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

- Select insertion site based on manufacturer's specified instructions (proximal tibia or distal femur)
- Position and stabilize insertion site
- Following aseptic technique, prepare insertion site and allow to dry via air or gauze

Automatic IO Device

- Insert needle through skin at 90º 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 90º 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