

# The Athlete's Hip: Diagnosis and Treatment of the Young Adult

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## Disclosures

- None

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## Objectives

- Diagnosis
  - History
  - Physical
  - Exam
  - Imaging
- Treatment
  - Nonoperative
  - Operative

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## Diagnosis

- First determine if the problem is **extra-articular** or **intra-articular!**

“Determining the origin of pain around the hip is commonly more elusive than other joints; often obscured by compensatory disorders.”

- Tom Byrd, MD

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## Extra-Articular Conditions

- Greater trochanter pain syndrome (GTPS)
- Snapping hip
  - External- Iliotibial band
  - Internal- Iliopsoas
- Hip flexor strain or tendinitis
- Adductor strain/Core muscle injury
- Proximal hamstring tears, strains/tendinitis

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## Intra-articular Conditions

- Femoroacetabular impingement (FAI)
  - Labral tears
- Acetabular dysplasia
- Femoral neck stress fracture
- Avascular Necrosis (AVN)

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## History

- **Extra-articular**

- Superficial pain
- Pain lying on the affected side
- Pain more lateral or posterior
- Snapping/popping

- **Intra-articular**

- Deep pain in the anterior hip or groin
- "C" sign
- Pain with prolong sitting
- Pain with flexion/rotational activities
- Catching
- Instability



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## Physical Exam

Is it the joint or not?

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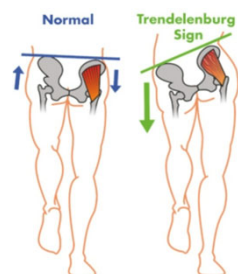
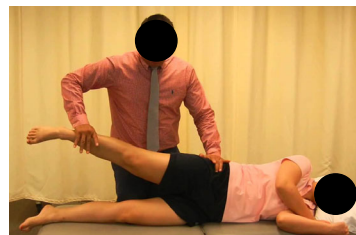
## Physical Exam Cont.

- **Inspection**
  - Ecchymosis
  - Swelling
- **Palpation**
  - Tenderness usually indicates a problem outside of the joint
    - Anterior- iliopsoas, rectus
    - Lateral- greater trochanter pain syndrome
    - Posterior- hamstring/glute
- **Range of motion**
  - Flexion
    - Normal 120-130°
  - Extension
    - Normal 10-15°
  - Abduction
    - Normal 40-50°
  - Adduction
    - Normal 20-30°
  - Internal rotation
    - Normal 20-30°
  - External rotation
    - Normal 40-50°

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## Physical Exam Cont.

- Resisted hip abduction
  - Positive with pain and/or weakness
    - GTPS/abductor tear
- Ober's
  - Patient lateral, hip extended and drop into adduction
  - Positive if unable to adduct
    - tight IT band
- Trendelenberg
  - Standing on affected hip leads to contralateral hip drop
    - Abductor weakness/tear



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## Physical Exam Cont.

- Resisted hip adduction
  - Supine with knees extended place arm in between ankles
  - Patient supine, knee flexed to 90 with hand on medial knee
    - **Adductor tear/strain (usually the longus)**
    - **Core muscle injury**
- Core muscle injury
  - Have patient do a ¼ sit up and hold it
    - Positive if pain in lower abdomen



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## Physical Exam Cont.

- Log roll
  - Most specific for **joint pain** but not very sensitive
- Straight leg raise (and resisted straight leg raise)
  - Can indicate iliopsoas pain or intra-articular pathology



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## Physical Exam Cont.

- FADIR (flexion, adduction, internal rotation)
  - Positive if **anterior** hip/groin pain
    - Femoroacetabular impingement (FAI)
- FABER (flexion, abduction, external rotation)
  - Considered positive if hip or back pain
    - FAI
    - Lumbar spine, SI joint
- Extension and external rotation
  - Pain posteriorly – posterior impingement
    - Pincer FAI
    - Femoroischial impingement
  - Pain/apprehension anteriorly- anterior instability



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## Physical Exam Cont.

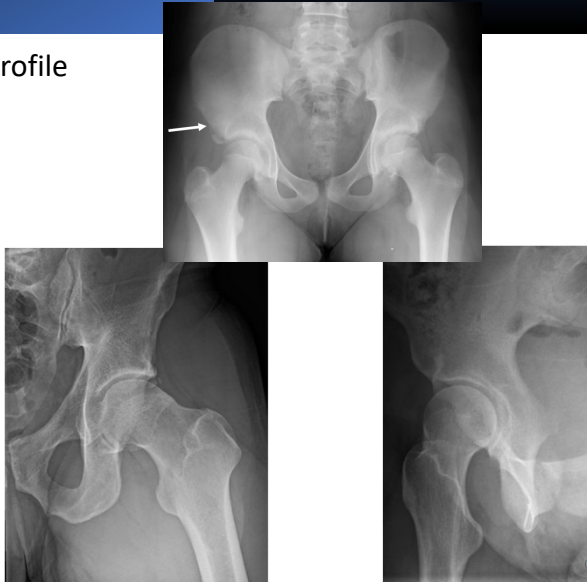
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|--|--|
| <ul style="list-style-type: none"> <li>• <b>Extra-articular</b> <ul style="list-style-type: none"> <li>• Tenderness</li> <li>• Pain with resisted movements               <ul style="list-style-type: none"> <li>• Flexion</li> <li>• Abduction</li> <li>• Adduction</li> </ul> </li> <li>• Swelling/ecchymosis</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>• <b>Intra-articular</b> <ul style="list-style-type: none"> <li>• + log roll</li> <li>• + FADIR, maybe FABER</li> <li>• + apprehension</li> </ul> </li> </ul> |
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## Imaging-Radiographs

AP pelvis, modified Dunn (45 degree), false profile

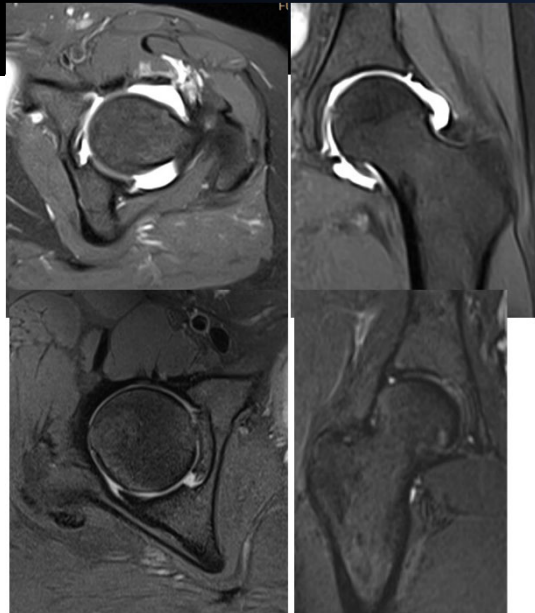
- Fractures
- Dysplasia
- FAI morphology
  - Pincer- LCEA  $>40^\circ$
  - Cam- alpha angle  $>50-55^\circ$
  - False profile to eval ACEA and AIIS



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## Imaging-Advanced Imaging

- **MRI or MRA?**
  - 3T non-contrast MRI is just as accurate as MRA (if experienced MSK rad reading it)
  - If comparing 1.5T MRI to MRA- MRA more accurate
  - MRA can be painful, patient can have a reaction to contrast
    - Small risk of infection



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## Diagnostic Injections

- Use when unclear if symptoms are intra- or extra-articular
- Anesthetic only intra-articular injection using ultrasound or fluoroscopy
- I prefer to see the patient in clinic same day after injection



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## Treatment

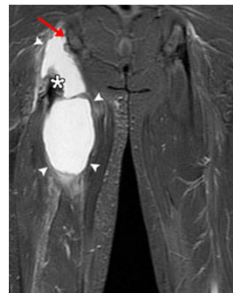
- **Non-operative**
  - Rest, NSAIDs, ice for most injuries/conditions
  - Majority of conditions can initially be treated with non-operative treatment initially
  - Consider steroid injection if trying to get through a season
  - Return to sport/activity when at baseline strength and mechanics

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## Treatment

- **Operative**

- Proximal hamstring avulsions
- Other tendon avulsions
  - Rectus femoris
  - Abductor Tears
- FAI if failed non-operative treatment
  - 4-6 month recovery
  - Will discuss more in the next presentation
- Core muscle injuries if failed non-operative treatment



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## References

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Thank You!

Questions?

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