What's Hip with the Hip

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DISCLOSURE

I have no relevant relationships with ineligible companies to disclose within the past 24 months.

Objectives

- Explain a methodical approach for hip examination
- Describe a focused differential of potential contributors to hip pathology and treatment options
- Determine when there is need for advanced imaging, interventional trial, or referral

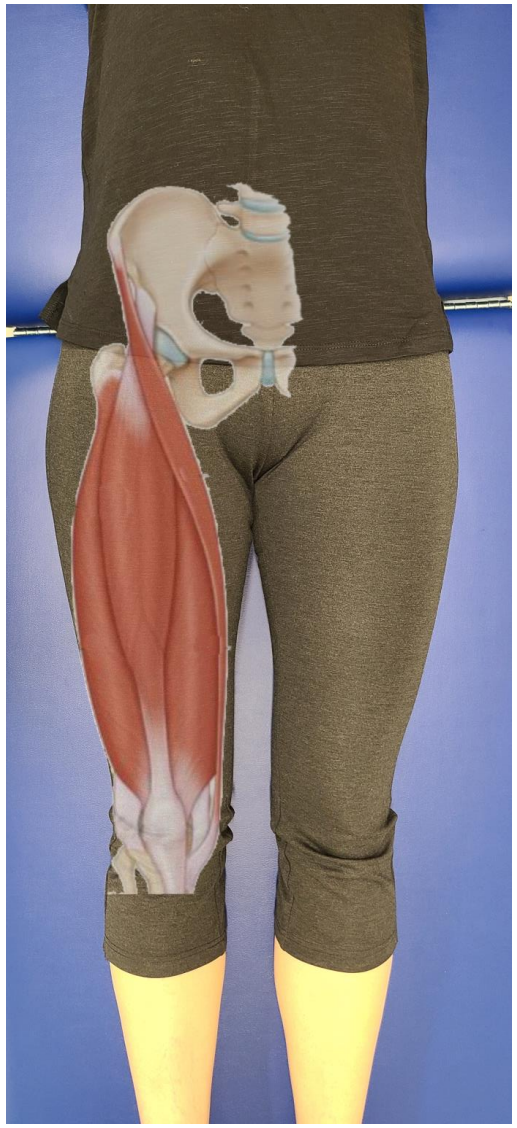
Methodical Approach- Hx

- Mechanism of Action
- Chronicity
- **Location**
- Interventions/Treatment to Date
- Goals

Anatomy Review

- Flexors

- Iliopsoas: Iliacus, Psoas
- Rectus Femoris
- Sartorius
- Pectineus
- Gracilis
- Adductor Longus
- Adductor Brevis



Anatomy Review

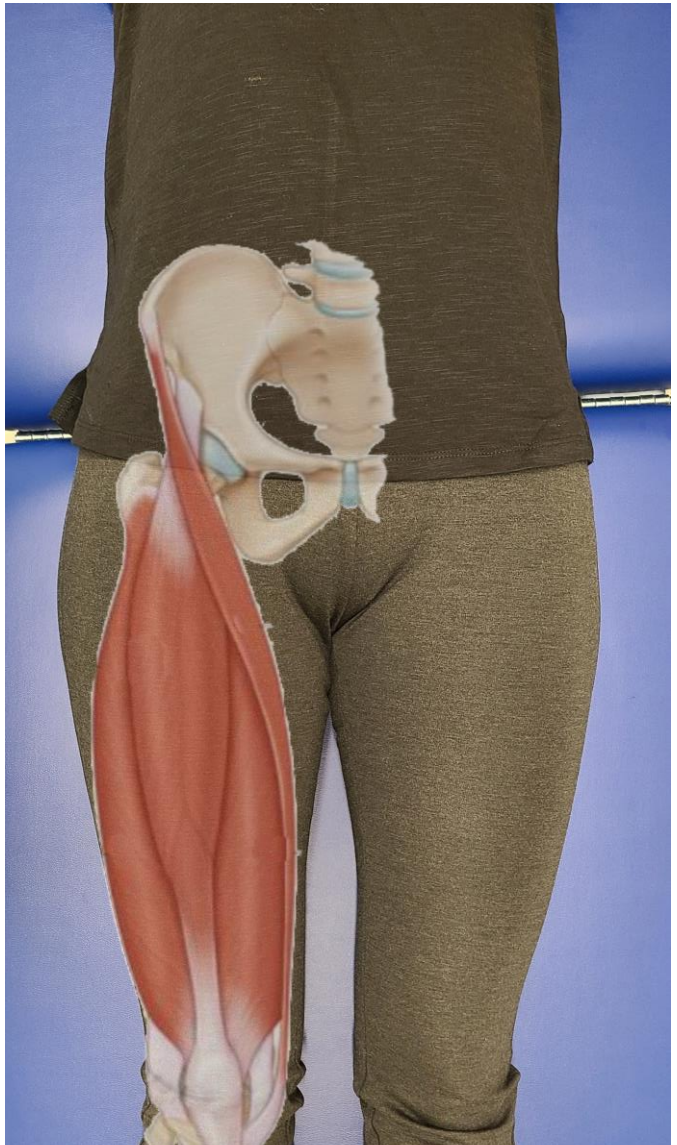
- Extensors

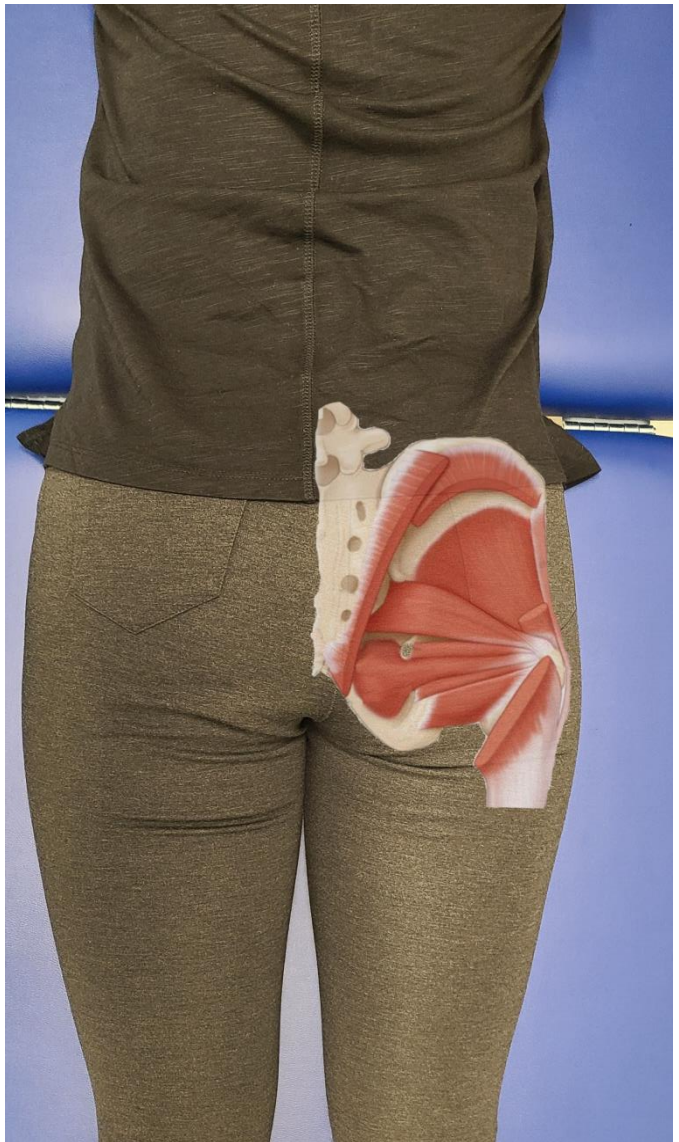
- Hamstring Group: Semitendinosus, Semimembranosus, Biceps Femoris
- Adductor Magnus
- Gluteus Maximus
- Gluteus Medius

Anatomy Review

- ABductors

- Sartorius
- Gluteus Minimus
- Gluteus Medius
- Gluteus Maximus
- Tensor Fasciae Latae





Anatomy Review

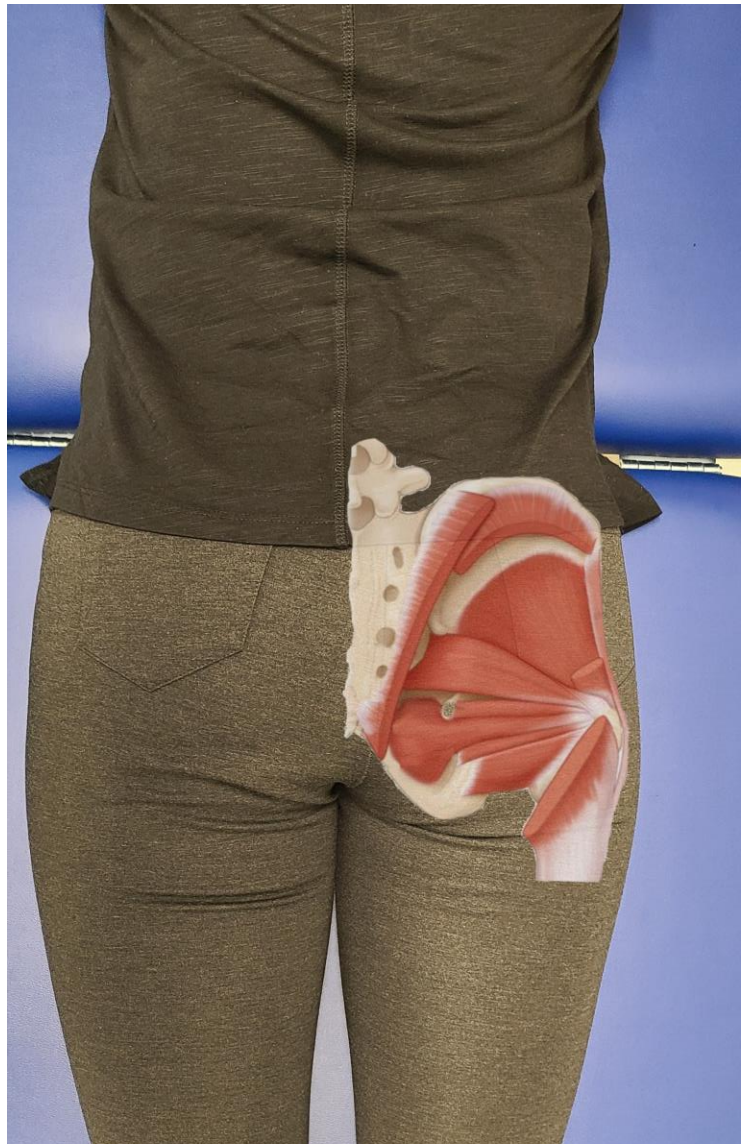
- ADductors

- Pectineus
- Adductor Brevis
- Adductor Longus
- Adductor Magnus
- Gracilis

Anatomy Review

- IR

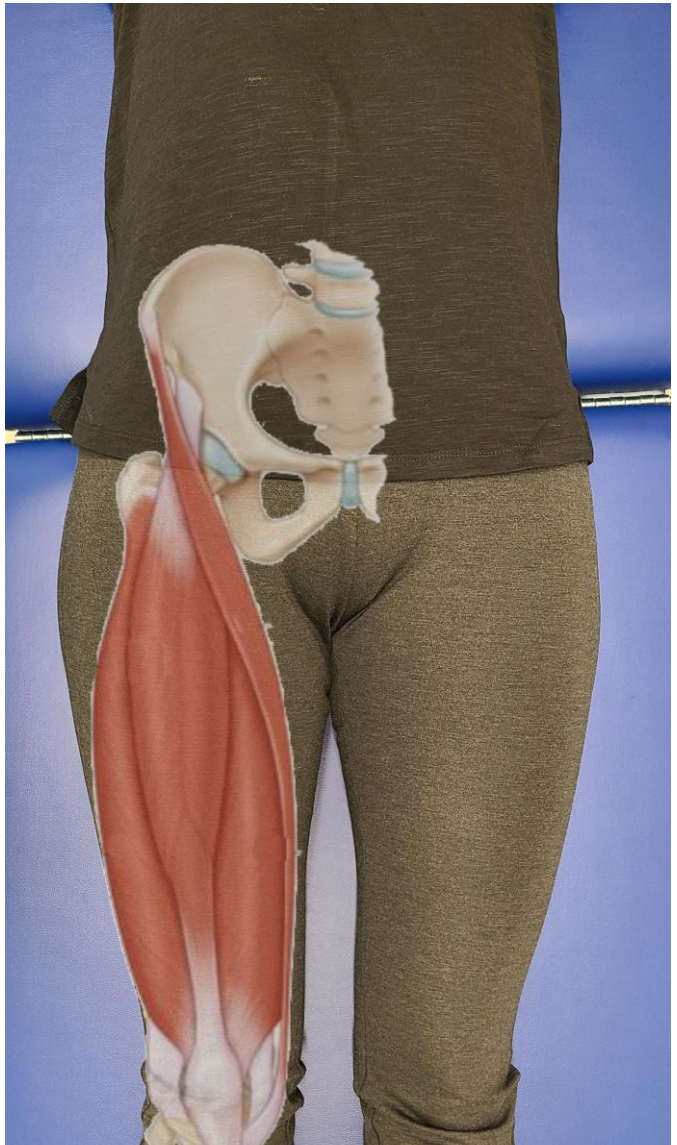
- Pectineus
- Adductor Brevis
- Adductor Longus
- Adductor Magnus
- Gracilis
- Gluteus Minimus
- Gluteus Medius
- Tensor Fasciae Latae

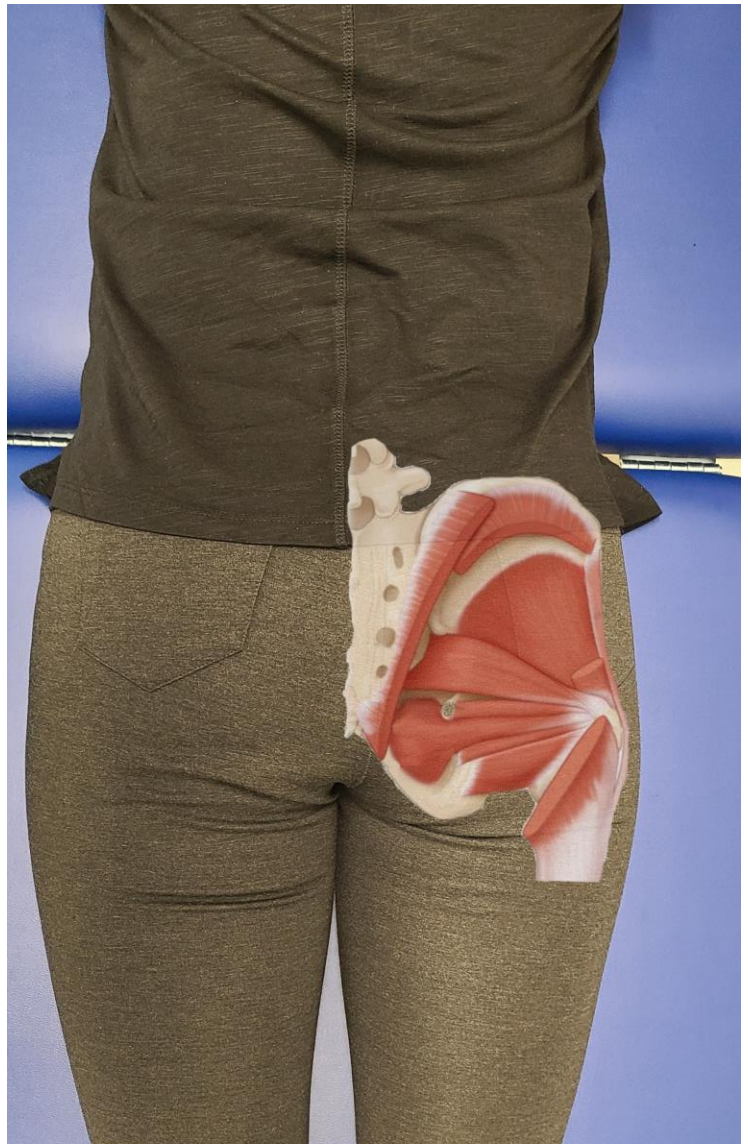


Anatomy Review

- ER

- Sartorius
- Gluteus Medius
- Gluteus Maximus
- Piriformis
- Superior Gemellus
- Obterator Internus
- Inferior Gemellus
- Quadratus Femoris
- Obterator Externus- deep to QF

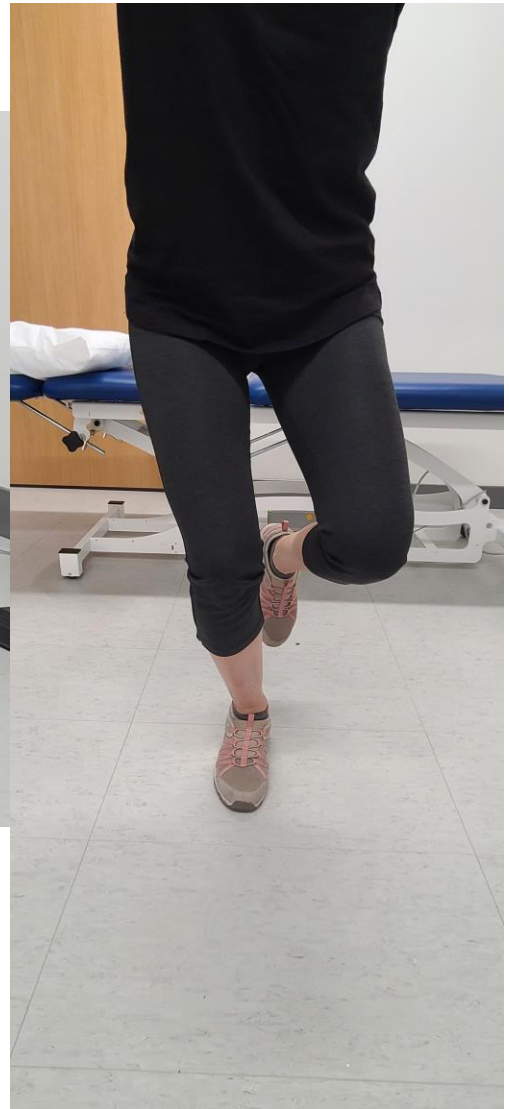


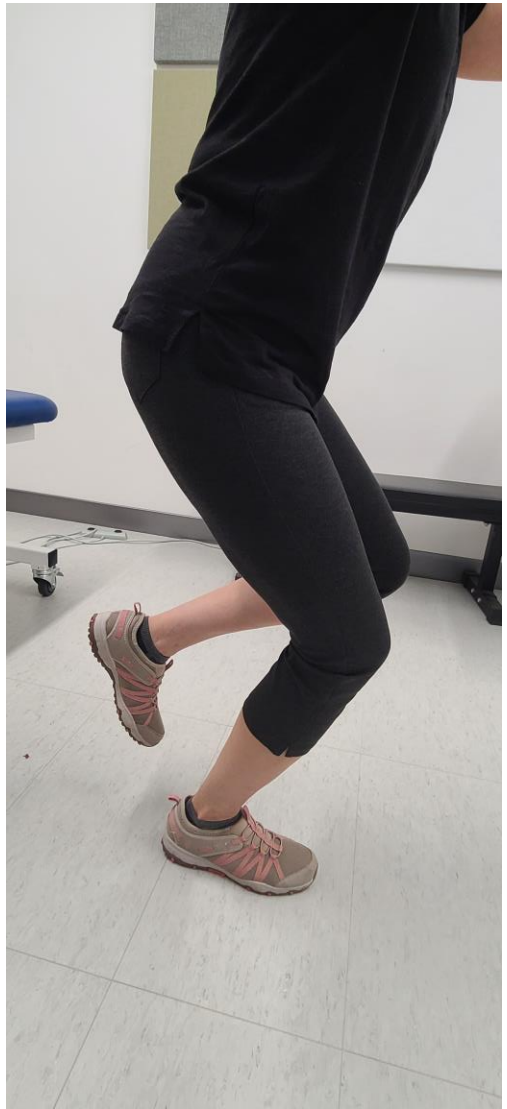


Exam Approach

- Gait
- Dynamic movements if possible- fatigue or reproduction of symptoms
- Inspection
- Range of motion
- Special Tests
- Imaging
- Interventions

Double & Single Leg Squats

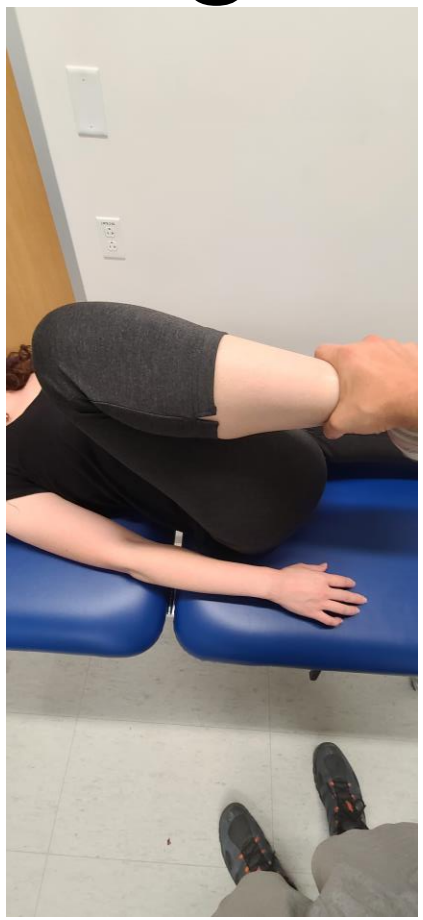




Range of Motion

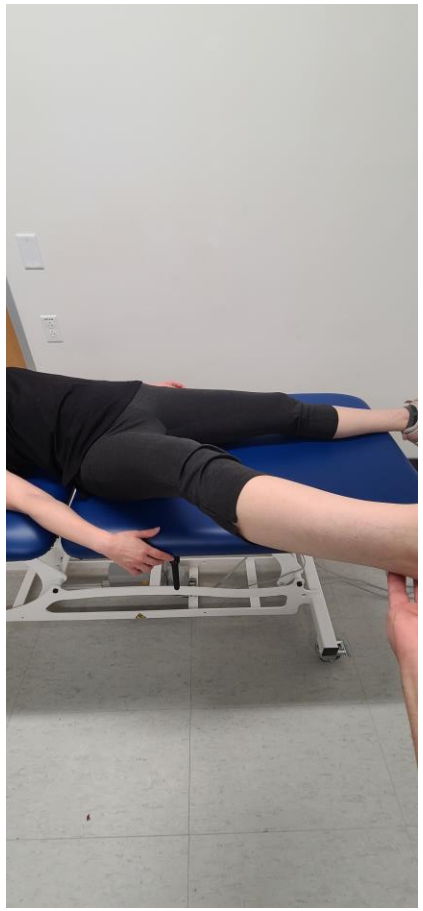
ER, 90 flexion
0-60

IR, 90 flexion
0-45



Flexion, 0-130

Ext, 0-20

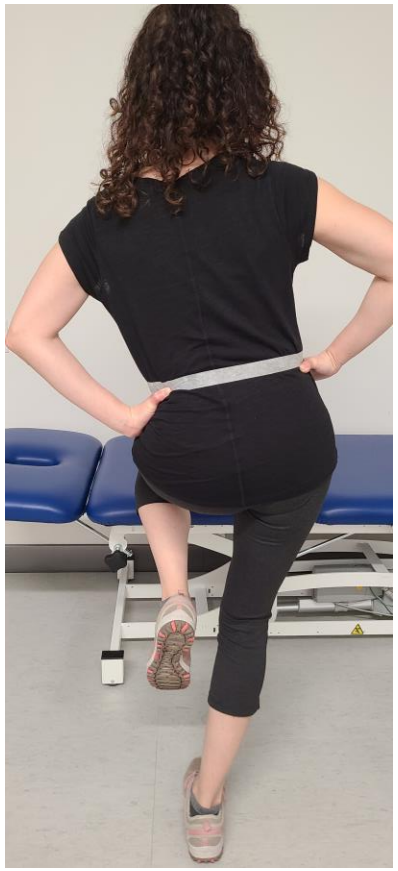


Abd, 0-60

Add, 0-30

Special Tests

- Trendelenburg



Special Tests

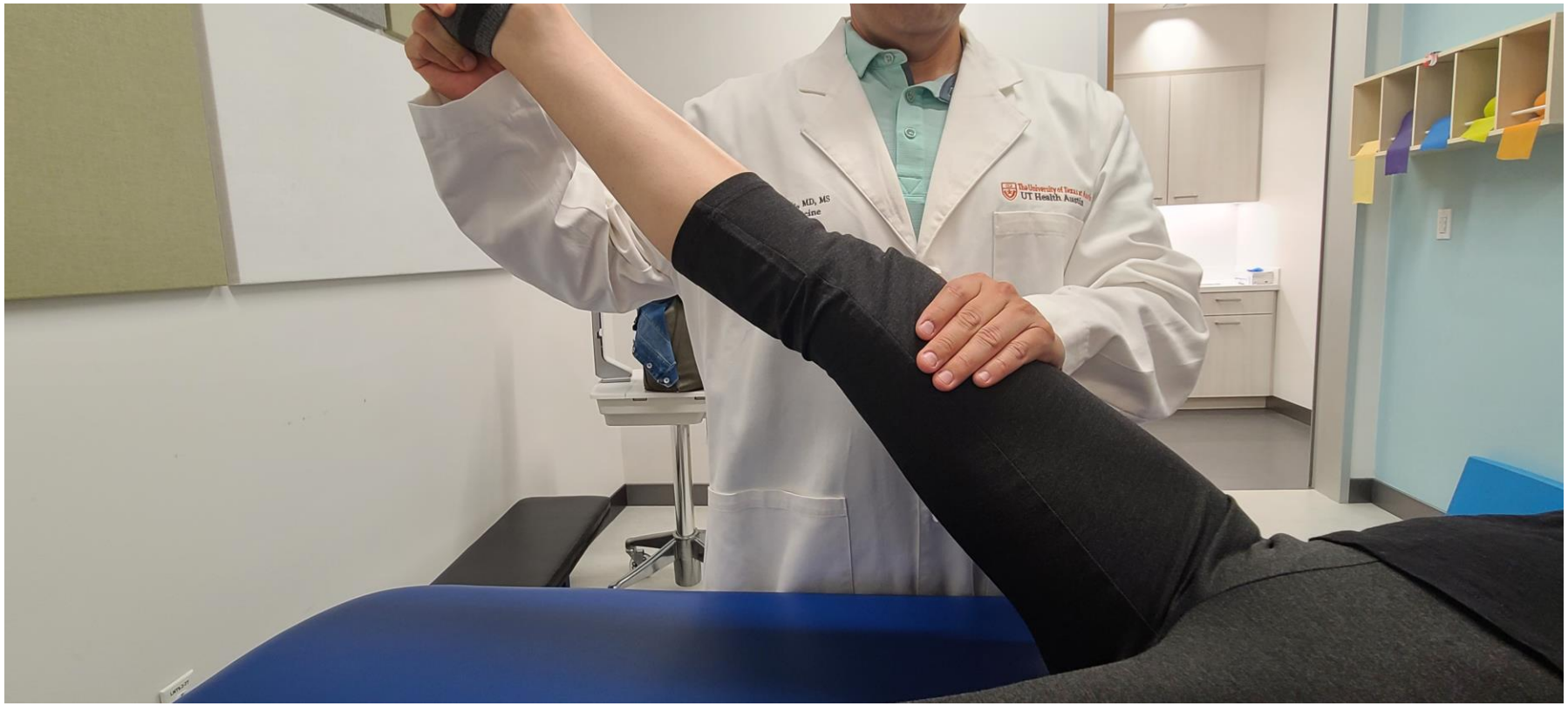
- FADIR

Special Tests

- FABER Test (Patrick's)

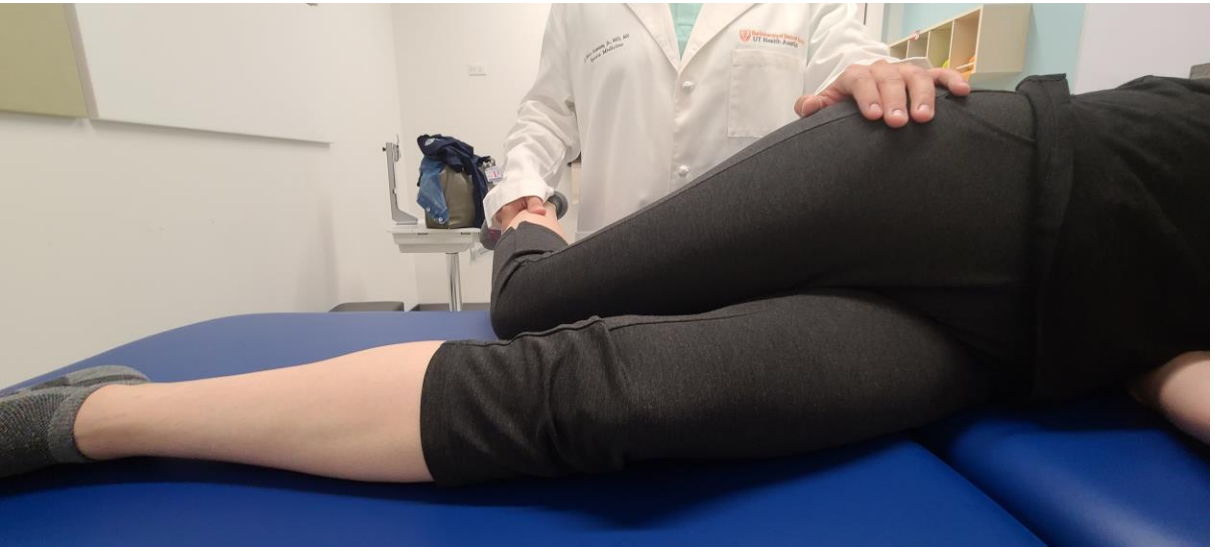
Special Tests

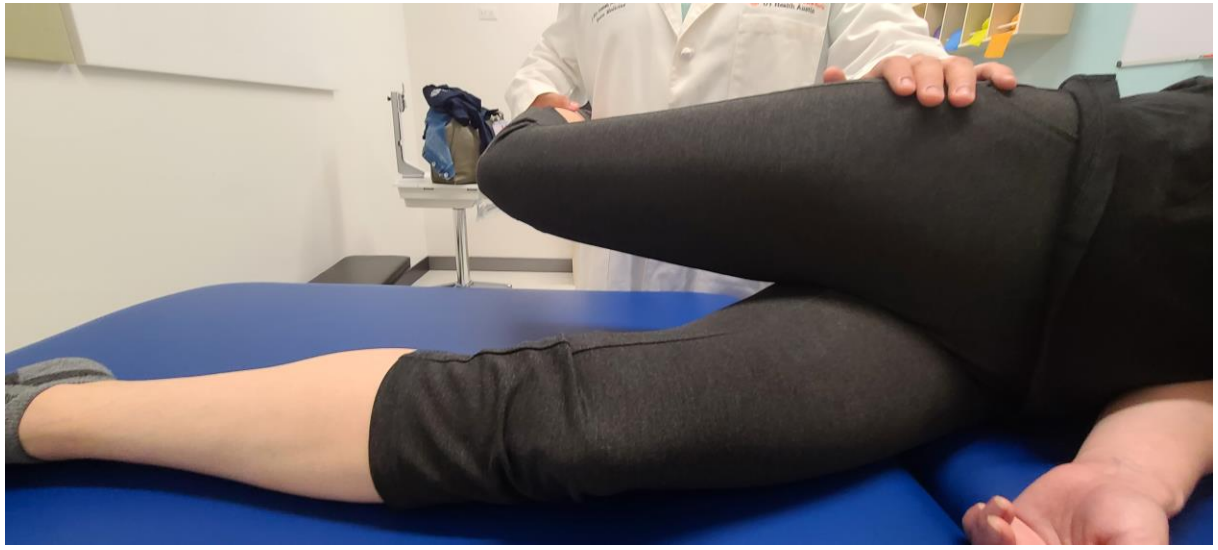
- Stinchfield Test



Special Tests

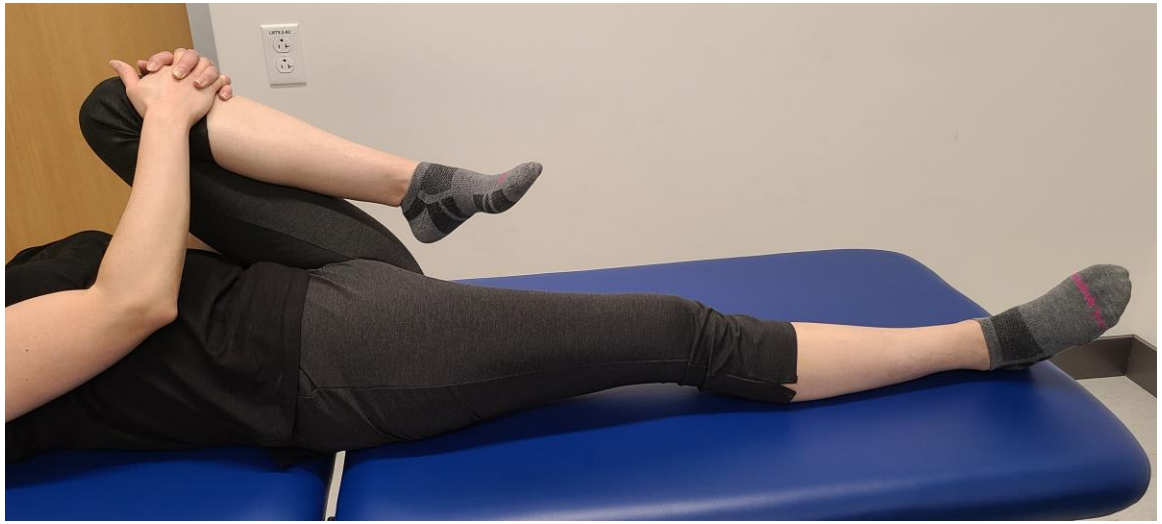
- Ober's





Special Tests

- Thomas



Special Tests

- Rectus Femoris Stretch

Special Tests

- Log Roll

CASE 1

- 24F, no past medical or surgical history. Reports 6 weeks of anterior right hip pain, increased intensity, initially only with activity but now progressed to pain with sitting or when rising up in morning. Persists throughout the day. No radiating symptoms or paresthesias. No bowel/urine incontinence.
- Severe now with activities. Mild-moderate at rest. No relief with NSAIDs, cold pack, or reduced workout activities in past 2 weeks. Runs 35-45 miles/week, upper/lower body weightlifting. No dramatic changes in routine. Training for competitive, multi-event runs. Reports monthly menses, no irregularity. Generalized diet. Daily MV, with additional calcium and vitamin D intake. No reported family history.

- Exam
  - BMI: 19
  - Healthy appearing, toned, no acute distress
  - Gait: normal
  - Trendelenburg + on right
  - Hip exam: AROM flexion 135, ER 60, IR 45
  - FADIR+, FABER -
  - Resistive tenderness to hip flexion (+Stinchfield)
  - Fulcrum femur test -
  - Log roll -
  - Heel strike +
  - Strength: 4/5 with tenderness flexion and IR; 5/5 abduction, adduction, ER

Initial Imaging

Ddx

- Labral tear
- FAI
- Stress Fracture
- Flexor Strain

Advanced Imaging

Management

- Dx: Compression stress fracture, <50%
- Initial Tx: Nonsurgical, conservative. 4-6 weeks of NWB (4wks) with crutches until FWB without pain. Acetaminophen for pain relief preference, but NSAIDs could be used
  - PT guided exercise regimen, return to run program
  - ?What about intra-articular CSI for pain management: NO
- If failed conservative management or >50% stress fracture, or findings of Tension side stress fracture --> refer for operative management discussion

CASE 2

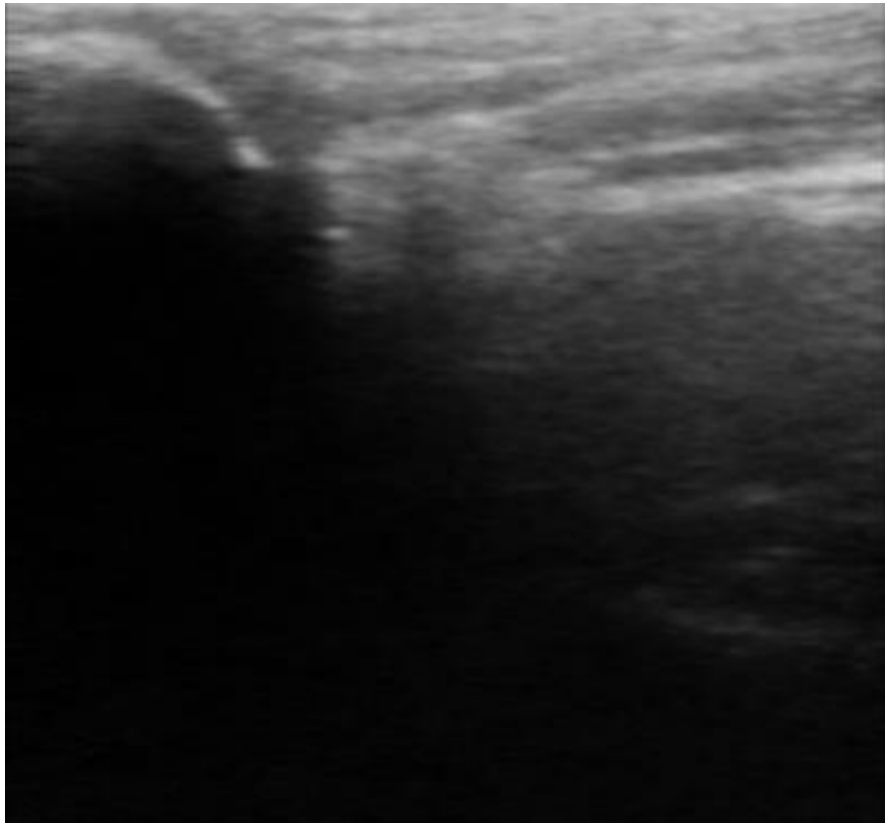
- 24M, running 4x100M relay, felt a pop at lateral left hip. Was able to finish his race but post race had anterior, proximal hip tenderness, and was limping with ambulation, unassisted. No previous injuries. No reported surgical or medical history. No prior similar occurrences.

- Exam
  - Healthy, fit, no acute distress
  - Gait: antalgic
  - Trendelenburg -
  - Hip exam: AROM flexion 120 with tenderness, ER 50, IR 40. PROM same.
  - No snapping reproduced
  - FADIR+, FABER +
  - Resistive tenderness to hip flexion (+Stinchfield)
  - Strength: 4-/5 with tenderness flexion, 5/5 abduction, adduction, ER, IR

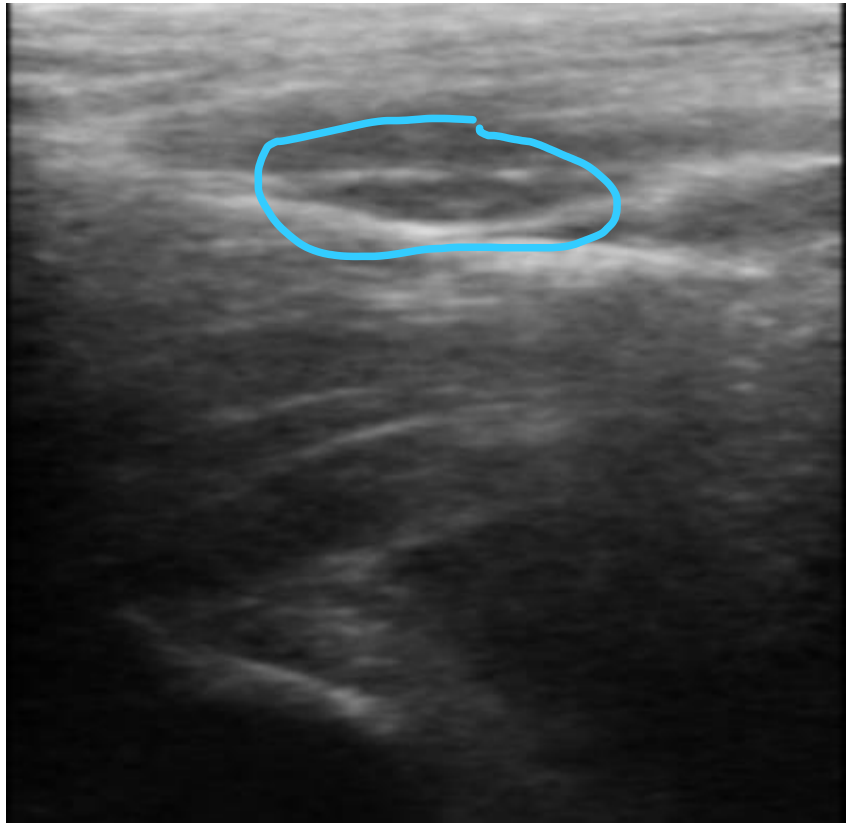
Ddx

- Flexor Strain
- Avulsion
- FAI
- Labral tear

Oniste Imaging



Proximal--Distal



Proximal--Distal

Medial--Lateral

Management

- Dx: Grade 2 rectus femoris strain, proximal
- Tx: Nonsurgical, conservative. Guided rehab exercises with PT and ATC (6wks). Activities to pain tolerance, with progression to competition level. NSAIDs or acetaminophen as needed, thermal and manipulation modalities deferred to PT/ATC.

CASE 3

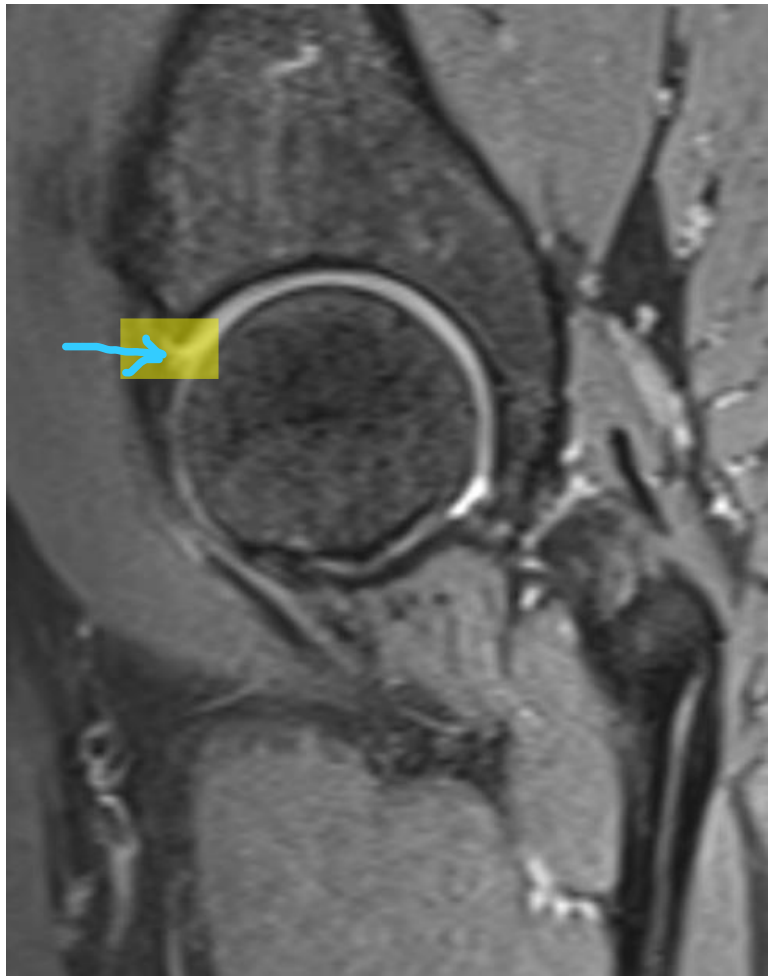
- 33F with 8 weeks of left hip tenderness. Noticed after performing increased group exercises, high intensity intervals and box jumps. Has lost 12 pounds in previous 3 months intentionally. In past 2 weeks tenderness has been severe. Mild alleviation with hot/cold treatment compress, naproxen 2 tablets daily, and diclofenac gel. Reports limping and having reduced range of motion. Can walk without assistance. Regular menses, general diet. Daily multivitamin but no additional supplements. Works security at events.

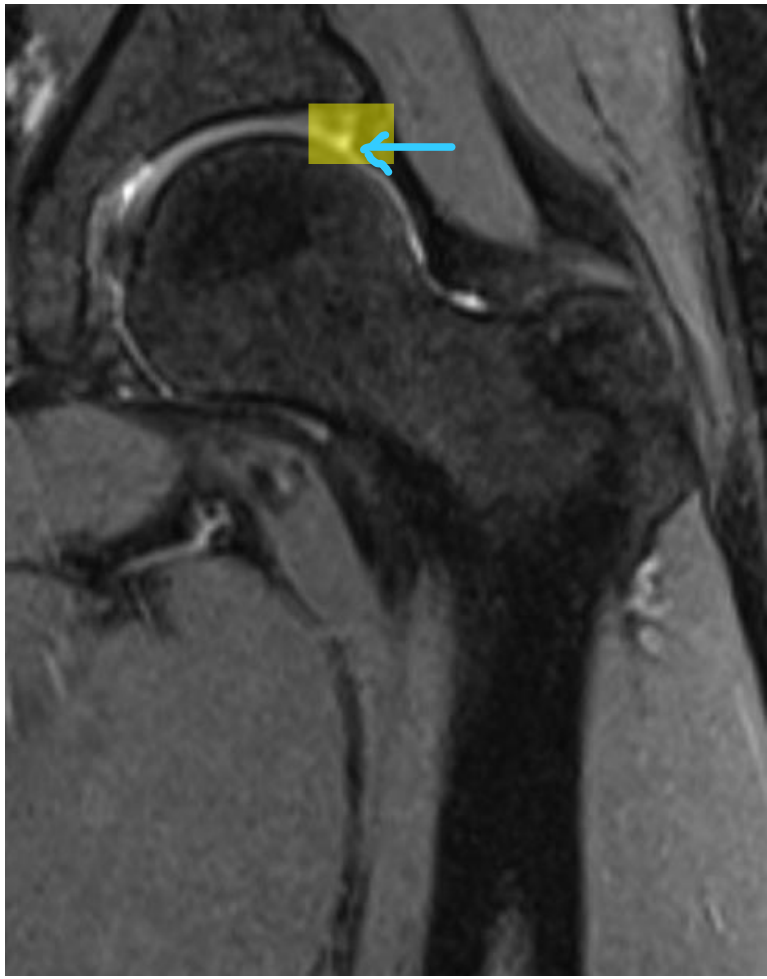
- Exam
  - BMI: 30.7
  - Healthy, no acute distress
  - Gait: Antalgic
  - Trendelenburg +
  - +C sign
  - Hip exam: Tender anterior hip, inguinal region. AROM flexion 115 with tenderness, ER 60, IR 35. PROM=AROM
  - FADIR+, FABER -
  - Hip Scour +
  - Resistive tenderness to hip flexion (+Stinchfield)
  - Strength: 4-/5 with tenderness flexion, IR, extension
  - 4+/5 abduction, adduction, ER

Ddx

- Greater Trochanteric Pain Syndrome
- Avulsion
- FAI
- Labral tear
- Flexor Strain

Imaging





Management

- Dx: Anterior, superior labral tear
- Tx: Nonsurgical, conservative. Guided rehab exercises with PT (8wks).
- May attempt CSI or prolotherapy if pain not sufficiently controlled to aid in PT progression/initiation
  - Activities to pain tolerance, increasing as range of motion then strengthening improved.
  - If too severely tender, modification of activities
- If conservative management fails, elective operative discussion for labral repair/debridement

CASE 4

- 38M with complaint of left lateral hip tenderness. Occurrence 3 weeks prior after snowboarding activities, high intermediate level rider. Reported no falls or trauma. Performed more park activities than typical. Tenderness currently with sitting, walking, stairs. Has not been able to cycle or perform his lower body workout routine- squats, lunges, or rows. Dull ache at rest, severe with attempted activities. Travel photographer, recreationalist.

- Exam
  - BMI: 24.7
  - Healthy, fit, no acute distress
  - Gait: Normal
  - Trendelenburg +
  - +C sign
  - Hip exam: Tender anteriolateral hip. AROM flexion 120 with tenderness, ER 45 with tenderness, IR 35 with tenderness. PROM=AROM
  - FADIR+, FABER -
  - Hip Scour -
  - Resistive tenderness to hip flexion (+Stinchfield)
  - Strength: 4-/5 with tenderness flexion, IR
  - 4/5 abduction, adduction, ER, extension

Ddx

- Labral Tear
- FAI
- Greater Trochanteric Pain Syndrome
- Gluteal Bursitis

Imaging

Management

- Dx: FAI, CAM type
- Tx: Nonsurgical, conservative. Guided rehab exercises with PT.
  - Declined advanced imaging, MRI
  - CSI provided 2 weeks after initial encounter. Immediate improvement in tenderness and range of motion
  - Improvement in AROM=PROM at 10wks, minimal tenderness with high intensity activities
  - Pain free with activities at 4 months post initial encounter
- May attempt CSI or prolotherapy if pain not sufficiently controlled to aid in PT progression/initiation
- If conservative management fails, elective operative discussion for bony deformities, and potential labral/cartilage involvement

CASE 5

- 36 female with 9 weeks of bilateral hip tenderness. Lateral location and reports popping sensation in right anterior hip. No falls or recalled trauma. Began increased workout regimen of jog-walk intervals, lower and upper body strength training for health and weight improvement. Menses regular. Generalized diet with no reported past medical or surgical history. Now tender with weightbearing and laying in decubitus position, moderate tenderness. At rest, persistent dull ache, mild in nature. Has stopped her activies for past 4 weeks with little relief. Moderate relief with ibuprofen and cold packs. Works as nurse, emergency medicine.

- Exam
  - BMI: 34.5
  - Healthy, no acute distress
  - Gait: Normal
  - Trendelenburg +
  - Hip B/L exam: Tender bilateral lateral hip, right anterior hip- inguinal region. AROM flexion 125 with tenderness, ER 60 with tenderness, IR 45 with tenderness. PROM=AROM
  - FADIR+, FABER -
  - Hip Scour -
  - +Thomas, +Obers, +Rectus femoris stretch
  - Resistive tenderness to hip flexion (+Stinchfield)
  - Strength: Right 4-/5 with tenderness flexion, IR, ER; Left 4/5 flexion, IR, ER
  - 3+/5 abduction bilateral

Ddx

- Greater Trochanteric Pain Syndrome
- Gluteal Bursitis
- Snapping hip syndrome
- Groin pain syndrome (sports hernia)

Imaging

Management

- Dx: Bilateral greater trochanteric pain syndrome and anterior right snapping hip syndrome
- Tx: Guided rehab exercises with PT, with focus on gluteal and lower chain
  - CSI or prolotherapy could be provided, suggest under ultrasound guidance. Evaluate gluteal bursae and iliopsoas for distension or region of maximal tenderness. Patient declined given improvement with guided PT.
  - Improvement of symptoms at 12 week encounter, mild, but tolerable to running and weightlifting activities. 16 pound weight loss.
- Involement with registered dietician
- Advanced imaging, MRI, noncontrast if no improvement. Assess for gluteal tears, tendinopathy
- Reassurance and encouragement
- Failed conservative: referral for elective surgery depending on findings and re-evaluation.

Take Away

- Presentation of hip pain is variable with a proper history and exam approach being key. Utilize dynamic movements if possible, for improved exam findings.
- There are several hip clinical exams, but not fully specific nor sensitive, thus have methodical approach and combine it with history and imaging (if indicated) for aiding in diagnosis
- Becoming more familiar with hip anatomy and function, aids in directing history and exam, and can improve patient education discussion
- Hip pain can be further referred from spine, neurogenic, sacro-iliac joint, knee, or be components of arthritis, which were not exemplified in these cases

Questions & Discussion

- Thank you for your time.