

MUSC Pediatric Tracheostomy Handbook

MEDICAL UNIVERSITY OF SOUTH CAROLINA
Department of Otolaryngology Head & Neck Surgery

www.muscENT.org

Changing What's Possible in Health Care



**The Medical University of South Carolina's
Pediatric Otolaryngology — Head and Neck Surgery
offers the state's only comprehensive Children's ENT Care**



David R. White. MD

Associate Professor
Director, Pediatric Otolaryngology,
Director, MUSC Airway & Aspiration Center for Children
MD: MUSC
Residency: University of North Carolina, Chapel Hill
Fellowship: Cincinnati Children's Hospital



Lucinda A. Halstead, MD

Associate Professor
Director, Evelyn Trammel Institute for Voice & Swallowing
MD: George Washington University
Residency: New England Medical Center, Boston



Christopher M. Discolo, MD, MSCR

Assistant Professor
MD: State University of New York Health Science Center at
Brooklyn
Residency: Cleveland Clinic
Fellowship: University of Minnesota/Pediatric ENT Associates



Carissa Carie, PNP

Pediatric Nurse Practitioner
PNP: Medical University of South Carolina

Multidisciplinary Pediatric Support

- Anesthesiology
- Audiology
- Cardiothoracic surgery
- Gastroenterology
- Pulmonology
- Speech/language pathology

Multidisciplinary Pediatric ENT Clinics

- Craniofacial Clinic
- Down Syndrome Clinic
- Evelyn Trammell Institute for Voice and Swallowing
- MUSC Airway and Aspiration Center for Children
- Velopharyngeal Insufficiency Clinic

In the event of an emergency please call

911

MUSC Emergency

(843) 792-3531

Appointment Scheduling

(843) 792-3531

Offices Downtown | Mt. Pleasant | North Charleston

MUSC Otolaryngology Head & Neck Surgery

135 Rutledge Ave., 2nd floor - Rutledge Tower,
Charleston, SC 29425-5500

MUSC ENT Associates - East Cooper

1280 Johnnie Dodds Blvd., Suite 205
Mt. Pleasant, SC 29464

MUSC Specialty Care - North

8992 University Place
North Charleston, SC 29406

MUSC Specialty Care - West Ashley

2125 Charlie Hall Blvd.
Charleston, SC 29414

Charleston's only complete Pediatric ENT care.



MEDICAL UNIVERSITY OF SOUTH CAROLINA

www.muscENT.org

©2012 MUSC Department of Otolaryngology - Head & Neck Surgery

PEDIATRIC TRACHEOSTOMY HANDBOOK

MUSC Department of Otolaryngology - Head & Neck Surgery

Contents

What is a tracheostomy?	3
Why does my child need a tracheostomy?	4
How long will my child require a tracheostomy?	4
Will my child be able to speak?	5
Will my child be able to eat?	5
Types of tracheostomy tubes	6
How do I take care of the tracheostomy?	6
Suctioning of the tracheostomy	7
Cleaning around the tracheostomy	8
Changing the ties	8
Providing humidity	9
Changing the tracheostomy tube	10
What should I look for if I think my child is in trouble?	12
How do I perform CPR on my child if they have a tracheostomy?	15
What safety measures can I take at home?	17
Definitions	18
Warning signs	20

PEDIATRIC TRACHEOSTOMY CARE FORMS

Care	22
Suctioning	23
Tie Change	24
Tube Change	25
CPR	26
School Policy	27

Pediatric Tracheostomy Care forms are available online at www.muscENT.org

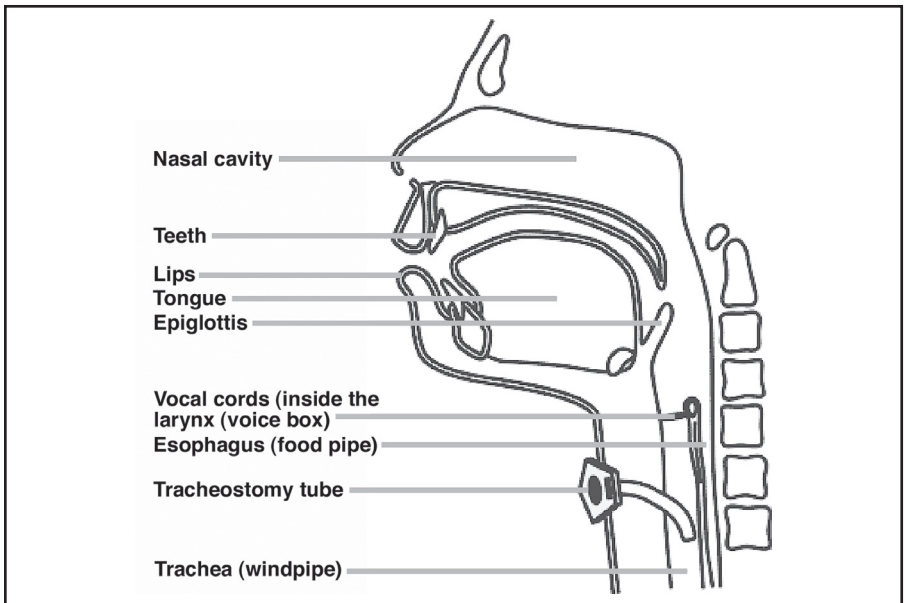


What is a tracheostomy?

A tracheostomy is a surgical procedure performed in the operating room. An incision is made in the trachea or windpipe to form an opening in the trachea allowing a tube to be inserted into the stoma or opening. Once the tube is in place it keeps the airway open allowing a normal breathing pattern and passage of secretions.

When a child has a tracheostomy, he will breathe through the tracheostomy tube instead of through his mouth.

It is then very important to take care of the tracheostomy site to decrease infection and promote healthy breathing.



Why does my child need a tracheostomy?

There are many reasons a child may require a tracheostomy. Reasons typically include blockage of the airway, long term ventilatory or breathing support, or inability to properly clear the airway of secretions.

Diagnoses that may require a tracheostomy include but are not limited to:

Airway Problems:

- Craniofacial anomalies (ie. Treacher Collins; Pierre Robin sequence)
- Infection (ie. Epiglottitis; Croup)
- Obstructive sleep apnea
- Subglottic stenosis
- Subglottic web
- Tracheomalacia
- Vocal cord paralysis

Lung Problems:

- Bronchopulmonary dysplasia
- Chest wall injury

Other problems:

- Aspiration
- Long-term unconsciousness or coma
- Neuromuscular diseases (ie. Cerebral palsy)
- Spinal cord injury

How long will my child require a tracheostomy?

The length of a time a tracheostomy is in place depends on the individual child. In patients under one year of age, the tracheostomy is often required for 1-2 years to allow adequate airway growth for decannulation.

Will my child be able to speak?

Speech sounds are made by the passage of air through the vocal cords. Since the tracheotomy tube is placed below the larynx or voice box, most children can speak without difficulty once the tube is inserted. However, following the surgery, the ability to speak may be delayed because of swelling around the tube, the size of the tube, and a blockage of the airway.



Some children may require the assistance of a Passy-Muir valve or speaking valve to allow the air to pass normally through the vocal cords instead of leaking through the tracheotomy tube. Your child may also be able to cover the tube with his finger which will also allow air to pass through the vocal cords to make speech sounds.

Will my child be able to eat?

A tracheostomy does not typically prevent children from eating normally since the tube is inserted in front of the esophagus. If your child has another underlying medical condition that affects the ability to swallow, then eating may become more difficult.

Signs your child is having difficulties swallowing:

- Refusal to eat
 - Coughing or choking while eating or drinking
 - Vomiting
 - Food seen in the secretions from tracheostomy
 - Increased secretions from the tracheostomy
 - Frequent respiratory infections
 - Congested lung sounds
-
- » Encourage suctioning prior to eating to decrease the amount of secretion.
 - » Increased secretions can often stimulate choking or coughing when eating.
 - » Promote increased fluid intake to thin secretions allowing them to be suctioned or coughed easier.
 - » Avoid using a plastic bib while eating since this may block air passing from the tracheostomy tube.

Types of tracheostomy tubes:

The type of tracheostomy tube your child will have is dependent upon your child's specific needs, medical condition, size of the airway and age of child.

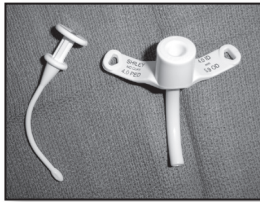
Tracheostomy tube may have one tube or two tubes with an inner cannula placed inside the outer more permanent tube.

Parts of a tube may include:

- Tracheotomy tube or cannula
- Flanges or faceplate where the ties are secured
- Obturator or guide for inserting the tube



A cuffed tube is a tube that has a balloon on the end to allow air to inflate the tube providing a tighter seal in the airway. Most children who have a cuffed tube require ventilatory or breathing support.



An uncuffed tube is a tube that does not have a balloon on the end. Most infants and small children will have an uncuffed tube due to the size of their airway even if ventilation is required.

A T-tube may be used instead of a standard tracheostomy tube depending on your child's medical condition. The shape of the T-tube allows the upper part of the tube to hold open the airway that was surgically repaired while the other parts act like a breathing or tracheotomy tube.

How do I take care of the tracheostomy at home?

Tracheostomy care should be performed at least once a day and as needed depending on when the tracheostomy was placed and the amount of secretions.

Daily care involves suctioning the tracheostomy when needed, cleaning around the tracheostomy site, changing the ties, and providing humidity.

Suctioning of the tracheostomy

Suctioning the tracheostomy removes excess mucus from the windpipe allowing easier breathing

Signs your child may require suctioning:

- Rattling mucus that is not cleared with coughing
- Fast breathing or rattling
- Bubbles of mucus coming from the tracheostomy tube opening
- Dry, whistled sound
- Restlessness
- Pale or bluish discoloration of the skin
- Flared nostrils
- Frightened look



Steps to suctioning:

- ALWAYS WASH YOUR HANDS PRIOR TO SUCTIONING!!!
- Measure the length of the tracheostomy tube with a flexible catheter so that the tip just protrudes from the tube
- Cover the suction port with your finger. Secretions will then be suctioned out of the tracheostomy tube. Do not suction for more than 6-8 seconds at a time. Your child cannot get air while he is being suctioned.
- Let your child rest for a minute while you listen for more bubbling.
- If your child continues to bubble and cannot cough out the secretions, you will need to suction again until the tracheostomy is clear.
- Before repeat suctioning, give your child 4 or 5 "breaths". Use the breathing bag to push air into the tracheostomy, as needed.
- Put a few drops of the salt water (saline) solution into the tracheostomy, if needed.
- Give your child 4 or 5 "breaths" using the breathing bag, as needed.
- Carefully insert the suction catheter into the tracheostomy using the appropriately measured length
- Cover the suction port with your finger and remove secretions.
- Check to see if the bubbling has cleared.

Note: If your child has a T-tube both ends of the tube will need to be suctioned. Directions will be given to you on how to perform this type of suctioning.

Important to remember that deeper suctioning is not routinely needed and may cause scarring of the airway if used too frequently or incorrectly.

Cleaning around the tracheostomy

You will need to clean the area around your child's tracheostomy site and neck every day and whenever dirty. This area should be cleaned and all crusts removed with soap and water or half peroxide and half water solution. After cleaning, rinse the area with water.

Signs the tube site may be infected:

- redness
- drainage
- foul odor
- swelling
- cuts

Changing the ties

The tracheostomy ties which hold the tracheostomy in place should also be changed daily and whenever dirty. The two main types of tracheostomy ties are twill tape and Velcro ties.



Twill tape change

1. Wash hands. Cut a new piece of tracheostomy tie long enough to go around the child's neck 2 ½ times.
2. Have one person secure the tube while the other person removes the old tie.
3. Thread the new tie through the neckplate and bring the ends of the ties together.
4. Bring both ties around the neck and thread through the other side of the neckplate.

5. Allow one finger to fit between the ties and the neck prior to securing
6. Secure with three square knots. Trim excess with scissors.

Velcro tie change

1. Wash hands. Remove Velcro strap from package and trim to appropriate length.
2. Have one person secure the tube while the other person removes the old strap.
3. Thread each end of the strap through both sides of the neckplate.
4. Bring both ends of strap around the neck and secure with Velcro closure.
5. Allow one finger to fit between the ties and the neck.

Providing humidity

Air is normally warmed and moistened in the nose and throat before it gets to the lungs. A child with a tracheostomy needs humidity to moisten the air that he breathes. Your child will have a machine called an air compressor that is equipped with a nebulizer. The nebulizer provides warm moist air to the tracheostomy, especially at night. Without humidity, your child's secretions will become thicker and more difficult to suction. Thick, dry secretions could block your child's tracheostomy and stop him from breathing.

Humidity should be used at night and whenever the child's secretions look thicker than normal. The daily length of time a child needs humidity varies according to the child.

Many children are able to use an "artificial nose" on their tracheostomy to keep the humidity in the tracheostomy and to prevent drying and thickening of secretions. Your doctor will tell you if your child can use an "artificial nose." The "nose" should be changed daily and cleaned if it becomes soiled with secretions.

If your child is on oxygen, he will be on an oxygen concentrator machine at all times rather than an air compressor. Your child will use portable oxygen tanks for travel outside of the home or during a power failure.

If your child is on a home ventilator, you will receive special instructions regarding the use of this equipment.



Changing the tracheostomy tube

The tracheostomy tube is usually changed every 1 to 4 weeks to prevent mucus build-up and promote cleanliness. Check with your provider for their recommendations.

It is best to change the tube before a feeding or at least 2 hours after eating. It is also recommended that two people are present during a tube change.

Steps to changing the tracheostomy tube:

1. ALWAYS wash and dry hands before changing the tracheostomy
2. Prepare any ties and attach them to the flanges of the tracheostomy tube. Avoid placing the cannula on any unclean surface
3. Prepare suctioning equipment and suction your child's tracheostomy tube
4. Place the child on his/her back with a small towel roll under their shoulders
5. Have one person cut or loosen the ties, hold the tube in place
6. The second person moistens the tip of the new tracheostomy tube with lubricant
7. The first person removes the old tube once the second person is ready
8. The second person inserts the tracheostomy tube with the guide in place in a smooth downward motion curving it slightly to the side. **DO NOT FORCE THE TUBE!**
9. Remove the obturator or guide while holding the tube securely. Feel for air movement with your fingers or listen for cough or secretions
10. Changing the tube will stimulate a cough response. Have tissues available to wipe secretions away or suction them.
11. Tie the tracheostomy ties allowing space of one finger between the neck and ties

Tip: Have at least one spare tracheostomy and another tracheostomy 1/2 size smaller than your child wears available during tube change.

If the size tube your child currently wears does not fit easily into the tracheostomy site, then place the size smaller tube in the site.

Notify your provider if a smaller size tube was placed.

If you are unable to reinsert a tracheostomy tube, have someone call 911 for emergency assistance.

What should I look for if I think my child is in trouble?

Although your child has an airway, there are still possible threats that may prevent adequate breathing.

Respiratory distress:

- Flared nostrils
- Rapid breathing or change in breathing pattern
- Noisy breathing
- Clammy and sweaty skin
- Restlessness

Mucus plug: A mucus plug is a collection of mucus that has clogged the airway.

- May have symptoms of respiratory distress if unable to breathe easily
- Can be prevented through adequate fluid intake, proper suctioning, and coughing
- A mucus plug may be removed by suctioning the airway and loosening the secretions with saline

Bleeding

It is not unusual to have occasional blood-tinged or pink colored mucus. However, bright red blood may be a sign of serious damage to the airway.

Causes of bleeding may include:

- Dry airway
- Frequent suctioning
- Infection
- Excessive coughing
- Irritation from the tracheostomy tube
- Trauma to the tube
- Foreign body aspiration

How to prevent bleeding:

- Suction when necessary and avoid frequent deep suctioning
- Use appropriate methods of humidification

Bright red bleeding:

- If you see bright red bleeding from your child's tracheostomy it is important to contact your provider or call 911

Blood-tinged or pink mucus

- Provide gentle suctioning
- May use saline to loosen secretions
- Notify provider if it continues

Accidental decannulation

If the tracheostomy tube is not secured properly then it is easy for your child to cough, pull, or have the tracheostomy fall out. If the tracheostomy comes out partially or completely, your child may have difficulty breathing.

Prevention:

- Make sure the tracheostomy ties are secure, dry, and intact
- If the ties are showing signs of wear such as thinning of the tie or tears, it is time to replace the ties.
- Do not allow anyone or your child to pull at the tracheostomy

Complications:

- Symptoms of respiratory distress
- If the tracheostomy comes out, then replace the tube as you would perform a tracheostomy tube change.

Aspiration

This occurs when secretions or food particles from the stomach or esophagus enter the airway.

Signs of aspiration:

- Drooling
- Coughing or choking with swallowing
- Food contents in the secretions from the tracheostomy
- Frequent lung infections

Prevention:

- Thickening liquids with artificial thickener or foods such as puddings, baby foods, yogurt, cereal, or jello
- Have your child sit upright during and after feedings for 30 minutes
- Encourage slow eating and small bites

What to do if aspiration occurs:

- Carefully watch your child's eating and drinking
- Suction the tube until the secretions are clear of the liquid or food particles
- Change the tube if it is clogged
- Notify your provider if your child is showing signs of breathing difficulties
- Work with a speech therapist as recommended

Remember your child can also aspirate if they vomit. It is best to turn your child's head to the side and suction as needed.

Infection

Since air inhaled through a tracheostomy is not filtered by the body, your child is at an increased risk for infections.

Signs of infection:

- Fever
- Foul odor
- Yellow or green secretions
- Redness or bleeding at the stoma site
- Fast breathing or change in breathing pattern
- Lethargy

If you feel that your child's tracheostomy may be infected, please call your provider.

How do I perform CPR on my child if they have a tracheostomy?

Performing CPR on your child may be necessary if he or she stops breathing or is not responding to voice or touch and medical help is not immediately available.

Remember CAB: Circulation--Airway--Breathing

Performing CPR:

1. Have someone call 911 immediately.
2. Attempt to wake child by tapping or gently shaking him.
3. Place the child on his back on a hard surface.
4. CIRCULATION – if there are no signs of circulation, begin chest compressions.
5. Position the heel of one hand on the center of the child's chest, (if needed, use two hands to compress the chest if the child is large).
6. Begin compressions at a rate of 100 compressions per minute. Give 30 compressions in 18 seconds or less.
7. AIRWAY – pass a suction catheter through the tracheostomy to evaluate if the tracheostomy is patent.
8. If the tracheostomy is occluded with a mucus plug, clear the airway via saline lavage and bagging or change the tracheostomy.
9. BREATHING – if breathing is not present, place the breathing (AMBU) bag over the child's tracheostomy.
10. Give 2 breaths via breathing bag to the child. Allow for a brief pause between each breath.
11. Watch for chest movement – the chest will rise and fall with each breath
12. Check for signs of circulation after five cycles (2 minutes of CPR)
13. Continue CPR until breathing and/or circulation is restored or until medical help arrives.

Signs CPR is Effective

- The child's chest will rise and fall on its own.
- The child's color has improved.
- The child shows signs of circulation.

What safety measures can I take at home?

Even though your child may have a tracheostomy he can participate in normal daily activities. It is important to encourage a normal routine and daily activities as possible.

Listed below are helpful everyday tips to prevent unnecessary complications:

Your child should not go under water:

- Avoid swimming
- When taking a bath, have the tracheostomy artificial nose covering the tracheostomy to prevent water from entering the airway
- When washing hair, have your child lean back to allow water to be poured over his head avoiding the tracheostomy tube
- Do not use powders or aerosol sprays around your child
- Avoid contact sports
- Avoid hairy or fuzzy clothing and toys
- Avoid clothing articles that may block the tracheostomy tube
- If you choose to have a personal pet, it is best to chose one that can either live outside or one that does not shed
- DO NOT smoke around your child. Smoke is very irritating to your child's airway, lungs, and ears.

Resources:

- Aaron's Tracheostomy Page: <http://www.tracheostomy.com/>
- Cincinnati Children's Hospital Family resource guide: <http://www.cincinnatichildrens.org/svc/alpha/o/ent/resources/default.htm>
- Breath of Life--DVD

Definitions

Apnea: A period of time where breathing stops, typically greater than 5 seconds

Artificial nose: A device that is worn on the hub of the tracheostomy tube to warm and moisten air as your child breathes in

Cannula: A tube that is inserted into your child's airway

Carbon dioxide: A gas that is breathed out of the body

Cartilage: A tissue that forms the rings of the trachea, also found in the ear and nose

Cuff: An inflatable balloon at the end of some tracheostomy tubes

Decannulation: Removal of the tracheostomy tube from the airway, can be accidental or intentional

Dysphagia: Difficulty swallowing foods or liquids

Exhale: Breathe out

Inhale: Breathe in

Laryngomalacia: A condition in which the tissues surrounding the voice box are floppy. The sound typically produced by laryngomalacia is known as stridor.

Larynx: Area in the throat also known as the voice box

Lumen: Opening of the tracheostomy tube

Mucus: A thick fluid that is produced in the lungs and airway. Also called secretions or phlegm.

Nebulizer: A machine that administers moisture or medicine to your child's airway and lungs.

Neckplate: The part of the tracheostomy tube that rests on your child's neck. Also called faceplate.

Obturator: The guide inserted into the tracheostomy tube during a tube change.

Otolaryngologist: A physician who has specialized in the diagnosis, treatment, and management of persons with problems of the ear, nose, and throat

Phonation: The ability to make sounds or words through the vocal cords.

Respiratory therapist: A person who is certified in treating breathing disorders by delivering specific medications or therapies

Retraction: A pulling or tugging in of the muscles of the rib cage. Most commonly seen when your child is having difficulty breathing.

Saline: Salt water that is similar to the fluid naturally found in your body.

Sleep apnea: Period of time during sleep when your child may pause or stop breathing.

Speaking valve: A device that is worn on the tracheostomy tube that will allow air to flow in the tube but allows air taken in to pass through the vocal cords making sound.

Speech pathologist: A person who is trained to assist and administer care to people with speaking or swallowing problems.

Stenosis: A tightening of the muscle that may cause the airway to be smaller than normal.

Stridor: A high-pitched squeaking noise that can be heard when the child breathes in or out.

Stoma: The opening in the neck where the tracheostomy tube is inserted

Suction: Removing mucus or secretions from your child's airway

Trachea: Windpipe

Tracheostomy: Surgical procedure to create an opening in your child's neck to make an airway

Ventilator: A machine that will mechanically breathe for your child making breathing easier

Vocal cords: Two bands of muscle in the voice box or larynx that vibrate to produce sound when air passes through them.

Warning Signs

	Cause	Symptoms
Mucus Plug	A mucus plug is a collection of mucus that has clogged the airway.	<ul style="list-style-type: none"> • Restless, irritable or fussy • Frightened look • Flared nostrils • Rapid breathing or change in breathing pattern • Retractions • Noisy breathing • Clammy and sweaty skin
Infection	Since air inhaled through a tracheostomy is not filtered by the body, your child is at an increased risk for infections.	<ul style="list-style-type: none"> • Fever • Foul odor • Yellow or green secretions • Increased or thickened secretions • Redness or bleeding at the stoma site • Fast breathing or change in breathing pattern • Lethargy
Bleeding	Causes of bleeding may include: <ul style="list-style-type: none"> • Dry airway • Frequent suctioning infection • Excessive coughing • Irritation from the tracheostomy tube • Trauma to the tube • Foreign body aspiration 	<ul style="list-style-type: none"> • Bright red blood • Blood-tinged or pink mucus
Aspiration	Can occur when secretions or food particles from the stomach or esophagus enter the airway.	<ul style="list-style-type: none"> • Drooling • Coughing or choking with swallowing • Food contents in the secretions from the tracheostomy • Frequent lung infections • Symptoms of respiratory distress
Respiratory Distress	Respiratory distress is evidenced by a difficulty or laboring in breathing. Most commonly caused by mucus plugs in children with tracheostomy tubes.	<ul style="list-style-type: none"> • Restless, irritable or fussy • Frightened look • Flared nostrils • Rapid breathing or change in breathing pattern • Retractions • Noisy breathing • Clammy and sweaty skin
Accidental Decannulation	If the tracheostomy tube is not secured properly then it is easy for your child to cough, pull, or have the tracheostomy fall out. If the tracheostomy comes out partially or completely, your child may have difficulty breathing.	If your child is without an airway for a prolonged period of time, they may develop symptoms of respiratory distress.

Treatment	Prevention
<ul style="list-style-type: none"> •A mucus plug may be removed by suctioning the airway and loosening the secretions with saline. •Tracheostomy tube may need to be changed if the plug cannot be cleared by suctioning. •If no improvement, call 911. 	<ul style="list-style-type: none"> •Adequate fluid intake •Proper suctioning •Coughing
<p>Call your doctor if you feel your child's tracheostomy may be infected.</p>	<ul style="list-style-type: none"> •Wash hands routinely •Avoid exposure to persons who are sick, coughing, or sneezing.
<p>Bright red bleeding:</p> <ul style="list-style-type: none"> •If you see bright red bleeding from your child's tracheostomy it is important to contact your provider or call 911 <p>Blood-tinged or pink mucus</p> <ul style="list-style-type: none"> •It is not uncommon to see on occasion •Provide gentle suctioning •May use saline to loosen secretions •Notify provider if it continues 	<ul style="list-style-type: none"> •Suction when necessary and avoid frequent deep suctioning •Use appropriate methods of humidification
<ul style="list-style-type: none"> •What to do if aspiration occurs: <ul style="list-style-type: none"> - Carefully watch your child's eating and drinking - Suction the tube until the secretions are clear of the liquid or food particles - Change the tube if it is clogged •Notify your provider if your child is showing signs of breathing difficulties •Work with a speech therapist as recommended •Remember your child can also aspirate if they vomit. It is best to turn your child's head to the side and suction as needed. 	<ul style="list-style-type: none"> •Thickening liquids with artificial thickener or foods such as puddings, baby foods, yogurt, cereal, or jello •Have your child sit upright during and after feedings for 30 minutes •Encourage slow eating and small bites
<ul style="list-style-type: none"> •Attempt to suction secretions from the tracheostomy tube. •If suctioning does not improve symptoms, change the tracheostomy tube. •If the child does not improve, call 911. 	<ul style="list-style-type: none"> •Adequate fluid intake •Proper suctioning •Coughing
<ul style="list-style-type: none"> •If the tracheostomy comes out, then replace the tube as you would perform a tracheostomy tube change. •If you have difficulty inserting a new tube, attempt ½ size smaller tube. •If you are unable to reinsert a new tube, call 911. 	<ul style="list-style-type: none"> •Make sure the tracheostomy ties are secure, dry, and intact •If the ties are showing signs of wear such as thinning of the tie or tears, it is time to replace them. •Do not allow anyone or your child to pull at the tracheostomy.

Pediatric Tracheostomy Care



Department of Pediatric Otolaryngology
Patient Education Record
Pediatric Tracheostomy Care
Page 1 of 1

Form Origination Date: _____
Version: _____ Version Date: _____

This form may be completed on line. Tab or move
cursor to text field and type in text.
For HIPAA Compliance reasons, this form
IS NOT TO BE SAVED with patient information.
Selecting the PRINT button will clear all information
from the note.

Patient Name _____
MRN _____

PATIENT IDENTIFICATION LABEL

Before discharge, the caregiver will receive written, visual, and verbal instruction regarding tracheostomy care.		Method of Delivery: (W) written (V) verbal (D) demonstration (AV) audiovisual		
The caregiver should be able to demonstrate and verbalize understanding of the following contents.		Response: (C) Competent (NR) Needs reinforcement (RA) Requires assistance (NK) No Knowledge		
Content Delivered	Method of Delivery	Date	Response	Comments / Initials
*Identify purpose of tracheostomy *Identify type of tracheostomy *Identify parts of tracheostomy				
Oxygenation and ventilation *Use of humidification *Trach collar *Home ventilation				
Suctioning: Demonstrate proper technique for suctioning, use of saline, and hand ventilation				
Cleaning tracheostomy: Demonstrate understanding of cleaning tracheostomy				
Changing tracheostomy and ties				
Chest physiotherapy				
Recognize and identify treatment of warning signs including: *Respiratory distress *Aspiration *Mucous plug *Infection *Bleeding *Accidental decannulation				
Demonstrate adequate CPR				

Date	Signature	Initials

Date	Signature	Initials

ch_pedstotol_pted_pedstrachcare

Pediatric Tracheostomy Care forms are available online at www.muscENT.org



Department of Pediatric Otolaryngology
Patient Education Record
Pediatric Tracheostomy Skills:
Suctioning
Page 1 of 1

Form Origination Date:
Version:

Version Date:

This form may be completed on line. Tab or move
cursor to text field and type in text.

For HIPAA Compliance reasons, this form
IS NOT TO BE SAVED with patient information.
Selecting the PRINT button will clear all information
from the note.

Patient Name _____
MRN _____

PATIENT IDENTIFICATION LABEL

Explanation of Skill	Date Completed	Instructor
1. Wash hands.		
2. Measure the length of the tracheostomy tube with a flexible catheter so that the end barely protrudes from the tip.		
3. Cover the suction port with your finger. Secretions will then be suctioned out of the tracheostomy tube. Do not suction for more than 6-8 seconds at a time. Your child cannot get air while he is being suctioned.		
4. Let your child rest for a minute while you listen for more bubbling. If your child continues to bubble and cannot cough out the secretions, you will need to suction again until the tracheostomy is clear.		
5. Before repeat suctioning, give your child 4 or 5 "breaths". Use the breathing bag to push air into the tracheostomy, as needed.		
6. Put a few drops of the salt water (saline) solution into the tracheostomy, if needed.		
7. Give your child 4 or 5 "breaths" using the breathing bag, as needed.		
8. Carefully insert the suction catheter into the tracheostomy using the appropriately measured length.		
9. Cover the suction port with your finger and remove secretions. Check to see if the bubbling has cleared.		
10. Carefully suction secretions from nose and mouth if present.		
11. Observe and listen to child's breathing pattern.		
12. Wash hands.		

Date	Signature	Initials

Date	Signature	Initials

ch_pedsotol_pted_pedstrachsuctioning

Pediatric Tracheostomy Tie Change



Department of Pediatric Otolaryngology
Patient Education Record
Pediatric Tracheostomy Skills:
Changing tracheostomy Ties
Page 1 of 1

Form Origination Date: _____
Version: _____

Version Date: _____

This form may be completed on line. Tab or move
cursor to text field and type in text.
For HIPAA Compliance reasons, this form
IS NOT TO BE SAVED with patient information.
Selecting the PRINT button will clear all information
from the note.

Patient Name _____
MRN _____

PATIENT IDENTIFICATION LABEL

Explanation of Skill	Date Completed	Instructor
Twill Tape Ties		
1. Wash hands. Cut a new piece of tracheostomy tie long enough to go around the child's neck 2 ½ times.		
2. Have one person secure the tube while the other person removes the old tie.		
3. Thread the new tie through the neckplate and bring the ends of the ties together.		
4. Bring both ties around the neck and thread through the other side of the neckplate.		
5. Allow one finger to fit between the ties and neck prior to securing.		
6. Secure with three square knots. Trim excess tie with scissors.		
Velcro Strap		
1. Wash hands. Remove Velcro strap from package and trim to appropriate length.		
2. Have one person secure the tube while the other person removes the old strap.		
3. Thread each end of the strap through both sides of the neckplate.		
4. Bring both ends of strap around the neck and secure with Velcro closure.		
5. Allow one finger to fit between the ties and the neck.		

Date	Signature	Initials

ch_pedsotol_pted_pedstrachtiechange

Date	Signature	Initials

Pediatric Tracheostomy Tube Change



Department of Pediatric Otolaryngology
Patient Education Record
Pediatric Tracheostomy Skills:
Tracheostomy Tube Change
Page 1 of 1

Form Origination Date:
Version:

Version Date:

This form may be completed on line. Tab or move cursor to text field and type in text.

For HIPAA Compliance reasons, this form IS NOT TO BE SAVED with patient information. Selecting the PRINT button will clear all information from the note.

Patient Name _____
MRN _____

PATIENT IDENTIFICATION LABEL

Explanation of Skill	Date Completed	Instructor
1. Wash hands		
2. Prepare any ties and attach them to the flanges of the tracheostomy tube. Avoid placing the cannula on any unclean surface.		
3. Prepare suctioning equipment and suction your child's tracheostomy tube.		
4. Place the child on his/her back with a small towel roll under their shoulders.		
5. Have one person cut or loosen the ties, hold the tube in place.		
6. The second person moistens the tip of the new tracheostomy tube with lubricant.		
7. The first person removes the old tube once the second person is ready.		
8. The second person inserts the tracheostomy tube with the guide in place in a smooth downward motion curving it slightly to the side. DO NOT FORCE THE TUBE!		
9. Remove the obturator or guide while holding the tube securely. Feel for air movement with your fingers or listen for cough or secretions.		
10. Changing the tube will stimulate a cough response. Have tissues available to wipe secretions away or suction them.		
11. Tie the tracheostomy ties allowing space of one finger between the neck and ties.		
12. Observe and listen to child's breathing pattern.		
13. Wash hands.		

Date	Signature	Initials

ch_pedsotol_pted_pedstrachange

Date	Signature	Initials



Department of Pediatric Otolaryngology
Patient Education Record
Pediatric Tracheostomy Skills:
Cardiopulmonary Resuscitation (CPR)
Page 1 of 1

Form Origination Date: _____ Version Date: _____

This form may be completed on line. Tab or move
cursor to text field and type in text.
For HIPAA Compliance reasons, this form
IS NOT TO BE SAVED with patient information.
Selecting the PRINT button will clear all information
from the note.

Patient Name _____
MRN _____
PATIENT IDENTIFICATION LABEL

Explanation of Skill	Date Completed	Instructor
1. Have someone call 911 immediately.		
2. Attempt to wake child by tapping or gently shaking him.		
3. Place the child on his back on a hard surface.		
4. CIRCULATION—if there are no signs of circulation, begin chest compressions		
5. Position the heel of one hand on the center of the child's chest, (if needed use two hands to compress the chest if the child is large).		
6. Begin chest compressions at a rate of 100 compressions per minute. Give 30 compressions in 18 seconds or less.		
7. AIRWAY—pass a suction catheter through the tracheostomy to evaluate if the tracheostomy is patent		
8. If the tracheostomy is occluded with a mucus plug, clear the airway via saline lavage and bagging or change the tracheostomy		
9. BREATHING—if breathing is not present, place the breathing (AMBU) bag over the child's tracheostomy		
10. Give 2 breaths via breathing bag to the child. Allow for a brief pause between each breath.		
11. Watch for chest movement—the chest will rise and fall with each breath.		
12. Check for signs of circulation after five cycles (2 minutes of CPR)		
13. Continue CPR until breathing and/or circulation is restored or until medical help arrives		

Date	Signature	Initials	Date	Signature	Initials

ch_pedstotol_pted_pedtrachcarecpr



OTOLARYNGOLOGY
HEAD & NECK SURGERY
Paul R. Lambert, MD
Department Chair

Otology & Neurotology
Paul R. Lambert, MD, Director
Ted A. Meyer, MD, PhD

Head & Neck Oncology
Terry A. Day, MD, Director
Visor Chair, Clinical Affairs

M. Boyd Gillespie, MD
Joshua D. Hornig, MD, FRSC(C)
Eric J. Lantisch, MD

Roy B. Sessions, MD
Mary B. Chalk, MSN, RN, APRN-BC
Holly L. Drechsler, PA-C
Ashley Laursen, BSN, RN
Jennifer Page, RN, MSN, NP-C

Pediatric Otolaryngology
David R. White, MD, Director
Chris M. Discolo, MD
Carissa Carie, PNP

Rhinology & Sinus Surgery
Rodney A. Schlosser, MD, Director
Zachary M. Soler, MD
Brittany Crosby, PA-C

Facial Plastic & Reconstructive Surgery
Krisina G. Patel, MD, Director
Judith M. Skoner, MD

General Otolaryngology & Allergy
Mark J. Hoy, MD, Director

Maxillofacial Prosthodontics
Betsy K. Davis, DMD, Director

Audiology
Kimberly A. Orr, MA, Director

**Airway & Aspiration Center
for Children**
David R. White, MD, Director

Aural Atresia & Microtia Center
Paul R. Lambert, MD, Director

Cochlear Implant Center
Ted A. Meyer, MD, PhD, Director
Meredith Holcomb, AuD, CCC-A,
Coordinator

**Evelyn Trammel Institute
for Voice & Swallowing**
Bonnie Martin-Harris, PhD, Director
Lucinda A. Halstead, MD, Medical Director,
Visor Chair, Education

Head & Neck Tumor Center
Terry A. Day, MD, Director

Snoring & Sleep Apnea Center
M. Boyd Gillespie, MD, Director

Clinical Research
Shaun A. Nguyen, MD, MA, Director

Head & Neck Oncologic Research
Rita I. Young, PhD, Director

Otologic Research
Judy R. Dubno, PhD, Director

Pt Address

School Address

To Whom it May Concern,

We have the pleasure of participating in the care of (Pt Name) at the Medical University of South Carolina Children's hospital. (Pt name) is being followed for his/her tracheostomy-dependence. We appreciate your concern and willingness to assist in (Pt name) care.

A tracheostomy is an artificial airway that allows normal breathing. There are many reasons a child may require a tracheostomy including blockage of the airway, ventilatory assistance or breathing support, or the inability to clear the airway of secretions. Depending on the child's diagnosis and type of tracheostomy, they may be able to speak, eat, and drink as other children.

Included in this packet we have provided information regarding (Pt name) tracheostomy and support skills to optimize their care and personal achievement. If you have any questions or concerns, please do not hesitate to give us a call.

Sincerely,

Carissa Carie, CPNP
Pediatric Nurse Practitioner
MUSC Children's Hospital
Department of Pediatric Otolaryngology

carie@musc.edu
843-792-6981

135 Rutledge Avenue • MSC 550 • Charleston, SC 29425-5500 • Phone 843-792-8299 • Fax 843-792-0546
<http://www.muscENT.org>

"an equal opportunity employer, promoting workplace diversity."



MEDICAL UNIVERSITY OF SOUTH CAROLINA
Department of Otolaryngology - Head & Neck Surgery
135 Rutledge Avenue, MSC 550 | Charleston, SC 29425
Appointments 843.792.3531

PEDIATRIC TRACHEOSTOMY CARE SCHOOL POLICY



Most children who require the assistance of a tracheostomy can function independently as any other child. However, the child with a tracheostomy may require closer supervision and special care. The attention to the actual tracheostomy will vary among children. Although the majority of the daily care will be provided at home and will not be required at school, it is important to have a basic understanding and skill set for caring for a child with a tracheostomy.

Tracheostomy: Types and Function

The type of tracheostomy tube your child will have is dependent upon your child's specific needs, medical condition, size of the airway and age of child.

Tracheostomy tube may have one tube or two tubes with an inner cannula placed inside the outer more permanent tube.

A cuffed tube is a tube that has a balloon on the end to allow air to inflate the tube providing a tighter seal in the airway. Most children who have a cuffed tube require ventilatory or breathing support.



An uncuffed tube is a tube that does not have a balloon on the end. Most infants and small children will have an uncuffed tube due to the size of their airway even if ventilation is required.

A T-tube may be used instead of a standard tracheostomy tube depending on your child's medical condition. The shape of the T-tube allows the upper part of the tube to hold open the airway that was surgically repaired while the other parts act like a breathing or tracheostomy tube.

Children who require oxygen support may receive oxygen through various means depending on their requirements.

Types of oxygen support include:

- Ventilator support: A ventilator is a machine that will mechanically breathe for the child making breathing easier
- Trach collar: A tracheostomy collar is breathing device that surrounds the tracheostomy delivery humidified oxygen or air to the child
- Artificial Nose or Thermovent: A thermovent is a device that is worn on the hub of the tracheostomy tube to warm and moisten air as the child breathes in

Children who do not require additional oxygen requirements may wear either a Passy-Muir speaking valve to assist with vocalizing or a tracheostomy cap. These devices should be worn as directed.



MEDICAL UNIVERSITY OF SOUTH CAROLINA
Otolaryngology - Head & Neck Surgery
135 Rutledge Avenue, MSC 550 | Charleston, SC 29425
Appointments 843.792.3531

PEDIATRIC TRACHEOSTOMY CARE SCHOOL POLICY

Suctioning of the tracheostomy

Suctioning will likely be the most common task you perform while the child is at school. Children who have a tracheostomy may have difficulty clearing secretions and excess mucus independently. Suctioning the tracheostomy removes excess mucus from the windpipe allowing the child to breathe easier.

Signs your child may require suctioning:

- Rattling mucus that is not cleared with coughing
- Fast breathing or rattling
- Bubbles of mucus coming from the tracheostomy tube opening
- Dry, whistled sound
- Restlessness
- Pale or bluish discoloration of the skin
- Flared nostrils
- Frightened look

Steps to suctioning:

1. ALWAYS WASH YOUR HANDS PRIOR TO SUCTIONING!!!
2. Measure the length of the tracheostomy tube with a flexible catheter so that the tip just protrudes from the tube
3. Cover the suction port with your finger. Secretions will then be suctioned out of the tracheostomy tube. **Do not suction for more than 6-8 seconds at a time. Your child cannot get air while he is being suctioned.**
4. Let your child rest for a minute while you listen for more bubbling. If your child continues to bubble and cannot cough out the secretions, you will need to suction again until the tracheostomy is clear.
5. Before repeat suctioning, give your child 4 or 5 "breaths". Use the breathing bag to push air into the tracheostomy, as needed.
6. Put a few drops of the salt water (saline) solution into the tracheostomy, if needed.
7. Give your child 4 or 5 "breaths" using the breathing bag, as needed.
8. Carefully insert the suction catheter into the tracheostomy using the appropriately measured length
9. Cover the suction port with your finger and remove secretions. Check to see if the bubbling has cleared.

It is important to remember that deeper suctioning is not routinely needed and may cause scarring of the airway if used too frequently or incorrectly.



MEDICAL UNIVERSITY OF SOUTH CAROLINA
Otolaryngology · Head & Neck Surgery
135 Rutledge Avenue, MSC 550 | Charleston, SC 29425
Appointments 843.792.3531

PEDIATRIC TRACHEOSTOMY CARE SCHOOL POLICY

Changing the tracheostomy tube

Most children will have their tracheostomy tube changed weekly by their caregiver. However, should the child appear in distress or unable to adequately clear secretions from his or her tracheostomy or if the tracheostomy tube comes out spontaneously, an emergency tracheostomy tube change may be necessary. Changing the tracheostomy tube is an easy and essential skill to master.

Signs your child may require tracheostomy tube change: see signs to suction

Steps to changing the tracheostomy tube:

1. ALWAYS wash and dry hands before changing the tracheostomy
2. Prepare any ties and attach them to the flanges of the tracheostomy tube. Avoid placing the cannula on any unclean surface
3. Prepare suctioning equipment and suction your child's tracheostomy tube
4. Place the child on his/her back with a small towel roll under their shoulders
5. Have one person cut or loosen the ties, hold the tube in place
6. The second person moistens the tip of the new tracheostomy tube with lubricant
7. The first person removes the old tube once the second person is ready
8. The second person inserts the tracheostomy tube with the guide in place in a smooth downward motion curving it slightly to the side. DO NOT FORCE THE TUBE!
9. Remove the obturator or guide while holding the tube securely. Feel for air movement with your fingers or listen for cough or secretions
10. Changing the tube will stimulate a cough response. Have tissues available to wipe secretions away or suction them.
11. Tie the tracheostomy ties allowing space of one finger between the neck and ties

Essential Items:

- Spare tracheostomy tubes including same size and ½ size smaller
- Suction machine
- Suction catheters
- Manual resuscitation bag with face mask and tracheostomy adapter
- Scissors
- Saline
- Additional tracheostomy ties or strap
- Child's breathing medications



MEDICAL UNIVERSITY OF SOUTH CAROLINA
Department of Otolaryngology - Head & Neck Surgery
135 Rutledge Avenue, MSC 550 | Charleston, SC 29425
Appointments 843.792.3531

PEDIATRIC TRACHEOSTOMY CARE SCHOOL POLICY

Name of Student _____ Date of Birth _____
Diagnosis _____ Physician _____
School _____

Please check all that apply for care of this student:

Suctioning

- ☐ Suction tracheostomy only as needed
- ☐ Suction tracheostomy every _____ and as needed

Tracheostomy tube change

- ☐ Replace tracheostomy tube as needed for obstruction, respiratory distress or accidental decannulation
- ☐ Replace tracheostomy tube every _____ and as needed

Oxygenation

- ☐ Student is to be connected to ventilator at all times except for suctioning
- ☐ Student is to wear trach collar at all times
- ☐ Student is to wear thermovent at all times except for suctioning
- ☐ Student is to wear Passey-Muir speaking valve or tracheostomy cap at all times except for naptime and suctioning. May wear thermovent during naptime.

Nursing support

- ☐ A licensed nurse is to be on-site in the school clinic and available to student and staff in the classroom throughout the school day.
- ☐ An unlicensed care assistant may be assigned to the student throughout the school day. The care assistant will be trained by a licensed nurse in tracheostomy care.

Transport

- ☐ Student does not require special accommodations during transport
- ☐ Student does require an unlicensed care assistant during transportation such as field trips or to and from school
- ☐ Student requires a licensed nurse during transport
- ☐ Addition requirements: _____

Comments or Special Instructions:

Healthcare Provider (Print name and title)

Office number

Fax number

Healthcare Provider Signature

Date



MEDICAL UNIVERSITY OF SOUTH CAROLINA
Department of Otolaryngology · Head & Neck Surgery
135 Rutledge Avenue, MSC 550 | Charleston, SC 29425
Appointments 843.792.3531

PEDIATRIC TRACHEOSTOMY CARE SCHOOL POLICY

To be Complete by Parent or Legal Guardian

I have read and understand the School Tracheostomy care policy as listed above and give permission for my child to receive the above medications or procedures as indicated.

_____ Signature of Parent/Legal Guardian		_____ Date
_____ Home Phone	_____ Cell Phone	_____ Work Phone
_____ Emergency contact and relationship		_____ Phone

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.