
ILLINOIS REGION 3 PROTOCOLS

PERCUTANEOUS TRANSTRACHEAL CATHETER VENTILATION (ALS)

- I. Indications:
 - A. A fully obstructed airway that cannot be cleared by mechanical measures.
 - B. Extensive maxillofacial or upper airway injury that makes ventilation with a bag valve mask or endotracheal intubation unfeasible.
- II. Contraindications:
 - A. Possibility of establishing a less invasive airway.
- III. Precautions:
 - A. Allow time for exhalation through the small lumen catheter.
- IV. Complications
 - A. Inadequate ventilation
 - B. Inadequate exhalation could result in hypercarbia and increased pressure in the lungs causing rupture of alveoli.
 - C. False passage
 - D. Bleeding
 - E. Laryngeal/vocal cord damage
 - F. Subcutaneous emphysema
- V. Equipment
 - A. 14 gauge 2-inch angiocath or larger
 - B. 10cc syringe
 - C. Alcohol or povidone-iodine pads
 - D. Dressing supplies
 - E. Device to deliver ventilations via the angiocath
- VI. Procedure Sequence:
 - A. Takes universal precautions.
 - B. Places the victim supine and hyperextends the head and neck; if spinal injuries are suspected, maintains the neck in a neutral position.
 - C. Locates the cricothyroid membrane and cleanses the site.

- D. Attaches a 14 gauge or larger with the needle catheter to the 10 cc syringe.
- E. Carefully inserts the needle and catheter in the midline through the skin and membrane and directs it downward and caudally at a 45° angle to the trachea.
- F. Maintains a negative pressure on the syringe as the needle and catheter are advanced.
- G. Once in the trachea, advances the catheter over the needle until the catheter hub rests on the skin.
- H. Holds the hub in place to prevent accidental displacement and removes the syringe and needle.
- I. Reconfirms the position of the catheter by aspirating freely with the syringe.
- J. Connects ventilatory equipment to the catheter hub and to the oxygen source.
- K. Ventilate.
- L. Watches the chest rise carefully.
- M. Allows exhalation to happen passively and as fully as possible.
- N. Ventilates the patient at a rate of 20 breaths per minute with an inflation time ratio of 1:2.
- O. Checks for adequacy of ventilation and fastens the hub securely to the skin.
- P. Continues ventilatory support.

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