PROCEDURE FOR MODIFIED STERILE TRACHEAL SUCTIONING

PROCEDURE

1. Suctioning is performed using a modified sterile technique which entails using a single use sterile catheter and clean gloves for each procedure.

2. Wash hands.

3. Auscultate breath sounds in all four fields plus mid axillary by licensed nurse. (unless emergent suctioning required)

4. Assemble the equipment and materials on a clean work surface:
   - Suctioning machine
   - Sterile suction catheter or single use sleeved catheter of prescribed size. Catheter can only be used once.
   - Sterile saline or sterile water to clear catheter, if available
   - Container for saline or water, if available
   - Disposable gloves
   - BVM (Bag Valve Mask device, Licensed nurses only)
   - Saline dosettes, if ordered (Licensed nurses only)

5. Position student.

6. Explain procedure at student’s level of understanding.

7. Turn on suction machine and check for suction.


9. Open saline dosette if instillation is ordered. (Licensed nurses only)

10. Fill container with saline or water.

POINTS TO REMEMBER

Single use sterile catheters are required to prevent the introduction of organisms into the trachea. Sterile gloves are not required but may be used if provided with the suction catheters.

Listening to breath sounds before and after suctioning will assist in determining the effectiveness of suctioning.

Note: Students who self-suction and self-manage care, may re-use their equipment per their routine care procedures.

Peel paper back without touching the inside of the catheter package to maintain sterility.

Saline/water is used to moisten the catheter and to clear secretions in the catheter.
PROCEDURE

11. Put on gloves.

12. Holding the end of the suction catheter in dominant hand, attach it to the suction machine tubing held in the other hand.

13. Turn on the suction machine with non-dominant hand.

14. Encourage the student to cough and to take a deep breath if possible. If prescribed, manually ventilate with the resuscitation bag.

15. Hold suction catheter 2–3 inches from tip with dominant hand and insert tip in sterile saline or water (if available).

16. Grasp catheter connection with other hand; cover vent hole with thumb to suction a small amount of saline through catheter.

17. Pre-measure depth the suction catheter is to be inserted.

18. With thumb off vent hole, gently and quickly insert catheter into tracheostomy. Do not insert catheter beyond the distal end of the tracheostomy tube.

POINTS TO REMEMBER

The dominant hand should remain “clean”. It should not touch anything but the catheter. The non-dominant hand should be used to turn on switches or touch other objects.

Leave the other end of the catheter in its cover until ready for use.

This will test that the suction machine is functioning.

To determine how deep to insert the catheter, it is essential to know the length of the tracheostomy tube and any additional tubing that cannot be removed. This information is written on the package or can be measured from another tracheostomy tube of the same size. Most students are suctioned in an upright position while at school.

If the catheter is inserted too deeply, irritation/injury to the trachea can occur, as well as bronchospasm. Coughing indicates that the suction catheter has passed the end of the tracheostomy tube.
**PROCEDURE**

19. Cover vent hole with thumb while withdrawing catheter. Each insertion and withdrawal of the catheter must be completed within 5 to 10 seconds.

20. Allow student to rest and catch breath for 20-30 seconds between passes. Licensed nurse may give breaths between passes with BVM. Suction saline again through catheter to rinse secretions from catheter and tubing as needed/if available. Maximum of 3 passes per catheter for each suctioning session.

21. If prescribed, insert several drops of saline into tracheostomy with non-dominant hand. Manually ventilate with BVM to disperse saline, if ordered. (Licensed nurses only)

22. If moist, gurgling noises or whistling sounds are heard, or if mucus is seen at the tracheostomy opening, repeat suctioning procedure.

23. Disconnect catheter from suction tubing. Wrap catheter around gloved hand. Pull gloves off inside out.

24. Discard used suction catheter in appropriate receptacle and wash hands.

25. Note color, consistency (e.g., thin, thick), and quantity of secretions.

26. Listen to breath sounds in all four fields and mid-axillary.

27. Document procedure in Healthmaster and EasyTrac.

28. Be sure suction equipment and supplies are restocked and ready for immediate use.

**POINTS TO REMEMBER**

- Rotate catheter gently between thumb and index finger while suctioning and withdrawing. This helps to reach all secretions in the tracheostomy tube. Prolonged suctioning blocks the student’s airway and can cause a dangerous drop in the oxygen level.

- BVM is to be performed by licensed nurses only.

- This helps to loosen and thin out thick or dry secretions.

- If appropriate, ask the student if he or she needs repeat suctioning.

- Always observe universal precautions.

- Report any changes from student’s usual pattern to parent/guardian and school nurse.

- Breath sounds should be equal and clear in all lung fields.
### POSSIBLE PROBLEMS REQUIRING IMMEDIATE ATTENTION

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<thead>
<tr>
<th>OBSERVATION</th>
<th>ACTION/REASON</th>
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<tbody>
<tr>
<td>1. The student shows any of the following signs of respiratory distress:</td>
<td>This may be due to a plugged tracheostomy tube from mucus, aspiration of foreign matter, or accidental dislodgement of the tube. Reassure student. Check air movement from tracheostomy. Check placement of tracheostomy tube. If tracheostomy is securely in place, suction. If the above measures unsuccessful in relieving respiratory distress, call 911 and provide CPR if necessary.</td>
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<tr>
<td>a. Coughing</td>
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<td>b. Color changes</td>
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<td>c. Wheezing or noisy breathing</td>
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<td>d. Agitation</td>
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<td>e. Retractions</td>
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<tr>
<td>2. Suction catheter will not pass, or there is no air movement from the</td>
<td>Remove tracheostomy tube and attempt to re-insert new tube same size or one size smaller.</td>
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<tr>
<td>tracheostomy tube.</td>
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<td>3. Tracheostomy tube is dislodged and unable to reinsert tracheostomy tube</td>
<td>Activate EMS. Closely monitor student. If student is breathing, administer blow-by oxygen if ordered. If indicated, begin pulmonary resuscitation, remove tracheostomy tube, pinch nose, cover stoma with gloved finger and proceed with mouth-to-mouth breaths. If unsuccessful provide mouth-to-stoma breaths while closing the mouth and pinching the nose. Only licensed nurses will use a manual resuscitation device (BVM). Qualified unlicensed personnel will be trained in mouth-to-stoma and mouth-to-mouth breaths using an appropriate barrier device. If student becomes unconscious, follow CPR guidelines.</td>
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<td>(refer to procedure for changing tracheostomy tube)</td>
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<td>4. Bleeding occurs during suctioning</td>
<td>Stop suctioning.</td>
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<td>a. The secretions become blood-tinged and the student is not in respiratory distress.</td>
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<td>b. A large amount of blood is suctioned from the tracheostomy</td>
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<td>5. Student becomes hypoxic</td>
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<td>6. Aspiration of foreign material (e.g. food, sand)</td>
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<td>7. Notify school nurse and parent/guardian of all problems/complications</td>
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Stop suctioning.

Check vacuum pressure setting, if applicable. Adjust to lower setting. Continue suctioning as necessary to clear the airway.

Call 911. Begin CPR if necessary.

Use the manual resuscitation bag (BVM and oxygen, if indicated and prescribed) (licensed nurses only)

Auscultate lungs, suction, then auscultate lungs again. Add saline, if available, and give breaths with BVM (licensed nurses only) after initial suctioning, if ordered. Repeat above steps until aspirated secretions are clear or gone. If tracheostomy tube remains blocked by foreign material, call 911 and remove the tracheostomy tube. Change tracheostomy tube and check air movement. Administer blow-by oxygen if prescribed. Respiratory distress or arrest can occur with any aspiration. Begin CPR, if needed.