

Intravenous (IV) access shall be established anytime a patient requires fluid/medication therapy or in the event that the need for fluid/medication therapy may arise during care of the patient. In the event peripheral IV access cannot be established in the hemodynamically unstable critically ill or injured patient, intraosseous (IO) access [Procedure 14](#) will be utilized. Patients treated under this procedure will be transported ALS via Miami-Dade Fire Rescue.

A. Procedure

ALS

1. Choice of sites:
 - a) For maintenance infusions (KVO) use peripheral sites such as the hand, wrist, and forearm.
 - b) For fluid administration, use the largest applicable vein
 - c) For patients with reduced cardiac output (shock, cardiac arrest, etc.) every attempt should be made to establish access in a vein above the diaphragm, i.e., the antecubital or external jugular.
 - d) Precautions - Avoid using veins in extremities affected by:
 - Burns
 - Rashes or skin infections
 - Fractures or dislocations
 - Mastectomy
 - Dialysis shunts and fistulas
2. Inserting an IV
 - a) Assemble and prepare the necessary equipment:
 1. Constricting band(Tourniquet)
 2. IV Catheters
 3. Alcohol preps
 4. Sharps container
 5. Veniguard
 6. IV extension set (Saline Lock) with prefilled saline flush syringe.
 - a. Attach the syringe to the saline lock and flush with 1-2mL to fill the tubing with saline and remove air from tubing.
 - b) Use aseptic technique and clean the insertion site with an alcohol prep
 - c) Apply a constricting band above the insertion site

- d) Insert the IV
 - 1. Hold IV catheter hub in dominant hand with bevel side up at 10-15 degree angle.
 - 2. Advance catheter into vein until blood returns into lumen of needle or flashback chamber of catheter. Then advance catheter 1/4 inch farther into the vein.
 - 3. Advance the catheter over the needle into the vein until hub is at venipuncture site.
 - 4. Release tourniquet.
 - 5. Apply pressure above catheter insertion site and remove needle.
 - 6. Dispose of needle in sharps container.
 - e) Attach saline lock with attached saline flush syringe to the catheter hub.
 - f) Flush the IV with 3-5mL of saline
 - g) Secure the IV with the veniguard device creating a loop in the saline lock.
3. A primary IV line will be established as follows:
- a) For patients **not** requiring intravenous fluid boluses or medication administration, the saline lock will be the primary IV line.
 - b) For patients requiring intravenous medication administration, a 10ml saline flush syringe shall be used after each administration of medication. A Normal Saline bag should not be used for these patients.
 - c) For patients requiring intravenous fluid administration, use a regular drip (10 drops/mL or 15 drops/mL) infusion set and a 1000ml bag of Normal Saline. For patients requiring volume replacement in excess of 1-2 liters, use the "Y-type" infusion set (**FOR ADULTS ONLY**).
 - d) Use a mini-drip (60 drops/mL) for all intravenous infusions of medication (i.e. Amiodarone, Dopamine, Magnesium and Diltiazem). The 50ml, 100ml, and 500 mL bags of Normal Saline are available for mixing IV medication infusions.