

Tracheostomy Care at Home

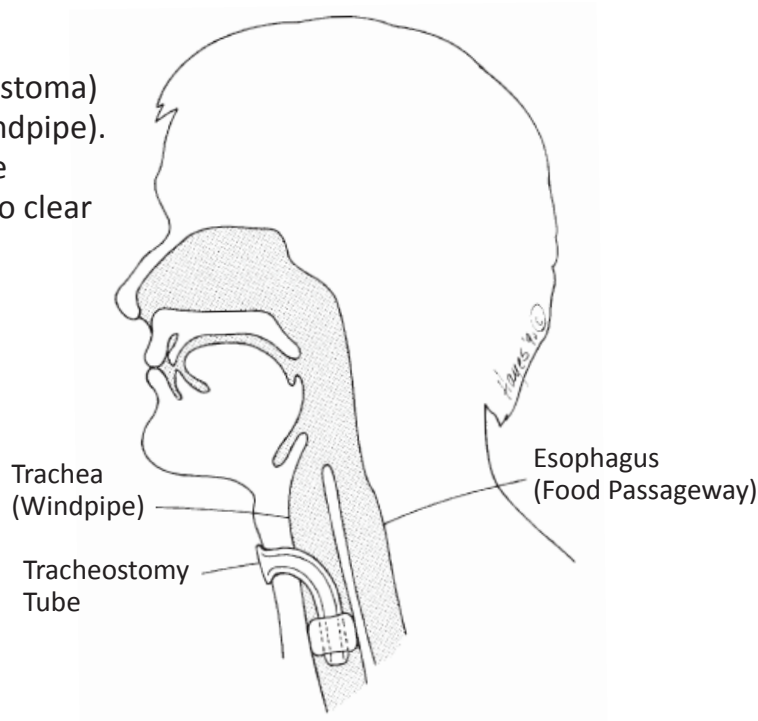
This information will help you understand how to care for a person with a tracheostomy at home. It is a supplement to the teaching offered in the hospital.

To help prevent infection, keep all equipment clean.

Tracheostomy	1
Supplies.....	2
Aseptic Technique.....	3
Humidity	3
Manual Ventilation Bag.....	4
Suctioning	4
Stoma Care	5
Inner Cannula Care	6
Tracheostomy Cuff.....	7
Changing the Tracheostomy Tube.....	7
Infection.....	8
Emergency Troubleshooting	9
Important Telephone Numbers	10

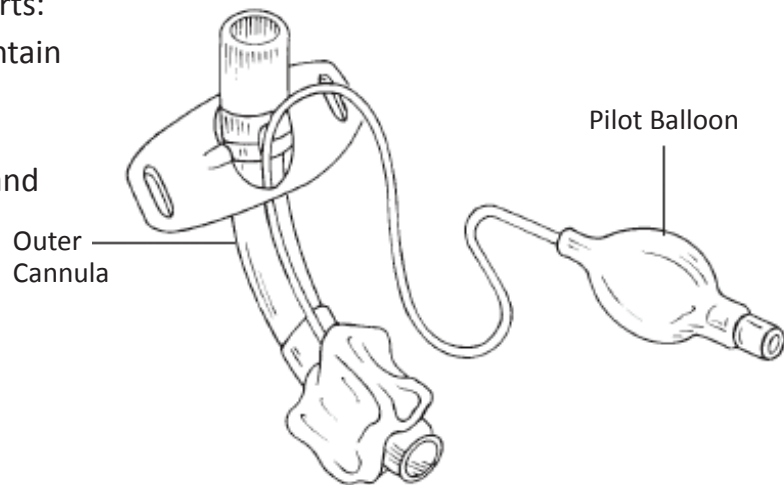
Tracheostomy

A tracheostomy (trach) is an opening (stoma) through the neck into the trachea (windpipe). A plastic trach tube is inserted into the stoma. It acts as an airway and helps to clear secretions from the lungs.



Most trach tubes have 3 main parts:

- **Outer cannula** (tube) to maintain the airway.
- **Inner cannula** to prevent secretions from building up and blocking the airway.
- An **obturator** to help insert the outer cannula.
- Some tubes have a balloon (cuff) at the end.



Supplies

The nurse or therapist will talk with you about how to care for a trach and the needed supplies. They will order the supplies you will need at home. Many supplies can be obtained from a home health or medical supply company.

Tracheostomy tube size: _____

Suction catheter size: _____

Depending on your trach tube, you will need some or all of the following supplies:

- Two new trach tubes (1 the same size and type as above and 1 smaller).
- Suction catheters.
- Suction connecting tubing.
- Suction machine.
- Yankauer suction catheters.
- Soft trach holders or fabric trach ties (2).
- Manual ventilation (Ambu) bag.
- Trach dressings (drain sponges).
- Cotton tip swabs.
- Gauze (4" x 4").
- Scissors.
- Disposable (medical) gloves.
- Trach care kits, including:
 - Two bowls (metal or plastic) with lid.
 - Small bottle brush.
- Pipe cleaners.
- 3% hydrogen peroxide solution.
- Oxygen (if needed).
- Humidity machine (if needed).

- Sterile saline.
- Sterile water.
- Sterile water-based lubricant.
- 10 cc syringes (not needed for cuffless tubes).

Aseptic Technique – Infection Control

The mouth and nose act as natural barriers against bacteria and infection. The person with a trach does not have the same protection from infection as those who breathe through their mouth and nose. Because it is a more direct pathway, the stoma makes it easier for bacteria to get into the lungs. **To help prevent infection, keep all of the equipment as clean as possible and avoid close contact with people with respiratory infections.**

Aseptic technique also helps prevent infection. This includes:

- Careful handwashing.
- Keeping the work surface clean.
- Storing supplies in their packages (or as directed) and away from children and pets.

Handwashing

Before and after trach care, carefully wash your hands:

1. Remove jewelry.
2. Turn on water.
3. Wet your hands and wrists.
4. Use plenty of soap and water and raise a good lather.
5. Brush under fingernails.
6. Rub your hands all over: palms, back of your hands, fingers and between your fingers.
7. Scrub hands for at least two minutes, wash up to the wrists.
8. Rinse your hands by holding them with your fingers pointing down and the water running down from your wrist to your fingers (the dirty water flows downward).
9. Use a clean towel to turn off the water.
10. Dry hands well.

Routine use of hand cream can help prevent dry, cracked skin.

Humidity

The air we breathe goes through the nose and mouth, where it is warmed and humidified. A trach tube bypasses the nose and mouth. This can result in thick, dried secretions and a blocked tube. With a trach tube, you need another way to moisten the air you breathe. This can be done by using a:

- Humidified air system with a trach collar.
- Room humidifier.
- Heat moisture exchanger (HME).

HME traps exhaled moisture and allows it to be inhaled. During travel, an atomizer, or misted saline (such as Ocean® nasal spray) may be used for humidity.

Remember: Persons with trachs are prone to mucus plugs and thickening of secretions. The best way to keep secretions thin is to increase:

- Fluid intake.
- Physical activity.

Manual Ventilation (Ambu) Bag

A manual ventilation bag (Ambu) is a device used to give breaths when the ventilator is not in use. It also is used to give extra breaths and oxygen to the person before and after suctioning.

How to Use the Bag

- If oxygen is needed, attach the long tubing to the oxygen tank and turn the supply up to 10 to 15 liters/minute.
- Disconnect the ventilator tubing and attach the bag to the trach.
- Squeeze the bag as the person breathes in and allow it to reopen to let the person breathe out.
- Give breaths at about the same rate as the ventilator, except when you are giving them before or after suctioning. At that time, the breaths are given more quickly and held for 2 to 3 seconds.

Suctioning

Suctioning is needed:

- When the high pressure alarm goes off on the ventilator.
- When the person asks to be suctioned or gurgling sounds can be heard.
- If the person cannot cough out the mucus.
- If the person has difficulty breathing.

How to Suction

1. Clean work surface and get the equipment ready:
 - Turn on suction machine.
 - Attach suction catheter to suction machine.
 - Pour sterile saline into a clean bowl.
 - Attach manual ventilation bag to oxygen if needed.
2. Wash your hands. Then put on the gloves.
3. Disconnect the ventilator tubing and attach the bag to the trach.
4. Give 3 deep breaths, 2 to 3 seconds each with the Ambu bag.
5. Disconnect bag and quickly insert catheter without suction applied until it cannot go in any more.

6. Apply suction by placing finger over hole in catheter and pull catheter out, twisting it slightly as you pull. Do not apply suction for more than 10 seconds.
7. Attach bag to the trach and give three deep breaths as before.
8. Suction a little saline into the catheter to rinse it.
9. If needed, repeat the suctioning.
10. Connect the ventilator.
11. Rinse catheter and wipe it dry. Allow to air dry on a paper towel until the next use.
12. Take off the gloves. Throw them away.
13. Wash your hands.

Note: After 24 hours, throw catheter away. Look at the secretions – see if they have changed in color, thickness, smell or amount.

Stoma Care

The stoma is the opening through the skin. It is important to keep the stoma as clean and dry as possible. Clean the stoma area and apply a new dressing 2 to 3 times a day, or more often if needed.

1. Clean the work surface and gather equipment:
 - Trach dressing.
 - Soft trach holder (or fabric tape).
 - Cotton tip swabs.
 - Scissors.
 - Sterile saline in container.
 - Hydrogen peroxide in container.
 - Gauze (4" x 4").
 - Disposable medical gloves.
2. Wash your hands.
3. Put on the gloves.
4. Remove and throw away the old dressing.
5. Take off the gloves. Throw them away.
6. Wash your hands.
7. Put on clean gloves.
8. Clean the area with soap and water, using the cotton swab and gauze.
9. Dry well with gauze.
10. If the trach holder (or trach tie) is dirty, replace it with a new one. If fabric ties are used, tie them snugly and knot them. Only 1 finger should fit between the tape and the neck. Take care not to cut the pilot balloon when cutting the tie.

11. Replace with new trach dressing.
12. Take off the gloves. Throw them away.
13. Wash your hands.

While caring for the stoma, examine the site for:

- Drainage or pus.
- Redness.
- Bleeding.
- Swelling.
- Moisture.

Notify the nurse or doctor if any of these signs develop.

Inner Cannula Care

The inner cannula should be cleaned 2 or 3 times a day. It is best to clean it when doing the dressing change.

1. Clean the work surface and gather equipment:
 - Temporary inner cannula (if needed).
 - Hydrogen peroxide in container.
 - Sterile saline in container.
 - Small bottle brush.
 - Disposable medical gloves.
2. Wash your hands.
3. Put on the gloves.
4. Disconnect ventilator.
5. Twist and remove inner cannula. If inner cannula is disposable, replace it with a new one. If the inner cannula is not disposable, complete the following steps:
 - Place the inner cannula in container filled with hydrogen peroxide.
 - Quickly insert temporary inner cannula (if needed), twist and lock and attach ventilator.
 - Clean inner cannula with brush; rinse well in sterile water container and shake dry.
 - Disconnect ventilator.
 - Twist and remove temporary inner cannula; place in hydrogen peroxide container.
6. Quickly insert new clean inner cannula, twist and lock cannula and attach ventilator.
7. Clean temporary inner cannula and store in clean, dry container.
8. Take off the gloves and throw them away.
9. Wash your hands.

Tracheostomy Cuff

The cuff is usually kept inflated (filled with air) when the person is attached to a ventilator. This allows the ventilator to deliver the air directly to the lungs by preventing air leaking around the tracheostomy tube. Inflating the cuff also helps to prevent any food or fluid from going into the lungs. The person cannot make any sounds or talk when the cuff is inflated. To decrease pressure on the trachea, the cuff is kept in a slightly deflated state, called a “minimal leak.” Deflate and inflate the cuff when the entire trach tube is changed or if the person is able to make sounds when the cuff should be inflated.

Minimal Leak Cuff Inflation

1. Clean the work surface and gather equipment:
 - 10 cc syringe.
 - Equipment for suctioning.
 - Disposable medical gloves.
2. Wash your hands.
3. Put on the gloves.
4. Suction the trach and deep in the back of the mouth. (This may cause gagging.)
5. Deflate the balloon by attaching the syringe to the end of the pilot balloon.
6. Pull on the syringe plunger until the pilot balloon is flat.
7. Disconnect syringe and fill with 10 cc of air.
8. Attach syringe and slowly insert air while holding your hand above the person’s mouth. At first, you will be able to feel breath on your hand. When the cuff is inflated you will not be able to feel any breaths. This usually occurs after 4 to 8 cc of air has been inserted.
9. Pull back on the syringe 0.5 cc, creating a “minimal leak.”
10. Disconnect syringe.
11. Take off the gloves and throw them away.
12. Wash your hands.

Changing the Tracheostomy Tube

The entire trach tube should be routinely changed every 6 to 8 weeks. It also will need to be changed if the cuff is torn, the pilot balloon cut, or there is difficulty in passing a suction catheter.

1. Clean work surface and gather supplies.
 - New tracheostomy tube, same size as current.
 - Suction equipment.
 - 10 cc syringe.
 - Trach holder or trach ties.
 - Trach dressing.
 - Scissors.

- Water soluble lubricating jelly, such as Surgilube®. Do **not** use Vaseline®, face cream or baby oil.
 - Disposable medical gloves.
2. Wash hands.
 3. Put on the gloves.
 4. Prepare new trach tube.
 - Remove inner cannula and put in obturator.
 - Test cuff. Insert 10 cc of air in the pilot balloon and check that the cuff inflates and stays inflated.
 - Withdraw air.
 - Attach trach holder or trach ties.
 5. Lightly coat tip of trach tube with lubricating jelly.
 6. Lay person flat.
 7. Suction through the trach and in the mouth.
 8. Attach syringe to pilot balloon and deflate cuff.
 9. Remove old tube.
 10. Insert new tube straight back into trachea and then downward to follow the path.
 11. Remove obturator (the person cannot breathe with the obturator in place).
 12. Insert inner cannula.
 13. Inflate cuff to a “minimal leak” (see page 7).
 14. Suction if needed.
 15. Attach trach holder or trach ties and put on dressing.
 16. Attach to ventilator if needed.
 17. Make sure the person is breathing in the normal way.
 18. Take off the gloves and throw them away.
 19. Wash your hands.

Infection

Contact the doctor if any of the following signs appear and are noted for more than a couple of hours.

- **Trach Site.**

The signs of infection include redness, swelling, pain, pus, drainage, streaks of blood, or foul smell.

- **Lungs.**

Signs of a lung infection may include: change in color, thickness, smell or amount of secretions; change in respiratory rate; increasing shortness of breath, increased coughing, wheezing or fever.

Emergency Troubleshooting

Difficulty Breathing

Remember that tracheostomies are prone to mucus plugs. This usually is first noted by difficulty breathing. If the person suddenly develops trouble breathing, ask them to take a deep breath and cough. If breathing trouble persists:

1. Check the inner cannula for a build-up of secretions or a mucus plug. Clean or change inner cannula if clogged.
2. Provide suction to remove the secretions.
3. **If the patient is still having trouble breathing, call 911 for emergency assistance.**

Then do the following:

- Use the Ambu bag to forcefully give breaths. This will make the person cough.
- If this does not dislodge the plug, change the entire trach tube.
- If the person still cannot breath, do the Heimlich maneuver to dislodge a mucus plug. (May need to do this with the tube out of the stoma).

Tracheostomy tube falls out

Replace tube if possible. A new tube should always be nearby. If the person needs mechanical ventilation but the new tube will not go in, **call 911 for emergency assistance**. Cover the stoma, and give mouth-to-mouth rescue breathing until help arrives. If the person does not need mechanical ventilation but a new tube will not go in, call for help and stay with the person.

Tracheostomy tube is blocked

- Move the tube from side to side a little. If it is still blocked, deflate the cuff and attempt to suction.
- Clean or change inner cannula to remove blockage.
- Call 911 if the block persists and the person has difficulty breathing.
- While waiting for 911 responders to arrive:
 - Change the whole trach tube.
 - Perform the Heimlich maneuver to dislodge the blockage. (You may need to remove the trach tube first.)

Cuff leak

Replace trach. This is not an emergency, but stay with the person until the new trach tube is in.

Important Telephone Numbers

Nursing Care Company _____

Equipment Supply Company _____

Fire Department _____

Respiratory Nurse or Therapist (Home) _____

Respiratory Doctor _____

Northwestern Medicine – Health Information Resources

For more information, contact Northwestern Memorial Hospital’s Alberto Culver Health Learning Center (HLC) at hlc@nm.org, or by calling 312.926.5465. You may also visit the HLC on the 3rd floor, Galter Pavilion at 251 E. Huron St., Chicago, IL. Health information professionals can help you find the information you need and provide you with personal support at no charge.

For more information about Northwestern Medicine, please visit our website at nm.org.

Para asistencia en español, por favor llamar al Departamento de Representantes para Pacientes al 312.926.3112.

The entities that come together as Northwestern Medicine are committed to representing the communities we serve, fostering a culture of inclusion, delivering culturally competent care, providing access to treatment and programs in a nondiscriminatory manner and eliminating healthcare disparities. For questions, please call either Northwestern Memorial Hospital’s Patient Representatives Department at 312.926.3112, TDD/TTY 312.926.6363, the Northwestern Lake Forest Patient Relations manager at 847.535.8282 and/or the Northwestern Medical Group Patient Representatives Department at 312.695.1100, TDD/TTY 312.926.6363.

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