

## 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.
- Absent or decreased breath sounds on the affected side.
- Hyper-resonance to percussion on the affected side.
- Increased resistance when ventilating a patient.

## Procedure:

1. Confirm presence of a tension pneumothorax or identify strong clinical evidence in a rapid deteriorating patient in the setting of major trauma.
2. Locate the insertion site at the second intercostal space at the midclavicular line or the fourth or fifth intercostal space at the midaxillary line on the affected side of the chest.
3. Prep the insertion site.
4. *greater than* Insert the 2 inch, 14 gauge angiocath (1 1/4 inch, 18 gauge angiocath in patients less than 8 years) by directing the needle just over the top of the rib to avoid intercostal nerves and vessels which are located on the inferior rib borders.
5. Advance the catheter 1-2 inches (3/4 - 1 inch in patients less than 8 years) through the chest wall. A "pop" or "give" may be felt as the needle enters the pleural space. Do not advance the needle any further.
6. Advance the catheter until flush with the skin and withdraw the needle. Listen for a gush or "hiss" of air which confirms placement and diagnosis. Caution: this is frequently missed due to ambient noise.
7. Dispose of the needle properly and never reinsert into the catheter.
8. Secure the catheter and rapidly transport the patient providing appropriate airway assistance.
9. Attach a one way flutter valve unless patient is intubated.

## Certification Requirements:

- EMT-P
- Successfully complete a skill evaluation for this procedure at least once during the certification period.