

# Southern Illinois Regional EMS System

## II-4 INITIATION OF PERIPHERAL IV'S

1. Equipment needed:
  - 1.1. Gloves and full face protection.
  - 1.2. Intravenous canula:
    - 1.2.1. Hollow needle:
      - 1.2.1.1. Including those attached to a syringe and the “butterfly” type.
    - 1.2.2. Indwelling plastic catheter over a hollow needle (Angiocath).
    - 1.2.3. Indwelling plastic catheter inserted either through a hollow needle or over a guide wire which is previously introduced through a needle.
    - 1.2.4. Bone marrow needle.
  - 1.3. IV fluids.
  - 1.4. Infusion set.
  - 1.5. Extension set.
  - 1.6. Antiseptic cleansing solution.
  - 1.7. Sterile dressing.
  - 1.8. IV securing device, either:
    - 1.8.1. Adhesive tape cut into strips.
    - 1.8.2. Commercial IV securing device.
  - 1.9. Bottle of 1% Xylocaine without Epinephrine.
  - 1.10. 18 gauge needle to puncture the skin.
  - 1.11. Tourniquet, may use:
    - 1.11.1. Soft rubber tubing.
    - 1.11.2. Flat latex tourniquet.
    - 1.11.3. Commercial tourniquet.
    - 1.11.4. Blood pressure cuff.
2. Procedure:
  - 2.1. Put on gloves and full face protection.
  - 2.2. Assemble all necessary supplies and equipment. Check IV fluids for:
    - 2.2.1. Correct solution.
    - 2.2.2. Expiration date.
    - 2.2.3. Seal leakage.
    - 2.2.4. Contamination.
    - 2.2.5. Cloudiness.
  - 2.3. Connect the micro/macro drip tubing to the bag while the flow regulator is shut off:
    - 2.3.1. Fill fluid reservoir ½ way.
    - 2.3.2. Attach extension set if indicated.
    - 2.3.3. Open flow regulator wide open to “bleed” tubing.
  - 2.4. Check tubing completely for any air bubbles:
    - 2.4.1. If present bleed tubing to clear.
  - 2.5. Select a suitable vein.
    - 2.5.1. In general the forearm is the preferred site.
    - 2.5.2. The back of the hand is preferred second.
    - 2.5.3. Avoid the following:
      - 2.5.3.1. Areas of bone articulation.
      - 2.5.3.2. Areas where arterial pulsations are palpable.
      - 2.5.3.3. Veins near of distal to injured areas.
      - 2.5.3.4. Veins of the lower extremities.

# Southern Illinois Regional EMS System

## II-4 INITIATION OF PERIPHERAL IV'S

(continued)

- 2.6. Secure the tourniquet proximal to the selected IV site.
  - 2.6.1. Check to make sure that distal pulse is still present. If not:
    - 2.6.1.1. Loosen tourniquet slightly.
- 2.7. Prepare the venipuncture site:
  - 2.7.1. Cleanse with antiseptic cleaning solution.
    - 2.7.1.1. Start from the area above the puncture site and wipe in widening circles around it, allowing a broad margin around the site to be punctured.
    - 2.7.1.2. If using Iodine, a final wipe with Alcohol is recommended.
- 2.8. If time permits, and local medical protocols indicate:
  - 2.8.1. Anesthetize the skin overlaying the vein with 1% Xylocaine.
- 2.9. Starting an IV:
  - 2.9.1. Stabilize the vein by applying pressure on the skin distal to the point of entry.
  - 2.9.2. With the bevel of the needle up, pass the needle through the skin and enter the vein from either side or above.
  - 2.9.3. You should be able to feel the needle “pop” through the vein.
  - 2.9.4. When the needle has entered the vein, there will be a blood return through the needle.
  - 2.9.5. If using the over-the-needle catheter advance the needle about 2mm beyond the point where the blood return was first encountered.
  - 2.9.6. Carefully withdraw the needle, holding the catheter steady.
  - 2.9.7. **DO NOT RECAP THE NEEDLE:**
    - 2.9.6.1. Dispose of the needle in a provided puncture resistant bio hazard container.
  - 2.9.8. Release the tourniquet.
  - 2.9.9. Attach the IV tubing and open the clamp to permit unimpeded flow.
    - 2.9.9.1. The fluid should flow freely in a steady stream into the infusion reservoir. If the flow appears minimal:
      - 2.9.9.1.1. Pull back slightly on the catheter, as the tip may be against the wall of the vein.
  - 2.9.10. When good flow has been established:
    - 2.9.10.1. Secure the catheter in place using tape or a commercial IV securing device.
    - 2.9.10.2. Loop the IV tubing and secure it to the arm.
  - 2.9.11. Adjust the flow rate of the infusion as ordered by the physician.