

Skill Sheet 5

Needle Decompression of Tension Pneumothorax

Objective: DEMONSTRATE the appropriate procedure for needle decompression of a tension pneumothorax.

References:

PHTLS (Military Edition) Seventh Edition Elsevier, Mosby

Evaluation: Students will be evaluated as a Pass/Fail (P/F). The instructor will verify the accuracy of the student's ability to properly manage a simulated tension pneumothorax on a mannequin's thoracic section and perform a NDC by means of observing the student's procedures and technique.

Materials:

Student Checklist

Needle decompression simulator, Betadine/alcohol prep, needle/catheter 14 gauge and 3.25", ½ inch gauze tape.

Instructor Guidelines:

1. Provide each instructor with a Student Checklist.
2. Ensure student has all student-required materials.
3. Read the Learning Objective and the evaluation method to the student.
4. Explain the grading of the exercise.
5. Allow time for the students to extract the information required from the instructor-provided scenario.

Performance Steps:

1. Prepare equipment.
2. Verbalize that body substance isolation (BSI) precautions were considered.
3. Verbalize that the progressive respiratory distress is due to chest trauma.
4. Identify the second intercostal space (ICS) on the anterior chest wall at the mid-clavicular line (MCL) on the same side as the injury; approximately two-finger widths below the clavicle.
5. Verbalize that the needle to be used for the procedure is a 3.25 inch, 14 gauge needle.
6. Verbalize the importance of ensuring that the needle entry site is not medial to the nipple line.
7. Clean the site with an antimicrobial solution (alcohol or Betadine).
8. Insert the needle into the chest.
 - Remove the plastic cap from the 3.25 inch, 14-gauge needle. Also remove the cover to the needle's flash chamber.
 - Insert the needle into the skin over the superior border of the third rib, MCL, and direct the needle into the second ICS at a 90 degree angle.
 - As the needle enters the pleural space, a "pop" was felt, followed by a possible hiss of air. Insure that the needle is advanced all the way to the hub.
 - Remove the needle, leaving the catheter in place.
 - If tension pneumothorax recurs (as noted by return of respiratory distress), repeat the

- needle decompression on the injured side.
9. Stabilize the catheter hub to the chest wall with ½ inch gauze tape.
 10. Listen for increased breath sounds or observe decreased respiratory distress.
 11. Remove gloves and dispose of them appropriately.
 12. Document the procedure on the TCCC Casualty Card.

Decompress the Chest: Needle Decompression

Task	Completed		
	1st	2nd	3rd
Verbalized that body substance isolation (BSI) precautions were considered.	P / F	P / F	P / F
Assessed the casualty to ensure the respiratory distress was due to chest trauma.	P / F	P / F	P / F
Identified the second ICS on the anterior chest wall at the MCL on the same side as the injury; approximately two-finger widths below the clavicle and not medial to the nipple line.	P / F	P / F	P / F
Cleaned the site with an antimicrobial solution.	P / F	P / F	P / F
Inserted the needle into the chest at a 90 degree angle to the chest wall.	P / F	P / F	P / F
<i>INSTRUCTOR: Administratively gain control of the needle and place it in a sharps container.</i>			
Stabilized the catheter hub to the chest wall with adhesive tape	P / F	P / F	P / F
Listen for increased breath sounds or observe decreased respiratory distress.	P / F	P / F	P / F
Removed their gloves and disposed of them appropriately.	P / F	P / F	P / F
Documented the procedure on the appropriate medical form.	P / F	P / F	P / F

Critical Criteria:

- _____ Did not know that the needle to be used was a 14 gauge, 3.25 inch needle.
- _____ Did not recognize progressive respiratory distress as an indication for needle decompression.
- _____ Did not perform the needle decompression at the proper landmarks or on the same side as the chest injury.
- _____ Did not secure the catheter hub to the chest wall.
- _____ Performed the procedure in a manner that was dangerous to the casualty.

Evaluator's Comments:

Student Name: _____ Date: _____

Evaluator: _____ Pass: _____ Fail: _____