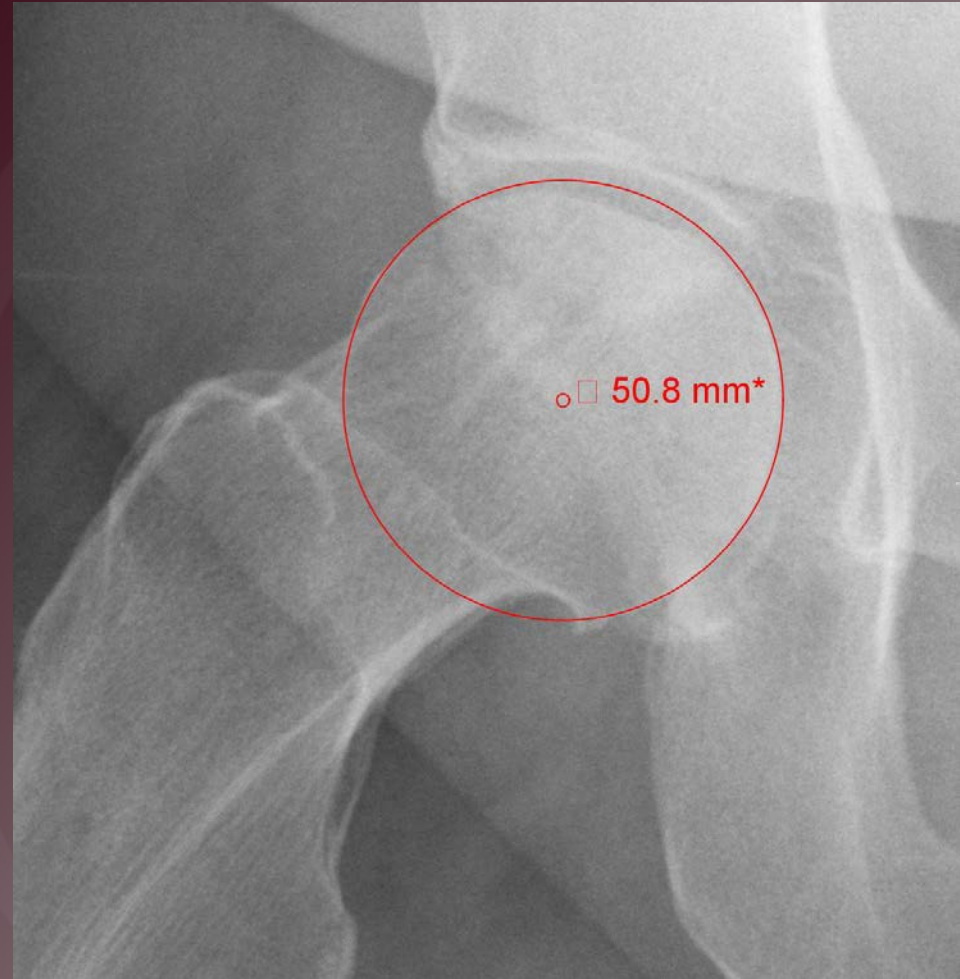
Avascular necrosis- Xray findings

- Early stages normal
- Look carefully at femoral head
 - AP and especially LATERAL view
- Lesion in superolateral femoral head
- Collapse of head with progression

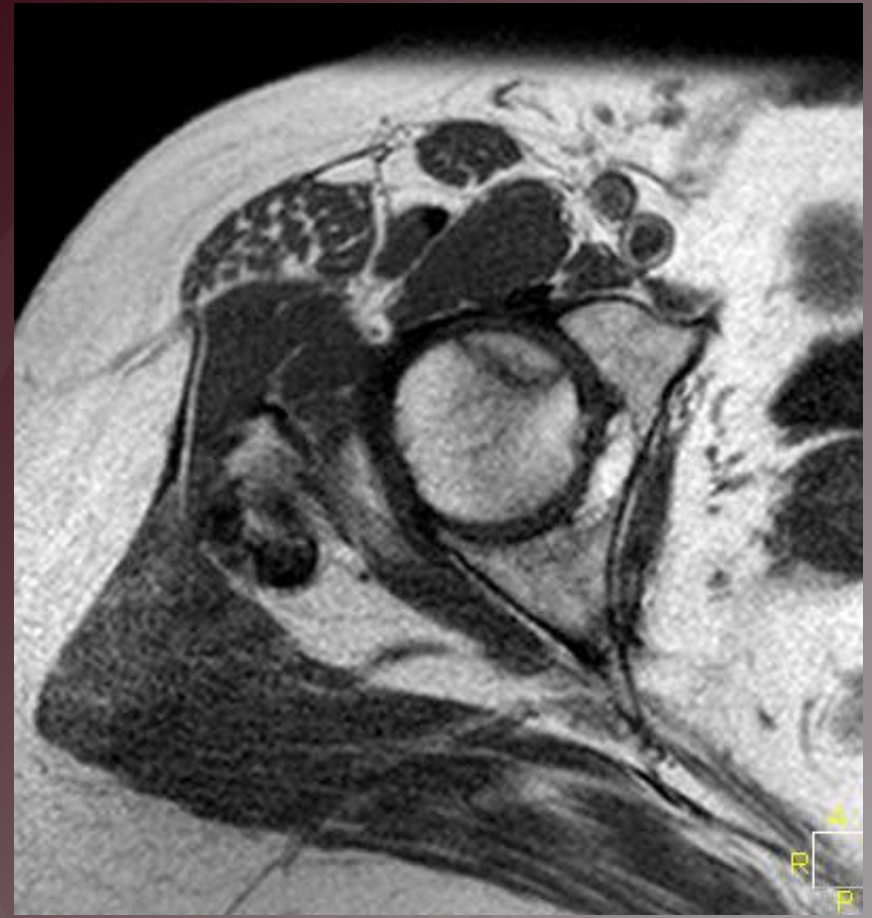


Avascular necrosis- Xray findings

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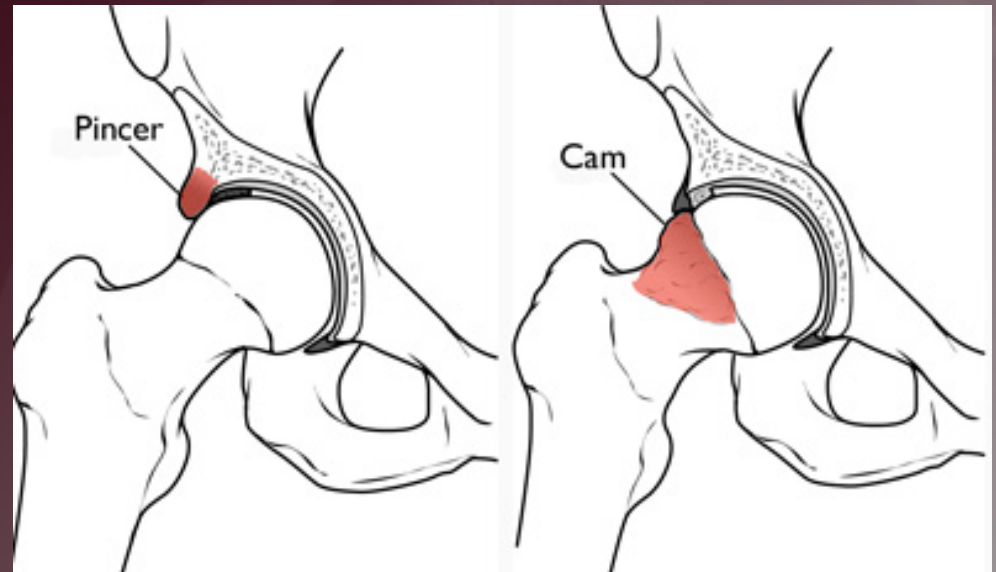


MRI



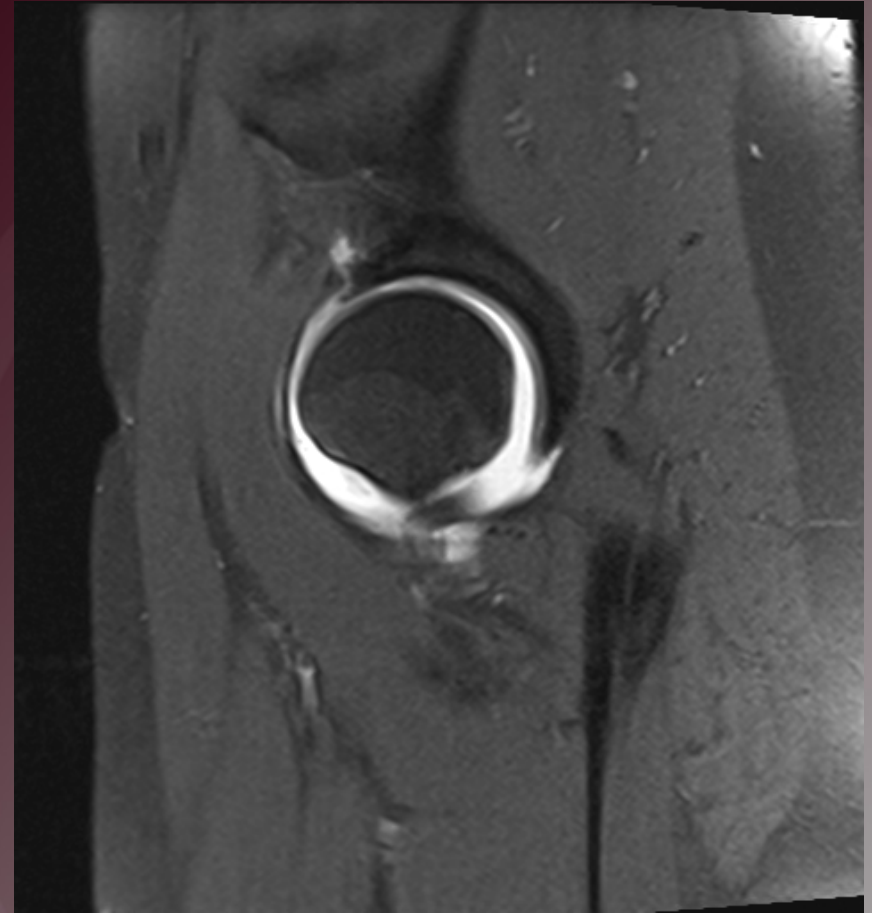
Femoral-acetabular Impingement (FAI)

- Pinching of abnormal anatomy of the femoral head and acetabulum during hip range of motion
 - Cam- males
 - Pincer- females
 - Combination- 70%



Femoral-acetabular Impingement (FAI)

- Can lead to tear of acetabular labrum
- MRI or MR arthrogram can help visualize tear



Trochanteric Pain Syndrome

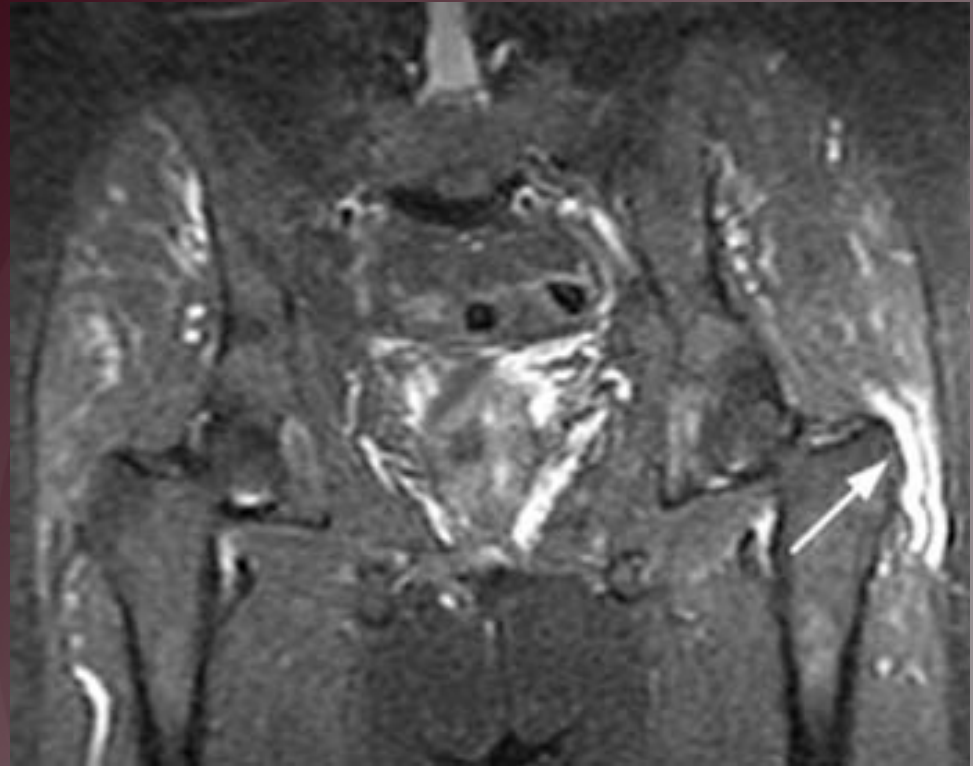
- Lateral hip pain
- Pain with laying on side
- Tender to palpation
- Lack of groin pain/pain with hip ROM

Trochanteric Pain Syndrome

- Trochanteric bursitis
- Gluteus medius/minimus tendinopathy
- Treatment for both conditions similar:
 - PT- stretching/strengthening
 - NSAID
 - Corticosteroid injection

Trochanteric pain syndrome

- Advanced imaging:
 - Failed non-op mgmt
- MRI or Ultrasound
 - Distinguish bursitis from tendinopathy or tear



Trochanteric pain syndrome

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When should I order an MRI

- Infrequently
- Rarely on initial visit
 - Initiate non-op treatment for presumptive dx
- Never when the X-ray shows OA



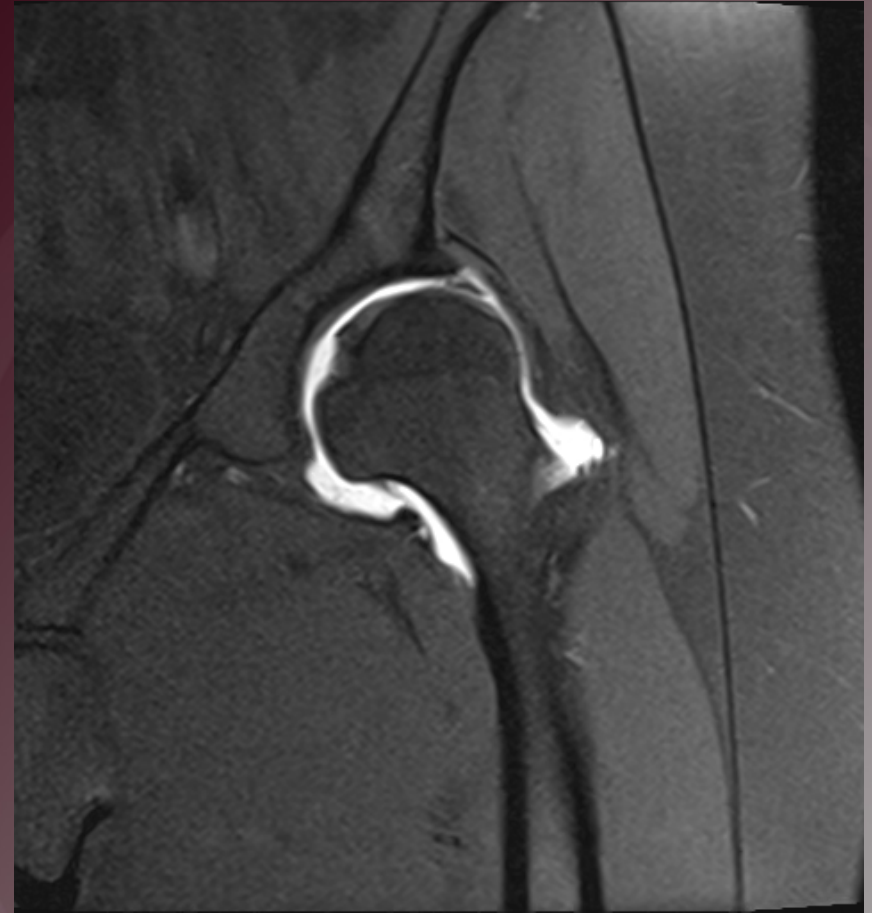
When should I order an MRI

- Concern for AVN
 - Normal Xray
 - Early stage, no collapse
 - Size lesion or examine contralateral hip



When should I order an MRI

- Concern for occult fracture
- Normal Xray-
 - Labral tear



Do I order MRI?



- NO!
- Diagnosis is made
- MRI provides no treatment guidance

Do I order MRI?



Do I order an MRI?



74 yr old female
Twisted hip 3 days ago

Difficulty bearing weight

++Stinchfield and internal rotation

Do I order an MRI?



Yes!

Occult hip fracture

Summary

- Take a good history
 - Is it the hip?
- Exam
 - Confirm it's the hip
 - R/O other source
- Imaging
 - X-rays are the workhorse
 - MRI for specific indications only

Thank You

Anderson Orthopaedic Research Institute

