



**Department of Radiology**  
UNIVERSITY OF WISCONSIN  
SCHOOL OF MEDICINE AND PUBLIC HEALTH

**Musculoskeletal Imaging and Intervention Section Procedures**  
Piriformis Corticosteroid Injection

**PREAMBLE**

- The typical indication for a piriformis injection is to treat ‘piriformis syndrome’, of which the main symptom is radicular-type pain within the posterior thigh and buttocks. The proposed etiology is irritation/entrapment of the sciatic nerve secondary to one of several pathologies of the piriformis muscle (e.g., trauma, inflammation, hypertrophy, etc.).
- Symptoms can be exacerbated by hip flexion.
- Often no abnormality is identified on MRI, although asymmetry of the piriformis muscles is suggestive of the diagnosis.

**RISKS**

- Bleeding
- Infection
- Pain
- Transient lower extremity numbness and/or weakness

**MODALITY**

- Ultrasound

**PRE-OPERATIVE WORKUP**

- Informed consent

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## **MATERIALS**

- Alcohol, ChloraPrep applicator, sterile drape
- 10 mL syringes for skin anesthetic and steroid/anesthetic mixture
- 1% lidocaine (for skin numbing); buffered with 8.4% sodium bicarbonate
- 1 mL triamcinolone acetonide (Kenalog 40 mg/mL)
- Ropivacaine HCL 0.5% (Naropin 5 mg/mL)
- 30G 0.5", 22G 1.5" & 22G 3.5" needles

## **TECHNIQUE**

1. The piriformis muscle originates on the anterior sacrum, courses through the greater sciatic foramen, and inserts on the greater trochanter of the femur.
2. The patient is positioned in the prone position, with the targeted hip in neutral rotation placed closest to the provider. A lateral-to-medial approach is used for needle entry with the transducer in an oblique-transverse plane, which is in long axis to the piriformis muscle. Perform doppler interrogation to avoid any small traversing vessels. Take note of where the sciatic nerve (visualized in short axis) is, typically deep to the piriformis muscle belly. Be aware of anatomic variants in which a portion of the sciatic nerve may pass through the muscle belly of the piriformis. Dynamic rotation of the hip under ultrasound may be performed to help characterize the borders of the piriformis. Mark the skin at the lateral aspect of the transducer.
3. Prep and drape as per usual and perform local anesthesia.
4. Guide a 22G 3.5" needle within the central piriformis muscle belly.
5. Inject 3 mL of a solution containing 1 mL Kenalog and 2 mL ropivacaine. Some providers may prefer to inject half of the mixture in the muscle belly, and the other half in the fascial plane between the piriformis and the overlying gluteus maximus.

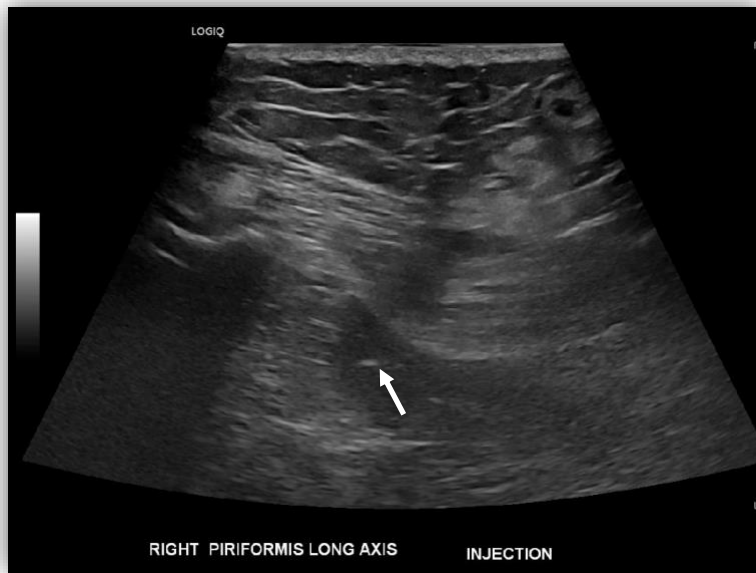
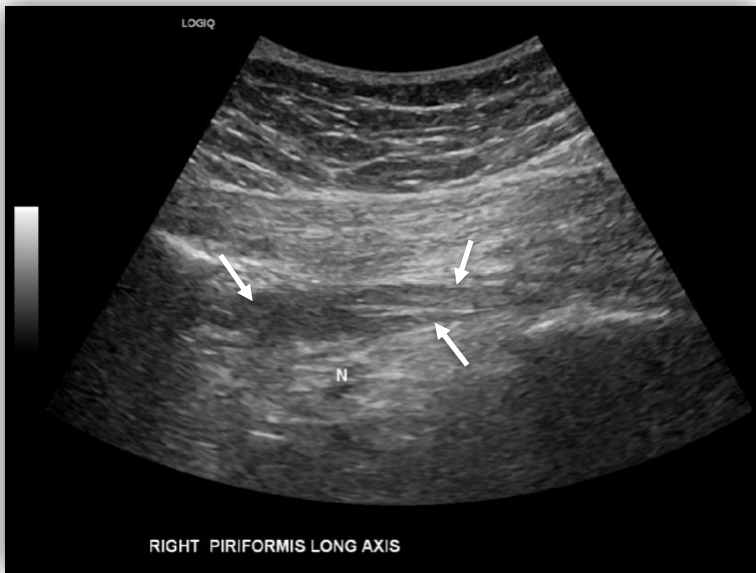


Fig 1. Long-axis US image of the right piriformis muscle (arrows). (N) denotes the sciatic nerve.

Fig 2. Long-axis US image demonstrating proper needle tip positioning (arrow) within the belly of the piriformis muscle.

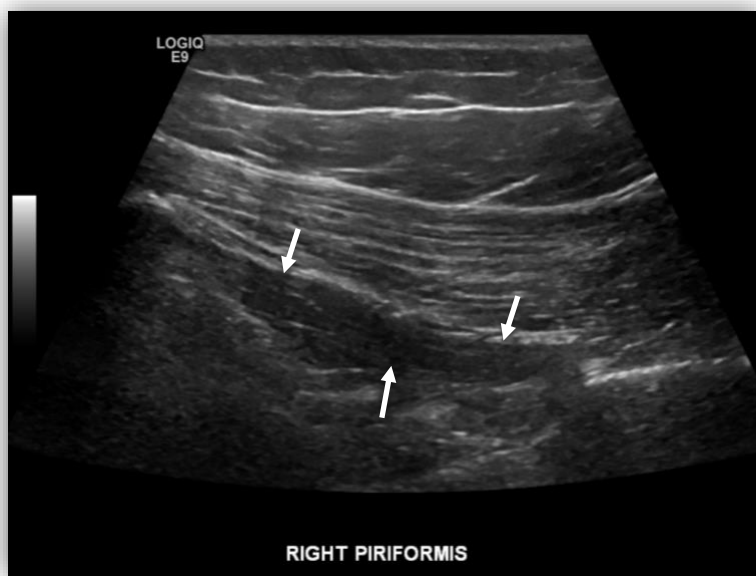


Fig 3. Long-axis US image following injection of the piriformis muscle. Needle tip remains in position surrounded by the corticosteroid mixture and a small amount of gas that was present in the syringe.

Fig 4. Additional example of the right piriformis muscle (arrows) prior to injection.

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Fig 5. Long-axis US image demonstrating proper needle tip positioning within the belly of the piriformis muscle.

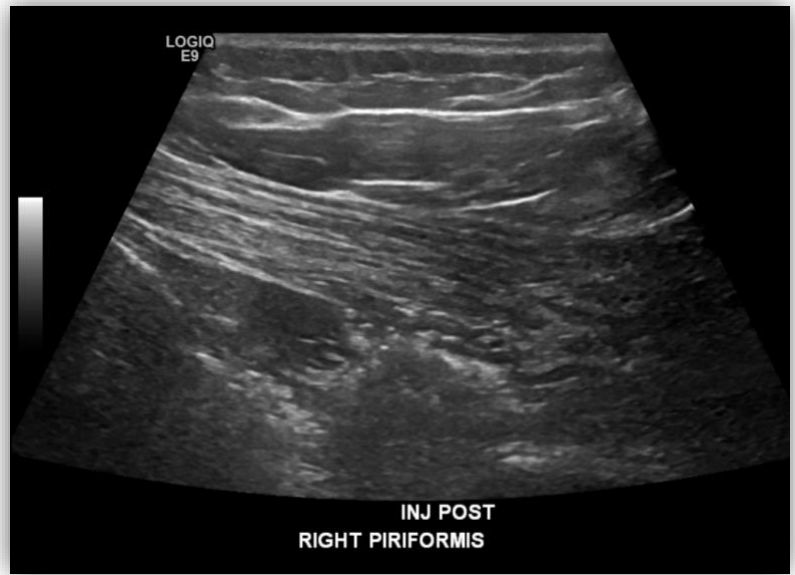


Fig 6. Long-axis US image following injection of the piriformis muscle. Needle tip remains in position surrounded by the corticosteroid mixture and a small amount of gas that was present in the syringe.



