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The “12 point” hip ultrasound exam

1. The femoral/acetabular hip joint
2. Iliopsoas tendon
3. Greater trochanter
4. Piriformis
5. Adductor tendons
6. SI joints

Two views of the above structures plus US guided approaches.

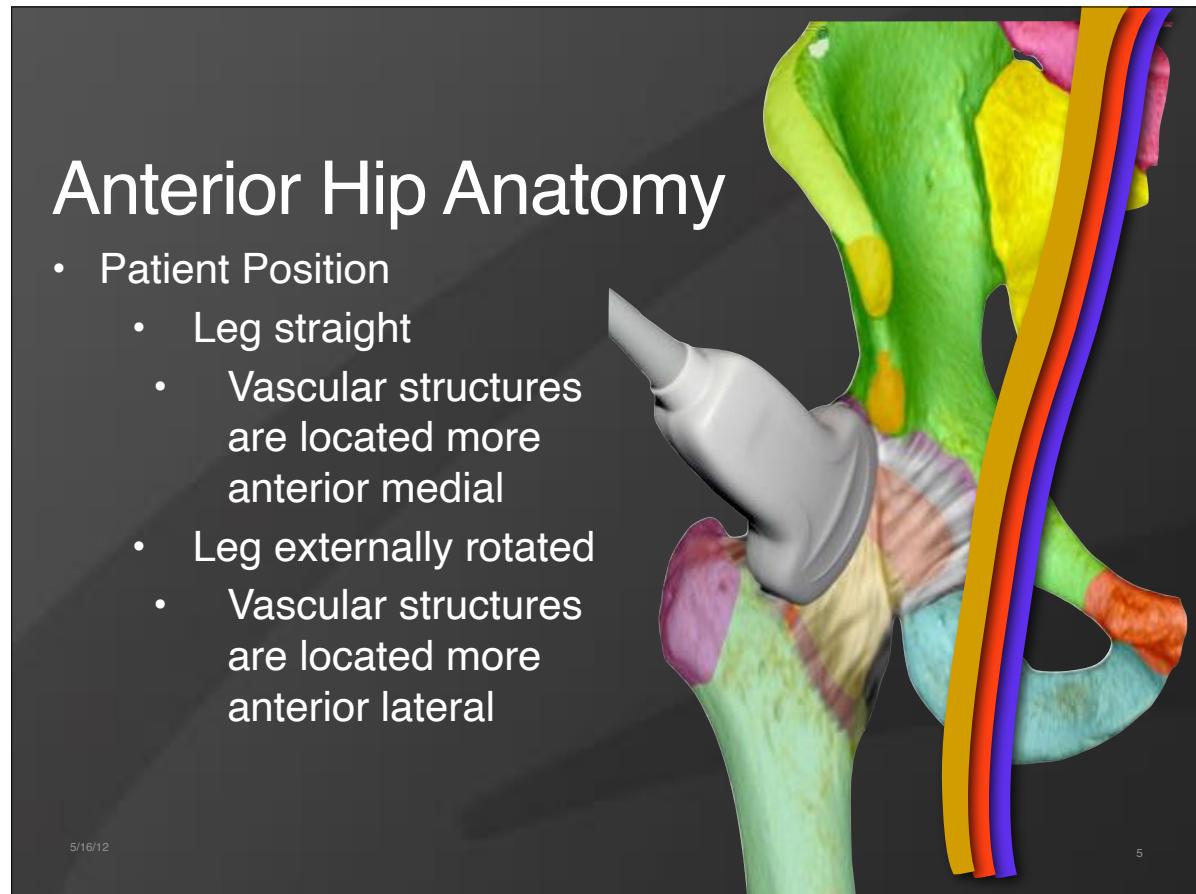
Anterior Hip Anatomy

1. ASIS
2. AIIS
3. Acetabulum
4. Labrum
5. Pectineal Line
6. Pubic Symphysis
7. Femoral Head
8. Femoral Neck
9. Inter-trochanteric Line
10. Greater Trochanter
11. Lesser Trochanter
12. Iliofemoral Ligament (Capsule)



Anterior Hip Anatomy

- Patient Position
 - Leg straight
 - Vascular structures are located more anterior medial
 - Leg externally rotated
 - Vascular structures are located more anterior lateral



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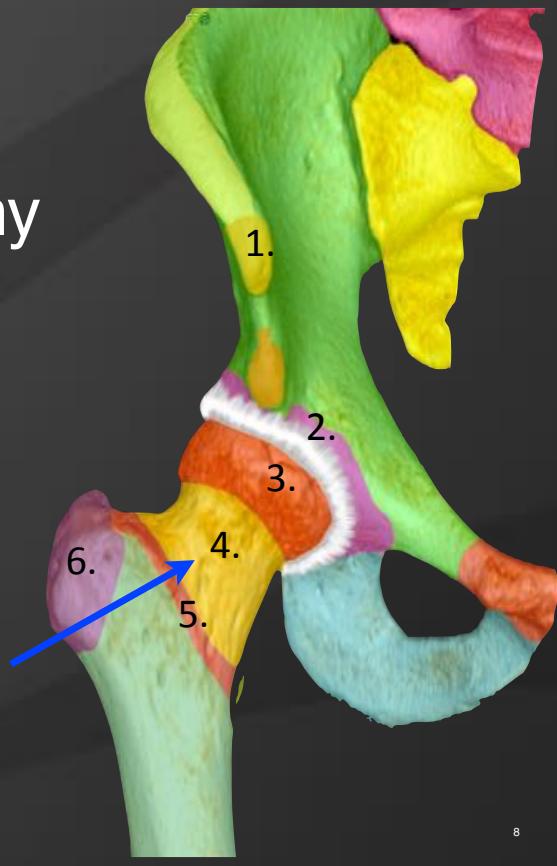
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Hip Injection Anatomy

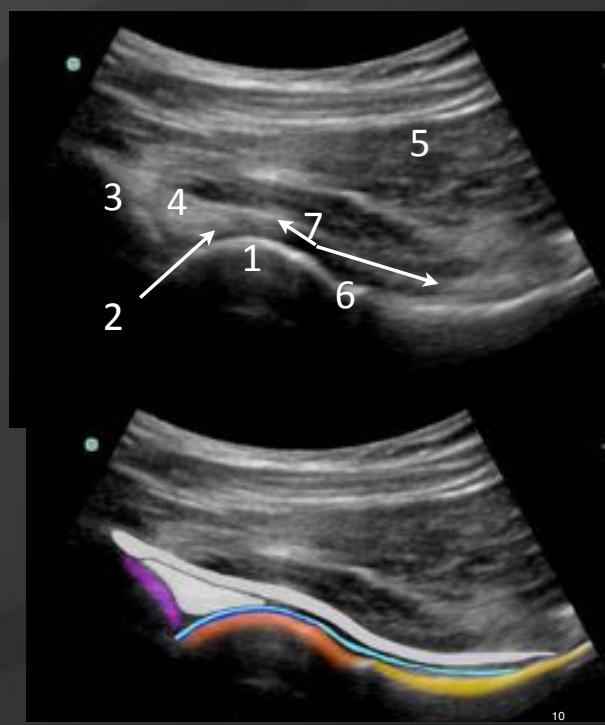
1. ASIS
2. Acetabulum
3. Femoral Head
4. Femoral Neck
5. Intertrochanteric Line
6. Greater Trochanter

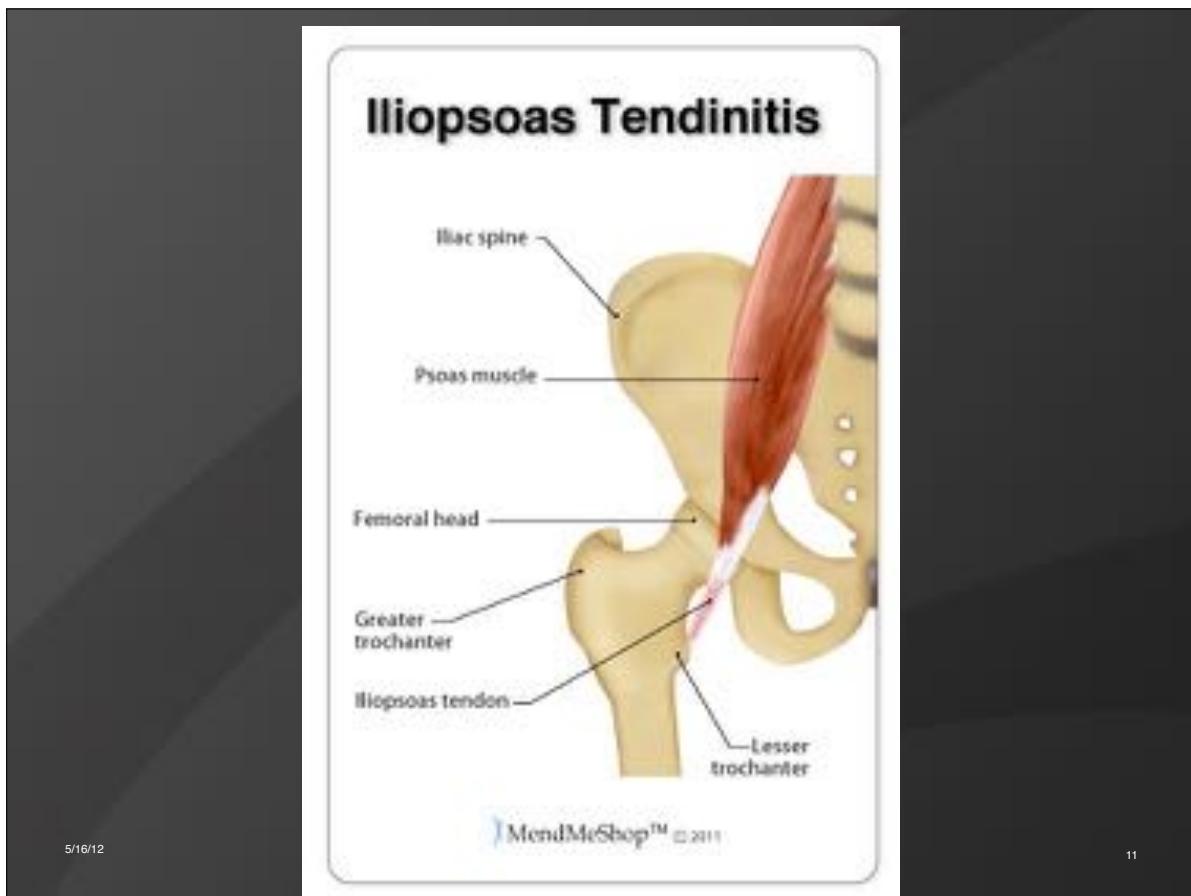


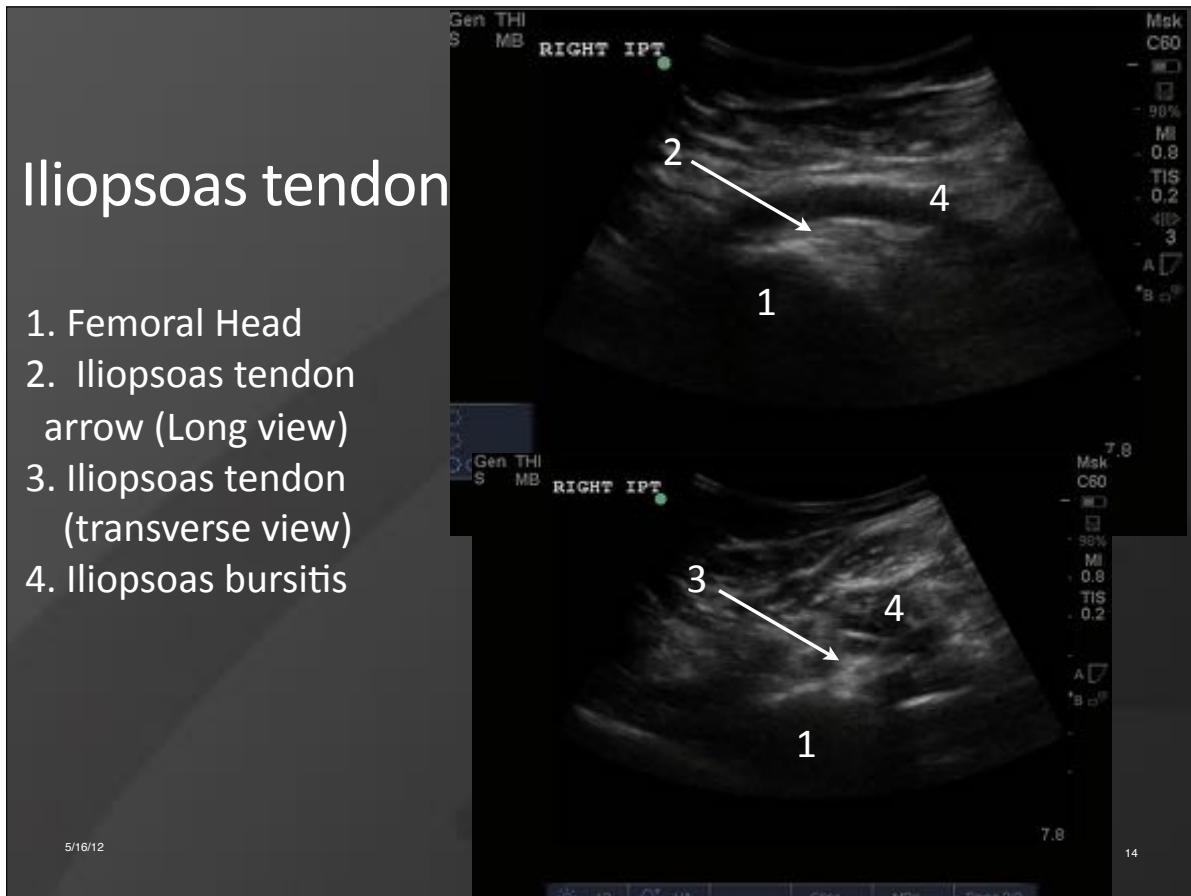


Anterior Hip Images

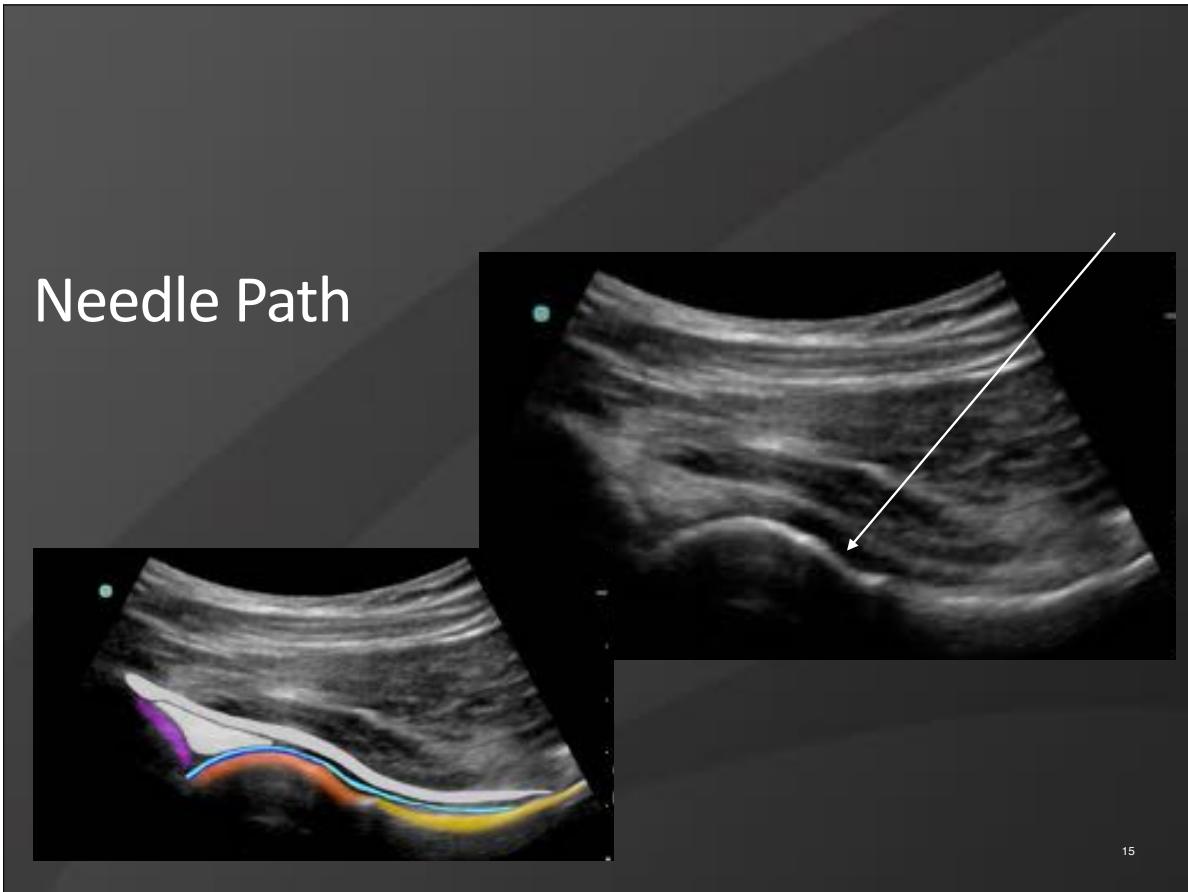
1. Femoral Head
2. Articular Cartilage (blue)
3. Acetabulum
4. Labrum
5. Overlying Muscles
6. Femoral Neck
7. Iliopsoas tendon



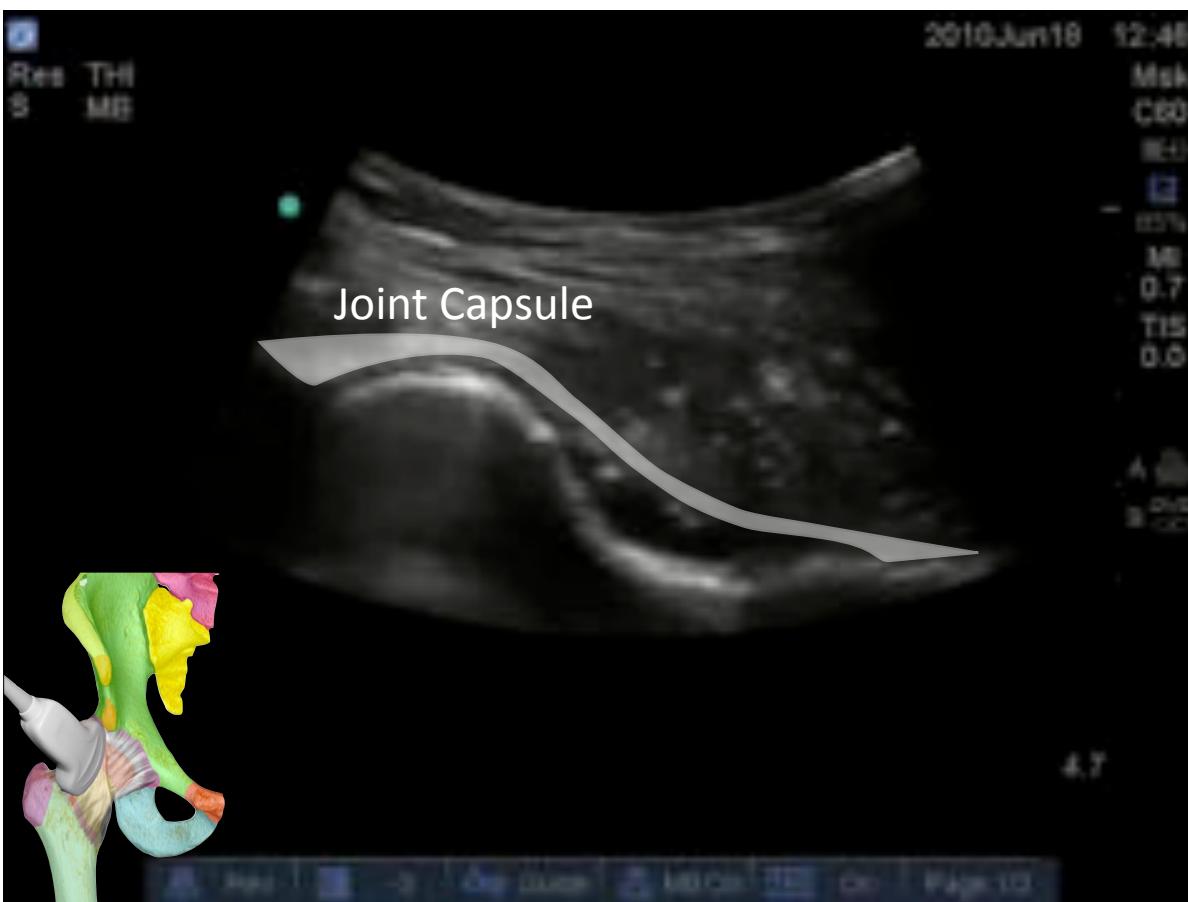


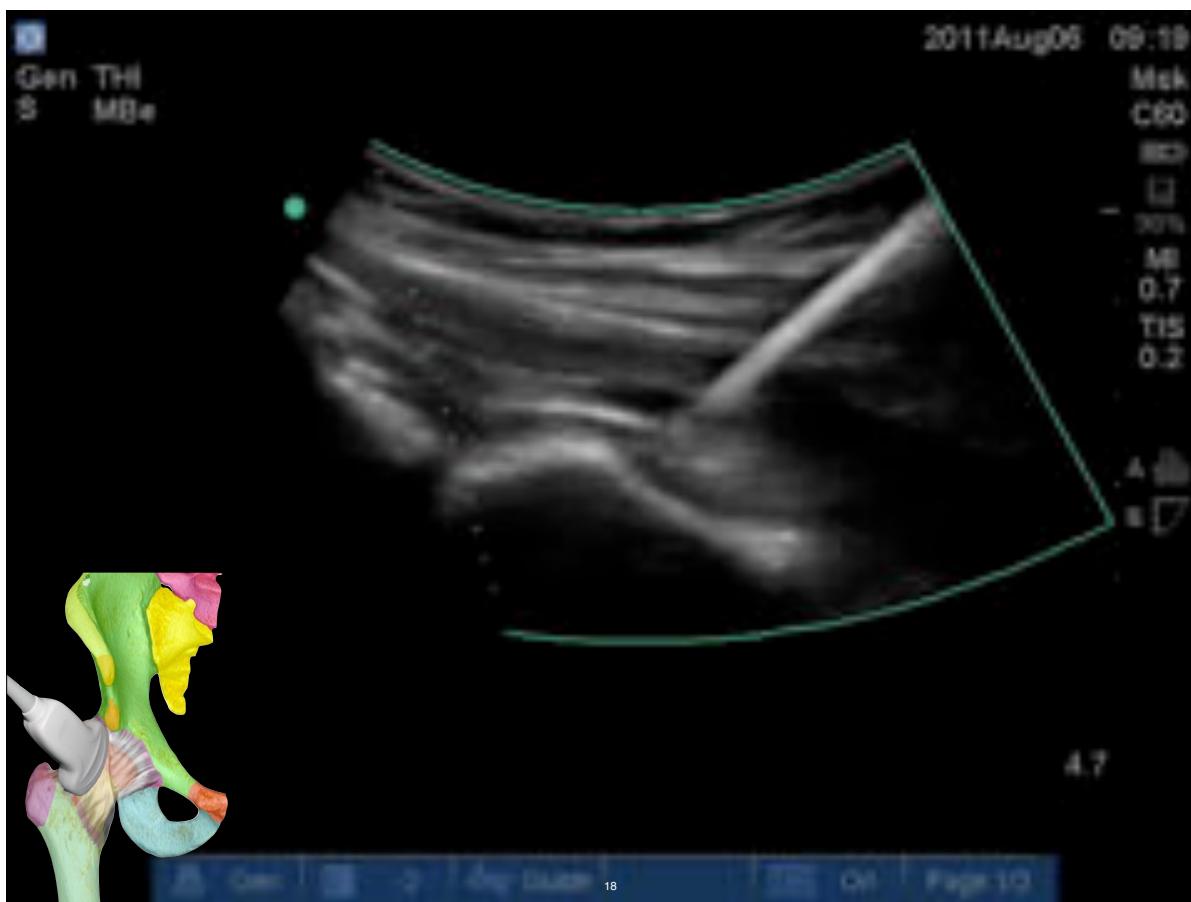
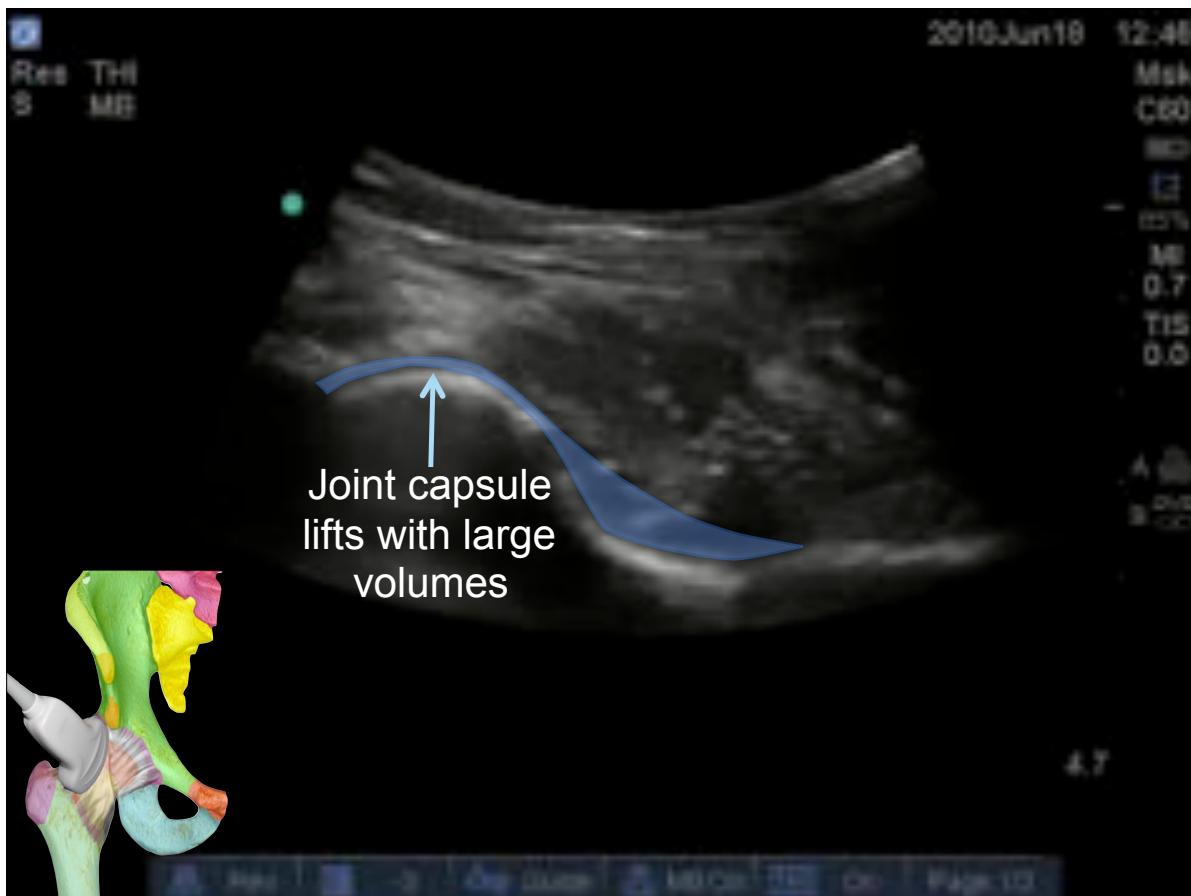


Needle Path



Joint Capsule





Iliopsoas tendon injection



Trochanteric Bursa Injection



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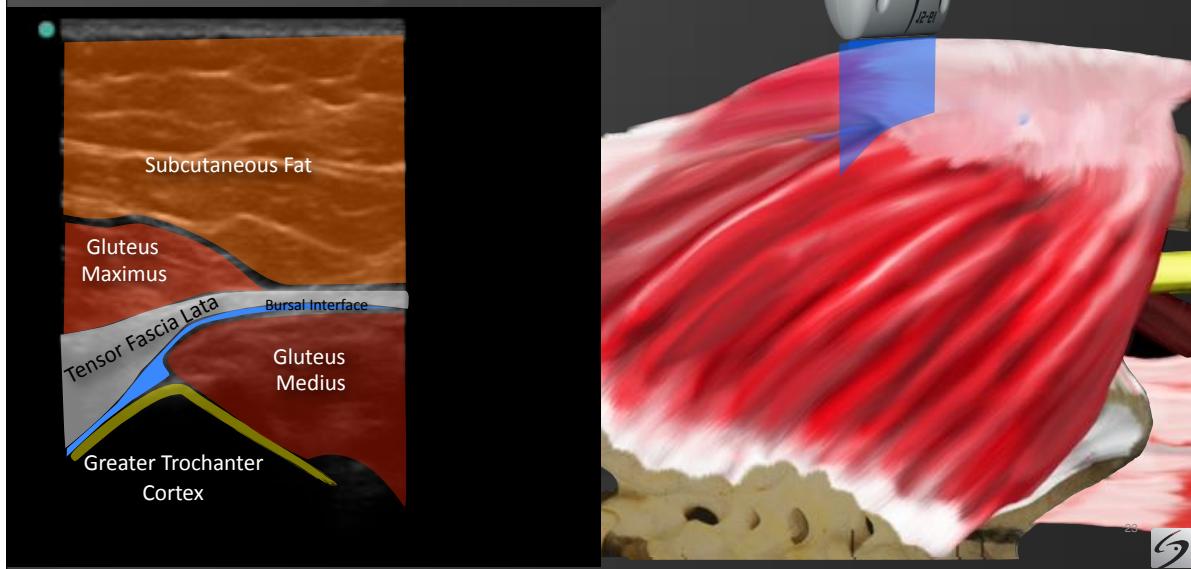


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Lateral Hip: Trochanteric Bursa Anatomy

- Greater Trochanter
- IT Band/Tensor Fascia Lata



Lateral Hip: Greater Trochanteric Bursa Injection

- linear or curvilinear transducers



Adductor tendons

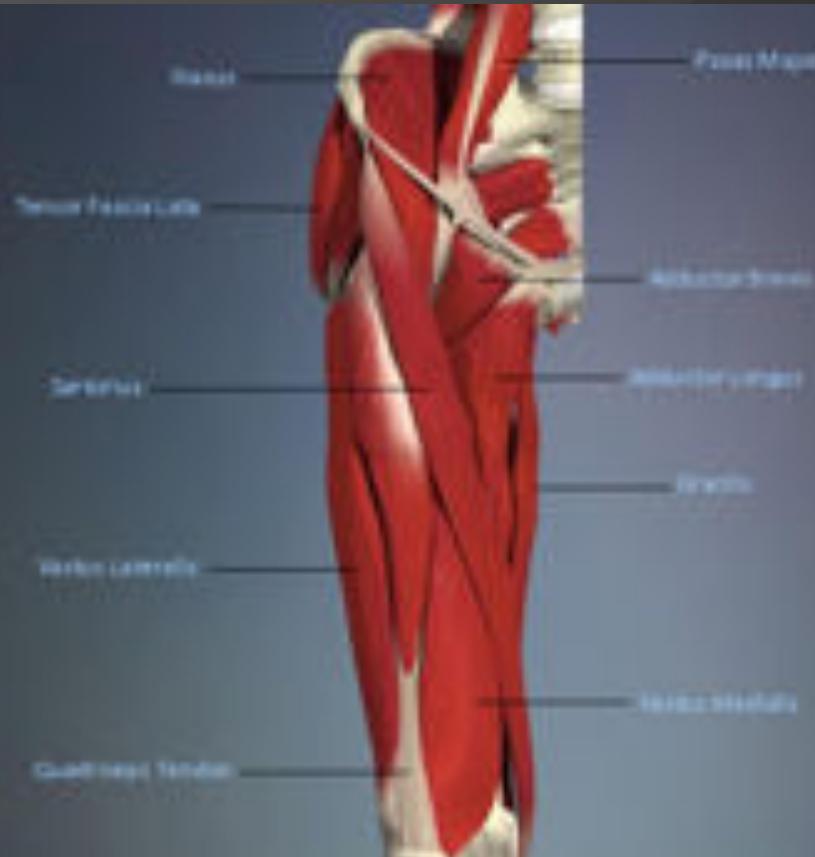
Adductor brevis

Adductor longus

Adductor magnus

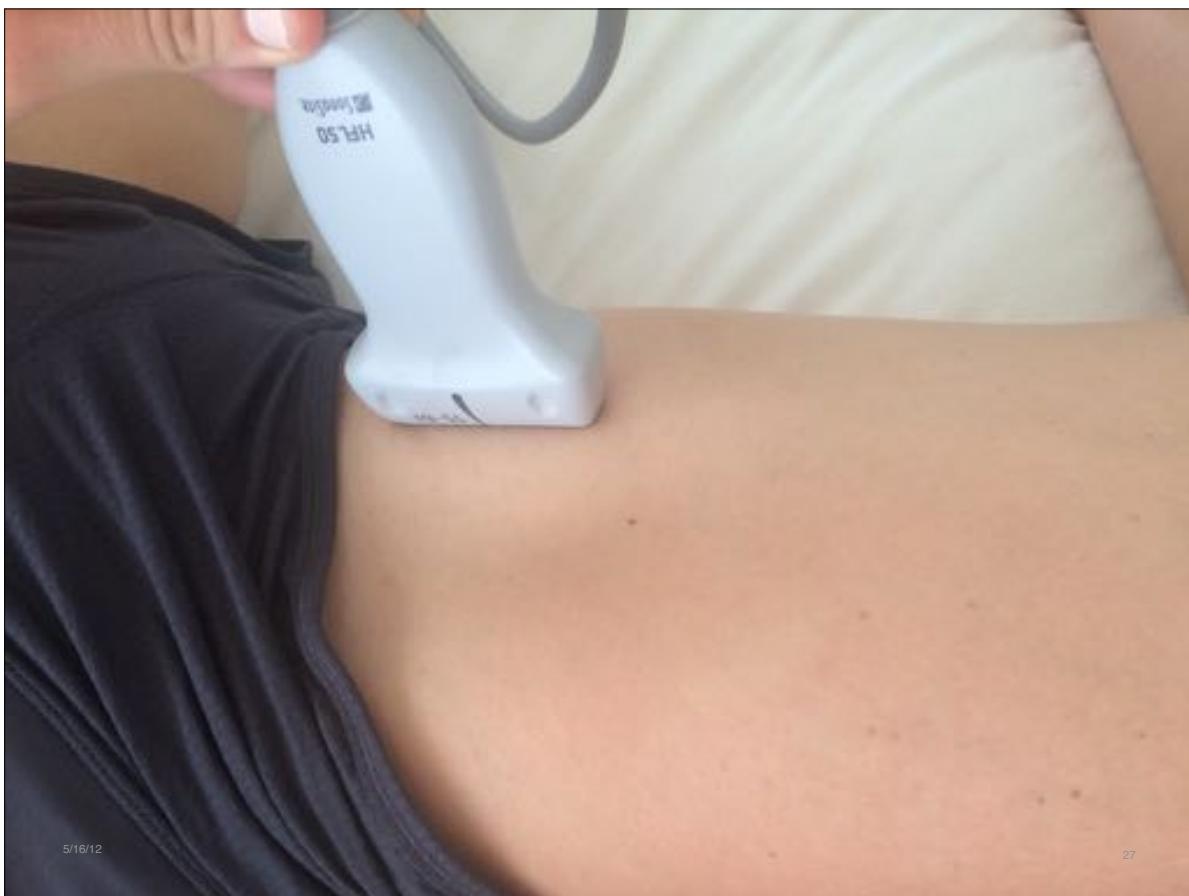
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Piriformis Injection

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Piriformis Injection Data:

Accuracy of Ultrasound-Guided Versus Fluoroscopically Guided Contrast-Controlled Piriformis Injections

A Cadaveric Study

Jonathan T. Finnoff, DO, Mark Friedrich B. Hurdle, MD, Jay Smith, MD

Objective. The purpose of this study was to compare the accuracy of ultrasound-injections with fluoroscopically guided contrast-controlled piriformis injections in a

Methods. Twenty piriformis muscles in 10 unembalmed cadavers were injected with both fluoroscopically guided contrast-controlled and US-guided injection techniques. Two different colors of liquid latex were performed by the same experienced individual. Two different colors of liquid latex were used to differentiate between the two injection techniques.

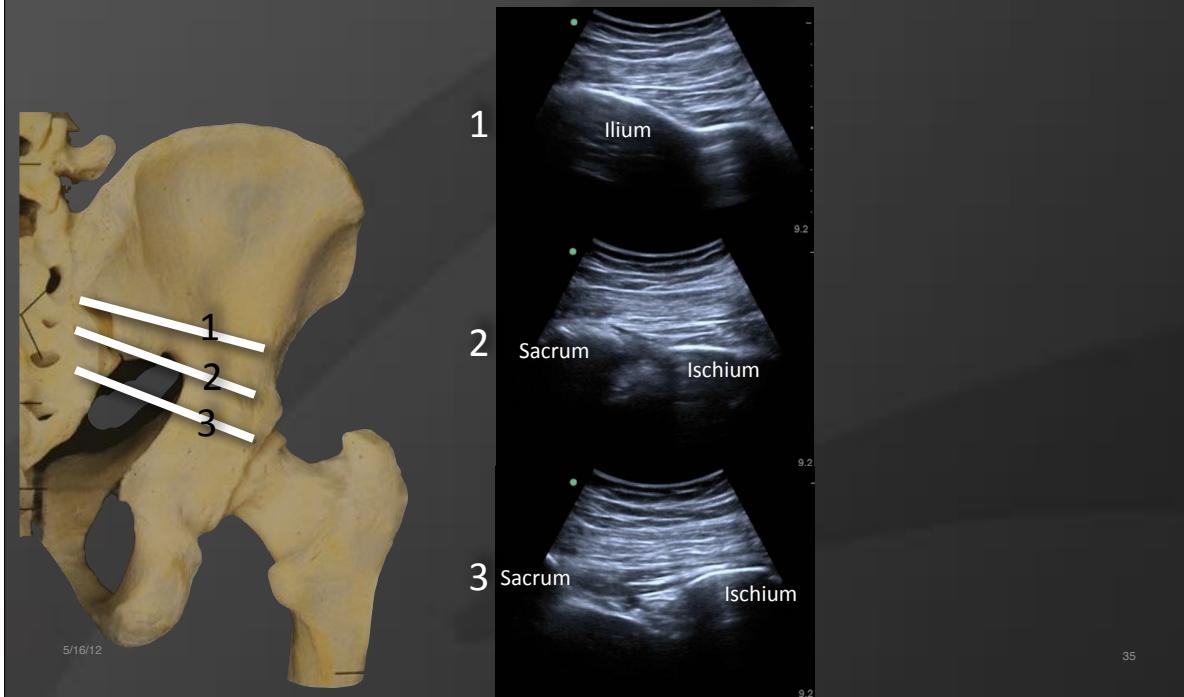
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Piriformis Injection Data:

- 10 Cadavers
- 20 Piriformis Muscles
- Injection into each muscle twice, there was no noticeable difference 30 minutes post injection
- Single interventionist: 5 yrs fluoro experience
 - 4 yrs ultrasound experience
- dissection post injection of liquid latex by 2 observers blinded of the injection techniques
- Only 30% of fluoroscopically placed injections were accurate, compared with 95% of ultrasound-guided injections.

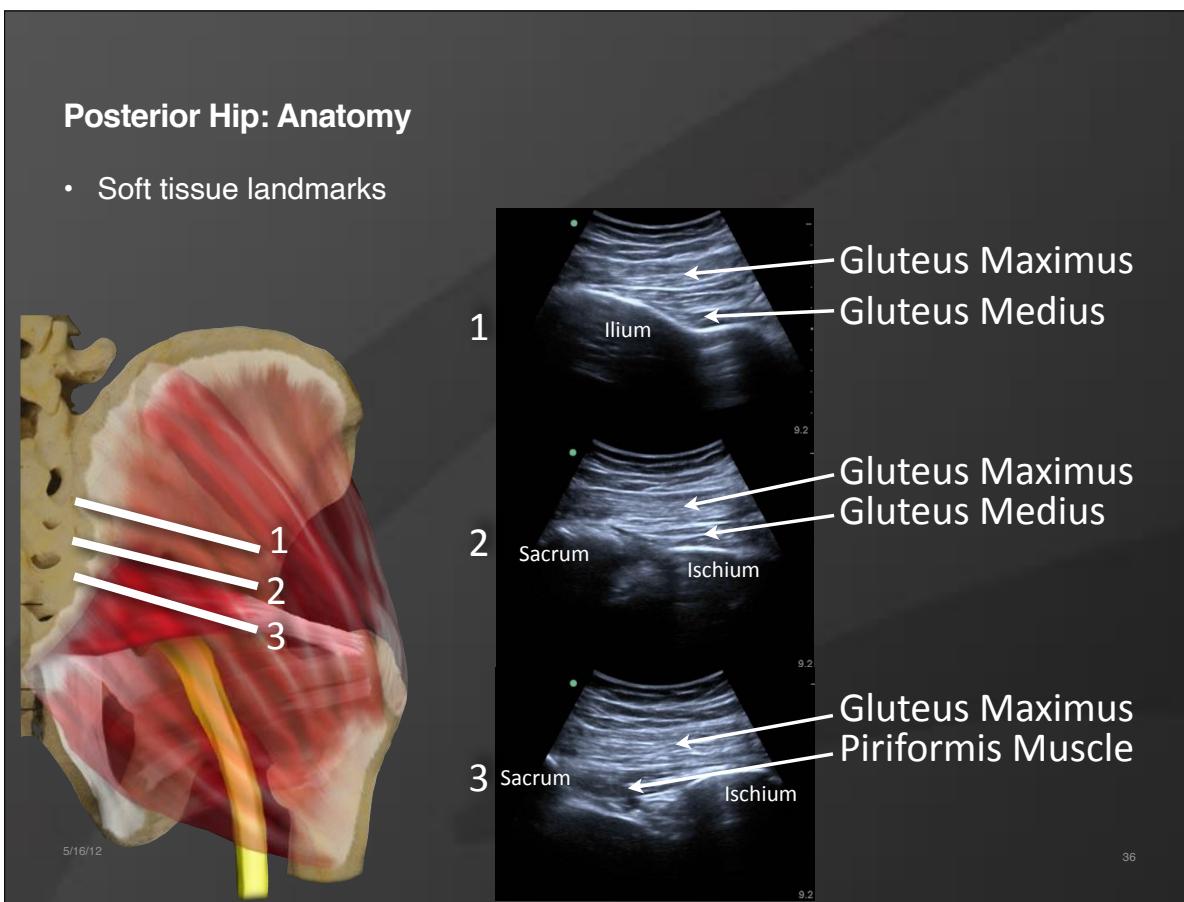
Posterior Hip: Anatomy

- Bony landmarks associated with the Piriformis



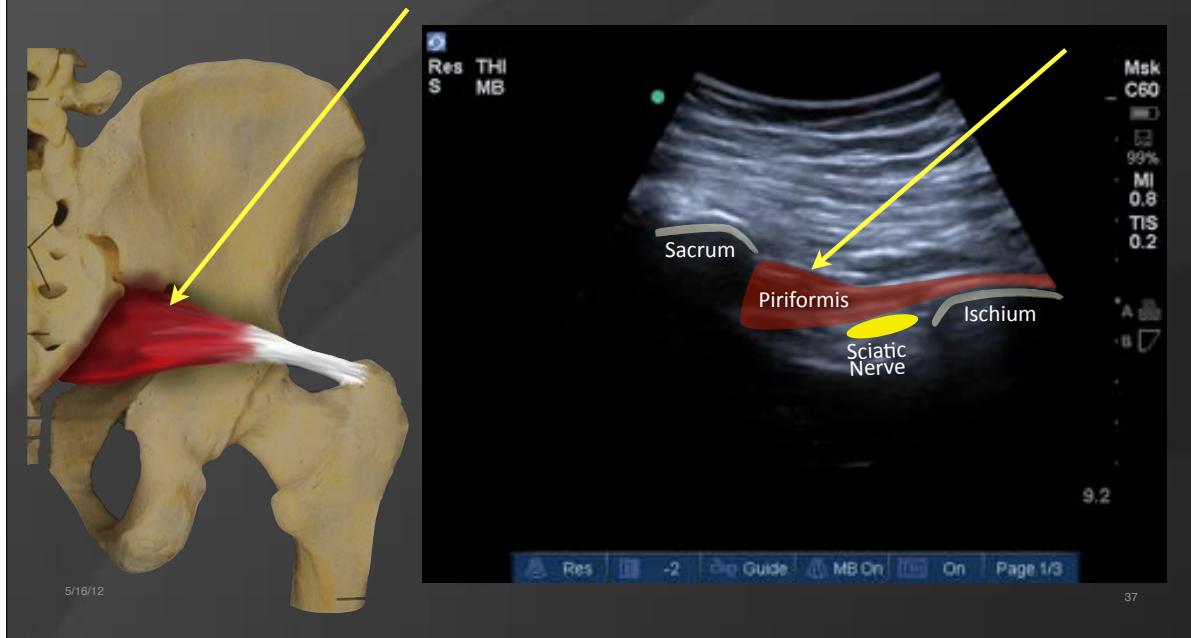
Posterior Hip: Anatomy

- Soft tissue landmarks



Piriformis Identification: Dynamic Maneuver

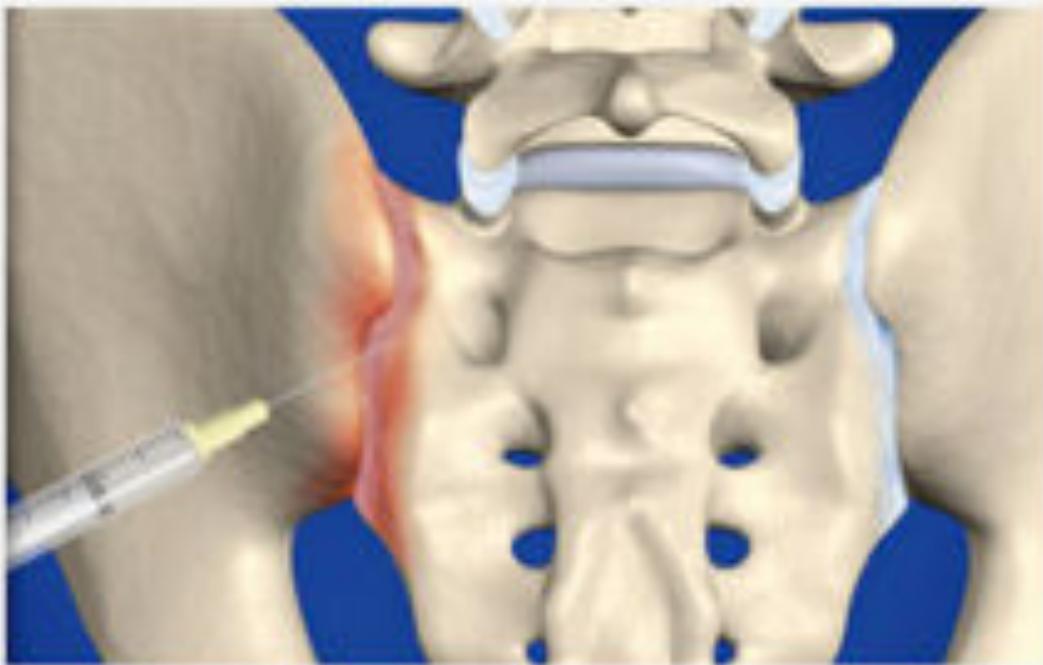
- External and internal rotations



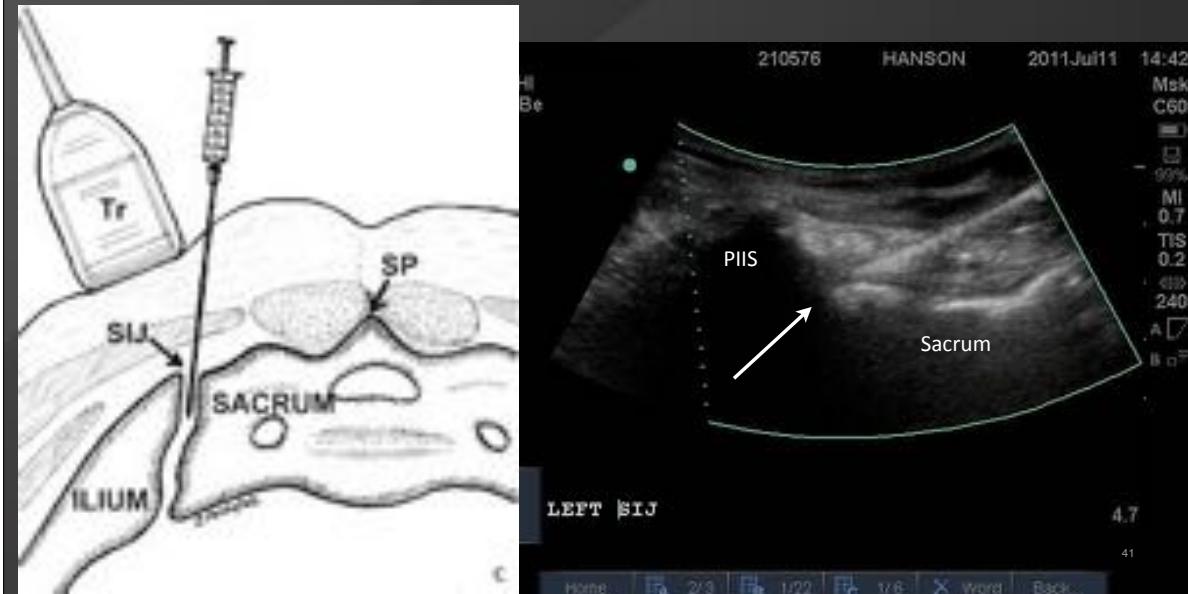
Sacroiliitis SI joint



SI joint injections



**Find PIIS - Superficial bell curved white line
Move probe caudally
Use spinal needle at steep angle starting at the gluteal cleft and aiming
the needle lateraly.**



Thank you



My Girls