BURSITIS
Greater trochanteric bursitis – lateral
Fluid common; often asymptomatic, related to obesity (B/L, more diffuse)
Iliopsoas bursitis – anterior
No fluid normally
Snapping hip: “coxa saltans”
Friction effect from iliopsoas tendon over anterior ridge of acetabulum
DDx: labral tear

MUSCLE INJURIES
Direct: muscle body, esp quadriceps
esp rugby, football
Indirect: myotendinous junction
eccentric contraction of muscle (contraction as muscle lengthens)
sudden acceleration / deceleration
various sports
may be unrecognized, present as mass

ATHLETIC PUBALGIA
Injury / avulsion of rectus / adductor aponeurosis

AVULSION FRACTURE
Due to sudden forceful muscle contraction
Sartorius, rectus femoris in adolescents
Gluteus medius in elderly

GLUTEUS MEDIUS TEAR / AVULSION
Greater trochanteric pain
Mimicks trochanteric bursitis
Older patients
F>M

OCCULT FRACTURE
S/P fall, elderly, osteoporotic
delayed Dx leads to complications
Bone scan findings delayed
If Xray neg, MRI better option than CT
One of the only indications for ‘emergent’ MSK MRI
Coronal T1, & FSTIR
Screening protocol 5 min
Fem neck, intertroch, acetabular - look for 2nd, 3rd fx
Associated muscle tear
adductors
obturator internus / externus
gluteus

STRESS FRACTURE
MRI
Edema on T2w / STIR
+/- Periosteal reaction
Subcortical line (may be subtle)
low signal on T1, T2
represents trabecular microcallus
look for extent of propagation across bone

TRANSIENT OSTEOPOROSIS OF THE HIP
First described 3rd trimester of pregnancy
Very painful
Xray: asymmetric osteopenia
Typically resolves spontaneously
Early AVN or Transient Osteoporosis?
Transient Osteoporosis

AVN
Trauma (subcapital fx / dislocation)
steroids
SCD
SLE
XRT
Many others
Early – diffuse marrow edema, joint effusion
potential recovery
AVN - Subacute
Double Line Sign
Low signal rim T1W
High signal outer rim T2W
= healing / granulation tissue

Legg-Calve-Perthes Disease
AVN
Peak age 4-7
Irregular growth, articular collapse results in deformity, aspherical head
Decreased longitudinal growth at physis with periosteal apposition leads to short, fat neck (coxa magna, coxa brevis)

METASTATIC DISEASE / MYELOMA
Pelvis / hips - common location (areas of red marrow)
Mets: prostate, breast, GI, lymphoma
Lytic / blastic
both usually T2W – discrete lesion +/- edema
Diffuse infiltration: lymphoma, myeloma
MRI: confirms DX, assess fx risk, extent, evaluate for optimal site to biopsy
Metastatic Breast CA
Mixed Lytic / Blastic Lesion
Lymphoma
marrow infiltration:
think lymphoma / leukemia / myeloma

RED MARROW
May be bright on fat suppressed T2W or STIR
Locations
medial femoral neck, prox shaft
Pelvis, esp. supra-acetabular
Patchy distribution: ‘islands’
Heterogeneous ‘speckled’ pattern in elderly
S/P XRT L hemipelvis
Tumor
Compare muscle tissue to marrow
T1: equal to muscle
T2 fatsat: brighter

OPPOSED PHASE IMAGING
Out vs In Phase____
Fatty marrow fat >> H2O no change vs sl decrease
Red marrow H2O = fat marked decrease
Mets H2O, no fat no change
Acetabular Fracture
Aplastic Anemia
Hematopoietic Islands
Fake-out: Subchondral Hematopoietic Marrow

Summary
Hip disease – wide range of pathology
Consider intra-articular, peri-articular and marrow disorders