



“No one is too young to have hip pain  
and no one is too old to preserve their  
hip joint” – Dr. Brandon Johnson



# Orthopedic Assessments, Sports Medicine & Joint Care

SARAH M. HIGGINBOTHAM, MSN, APRN, FNP-C



THE  
**HIPCLINIC**

M. BRANDON JOHNSON, M.D.

# Objectives

- ▶ **Perform Orthopedic Specific Assessment**
- ▶ **Details to focus on during history taking and physical exam**
- ▶ **Common Orthopedic Diagnosis**
- ▶ **MRI vs. MRA**
- ▶ **Ortho referral?**
- ▶ **Adolescent considerations**
- ▶ **Joint care**
- ▶ **Hip Preservation & Glute Repairs**

# About Me

- ▶ Tulsa, OK
- ▶ Higginbotham Family – Stephen, Alex
- ▶ OSU – Go Pokes!
- ▶ Thunder Up!
- ▶ Enjoy family time, being outside and traveling.



# Education



Oklahoma State University  
B.S. Nutritional Sciences – Allied Health

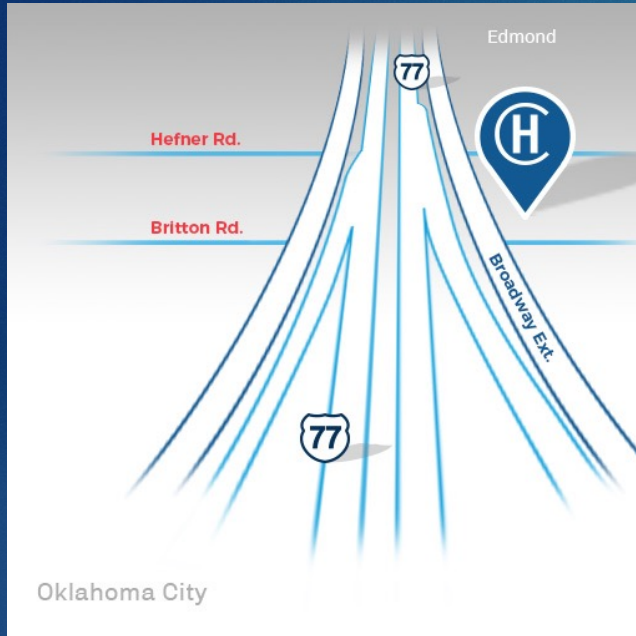


University of Oklahoma  
B.S. Nursing



University of South Alabama  
MSN – Family Nurse Practitioner

# CURRENT PRACTICE



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



THE  
**HIPCLINIC**  
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# ORTHO FOCUSED ASSESMENT

- ▶ Upper Extremity – Neck, Shoulder, Elbow
- ▶ Lower Extremity – Hip, Knee

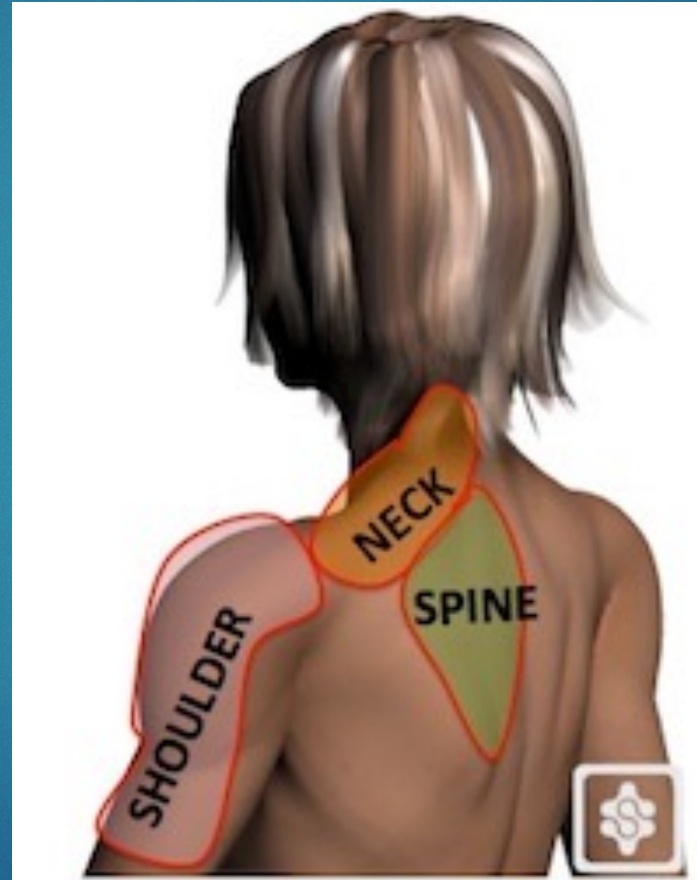
# SHOULDER ANATOMY/ASSESSMENT





# Shoulder vs. Neck Considerations

- Anterior/Lateral
- Radiate to elbow
- Dull, achy
- + Pain Abduction

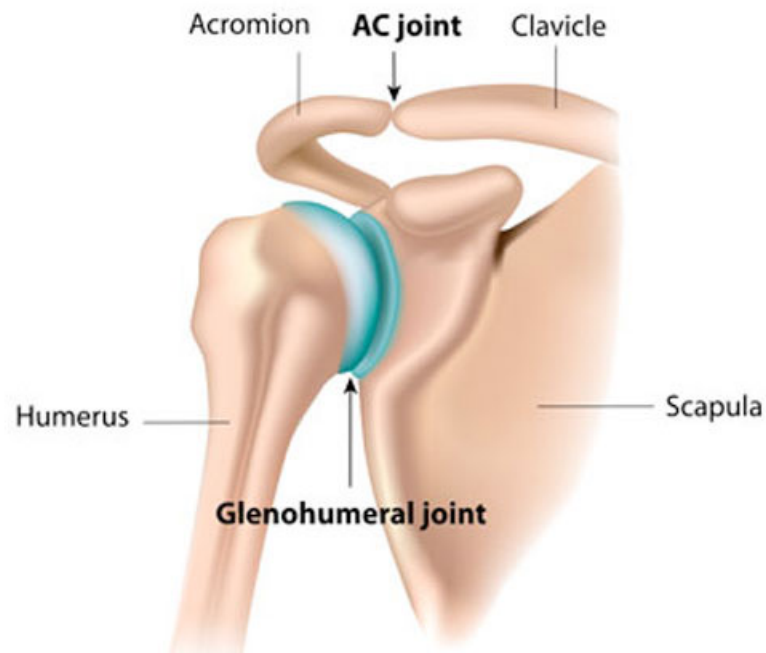


- Posterior
- Radiate to fingers
- Sharp, shooting
- Referred shoulder pain
- Shoulder ROM +

# Shoulder: History / Physical Exam

- ▶ **Location of Pain- anterior, lateral, posterior**
- ▶ **Injury or Trauma?**
- ▶ **Age of Patient**
- ▶ **Nighttime disturbance**
- ▶ **Radiation?**
- ▶ **Weakness? Stiffness?**

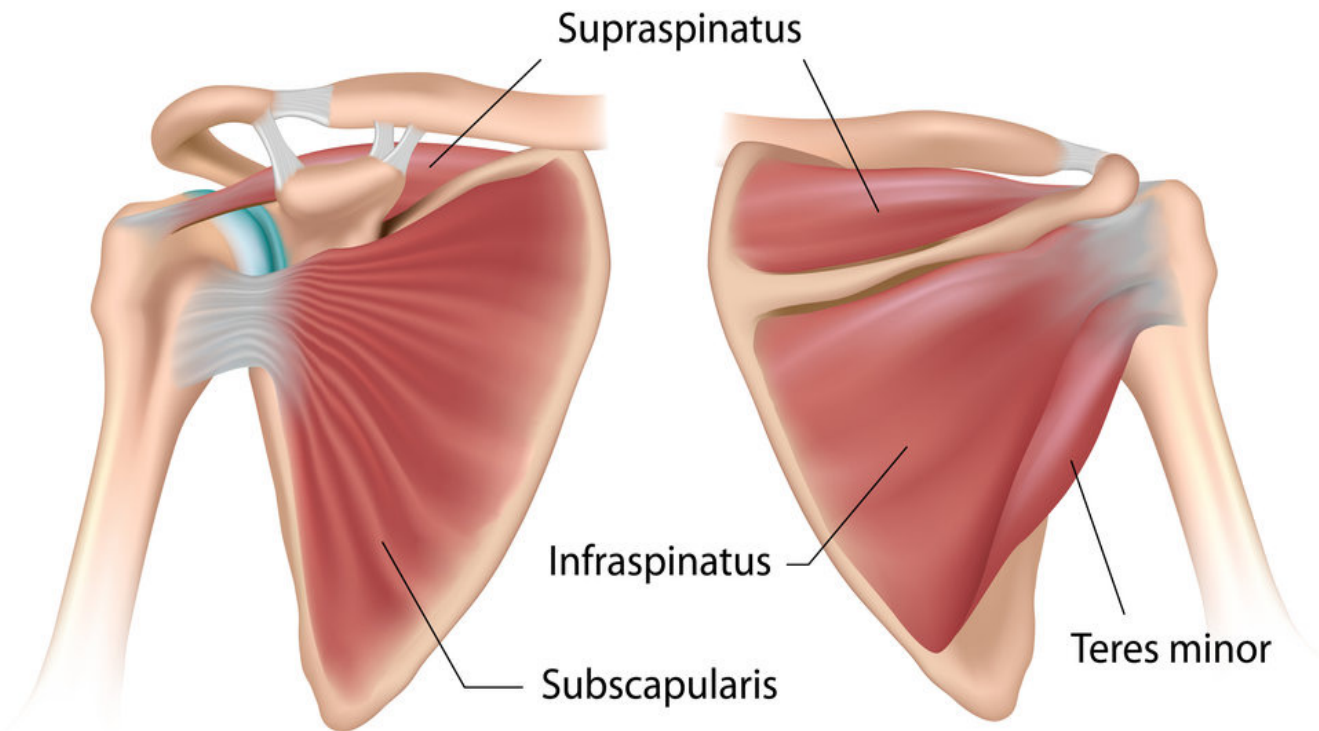
# Shoulder Differential Diagnosis



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

# Rotator Cuff Tears

## Rotator Cuff Muscles

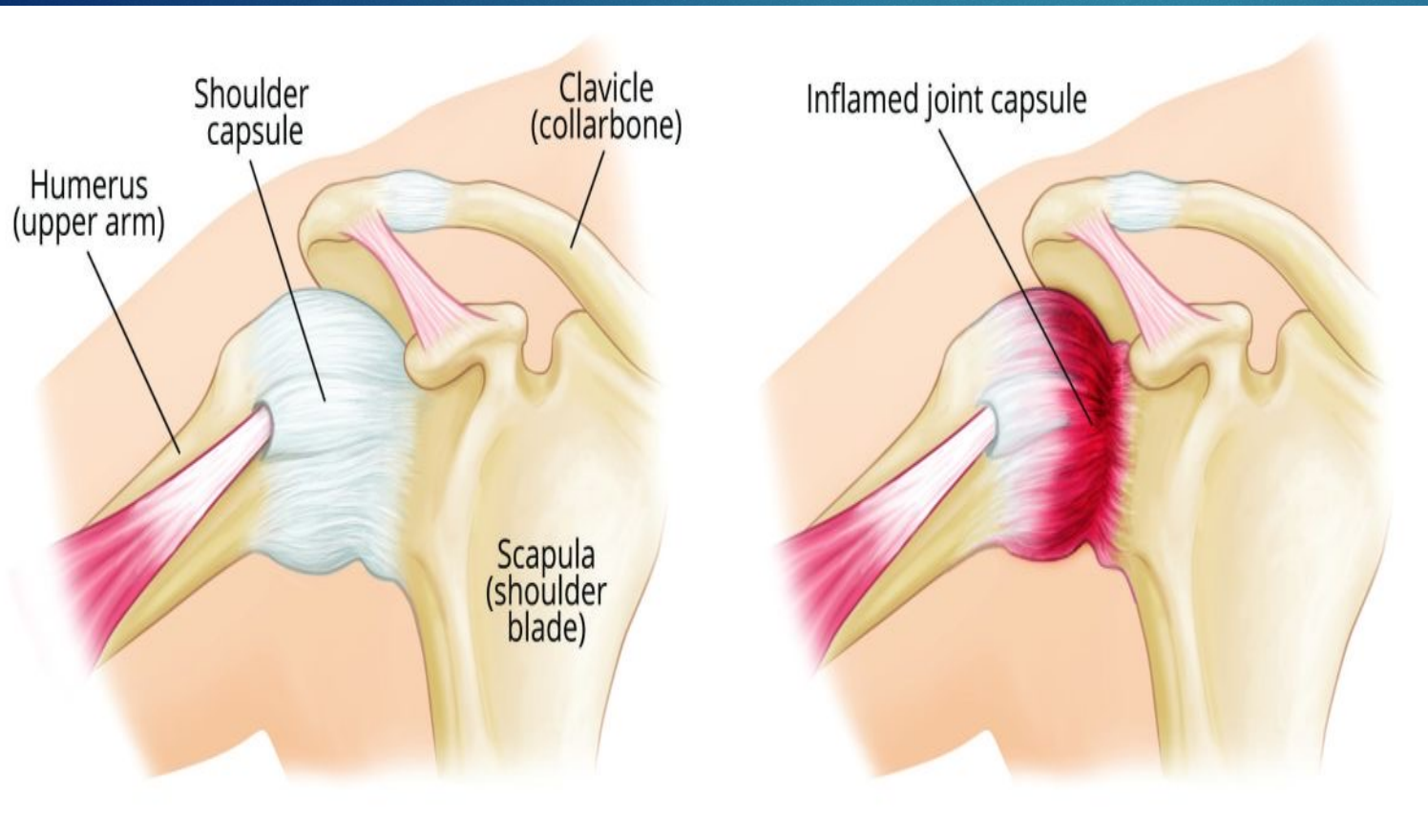


Anterior view

Posterior view

- 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

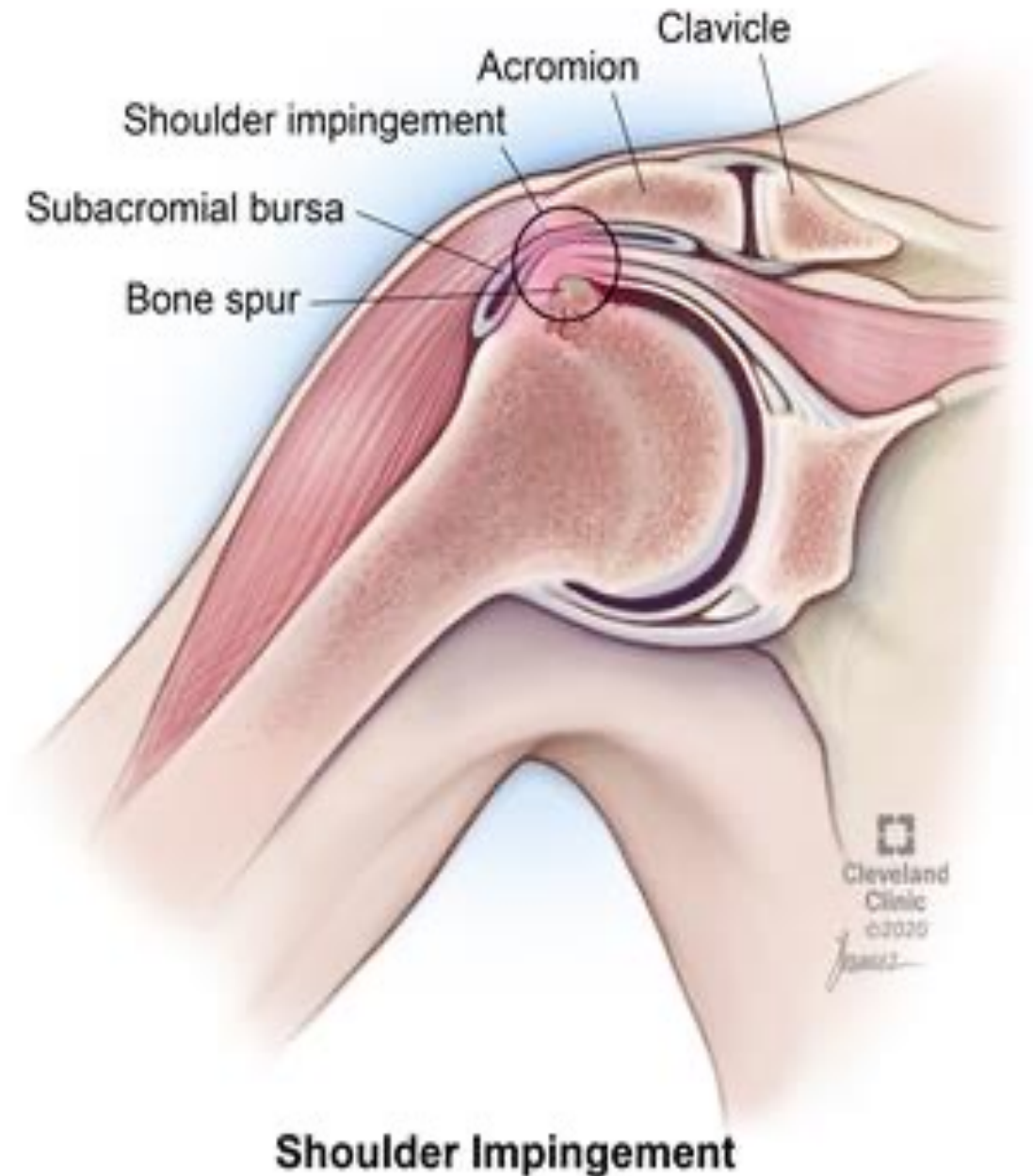
# Adhesive Capsulitis (Frozen Shoulder)



- ▶ 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 😊

# Shoulder Impingement

- Pinching of rotator cuff between Acromion 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



# 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



# 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



# Shoulder Fractures

## Proximal Humerus



Conservative Tx vs. ORIF

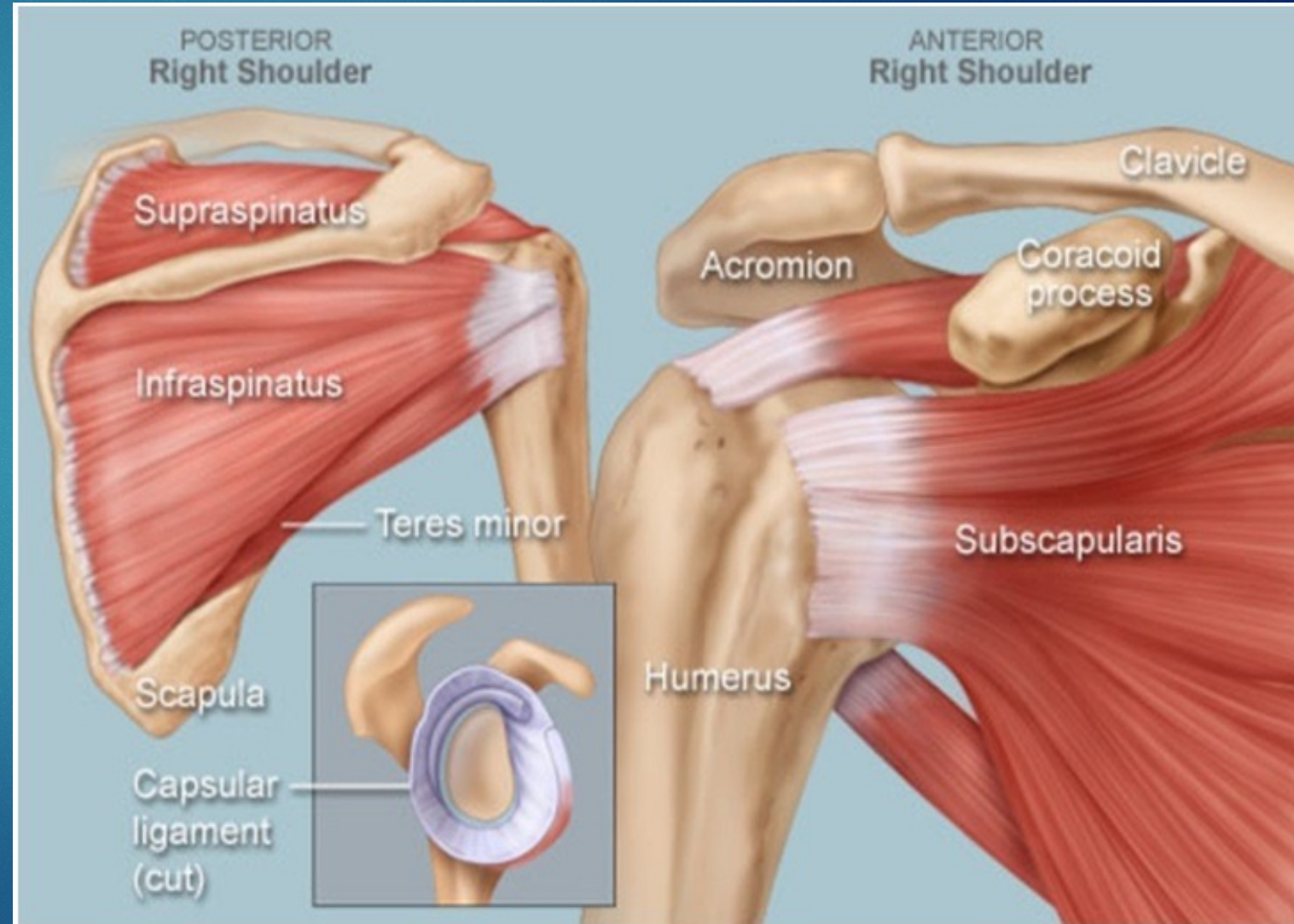
## Distal Clavical



Sling and Send to Ortho  
\*\*Respiratory Assessment\*\*

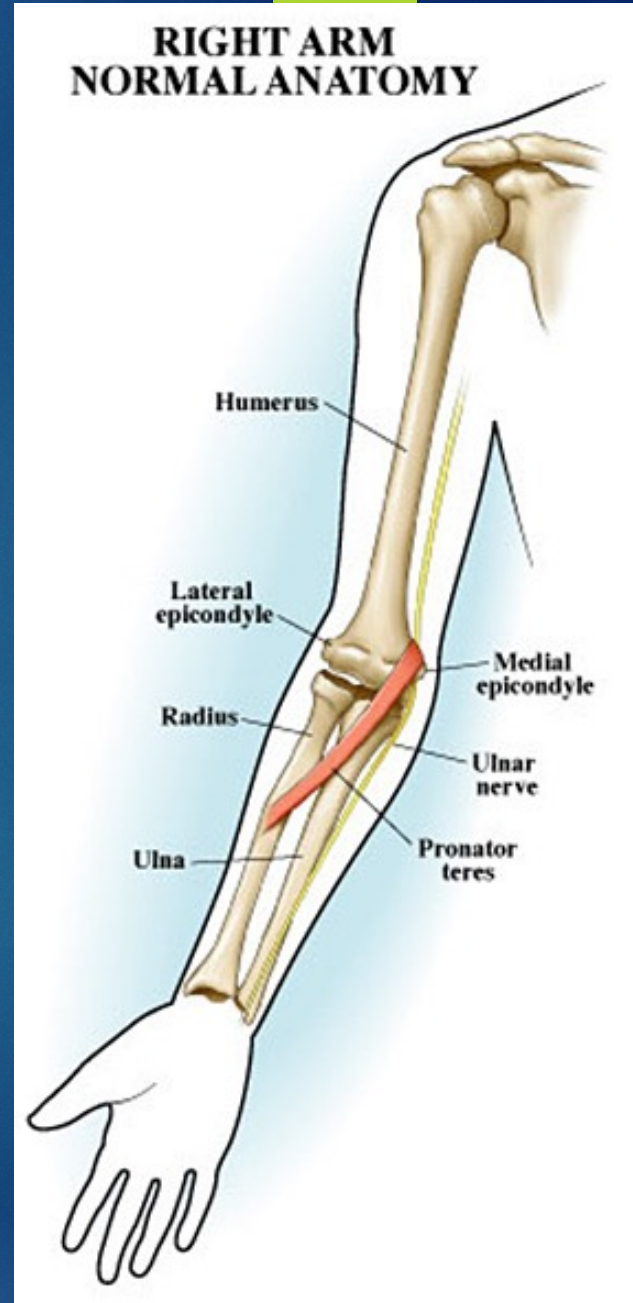
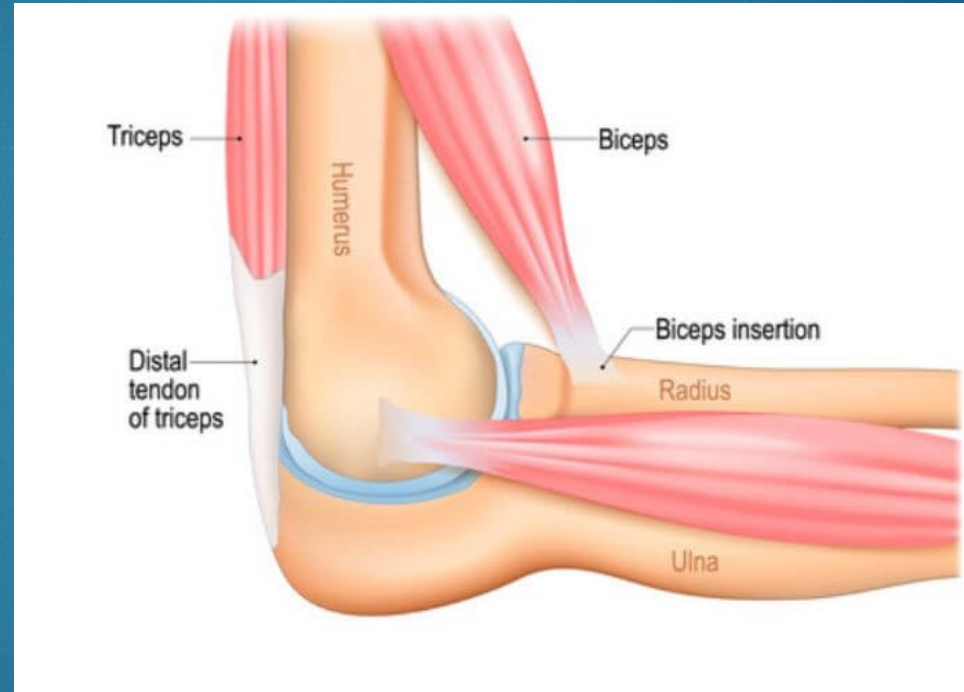
# Shoulder “Pears for Practice”

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



# Elbow Anatomy/Assessment

- ▶ Injury, trauma, fall?
- ▶ Age of patient
- ▶ Clinical presentation
- ▶ Radiating pain?
- ▶ Neuro assessment
- ▶ X-ray findings

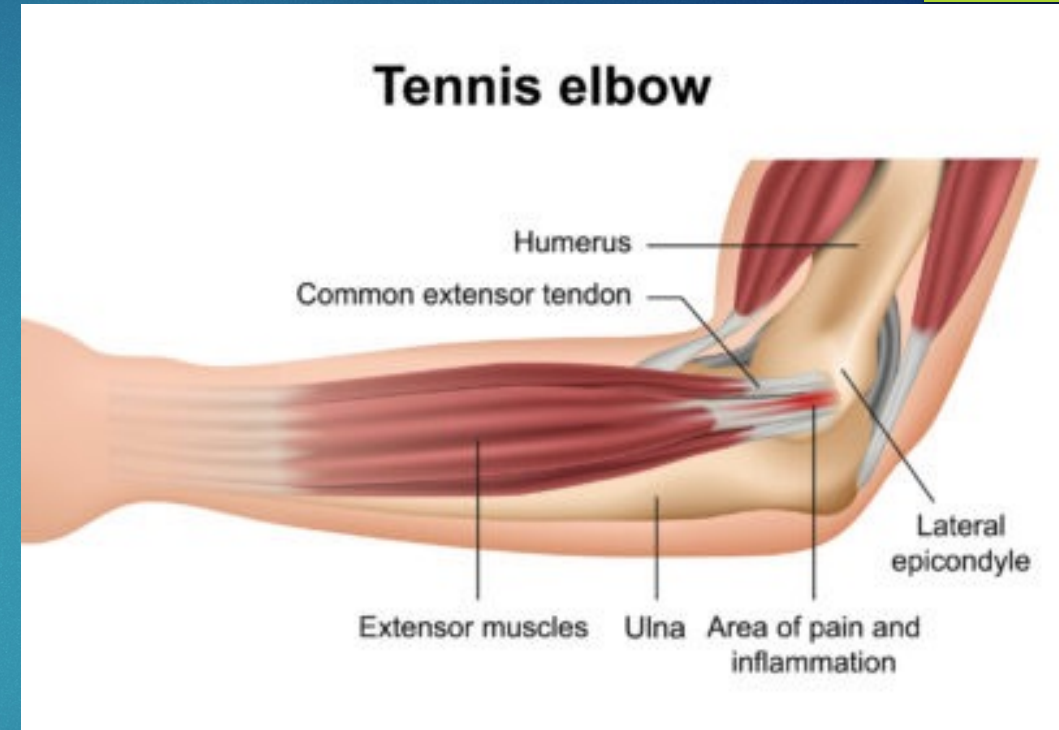


# Differential Diagnosis : Elbow

- ▶ Tennis Elbow (Lateral Epicondylitis)
- ▶ Golfer's Elbow (Medial Epicondylitis)
- ▶ Cubital Tunnel Syndrome
- ▶ Olecranon Bursitis
- ▶ Radial Head Fractures

## Lateral Epicondylitis

- ▶ Extensor Carpi Radialis Brevis (ECRB)- wrist stabilizer
- ▶ Complaints of sharp lateral elbow pain
- ▶ Worse with gripping/forceful activity
- ▶ Forearm aching – lateral or dorsal
- ▶ Painful Palpation
- ▶ Pain with resisted wrist extension
- ▶ Treat conservative most cases



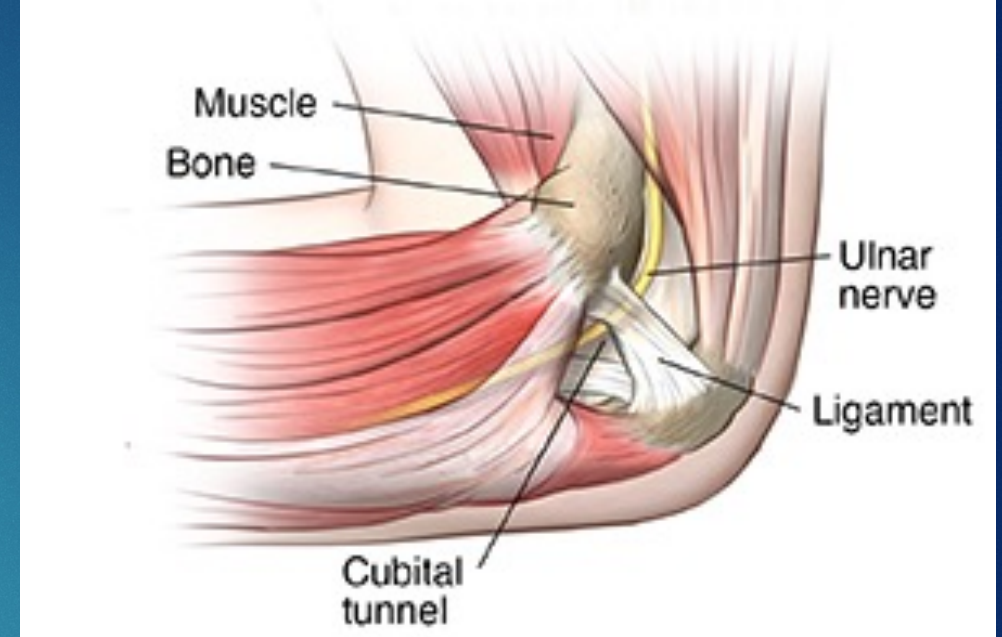
## MEDIAL EPICONDYLITIS

- ▶ Medial common flexor tendon (MCFT) tendinopathy of the elbow
- ▶ Sharp medial elbow pain
- ▶ Worse with gripping/forceful activity
- ▶ Forearm aching – medial
- ▶ Painful Palpation
- ▶ Pain with resisted wrist flexion
- ▶ Treat conservatively most cases



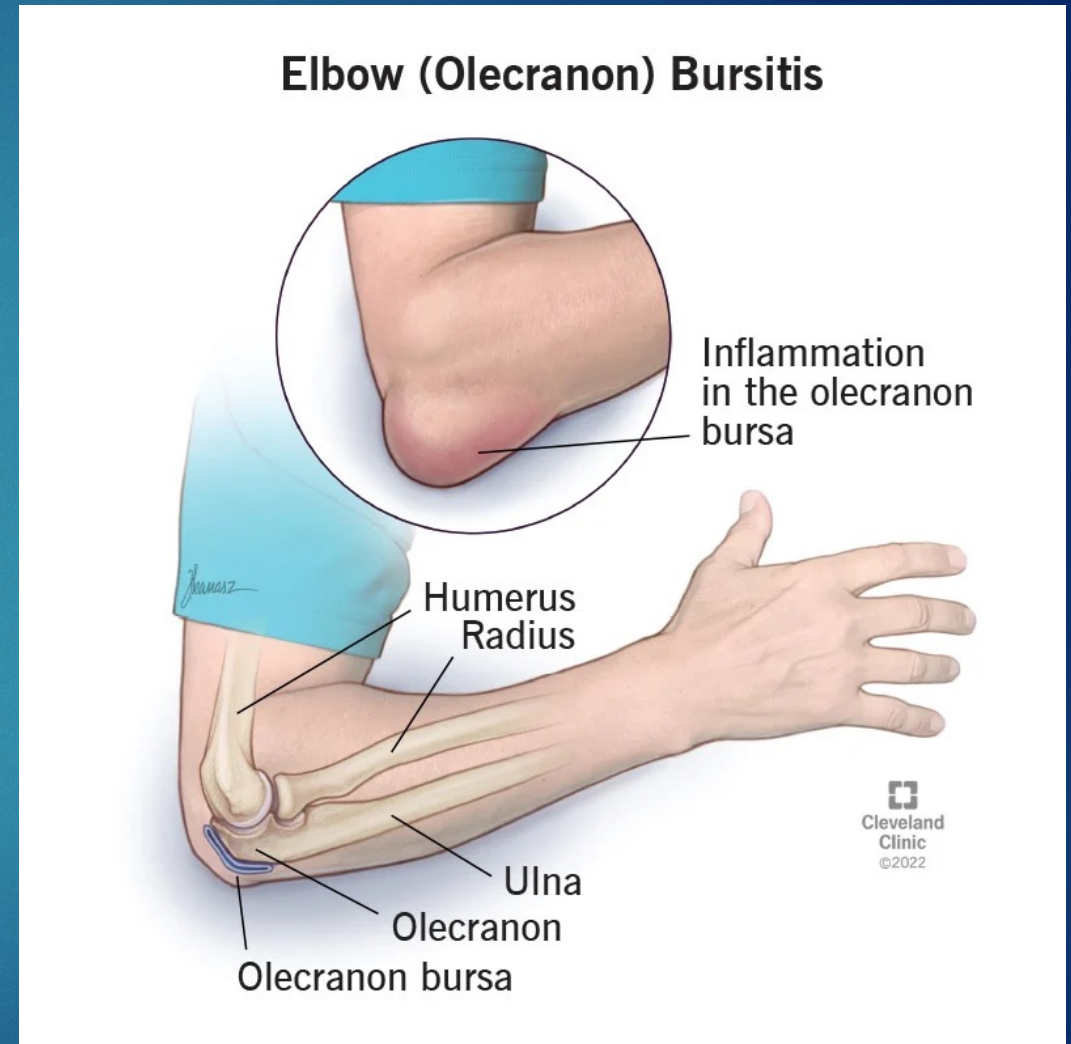
# Cubital Tunnel Syndrome

- ▶ Compressive neuropathy of the ulnar nerve in the medial elbow.
- ▶ Sensory changes to the ring and little finger
- ▶ Weakness, + Tinel's sign
- ▶ Non-operative Tx: NSAIDs, activity modification and nighttime elbow extension splinting
- ▶ Management is effective in ~50% of cases
- ▶ Ortho referral/Surgery if no improvement



# Olecranon Bursitis

- ▶ Inflammation of Olecranon Bursa
- ▶ More common men aged 40-60
- ▶ Septic vs Aseptic
- ▶ Erythema, cellulitis, warmth, tenderness, skin lesion trauma, fever
- ▶ Labs, aspirate, radiating
- ▶ Determine treatment
  - ▶ Conservative – Antibiotics
  - ▶ Surgery – I & D





# RADIAL HEAD FRACTURE

- ▶ Common intra-articular elbow fracture
- ▶ Fall on outstretched hand
- ▶ Elbow instability, injury to distal radioulnar joint, mechanical block to elbow motion
- ▶ +pain, tenderness lateral elbow
- ▶ X-ray diagnosis
- ▶ Treatment
  - ▶ Conservative – non-displaced, sling 3-7 days
  - ▶ Surgical – displaced, mechanical block to motion, elbow instability



Non-displaced

# Elbow Radiographs

- ▶ Lateral is really a lateral
- ▶ Look for the hourglass sign or 'figure-of-eight' Anterior fat pad (small) is normal
- ▶ Posterior fat pad is always abnormal
- ▶ Pediatric consideration – supracondylar fracture most common 6-8 y/o, fall outstretched hand
- ▶ If fracture suspected, Ortho referral!
- ▶ Always do neurovascular assessment

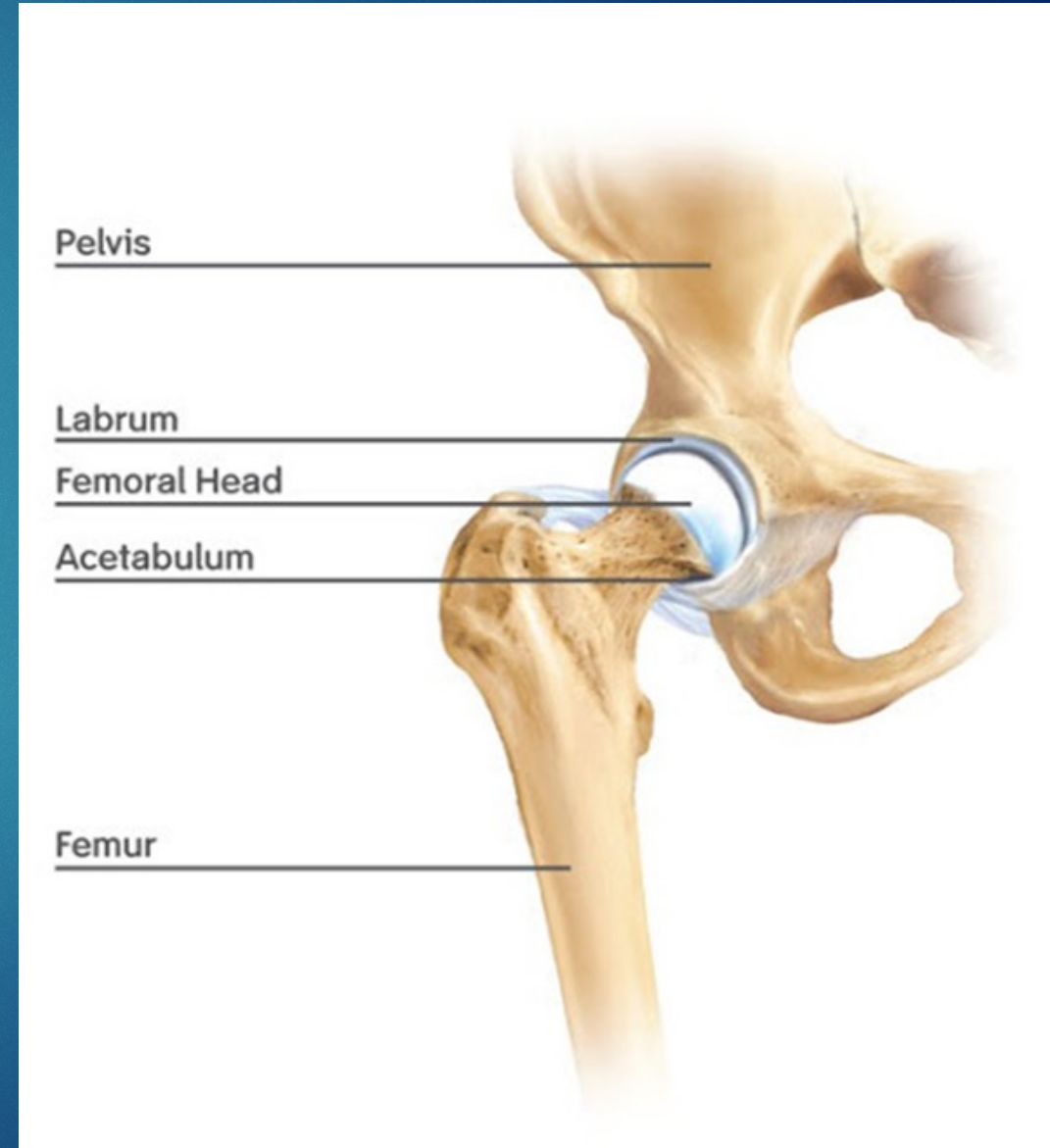


# Elbow “Pearls for Practice”

- ▶ History of Present Illness
- ▶ Physical Exam
- ▶ Location of Pain
- ▶ Age considerations
- ▶ X-ray findings
- ▶ Splinting
- ▶ Ortho Referral

# Lower Extremity: Hip Anatomy

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



# Hip vs. Back

## HIP

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

## BACK

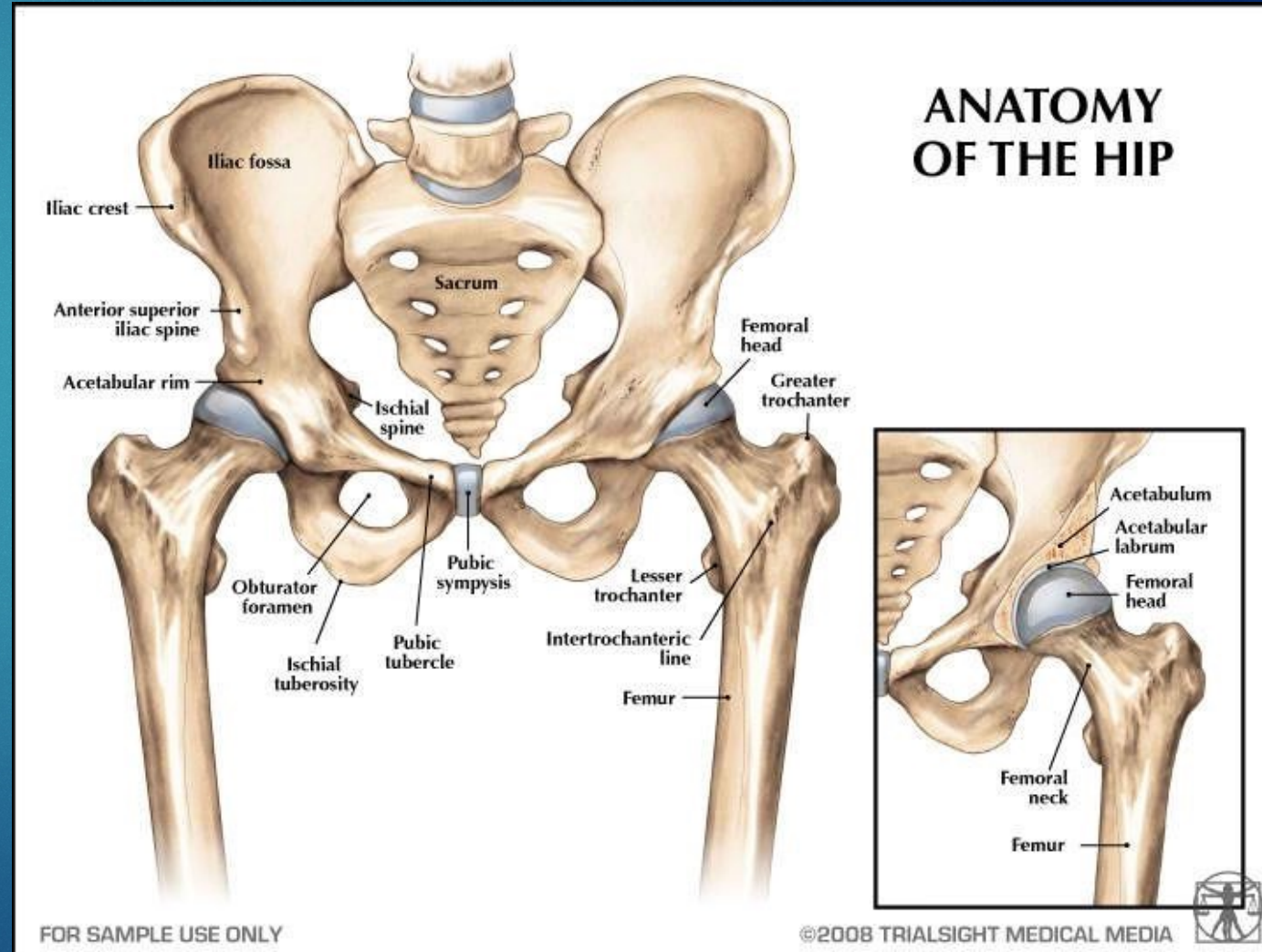
- ▶ Posterior, deep buttock
- ▶ Radiates
- ▶ Above "BELT LINE"
- ▶ Shooting nerve pain
- ▶ Worse with sitting/bending, improves with walking
- ▶ 4 view radiographs L-spine

# Hip: History / Physical Exam

- ▶ Location – anterior, lateral, posterior, SI joint
- ▶ Hip flexion or weight bearing activity?
- ▶ Mechanical complaints
- ▶ Injury or iatrogenic
- ▶ Age
- ▶ Physical Exam – have the patient point to where they hurt\*, +Fadir, +Faber, peri-troch tenderness, +stinchfield, +abduction, iliac crest, patellofemoral pain

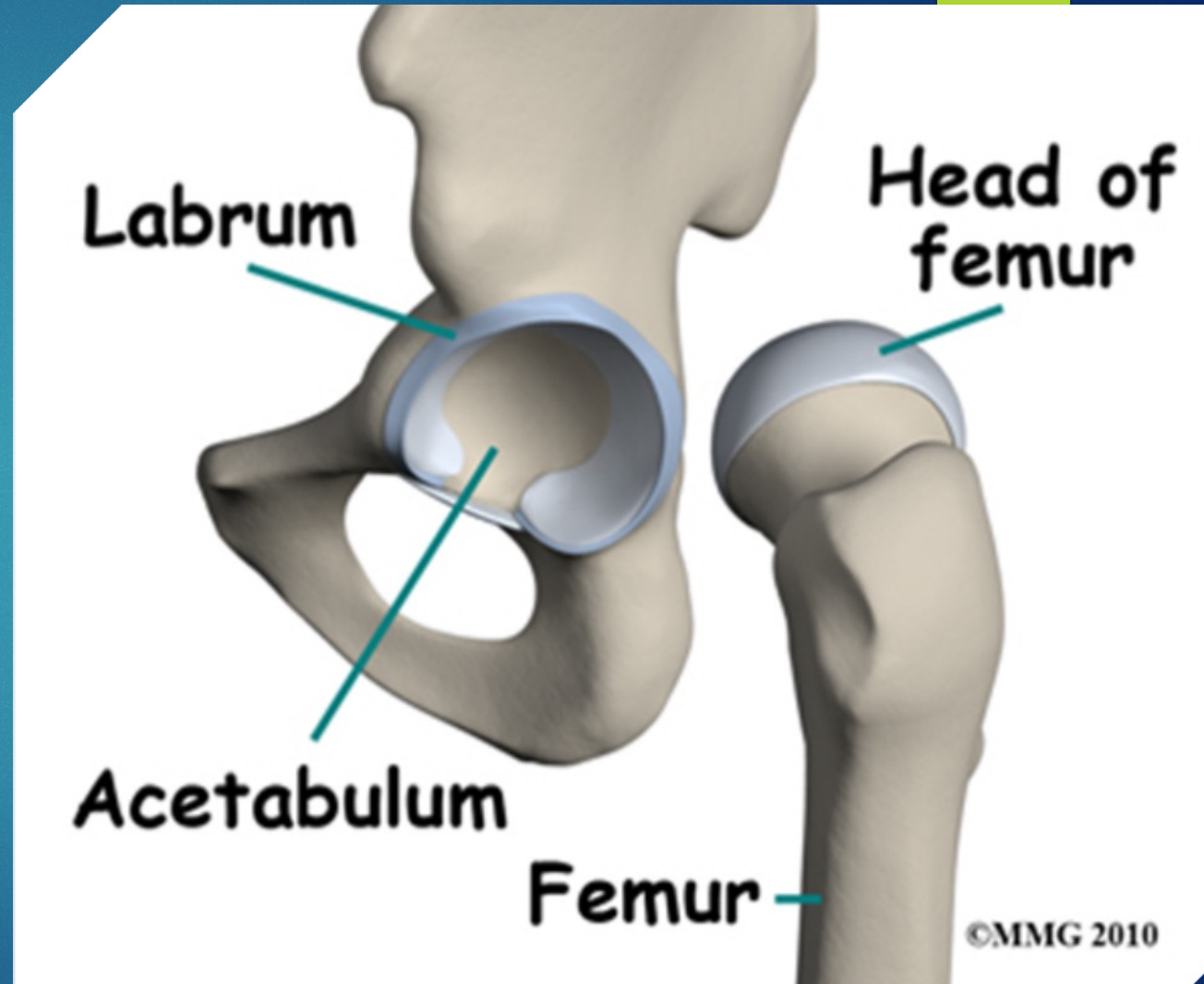
# Hip: Differential Diagnosis

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



# The Labrum

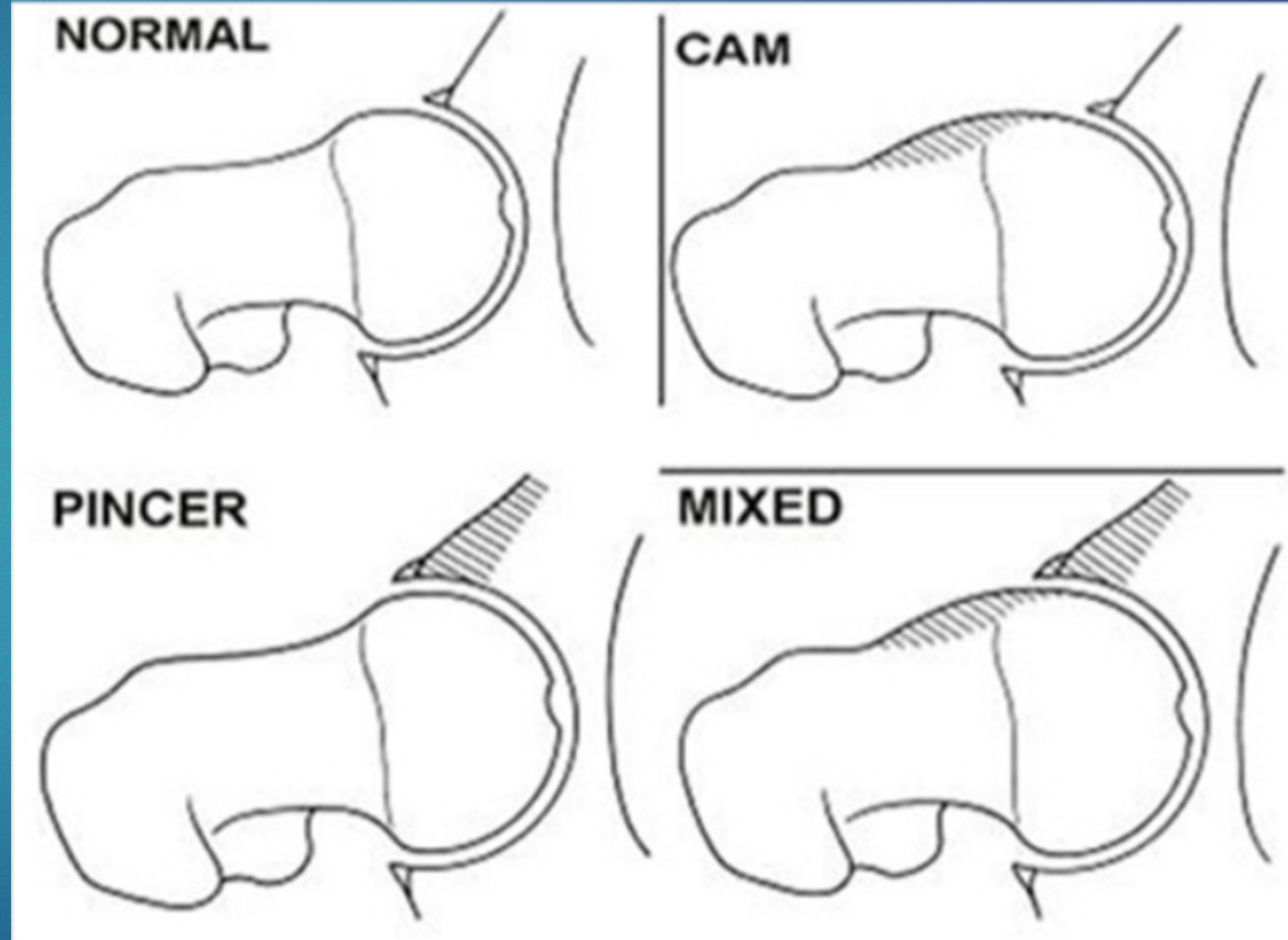
- ▶ The **labrum** is a rim of soft tissue that surrounds the **hip** socket. The **labrum** adds to the stability of the **hip** by deepening the socket. <sup>5</sup>
- ▶ The **labrum** can tear as the result of an injury or impingement.





# 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 .



# 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
- ▶ \*MOST COMMON

# 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>



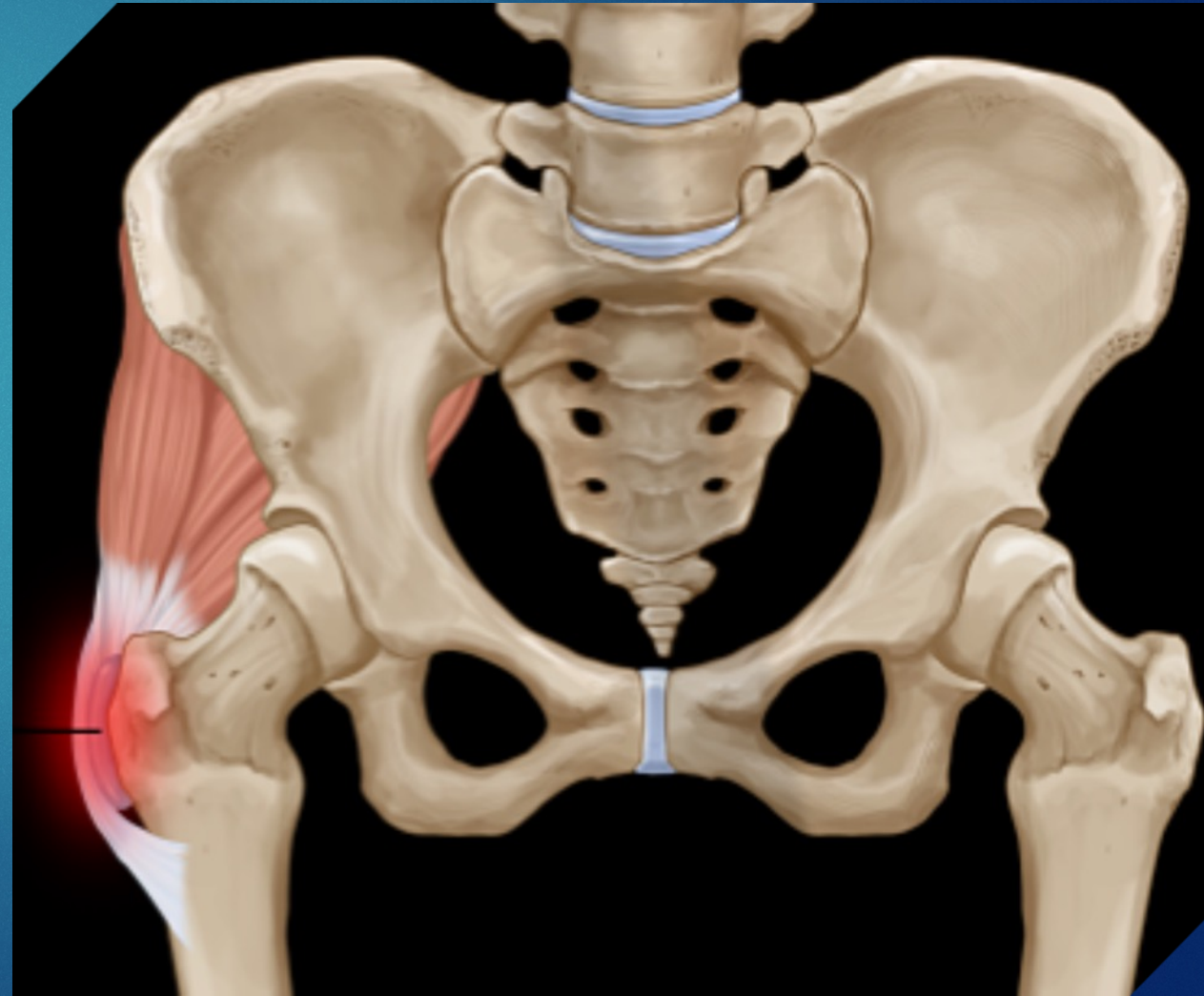
# Hip Physical Exam

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



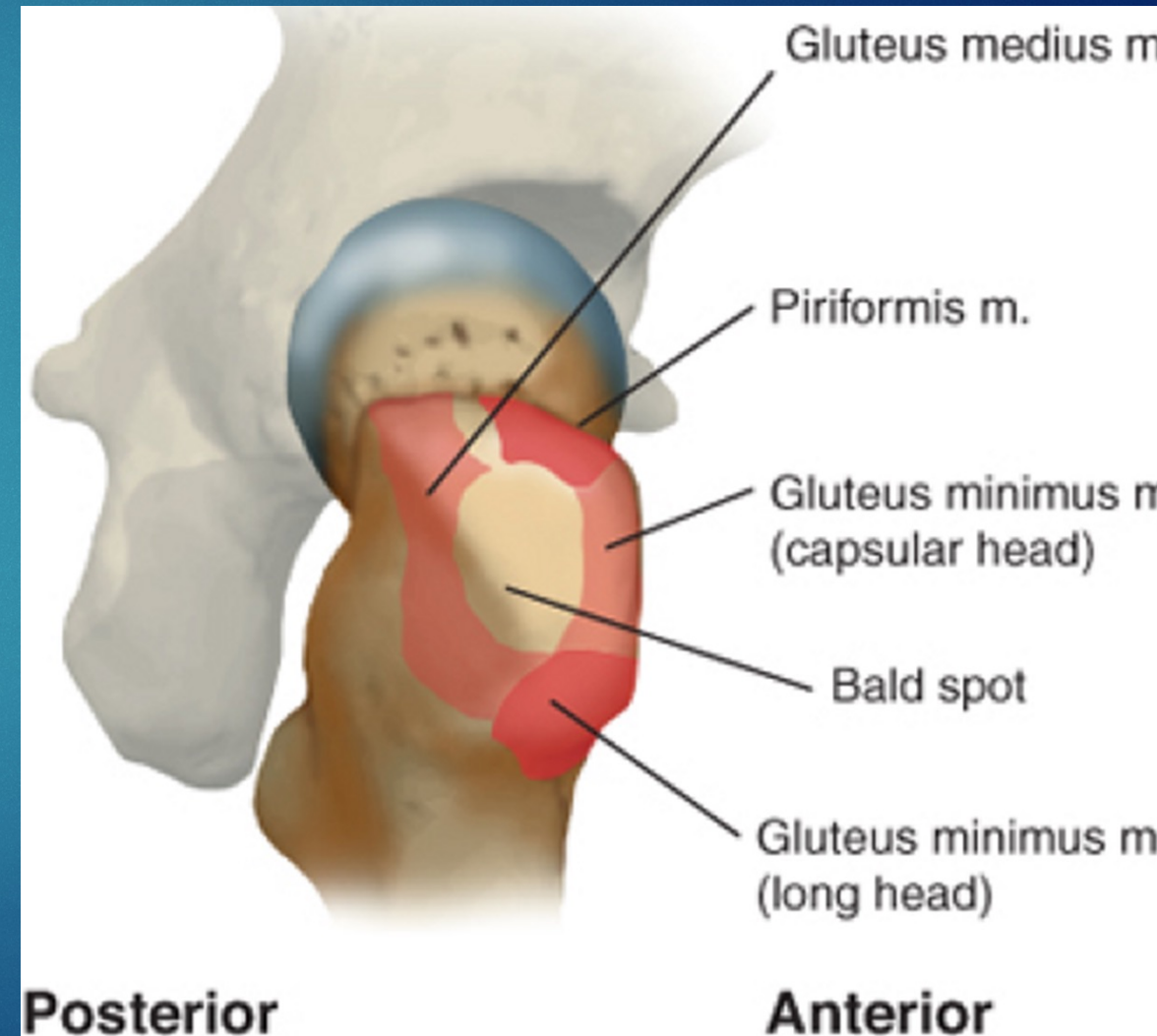
# Greater Trochanteric Bursitis

- 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



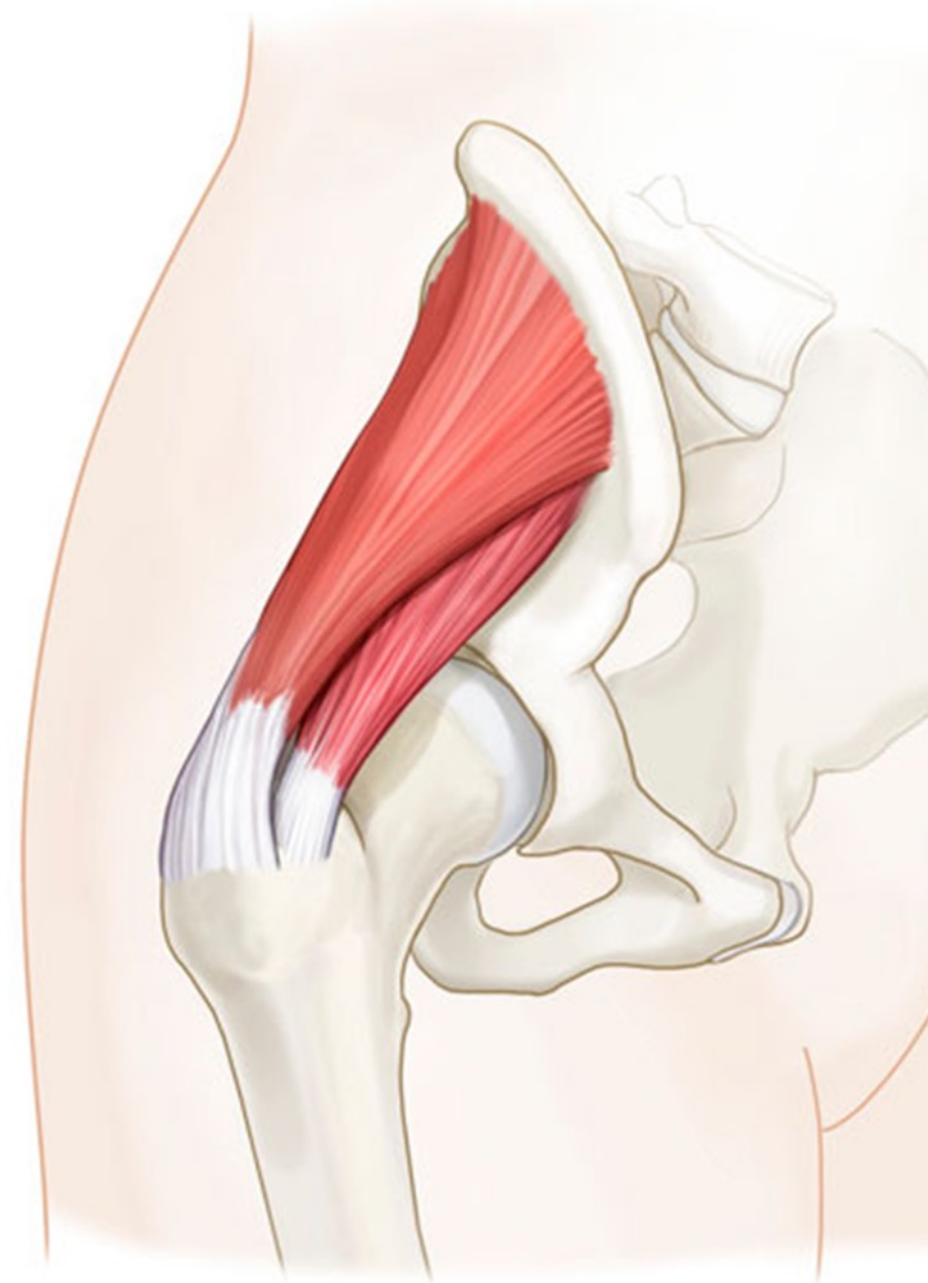
# Gluteus Medius Tears

- ▶ Persistent lateral/posterior 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>10</sup>



# Gluteus Medius Facts

- ▶ Gluteus medius tendon = “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. <sup>7</sup>
- ▶ Tears are 4x more common in women than men.
- ▶ Inserts on superior posterior and lateral facets of greater trochanter.
- ▶ \*think about this during PE, palpation, resisted ABDuction
- ▶ Most tears located anteriorly, at lateral facet of greater trochanter.



# Hip Pathology

## Labral Tear/Impingement

- ▶ Intra-articular
- ▶ +pain sitting, +fadir, +hip flexion, xray FAI
- ▶ MRA
- ▶ Anterior, +C-sign, Groin
- ▶ younger

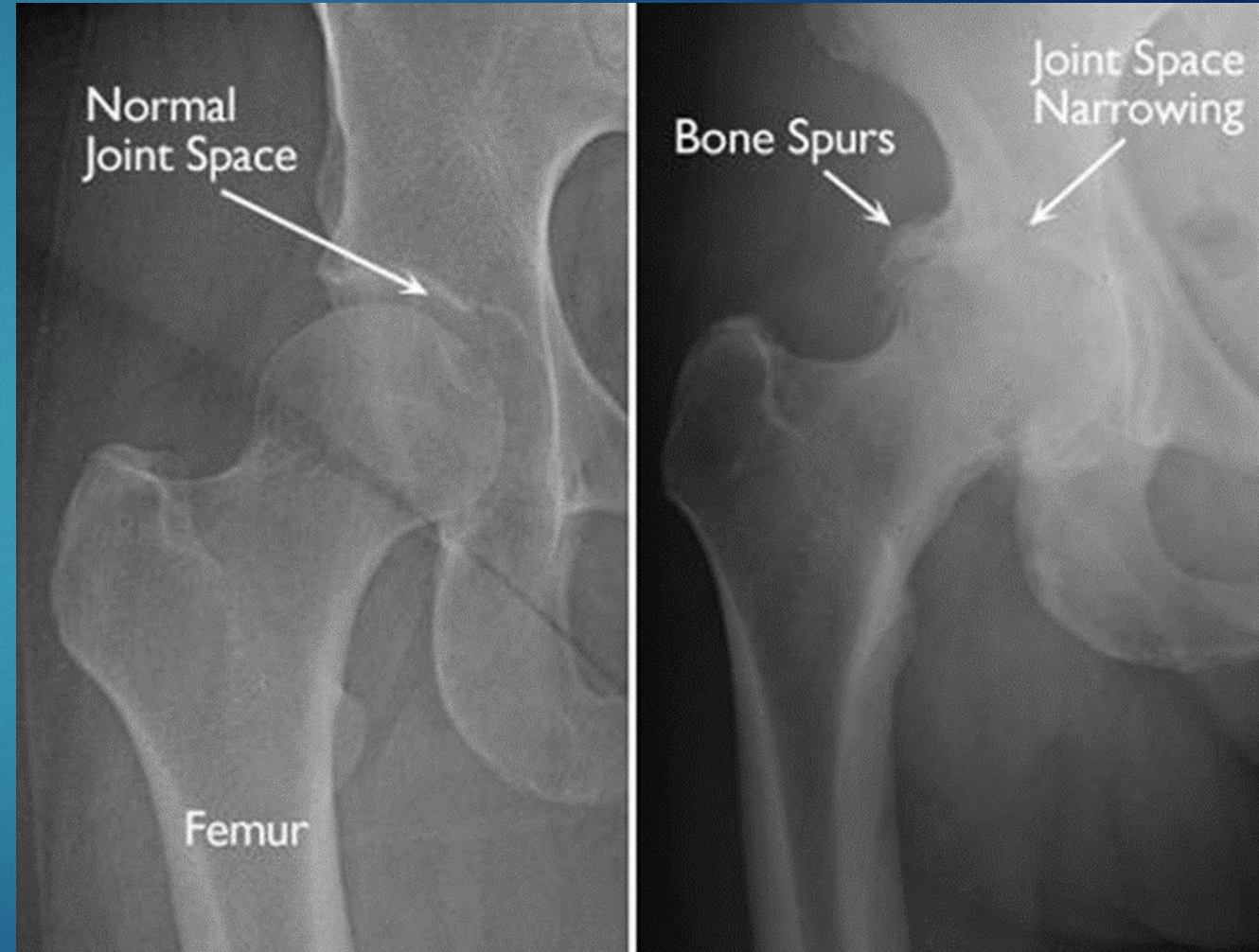
## Troch Bursitis/Gluteus Medius Tear

- ▶ Extra-articular
- ▶ +pain ambulating, laying on side, +adduction, peri-troch tenderness
- ▶ MRI
- ▶ Posterior, lateral hip
- ▶ Older
- ▶ Female



# Hip 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 (weight bearing)
- ▶ Pain worse with activities, relieved with rest
- ▶ Pain can be sharp, dull, stiff
- ▶ **Contraindication to hip arthroscopy**



# 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

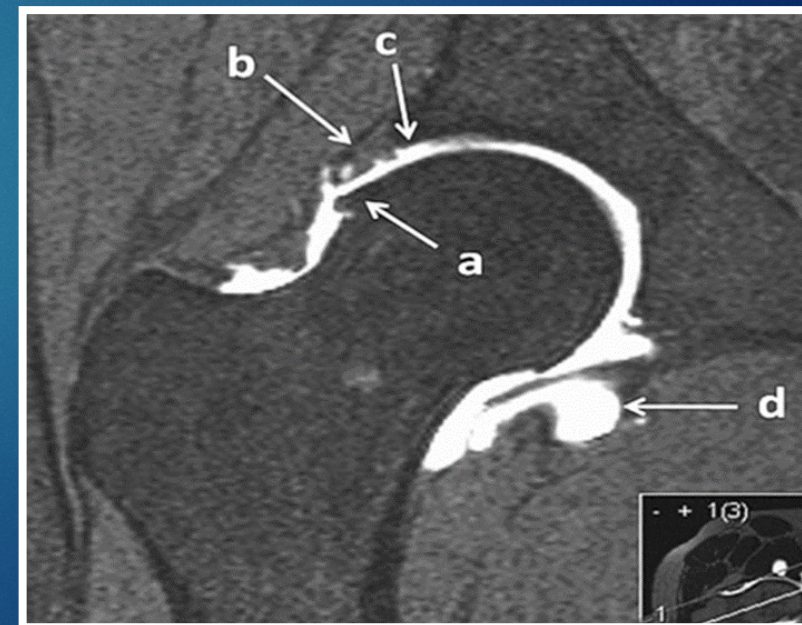
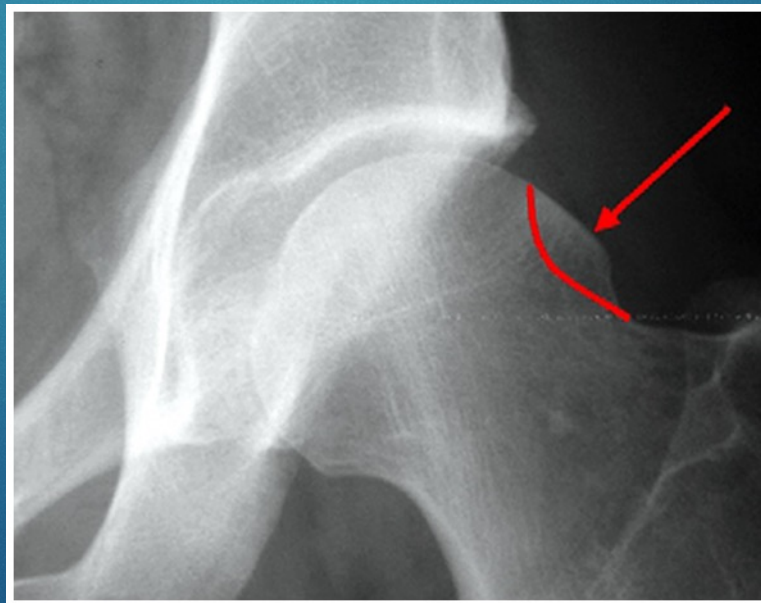


# MRI vs MR Arthrogram?

▶ MRI – extra-articular, not looking at joint specifically, more soft tissue = glute pathology

▶ MRA – intra-articular contrast, looking at joint, labrum, degree of chondrosis

## X-ray: AP weight bearing and frog leg lateral



# Advanced Imaging Interpretation

- ▶ Not every MRI/MRA machine is the same
- ▶ Magnet Strength, Sequencing
- ▶ Not every radiologist is the same
- ▶ Musculoskeletal radiologist specific to hips matters
- ▶ As a NP, interpreting the report + physical exam + chief complaints all matter!
- ▶ You want to recommend the right specialist for the right diagnosis!
- ▶ Special considerations – chronic steroid use, acute trauma, runners

# Case Study

- ▶ 1. 50+ y/o female with MRI indicating labral tear, hip FAI and partial thickness glute med tear. On exam, all complaints are posterior, lateral, hurts to walk, ROM is good on exam. What is your diagnosis as the cause of her pain? Glute tear!
- ▶ 2. 33 y/o female with labral tear, troch bursitis and glute tendinosis. Complaints are anterior, groin and + fadir with some peri-troch tenderness. What do you think is the cause of her pain? Labral tear. Can get secondary bursitis from hip joint issue.

# Case Study

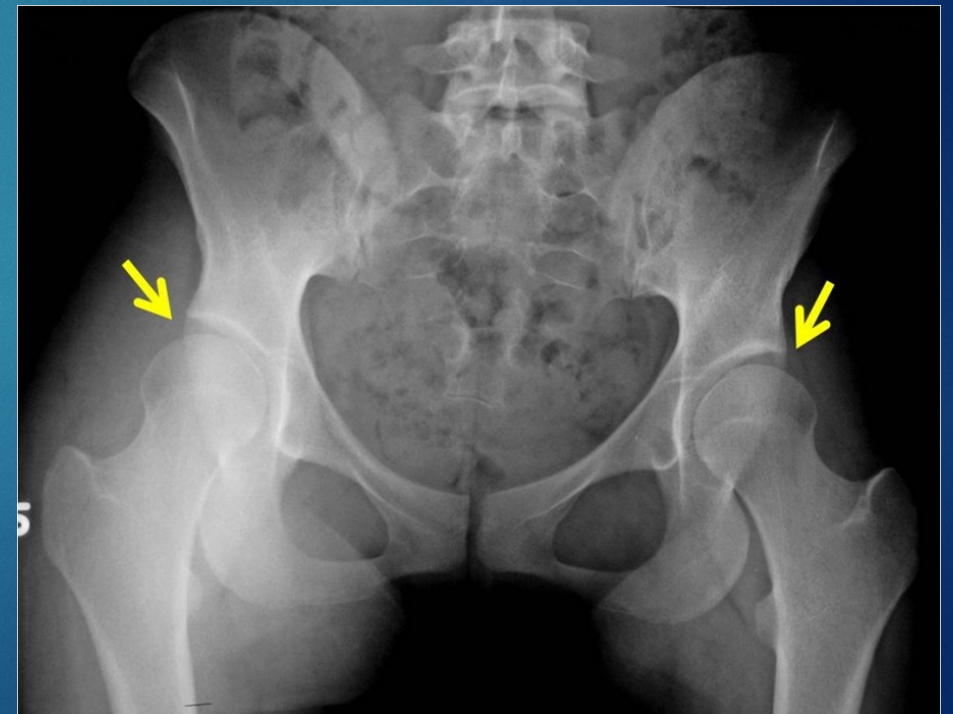
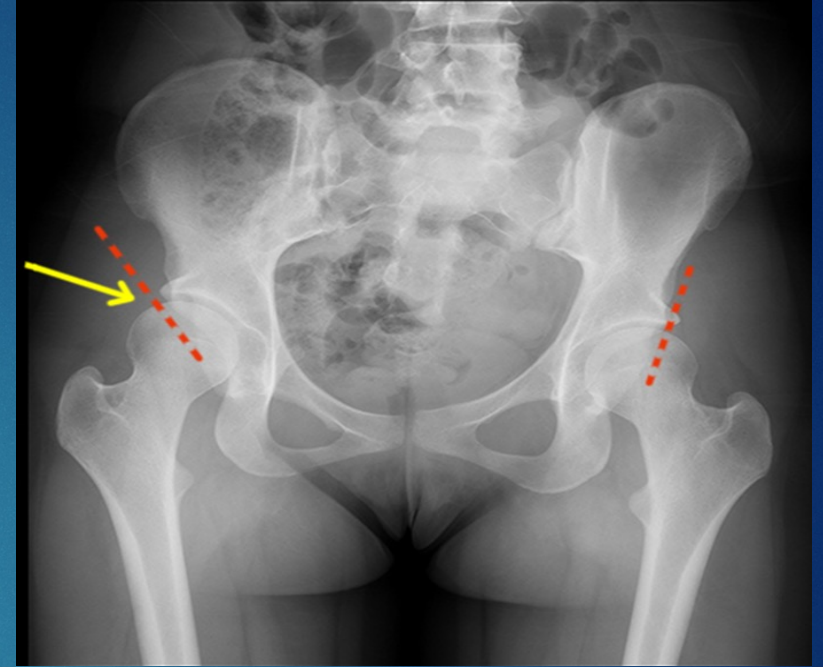
- ▶ 3. 22 y/o male, college athlete, complaints of hip pain while playing sports, no pain with sitting, history of asthma and use of corticosteroid inhaler. What type of advanced imaging would you order and first thought on differential? MRA, Avascular Necrosis
- ▶ 4. 16 y/o female, dancer, pain with dancing, sitting, popping, anterior joint pain. Did PT and continues to have pain. What would your next step be and what is your diagnosis? MRA, Labral tear

# Treatment Hip Labral Tear

- ▶ 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 & preserve it!
- ▶ Hip arthroscopy for pain and hip preservation – more to come!

# 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





# Hip Dysplasia Treatment

## MILD

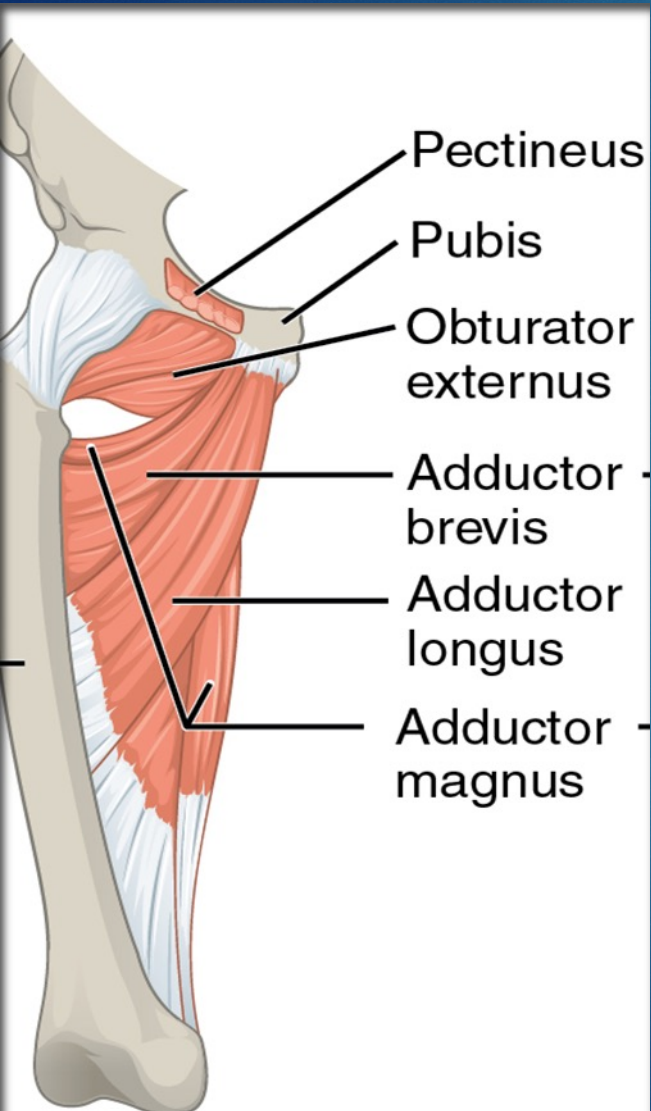
- ▶ Center Edge Angle (CEA) 18-25
- ▶ +MR, candidate for hip arthroscopy if also concurrent labral tear
- ▶ Rehab: big focus on glute strengthening in Physical Therapy

## SEVERE

- ▶ Center Edge Angle <15 (sometimes single digits)
- ▶ Not a candidate for hip arthroscopy
- ▶ ORTHO REFERRAL (Age matters)
- ▶ Periacetabular osteotomy (PAO)
- ▶ Total Hip Arthroplasty (THA)

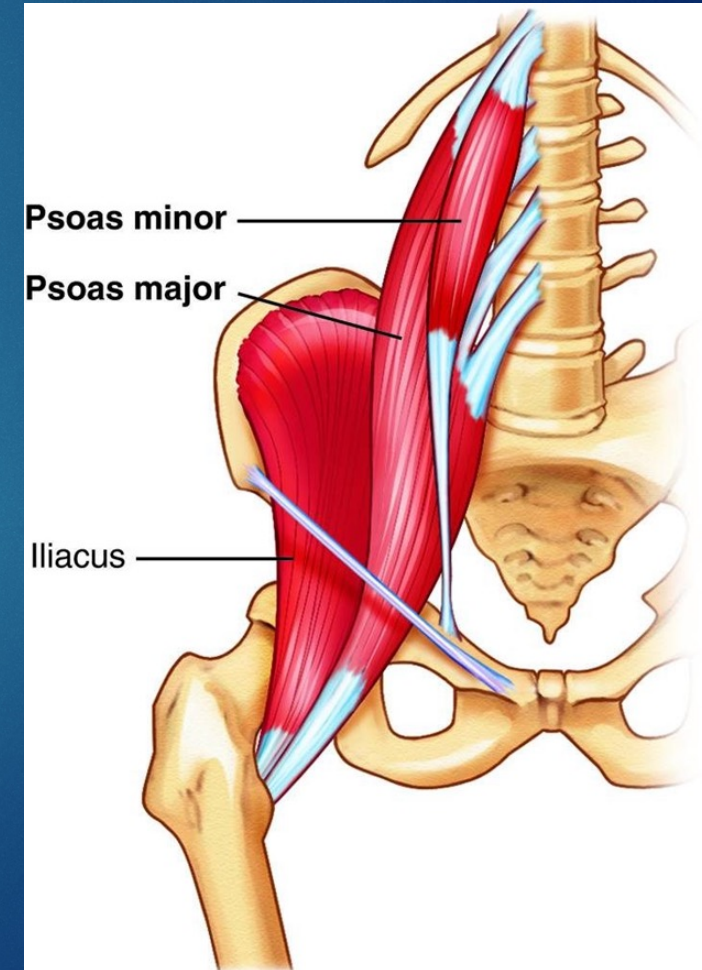
# Common Sports Injuries

## ADDUCTOR STRAIN



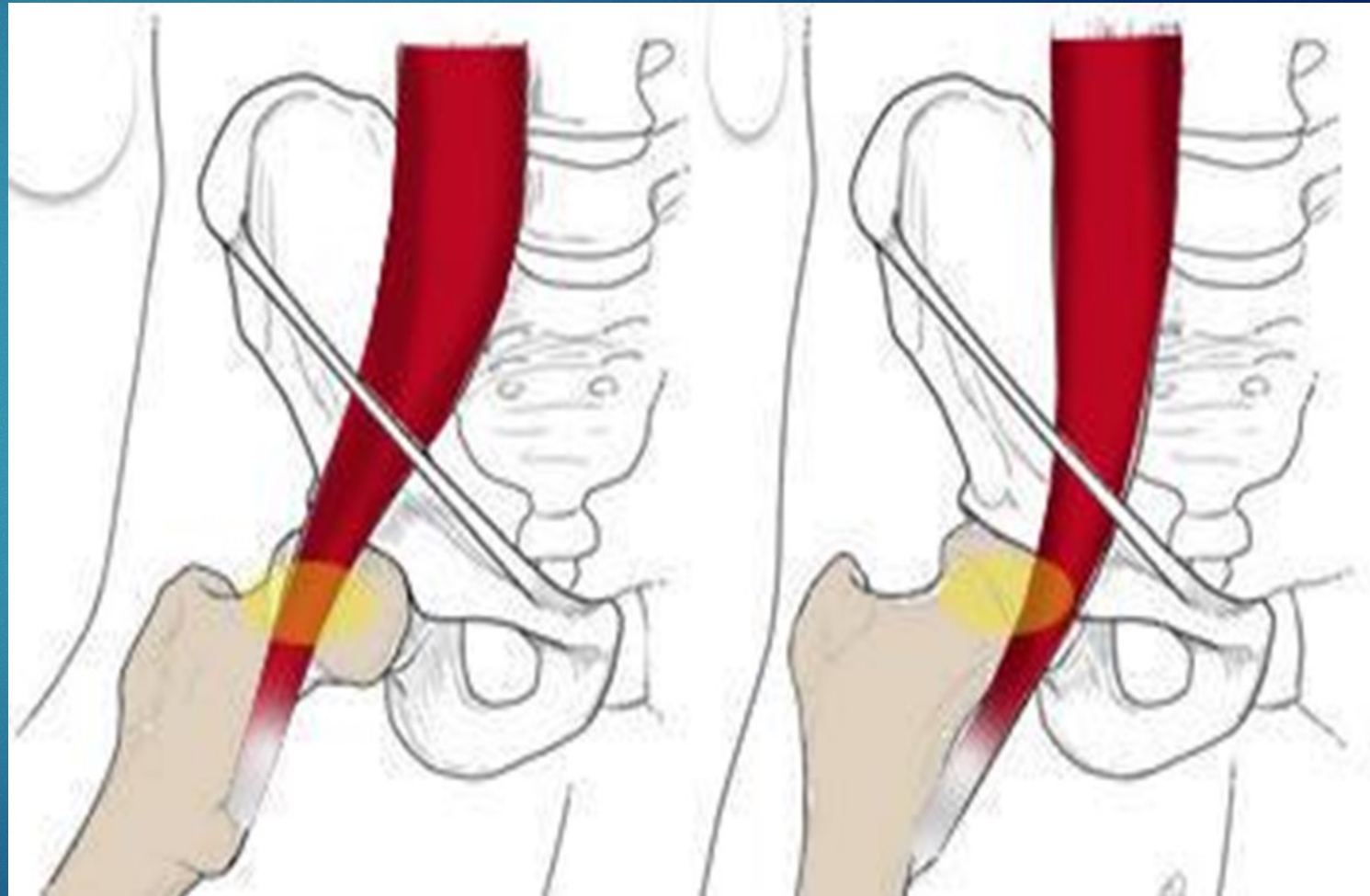
- ▶ Groin Strain, Hip flexor strain
- ▶ Complaints of groin pain
- ▶ History: kicking, sport injury, acute
- ▶ Physical Exam: Tenderness Adductor, iliopsoas
- ▶ Tx: Rest, ice, PT, MDP, NSAIDs
- ▶ Ortho referral – no improvement after 6 weeks conservative treatment

## ILIOPSOAS STRAIN



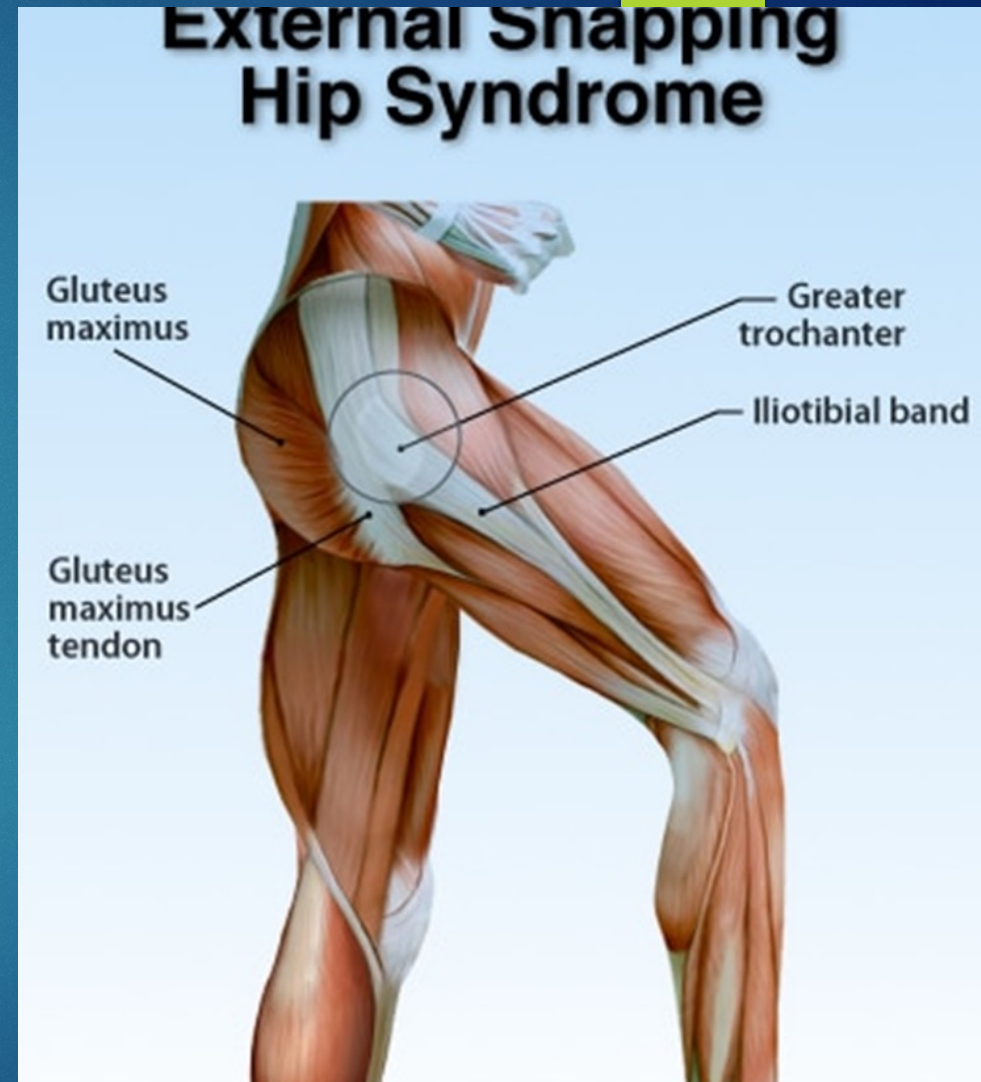
# INTERNAL SNAPPING HIP

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



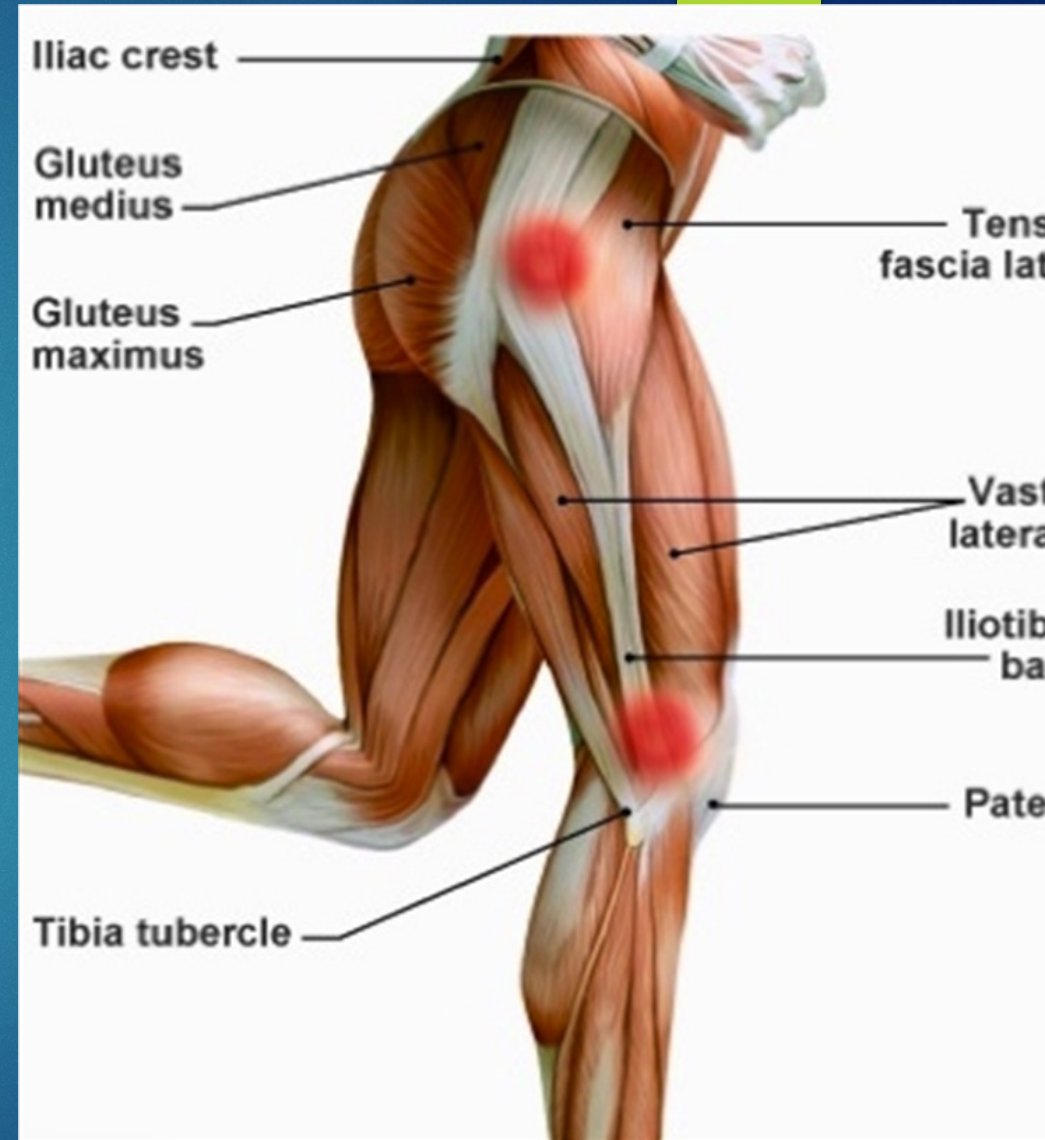
# EXTERNAL SNAPPING HIP

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



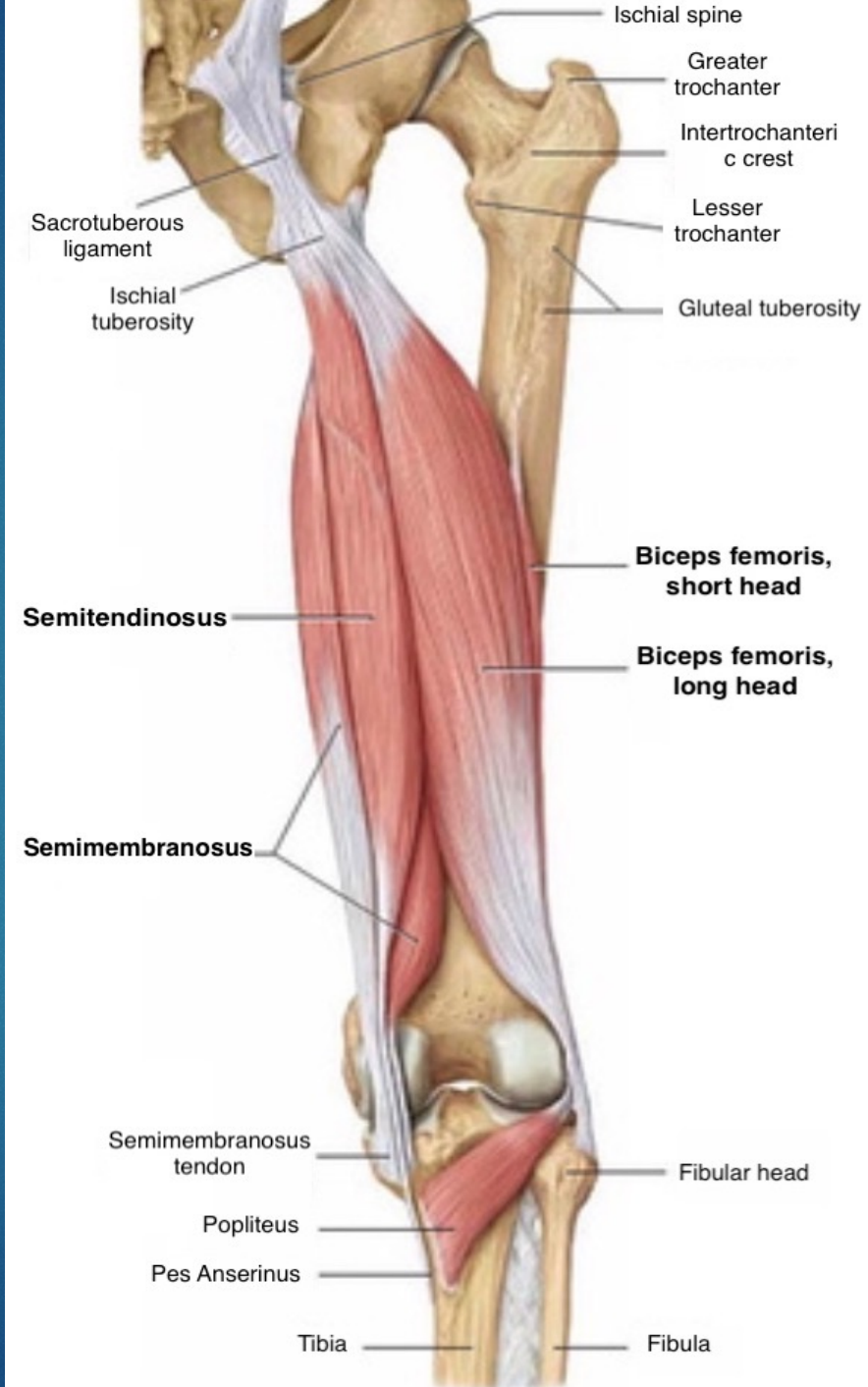
# ILIOTIBIAL BAND SYNDROME

- ▶ 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.



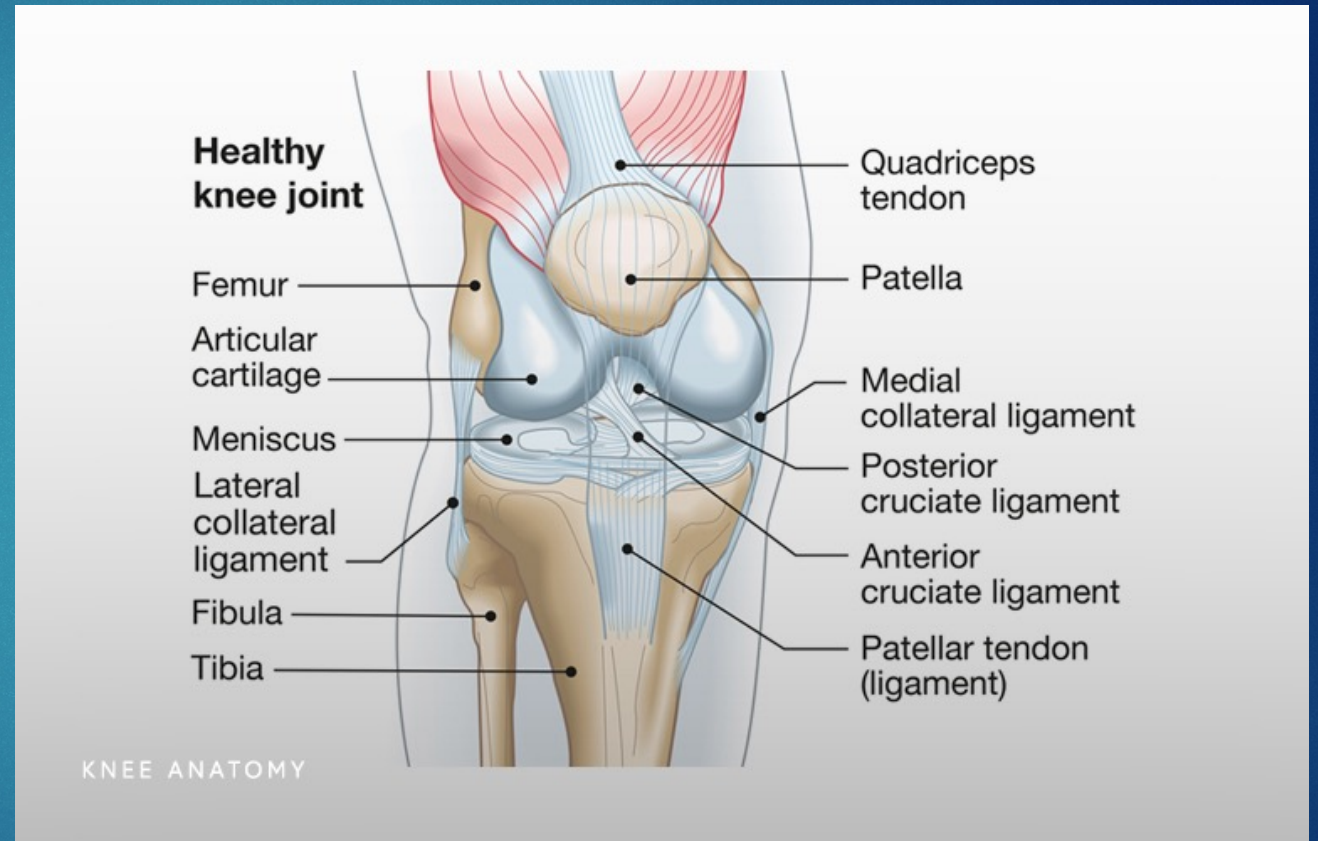
# Hamstring Tears

- ▶ Acute Injury (most common)
- ▶ Result of sudden hip flexion and knee extension in running injury
- ▶ Textbook presentation: ecchymosis posterior thigh, tenderness over hamstring muscles and avoidance of knee extension
- ▶ MRI to confirm diagnosis – myotendinous junction, ischial tuberosity avulsion
- ▶ Treat conservatively\* (avulsive, multiple tendon involvement may involve surgery)



# Knee Anatomy / Assessment

- ▶ Injury
- ▶ Age
- ▶ Location
- ▶ Mechanical complaints, instability
- ▶ Ambulate?
- ▶ Joint line tenderness
- ▶ X-ray (4 views)



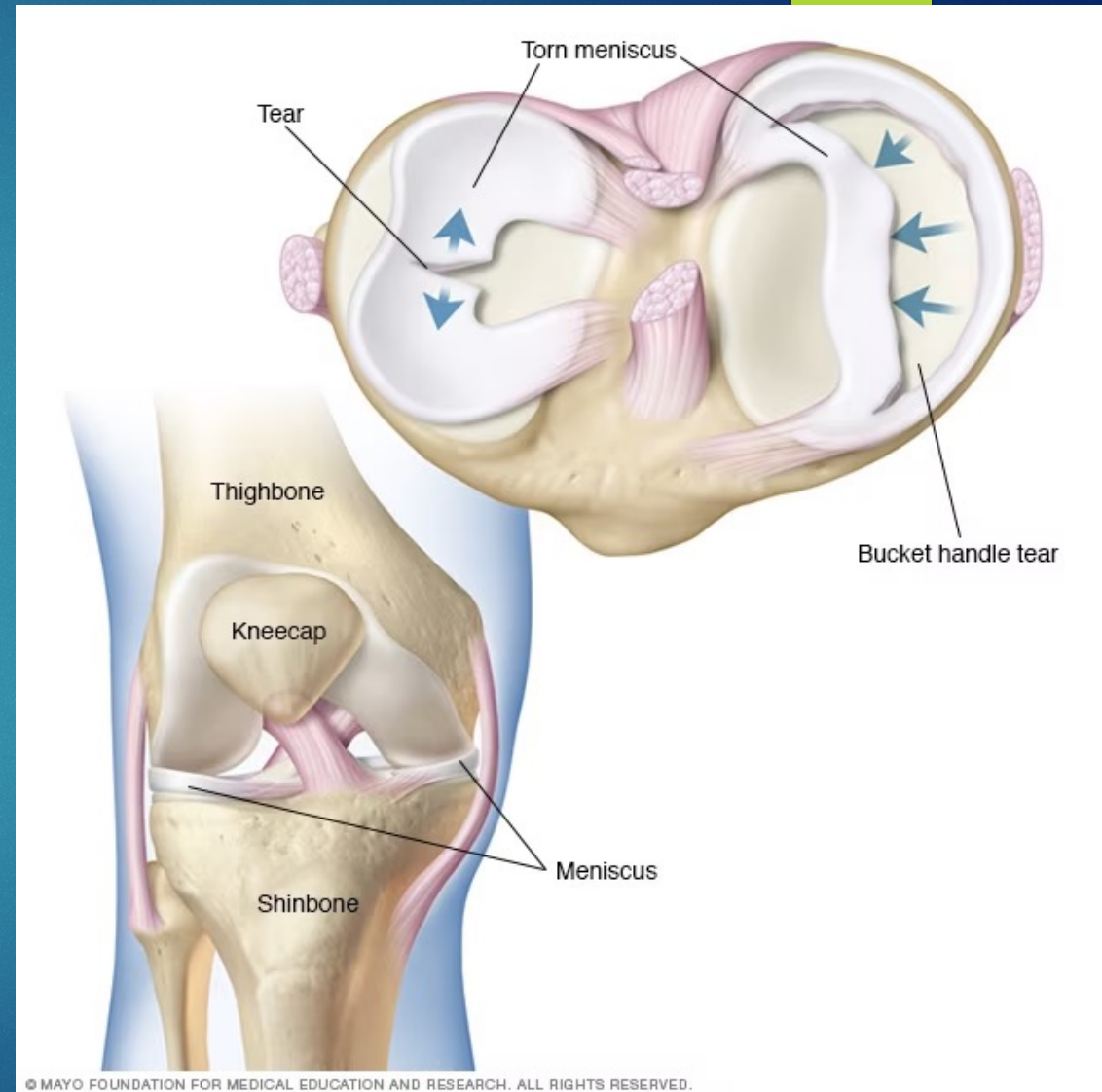
# Common Knee Differential Diagnosis

- ▶ Meniscal tears
- ▶ ACL tears
- ▶ Sprain (MCL, LCL)
- ▶ Strains (Quad, Patellar)
- ▶ Osteoarthritis



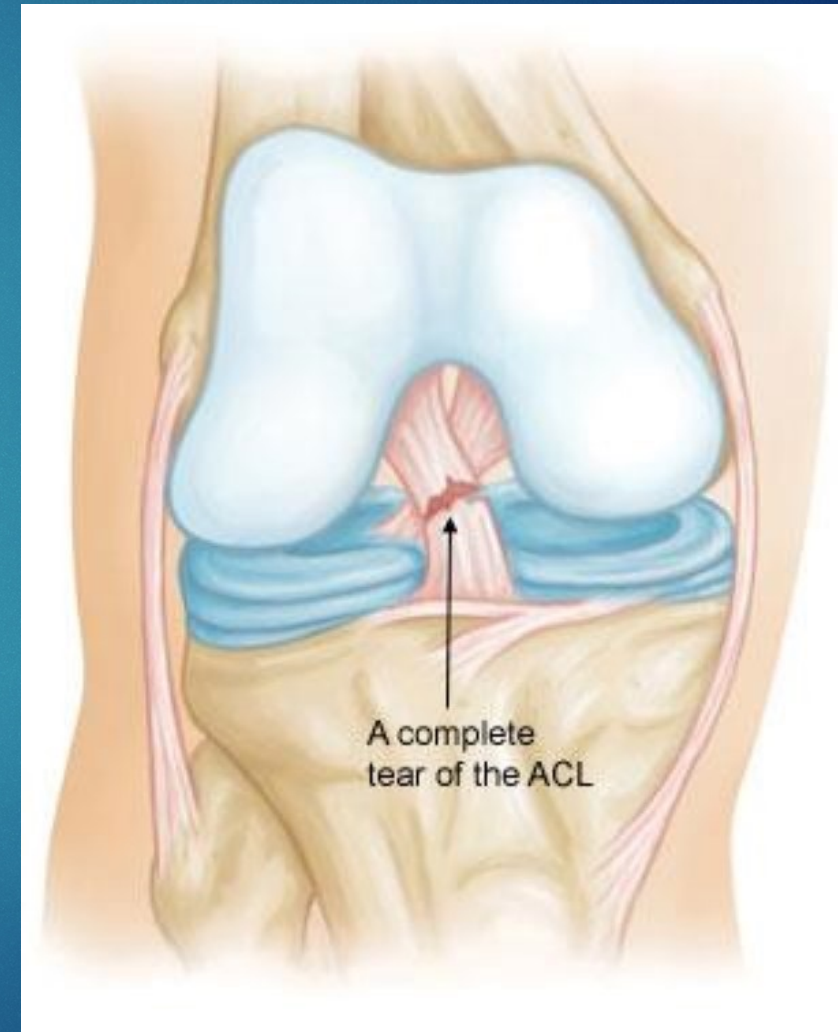
# Meniscal Tearing

- ▶ Acute or Chronic
- ▶ Young (Athlete) or Older (Degenerative)
- ▶ Medial, Lateral Knee
- ▶ +JOINT LINE TENDERNESS
- ▶ +McMurray
- ▶ Mechanical complaints
- ▶ +pain knee flexion, weight bearing activity
- ▶ MRI
- ▶ Ortho Referral



# Anterior Cruciate Ligament Tear

- ▶ Common Sports Injury
- ▶ More common in Females
- ▶ Knee valgus and hip adduction
- ▶ Twisting, Running,
- ▶ Anterior Instability
- ▶ Traumatic effusion, Lachman laxity
- ▶ MRI
- ▶ Ortho Referral

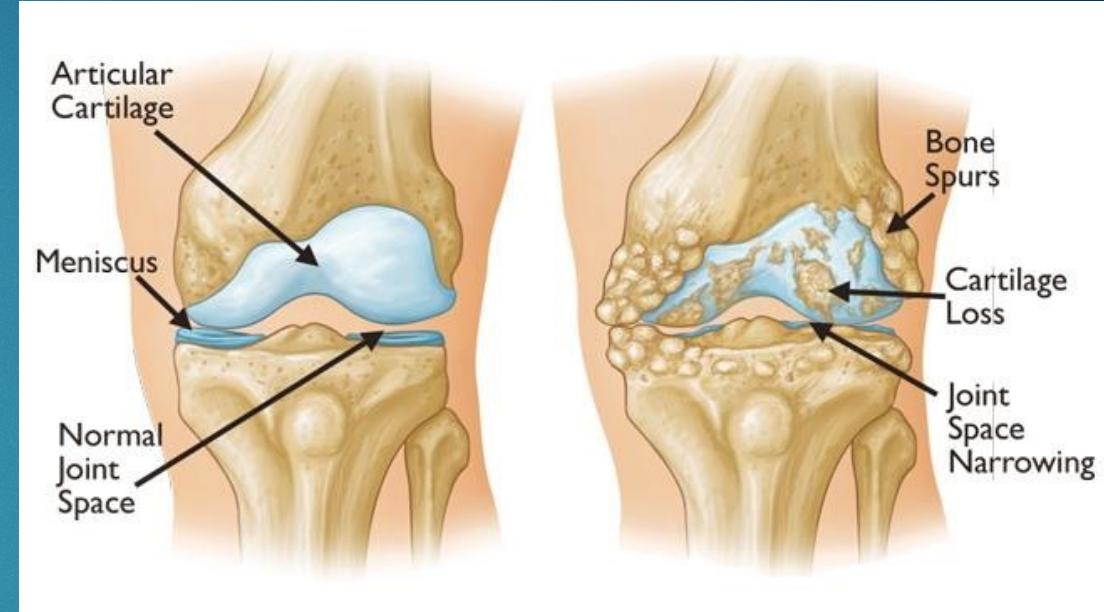


# Sprains & Strains

- ▶ Medial Cruciate Ligament
  - ▶ Lateral Cruciate Ligament
  - ▶ Twisting Injury
  - ▶ Adolescents, sports
  - ▶ X-rays
  - ▶ Treat Conservatively
  - ▶ REST!
- ▶ Quadriceps Tendon
    - ▶ Tenderness superior pole of patella
    - ▶ Anterior knee pain
    - ▶ Jumping related sports
    - ▶ More common
  - ▶ Patellar Tendon
    - ▶ Less common
    - ▶ Associated with systemic diseases
    - ▶ Tenderness inferior pole patella

# Knee Osteoarthritis

- ▶ Degenerative
- ▶ Stiffness, +painful ambulation
- ▶ **X-ray diagnosis – 4 views , weight bearing**
- ▶ Complaints “come and go”
- ▶ Treatment
  - ▶ Conservative – activity modification, PT, injections (Steroid, Hyaluronic Acid)
  - ▶ Surgery – arthroscopy vs arthroplasty



# Knee “Pearls for Practice”

- ▶ History
- ▶ Injury or trauma
- ▶ Age
- ▶ Presentation, physical exam
- ▶ X-rays
- ▶ Concern for mechanical problem – MRI
- ▶ Ortho referral
- ▶ Injections – diagnostic and therapeutic
- ▶ “If it hurts, don’t do it!”

# Adolescents

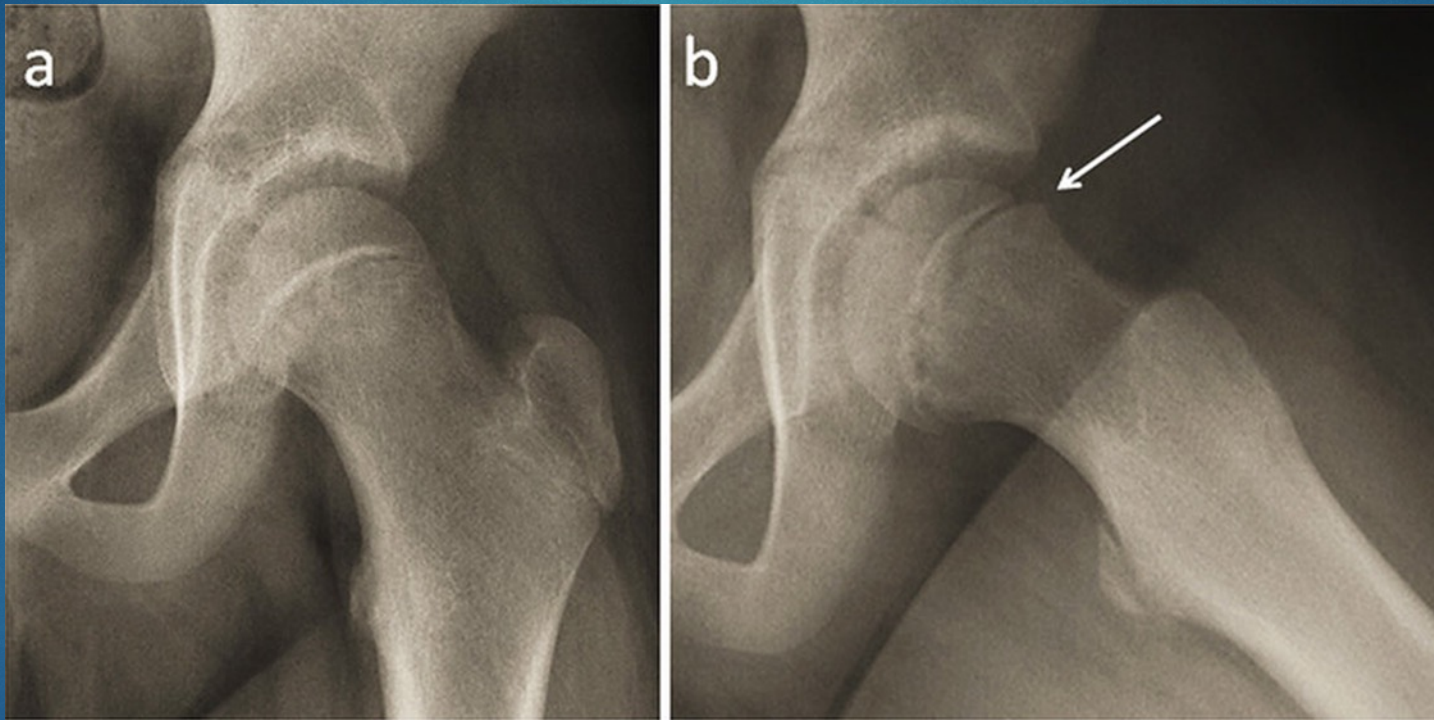
- ▶ Age Range : 10-16 boys & girls
- ▶ Rapid adolescent growth
- ▶ Femoral head has shifted down off growth plate
- ▶ “Ice cream fell off the ice cream cone”
- ▶ **Xray diagnosis – standing AP & lateral**
- ▶ Young adolescent cannot bear weight
- ▶ Hip pain, groin pain, +pain walking, limping
- ▶ Risk factor: obesity (>95% for weight)
- ▶ PE: +pain ROM, abnormal gait, limited ROM
- ▶ Treatment: STAT PEDIATRIC ORTHO REFERRAL - surgery

## Slipped Capital Femoral Epiphysis (SCFE)



# SCFE Radiographs

Can see SCFE on lateral- slipped femoral head on epiphysis (growth plate)



Standing AP- can look benign

# Legg Calve Perthes

- ▶ Age ranges: 4-10, more common in boys
- ▶ Disruption of blood flow to femoral head
- ▶ Results in necrosis
- ▶ Complaints of hip/groin pain
- ▶ PE: painful walking/running, decreased ROM
  - ▶ (esp. abduction)
- ▶ Xray diagnosis
- ▶ Treatment – PEDS ORTHO REFERRAL!
- ▶ Observation, NSAIDS, limited high impact activity, PT
- ▶ Casting, bracing, Surgery





# Sport Physicals

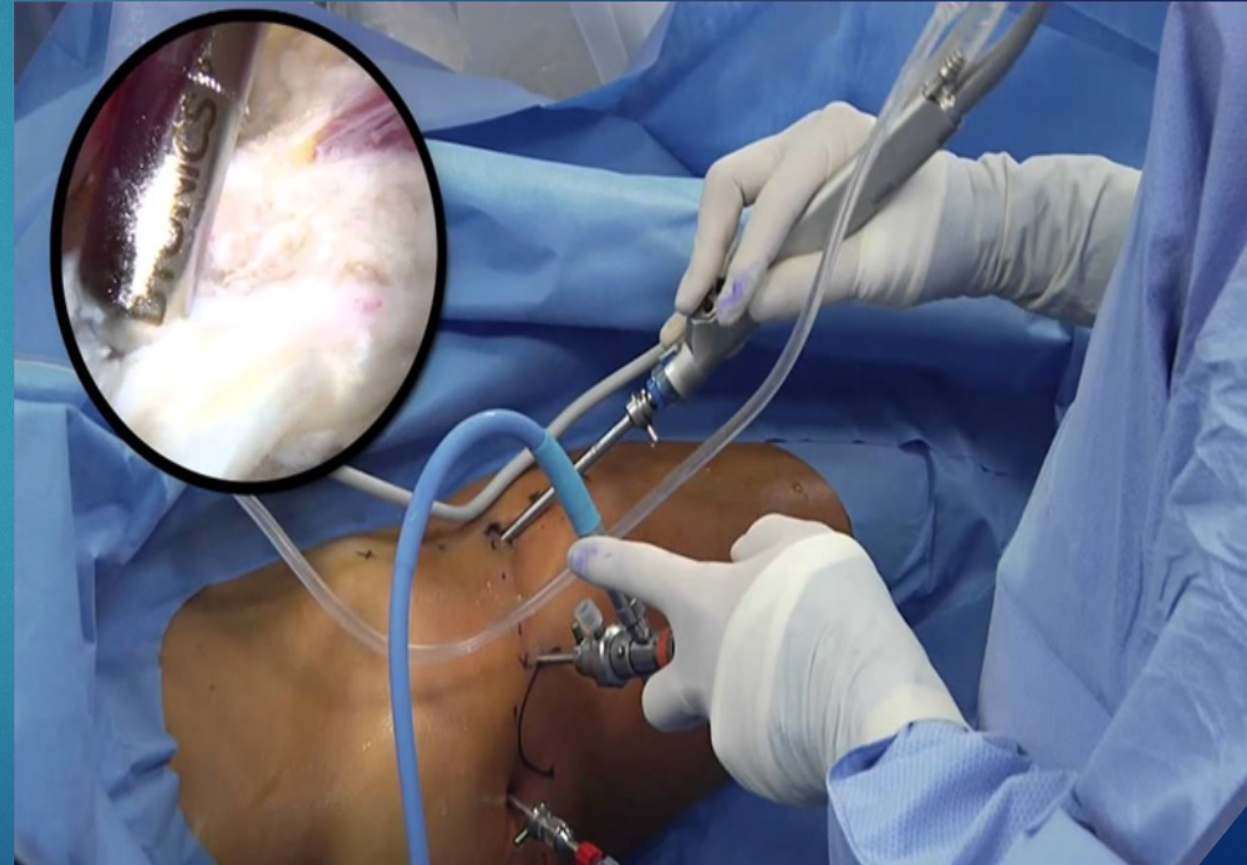
- Medical and Family History
- Physical **Examination**
- General Health Screen
- Cardiovascular Screen
  - \*EKG or Echo if suspicious for hypertrophic cardiomyopathy
- Neurologic Screen
- General Medical Screen
- Medication Use
- Nutritional Assessment
- Heat and Hydration Related Risk Factors
- Mental Health Considerations

# Joint Care

- ▶ Supplements – Chondroitin, Glucosamine (Grade C)
- ▶ Platelet Rich Plasma (PRP) Injections -symptomatic tendinopathy, not in the joint. Not FDA approved, lacks efficacy, \$\$\$.
  - ▶ Gluteus Minimus, Hamstring, Rotator Cuff Tears
- ▶ Joint preservation – Arthroscopy

# Hip Arthroscopy : Pain and Preservation of the Hip Joint

- Lower complication rates than to open <sup>1</sup>
- Outpatient surgery
- Faster Rehabilitation rate than open
- Minimal blood loss
- Better Cosmesis
- Full thickness labral tears
- Minimal OA
- Hip Impingement
- Revision Hip Surgery
- 2 small (1cm) incisions



# Hip Arthroscopy

- ▶ Address labral tear & underlying hip impingement
- ▶ Patient outcomes tied to surgeon experience
- ▶ Less experienced surgeon increased likelihood of patient needing additional hip surgery 8
- ▶ Surgeon case volume >519 had lower risk of subsequent hip surgery.
- ▶ **2-3x increased risk for further surgery in less experienced surgeons.**
- ▶ Residual impingement
- ▶ Poor candidate (OA, dysplastic)
- ▶ Experience guides surgeons in choosing candidates wisely
- ▶ Dedicated hip arthroscopy fellowship
- ▶ Labral Reconstruction



# Hip Arthroscopy : Patient Prognosis

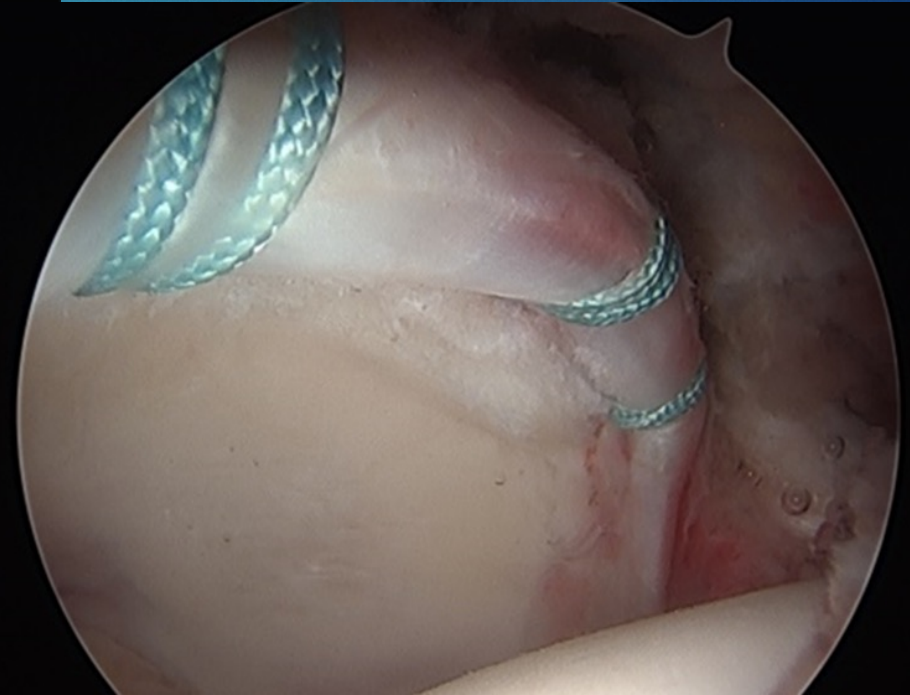
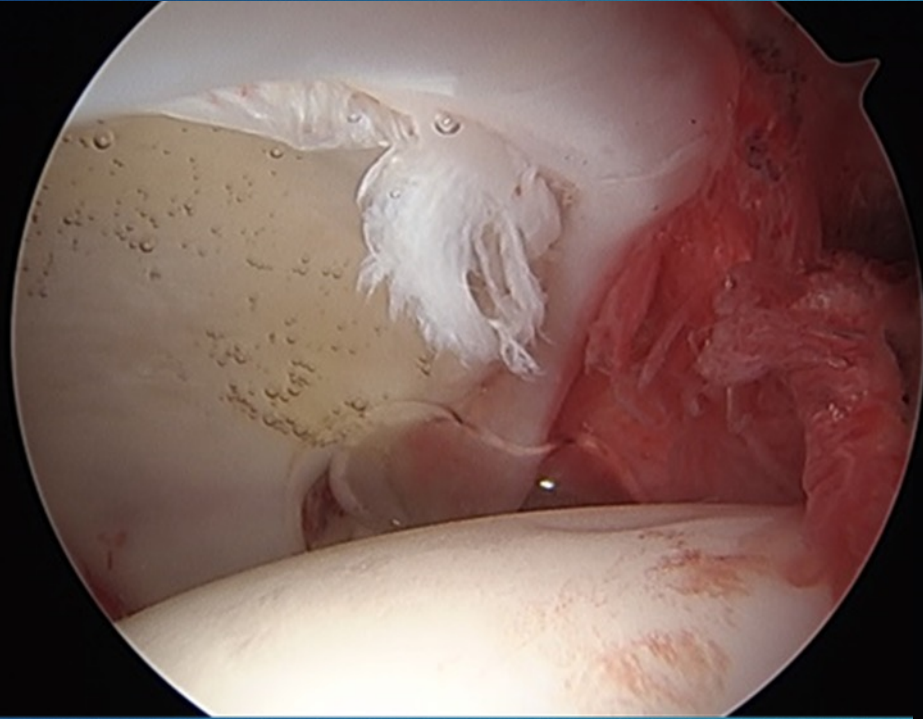
- ▶ Dependent on articular surface involvement
- ▶ 90% of patients with excellent results if the chondral surfaces are intact
- ▶ ADOLESCENTS!
- ▶ Grade I or II chondral lesion 70-80% will have good to excellent results.
- ▶ If the articular cartilage involvement is full thickness and diffuse, 40-50% will require total joint arthroplasty within two years of arthroscopy. <sup>4</sup>

# Hip Arthroscopy

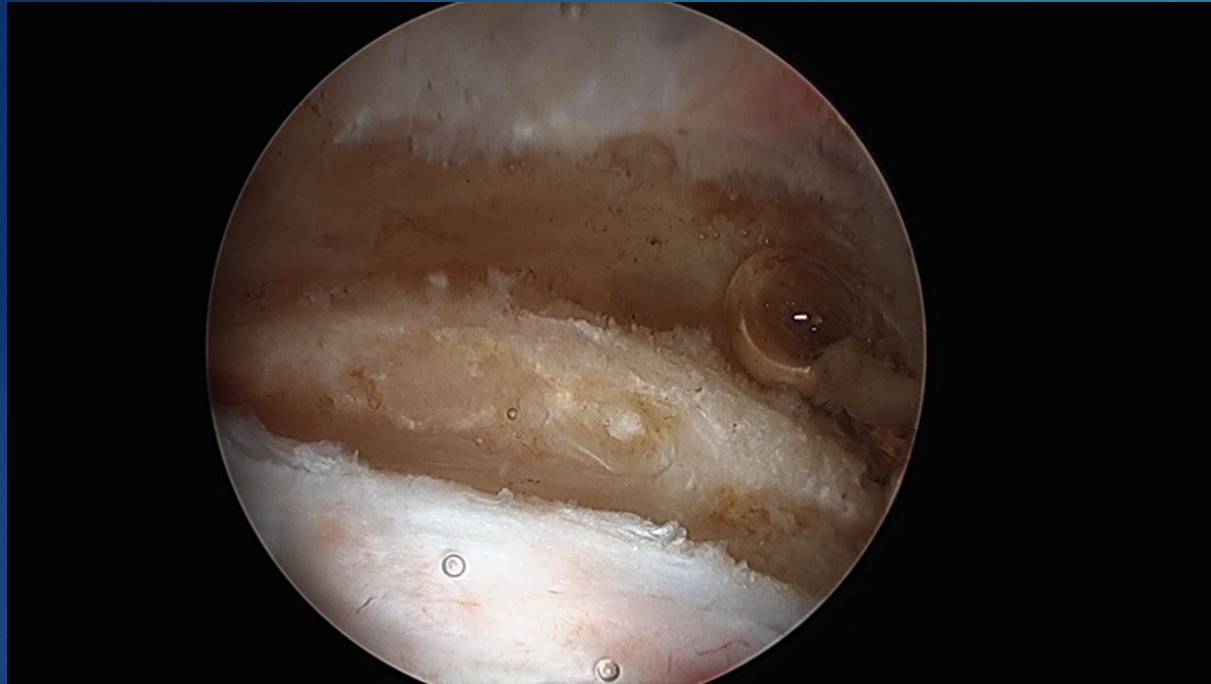
- ▶ Minimally invasive with lower complication rates
- ▶ Studies show experience matters
- ▶ Hip pathology is real and needs to be addressed
- ▶ Pathology is commonly felt anteriorly
- ▶ Post op rehab is critical!
- ▶ PWB 4 weeks, sedentary til 6 weeks, no restrictions @12 weeks unless revision hip surgery.



# Hip Arthroscopy: Pain & Preservation



# Hip arthroscopy : Pain & Preservation



Pincer Deformity  
Acetabulum

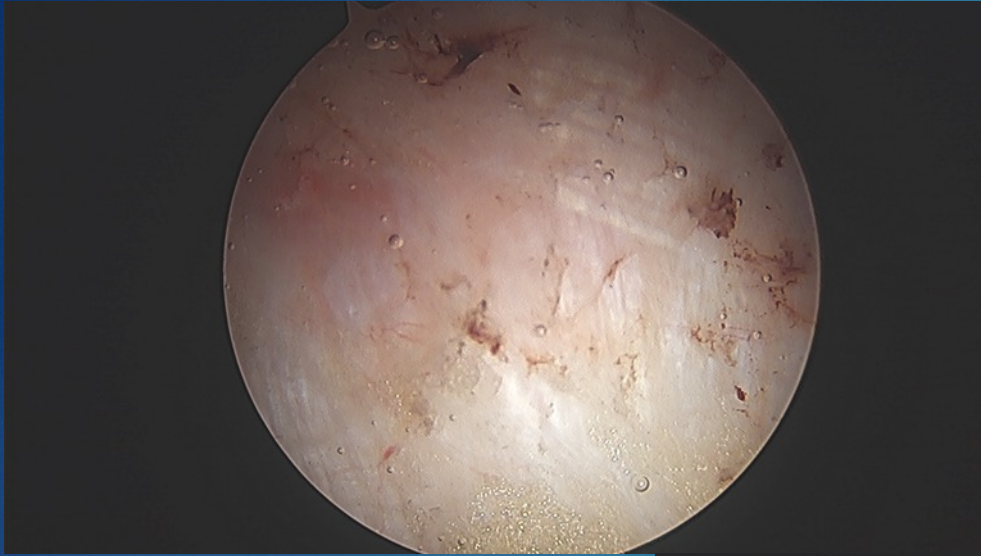
CAM Deformity  
Femoral Head





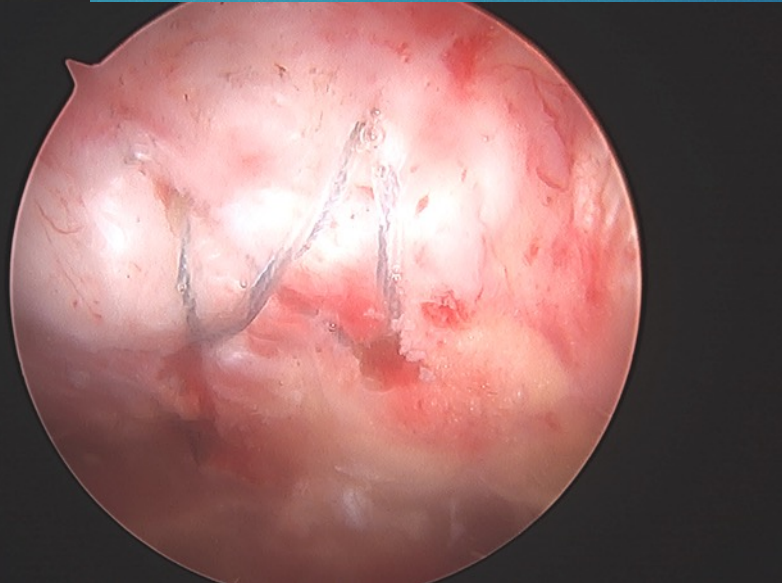
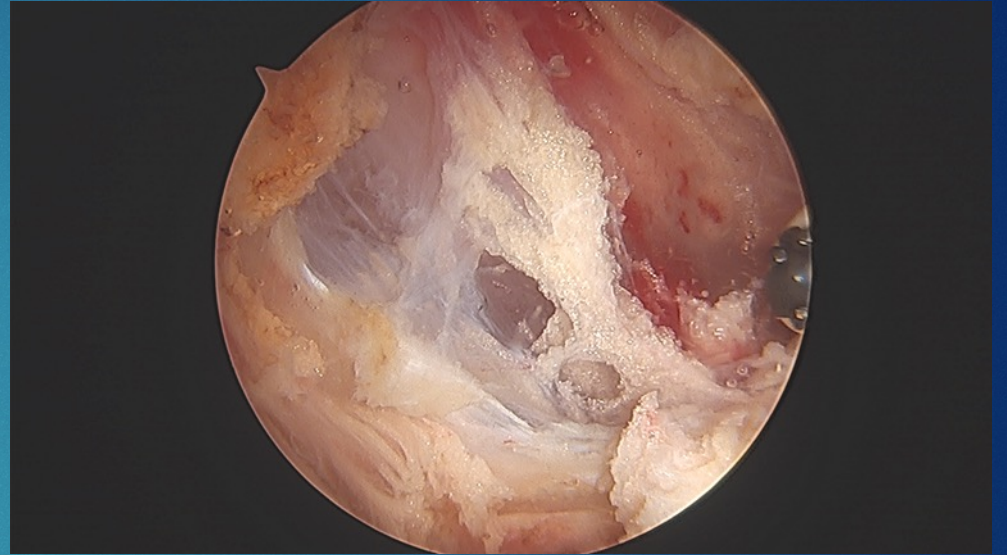
# Arthroscopic Gluteus Medius

IT Band Lengthening



Repair

Trochanteric Bursectomy



Partial-Thickness  
Glute Repair

# Gluteus Medius Repair

## Arthroscopic vs. Open

- ▶ Considerations – has the patient had prior surgery?
- ▶ Tenex contraindicated
- ▶ These patients cannot walk
- ▶ Have to do an open approach to repair it
- ▶ MRI considerations – atrophy, retraction
- ▶ As the provider, you want to recommend the right surgery done well.

Hip impingement

Advanced Imaging

Undiagnosed labral tears

- ▶ “No one is too young to have hip pain and no one is too old to preserve their hip joint” – Dr. Brandon Johnson

Chondral grading

Glute pathology

Adolescent hip pain

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# The End

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THE  
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