



Clinical Practice Procedures: Drug administration/ Regional anaesthesia: digital block – finger

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Date	May, 2023
Purpose	To ensure a consistent procedural approach to digital nerve block – finger.
Scope	Applies to Queensland Ambulance Service (QAS) clinical staff.
Health care setting	Pre-hospital assessment and treatment.
Population	Applies to all ages unless stated otherwise.
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Author	Clinical Quality & Patient Safety Unit, QAS
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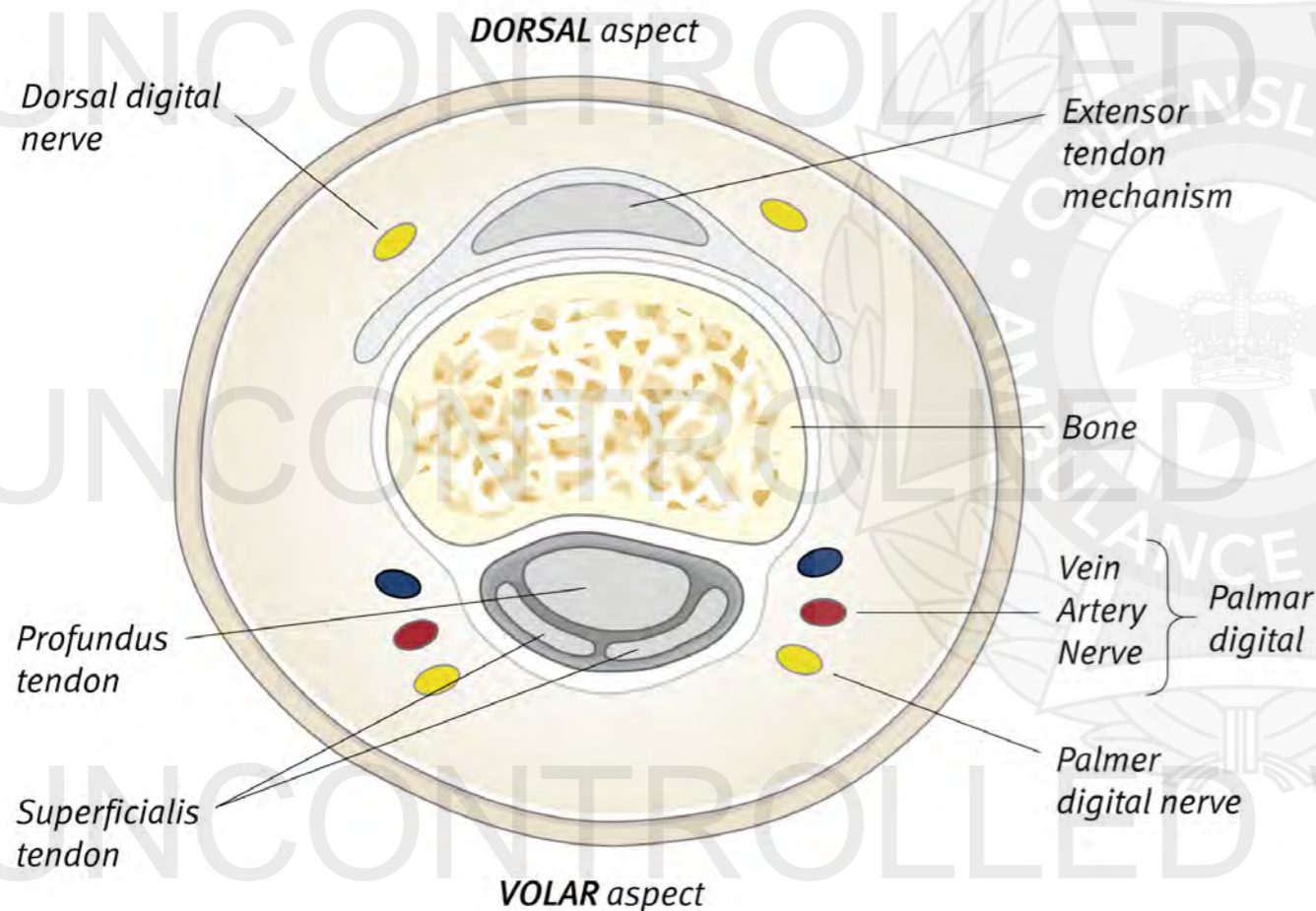
Regional anaesthesia: digital block – finger

May, 2023

Regional anaesthesia involves injection of local anaesthetic around the nerves that innervate a target area, at a site remote from the area of desired anaesthesia.^[1] Regional anaesthesia offers several advantages over direct infiltration. Smaller doses of anaesthetic agent are required, resultant anaesthesia is typically more complete, and tissues at the site of procedure or wound are not distorted by the volume of anaesthetic agent.^[1]

The digital nerve block is a relatively simple and common type of regional anaesthetic technique, providing anaesthesia to an individual finger or toe. The digits lend themselves well to regional anaesthesia, as the nerves which transmit pain sensation lie superficially, and injected local anaesthetic agent is able to readily diffuse through the subcutaneous tissues to reach and inactivate those nerves.^[2]

Digit cross section



Indications

- To facilitate painless repair of simple wounds distal to the metacarpophalangeal joint of a finger, where tendon/joint injury has been excluded.
- To facilitate removal of an uncomplicated foreign body, distal to the metacarpophalangeal joint of a finger (e.g. embedded fishhook).

Contraindications

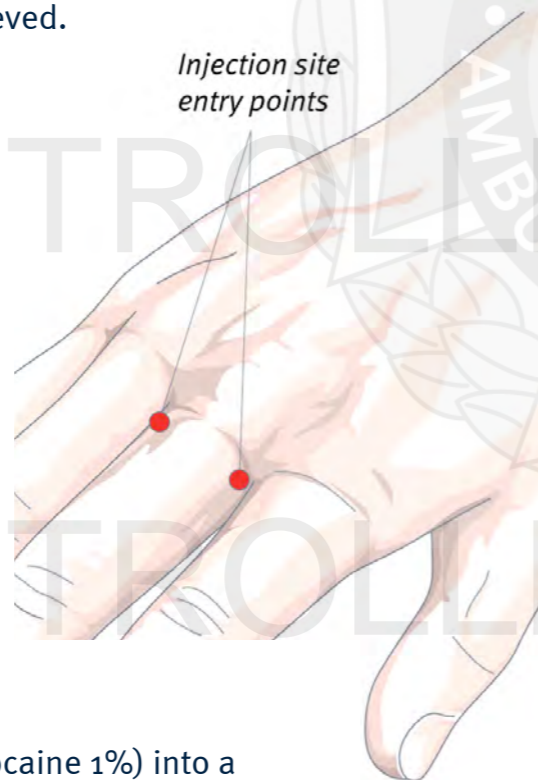
- Child less than 8 years of age
- Uncooperative patient
- Arterial or venous injection
- Allergy to local anaesthetic
- Overlying soft tissue infection at planned injection site

Complications

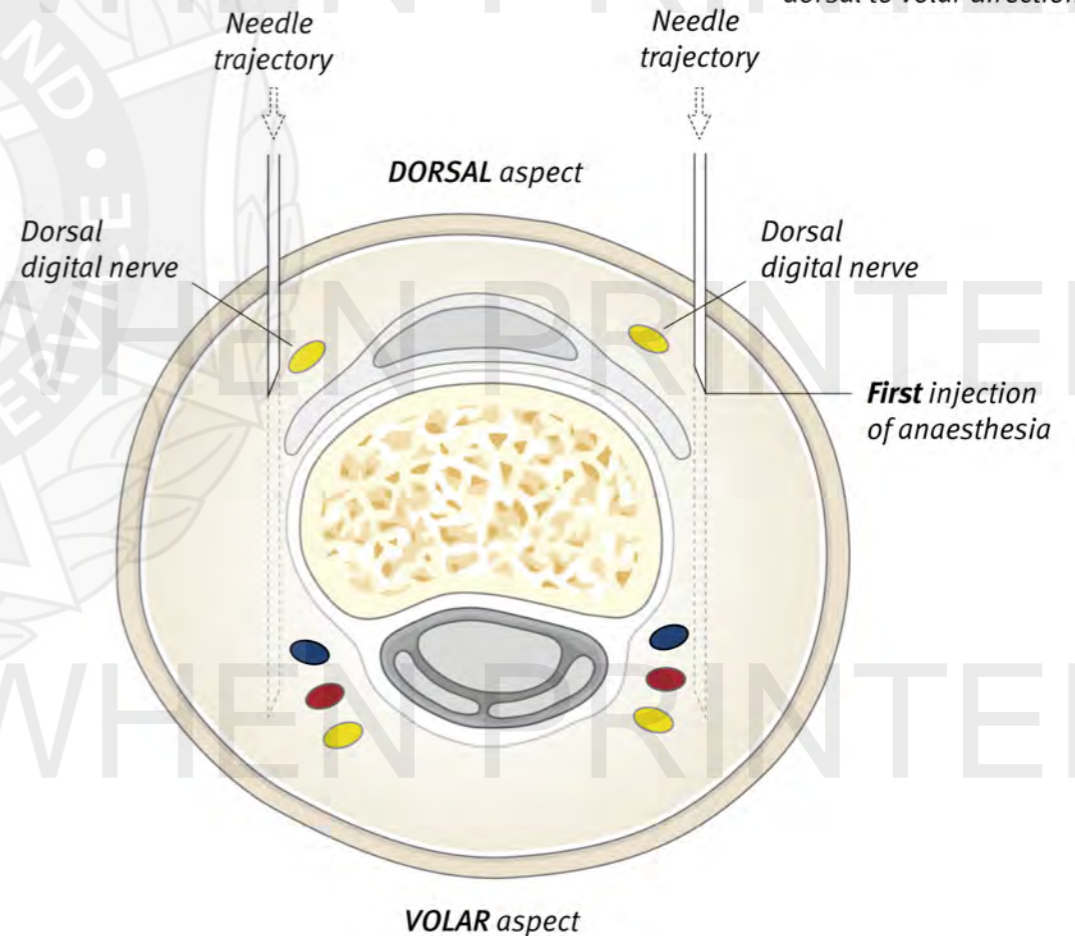
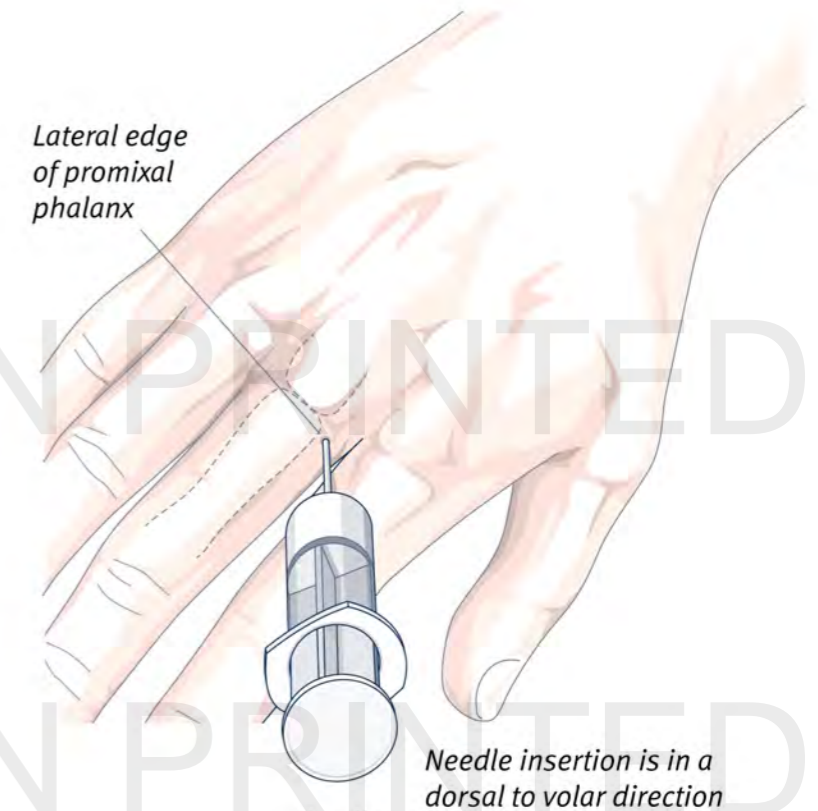
- Failure to achieve adequate anaesthesia
- Infection
- Damage to nerve bundle or blood vessels
- Allergic reaction to local anaesthetic

PROCEDURE

1. Assess and document sensation and capillary refill of the digit prior to anaesthesia. Specifically assess sensation on each side of the digit, that is, both radial and ulnar aspects.
2. Contact the *QAS Clinical Consultation and Advice Line* to confirm the suitability of regional anaesthesia.
3. Gain consent for the procedure. Warn the patient that the needle and anaesthetic agent will cause a degree of local pain before anaesthesia is achieved.
4. With the patient's hand resting palm downwards on a stable surface, identify the sites for injection. These are within the web space just distal to the knuckle, on either side of the proximal phalangeal bone.
5. Prepare the overlying skin with an appropriate antimicrobial swab and allow to dry completely.
6. Draw 5 mL of lidocaine 1% (lignocaine 1%) into a 5 mL syringe and attach a 25 G needle.

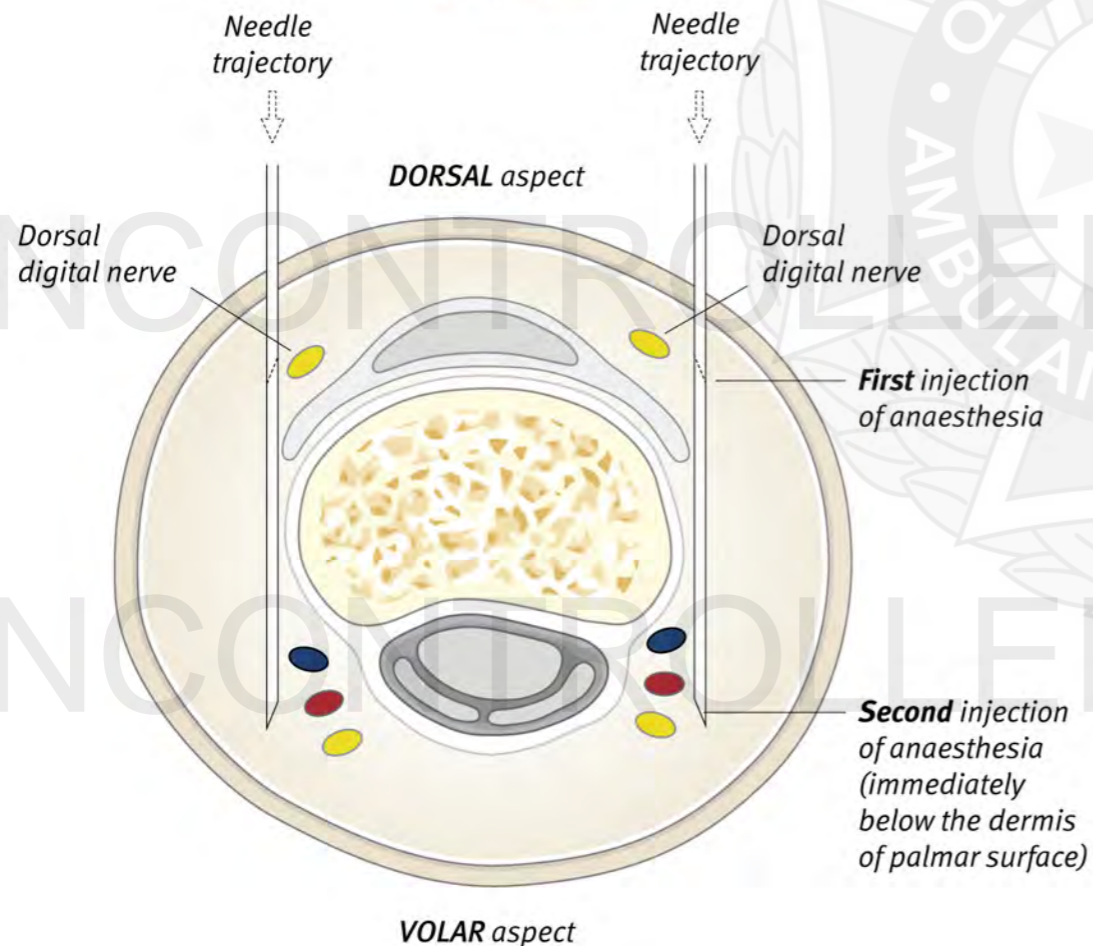
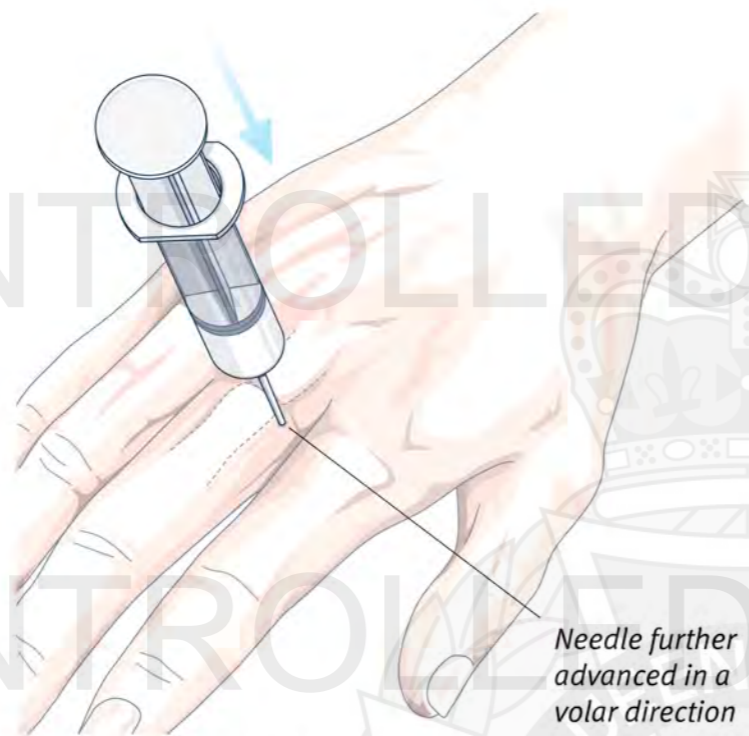


7. Direct the needle in a dorsal to volar direction through the skin, aiming to pass just beside the lateral edge of the proximal phalanx. Once the needle tip is subdermal, aspirate to exclude intravascular needle location and then inject 0.5 to 1 mL of anaesthetic solution.

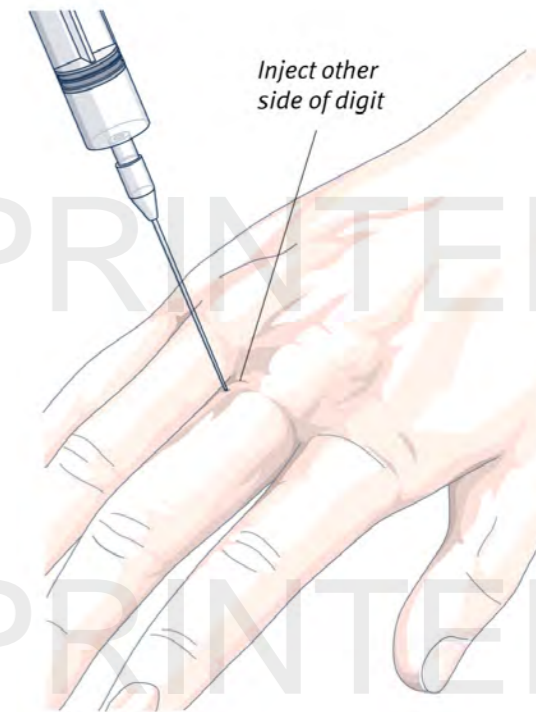


Procedure

8. After this initial dorsal subcutaneous injection, advance the needle further in a volar direction until the needle tip is estimated to lie immediately below the dermis of the palmar surface. After negative aspiration for blood, inject a further 0.5 to 1 mL of anaesthetic solution.



9. Withdraw the needle and repeat the injection process on the other side of the digit.



10. Safely dispose of the needle.
11. Assess the effectiveness of anaesthesia after 5 minutes. The block may be repeated once if anaesthesia has not been effectively achieved. If one half of the digit, that is, ulnar or radial has been effectively anaesthetised, a repeat injection is only required on the sensate side.
12. Advise the patient that the digit will remain insensate for up to several hours and to protect the hand until sensation has returned to normal, avoiding potential trauma or thermal injury to the insensate digit.

+ Additional information

- Inject the anaesthetic slowly to minimise pain and avoid inadvertent intravascular injection.
- If additional anaesthesia is required 5 minutes after initial injection, use a new needle, syringe and anaesthetic.
- Under no circumstances is a lidocaine (lignocaine) /adrenaline mix to be used for digital nerve block.