

## Sub gluteal Sciatic Block

Scanning proximally up the thigh the nerve is located deep to the belly of biceps femoris. It often changes shape in the thigh typically being rounded or triangular in the proximal thigh, elongated oval or even ribbon like in the mid thigh and round in the distal thigh and popliteal fossa.

There is large variation in the quality of sonographic images in the mid to upper thigh, in general the sciatic nerve is better imaged in the younger and thinner patient. The most reliable technique is to find the nerve in the popliteal fossa and follow it proximally.

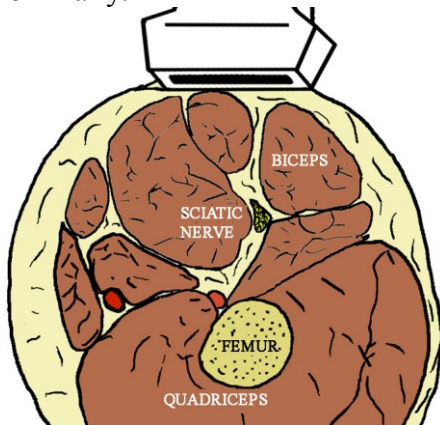


Fig 3.23 Diagram of the mid thigh showing relations of sciatic nerve

Gel is applied to the posterior thigh, the probe placed in the popliteal fossa and the nerve identified. The probe is then moved proximally up the posterior thigh keeping the nerve in view. The nerve is located in the lateral side of the thigh at all levels.

The probe should be angulated back and forth to maintain an optimal view of the nerve exploiting anisotropy to identify it. In some patients picture quality is poor however this a reliable way of identifying the nerve. The nerve is often defined better sonographically after some local anaesthetic is deposited around it. The nerve may be blocked at any level.

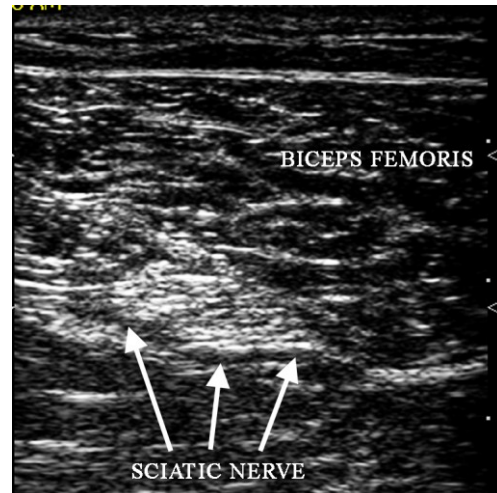


Fig 3.24 Sonogram of the sciatic nerve in the mid thigh, note the intermediate shape

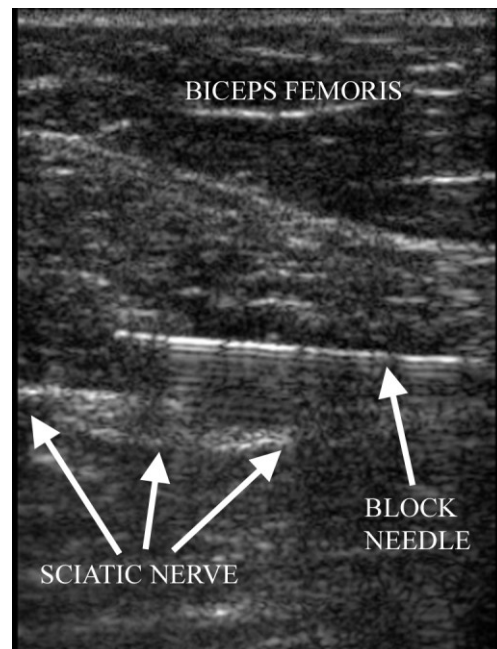


Fig 3.25 Sonogram of sciatic block in mid thigh, in plane perpendicular approach. Note the flattened ribbon like sciatic nerve in this subject.

Blocks in the mid thigh often come on faster than blocks at the popliteal fossa, possibly because the nerve is more ribbon like with shorter diffusion distance for the local anaesthetic or because of lower connective tissue content.

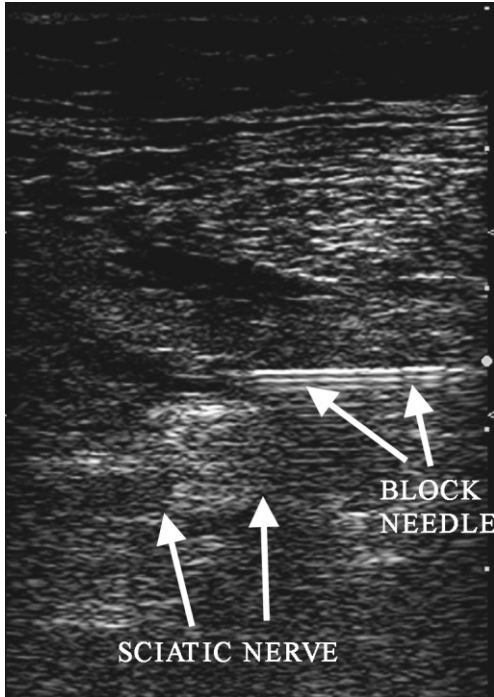


Fig 3.26 sciatic nerve mid thigh, note rounded shape

To perform the perpendicular in plane approach the optimum position of the block is first determined. This will depend on the level of surgery, the ability to image the nerve proximally in the thigh and the shape of the nerve (The preference is to block where the nerve is thinned to improve onset).

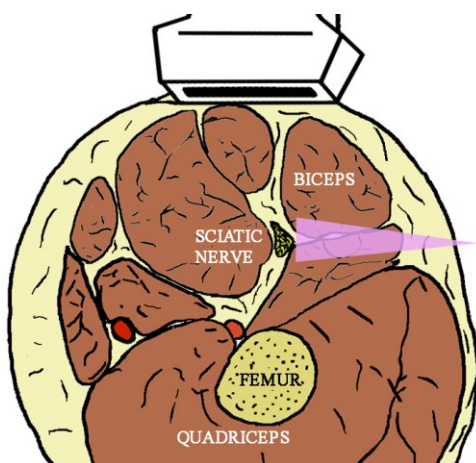


Fig 3.27 Diagram of the subgluteal sciatic block in plane perpendicular approach. (needle course in purple)

It is important to have all needed equipment ready to use as the ultrasound probe should not be moved, apart from small angulations to find the needle, so that the nerve position is not lost. After the skin is cleaned and local anaesthetic injected a 100 mm 21g needle is passed carefully aligning it with the ultrasound probe. The insertion point is determined, in line with the probe, 5 to 6 cm around the curve of the thigh to bring the needle to the nerve perpendicular to the beam.



Fig 3.28 Needle and probe position for sciatic block in the thigh. Perpendicular in plane approach

After identifying the needle it is passed under vision deep and superficial to the nerve to complete the block with 15- 20 ml of 0.75% to 1% ropivacaine.

In describing this ultrasound guided procedure it has been assumed that attention has been paid to appropriate location, personnel, sterility, preparation, doses and technique necessary for the safe conduct of major nerve blocks and other procedures. These medical procedures should not be attempted without suitable qualifications

### Acknowledgements

Thanks go to the Ecole Polytechnique Federale de Lausanne for the excellent

**Ultrasound Guided Procedures in Anaesthesia**

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[www.heartweb.com.au](http://www.heartweb.com.au)

anatomical slices that can be obtained from  
the data set of the Visible Human Project  
via their website at

<http://visiblehuman.epfl.ch/>