** Intraosseous Line placement**

**Clinical Indications and Contraindications**

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| * **Clinical Indications:**

Patients where rapid, regular IV access is unavailable with any of the following: Cardiac Arrest, multisystem trauma with severe hypovolemia, severe dehydration with vascular collapse, loss of consciousness, respiratory failure/arrest.* **Contraindications:**

Fracture proximal to proposed intraosseous site, history of Osteogenesis Imperfecta, current or prior infection at proposed intraosseous site, previous intraosseous insertion or joint replacement at the selected site. |

**TREATMENT GUIDELINES**

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| **R-EMR** | **E–EMT** | **A-AEMT** | **P-PARAMEDIC** | **\*\*M-Medical Control \*\*** |

**\*\*\*Higher level providers are responsible for lower level treatments\*\*\***

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| * Don personal protective equipment (gloves, eye protection, etc.).
* Identify anteromedial aspect of the proximal tibia (bony prominence below the knee cap). The insertion location will be 1-2 cm (2 finger widths) below this. If this site is not suitable, and patient >12 years of age, identify the anteriormedial aspect of the distal tibia (2 cm proximal to the medial malleolus).
* Prep the site with providone-iodine ointment or solution.
* For manual pediatric devices, hold the intraosseous needle at a 60 to 90 degree angle, aimed away from the nearby joint and epiphyseal plate, twist the needle handle with a rotating grinding motion applying controlled downward force until a “pop” or “give” is felt indicating loss of resistance. Do not advance the needle any further.
* For the EZ-IO intraosseous device, hold the intraosseous needle at a 60 to 90 degree angle, aimed away from the nearby joint and epiphyseal plate; power the driver until a “pop” or “give” is felt indicating loss of resistance. Do not advance the needle any further.
* For the Bone Injection Gun (BIG), find and mark the manufacturers recommended site. Position the device and pull out the safety latch. Trigger the BIG at 90° to the surface and remove the injection device. Remove the stylette and place in approved sharps container.
* Attach a syringe filled with at least 5 cc NS; aspirate bone marrow for manual devices only, to verify placement; then inject at least 5 cc of NS to clear the lumen of the needle.
* Attach the IV line and adjust flow rate. A pressure bag may assist with achieving desired flows. Stabilize and secure the needle with dressings and tape.
* You may administer 10 to 20 mg (1 to 2 cc) of 2% Lidocaine in adult patients who experience infusion-related pain. This may be repeated prn to a maximum of 60 mg (6 cc).
* Following the administration of any IO medications, flush the IO line with 10 cc of IV fluid.
* Document the procedure, time, and result (success) on/with the patient care report (PCR).
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2EMT providers may perform these procedures if credentialed with the appropriate OM.

  