

# Needle Decompression

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By Casey Johnson - FF/PM

AFD Station 3

“A” Shift

# Respond

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- M3 Responds with E1 to a reported stabbing. Pt is a 28 yom located at the “Bus Barn” Downtown.
- E1 arrives on scene and calls a Trauma Alert.
- M3 Arrives on scene.

# This is what we were told

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- 28 yom CC stabbing wound. Pt stated he was stabbed by a man with a 5 inch knife. Pt stated the knife went all the way in. Pt stated he walked a few blocks to the bus station. Pt stated he began having diff. breathing soon after M-3 arrived. Pt stated he felt "pressure" in his L chest. Pt also complaining of a sharp pain in the area of injury.

# This is what we found

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- UOA pt sitting in bus station office in the care of EMS 1 and E 1. A moderate amount of blood is present on floor. Pt is in obvious distress.  
Pt AOx4, Skin normal in color, warm and dry.
- HEENT normal. Trachea Midline, = chest rise/fall.
- LS clear/= bilat. initially, then became diminished on L side at same time pt complaining of severe diff. breathing. LS clear/=bilat after chest decompression.
- Pt has approx. 1" long Lac. lateral/superior to L nipple. Wound spurts blood if no direct pressure.
- Injury site becomes cone shaped (up to 3" high) as pt diff. breathing increases. (Injury area appears to be filling with air). The "cone" decreases when air is released with Turkle device. No further chest trauma noted.

# Assessment

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- Stab wound to L chest, with resulting Tension Pneumothorax

# Treatment

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- Arrive, assessment, Call "Trauma Alert".
- LS, IV, place bandage over wound, Spo2
- Pt to gurney, to MICU, begin transport to ANMC ER status 2 red.
- 2nd assessment, O2, LS, VS, Spo2, ECG, LS diminished on L side with pt reporting > diff. breathing
- Needle Decompression per protocol, Pt report < in diff. breathing. Release air pressure 4 more times during transport with pt reporting < in diff. breathing each time.
- VS, Upgrade pt to Status 1 due to hypotension.
- Arrive ANMC ER with pt reporting almost no diff. breathing but still has pn in area of stabbing. Transfer pt to ANMC ER staff.
- Surgeon Places Chest Tube on L side. Pt is released 3 days later.

# Turkel Safety Thoracentesis Catheter

1. Prep the insertion site.
2. Remove the cap from the end of the device handle.
3. Hold the device between the thumb and middle finger with the index finger supporting the rest of the handle.
4. Introduce the device into the chest wall using sufficient pressure to detect movement of the colored indicator within the handle. The indicator should change from green to red when the blunt cannula tip is retracted into the needle and the needle is cutting.
5. Advance the device through the chest wall until the indicator changes back to green indicating that the tip is no longer encountering resistance. A click may be heard when this occurs.
6. Advance the catheter into the pleural space and withdraw the needle assembly. Entrapped air will escape through the catheter sideport valves.

**NOTES:** Insertion of the device should be made over the top of the third rib, avoiding vascular and neural structures within the intercostal space adjacent to the caudal edge of the second rib.

If the function of the needle is in doubt, the device should be discarded.

Do not attempt to reinsert the needle assembly into the catheter assembly after removal of the needle assembly.



# Reason for Needle Decompression

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- Tension Pneumothorax which could be caused by many things:
  - Stabbing
  - Gun Shot To Chest
  - Fractured Ribs
  - Spontaneous Pneumo
  - Blunt Force Trauma
  - Simple Pneumo Develops into Tension

# S/S of Tension Pneumothorax

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- Respiratory distress and/or arrest
- Cyanosis
- Unilaterally decreased or absent lung sounds
- Lung sounds transmitted from the nonaffected hemithorax are minimal with auscultation at the midaxillary line
- Tachypnea
- Hyperresonance of the chest wall on percussion
- Increasing resistance to providing adequate ventilation assistance
- Tachycardia
- Tracheal deviation (relatively late finding due to midline shift with a tension pneumothorax)
- Jugular venous distension (with a tension pneumothorax)
- Hypotension (key sign of a tension pneumothorax)
- Pulsus paradoxus
- Mental status changes, including decreased alertness and/or consciousness