

Radial nerve block

The superficial branch of the radial nerve does not contain any motor innervation and is difficult to find with a nerve stimulator. Fortunately it is reliably found with ultrasound and relatively simple to block. The nerve is found in the muscle plane under brachioradialis in the proximal forearm where it usually accompanied by a visible artery.

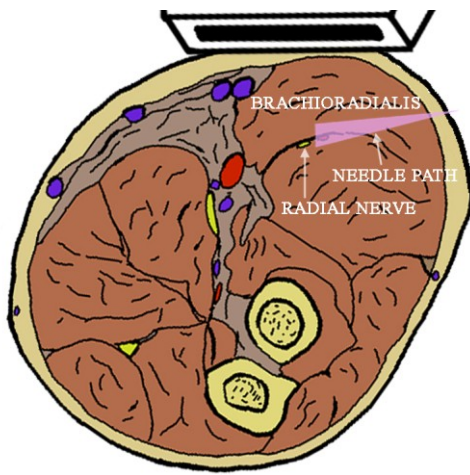


Fig 2.48 Diagram showing perpendicular approach to radial nerve block below the elbow

Starting with the probe transversely in the cubital fossa the brachial artery is identified. Moving laterally the belly of brachioradialis is seen superficially and deep to this a fascial plane running perpendicular to the ultrasound beam. This is the location of the nerve which is usually flattened in short axis and accompanied by a vessel. A 50mm needle is introduced from either side to come in perpendicular and positioned in the fascial plane adjacent to the nerve. 5 to 7 ml of 0.75% to 1% ropivacaine or 2% lignocaine with adrenaline spreads widely in the plane if positioned correctly



Fig 2.49 Probe and needle position for lateral perpendicular in plane approach to the radial nerve under brachioradialis

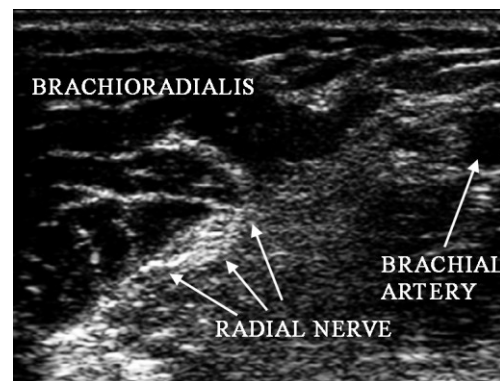


Fig 2.50 Sonogram of radial nerve at the cubital fossa



Fig 2.51 Sonogram of radial nerve block at the cubital fossa. Medial approach

The radial nerve may also be followed proximally into the arm where it lies between brachialis and extensor carpi radialis longus (ECRL), or triceps. It may have some motor fibres at this level and produce contraction with a nerve

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stimulator. It may be blocked at this level using an in plane technique as in the cubital fossa.

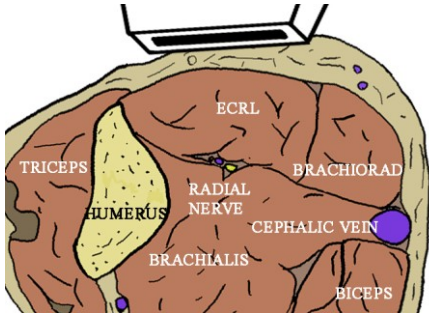


Fig 2.52 The anatomy of the radial nerve in the distal arm, note the position between muscle bellies.

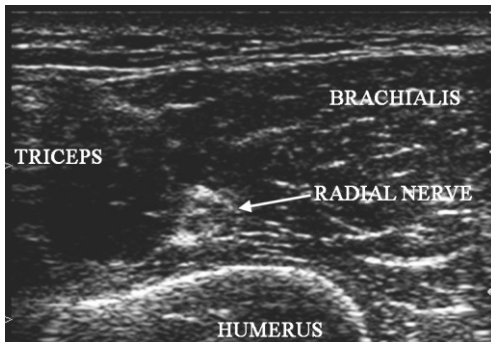


Fig 2.53 Radial nerve between muscle planes in the distal arm, distally between brachialis and ECRL, more proximally between brachialis and triceps.



Fig 2.54 Needle and hand position for block of the radial nerve distal to the radial groove of the humerus. In plane perpendicular approach.

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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