

Popliteal block

Equipment:

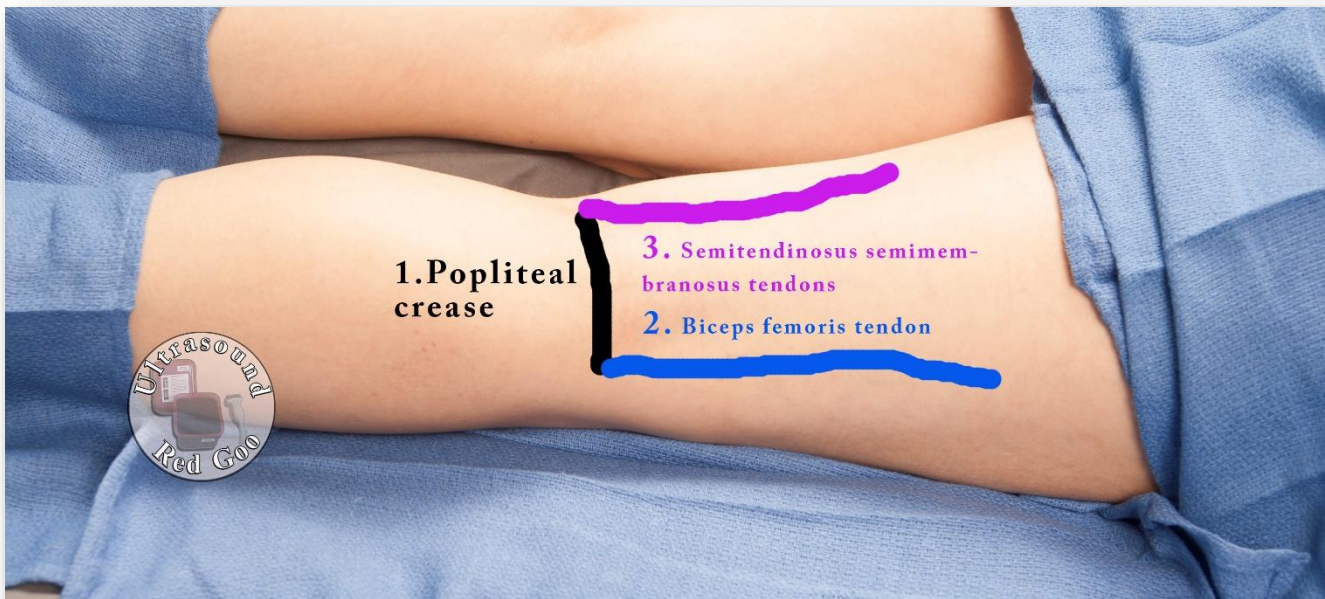
Nerve stimulator
Stimulation needle 50 mm
20-40 mL local anesthetic
Local for skin
+/- Ultrasound machine
Probe cover or large tegaderm
Skin marker for OTO as well as landmark technique

Landmarks

The popliteal crease
The biceps femoris tendon (lateral structure)
The semitendinosus semimembranosus muscles (medial structure)

Landmark technique

Locate the femoral crease
Locate the biceps femoris tendon (lateral) and semimembranosus tendon (medial) and mark them
At the midpoint 7cm cephalad is the needle entry point
Advance the needle straight back to elicit a sciatic twitch in the foot
Local stimulation should not be felt
If initial failure occurs reenter skin 1 cm laterally



Key for picture

1. Popliteal crease
2. Biceps Femoris tendon
3. Semitendinosus semimembranosus tendons

Popliteal block Ultrasound guidance

Place the probe in the femoral crease

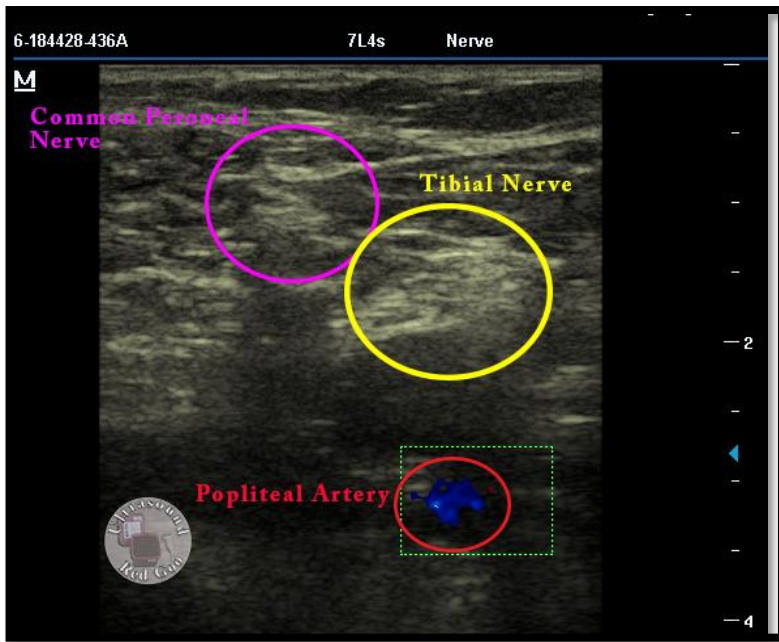
Locate the popliteal artery

Lateral to the artery you will see two hyper echoic structures

To the lateral lies the common peroneal nerve and medial is the tibial nerve

Trace these two structures cephalad until they become one

Enter with the needle lateral to the probe in-plane



Consider the location of the notch on the probe

Elicit a sciatic twitch

When the twitch is adequate inject local as desired

Always aspirate every 5 mL prior to injection

Quick tip

If a hypoechoic structure is encountered press quickly on the calf to test for a venous wave. The popliteal vein is at a very low flow state here and may be difficult to visualize. This is demonstrated by the poor reflection of color flow

The sonogram at the patellar crease



Sciatic nerve approx. 7cm cephalad to crease

Notes

1. Common peroneal nerve stimulation results in dorsiflexion and eversion of the foot
2. Tibial stimulation results in plantar flexion and inversion of the foot
3. Best to get the tibial response
4. Dorsiflexion is up and plantar flexion is down
5. Eversion is bending the ankle lateral
6. Inversion is bending the ankle medial
7. Plantar flexion is considered the popliteal response