

Clinical Indications:

- Patients with hypotension (SBP <90), clinical signs of shock, and at least one of the following signs:
 - Jugular vein distention.
 - Tracheal deviation away from the side of the injury (often a late sign).
 - Absent or decreased breath sounds on the affected side.
 - Hyper-resonance to percussion on the affected side.
 - Increased resistance when ventilating a patient.
- Patients in traumatic arrest with chest or abdominal trauma for whom resuscitation is indicated. These patients may require bilateral chest decompression even in the absence of the signs above.

Procedure:

1. Don personal protective equipment (gloves, eye protection, etc.).
2. Administer high flow oxygen.
3. Identify and prep the site:
 - Locate the second intercostals space in the mid-clavicular line on the same side as the pneumothorax.
 - If unable to place anteriorly, lateral placement may be used at the fourth ICS mid-axillary line.
 - Prepare the site with providone-iodine ointment or solution.
4. Insert the catheter (14 gauge for adults) into the skin over the third rib and direct it just over the top of the rib (superior border) into the interspace.
5. Advance the catheter through the parietal pleura until a “pop” is felt and air or blood exits under pressure through the catheter, then advance catheter only to chest wall.
6. Remove the needle, leaving the plastic catheter in place.
7. Secure the catheter hub to the chest wall with dressings and tape.
8. Consider placing a finger cut from an exam glove over the catheter hub. Cut a small hole in the end of the finger to make a flutter valve. Secure the glove finger with tape or a rubber band. (Note – don’t waste much time preparing the flutter valve; if necessary control the air flow through the catheter hub with an IV stopcock.)

Certification Requirements:

Maintain knowledge of the indications, contraindications, technique, and possible complications of the procedure. Assessment of this knowledge may be accomplished via quality assurance mechanisms, classroom demonstrations, skills stations, or other mechanisms as deemed appropriate by the Survival Flight Medical Director. Assessment should include direct observation once annually.