

**MEHLVILLE FIRE PROTECTION DISTRICT
EMERGENCY MEDICAL SERVICES
GUIDELINES FOR PREHOSPITAL EMERGENCY CARE**

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**SUBJECT: 1100.12
MISCELLANEOUS:
EZ-IO INSERTION**

**ORIGINAL ISSUE 5/08
LATEST REVISION 8/08**

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- ONLY THOSE WITH PROPER TRAINING AND CERTIFICATION BY THEIR EMS MANAGER MAY USE THIS DEVICE.
 - TRAINING ON DEVICE AND PROTOCOL REVIEW SHOULD OCCUR ON AT LEAST A YEARLY BASIS.
 - EZ-IO AD (ADULT DEVICE) IS TO BE USED ONLY IN ADULT PATIENTS OLDER THAN AGE 16 AND WEIGHING GREATER THAN 40 Kg.
 - EZ-IO PD (PEDIATRIC DEVICE) IS TO BE USED ONLY IN PEDIATRIC PATIENTS YOUNGER THAN AGE 16 AND WEIGHING BETWEEN 3 Kg AND 39 Kg.
 - THIS DEVICE SHOULD ONLY BE USED IN CRITICAL PATIENTS AND SHOULD NOT BE ROUTINELY USED TO OBTAIN IV ACCESS.

INDICATION:

- Unable to obtain IV access in a patient meeting the above criteria who needs emergent life saving IV fluids or medications despite at least two attempts at peripheral access. The patient must also have one of the following:
 - Altered mental status with a GCS < 8.
 - Hemodynamic instability with a systolic blood pressure < 90.
 - Respiratory compromise with an oxygen saturation < 80% or a respiratory rate >40 or <10.
- In a cardiac arrest, the EZ-IO may be used if no peripheral access is obtained within 90 seconds.

CONTRAINDICATIONS:

- Fracture in the extremity in which the device is to be used.
- Previous orthopedic procedures at site. (i.e.: Knee replacement surgery).
- Pre-existing medical condition in the lower extremity (i.e.: Peripheral vascular disease, tumor, etc.)
- Infection at insertion site.
- Inability to locate landmarks.
- Excessive edema or obesity at insertion site.

CONSIDERATIONS:

- Flow rates will be slower than in a peripheral IV. Consider a pressure bag.
- Infusion in a conscious patient may cause severe discomfort. In a conscious patient, 20-50 mg of 2% Lidocaine should **SLOWLY** be infused through the device prior to fluid infusion.

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COMPLICATIONS:

- Extravasation
- Dislodgement
- Compartment Syndrome
- Fracture
- Pain
- Infection
- Reduced flow.

PROCEDURE:

- Obtain informed consent from any conscious patient, explaining the risks and benefits of the procedure.
- Use appropriate PPE.
- Ensure patient meets approved indications listed above.
- Ensure patient does not have any of the contraindications listed above.
- Locate insertion site in proximal tibia. If this site is unavailable, the proximal humerus may be used as a backup site.
- Clean insertion site using aseptic technique.
- Stabilize the extremity and insert EZ-IO device.
- Remove the EZ-IO driver.
- Remove the stylet.
- Confirm placement by aspirating marrow.
- Conscious patients should now get 20-50 mg of 2% Lidocaine IO.
- Flush device with 5-10 ml of NS.
- Connect extension tubing.
- Begin infusion. May need pressure bag.
- Apply dressing.
- Monitor the device frequently for correct placement and complications.