

Kittitas County Prehospital Care Protocols

Subject: Intraosseous Venous Access

General

Intraosseous Venous Access utilizing the EZ-IO device may be warranted when intravenous fluids or medications are needed and a peripheral IV cannot be established in 2 attempts or 90 seconds **AND** the patient exhibits one or more of the following:

- A. Cardiopulmonary arrest (Medical or Trauma)
- B. An altered mental status (GCS of 8 or less)
- C. Impending Respiratory Failure (SaO₂ <80% after appropriate oxygen therapy or rate <10 or >40)
- D. Hemodynamic Instability (Systolic BP <80 mmHg)

Contraindications

- A. Fracture of the bone selected for IO insertion
- B. Excess tissue at the insertion site with the absence of anatomical landmarks
- C. Previous significant orthopedic procedures (IO within previous 24 hours, prosthesis, previous bone / joint replacement)
- D. Infection at the site selected for insertion

Equipment

EZ-IO Driver
EZ-IO AD or EZ-IO PD Needle Set
EZ-Connect Set
Alcohol and Betadine Swabs
10cc Syringe
Tape
Gauze
Normal Saline (or suitable sterile fluid)
IV Extension Set
Pressure Bag or Infusion Pump
2% Lidocaine
EZ-IO Yellow Wristband

Procedure

Effective Date: March 28, 2007

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- A. Determine indications for IO access and rule out contraindications
- B. Identify anatomical landmarks and locate appropriate insertion site
- C. Cleanse insertion site using an aseptic technique
- D. Prepare EZ-IO device driver and needle set
- E. Stabilize site and insert EZ-IO needle set
- F. Remove EZ-IO driver from needle set while stabilizing catheter hub
- G. Remove stylet from needle and safely dispose of stylet in approved sharps container
- H. Confirm placement
- I. Connect primed EZ-connect
- J. For **conscious** patient, slowly administer 2% Lidocaine
 - EZ-IO AD (Adults) – slowly administer 20-50mg 2% Lidocaine
 - EZ-IO PD (Pediatrics) – slowly administer 0.5mg/kg 2% Lidocaine
- K. Flush EZ-IO catheter with 10cc normal saline through the EZ-connect

NO FLUSH = NO FLOW
- L. Place pressure bag on solution and begin infusion (or utilize IV pump if available)
 - Pressure on IV bag should be up to 300 mmHg, or firm enough to generate a flow of fluids
- M. Dress and secure site and monitor for signs of extravasation
- N. Attach IO notification wristband

Procedure for Removal

Removal of IO devices should be performed infrequently in the field. If asked to assist with removal in the Emergency Department, please use the following procedure:

- A. Attach a sterile syringe to the hub
- B. Support the patient while rotating the catheter (clockwise – if using the syringe to keep it from becoming detached) and gently pull the catheter out

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- C. Be sure to maintain a 90 degree angle while rotating catheter.
- D. Do **NOT** rock the catheter while rotating. Rocking may cause the catheter to separate from the hub
 - If hub catheter separation occurs, use hemostat to grasp and remove the catheter while rotating and gently removing
- E. Once catheter is removed, immediately dispose of it in a sharps container

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