Proximal Lower Extremity
Sciatic, Femoral, Obturator, Lateral Femoral Cutaneous
Wisconsin Society of Anesthesia
8-9 September 2018
Ashleigh E Dixon, MD
University of New Mexico
Christopher Anderson, MD
Medical College of Wisconsin

Sciatic
- Innervates posterior upper leg and most of the lower leg.
- Nerve splits into tibial and common peroneal components in or near the popliteal fossa.
- The nerve can be traced from distal to proximal (popliteal fossa to just distal of gluteal muscles).
- Posterior patient positioning:
  - Patient is lateral decubitus with surgical side up.
  - Surgical leg has slight bend at knee.
Sciatic Nerve Scanning

- Keep dot in upper left corner
- Have dot oriented laterally on the patient’s leg in the popliteal fossa
- Initial image is similar to popliteal nerve block
- Move the probe proximally keeping the sciatic nerve as the focus of the probe.
- You may need to adjust the axis cephalad or caudad due to the nerve’s anisotropic properties (it does not follow a completely straight course).
- The best ultrasound image is obtained when the nerve is perpendicular to the transducer.
- You will likely need to increase the depth in the mid-thigh.
- Often, the sciatic nerve will become more shallow as it approaches the gluteal muscles.
Femoral and Obturator

- **Positioning**
  - Patient supine, head down.
  - Remove pannus from inguinal crease as needed
  - Dot upper left
  - Dot on probe lateral
  - This allows one to place the needle laterally to medially and avoid the vessels

- **Femoral**
  - Palpate femoral pulse and place probe, look for femoral artery, vein and nerve will be lateral
  - Femoral nerve innervates majority of anterior upper leg, part of medial lower leg via saphenous nerve.
Femoral

- Innervates anterior thigh
- Lateral to vascular bundle in inguinal crease

Images copyright ASRA. All rights reserved.
Femoral Nerve Block

Obturator nerve: Follow inguinal crease medially until pectineus, adductor longus, brevis, and magnus are visible.

Obturator nerve:
- Anterior branch innervates the hip
- Posterior branch innervates the knee
Lateral Femoral Cutaneous Nerve

- Sensory only of lateral thigh, distribution is variable
- Can help cover port sites in arthroscopic knee procedures
- Patient positioning
  - Same as femoral and obturator blocks
- Ultrasound
  - Scan along inguinal crease laterally from femoral neurovascular bundle
  - Probe should be inferior to ASIS when in correct spot
  - Nerve usually in fascia between fat pad anterior to sartorius muscle and tensor fascia lata