Care of a Tracheostomy Tube

The most common reasons for having a tracheotomy are to get air into the lungs past a block of the upper airway or to give long-term ventilator care. The surgeon makes an opening (*stoma*) in the front of the neck into the windpipe (*trachea*). Then a curved plastic tube (*tracheostomy or trach tube*) is placed into the opening through which you breathe. The tube requires care and some changes in the way you do things. With this tube, air goes directly into your windpipe and to your lungs without being filtered, warmed or moistened, which are actions that your nose and mouth do naturally.

SAFETY

- Always have extra tracheostomy tubes on hand for an emergency (one the same size and one smaller).
- Do not sterilize plastic tubes or attempt to clean them in boiling water. These are designed for one time,"Single Use Only."
- Do not place the plastic tracheostomy tube where the temperature is over 118° F (48° C).
- If you have a cuffed tracheostomy tube, do not over inflate the cuff. This can injure your windpipe. It may also cause the cuff to extend past the end of the tube where it can restrict or block air flow.
- Watch for these signs of infection. If present, notify your caregiver:
  - Red, inflamed skin at the stoma.
  - Foul-smelling mucus.
  - Bright red blood in the mucus.
- If you cannot remove your tracheostomy tube or if you cannot remove the smaller tube that fits inside the tracheostomy tube (*inner cannula*), **do not force it**. Call your caregiver.
- Avoid dust and mold.
- Avoid tobacco and other kinds of smoke.
- Avoid fumes from cleaning solutions such as ammonia or bleach.
- Be careful using any kind of spray product. You do not want to inhale the mist.
- Bathing & Showering:
  - When you shower, direct the shower spray at chest level and place a shower shield or protective covering over your tracheostomy tube.
  - Be careful to keep soap and water away from the tube and stoma when washing your face.
  - Take care to cover your tracheostomy tube when you are shaving, using powders or sprays around your face and neck.
  - Keep clothing away from the tracheostomy tube except for a protective scarf. The main concern about clothing is that it might block the tracheostomy tube. Avoid crew necks and turtlenecks in favor of V-necks and open collar shirts or blouses. Also, do not wear clothes that shed fibers or lint.
  - If going outside in very cold air, wear an artificial nose or loosely cover the tracheostomy tube with a scarf, handkerchief or gauze. This helps to warm the air as you breathe, so that the cold air does not irritate your windpipe and lungs. It also helps to keep out dust or dirt on windy days.
- Humidification:
  - Use a humidifier at home to keep some moisture in the air and prevent drying out of your airway and lungs.
  - Clean the humidifier regularly to prevent buildup of mold and mildew.
- Illness:
  - If illness occurs, you may need to suction more frequently.
  - Drink enough water and fluids to keep your urine clear or pale yellow if you have a fever, vomiting or diarrhea.
  - If you vomit, cover the tracheostomy tube with a towel to keep vomit out of your airway. If you think vomit may have entered the tracheostomy tube, suction immediately.
  - Be sure all caregivers know CPR for tracheostomy patients.
  - Post CPR instructions where they will be handy in an emergency.

- Post emergency numbers near the phone.

- Watch for these signs of infection. If present, notify your caregiver:
  - Red, inflamed skin at stoma.
  - Foul-smelling or yellow or green mucus.
  - Bright red blood in mucus.
  - Pain.
- If you use a ventilator:
  - Routinely check the ventilator safety and sound alarms to be sure they are working properly.
  - Be sure the ventilator tubes are properly placed so that they do not pull on the tracheostomy tube.
  - Do not twist or pull on the tracheostomy connector any more than you must. This may cause discomfort or disconnect the ventilator tubes.
  - Hold the tracheostomy tube in place when hooking up or disconnecting the ventilator or humidification tubing.
  - Always use an inner cannula without side openings (*non-fenestrated*) with the correct connector if the tracheostomy tube has one or more side openings (*fenestrated tracheostomy tube*).

CARE OF THE AREA AROUND THE TUBE

- Keep the area around the opening in the neck clean to help prevent infection.
- Change ties daily or whenever they become wet or soiled.

CHANGING THE TIES

1. Wash your hands. (If you have an assistant, he or she must wash his or her hands too.)
2. Put on gloves.
3. Leave the old twill tape or tracheostomy tube holder in place until the new twill tape or tube holder is securing the tube. Pull one end of the new twill tape or tube holder through either tube flange hole and tie or secure.
4. Bring the other end of the twill tape or tube holder around the back of your neck and tie or secure the twill tape or tube holder through the other tube flange hole.
5. Pull the twill tape or tube holder snug allowing 1 finger width between the twill tape or tube holder and the neck. Tie or secure the twill tape or tube holder.
6. Cut the ends of the twill tape leaving only 1 to 2 inches (3 to 5 centimeters) past the tie.
7. Carefully cut and/or remove the old twill tape or tube holder. If you use a cuffed tube, protect the inflation line when cutting the ties.

CLEANING THE STOMA

- Clean around the opening (*stoma*) at least twice a day as described below. If you smell an odor around the neck or opening, clean the area every 8 hours until the odor is gone.

1. Wash your hands. (If you have an assistant, he or she must wash his or her hands too.)
2. Put on gloves.
3. Dip a cotton swab into sterile saline or water.
4. Roll the cotton swab between the tracheostomy tube and the skin around the opening. Clean from the stoma outward. This removes wet or dried mucus.
5. Repeat these 2 steps using a fresh cotton swab each time, until entire area around the opening is clean.
6. Use a dry gauze pad to pat lightly around the opening.
7. Replace the tracheostomy dressing, if required.

- Watch for red, irritated areas. If excessive redness or open areas occur around the stoma, call your caregiver.

SUCTION THE TUBE

With a tracheostomy, mucus can collect in and around the tracheostomy tube. It must be removed so it does not dry and block the tube. How frequently you suction will be determined by need and the amount of your secretions.

EQUIPMENT NEEDED

- Container.
- Gloves (powder-free gloves are preferred).
- Sterile saline or sterile water (for catheter rinses).
- Suction catheter.
- Suction machine with connecting tubing.

CHOOSE A SUCTION CATHETER

Use the suction catheter size as directed by your caregiver.

PROCEDURE

- Before suctioning a fenestrated tube, make sure the non-fenestrated inner cannula is in place.

1. Wash your hands.
2. Put on gloves.
3. Attach the suction catheter to the suction machine.
4. Check suction by suctioning sterile saline or water from the container through the suction catheter.
5. Take 3 to 4 deep breaths to raise your oxygen level.
6. With your thumb off the thumb hole, gently insert the catheter into the tracheostomy tube until it reaches the end of the tube or until you cough.
7. Cover the thumb hole on the catheter to suction.
8. Slowly remove the catheter while intermittently suctioning by covering and uncovering the thumb hole of the catheter. (Start to finish should take no longer than 10 seconds.)
9. If you need to suction again, rinse the catheter first with the sterile saline or water. Take another 3 to 4 deep breaths, then repeat the suctioning. (Allow enough time between each catheter insertion for normal breathing or for the ventilator to assist breathing for several breaths.)
10. If the mucus that has been suctioned appears infected (yellow or green with a bad odor) or there is bright red bleeding, call your caregiver.

CHANGING THE TUBE

Tubes should not be used for more than the number of days recommended by the manufacturer or by your caregiver and then should be replaced and discarded as per your caregiver's instructions.

You probably will not have trouble inserting the new tube. But, if you do, be sure your head is tilted back as you insert the tube. If you are still having difficulty, spread the skin around the stoma and insert the tube as you are breathing in or use a fresh tube that is a size smaller. If there are still problems, call your caregiver immediately.

EQUIPMENT NEEDED

- Gloves (powder-free are preferred).
- Replacement tracheostomy tubes (one the same size and one smaller).
- Syringe (if you have a cuffed tube).
- Box of facial tissues.
- Container.
- Sterile saline or sterile water.
- Twill tape or other tracheostomy tube holder to hold the tube in place.
- Pre-cut tracheostomy dressing or stoma pad.
- Blunt-nose bandage scissors.
- Sterile 10 x 10 cm gauze pads.
- Water-soluble lubricant.

CHANGING A CUFFED TUBE:

1. Wash your hands. (If you have an assistant, he or she must wash his or her hands too.)
2. Put on gloves.
3. Take the replacement tracheostomy tube out of its packaging. Take care to avoid damaging the cuff, inflation line or pilot. Do not use anything sharp while handling the cuff. Remove the inner cannula, if it is in place.
4. Attach a clean, dry syringe filled with air to the small inflation line. The markings on the syringe show air volume. Your caregiver will tell you the right amount of air to use. Inflate the cuff to the proper

leak test volume.

5. Check for a leak. If you see a leak, you should use a different replacement tube. If there is no leak, go to the next step.
6. Deflate the cuff on the replacement tube completely, using the syringe. As you are doing this, gently push the cuff away from the end of the tube. Be sure to remove all the air. (This makes it easier to insert the tube).
7. Insert the twill tape or tube holder through one replacement tube flange hole and tie or secure. Insert the guide (*obturator*) into the replacement tube. (Do this before inserting the tube.)
8. Lubricate the replacement tube using a thin layer of water-soluble lubricant.
9. Place the replacement tube on a sterile surface.
10. If required, suction secretions.
11. Deflate the cuff on the old tube completely using the syringe. Cut the twill tape or undo the tube holder and remove the old tube.
12. As you breathe in, gently insert the new tube, pushing back and down in an arcing motion.
13. Immediately remove the obturator, while holding the tube in place with your fingers.
14. Insert the new inner cannula making sure that it is properly secured in place.
15. If you use a twist-lock inner cannula, it is secure when you feel it lock into place and the marks on the inner and outer cannula are lined up.
16. If you are using a disposable inner cannula, make sure that both sides of the winged flange are locked securely in place.
17. Inflate the cuff to the proper volume using a syringe.
18. Secure the tube as described above under **"CARE OF THE AREA AROUND THE TUBE"**.
19. Throw away the old tube.

CHANGING A CUFFLESS TUBE:

1. Wash your hands. (If you have an assistant, he/she must wash his/her hands too.)
2. Put on gloves.
3. Take the replacement tracheostomy tube out of its packaging. Remove the inner cannula, if it is in place.
4. Insert the twill tape or tube holder through one replacement tube flange hole and tie or secure. Insert the guide (*obturator*) into the replacement tube. (Do this before inserting the tube.)
5. Lubricate the replacement tube using a thin layer of water-soluble lubricant.
6. Place the tube on a sterile surface.
7. If required, suction secretions.
8. Cut the twill tape or undo the tube holder and remove the old tube. If you are unable to remove it, call your doctor. Do not force it.
9. As you breathe in, gently insert the new tube, pushing back and down in an arcing motion.
10. Immediately remove the obturator, while holding the tube in place with your fingers.
11. Insert the new inner cannula making sure that it is properly secured in place.
12. If you use a twist-lock inner cannula, it is secure when you feel it lock into place and the marks on the inner and outer cannula line up.
13. If you are using a disposable inner cannula, make sure that both sides of the winged flange are locked securely in place.
14. Secure the tube as described above under **"CARE OF THE AREA AROUND THE TUBE"**.
15. Throw away the old tube.

TUBE CARE

The inner cannula (smaller tube that fits inside the tracheostomy tube) needs cleaning to maintain good operation of the tracheostomy tube. Use saline or water with either a non-abrasive brush or pipe cleaner. Do NOT use alcohol, bleach, or other strong cleaning agents as they can damage the inner cannula.

CARE OF A REUSABLE INNER CANNULA:

1. Wash your hands. (If you have an assistant, he or she must wash his or her hands too.)
2. Put on gloves.
3. Hold the tube flange steady with one hand.
4. With the other hand, grasp the twist-lock inner cannula connector and carefully unlock it using a counter-clockwise motion.
5. Pull the inner cannula out of the tube.
6. If you need to use a ventilator during this cleaning procedure, insert a clean spare inner cannula (SIC) which is designed for short term use. *The SIC should NOT be used as a replacement for the standard inner cannula that is used with the tracheostomy tube.*
7. Place the soiled inner cannula in a small basin containing sterile saline or water. Use a small, non-abrasive brush or pipe cleaner to gently remove mucus.
8. After cleaning, rinse the inner cannula thoroughly with sterile saline or sterile water.
9. Air dry the inner cannula by gently shaking it.
10. Hold the neck flange steady with one hand.
11. Remove the spare inner cannula, if you used one.
12. Reinsert the clean twist-lock inner cannula into the tube and secure it by gently twisting it clockwise until locked and the marks on the inner and outer cannula line up.
13. Clean the spare inner cannula, air dry and store in a safe place.

CARE OF A DISPOSABLE INNER CANNULA:

Using a disposable inner cannula (DIC) eliminates the need to clean the inner cannula.

1. Wash hands. (If you have an assistant, he or she must wash his or her hands too.)
2. Put on gloves.
3. Hold the neck flange steady with one hand.
4. With the other hand, gently squeeze the snap-lock and pull the inner cannula out of the tube.
5. Throw away the used inner cannula.
6. Gently squeeze the snap-lock of the new inner cannula and insert it into the tube. Release the snap-lock connector when it securely locks onto both sides of the connector rim.

SEEK IMMEDIATE MEDICAL CARE IF:

- You develop choking or difficulty breathing even after suctioning and cleaning.
- You notice swelling, redness, drainage or tenderness around the stoma.
- You develop chest pain or have difficulty breathing (despite a clean and properly placed tube).
- You develop bleeding from the stoma.
- The tube becomes plugged and you cannot clear it.
- There is an excessive air leak.
- The tube falls out and cannot be reinserted.
- The tube cannot be reinserted when doing a routine change.
- If using a ventilator, the “high pressure” alarm goes off, and there is no change after these actions:
  - Removing any kinks in the ventilator tubing.
  - Checking that the tracheostomy tube is open and clear.
  - Draining the ventilator tubing of collected water.
- If using a ventilator, the “low pressure” alarm goes off, and there is no change after these actions:
  - Making sure all ventilator tubing is connected properly.
  - Checking that the cuffed tracheostomy tube (if this is what you have) is inflated properly.
  - Replacing a fenestrated inner cannula (if this is what you have) with a non-fenestrated inner cannula.

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