

7.5 EZ-IO Insertion TALON & Power Driver

EZ-IO Indications

- ◇ Adults (≥ 40 kg) : For intra-osseous access anytime in which vascular access cannot be obtained within two attempts or 90 seconds in emergent, urgent or medically necessary cases.
- ◇ Pediatrics (3-39 kg): For intra-osseous access where vascular access is difficult in emergent, urgent or medically necessary cases.

Contraindications

- ◇ Recent fracture or absent pulse to limbs considered for access.
- ◇ Excessive tissue and/or absence of adequate anatomical landmarks.
- ◇ Infection or cellulitis at the site of insertion.
- ◇ Previous, significant orthopaedic procedure at the site (prosthetic joint or any foreign body – plates, screws, stabilizing rods, etc...)
- ◇ IO placement at insertion site in the past 24hrs.

Insertion steps for Manual and Power driver

- ◇ Locate insertion site using appropriate land-marking techniques:
 - ◇ Adult: Proximal humerus, Proximal tibia, Distal tibia, Sternum (Manual only)
 - ◇ Child: Proximal tibia, Distal tibia
- ◇ Prepare insertion site: swab site with Iodine solution, ensuring aseptic technique and inform patient if conscious. Allow area to dry completely while preparing infusion kit.
- ◇ Prep infusion kit: draw up 10mL RL/NS. If using Lidocaine draw up appropriate dose. Open clamp and purge air from line (extension set) with either RL or Lidocaine. Leave syringe attached to line.

Main Insertion Sites (NOT Sternal site)

- ◇ Ensure area is dry and have stabilization patch ready.
- ◇ Stabilize the site and position driver at insertion site 90° angle to the bone. Insert needle set until needle set tip touches the bone.
- ◇ Verify that the 5 mm “No Go” line is visible on the needle/stylet.
- ◇ Rotate Manual Driver clockwise/counter-clockwise or squeeze the Power Driver trigger and apply gentle steady downward pressure. Do not rock or bend during insertion.
- ◇ Stop insertion when a sudden “give” or “pop” is felt or the desired depth is obtained.

- ◇ Remove stylet and driver and confirm needle stability.
- ◇ Apply stabilizer patch.
- ◇ Attach primed line (extension set) to hub's luer lock.
- ◇ Use Lidocaine for patients responsive to pain and GCS > 6 prior to flush.
- If using Lidocaine, infuse slow at 1 mL per minute, and slow push remaining 1 mL Lidocaine from catheter with 1st mL of IO flush.
- Adults and Children ≥ 12 YOA: 40 mg Lidocaine IO over 2 min prior to flush. May be followed by 20 mg IO over 1 min if pain relief is inadequate and patient condition allows temporary cessation of IV therapy.
- Children > 3 YOA: 0.5 mg/kg slow push prior to flush (See Lidocaine monograph for pediatric dosing).
- ◇ Flush IO with 9 -10 mL of RL or NS. (4 - 5mL in Children)
- ◇ **Remember: NO FLUSH = NO FLOW**
- ◇ Attach IV tubing and infuse IV fluids. Stabilize IV line. Place EZ-IO wristband
- ◇ Assess site for extravasion, bleeding, occlusion, or dislodgement.
- ◇ Same procedure is to be done for sternal application ensuring sternal intra-osseous set is used.

For Sternum

- Ensure area is dry before applying the Sternal Locator.
- Remove cap from Sternal Locator and remove upper backing by pulling on Tab #1.
- Align upper curve on locator with the sternal notch.
- Seat the Locator depth probes on the sternum by pressing down firmly with both hands.
- Press down adhesive upper portion then holding sternal Locator pull down on Tab #2 to expose adhesive. Press down on adhesive.
- Remove needle cap from stylet/IO needle.
- Holding needle at 90° to the sternum, insert needle tip into the centre cone of the Sternal Locator and gently press down until it seats on the bone.
- Apply gentle pressure while rotating clockwise until stylet clicks into Sternal Locator.
- Remove stylet and attach line.

- If using Lidocaine, infuse slow at 1 mL per minute, and slow push remaining 1 mL Lidocaine from catheter with 1st mL of IO flush.
- Flush IO with 9 -10 mL of RL or NS. (4 - 5mL in Children)
- **Remember NO FLUSH = NO FLOW**
- Attach IV line and stabilize IV line. Place EZ-IO wristband
- Assess site for extravasion, bleeding, occlusion, or dislodgement.

Removal

If removal is required, attach Luer lock syringe, continuously rotate clockwise while slowly and gently applying traction to catheter. **Do not rock or bend the catheter during removal.**