

**MEHLVILLE FIRE PROTECTION DISTRICT
EMERGENCY MEDICAL SERVICES
GUIDELINES FOR PREHOSPITAL EMERGENCY CARE**

**SUBJECT: 800.06
TRAUMA:
CHEST DECOMPRESSION**

**ORIGINAL ISSUE 5/08
LATEST REVISION 5/08**

Overview:

A tension pneumothorax can develop following blunt or penetrating chest trauma. Air that is inspired becomes trapped in the pleural space during inspiration, causing an increase in pleural pressure, comprising respiratory status and decreasing venous return to the heart as a result of mediastinal shifting. The definitive pre-hospital treatment for tension pneumothorax is chest decompression.

Signs and Symptoms:

- A. Apprehension, restlessness.
- B. Increasing dyspnea; tachypnea
- C. Tachycardia.
- D. Hypotension.
- E. Cool, clammy, pale or cyanotic skin color.
- F. Jugular venous distention (unless hypovolemic).
- G. Diminished or absent breath sounds on the affected side.
- H. Unequal chest expansion.
- I. Subcutaneous emphysema.
- J. Tracheal deviation toward the unaffected side (a late sign).
- K. A tension pneumothorax should be considered in any intubated patient with sudden loss of compliance.

Treat patient as per the trauma treatment protocol.

Procedures: (Do Needle Decompression ONLY if the patient is unstable!)

- A. Identify 2nd intercostal space, mid-clavicular line
- B. Cleanse site with Betadine or alcohol.
- C. Insert large bore, 14 gauge 2 3/4" IV through the skin at a 90° angle and above the rib until the needle is in the pleural space and air escapes.
- D. Remove the needle, leaving the catheter in place.
- E. Secure catheter in place; the catheter should not be removed until replaced by a chest tube in the Emergency Department.

Complications:

- A. Laceration of intercostal vessel with resultant hemorrhage.
- B. Laceration of lung.
- C. Creation of pneumothorax if not already present.
- D. Infection.

STANDARD PRECAUTIONS MUST BE OBSERVED.