

# HIP & SHOULDER ASSESSMENT HIP PAIN AFTER PREGNANCY

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1

## OBJECTIVES

- Collecting proper history & performing physical exam for hip and shoulder pain
- Understanding what radiographs to order and most common differential diagnosis for hip and shoulder pathology
- Treatment plan, including prescriptions and when to refer to Ortho!
- Unique population, females after pregnancy, now their hip hurts - understanding why, how to treat, when to refer to ortho
- Exercises - exercises specific to the hip to help prevent injury

2

## ABOUT ME

- Tulsa, OK Native
- Higginbotham Family: Stephen & Alex
- OSU – Go Pokes!
- Enjoy family time, being outside and travel!



3

## EDUCATION



### OKLAHOMA STATE UNIVERSITY

B.S. Nutritional Sciences- Allied Health



### OKLAHOMA UNIVERSITY

B.S. Nursing



### University of South Alabama

M.S.N. Family Nurse Practitioner

4



Oklahoma City

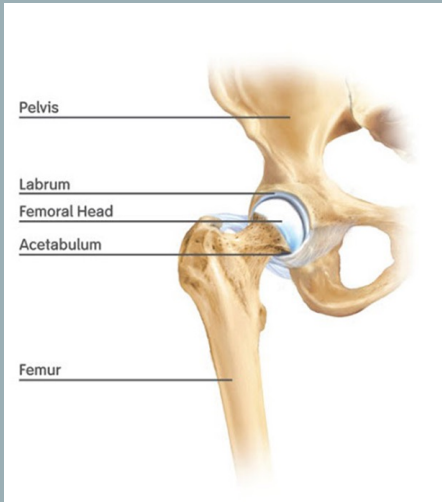


- Hip Arthroscopy
- Labral Tears, Hip Impingement
- Labral Reconstruction
- Trochanteric Bursitis, Gluteus Medius Tears
- All Ages

## CURRENT PRACTICE



5



## HIP ANATOMY

- Ball and socket joint
- Femoral Head & Acetabulum
- Labrum – cartilaginous ring
- Largest weight bearing joint in the body

6

## IS IT THE HIP?

### HIP

- Anterior, Groin Pain
- +C-Sign
- Dull, Achy, Pinch
- Worse with hip flexion and weight bearing activity
- Standing AP and frog leg lateral

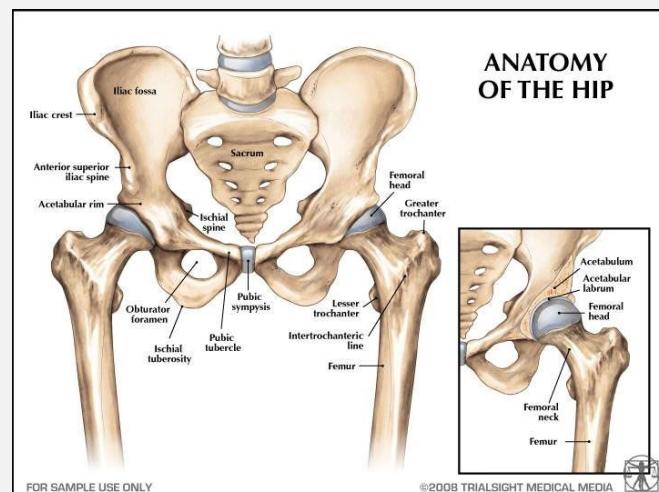
### BACK

- Posterior, deep buttock
- Radiates
- Above "BELT LINE"
- Shooting nerve pain
- Worse with sitting/bending, improves with walking
- 4 view radiographs L-spine

7

## COMMON HIP DIFFERENTIAL DIAGNOSIS

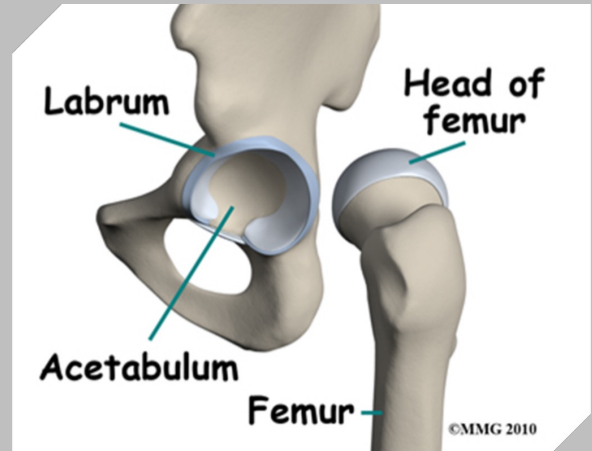
- Iliopsoas strain
- Labral tears
- Hip impingement
- Hip dysplasia
- Trochanteric bursitis
- Gluteus medius tears
- Osteoarthritis
- Ischial bursitis
- Hamstring strain
- Adductor strain
- Pelvic avulsion injury
- Snapping hip (internal, external)



8

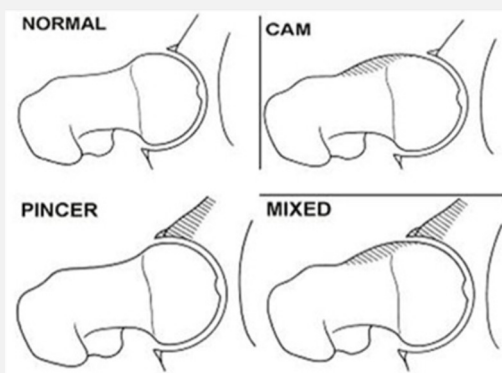
## THE LABRUM

- ▶ The **labrum** is a rim of soft tissue that surrounds the **hip** socket. The **labrum** adds to the stability of the **hip** by deepening the socket. <sup>5</sup>
- ▶ The **labrum** can tear as the result of an injury or impingement.



9

## HIP IMPINGEMENT



- ▶ Hip impingement or **Femoroacetabular impingement (FAI)** is a condition where the bones of the hip are abnormally shaped.
- ▶ Because they do not fit together perfectly, the hip bones **pinch** against each other and cause damage to the joint.
- ▶ Patients 13+, skeletally mature .

10

## CAUSES OF LABRAL TEARING

### ACUTE

- Falls
- Motor vehicle accident
- Hyper flexion injury
- Hip pointer-blow to lateral hip

### CHRONIC

- Repetitive hip flexion
- Running, walking, using stairs
- Sitting
- Getting in and out of car

11

## COMPLAINTS: LABRAL TEAR

- Groin pain
- Anterior hip pain
- Mechanical symptoms
- Weakness in leg
- Sitting pain
- Pain with hip flexion
- Pain with weight bearing activity <sup>12</sup>

12

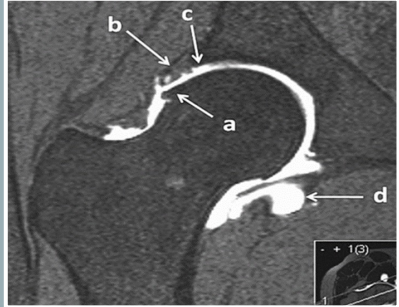
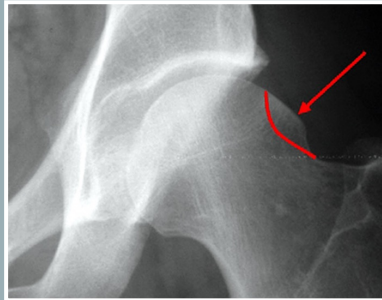
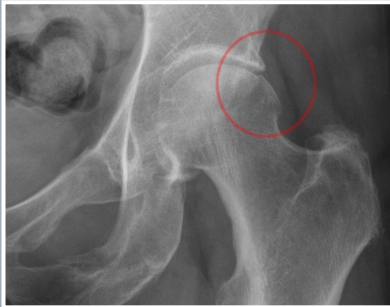
# HIP PHYSICAL EXAM



- Labral Pathology
- C-sign
- FADIR Test 8
  - Flexion adduction, internal rotation
- Stinchfield test
  - Resisted straight-leg raise
  
- Decreased hip ROM

13

# DIAGNOSTIC IMAGING RADIOGRAPHS & MR ARTHROGRAM



**Weight-bearing AP Pelvis & frog leg lateral**

MRA > MRI increased sensitivity of Labral Pathology with dye <sup>11</sup>

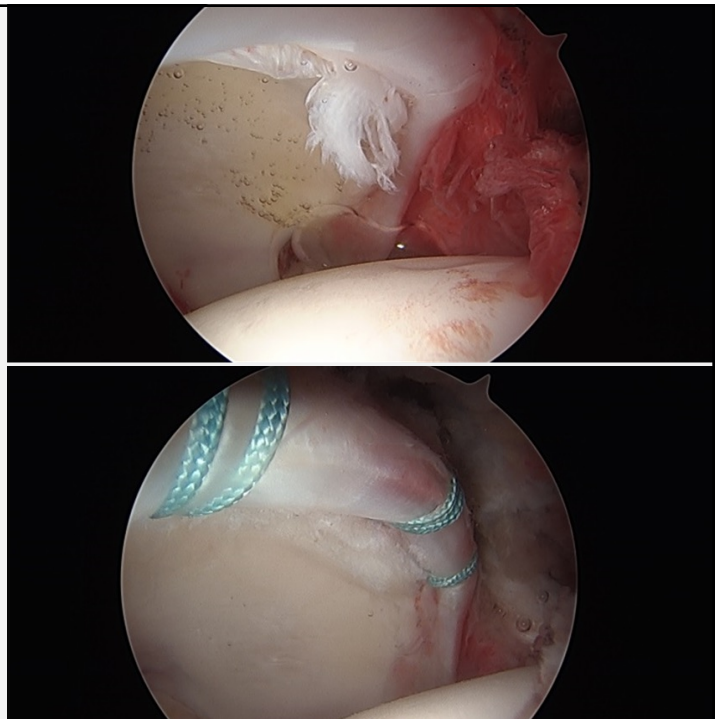
14

## TREATMENT CONSIDERATIONS FOR LABRAL TEARS

- In outpatient primary care – ORTHO REFERRAL
- IF concerned for labral tear and do not have MR Arthrogram – ORTHO REFERRAL
- HIP PAIN is not normal.
  - Is it the hip?
  - Can patient bear weight?
  - Duration of pain? How often (daily?)
  - Mechanical complaints?
- IF complaints are consistent with a labral tear, imaging reveals impingement & labral tear & no extensive arthritis + irritable hip on exam. Recommendation is to repair it!
- Hip arthroscopy – more to come!

15

## ARTHROSCOPIC LABRAL REPAIR

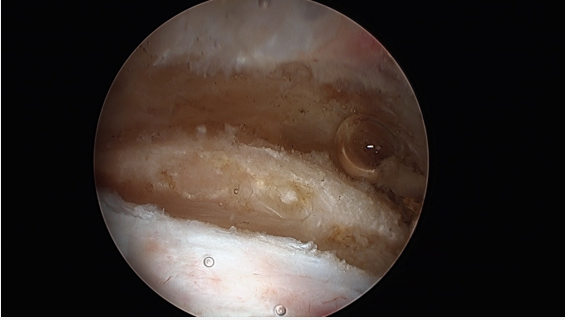


16

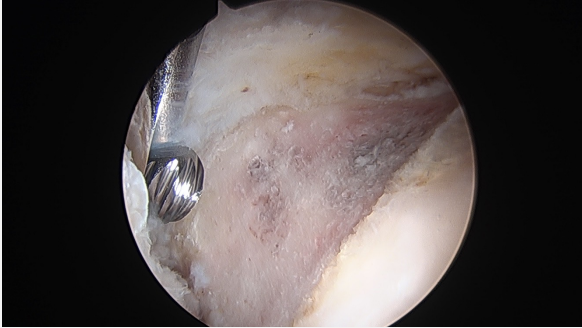


**ARTHROSCOPIC  
HIP IMPINGEMENT**

**Pincer Deformity – Acetabulum**




**Cam Deformity – Femoral Head**



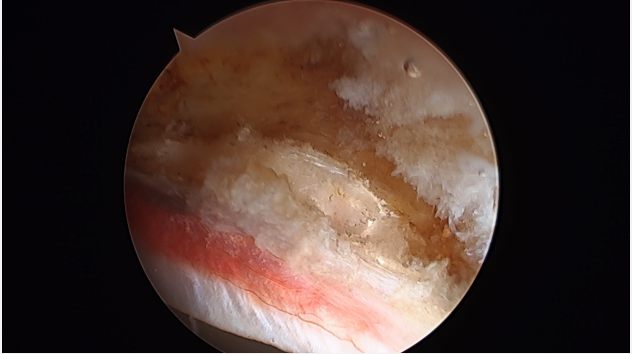
17

**Labral Repair**

**HIP ARTHROSCOPY VIDEO**



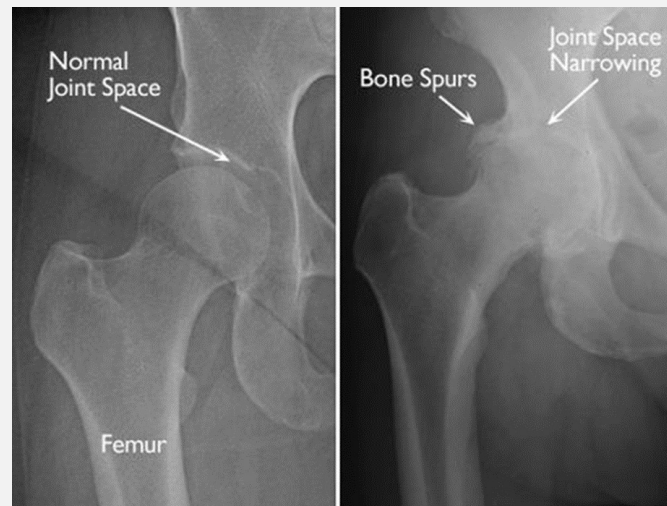
**Acetabuloplasty**



18

## OSTEOARTHRITIS

- Progressive, irreversible degenerative pathology
- Risk factors: >55 y/o, elevated BMI, family Hx
- Degradation of articular cartilage
- Osteophyte formation
- Subchondral bone sclerosis & cysts
- Identifiable on radiographs
- Pain worse with activities, relieved with rest
- Pain can be sharp, dull, stiff



19

## OSTEOARTHRITIS TREATMENT

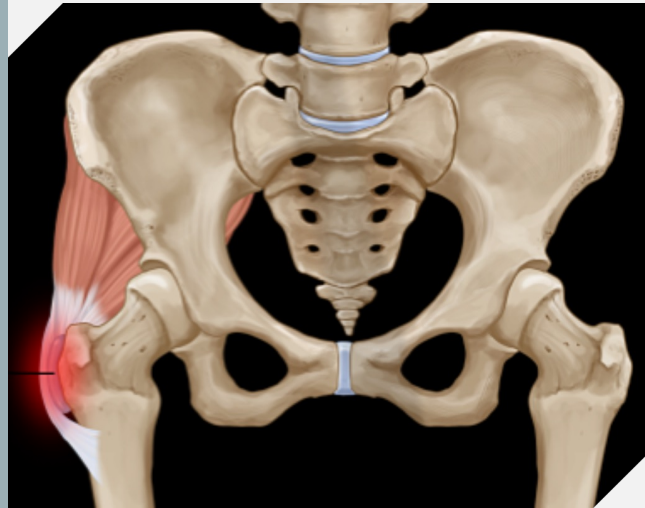
- Treatment options for Hip OA
  - Medication: Acetaminophen, NSAIDs
  - Physical Therapy
  - Ergonomics – activity modification
  - Joint Injection: guided-hip injection with steroid
  - Total Hip Arthroplasty



20

## GREATER TROCHANTERIC BURSITIS

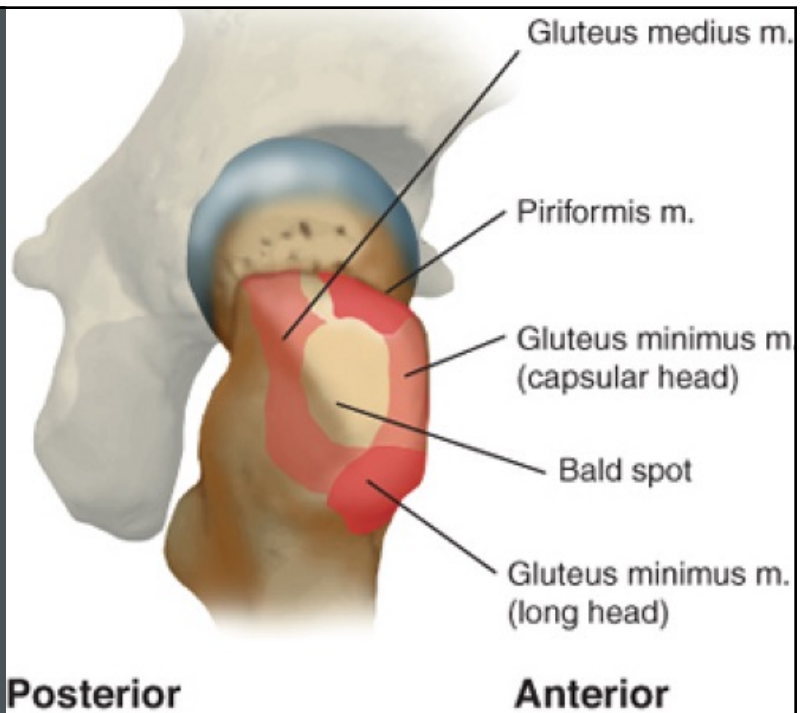
- Lateral hip pain
- Inability to lay on affected side
- Pain with sitting, walking
- Over use/Under use
- Tenderness to greater trochanter
- Inject troch bursa with steroid, PT, NSAIDs
  - 10 mg/1ml Kenalog 1:4 lidocaine 1% 10mg/1ml
- IF no improvement, consider MRI to rule out Gluteus medius tear.
- Ortho referral



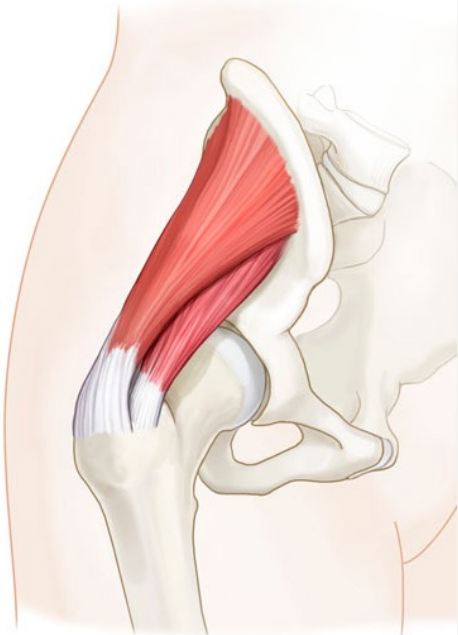
21

## GLUTEUS MEDIUS TEARS

- Persistent lateral hip pain
  - Failed conservative tx
- Risk Factors: age, female
- Causes: degenerative, fall
- +pain weight bearing, resisted abduction,
- Trendelenburg gait
- Function: stabilizes femoral head during ambulation, initiates hip abduction, external rotator of pelvis <sup>1°</sup>



22



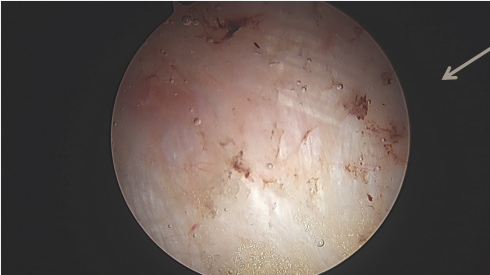
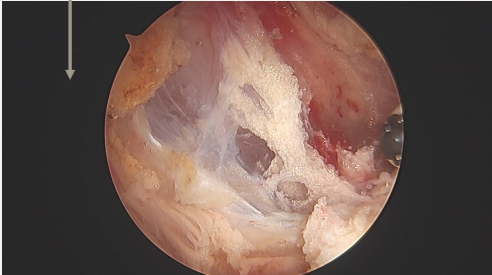
### GLUTEUS MEDIUS FACTS

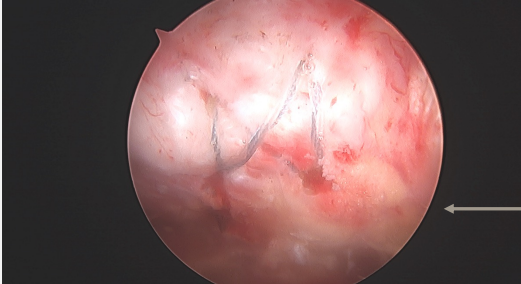
- Gluteus medius tendon compared to the “rotator cuff of the hip”
  - Medius & minimus analagous to supraspinatous & subscapularis
- 25% of middle-aged women and 10% middle-aged men will develop a tear of the gluteus medius tendon.  
7
- Tears are 4x more common in women than men.
- Inserts on superoposterior and lateral facets of greater trochanter.
  - \*think about this during PE, palpation, resisted ABDuction
- Most tears located anteriorly, at lateral facet of greater trochanter.

23

### GLUTEUS MEDIUS REPAIR

Hip Arthroscopy for Gluteus Medius Tear– IT Band Lengthening, Trochanteric Bursectomy, Gluteus Medius Repair

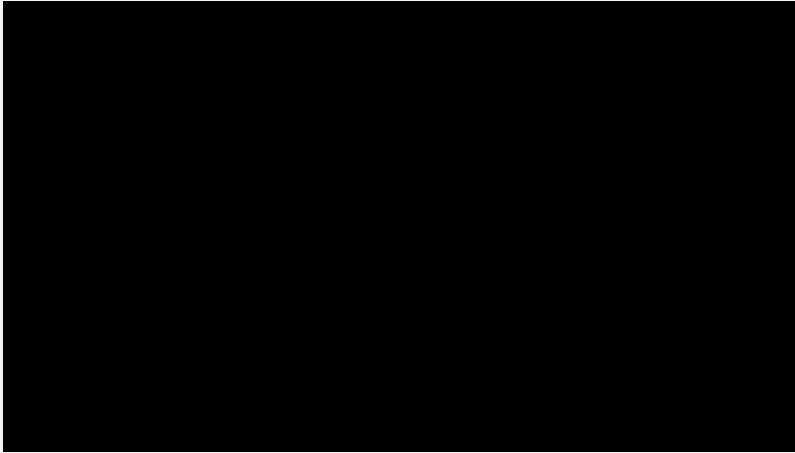





Transtendinous approach to partial thickness Gluteus Medius Tear

24

## GLUTEUS MEDIUS REPAIR VIDEO



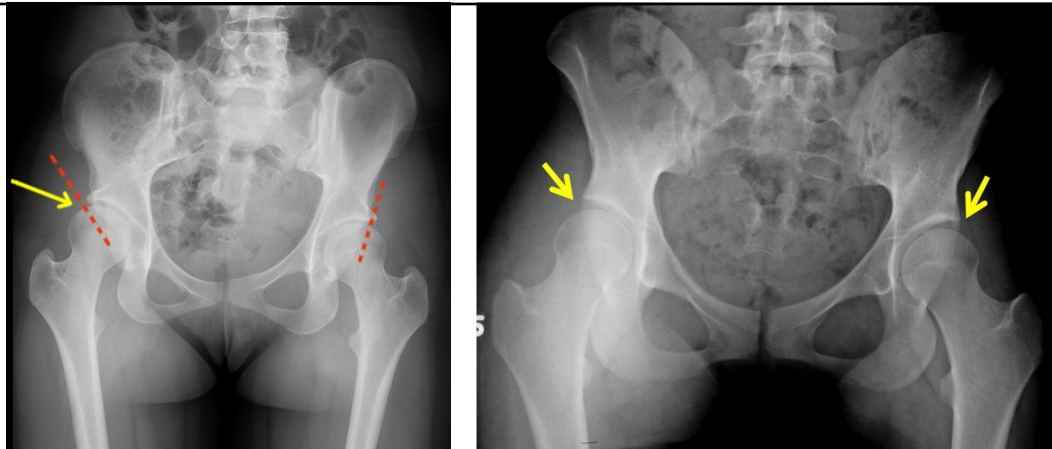
- Peri-Trochanteric Space
- Arthroscopic
- 2-3 incisions, 1 cm length
- IT Band Lengthening
- Troch Bursectomy
- Gluteus Medius Repair
- Partial or Full Thickness

25

## HIP DYSPLASIA

- All ages! Females > Males
- Instability – Rare
- Undercoverage of acetabulum
- Increased exposure of femoral head
- Lead to increased wear & tear on hip joint, early onset hip OA
- Complaints of hip pain, groin/lateral pain. +pain weightbearing activity, +mechanical complaints
- PE: increased ROM, limping
- **X-rays**
- Mild vs. Severe
- Ortho Referral

26



## HIP DYSPLASIA RADIOGRAPHS

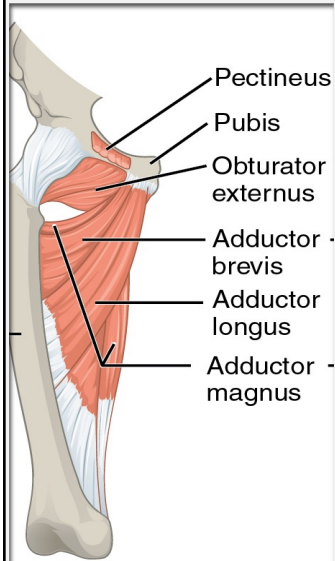
27

## HIP DYSPLASIA TREATMENT

- Mild
- Center Edge Angle (CEA) 18-25
- +MR, candidate for hip arthroscopy if also concurrent labral tear
- Rehab: big focus on glute strengthening in Physical Therapy
- Severe
- Center Edge Angle <15 (sometimes single digits)
- Not a candidate for hip arthroscopy
- ORTHO REFERRAL (Age matters)
  - Pelvic acetabular osteotomy (PAO)
  - Total Hip Arthroplasty (THA)

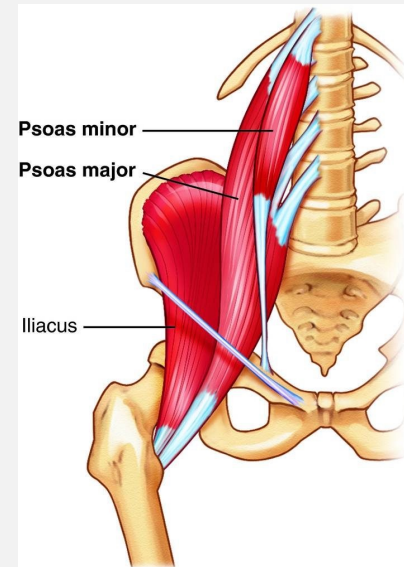
28

## COMMON SPORTS INJURIES



### • **Adductor Strain , iliopsoas Strain**

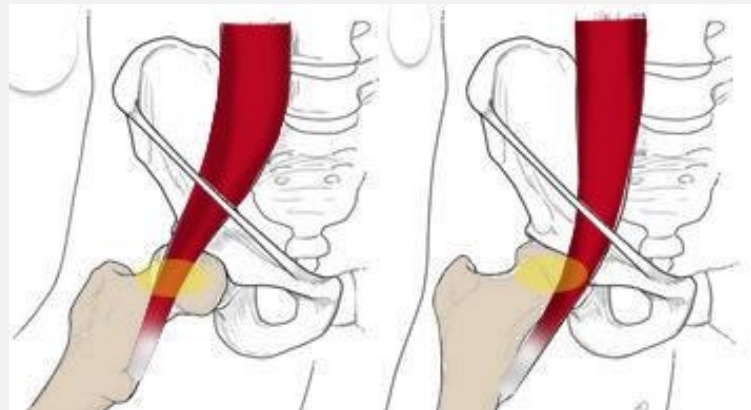
- Groin Strain, Hip flexor strain
- Complaints of groin pain
- History: kicking, sport injury, acute
- Physical Exam: Tenderness Adductor, iliopsoas
- Tx: Rest, ice, PT, MDP, NSAIDs
- Ortho referral – no improvement after 6 weeks conservative treatment



29

## INTERNAL SNAPPING HIP

- HIP FLEXOR crosses over femoral head
- Anterior hip pain
- Dancers, runners – repetitive hip flexion
- + stinchfield, tenderness iliopsoas
- “complaints of popping”
- Treat conservatively



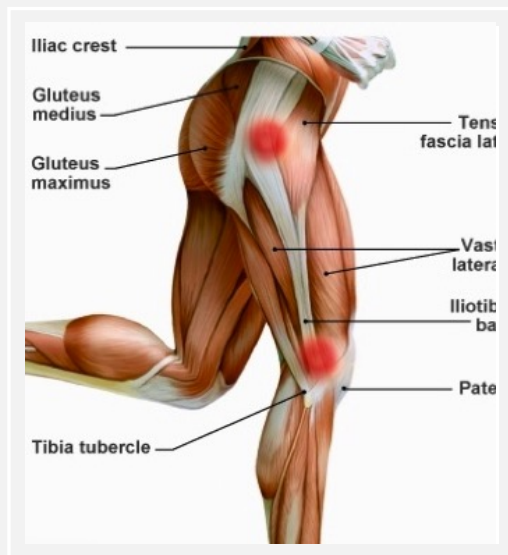
30

## EXTERNAL SNAPPING HIP

- IT Band crosses over Greater Trochanter
- Lateral hip pain
- Common
- +FABER, tenderness ITB
- Complaints of “popping”
- Treat conservatively



31



## ILIOTIBIAL BAND SYNDROME

- Irritated IT Band, inflammation of the bursa
- Repetitive hip flexion; running, jumping, high-impact activity, prolonged sitting, increased activity, weak glutes, improper gait
- Tenderness IT band origin/insertion (lateral knee), tenderness greater troch
- Tx- Conservatively, PT, MDP for ITBS. F/U 6 weeks.
  - PT: big focus on form, weak abductors contributing to contralateral pelvic tilt<sup>3</sup>
- Ortho referral if no improvement.

32



## POST-PREGNANCY HIP PAIN

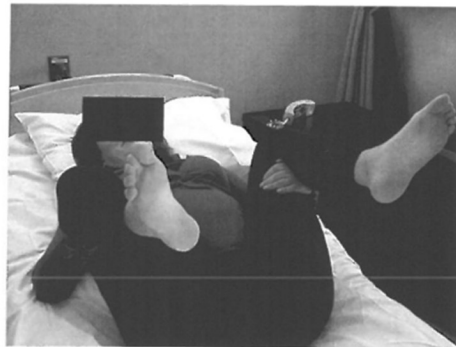
- Pelvic Girdle Pain – acute, 1-3 months, post-partum
- Increased Joint Laxity – hormonal changes
- Labral Tears- 6+ months
- Method of Delivery
  - The range of motion that is most often forced in the hip during labor is flexion and internal or external rotation, combined with abduction. (Hermann)
  - Assistant during labor can pull the ankle while mother in hip flexion, internally rotating hip and increased pinch on labrum (Domb)
  - C-section, Vaginal birth with Epidural

33

## PATIENT POSITIONING



**Fig. 7.** Demonstration of a well-meaning assistant inadvertently placing the patient in a position of impingement by not allowing the hip to externally rotate.  
*Brooks. Postpartum Labral Tears. Obstet Gynecol 2012.*



**Fig. 8.** Demonstration of a delivery position that allows the hip to externally rotate freely.  
*Brooks. Postpartum Labral Tears. Obstet Gynecol 2012.*

VOL. 120, NO. 5, NOVEMBER 2012

Brooks and Domb *Postpartum Labral Tears* 1097

34

## ASSESSMENT POST-PARTUM HIP PAN

### PHYSICAL EXAM

- +C sign
- +FADIR
- +FABER
- +Log Roll
- +Stinchfield
- +McCarthy
- Figure Four (SI joint dysfunction)

### COMPLAINTS

- Ache
- Sharp
- +pain hip flexion
- +pain weight bearing activity
- 6+ months

35

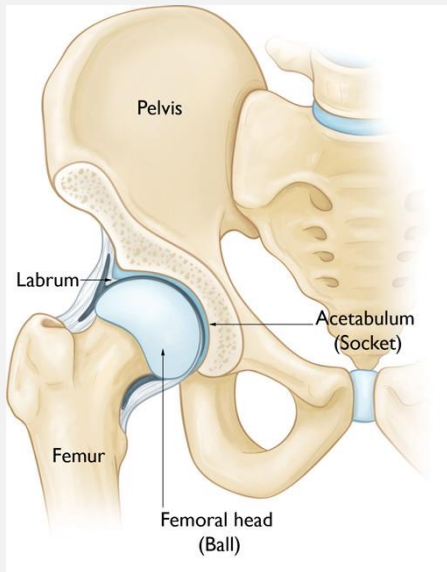
## HIP EXERCISES FOR INJURY PREVENTION

- ALL IN THE GLUTES!
- Glute Activation Exercises
  - Banded exercises
  - Hip hinging
  - Hip dips
  - Proper squat form
- Activated glutes reduce contralateral pelvic tilt, reduce knee valgus and lower extremity pain\*



[www.thehipclinicokc.com](http://www.thehipclinicokc.com) [FOR PATIENTS](#) [EXERCISES](#)

36



## HIP "PEARS FOR PRACTICE"

- Hip pain isn't normal and isn't "just arthritis"
- Identify if it is the hip
- Age of patient and Duration of pain matter
- MR Arthrogram\*
- If Ortho required, send to fellowship trained hip orthopedic surgeon
- Do your exercises!
- Help our post-partum patients

37

## SHOULDER ANATOMY

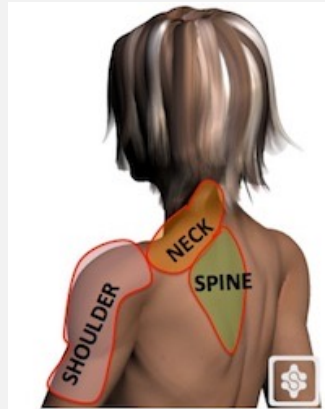


38

## IS IT THE SHOULDER?

### SHOULDER

- Anterior/Lateral
- Can radiate to elbow
- Dull, achy
- +pain Abduction (Bokshan et al., 2016)



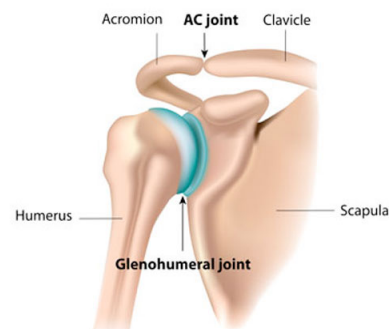
### NECK

- Posterior
- Radiate to fingers
- Sharp, shooting
- Can cause referred shoulder pain
- Doesn't hurt with shoulder ROM

39

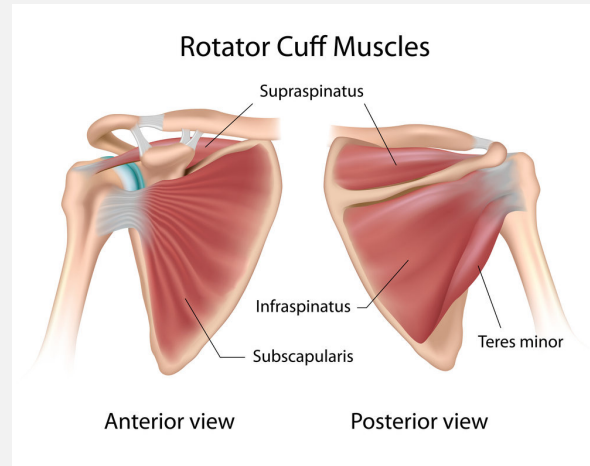
## COMMON SHOULDER DIFFERENTIAL DIAGNOSIS

- Rotator Cuff Tears
- Adhesive Capsulitis (Frozen Shoulder)
- Shoulder Impingement
- Shoulder Osteoarthritis
- Shoulder Instability
- Shoulder Dislocation
- SLAP Tears
- Bankhart lesion
- Shoulder Fractures (Proximal Humerus & Clavical)



40

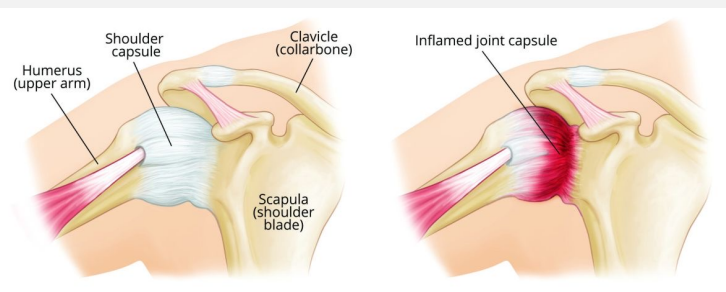
## ROTATOR CUFF TEARS



- 4 tendons make up Rotator Cuff
- Supraspinatus most common tendon tear
  - Raises arm overhead
- Function: holds humeral head to glenoid, shoulder ROM
- Weakness vs. Pain
- Age (mostly older)
- History of Present Illness
- Shoulder Exam: Empty can test, Neer's test, Lift-off Test, Belly-Press test, +Drop Test
- MRI
  - Partial vs Full thickness tear
- Treatment: Conservative vs Surgery

41

## ADHESIVE CAPSULITIS "FROZEN SHOULDER"

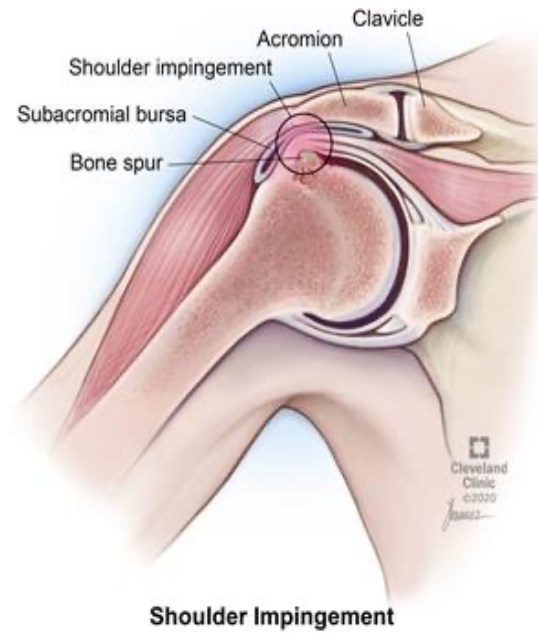


- Risk Factors: Female, Older Age, Co-morbidities
- Freezing, Frozen, Thawed (1.5-3 years)
- Painful & Decreased ROM
  - Patient Lying down, check internal rotation, isolate shoulder girdle
  - Limited forward flexion, pain PASSIVE or ACTIVE motion
- Tenderness to Palpation
- CONSERVATIVE TREATMENT
  - Steroid Injection (Subacromium), Physical Therapy, NSAIDS
  - Reassurance ☺

42

## SHOULDER IMPINGEMENT

- Pinching of rotator cuff between Acromium and Humerus
  - Repetitive Overhead activity
- Decrease in Subacromium space
- Causes swelling, bursitis, bone spurring
- Physical Exam: +pain overhead, anterior pain, lying on affected side, +lift-off test, +Neer, + Hawkins
- Imaging: Radiographs (3 views + Axillary), MRI if no improvement, concerned cuff tear
- Treatment – Conservative \*Injection\*
- Surgery – Arthroscopic Subacrominal Decompression



43

## SHOULDER OSTEOARTHRITIS

- Age
- Degenerative joint disease
- Loss Glenohumeral joint space
- Painful & Limited ROM, +Crepitus
- Pain at rest
- Radiographs (AP, lateral axillary)
- Treatment – Conservative, Surgery
- Total vs Reverse Total



44

## SHOULDER INSTABILITY

- Anterior – most common, labral tears, SLAP, Bankhart lesion
  - Repeat dislocation, instability, +catching, +ache
- Posterior - rare
- Instability
  - Glenohumeral translation
  - Subluxation
  - Dislocation

Physical Exam: ROM ( can be normal or limited), +popping, +guarding

Treatment: first time dislocators – conservative, PT

MRI – repeat dislocators, failed conservative tx

Surgery – repeat dislocations, arthroscopic labral repair (SLAP), biceps tenodesis

45

## SHOULDER FRACTURES

### PROXIMAL HUMERUS



- Conservative vs ORIF

### CLAVICAL



- Sling and send to Ortho
- Respiratory Assessment\*

46

## SHOULDER “PEARLS FOR PRACTICE”

- Don't under-estimate Physical Therapy
- MR Arthrogram if < 40
- Differentiate shoulder vs neck
- Shoulder differential dx
- Injections- diagnostic and/or therapeutic
- Ortho referral

47

## REFERENCES

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48



THE END

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