

Femoral Block

The femoral nerve lies lateral to the femoral artery at the level of the inguinal canal (above the pubic tubercle). A layer of fascia is said to lie between artery and nerve although this is hard to appreciate on ultrasound. The nerve is usually well seen; it contains many fascicles and is identified both by its position and anisotropic nature.

The femoral artery is initially imaged in the groin, above the skin crease and followed proximally to the level of the inguinal ligament where it emerges from deep in the pelvis. The less rounded and more compressible femoral vein is medial to the artery. If the ultrasound examination is started around the groin skin crease the profunda femoral artery is sometimes seen deep to the femoral artery. At this level the nerve has started branching into its anterior and posterior divisions and may be difficult to see.

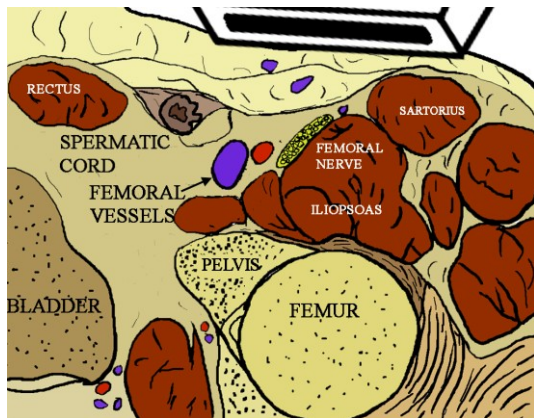


Fig 3.1 Diagram of a transverse section through the level of the inguinal ligament showing the relative location of femoral nerve and vessels.

Follow the artery proximally until one vessel is seen. The nerve lies immediately laterally on the belly of the iliopsoas muscle and is often fascicular and elliptical in cross section.

There is prominent anisotropy which helps locate the nerve. Sometimes bright

enhancement artefact deep to the vessels may appear similar to a nerve. The nerve may be approached either in plane or across plane. Although the nerve is relatively superficial and there are no deep structures of consequence, a perpendicular approach is recommended as it separates the probe from the needle insertion point and enables better needle visualisation.

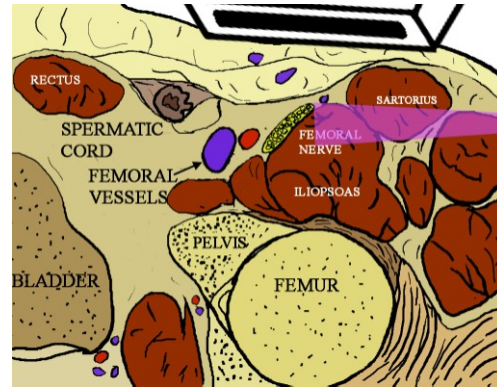


Fig 3.2 Diagram showing ultrasound probe position with needle course in purple, for perpendicular in plane femoral nerve block.



Fig 3.3 Needle and probe position for perpendicular in plane femoral block

After skin preparation and local anaesthesia a 100mm needle is inserted laterally in line with the ultrasound probe and around the edge of the proximal thigh 3 to 4 cm from the probe. The needle is passed medially until it is seen in the ultrasound beam as a perpendicular bright bar.

Ultrasound Guided Procedures in Anaesthesia

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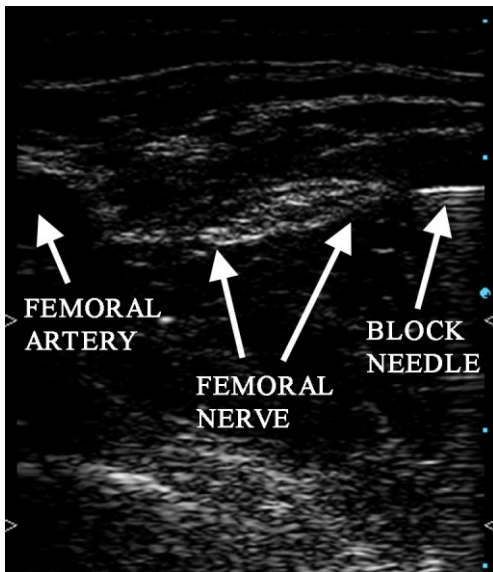


Fig 3.4 Sonogram of in plane perpendicular approach to the femoral nerve.

Under vision the needle is guided both superficial and deep to the nerve and a total of 10 to 20 mls of 0.75 to 1% ropivacaine injected.

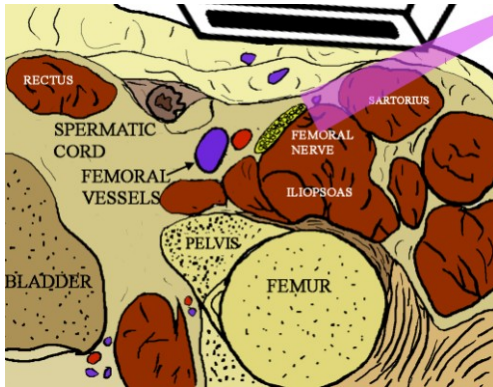


Fig 3.5 Diagram showing ultrasound probe position with needle course in purple for alternative in plane femoral nerve block.

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

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