

# PEDIATRIC INTRAOSSEOUS INFUSION PROCEDURE

## Indications

- Patient in extremis, cardiac arrest, profound hypovolemia, or sepsis and in need of immediate delivery of medications/fluids and immediate IV access is not possible within 90 seconds

### Procedure Preparation

- Position and stabilize insertion leg
- Locate primary site 1-2cm distal to tibial tuberosity and 1-2cm medial
- Continuously following aseptic technique, prepare insertion site and allow to dry via air or gauze

### Automatic IO Device

- Insert needle through skin at 90° angle until bone contact
- Rotate applying gentle, steady pressure, letting the driver do the work
- Stop when a change of resistance is felt
- Stabilize hub and remove stylet
- Attach primed saline lock, aspirate to confirm placement
- Flush with 5ml **NS**

### Manual IO Needle

- Choose desired depth of injection according to manufacturer's instructions
- Insert needle at 90° angle and advance according to manufacturer's instructions
- Stabilize hub and remove stylet
- Attach primed saline lock, aspirate to confirm placement
- Flush with 5ml **NS**

### Equipment

- Intraosseous infusion needle and/or mechanical insertion device
- Chlorhexidine with alcohol solution
- Sterile gauze pads
- Saline lock
- IV **NS** solution and tubing with 3-way stopcock
- Supplies to secure infusion
- Pressure bag
- **Lidocaine 2%** (preservative free)

### If patient >3kg and awake and/or responsive to pain

- **Lidocaine 2% (preservative free)** 0.5mg/kg slowly
  - MR x1 at half initial dose (0.25mg/kg)
  - **Max dose:** 40mg
  - Wait 30-60 seconds before fluid infusion

#### If resistance is met

- Remove needle, apply pressure to site and attempt at secondary site

- Stabilize as recommended by manufacturer
- Attach pre-flooded IV tubing
- Administer fluid boluses via syringe utilizing the 3-way stopcock

### Critical Information

- Absolute contraindications:
  - Recent fracture of involved bone (less than 6 weeks)
  - Vascular disruption proximal to insertion site
  - Inability to locate landmarks
- Relative contraindications:
  - Infection or burn overlying the site
  - Congenital deformities of the bone
  - Metabolic bone disease