

Tracheostomy Care



**HOMeward
BOUND**

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Lesson 1

Understanding Your Child's Tracheostomy

Goals for this lesson

In the classroom, you will:

- state the reason your child needs a tracheostomy
- explain how a tracheostomy helps breathing
- state the importance of knowing the size and type of tracheostomy
- read the glossary in this booklet.

At your child's bedside, you will:

- participate as part of your child's health care team during daily rounds
- show you know how to choose the right size and type of tracheostomy
- name your child's tracheostomy brand and size
- meet with a Child Life specialist.

Reasons for a tracheostomy

A tracheostomy (trach) may be used for a short time or may be permanent.

A tracheostomy may be needed because:

- your child needs a machine (called a ventilator) to help them breathe
- your child's airway is blocked because of an accident, paralysis, surgery, or birth defect
- secretions in your child's airway need to be suctioned out
- your child's airway is blocked during sleep (sleep apnea).

How a tracheostomy works

Surgery is done to put in a tracheostomy. The surgery is done in an operating room. We will give your child medicine to make them sleep during the procedure.

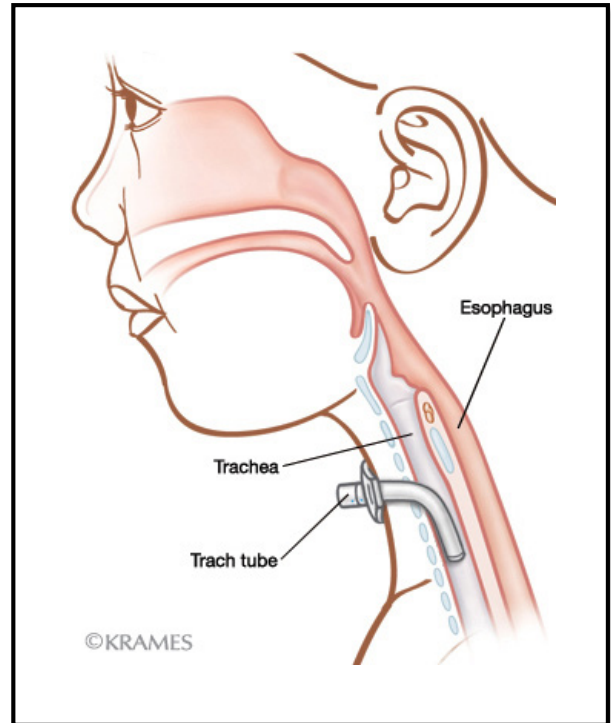
The surgeon creates a small opening in the neck, called a stoma. The trach tube is put into the stoma. One end of the trach tube rests outside the stoma. The other end rests inside the windpipe (trachea). When your child breathes in, air goes through the tube into the trachea and to the lungs. When your child breathes out, air comes out of the trach tube. Your child may still also breathe in and out through their nose.

Your child's tracheostomy

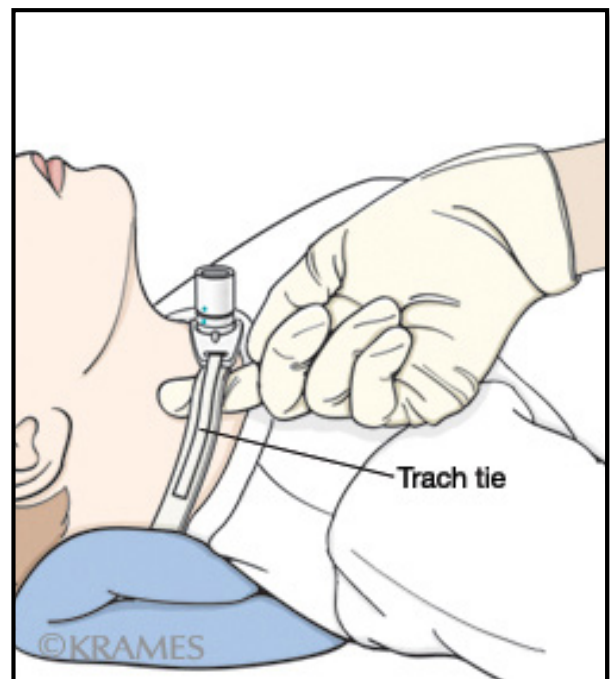
Your child's trach has 2 basic parts:

- the **outer cannula** (which includes the neck plate) is the plastic tube that fits into the stoma. This is the piece that your child breathes through. The outer cannula has a neck plate that is held in place by trach ties. The neck plate rests on the skin to hold the trach in place.
- the **obturator** is a tool that helps guide the cannula into the stoma. The obturator is removed after the cannula is in place.

Some children have an inner cannula that fits inside the outer cannula. The inner cannula can be removed for cleaning. Your child's health care team will let you know which type of trach tube your child has. Trach tubes are usually made of plastic.



The trach tube fits through the stoma into the trachea (windpipe).



Trach ties hold the trach tube in place.

Answers to common questions about tracheostomies

How long will my child have a trach tube?

This depends on the reason for the tube. Often, the new airway is needed for only a short time, and the tube is removed when it's no longer needed. But sometimes, the new airway must stay in permanently.

Will my child be able to speak with a tracheostomy?

The ability to speak depends on many things, including the reason for the trach, whether the vocal cords are damaged, and the type of trach tube. Your child's provider can tell you more about what to expect.

Will my child be able to eat with a tracheostomy?

With time, many people can eat normally after a tracheotomy. But some precautions are needed. Your doctor and a speech therapist will work with you and your child to help with diet.

If the trach tube is taken out, will it leave a hole?

If the stoma is no longer needed, it will be covered up. It will close on its own. Tracheostomy stomas often heal well and leave only a small scar. Rarely, surgery is needed to help close the stoma.

Can my child swim with a tracheostomy?

Your child's tube cannot go under water. But your child can wade or sit in water, as long as the stoma and tube stay dry.

Can my child take a bath?

Yes, but your child's trach tube must stay dry when they bathe. Do not let your child take a shower. To wash your child's hair, hold their head back while carefully supporting their head and neck. Keep water away from the trach tube.

Can my child's trach tube fall out?

Your child's trach ties should keep the tube from falling out, even if your child coughs. But you should know what to do if the tube does come out, as you were instructed at the time of placement.

Will I have support learning about the trach?

The thought of a tracheostomy may be scary at first. It can take time to get used to the idea. Your child's health care team of doctors, nurses, and therapists can help you and your family. They can explain what your child's tracheostomy involves and what it may mean for you. They will teach you how to care for your child's trach and also help you and your child adjust to living with one.

If you have other questions, ask a member of your child's health care team.

Lesson 2

Tracheostomy Care

Goals for this lesson

In the classroom, you will:

- state how often a trach typically needs to be changed
- describe the steps to change a trach
- explain when a heat and moisture exchanger (HME or artificial nose) can be used and the benefits of it
- list the signs and symptoms that mean your child's trach needs suctioning
- state the need to clear the airway before feedings
- describe suctioning equipment and correctly put equipment together
- state ways to improve respiratory health
- describe comfortable body positions that will help make breathing easier
- show you can give care by using the teaching doll (mannequin) to:
 - change the trach
 - care for the stoma
 - secure trach ties
 - suction the trach.

At your child's bedside, you will:

- wash your hands
- care for your child's stoma at least twice a day
- change your child's trach ties
- change your child's tracheostomy
- explain how to get additional trach supplies for use at home
- suction your child's trach at the right times
- position your child to help make breathing easier.

Cleaning your child's stoma

We'll teach you how to take care of your child's skin and prevent infection by keeping your child's trach clean. You need to clean the stoma at least once a day or more often, if your child's doctor tells you to do so.

Gather your supplies

- Split gauze pads or other non-fraying material your child's doctor suggests
- Cotton swabs
- Bowl filled with the type of solution your child's doctor tells you to use. This may be normal saline solution or a mixture of equal parts normal saline and hydrogen peroxide.

Don't use a hydrogen peroxide mixture directly on your child's skin unless the doctor tells you to do so. Hydrogen peroxide can irritate the skin and raise the risk for infection. If you're told to use a hydrogen peroxide mixture on your child's skin, be sure to rinse the area with normal saline afterward.

Follow these steps

1. Wash your hands with soap and warm water.
2. Put on clean, disposable, powderless gloves.
3. Clean the neck plate (flange) and skin:
 - Remove the gauze from behind the neck plate. Check the area for signs of skin breakdown or infection.
 - Clean the neck plate and the skin under it. Use clean gauze pads dabbed in normal saline solution. A good method is cleaning the stoma in a clockwise way, one “15-minute” section at a time, like this:
 - start at “12 o’clock,” and wipe to the “3 o’clock” position
 - with a new gauze pad, wipe from 12 o’clock to 9 o’clock
 - with a new gauze pad, wipe from 3 o’clock to 6 o’clock
 - with a new gauze pad, wipe from 9 o’clock to 6 o’clock.
 - Gently pat the skin dry.
 - You can follow this same pattern on the surrounding skin and tube flange.
4. Put a clean, split gauze pad under the neck plate. This pad protects your child’s skin. Do not cut a larger gauze pad because the frayed edges will raise the risk of infection and the risk of your child inhaling loose threads into the trach.

Changing the trach ties

Trach ties need to be changed when you change the trach and when the ties are dirty. It’s best to have another person with you when you change the trach ties.

Gather your supplies

- trach ties
- rolled up towel or pillow for under your child’s neck
- suction equipment and catheter

Follow these steps

1. Place a rolled-up towel under your child’s shoulders to give you a better view of the trach.
2. You and your helper should wash your hands with soap and warm water.
3. Put on clean, disposable, powderless gloves.
4. Remove one side of the trach tie while your helper holds the tube in place.
5. While the tie is removed, clean the neck with soap and water
6. Gently pat the skin dry.
7. Thread the clean trach tie into the open side and attach.
8. Repeat with the other side.
9. Check the tightness of the new ties (ties should be just tight enough to slip 1 finger under the tie).
10. Gently pull on the tracheostomy to make sure it’s snug.

Changing your child's trach

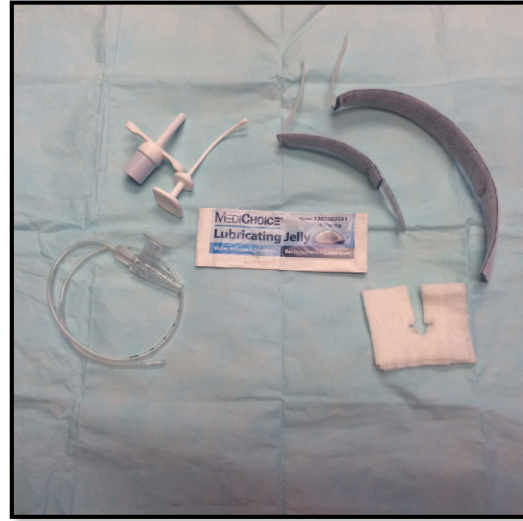
A tracheostomy requires regular care to keep the area clean and to prevent infection and skin breakdown. Clean and check the skin at least once a day. Change the trach tube every 7 days or as often as your child's provider told you.

Some people find it helpful to set up and do changing in the same place each time. Choose a clean, well-lighted space.

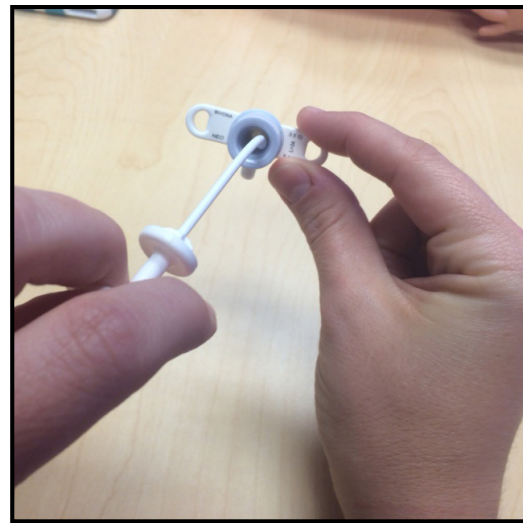
It's best to have another person with you when you change the trach tube.

Gather your supplies

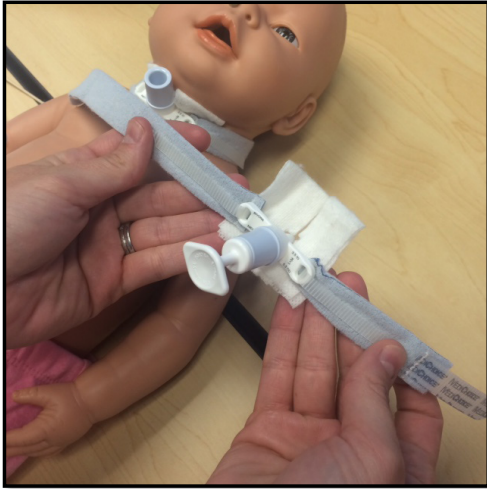
- rolled up towel or pillow for under your child's neck
- liquid soap, alcohol, or disinfectant foam
- clean, disposable, powderless gloves
- gauze
- normal saline solution
- trach ties and scissors, cut to the right length
- trach tube with obturator (one set that is the same size and another that is one size smaller)
- suction machine
- water-soluble lubricant
- resuscitation bag



Supplies for changing the trach.



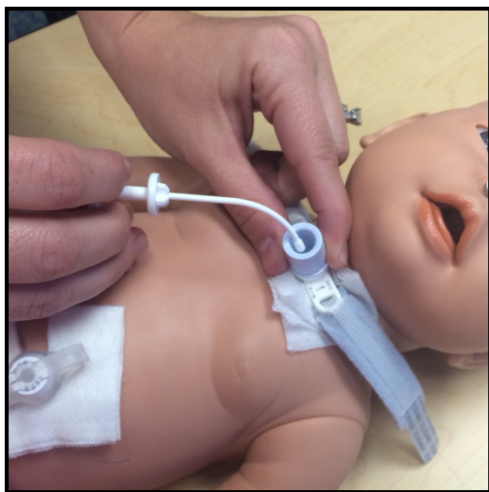
The obturator being put into a cannula. The obturator helps guide the cannula into the stoma.



Get the fresh trach ready before removing the old trach.



A new trach tube going into the stoma. The obturator is inside the cannula.



Once the new cannula is in place, take the obturator out so your child can breathe.

Follow these steps for changing the trach tube

If your child is old enough to understand, explain what you're doing as you go through the steps of changing their trach tube. If there are 2 people available, work together to change the trach. One person will take the old trach out. The other person will put the new trach in.

1. Have your child lie on their back in a comfortable position.
2. You and your helper should wash your hands with soap and warm water.
3. Suction your child's trach tube before you change it.
4. Place a rolled-up towel under your child's shoulders to give you a better view of their trach.
5. Put on clean, disposable, powderless gloves.
6. Open the trach tube package. Insert the obturator into the new trach tube.
7. Attach the trach ties, and position the split gauze under the neck plate.
8. Apply a small amount of lubricant to the end of the trach tube.
9. Remove the entire old trach tube and gauze.
10. Put the new trach tube in right away. While holding the edges of the tube, remove the obturator right away. **Your child will not be able to breathe if it's left in place.**
11. Secure the trach ties.

Suctioning

In a trach tube, mucus can build up and thicken. As a result, mucus can plug up the trach tube, making it hard for your child to breathe. Regular suctioning of mucus keeps the tube clear. We'll teach you how and when to suction to keep the tube clear.

When to suction

Usually, suctioning is done just before changing and cleaning the trach tube. But you may need to suction more often, depending on your child's age and the reason for the trach tube. An older child may be able to tell you if they feel that suctioning is needed. Here are signs that you may need to suction:

- Your child is breathing more quickly.
- You hear a whistling or rattling sound when your child breathes.
- There are bubbles of mucus at the trach opening, or you hear gurgling or rattling sounds.
- Your child is having trouble breathing or eating.

Gather your supplies

As with cleaning, you may find it easier to set up in the same area each time you do suctioning. Choose a clean, well-lit space near a sink. Suctioning supplies include:

- liquid soap, alcohol, or disinfectant foam
- clean, disposable, powderless gloves
- suction machine, tubing, and catheters (you may also use an additional premarked catheter to help guide insertion depth)
- sterile water
- sterile saline solution
- syringe or eyedropper
- sterile or clean cup
- tissues
- resuscitation bag

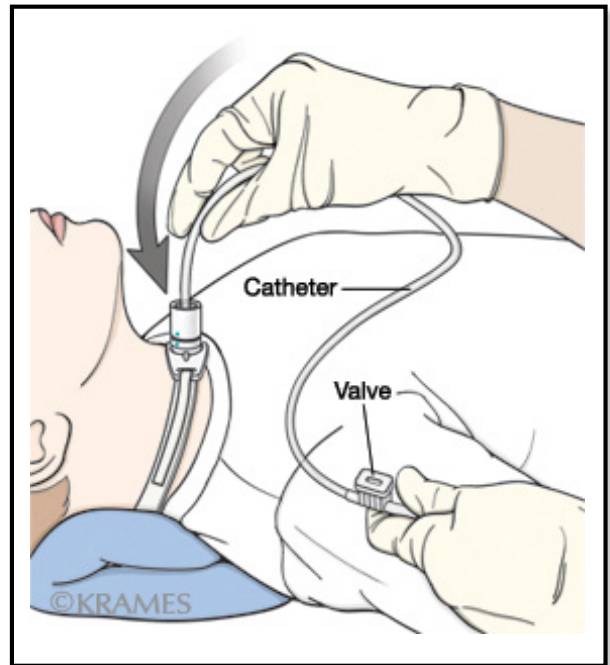
Set up your equipment

First explain to your child what you are about to do. Then follow these steps:

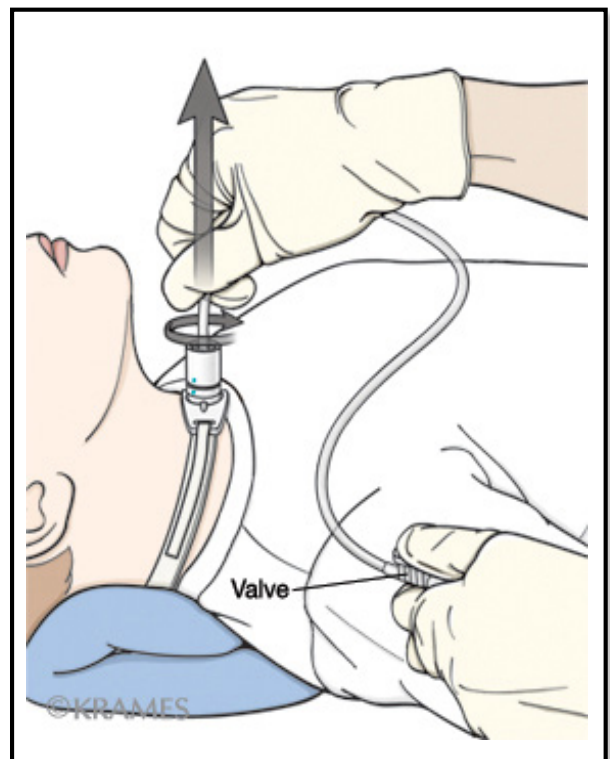
1. Wash your hands with soap and warm water.
2. Put on clean, disposable, powderless gloves.
3. Attach the catheter to the suction machine. Don't touch the end that will go into the trach tube.
4. Turn on the suction machine to 50 to 100 mm Hg.
5. Pour sterile water into a cup.
6. Test whether the catheter is working. Dip the tip of the catheter into the sterile water.

Follow these steps

1. Have your child take a few deep breaths.
2. Insert a catheter gently into the trach tube as far as you've been instructed to do. (How deep you go depends on the size of your child and the length of the trach tube.)
3. Apply suction by covering and uncovering the suction valve on the catheter.
4. While twirling the catheter, withdraw it to remove mucus. Do not keep the catheter in place for more than 5 to 10 seconds at a time.
5. Draw saline into the catheter to clear it of mucus.
6. Let your child rest and breathe for 1 to 2 minutes.
7. Repeat suctioning until the trach tube is clear and makes no more rattling sounds.
8. Check the secretions. Tell the doctor if there are any changes in odor, thickness, color, or amount.



Insert the catheter into the trach tube no further than taught.



To remove mucus, cover the valve and twirl the catheter as you withdraw it.

Clean up

1. Turn off the suction machine.
2. Throw away the saline and gloves.
3. Ask us whether you can reuse the catheter and, if so, how often.
If you are reusing the catheter, flush it with distilled water, wipe the outside with alcohol and air dry. Keep the catheter tip sterile by covering it with a cap. Store the catheter in its original package in a clean, dry place.
Or, throw the catheter away.
4. Follow the equipment supplier's directions for how to clean the suctioning machine and how often.

Making suctioning easier for your child

Suctioning can produce a gagging sensation, which can be scary to your child. Tell your child that this is normal. It may also help to do relaxing activities beforehand. Let your child rest in between suctioning. And don't suction for any longer than your child can hold their breath. The whole session should last no more than 5 to 10 minutes.

Lesson 3

Cleaning and Maintaining the Trach Equipment

Goals for this lesson

In the classroom, you will:

- state how often a trach needs to be cleaned and sterilized
- describe the steps to clean and sterilize a trach.

At your child's bedside, you will:

- wash your hands
- clean the trach tube following recommended guidelines.

Gather your supplies

- liquid soap
- trach tube brush
- two sterile or disposable cups
- sterile saline, if using cuffed trach

Cleaning the trach

Follow these steps for cleaning the trach tube

1. Mix soap and warm water in a sterile or disposable cup. Put the trach and obturator into the cup. Let them soak for 30 to 60 minutes.
2. Clean trach tube with the soapy water, using the trach tube brush to clean inside the tube.
3. Rinse the trach tube with fresh, warm water.
4. Place the trach tube on a clean, dry area to dry.

Cleaned trach tubes can be stored in a plastic bag or a dry sterile or disposable cup. They can be used again for up to 6 months.

*If you're using a cuffed tracheostomy tube, the cuff should be rinsed gently in sterile saline and not come in contact with any cleaning detergents or chemicals.

Deep cleaning a Bivona trach

Follow these steps for deep cleaning a Bivona trach

If your child has a Bivona trach, deep clean the parts once a month by using one of these two options.

Option 1

1. Put the cleaned and disassembled tube and obturator in a steam sterilizer—for example, an electric baby bottle sterilizer. Do not use a microwave sterilizer.
2. Follow the manufacturer's instructions for sterilizing.

Option 2

1. Bring a pan of clean water to a rolling boil.
2. Place the cleaned and disassembled tube and obturator into the pot, cover it, and remove the pot from heat.
3. Let the water cool until you're able to safely remove the tube and obturator with your hands. Be sure to wash your hands first.
4. Let the tube and obturator air dry. Then store them in an airtight container.

Lesson 4

Safety

Goals for this lesson

In the classroom, you will:

- describe the equipment that should be in your hospital-issued trach bag and at the child's bedside at all times
 - suction equipment
 - an extra tracheostomy
 - lubricant
 - extra ties
 - a smaller size tracheostomy
 - a manual bag resuscitator bag
- describe how to be prepared for an emergency; for example, if your child's trach is blocked
- describe the signs and symptoms that you should report to your child's health care provider
- describe the signs and symptoms that need an emergency 911 call
- name other caregivers who are able to care for your child
- state the need to notify emergency responders and your utility company regarding your medically fragile child
- name the hazards that could block your child's trach
- describe safe sleep methods
- show bag tracheostomy ventilation on a CPR teaching doll (mannequin)

At your child's bedside, you will:

- become familiar with your child's hospital-issued trach bag and collect the care items and equipment that should be kept with your child at all times
- show bag tracheostomy ventilation on your child
- remove hazardous items away from your child's reach.

Signs that the trach is blocked or is out of place

Your child's trach tube may be blocked or be out of place if:

- they're having a hard time breathing, are breathing quickly, or they aren't breathing at all
- they're gasping, grunting, wheezing, or making a whistling sound when they breathe
- they become restless
- they have flared nostrils
- they have sweaty or clammy skin
- they look anxious or frightened
- they are pale or blue around the lips, mouth, or fingernails
- it looks like the skin between the ribs, in the hollow of the neck, or under the breastbone pulls in with each breath.

What to do if the trach is blocked or out of place

- Keep a resuscitation bag with you at all times.
- Keep a smaller-sized trach tube on hand as a backup.
- If there are signs of a blockage, first suction out the trach tube. If the tube is still blocked, change the trach tube and suction again.
- If you're not able to replace the trach with another one of the same size, insert the smaller trach instead. Then contact the ENT clinic right away.
- **If your child keeps having trouble breathing or loses consciousness, call 911 right away!**

Bagging your child's trach tube

The manual resuscitator bag is often called "the bag." You can use it to give your child extra breaths.

How to bag

1. Connect the bag to your child's tracheostomy.
2. As you squeeze the bag, watch your child's chest rise.
3. As soon as your child's chest rises, release the bag.
4. Repeat the cycle of squeezing and releasing until your child is back to their usual breathing.

Lesson 5

Living with a Tracheostomy

Goals for this lesson

In the classroom, you will:

- list ways to communicate with your child and find out what they need
- describe your child's feeding plan.

At your child's bedside, you will:

- explain the reasons for your child's prescription medicines
- state side effects of medicines
- feed your child
- give your child medicines
- practice safe sleep by showing how to place your child down for sleep (if your child is younger than 1 year of age)
- meet with a Child Life specialist.

Helping your child adjust to a tracheostomy

Depending on your child's age, it may take them some time to adjust to a tracheostomy. You can help them by becoming skilled in trach care. Also, stay as relaxed as possible. If you stay relaxed, it will help your child stay calm if problems happen. For example, if your child feels like they might gag, help them relax by having them breathe in slowly and deeply.

Ways to help your child and keep them safe

Eating. Follow any instructions you're given about eating and drinking. Once your child is able to eat, encourage them to eat slowly and chew thoroughly.

Talking. Your child may need speech therapy to learn how to make talking easier. Some children benefit from a speaking valve, which helps them speak at a louder volume. It takes some time to adjust to the valve. If your child can't talk, help them learn new ways to communicate—with flash cards, a small whiteboard, or facial expressions.

Bathing. Make sure your child keeps their trach tube dry when bathing. You must watch your child while bathing, and don't let your child take a shower. To wash your child's hair, hold their head back while carefully supporting their head and neck. Keep water away from the trach tube.

Being outside. In dirty or dusty areas, cover the trach tube with an artificial nose—also called a humidity exchanger (HME). It contains a small filter. Avoid sandboxes and beaches. Stay inside on very cold or windy days.

Playing. Watch your child when they're playing with other children to prevent items being put into the trach tube or the trach tube getting pulled on. Do not let your child play contact sports or water activities.

Safe sleep. If your child is younger than 1 year of age, practice safe sleep by placing them on their back to sleep, unless your child's doctor recommends a different sleep position because of medical reasons.

Glossary

Aspiration: When food, liquid, or other substances enter the windpipe (trachea). This is commonly referred to as food “going down the wrong pipe” when you accidentally inhale food or liquid instead of swallowing it. This can be very dangerous and make your child very sick.

Mucus: A thick, sticky fluid made by the body to clean air as it passes through airways. This carries dirt out of the body. If mucus builds up, it can plug the trach tube.

Obturator: A device that helps guide the outer cannula into the stoma. The obturator is removed as soon as the outer cannula is in place.

Outer cannula: The tube that is placed directly into the stoma. This tube includes the neck plate.

Stoma: A hole through the front of the neck into the trachea.

Suctioning: A way of cleaning mucus and other substances out of the trach tube using a special machine.

Trachea: The tube (windpipe) through which air flows between your throat and lungs.

Tracheostomy: An opening on the front of the neck into the trachea that allows you to breathe in and out.

Tracheotomy: The surgery that makes the opening into the trachea.

Trach ties: The laces that attach to the neck plate to hold the outer cannula in the stoma.

Call the ENT clinic at (615) 936-8176 right away if:

- your child is short of breath, even after you've changed their trach tube
- your child's stoma is red, painful, or bleeding
- there is yellow, green, smelly, bloody, or thick mucus coming from the stoma
- your child has an oral temperature of 100.4°F (38°C) or higher; or a rectal temperature of 101.4°F (38.5°C) or higher
- there is swelling around the trach tube
- your child has pain when you suction the trach
- your child vomits
- it's hard to put in the trach tube or suction catheter.

Clinic hours are 8 a.m. to 4:30 p.m., Monday through Friday. If you call after hours, the on-call doctor will be paged and will call you back. If you feel your child's symptoms are life threatening, take them to the nearest emergency room.

Monroe Carell Jr. Children's Hospital at Vanderbilt

2200 Children's Way

Nashville, TN 37232

(615) 936-1000

ENT Clinic — (615) 936-8176

