External Jugular Vein Cannulation

Purpose
1. To outline the standardized procedure for External Jugular Vein cannulation for pediatric transport patient
2. Establishment of reliable vascular access is a critical step in pediatric ALS
   a. If vascular access is accomplished within the first minutes of resuscitation, infusion of medications and fluids is possible and successful resuscitation may be more likely
3. The preferred venous site is the largest most accessible vein
   a. If peripheral veins can be readily seen or palpated below the skin surface, peripheral vein access is attempted before other forms of vascular access
   b. Cannulation of the small vessels of the arm, hand, leg, and foot may be difficult with vein collapse during shock or cardiopulmonary arrest
   c. In such circumstances attempts at peripheral venous access should be limited to large peripheral veins
   d. The vein selected should be those that are relatively constant with respect to anatomic location, such as the median cubital vein at the elbow, the saphenous vein at the ankle, and the external jugular neck vein

Procedure
1. Equipment
   a. Gloves
   b. Alcohol pads
   c. 24 - 20 gauge Jelco or Angiocath (Infant 24 or 22 gauge / Child 20 or 22 gauge)
   d. Sterile occlusive dressing (Venigard)
   e. Tape
   f. Saline flush syringes
   g. T-connector flushed with saline

Essential Steps in the Procedure
1. Gather equipment
2. Restrain the child in a 30 degree head down (Trendelenburg) position with the head turned away from the side to be punctured
   a. The right side is preferred for access. In the young child place a small rolled under the shoulders and back, hyperextending the neck over it.
3. Identify the external jugular vein
   a. The external jugular vein crosses the sternocleidomastoid muscle
   b. It can be identified by making the child cry or by temporarily occluding the vein just above the clavicle with the tip of the long finger of the non-dominant hand
      i. This action mimics the effect of a tourniquet
4. Put on gloves
5. Prepare the skin with alcohol
6. Identify external jugular again using technique above
7. Stretch the skin over the vein just below the angle of the mandible using the thumb of the non-dominant hand to immobilize the vein, after allowing it to distend fully
8. Introduce the needle through the skin directly over the vein or adjacent to the vein and slowly advance the needle into the vein until blood flows back freely into the connection hub
9. Advance the needle a few millimeters further to ensure that the catheter is in the vein
10. Thread the remainder of the catheter into the vein, remove the needle and confirm the free backflow of blood from the catheter
11. Evacuate any air from the T-connector
  a. Attach to the catheter hub and test the position of the catheter by injecting a small amount of sterile saline
12. Apply a sterile occlusive dressing to the insertion site and tape the catheter firmly in place
  a. Attach infusion set

Documentation
1. Document procedure on transport notes, including catheter size and any complications