

Monterey County EMS System Policy



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INTRASOSEOUS INFUSION

I. PURPOSE

Intraosseous infusion is to provide an alternate means of vascular access when the IV route is not available or IV access attempts were unsuccessful and the patient would benefit from the timely administration of drugs or fluids.

II. DEFINITIONS

- A. Intraosseous Infusion. Establishing vascular access through bone marrow.
- B. In Extremis. A profound state where death appears imminent.

III. POLICY

- A. Intraosseous infusion may be performed by paramedics who have successfully completed Monterey County EMS Agency approved training within the previous 12 months. Documentation of this training shall be maintained by the paramedic's employer and provided to the Monterey County EMS Agency.
- B. Intraosseous infusion is approved for adult and pediatric patients.
- C. Intraosseous infusion will never be performed to establish prophylactic vascular access.
- D. Intraosseous access is approved only in the proximal tibia for children. The patient must weigh 3kg or more in order to use the EZ-IO.
- E. Intraosseous access is approved only in the proximal tibia and the proximal humerus for patients age 8 and older. Sternal placement is prohibited.
- F. Indications:
 - 1. Adult and pediatric patients where at least two attempts at IV access have been unsuccessful or it is determined that an IV attempt would be unsuccessful, **and** one of the following:
 - a) Cardiac arrest or impending arrest.
 - b) Shock or evolving shock. This is a patient considered In Extremis.
- G. Contraindications:
 - 1. Recent fracture of the involved bone.
 - 2. Infection at the site selected for insertion.
 - 3. Inability to locate anatomical landmarks for insertion.
 - 4. Those patients who have a patent IV or in whom an IV may be established in a timely manner.

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5. Second attempt on the same bone.

IV. PROCEDURE**A. Assure that indications for use have been met.**

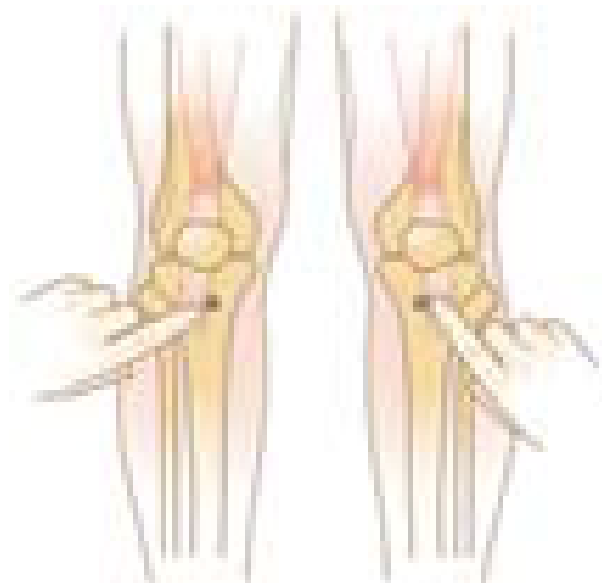
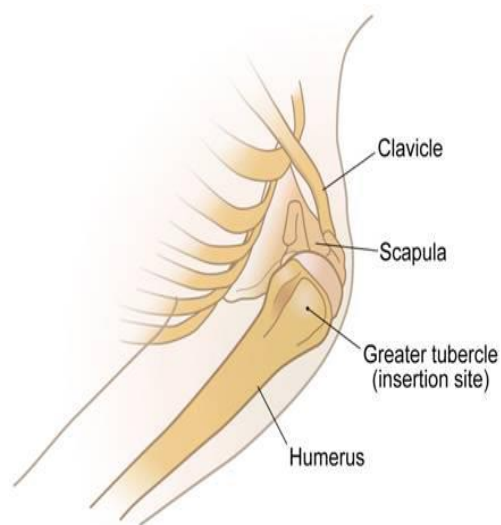
1. At least two attempts at IV access have been unsuccessful or it is determined that an IV attempt would be unsuccessful, and one of the following:
 - a) Cardiac arrest or impending arrest.
 - b) Shock or evolving shock. This is the patient in extremis.
2. Assure that contra-indications for use are not present.
 - a) Recent fracture of the involved bone.
 - b) Infection at the insertion site.
 - c) Inability to locate anatomical landmarks for insertion.
 - d) Patients who have a patent IV or in whom an IV may be established in a timely manner.
 - e) Second attempt in the same bone.
3. Determine patient age and weight to select the appropriate IO insertion device.
 - a) For a patient 3kg and under use a manual IO device.
 - b) For a patient over 3kg and under age 8 or 40kg use the Pediatric EZ-IO or manual device.
 - c) For a patient over age 8 or a weight over 40kg, use the Adult EZ-IO.
4. Approved insertion sites:
 - a) Proximal Tibia for pediatric patients. This is less than 8 year of age or less than 40kg.
 - b) Proximal Tibia or proximal humerus for adult patients. This is age 8 or older and 40kg or more.

B. Process for insertion.

1. Use body substance isolation precautions.
2. Obtain age/weight appropriate supplies.
3. Rule out contra-indications.
4. Locate appropriate insertion site.
5. Prepare insertion site using aseptic technique.
6. Prepare the Intraosseous device.
7. Stabilize the site and insert the needle at a 90 degree angle to the bone.
8. Remove the stylet from the catheter.

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9. Confirm placement of the catheter by flushing the catheter with 10cc normal saline.
10. Consider the administration of Lidocaine, 2% solution, 20mg for the adult or 0.5mg/kg (up to 20mg) for the pediatric patient who is conscious and complains of pain.
11. Attach IV tubing and Normal Saline
12. Flush catheter with 10cc normal saline. Begin normal saline infusion. Consider use of pressure device to provide rapid infusion of fluids.
13. Dress insertion site, stabilize and secure the catheter.
14. Closely monitor insertion site for signs of infiltration of fluids.

Adult and Pediatric**Tibia Insertion Site****Adult****Humerus Insertion Site****END OF POLICY**