

# Caring for a Child with a Tracheostomy



Dear Parents and Caregivers,

Taking your child home from the hospital with a tracheostomy may be an overwhelming experience. This education guide was created to help you learn about home care, which we hope will make this experience easier. After the tracheostomy is placed, you will also learn more about how your child responds to procedures and treatments. We invite you to use the notes sections in the guide to write notes as you learn and practice the skills you will need at home.

Please talk to your child's nurse or doctor if you have any questions about your child's tracheostomy.

Sincerely,

The Department of Nursing  
Division of Otolaryngology (ENT)  
Children's Hospital Los Angeles

# Table of Contents

Care of the Child with a Tracheostomy .....	1
Table of Contents.....	2
Learning Your Child's Care .....	3
What is a Tracheostomy? .....	4
Bivona Tracheostomy Tube .....	5
Shiley Tracheostomy Tube.....	6
Suctioning .....	7
How do I suction the tracheostomy tube?.....	7
How will I know when to suction? .....	7
How do I suction with a suction machine? .....	7
How do I suction with an Inline Suction Catheter?.....	9
How do I suction without the suction machine (manual suction)? .....	10
Suction Machine Cleaning and Maintenance .....	11
Skin Care .....	12
How do I care for the skin around the tracheostomy?.....	12
Changing the Tracheostomy Ties .....	13
Changing the Tracheostomy Tube.....	14
Humidification .....	16
When do I call the Ear, Nose and Throat (ENT) Doctor? .....	17
Tips on Handling an Unexpected Situation .....	18
CPR with a Tracheostomy .....	20
General Information .....	22
Why can't my child talk?.....	22
What can I do to help my child talk? .....	22
Hospital vs. Home Care .....	22
Establishing a Tracheostomy Routine .....	23
Vacationing with a Child with a Tracheostomy .....	24
Travel Kit for a Child with Tracheostomy .....	26
Helpful Hints .....	26
Going to School .....	27
Community Resources and Services .....	28
GLOSSARY .....	30

# Learning Your Child's Care

Caring for a child with a tracheostomy requires special training. There is a lot of information and new skills that you will need to learn. This includes basic trach care as well as what to do in an emergency. Anyone who cares for your child must receive this training. For this reason, you will not be able to leave your child with a babysitter who is untrained.

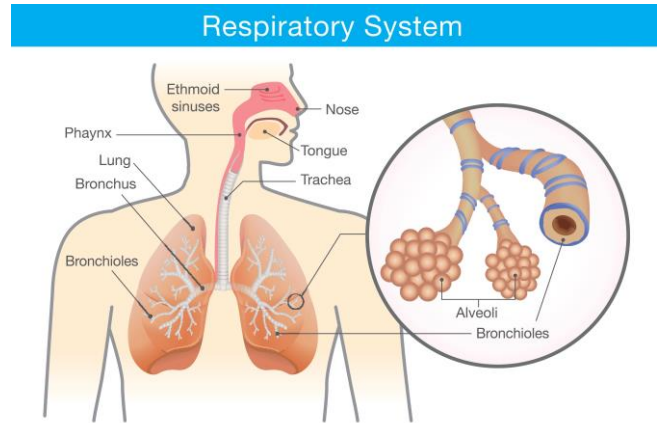
**At least two caregivers are required to learn the care for a child with a trach.** Before you take your child home, please identify someone else who will help in the care of your child. This will be your “back-up” caregiver. You and your back-up caregiver will work with a trach nurse specialist, bedside nurses, and respiratory care practitioners to learn your child’s home care. You will practice on a training model first, and then practice with your child.

As you spend time caring for your child at the bedside, you will feel more and more comfortable about their care. This will help you feel better prepared to take your child home.

**After you complete all required education, you will be asked to stay in the hospital with your child for 24 hours.** During this 24-hour period, each caregiver will perform **ALL** aspects of the child’s care. You should be able to care for your child without the help of nursing staff or other family members. This will allow you to gain more confidence and show that you can provide all care. This will be scheduled with your bedside nurse, tracheostomy nurse specialist, and social worker.

Things you will need to do:

- Give medications
- Give breathing treatments
- Suction your child’s trach, mouth, and nose
- Change trach ties and dressing
- Give a bath and change diapers
- G-tube care and feedings
- Know how to solve problems with your child’s care
- Know when to call for help



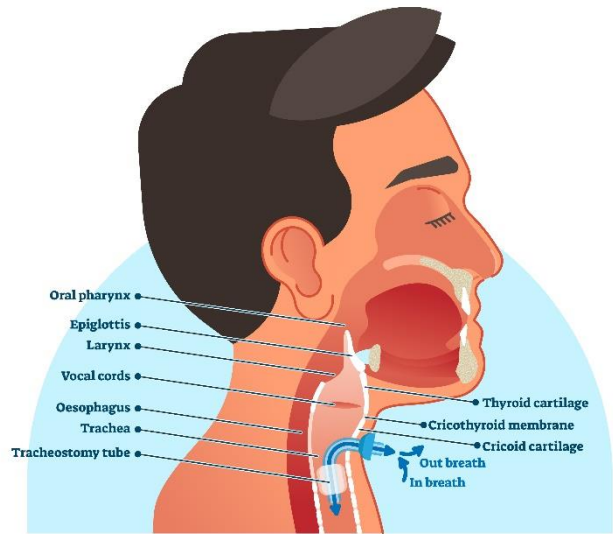
My child has a tracheostomy tube because:	
Tracheostomy tube dependent?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Type of tracheostomy tube:	<input type="checkbox"/> Bivona <input type="checkbox"/> Shiley <input type="checkbox"/> Custom
Size of the tracheostomy tube:	
Size of the suction catheter	_____ Fr.
Length of catheter for suctioning	_____ cm
Home Respiratory therapist	Name: Phone Number:

# What is a Tracheostomy?

A tracheostomy (also called “trach” for short) is a surgical opening that is made into the trachea (windpipe) in the neck. It is a different way of breathing. In children, a tracheostomy is needed to go around an obstruction (blockage) in the airway and to help remove mucus from the airway. It can also connect to a ventilator if your child needs help with breathing.

Most tracheostomy tubes for children have two parts:

1. the outer cannula
2. the obturator



## TRACHEOSTOMY

### The Outer Cannula

This tube keeps the airway open. A trach tie around the neck holds it in place. The ties should be snug but not tight, meaning that one finger should just fit under the tie. When it is placed properly, the ties prevent the tube from slipping out of place. You will learn how to change this part before your child is discharged from the hospital. **All caregivers should know how to replace the tube if it comes out.**

### The Obturator

This part is only used to insert the tracheostomy tube. It helps keep the edges of the tube from getting stuck on tissue as it is guided into place. The child cannot breathe when the obturator is in place. Once the tube is in place, the obturator is removed.

### Types of Tracheostomy Tubes

There are two main tracheostomy tubes used for our patients. They are called Bivona and Shiley. They are made for use for adult, pediatric, and neonatal patients.

- The adult tracheostomy tube is longest.
- The pediatric tracheostomy tube has a shorter length than the adult tube.
- The neonatal tracheostomy tube has a shorter length than the pediatric tube but has the same diameter.

Your doctor may also order a customized tracheostomy tube, which is made for your child's specific needs. Be sure to check whether your doctor has ordered a neonatal, pediatric, adult, or customized size for your child.

**Please note: a customized tracheostomy tube is meant to be reused after cleaning. Do NOT throw this tube away.**

## Bivona Tracheostomy Tube

- Made of silicone.
- Reusable for the same child.
- Can be reused up to 5 times (according to manufacturer's recommendations).
- Clean by following the manufacturer's guidelines.
- Not disposable.
- Has wire along the shaft to keep it from bending.
- May need to be changed if your child needs an MRI (Magnetic Resonance Imaging) (due to wire).



### How do I clean the Bivona tracheostomy at home?

1. Soak the used trach tube and obturator in warm soapy water (unscented soap) for at least one hour (60 minutes). **Do not use hydrogen peroxide or vinegar to clean Bivona trach tubes as these can cause damage.**
2. Next, clean the inside of the tube with cotton-tipped swabs (**do not use brushes**). Make sure no pieces of the swab are left inside the tube.
3. Once cleaned, rinse the trach tube and obturator well with regular tap water from the faucet. Place on a clean surface.
4. Boil distilled water. Turn off the stove when the water is boiling rapidly. Pour the water into a clean plastic container. Carefully drop the clean trach tube and obturator into the container.
5. Soak in the hot distilled water until water has cooled.
6. Remove from water and place the clean trach tube and obturator in a clean, dry, plastic container. Let it air dry away from dust.
7. Once the tube is completely dry (no water drops are left inside the tube), place the tube and obturator in a clean plastic zipper bag or covered container. It is ready to use for the next tracheostomy tube change. Wash your hands before touching & storing your cleaned tracheostomy tube.

Before each use, examine the trach tube for breaks or cracks. If the tube is broken, do not use it.

## Shiley Tracheostomy Tube

- Made of polyvinylchloride (PVC) plastic.
- Reusable for the same child. Can be reused according to manufacturer's recommendations.
- Shiley trach tubes cannot be boiled in hot water to clean.
- Clean by following the manufacturer's guidelines.
- Used with a 15 mm connector.



### How do I clean the Shiley tracheostomy tube at home?

1. Clean/soak with **one** of the following:

Type of cleaner:	How to mix:	Example:
Half-strength hydrogen peroxide	Mix 1 part hydrogen peroxide and 1 part water. (Mix equal amounts of each.)	Mix 1 cup hydrogen peroxide with 1 cup water
Half-strength distilled white vinegar	Mix 1 part distilled white vinegar and 1 part water. (Mix equal amounts of each.)	Mix 1 cup distilled white vinegar with 1 cup water
Water and mild liquid hand soap (unscented)	Mix soap and water.	

2. After cleaning, rinse well with:
  - a. Distilled water, OR
  - b. Tap water that has been boiled for 5-10 minutes and cooled. **Do not** put Shiley tracheostomy tubes in hot water as it can damage the tube. Let the water cool before rinsing the tube.
3. With clean hands, place the clean tracheostomy tube and obturator in a clean, dry plastic container. Do not cover. Let it air dry away from dust.
4. Once the tube is completely dry (no water drops are left inside the tube), place the tube and the obturator in a clean plastic zipper bag or covered container. It is ready to use for the next tracheostomy tube change.
5. Tubes may be cleaned this way and reused 2-3 times.

Adult tracheostomy tubes may be used for some pediatric patients, such as older adolescents. Most adult trach tubes have three parts: the outer cannula, the obturator, and an inner cannula. The inner cannula must be changed and cleaned to keep the tracheostomy tube clean and free of mucus.





# Suctioning

## How do I suction the tracheostomy tube?

When a child has a trach tube, it is normal for mucus secretions (fluid that the body makes) to build up inside the trach tube. This mucus can make it hard for your child to breathe. It can also cause infection and must be removed from the tube. If your child is unable to cough it out on their own, you will need to remove it by suctioning. Suctioning clears the mucus from the trach tube so your child can breathe. The tracheostomy specialist or bedside nurse will teach you how to suction a trach tube on a training model.

## How will I know when to suction?

What you see, hear, and feel will tell you when to suction your child's trach tube. Signs that the trach tube may need to be suctioned are:

- Bubbling mucus in the entrance of the trach tube.
- A rattling sound in the chest or tube.

More serious signs to look for are:

- A change in the child's face color (turning pale, blue, or purple)
- Fast, noisy breathing
- Flared nostrils (nostrils widen with each breath)
- Movement of the chest that is not normal
- Restlessness
- Your child looks frightened or scared
- A dry, whistling sound

There are different techniques (ways) to suction a trach tube:

- Suctioning with the suction machine
- Suctioning with the inline suction catheter
- Suctioning without the suction machine (manual)

## How do I suction with a suction machine?

The suction machine is used to suction most trach tubes unless the machine is broken. If the machine is broken, manual suctioning can be used (see below). The trach tube will be in your child's neck when you do this.

### Supplies needed:

- Appropriate size catheter
- Suction machine with attached tubing
- Container with water for rinsing
- Vials of Saline
- Plastic zipper bag or container
- Gloves (optional)



1. Wash your hands first. If you are using gloves, put them on after washing your hands. Next, prepare your supplies.
2. Connect suction catheter to connection tubing.
3. Turn on the suction machine. Keep a clean catheter (in its bag) attached to the suction machine in case you need to suction in a hurry.
4. If your child has thick mucus, put a few drops of saline into the trach tube. This helps your child to loosen the mucus in the trach tube. It may cause your child to cough, this is normal. Gently insert the suction catheter until you pass the end of the trach tube as shown in the picture.
5. Place your thumb over the thumb control of the catheter to create the suction.
6. Slowly remove the catheter while gently turning the catheter between your fingers. Each suctioning pass should take no more than 5 to 10 seconds.
7. Rinse the catheter tubing by suctioning water from the rinse water container through the tube until it is clean.
8. Repeat suctioning as needed until you no longer hear fluid. Let your child take several breaths in between each suction pass.
9. You may suction your child's mouth or nose **after** suctioning their trach tube. Once you put the catheter into your child's mouth or nose you **cannot** put it back into the trach tube. If you need to suction their nose or mouth while you are suctioning the trach tube, use a different suction catheter.
10. Rinse the connection tubing by suctioning water from the rinse water container through the catheter. Continue to rinse until no secretions are seen in the tubing.
11. Let the catheter dry and then put the catheter back in its plastic zipper bag or covered container. You can re-use it later. Keep the catheter dry, out of sunlight, and away from anything that will make it warm and moist.



#### Helpful Tips:

- Catheters can be cleaned with soapy water after each use or wiped with alcohol.
- You will use up to 3 catheters per day.
- If your child has a cold and has thick secretions that cannot be easily washed out of the catheter, change the catheter, as needed.
- If the catheter falls to the floor or if it is dirty, **throw it away!** Do not re-use it.
- Throw away all used catheters at the end of the day.
- Deep suctioning the trach tube may be needed if your child has an infection or if your child's physician advises you to deep suction.
- Suctioning is complete when you no longer hear any noisy or rattling sounds.

Suctioning is not a pleasant activity for most people with a trach tube. When possible, ask your child to cough up secretions into a tissue or paper towel or clean the inner cannula. **Do not wait to suction** as this could cause a mucus plug and completely block the trach tube.



## How do I suction with an Inline Suction Catheter?

Follow the steps below for suctioning with an Inline Suction Catheter. This catheter is only used for children who are connected to a ventilator (also called a “vent”).

Note: Inline suction catheters can be used for a total of 3 days (72 hours). Replace the catheter every 3 days or sooner if it becomes damaged.

### Supplies needed:

- Appropriate size inline catheter
  - Suction machine with attached tubing
  - Container with water for rinsing
  - Vials of saline
  - Gloves, (optional)
1. Wash your hands and prepare your supplies.
  2. Connect suction catheter to connection tubing.
  3. Unlock the thumb valve. This will let you push down to suction.
  4. Open the saline vial and attach it to the saline port.
  5. Turn on the suction machine.
  6. Hold the trach tube steady with one hand and move the suction catheter with the other hand. This helps guide the catheter down the tracheostomy tube to the appropriate length that is needed for your child.
  7. Press down on the thumb valve as you pull out the suction catheter.
    - Each suctioning pass should take no more than 5-10 seconds.
  8. Repeat suctioning as needed until no more secretions can be heard. Let your child take several breaths between suction passes.
  9. Rinse the inline catheter by pressing down on the thumb valve and squeezing the saline vial at the same time.
  10. When you finish suctioning:
    - a) lock the thumb valve,
    - b) remove the saline,
    - c) disconnect the suction.
  11. Rinse the connection tubing by suctioning water from the rinse water container. Continue to rinse until no secretions are seen in the tubing.

## How do I suction without the suction machine (manual suction)?

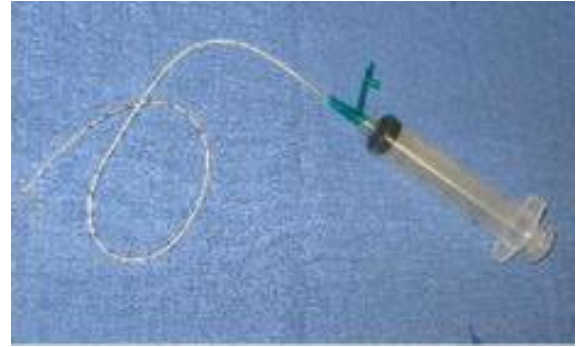
This technique is used when your suction machine is not available or if it stops working.

### Supplies needed:

- 30 to 35 milliliter (mL) syringe
- Feeding tube
- Bulb syringe

1. Attach the syringe to a feeding tube. A larger syringe may be needed for older children.
2. Move the feeding tube through the trach tube the same way you do with the suction catheter. Pull the syringe plunger back to create suction. Suction until breathing sounds are clearer.
3. A bulb syringe is helpful to remove mucus. This is done at the adapter site. It should not replace a suction catheter for suctioning through the end of the tracheostomy tube.

Call your equipment supplier right away if your suction machine is broken. Use manual suction until you get your new or replacement suctioning machine.



# Suction Machine Cleaning and Maintenance

## Do's:

1. Charge the suction machine battery by plugging the charger into a wall outlet. Plug it in for 12-24 hours the first time you charge it. At home, plug in the charger *three days a week* before going to bed and unplug it in the morning. For example, on Monday, Wednesday, and Friday weekly.
2. To save the battery power, turn on the machine when everything is ready. A fully charged battery can run continuously for about an hour.
3. Battery packs should last about 1 year if cared for as instructed.
4. Check if the suction machine is working well. Create a vacuum by placing your finger over the outlet tube on the jar. The vacuum pressure gauge should show suction.
5. Set and change the vacuum pressure by turning the knob (if present). Depending on child's needs and age, the setting of suction pressure may vary. In general:
  - a. Infants (0 - 1 year of age), 60 – 80 mmHg
  - b. Children (1 - 10 years old) 80-100 mmHg
  - c. Older Children (over 10 years old) or Adolescents, 100- 120 mmHg
6. Clean and dry the collecting jar *every day*. Any common *mild* household detergent or dishwashing soap/liquid can be used. Wash the jar with regular tap water.
7. Clean the connecting tubing the same way (see #6). You may use the same tubing for one week if you are able to keep it clean.
8. Soak the tubing, glass, and plastic containers in one of the following:
  - a. A vinegar solution (1-part vinegar to 3 parts sterile water)
  - b. A chlorine bleach solution (1 part bleach to 10 parts of sterile water)
9. Soak once a week, overnight if possible. Let air dry.

## Don'ts:

1. Do not set the vacuum pressure gauge higher than necessary. Damage to the airway may result.
2. Do not pull on the power cord to unplug the charger. Grasp the plug only.
3. Do not allow liquid or foam to fill up the collecting jar above the line marked on the jar. Empty the jar *at least once a day* and more frequently if needed.
4. Do not allow dirt or mold to collect in the jar.

## What do I do if the suction machine breaks down?

1. If you lose suction, check all the connections to make sure they are tight.
2. Check the battery or check to see if the suction machine is plugged in. Check to see if it has filled above the fill line. If the filter has become wet, the machine will not suction.
3. Keep the following information handy:
  - a) Name of the company that provided your equipment.
  - b) Telephone number of the company.
  - c) Payment information (private insurance information, CCS and Medi-Cal numbers).
4. Call the medical supply company to request a replacement.
5. You will need a prescription from your doctor to justify the repair. You will need to call your doctor's office to request the prescription be sent to your medical supply company.
6. You may need to wait until insurance has approved a new machine.
7. If your machine does not work at all and you are unable to get an immediate replacement from your supply company, let your tracheostomy nurse specialist know as soon as possible.

# Skin Care

## How do I care for the skin around the tracheostomy?

The skin around the tracheostomy tube must be well cared for. If you practice good skin care in this area it can help prevent infection and other skin conditions. Skin care should be done 2 to 3 times a day, every day.

Inspect the skin carefully while you clean it. Sometimes, granulation tissue (abnormal tissue growth that is usually pink in color and can bleed) can grow around the tracheostomy stoma. There may also be bleeding or yellow-green fluid draining out. If your child has granulation tissue around their trach tube, call the ENT specialist. The doctor may need to order medication.

If the skin around the cannula or neck looks red, call the ENT doctor. Ask them about using ointment or other products (such as Nystatin, Neosporin, Calmoseptine, Desitin, or Criticaid Clear) in this area. **Do not use powder in this area.**

### Supplies:

- Soap (any non-scented, liquid hand soap) and water
  - Washcloth
  - Cotton-tip swab (Q-tip)
  - Hydrogen peroxide (optional)
  - Gauze dressing (optional)
1. Wash your hands and prepare your supplies.
  2. Remove used dressing and throw it away.
  3. Use hand sanitizer or wash hands again.
  4. Use warm soapy water to clean the stoma under the neck flange with a cotton-tip swab or soft washcloth.
  5. Inspect the skin carefully while you clean it.
  6. Dry the skin using a clean cotton-tipped swab or washcloth.
  7. To clean dry, crusted areas, use half-strength hydrogen peroxide. You will need to mix equal parts of water and hydrogen peroxide to make half-strength hydrogen peroxide. Be careful: long-term use of hydrogen peroxide can increase irritation to skin.
  8. Apply gauze dressing, as instructed. Use of the gauze dressing is *optional*. The gauze dressing can help if there are a lot of secretions leaking around the tube.



# Changing the Tracheostomy Ties

Changing tracheostomy tube ties takes practice. We strongly encourage you to have someone help you with trach tie changes for safety reasons and until you feel comfortable doing it on your own. Trach tube ties should be changed after a bath, and any time they are wet or dirty.

**How often:** Every day and as needed

## Supplies Needed:

- Tracheostomy ties of appropriate size
  - Rolled blanket
  - Soft washcloth (wet)
  - Soap
1. Wash your hands **before and after** changing the ties.
  2. If your child cannot hold still, wrap them in a blanket to limit their movement.
  3. Place a rolled blanket under your child's shoulders. This will give you more room near the trach tube.
  4. Suction the trach tube before changing the ties, if needed.
  5. Have your helper place their fingers on each side of the flange to hold the tracheostomy tube as close to the neck as possible.
  6. Remove the old trach tie on one side.
  7. Clean your child's neck with soap and wet washcloth and check the skin on their neck for redness, cuts, or rash.
  8. Thread the new tie through one side of the flange (**Photo A**).
  9. Repeat on the other side.
  10. Make sure the tie is snug around the neck. Only one finger should fit between the trach tie and neck. Check ties 3 to 4 times a day as sometimes the ties can get too loose, or the Velcro can lift.



\*Please note: Some tracheostomy ties are washable and reusable. Your care team will notify you if your ties are washable or not.



# Changing the Tracheostomy Tube

You should always have a helper to assist you with trach tube changes. **In an emergency, you must be prepared to change the tube by yourself.** The trach tube must be changed every 1 to 2 weeks to keep it clean and free of dry mucus. It may need to be changed more often if there is a mucus plug in it or if it is accidentally removed.

**How often:** Every 1 to 2 weeks, and as needed.

## Supplies:

- Tracheostomy tube of the same size
- Tracheostomy ties
- Scissors
- Small, rolled blanket
- Water-based lubricant (KY Jelly)
- Supplies for suctioning
- Self-inflating resuscitation bag
- Gloves (optional)

1. Wash your hands before and after changing the trach tube. You may wear gloves.
2. Insert the obturator (guide) into the clean tracheostomy tube. Apply some lubricant to the tube (**Photo A**).
3. Apply lubricant to the tube (**Photo A**).
4. Place the ties onto the tracheostomy tube (**Photo B**).
5. Place the tube on a clean surface without touching the cannula.
6. Suction your child's trach tube as needed.
7. Lay child flat on their back and place a small, rolled blanket under the shoulders to help stretch the neck.
8. If your child cannot hold still, wrap them in a blanket to limit their movement.
9. Loosen the ties while your helper holds the tube in place.
10. Remove the used trach tube. (**Photo C**)
11. Have your helper insert the tip of the new trach tube into the opening, following the curve until it is completely in place (**Photo D**). **Do not force the tube!**
12. *Quickly* remove the obturator while holding onto the outer cannula firmly at the flanges. While the obturator is in the tube, the air passage is blocked, so you must do this quickly.
13. Changing the trach tube will cause your child to cough. **Do not let go of the tube.**
14. Listen and feel for air exchange (breathing).
15. Suction, if needed.





16. If the child is breathing well, tie the trach ties. Remember to tie it snugly with room for only one finger to fit between the trach tie and neck.

\*For young adults with trach tubes, simply hold the head up, remove the old tube, and re-insert into the opening. Insert the inner cannula if present. It is an easier procedure because the stoma is bigger.

### **Special Notes**

- In an emergency, it is not necessary to wash your hands before changing the trach tube.
- If water-soluble lubricant is not available, you may use normal saline to moisten the tube.
- If your child is still not breathing well after a tracheostomy change, call 911 immediately.

# Humidification



Ex: Compressor for Humidification

Your doctor will decide if your child needs humidification based on where you live, your child's secretions, and respiratory infections. Humidification helps keep the mucus liquid making it easier to remove. It also helps keep the tube from getting clogged with mucus.

## **Mist collar**

Most children benefit from a mist collar humidification set-up at home. The mist collar should be worn when:

- Your child is sleeping
- Giving oxygen through the trach tube
- Your child has thick or blood-tinged mucus

## **Heat Moisture Exchanger (HME)**

An HME is also known as an "artificial nose." It holds the body's own warmth and moisture in the airway and keeps small particles out of the trach. The HME can be worn:

- During the day while awake
- Outside on cold windy days
- On hot, dry days

Your trach specialist will let you know if your child is able to use the HME. The HME should never be worn when your child is sleeping. It should only be worn when you are watching your child since secretions coughed into it can block it and cause difficulty breathing. If your child has breathing problems while using the HME, remove it to determine if it is causing the trouble breathing.

## **Saline**

If your child's tracheostomy has dry, thick, mucus or has pink or red colored mucus, you can wet their airway by putting 2 to 3 drops of normal saline in the tracheostomy tube. You may do this as often as necessary to keep it moisturized.

\* Your home care respiratory therapist will show you how to use and take care of the humidification set-up.

# When do I call the Ear, Nose and Throat (ENT) Doctor?

**Any change in condition related to your child's tracheostomy should be reported to your ENT doctor.**

Examples of changes in condition:

1. Changes in breathing:
  - a. Increase in the work of breathing (child is breathing harder)
  - b. Wheezing or congested breath sounds
  - c. Changes in color (especially area around lips): appears pale, dusky, or blue
  - d. Increase in the amount or change in appearance of secretions (color, odor)
  - e. Increase in the frequency of suctioning needed
2. Irritation and agitation, which are signs of possible poor air exchange.
3. Blood-tinged mucous which persists despite gentle suctioning with normal saline drops.
4. Drops of bright red blood or old dark blood while suctioning.
5. Accidental dislodgement of tracheostomy tube with difficulty in replacing the tube.
6. Formula or food coming out of the tracheostomy.
7. Infected tracheostomy site (reddened skin around tracheostomy tube).
8. Granulation tissue at stoma site (especially if it interferes with tube changing).
9. Any major changes in the baseline of your child's condition.

# Tips on Handling an Unexpected Situation

## Telephone numbers

List all important numbers necessary for the care of your child by the phone. Be sure to include your address and nearest cross street. In the event of an emergency, this list will be handy. 911 is the emergency number in most areas.

## Blood-tinged mucus

If you suction a small amount of blood-tinged mucous, you may use more drops of cold normal saline when you suction. Suction gently, as slight bleeding can be a result of aggressive suctioning. Dry weather may also cause tracheal irritation and bleeding. Persistent blood-tinged mucous may be a sign of infection. Bleeding that lasts more than 3-5 days should be reported to your child's doctor.

## Tracheitis

A change in the amount and color of the secretion or a foul smell may indicate an infection in the windpipe or main branches of the lungs. Look at your child's breathing pattern, temperature, and the overall activity level. Major changes in the baseline should be reported to your doctor.

## Mucous plugs

Mucous plugging is the most common cause of death at home. Signs of possible mucous plugging include:

- a. not able to suction through the tracheotomy tube
- b. irritable and fighting for air, having trouble breathing or stopping breathing completely
- c. giving rescue breathing and the chest does not rise, or it feels tight
- d. a whistling sound with breathing (the presence of a dry mucous plug)

If this happens, suction right away with lots of normal saline drops. If suctioning is not working, you might need to change the tube. You may have to call 911 for emergency help if you cannot clear the airway.

Check to see you need to give more humidified air more often.

## Bleeding

Bleeding from the tracheostomy tube is considered a life-threatening event. Call 911 right away if you see bleeding from the tracheostomy. Suction and keep the airway open.

## Accidental decannulation

If the tube falls out by accident, you will need to put it back in right away! The best way to prevent this is by making sure the tracheostomy tie is always secure. For this reason, always keep a spare tube with your child.

## Unable to re-insert tracheostomy tube

If you are not able to put the tracheostomy tube back in, remain calm and act quickly.

- ***Do not force the trach tube.***
- Allow your child to relax.
- Place a towel roll under their shoulders so the head is tilted back.
- Lubricate the tube and try inserting it again.

- If you still cannot place the tube, try a smaller-sized Emergency back-up tube.
- If you are unable to place the smaller size tube, call 911.

If needed, you will start rescue breathing (child awake but shows signs of difficulty breathing) or CPR (loses consciousness). You will give breaths mouth-to-mouth or use the resuscitation bag with facemask over the nose and mouth. Cover the stoma with a finger or gauze and tape to prevent air from coming out.

### **Unable to breathe through the tracheostomy**

In an emergency:

1. Remove old tracheostomy tube
2. Cover the stoma and give mouth-to-mouth resuscitation or use a face mask with the resuscitation (Ambu) bag.

# CPR with a Tracheostomy

## Rescue Breathing

If your child is awake and moving but is having trouble breathing, give rescue breaths using the Ambu bag. Rescue breaths are used to support your child's breathing.



If the tube is in place and you cannot make the chest rise, or there is resistance when you use the Ambu bag, remove the tracheostomy tube and insert a clean tracheostomy tube. You may use the patient's emergency "back-up" tube as needed (if you cannot re-insert the patient's usual tracheostomy tube back into the stoma).

- Give 2 breaths into the new tracheostomy tube.

Infant: 1 breath every 2-3 seconds

Child: 1 breath every 2-3 seconds

Adult: 1 breath every 5-6 seconds

### IF YOUR CHILD IS AWAKE AND MOVING:

- If you try and give a breath with the Ambu bag and there is resistance and/or the chest does not rise:
  - Try to suction (if your child is awake and moving).
  - Change the trach if your child is still having trouble breathing, having color changes, and/or there is no chest rise when you give a rescue breath.
- If your child improves and does not have any more episodes, continue to monitor your child, and you don't need to call 911.
- If your child needs rescue breathing multiple times in a day, call 911.



**If your child is not moving or breathing, check to make sure the trach is in place and START CPR!**

## CPR (adult, child & infant)

CPR stands for *cardiopulmonary resuscitation*. Cardio means *heart* and pulmonary means *lungs*. CPR can help a person whose heart has stopped beating.

Hand placement when giving compressions:

- Center of the chest between the nipples.
  - Infant: Use two fingers (align fingers on the breastbone); just below the nipple line; push down about 1 ½ inches or at least 1/3 the depth of the chest.







- Child: Use the heel of one hand with the second hand on top or may use 1 hand on very small children; push down about 2 inches or at least 1/3 the depth of the chest.
- Adult: Use the heel of one hand with the second hand on top; push down at least 2 inches.

To save a life, compressions need to be done fast, and you need to push hard.

### How do I know if my child needs CPR?

1. The color of the skin may look pale, blue, purple, or gray
2. Tap the feet or shoulder – “Are you okay?” For an older child or adult, ask, “Can you hear me?”
  - Your baby or child will not respond and will not be moving.
3. Check for breathing - Remove onesie, shirt, and clothing.
  - The chest will not be rising or moving.
  - Check for no more than 5-10 seconds
4. Put them on a flat hard surface (e.g., floor, strong table)
5. Call 9-1-1:
  - If someone is with you, have them call 9-1-1 while you start CPR (infant/child/adult)
  - If you are alone but have a phone, put it on speaker and start CPR (infant/child/adult)
  - If you are alone without a phone, give 5 cycles of 30 compressions/2 breaths and then call 9-1-1. (infant/child)
  - For an adult, call 9-1-1 and get an AED immediately.
6. Begin CPR with chest compressions, give **30**.
7. After compressions, give **2** breaths using the resuscitation (Ambu) bag attached to the trach by gently squeezing the bag just enough to make the chest rise.
  - Be sure to remove the Ambu bag (unless there is someone there to hold the bag) and disconnect after breaths are given and while you are doing compressions.
  - If a resuscitation bag is not available, place your mouth on the tracheostomy connector and give 2 breaths, just enough to make the chest rise.
8. Continue alternating between 30 compressions and 2 breaths until help (paramedics, EMT) arrives or your child starts to move and breathe.
9. Continue CPR until:
  1. another rescuer takes over
  2. your child moves/breathes or
  3. help arrives



**\*\*Most children with tracheostomies are not “tracheostomy dependent,” which means they do not completely rely on the tracheostomy tube for their air supply. Some air exchange occurs through the mouth and nose.**

# General Information

## Why can't my child talk?

When people talk, air flows from the lungs and passes through the vocal folds. This air flow causes the vocal folds to move and produce sound (your voice). When your child talks, the air escapes through the opening in their neck before it reaches the vocal folds. Your child can form words with their mouth, but no sounds are made unless they can force air around the tube.

## What can I do to help my child talk?

You should discuss this with your child's doctor and a speech pathologist.

*Your child's ability to communicate depends on:*

1. Your child's age
2. How long they will have tracheostomy
3. Whether there are any other problems, such as hearing loss or developmental delay
4. Whether the airway above the tracheostomy is open or blocked
5. Whether or not the vocal folds are functional

*Your child can communicate by:*

1. For a brief time, they can place their fingers over the opening to the tracheostomy to direct air through the vocal folds during speech (This can be done only if the airway above the tracheostomy is open, and the vocal folds are working.)
2. Writing
3. Pointing to words/pictures on a communication board
4. Sign language
5. Using an electronic communication device
6. Using a speaking valve (Passey Muir Valve) --not all children are able to use a speaking valve so ask your doctor.

Talk to and interact with your child so they can develop an understanding of language and communication.

## Hospital vs. Home Care

### **Sterile Technique—Clean Technique**

Contributor: Valerie Mullaly, parent

*Sterile*, in medical language, simply means free of germs. This is accomplished most by steam autoclave, boiling, soaking in a germ-killing solution or by exposure to a gas. Items that have been sterilized are then used by doctors and nurses in their care of patients to prevent the spread of infection.

In the care of our children, the sterile technique that is used at the hospital is a set of rules that are followed to prevent the infection in or around the trachea. When using sterile technique in suctioning, anything that comes in contact with the tracheostomy must have been sterilized (except air, of course).

### **Otolaryngology**

Equipment is sterile and used only once. Since medical personnel cannot sterilize their hands, they wear sterile gloves. All of this is needed because there are other children in the hospital and medical personnel are in contact with these other children.

*Clean*, in medical language, means that dirt and germs have been washed off as much as possible with soap and water. The items are then drip-dried or dried with a clean fresh towel.

In the care of our children at home we use **clean technique**. In doing a clean suctioning procedure, paper cups may be used. After rinsing and drying they are filled with sterile water (distilled water). The catheters and tubes we use are sterile the first time we use them, but they may be used more than once *if* rinsed carefully and *if* our specialist has told us we may reuse them. Before suctioning, wash your hands with soap and water for at least 20 seconds. Dry your hands with a paper towel and turn the faucet off with the paper towel. It is not necessary to wear gloves in clean technique because we are only taking care of our own children. However, it is a good idea to wear gloves if our children have an infection or if we have cuts on our hands or fingers.

While there are some similarities between sterile technique and clean technique, we can see that there are major differences. Sterile technique is always used in the hospital when caring for our children and may be used at home if our children are subject to infections. Clean technique for tracheostomy care is used at home. We may rinse suction catheters in bowls with boiled or distilled water. Disposable paper cups are another option to be used as a container for the rinsing solution.

## Establishing a Tracheostomy Routine

Contributor: Valerie Mullally, parent

A routine, or habit pattern, allows us to accomplish many small tasks quickly and easily. This applies to a tracheostomy routine as well. To establish an effective tracheostomy routine takes some careful planning. A good tracheostomy routine may be broken down into three parts: things that need to be done *daily*, things that need to be done *weekly*, and things that need to be done *monthly*. The following is suggested as being the minimum that a tracheostomy routine should include:

### Daily Activities

1. Clean under tracheostomy tubes and ties.
2. Check that tracheostomy ties are not frayed, too tight, too loose, or dirty.
3. Discard used suction catheters.
4. Rinse connecting tube. (Vinegar and water loosen dried secretions well.)
5. Empty and clean suction bottle and machine.
6. Empty rinse solution containers. Clean or replace them. Replace rinse solutions.
7. Replace necessary supplies, if not stored nearby.
8. Take good care of your hands. Your hands are in and out of the water frequently. Use a good hand lotion regularly.

### Weekly Activities

A weekly routine includes all the daily activities plus the following:

1. Discard connecting tubing and replace.

## Otolaryngology

2. Clean the area around the suctioning equipment and supplies.
3. Soak plastic, rubber, glass containers and tubing.
4. Check your supplies. How are supplies holding out? Will they last until the end of the month?

## Monthly Activities

A monthly routine includes all daily and weekly activities plus the following:

1. Change suction machine filter
2. Call your equipment supplier to order your monthly trach supplies.
3. Follow your insurance policy to ensure your supplies and your follow-up visits are properly authorized.

You can see that a good tracheostomy routine will help you get rid of that feeling of “Did I do enough? Did I do all the things that I should have done today?” Because of your attention to details you will **know** that **you have done enough**. You can also see that setting a tracheostomy routine will take some time and effort on your part. It is time well spent! Your reward will be a more relaxed household, a little more time, and knowing that you have done the best that you can to help your child.

## Vacationing with a Child with a Tracheostomy

Contributor: Valerie Mullally, parent

Summer is upon us and with it come thoughts of vacation. For most people this poses no problems. Plans and reservations are made and off they go away from the usual daily routine. For a family with a child with a tracheostomy, a vacation may seem to be impossible. However, with careful planning, most obstacles to an enjoyable vacation may be overcome. In planning a family vacation, attention must be paid to several areas: destination, type of transportation, duration of travel, equipment, and supplies.

### Destination

What kind of vacation has your family enjoyed in the past? Is this same type of vacation possible with your child or would another type of vacation be better for your child/family? A resort that offers something for everyone, a trip to the grandparents, or a car trip with a change of scenery every few days are all possible. Keep in mind—you are only limited by *your own ability to cope* with new situations and by *your energy level*. The only area that is **not** recommended for vacation is the water or places where medical attention is not immediately available.

### Getting There

**By car**—If you travel the way I do, your car will be full of toys and baby appliances, so keep your tracheostomy supplies close to you in the car so you can get them easily. Make sure everyone has their seatbelts on!

**By plane**—When you make your reservations, tell the airline that your child has a tracheostomy. Some airlines want a medical release. Ask for a bulkhead seat. Although a bulkhead seat does not have storage below the seat, it does provide extra legroom and makes for a more comfortable trip when traveling with a child. If you have a portable suction pump and are in a bulkhead seat, the flight attendant

## Otolaryngology

will have to store the machine during takeoff and landing. They will return it to you as soon as possible. Explain your needs to them. Flight attendants are helpful. Keep in mind that on long plane trips, the air is *very dry*. Offer your child something to drink frequently. You may have to add saline drops to the tracheostomy to provide the moisture needed before suctioning.

**By boat**—Traveling on a small boat is **not** recommended. However, travel by a large commercial passenger liner is a possibility. A doctor and nurse are usually aboard. Electricity is available in the cabins and is generally available somewhere on the ship. It can be used to recharge batteries on a portable suction unit.

**By train**—This is a great way to travel! Friends tell me it is very relaxing. Keep enough supplies available for each day's use.

### **Equipment**

A portable suction machine makes traveling a lot easier. The batteries on most machines will hold a charge for several days of use. However, travel is also possible without a battery-powered unit. There are several methods of manual suction available. A *small bulb syringe* works well by itself for suctioning a Shiley tracheostomy tube. You should be comfortable using whatever manual method you select before leaving on a trip. If you are not familiar with manual suctioning, ask the nurse or respiratory therapist at the hospital to show you. Once you reach your destination, set up your table model suction.

### **Supplies**

Plan to take enough supplies (catheters, pipe cleaners, water, peroxide, and saline droppers) to last for the entire trip plus a few extra for emergencies. It may be possible to obtain supplies at your destination, but unless it has been confirmed in advance, do not count on it.

- Take a prescription for supplies with you if possible. If you find that you need more supplies, a prescription would be helpful in obtaining them within the same state.
- You can also make your own sterile water and sterile normal saline.
  - Jars with screw-on tops jars (or plastic containers with screw- or snap-on lids) work well to hold solutions while traveling.
  - The disposable tracheostomy care trays are convenient to use when you reach your destination but bulky to pack and expensive.
  - Why not take a small bottle of dish detergent and wash out your solution containers in hot soapy water in the sink every day instead?
- Pack enough supplies to last a day or two (depending on your method of transportation) in a carryall or diaper bag and keep it handy. The bulk of your supplies may be packed with the rest of your luggage.
  - If possible, obtain the name and telephone number of the doctor who can help in an emergency at your destination.

If you thought that a vacation was out of the question, think again! It may turn out to be one of the *best* things that you have done for yourself and your family in a long time!

# Travel Kit for a Child with Tracheostomy

**Contributor: Janice Curry, parent**

1. Shoulder strap bag or small suitcase
2. Suction machine (battery-operated ones are more flexible)
3. Suction catheters
4. Individual vials of normal saline
5. Tissues
6. Sterile water in a screw-top bottle
7. Saline
8. K-Y Jelly
9. Tracheostomy ties
10. Extra tracheostomy tube (sterile for emergency insertion)
11. Hand sanitizer or disinfectant wipes
12. Blunt (not pointy or sharp) scissors
13. Gloves
14. Manual suction (feeding tube with 30cc syringe)
15. Connecting tubing for suction machine
16. Resuscitation (Ambu) bag
17. Blanket for shoulder roll
18. For an infant or toddler, add:
  - a. Diapers
  - b. Wet wipes
  - c. Food/water/bottle
  - d. Change of clothes
  - e. Toys
  - f. Infant seat
  - g. Blanket

## Helpful Hints

- Always carry an extra tracheostomy tube set and suctioning unit with you.
- If possible, avoid suctioning right after feeding, as this might cause your child to vomit. (Especially if your child is very young.)
- A *whistling noise* from the tracheostomy may indicate a dry tracheostomy or mucus plug.
- If the tracheostomy is dry, place a few drops of normal saline (given to you by your doctor) 3-4 times a day to help moisten the airway.
- Normal saline can be made with the following ingredients: Combine 1 cup of tap water with ¼ teaspoon of salt and boil for 5 minutes. Pour into a clean bottle after cooling. Throw away after 24 hours. This is helpful if you run out of the pharmaceutically prepared normal saline. It is better to substitute than to go without.
- Be sure that the type of normal saline you use is not “bacteriostatic”. That is, containing special preservatives. Some children react to these preservatives. Use sterile normal saline.



- For a quick misting effect at home, turn on the hot water faucet or shower in the bathroom and close the door. Place child in the room. This is helpful when your child needs misting and a regular misting unit is not immediately available.
- A pad under the misting/suction machine is helpful to decrease the noise generated by the machine.
- Many parents sew small bells to the child's sleeper or bassinet so that they can hear if the child becomes restless at night.
- Reliable sources of babysitters (besides family members) are student nurses, respiratory care therapists, or responsible neighbors.
- Intercoms, baby monitors, or video cameras which allow you to hear or see your child from another part of the house, can be purchased at several discount stores.
- To prevent your baby's chin from covering the tracheostomy tube, a tracheostomy guard can be used.

## Going to School

The Individuals with Disabilities Education Act (IDEA) (formally called PL 94-142) is a major step towards providing public education for all children with disabilities. This federal mandate requires public schools to make available, to all eligible children with disabilities, a free appropriate education in the least limiting environment appropriate to their individual needs. IDEA requires the school district, with a multi-disciplinary team that includes the student's parent or guardian, to develop an Individual Education Program (IEP) for each child. The team decides in the IEP what special education, related services, and supplementary aids or services the student needs to benefit from their educational program. The following facts are here to help guide you as you begin working with the school:

- Special needs might include a home health nurse (or a trained health aide), special activity plan, or transportation to and from school.
- It is recommended by the state that an R.N. be involved in your child's care, either directly at the school site or through education and delegation of that care to a health aide.
- Children should be allowed to participate as much as possible in a regular class (least restrictive environment).
- Ask your doctor to provide a medical history to the school and prescribe the medical treatment needed during hours.
- Allow your respiratory equipment company to set up the equipment needs in school.
- Many schools have specific requirements regarding the safety of the ventilator and all necessary respiratory equipment. Request all necessary information early to prevent delays in entering school.
- Increase your child's learning experience by paying attention to fatigue, endurance, and integration issues.
- Your health care team is available to assist you in this exciting part of your child's life.
- You will play a key role in preparing the school district and the school system in the total support of your child's positive experience in school.

# Community Resources and Services

## Disabled Person Parking

Your child may qualify for disabled parking. Check with your tracheostomy nurse specialist or social worker regarding the requirements. A doctor's certification is required, and the tracheostomy nurse or social worker will be able to provide you the application.

Mail your application to:

DMV Placard  
P.O. Box 942869  
Sacramento, CA 94269-0001

If you are going to apply in person, please call your local DMV office to make an appointment so you do not have to wait in line for long. More information about the placard may be found online.

It may take up to 6 weeks to receive the parking placard. There is a large penalty for using the handicapped parking without the disabled person.

## In-Home Support Services (IHSS)

The In-Home Support Services (IHSS) program helps pay for services provided to disabled individuals so that they can stay safely in their home. Disabled children may receive IHSS but will need to meet some requirements to be eligible. To apply for IHSS, fill out an application and send it to your county IHSS Office. To obtain the application call your county IHSS office or find the application online at your County's IHSS website.

Los Angeles County: 888-944-4477

Kern County: 866-376-7066

Orange County: 714-825-3000

Riverside County: 888-960-4477

San Bernardino: 866-985-6322

Ventura County: 866-376-7066

## Medical Baseline Allowance for Electric Company

If your child has medical equipment that uses electricity, you may be eligible for your electric company's Medical Baseline Allowance program. This program provides an additional amount of electricity per day. Provided at lower rates, this helps offset the cost of operating the medical equipment.

If there is a power outage in California, your electric company will automatically contact Medical Baseline customers with a pre-recorded telephone message. However, if the outage is unplanned or an emergency, you may not receive notification. Your electric company does not provide emergency generators and you will need to be prepared for electrical emergencies and keep your equipment always charged.

Your tracheostomy nurse or social worker will provide the application for the major electrical companies (LA DWP and Edison). If your electricity is provided by a small local electric company, you will need to contact them directly for the application.

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4650 Sunset Blvd., Los Angeles, CA 90027 | CHLA.org

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### **Lifeline: Telephone Service**

Lifeline is a government benefit program to help make phone and internet services more affordable for low-income customers. Lifeline provides subscribers a discount on monthly telephone service, Internet access service, or voice-broadband bundled service purchased from participating providers. For additional information, go to [www.lifelinesupport.org](http://www.lifelinesupport.org)

### **Access Services**

Access is a form of public transportation that offers a shared ride service for persons with disabilities who, because of their disability, are unable to use regular bus and rail services. Your travel time will be like travel time on a bus or rail line. You may not go directly to your destination because other riders need to be picked up or dropped off first. To determine your eligibility contact Access Customer Service at 1-800-827-0829 or visit [eligibility.accessla.org](http://eligibility.accessla.org)

### **Online resources**

Many online resources are available to provide information. While this information is easy to find, please keep in mind that it is not always medical professionals providing the information. Always ask your medical professionals about information you find online. You can find tracheostomy information and support at the following web pages:

#### **Facebook:**

Moms of Trach Babies (MOTB)  
National Tracheostomy Safety Project  
Global Tracheostomy Collaborative

#### **Websites:**

Global Tracheostomy Collaborative (GTC) <https://members.globaltrach.org/collaborate/patients-families-portal>

Disease specific websites that will provide information specific for your child medical condition

### **Otolaryngology**

4650 Sunset Blvd., Los Angeles, CA 90027 | [CHLA.org](http://CHLA.org)

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# GLOSSARY

**Ambu bag:** or resuscitation bag. It is self-inflating when you squeeze it

**Apnea:** When breathing stops for more than 20 seconds. Causing “blue spells” and a drop in your child’s heart rate.

**Artificial Nose:** Also called HME (heat and moisture exchanger). It is a device that warms and moistens the air your child breaths in.

**Aspiration:** The act of inhaling fluid or a foreign body into the lungs, often after vomiting.

**Aspiration Pneumonia:** Pneumonia (infection of the lungs) caused by a foreign body such as food entering the lungs.

**Back-up Caregiver:** Someone you identify as the person to help in the care of your child

**Bronchi:** The two main branches leading from the trachea to the lungs.

**BPD:** (Bronchopulmonary dysplasia): is a chronic lung disease that mostly happens in premature infants weighing less than 2.2 pounds at birth.

**Cannula:** The tube part of the tracheostomy tube.

**Carina:** The point of division of the trachea into the two main stem bronchi.

**Carbon Dioxide (CO<sub>2</sub>):** Gas which is eliminated from the lungs when your child exhales (breaths out of their lungs)

**Cardiopulmonary resuscitation (CPR):** is an emergency medical procedure when the heart stops and breathing stops.

**Catheter:** A tube used to inject or remove fluids from the body.

**Cartilage:** The tough tissue rings the trachea (windpipe) is made of.

**Connection Tubing:** Tubing that connects to the suction machine on one end and suction catheter on the other end.

**Cuff:** The inflatable balloon on some tracheostomy tubes.

**Customized tube:** A tracheostomy tube that is special-ordered and custom-sized for your child’s specific needs

**Cyanosis:** Bluish discoloration of the skin and mucous membranes (mouth and lips) because there is less oxygen in the blood. The first sign is usually seen around your child’s lips.

**Deep suctioning:** Deep suctioning lets you remove mucus from your child's airway. It removes mucus between the end of the tube and the carina (the part where the trachea splits into the bronchi, the tubes that go into the lungs).

**Decannulation:** Removal of the trach tube.



**Diameter:** The diameter is the measurement across the circle passing through the center.

**Diaphragm:** The big muscle below the lungs that controls breathing.

**Distilled water:** A type of purified water.

**Dysphagia:** Difficulty swallowing.

**Dyspnea:** Labored or difficulty breathing, shortness of breath.

**Edema:** Swelling of tissue.

**ENT Specialist:** Abbreviation for ear, nose, and throat—the term used for the type of doctor that typically performs the tracheotomy surgery. Also known as an Otolaryngologist.

**Exhale:** Breathe out.

**Flange:** Also called the neck plate or “wings.” The part of the tube the trach tie goes through.

## Otolaryngology

**Granulation tissue:** Abnormal tissue growth that is usually pink in coloration and can bleed. It can sometimes be seen around the tracheostomy stoma

**Heat moisture exchanger (HME):** A filter device that fits into the end of the trach tube to warm and moisten the air the child breathes

**Home healthcare supplier:** Also called durable medical equipment (DME) supplier. They provide equipment, oxygen, trach care supplies, etc.

**Humidity:** Moisture in the air.

**Humidifier:** A machine that puts extra moisture into the air

**Inhale:** To breathe in.

**Inner Cannula:** Tracheostomy tubes can have an 'inner cannula' or 'inner tube'. This is a tube within the outer tube which can be removed and cleaned easily, without having to change the whole (outer) tracheostomy tube. It is usually a part of adult tracheostomy tubes.

**Inline Suction Catheter:** A catheter that is used when the child is using a ventilator and is connected to the ventilator.

**Laryngomalacia:** Most frequent cause of stridor or noisy breathing in infants. It occurs because of a floppy portion of the larynx (voice box) that has not yet developed or have the strength to provide rigid support of the airway.

**Larynx:** The voice box.

**Mucus:** Slippery fluid that is produced in the lungs and windpipe.

**Nebulizer:** A machine that puts moisture and or medications directly into the airway and lungs.

**Neonatal:** Relates to infants

**O<sub>2</sub>:** Oxygen, an essential gas of respiration.

**Obstruction:** Blockage.

**Obturator:** the semi-rigid stick you put into the tracheostomy tube to help guide it into the opening in the neck.

**Otolaryngologist:** Ear, nose, and throat doctor.

**Outer Cannula:** The outer cannula is the outer tube that holds the tracheostomy open.

**Oximeter:** Equipment that monitors the amount of oxygen in the blood.

**Passy-Muir Valve (PMV):** a type of speaking valve.

**Pneumonia:** An inflammation of the lung itself often caused by the consolidation of the affected part by the air spaces being filled with blood, bacteria, cells, or fibrin.

**Pulmonologist:** A doctor who specializes in the lungs.

**Pulse oximeter:** Machine that monitors the oxygen level of the blood using an infrared sensor placed on the finger or toe.

**Retractions:** Pulling or sucking in of the chest muscles, neck muscles and diaphragm during breathing, it is a sign of respiratory distress.

**Saline:** (normal saline or 0.9% sodium chloride) Saltwater solution

**Secretions:** Another word for mucus.

## Otolaryngology

**Speaking valve:** A speaking valve is a plastic attachment that fits on to the end of your child's tracheostomy tube and which has a one-way valve inside it that allows child to vocalize.

**Speech language pathologist (SLP):** A person trained to help with speaking, swallowing and communication problems.

**Stenosis:** The narrowing of a structure.

**Stoma:** The hole in the neck where you insert the tracheostomy tube.

**Subglottic Stenosis:** The narrowing of the airway below the voice box.

**Suctioning:** Pulling out fluid using a catheter, such as mucus from trach tube.

**Trachea:** The windpipe.

**Tracheomalacia:** A weakness and floppiness of the walls of the trachea (main airway).

**Tracheostomy:** Also called "trach" for short. It is a surgical opening that is made into the trachea (windpipe) in the neck. It is created for patients to have a different kind of breathing.

**Ventilator:** a machine used to help your child breathe. It attaches to the tracheostomy tube.



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