Clinical Practice Procedures: Drug administration/ Direct infiltration of local anaesthetic (LA)

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Date	July, 2022
Purpose	To ensure a consistent procedural approach to direct infiltration of local anaesthetic (LA).
Scope	Applies to Queensland Ambulance Service (QAS) clinical staff.
Health care setting	Pre-hospital assessment and treatment.
Population	Applies to all ages unless specifically mentioned.
Source of funding	Internal – 100%
Author	Clinical Quality & Patient Safety Unit, QAS
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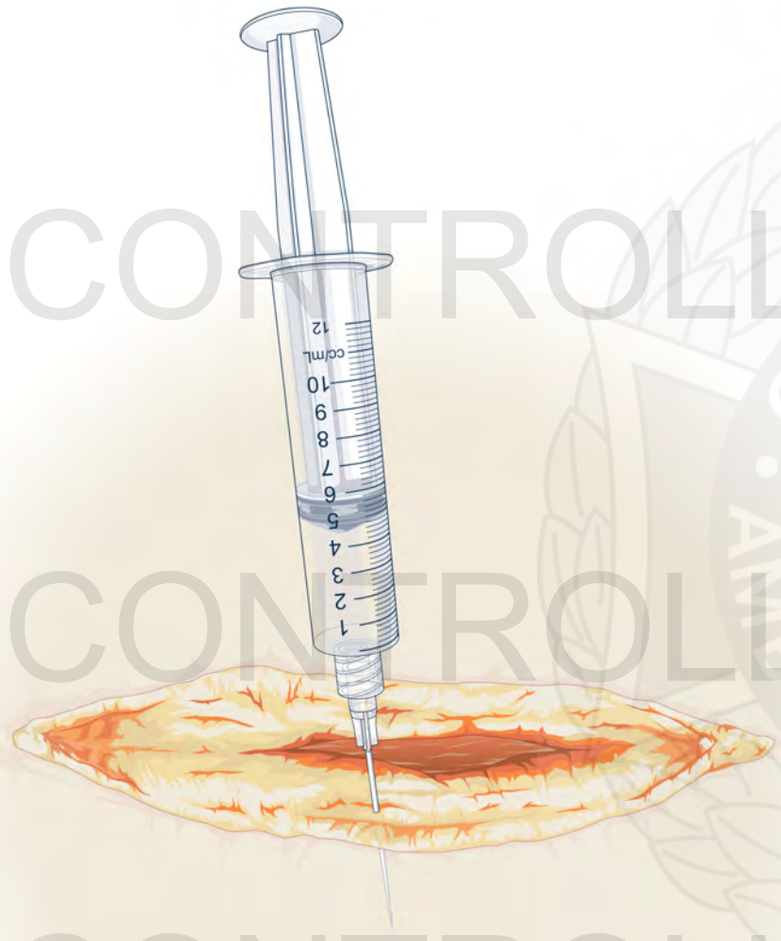
Direct infiltration of local anaesthetic (LA)

July, 2022

Direct infiltration of local anaesthetic involves injection of anaesthetic at the site of desired anaesthesia. This might involve injection along the edge of a wound to facilitate its repair, or within intact tissues to facilitate surgical incision in a conscious patient.[1]



Indications

- To enable suture closure of simple uncomplicated lacerations
- To facilitate a surgical incision (e.g. thoracostomy) in a conscious patient

Contraindications

- Child less than 8 years
- Unco-operative patient
- Adverse drug reaction to local anaesthetic
- Established infection overlying injection site (in the case of surgical incision)
- Potential involvement of bony, tendinous or neural structures
- Facial wounds

Complications

- Failure to achieve adequate anaesthesia
- Infection
- Damage to neurovascular structures
- Allergic reaction to LA
- Systemic local anaesthetic toxicity

1. Gain consent for the procedure and posture the patient comfortably.
2. Warn the patient that the needle and anaesthetic will cause a degree of pain, before anaesthesia is achieved.
3. Clean the wound and surrounding tissues with saline irrigation & gently wipe with moistened gauze. To facilitate an aseptic incision through intact tissues (e.g. thoracostomy), prepare the site with Betadine® antiseptic liquid spray.
4. Draw up 5 to 10 mL of lidocaine 1% (lignocaine 1%) in a 10 mL syringe, and attach a 25 G, 38 mm needle. The volume of anaesthetic required is dependent on wound size. Larger wounds in smaller patients require particularly careful consideration of the maximum safe dose (refer to *DTP: Lidocaine 1% (lignocaine 1%)*).
5. Additional volume may be required for deeper injections (e.g. thoracostomy), but wound repair requiring more than 10 mL of local anaesthetic should prompt consideration of referral to an Emergency Department.
6. After penetrating the skin, direct the needle within the subcutaneous tissues along the plane of the skin, in the direction of desired anaesthesia. For wound repair, this will typically be along the edge of the wound. For anaesthesia prior to surgical incision, this will be along the direction of planned incision, with additional injection into deeper tissues also necessary.
7. Aspirate to exclude intravascular needle location, and then inject slowly as the needle is gently withdrawn. Periodically aspirate to exclude inadvertent intravascular injection. If blood is aspirated, withdraw the needle 1 to 2 mm before aspirating again, injecting anaesthetic if this is negative for blood.
8. Safely dispose of sharps immediately after completion of the necessary injection(s).
9. Assess the effectiveness of anaesthesia after 5 minutes. Targeted 'top-up' injection can be performed if necessary, but avoid exceeding the cumulative maximum safe dose.
10. Advise the patient that the area will remain insensate for up to several hours, and to protect the area until sensation has returned to normal, avoiding potential trauma or thermal injury to the insensate region.

Additional information

- To reduce pain, inject the anaesthetic slowly, and minimise the number of skin punctures (which also reduces the potential for wound contamination by skin bacteria).
- To minimise the number of skin punctures, advance the needle as far as required (e.g. up to the needle hub if necessary) in the subdermal tissues along the plane of the skin, and inject along the needle track's subdermal tunnel as the needle is progressively withdrawn.
- If additional targeted anaesthesia is required, where possible, attempt to introduce the needle through already anaesthetised skin or subdermal wound.