GUIDELINE	
Posterior Tibial Nerve Block	
Scope (Staff):	All Emergency Department Clinicians
Scope (Area):	Emergency Department

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Posterior Tibial Nerve Block

Background

- Posterior tibial nerve block achieves sensory blockade to the anterior two thirds of the sole of the foot (not including the webspace between the big toe and second toe)

Anatomy

The posterior tibial nerve lies on the medial aspect of the ankle, between the medial malleolus and the Achilles tendon, deep to the flexor retinaculum. The posterior tibial artery can usually be felt behind the medial malleolus. The nerve lies just posterior to this artery (i.e. closer to the Achilles tendon).

- If the artery cannot be palpated, the point of injection should be estimated at the halfway point between the medial malleolus and the achilles tendon.
- All injections should occur at the level of the upper edge of the medial malleolus.

Indication

- It is useful for painful procedures or injuries involving the sole of the foot (i.e. removal of foreign bodies and wound repair)
- A nerve block avoids the need for painful and difficult infiltration of local anaesthetic into the dense skin and subcutaneous tissue of the sole

Equipment

- **Needle:**
  - 22 gauge blunt regional anaesthetic needle (preferred)
  - 22 or 25 gauge bevelled needle (suitable alternative)
- **Local Anaesthetic:**

Ropivacaine 0.75% – longer acting
Dose: 2-5 mL – Maximum 2.5mg/kg (0.33ml/kg) Duration: 4-6 hours
Lignocaine 1% (alternative)
Dose: 2-5 mL – Maximum 3mg/kg (0.3ml/kg) Duration: 1-3 hours

Procedure

- Explain the procedure and its purpose to the carer and patient
- Consider the use of EMLA® cream over the injection site.
  An additional adjunct is the use of Nitrous Oxide during the injection time.

Position

- Position the patient lying down on their side with the foot slightly dorsiflexed
- Use an assistant to keep the foot in that position

Technique

- Clean the skin with antiseptic solution
- Identify the point of injection as per illustration above
- Insert a 25 gauge needle to **infiltrate locally in to the skin** first
  Whenever advancing a needle, aspirate the syringe to **ensure the needle isn't in a blood vessel**
- **Posterior tibial nerve block**
  - Once the skin is anaesthetised, consider changing to a larger 22g needle
  - You may feel a loss of resistance as you pass through the Flexor Retinaculum
  - Aspirate continuously before injecting to avoid arterial injection
  - Repeated infiltration (without moving the needle from the skin) will allow you to advance the needle deeper each time.
- Inject 2-4 mL or until you form a bleb
  - The success of nerve blocks often relates the volume injected rather the accuracy of the needle

- Before withdrawing the needle from the skin completely, the remaining local anaesthetic may be used
- Change the direction of the needle and inject just under the skin towards the malleolus and then towards the Achilles tendon

- Wait up to 15 mins and test the sensation in the area concerned before commencing your procedure

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File Path:			
Document Owner:	Dr Meredith Borland HoD, PMH Emergency Department		
Reviewer / Team:	Kids Health WA Guidelines Team		
Date First Issued:	19 August, 2015	Version:	
Last Reviewed:	19 August, 2015	Review Date:	19 August, 2017
Approved by:	Dr Meredith Borland	Date:	19 August, 2015
Endorsed by:	Medical Advisory Committee	Date:	19 August, 2015
Standards Applicable:	NSQHS Standards: 		
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