



Procedure 707: Intraosseous Infusion

Revision 3/22/24
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❖ Purpose:

- Gaining vascular access on critical patients of all ages can be very challenging. Difficulties in gaining timely access delay the administration of fluids and medications necessary to appropriately manage these patients. Intraosseous access provides a safe, timely, and effective alternative vascular access route.

❖ Indications

- IO access should be utilized in critical, status 1 and 2 patients (see Policy 621 *Patient Acuity Guidelines*) requiring vascular access for the immediate administration of fluids or medications when venous access attempts have failed or are deemed likely to lead to significant treatment delays. In addition, patients must have at least one of the following:
 - An altered mental status.
 - Respiratory compromise,
 - Hemodynamic instability.
- Intraosseous access using the EZ-IO Drill is authorized for use on adults weighing >40 kg utilizing the EZ-IO adult needle. Pediatric patients weighing 3 kg to 39 kg the EZ-IO PD needle will be used.

❖ Contraindications

- IO administration is not allowed in patients who do not require immediate fluid or medication therapy, or in whom an intravenous line can be established in a timely fashion. IO insertion will never be performed for prophylaxis.
- Fracture of the bone selected for IO infusion (consider alternate site)
- Previous orthopedic procedures (IO within 24 hours, knee or shoulder replacement, etc.)
- Pre-existing medical condition (tumor at the insertion site, significant peripheral vascular disease, etc.)
- Infection at the insertion site.
- Inability to identify landmarks required to perform procedure.

❖ Procedure

- Intraosseous access is approved in the distal femur, tibial, medial malleolar, or humeral sites.
- Paramedics will follow the approved insertion method as outlined in the County-mandated training curriculum.
- If conscious, the patient will be administered **Lidocaine** IO, 40mg in adult patients and 0.5mg/kg (max 40mg) in pediatric patients, for local anesthesia prior to fluid administration.

❖ Training/QA

- To perform this skill a paramedic must complete a County-approved IO class and annual mandatory skills evaluation. No paramedic may utilize this skill without course completion and approval by respective provider QI managers and the County Medical Director.
- All intraosseous insertion cases will be subject to audit as deemed appropriate by the County EMS Quality Improvement Committee. See Policy 101: *Quality Improvement Program*.