

Ulnar nerve

The ulnar nerve may be blocked either above or below the elbow. To perform the block above the elbow the arm is abducted and externally rotated.

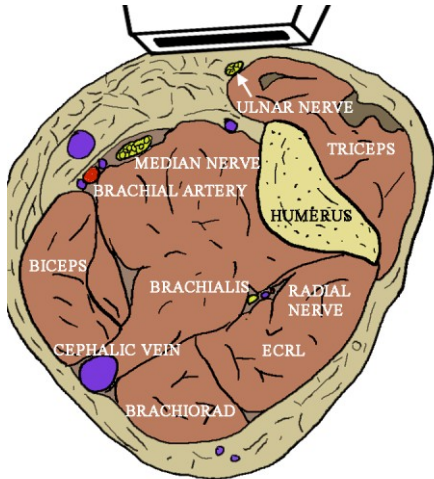


Fig 2.34 Diagram of the arm above the elbow at the level of ulnar block. Note the tendon within triceps (in brown) which may be mistaken for the nerve.

The ultrasound probe is placed transversely on the medial arm over the ulnar groove of the humerus. Moving the ultrasound probe proximally up the arm the ulnar nerve is seen superficially and lying on the belly of triceps. It exhibits a typical fascicular appearance and is usually rounded. The nerve can be followed down to the ulnar groove where it is directly related to the humerus. The triceps muscle has a tendon within its belly that resembles a nerve and may be mistaken for it. The nerve is more superficial, additionally if the tendon is followed proximally it loses the nerve like appearance.



Fig 2.35 Needle and probe position for ulnar nerve block proximal to elbow, perpendicular in plane approach



Fig 2.36 Transverse sonogram of ulnar nerve above the elbow, note the similarity to triceps tendon

The superficial position of the ulnar nerve in the arm is often not fully appreciated until it is imaged with ultrasound. The block may be performed with a 50mm needle using a perpendicular approach from the medial side, or an across plane approach. The needle is positioned alternately deep and superficial to the nerve and 5 to 7 ml of 0.75% to 1% ropivacaine or 2% lignocaine with adrenaline injected.

To perform ulnar block in the forearm the ultrasound probe is placed transversely on the medial forearm with the hand externally rotated, the arm by the side and externally rotated.

Ultrasound Guided Procedures in Anaesthesia

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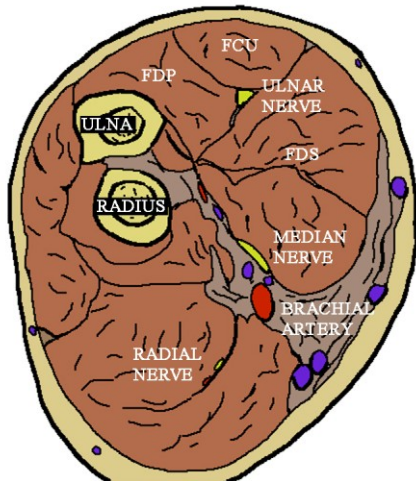


Fig 2.37 Diagram of the proximal forearm orientated for ulnar nerve block. Note the ulnar nerve at the centre of a “Y” made by FCU, FDP and FDS.

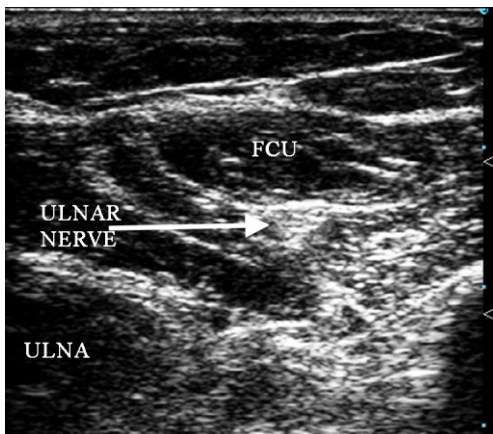


Fig 2.38 Ulnar nerve in the proximal forearm

Start at the ulnar groove of the humerus and then move distally and medial to the subcutaneous border of the ulna. The nerve is seen to lie in a prominent and easily located triangular junction between flexor carpi ulnaris (FCU), flexor digitorum profundus (FDP), and flexor digitorum superficialis (FDS)

The muscle belly sitting within the arms of the “Y” made by the fascial planes is the flexor carpi ulnaris which overlies the nerve.

Using a perpendicular approach from the medial side and a 50mm needle, 5 to 7 ml of 0.75% to 1% ropivacaine or 2% lignocaine with adrenaline is infiltrated into the plane of the nerve

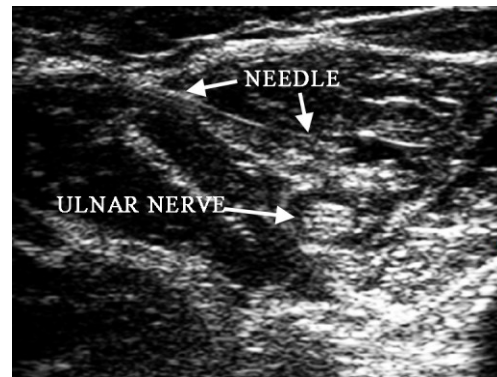


Fig 2.39 The same subject as Fig 2.30 after the conclusion of the block. Note local anaesthetic around nerve. There are some bubbles between the nerve and needle tip



Fig 2.40 Needle and probe position for ulnar block in forearm, perpendicular in plane 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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