



TRAQUEOKIDS

ASOCIACIÓN DE APOYO A  
FAMILIAS CON TRAQUEOSTOMÍA  
PEDIÁTRICA

Mini-Guide

# Tracheostomy

Basic guide on  
caring for a  
pediatric tracheostomy

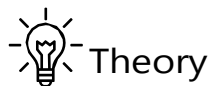
[www.traqueokids.org](http://www.traqueokids.org)

# Before starting...

Before starting we would like to clarify that this is a guide made by parents for parents, family members, punctual caregivers... It is a pocket guide that we have prepared with much care and from the fruit of our experiences over these years and that we would have liked to have at the time. But ALWAYS in case of any doubt, you must consult your doctor/hospital.

We have a more complete guide on our website [www.traqueokids.org](http://www.traqueokids.org) and the QR code on the last page but this guide is designed to be carried with you, inside the first-aid kit, in the stroller bag or chair bag to always have it handy. We recommend carrying it next to the TRAQUEOSTOMY EMERGENCY CARD, which is also on the website.

It is divided into several sections and there are sections where you can fill in information you consider relevant, in addition to a notes section to fill in:



Theory



Practical info



Care



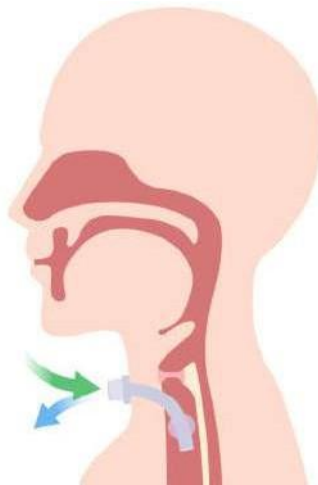
To fill in



# General information



The trachea is part of the respiratory tract. A tracheostomy is an opening made with surgery in the trachea. The opening is called a stoma. Through the stoma a curved tube called a tracheostomy cannula is inserted. The cannula prevents the stoma from closing and allows breathing.



- The air you breathe enters and leaves the tracheostomy tube instead of going through your nose and mouth.
- Over time some children can direct the air around the tracheostomy tube and exhale through the nose and mouth.

Cannula size:



# Types of cannulas



There are different types of tracheostomy cannulas and also different sizes.

- They will be made of silicone or PVC by material composition.
- By functionality they will be with or without a balloon.

With balloon

Without



Balloon cannulas have a hanging cuff that is where air or water is inflated and deflated through a syringe. The balloon serves to seal the trachea and prevent food, drinks, or saliva from entering the lungs when there is dysphagia. It also prevents the cannula from coming out.



# Emergency kit



- ✓ Two tracheostomy cannulas spare (one of the same size as the one worn and another in a smaller size).
  - ✓ Secretions siphon + manual suction device or similar.
  - ✓ Suction catheters or probes.
  - ✓ Distilled water / sterile water, for cleaning the suction catheter or hose.
  - ✓ Saline solution.
  - ✓ Blunt-tipped/ rounded scissors
  - ✓ Cannula securing tapes.
  - ✓ Non-woven gauze / protective pads.
  - ✓ Ambu bag or manual resuscitator.
  - ✓ Pulse oximeter.
  - ✓ HME filters for tracheostomy.
  - ✓ Nebulizer and adapted masks for tracheostomy. \* If advised by your doctor.
  - ✓ Gloves / hydroalcoholic gel.
  - ✓ Paper towels.
  - ✓ Syringe if there is a balloon.
  - ✓ Water-soluble lubricant or saline.
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# Accessories that a cannula can carry



- HME filter, moisture and heat exchanger: Filters and humidifies the air that is breathed.



- Phonation valves: The air is inhaled through the cannula but blocks exhalation so that it must exit through the mouth/nose, allowing speech.



- Plugs. To train breathing through the mouth/nose.



- Mechanical ventilation tube or oxygen tube.



# Aspiration of secretions



It is important to free the tracheostomy cannula of accumulated secretions that impede proper air flow. For this, it may be necessary to aspirate the secretions from the tube.

In general, you should aspirate:

- ✓ In the morning, after waking up.
- ✓ Before meals.
- ✓ Before leaving the house.
- ✓ Before going to bed.
- ✓ And when needed during the night.

\* The suction will be performed on demand and as many times as necessary.

Once the amount of secretions decreases, it will only be necessary to aspirate when the need arises.

What suction power to apply in the electric vacuum?

- Neonates: 60 - 80 mm Hg.
- Babies: 80 - 100 mm Hg.
- Children: 100 - 120 mm Hg.
- Adults: 100 - 150 mm Hg.



Pre-measure: Before starting, take an aspiration catheter or suction catheter and a tracheostomy tube spare identical to the one you are wearing. Insert the probe to the end of the cannula. You can mark the catheter beforehand and use it as a reference to know how far you should insert the probe through the cannula without exceeding that length or exceeding by a few millimeters and thus avoid damaging the tracheal mucosa and causing injuries.

Regarding the size of the suction catheter or tube, it must be noted that its outer diameter must be less than the inner diameter of the cannula (the external diameter of the probe should occupy less than half of the inner diameter of the cannula).

# How is aspiration done?

## MATERIAL:

- ✓ Catheter or suction probe.
- ✓ Secretions suction device.
- ✓ Distilled water/sterile water in a container.
- ✓ Saline solution in single-dose vials or dropper.

1. Wash your hands with water and soap. You can disinfect your hands using alcohol gel or put on gloves.
2. If the cannula tube has an inner cannula, remove it.
3. Connect the suction probe to the suction equipment.
4. Insert the suction probe through the cannula without applying suction, until reaching the end of the cannula tube. Start suction (seal the opening if the probe has control) while withdrawing the probe outward with rotational motions.

\* Do not attempt to force the introduction of the probe if you encounter resistance, this can cause injury and bleeding.



5. The probe/ catheter probe should only remain about 5-10 seconds in the cannula since the person is deprived of the ability to breathe during suction.
6. Allow the child to rest between one suction and another.
7. Rinse the probe between suctionings by aspirating distilled water/sterile water.
8. If the mucus is excessively thick and sticky, put a few drops of saline solution (normal saline) inside the cannula. This may cause coughing, so suction immediately.
9. Clean the inner cannula (if present) and reinsert it.
10. Draw distilled or sterile water through the tubing of the equipment and clean the suction tube and the container.

# Catheter change



Recommended that two people perform it.

1. Before starting, wash hands with water and soap for at least 15 seconds. Dry hands with a clean towel or paper.

2. Preparation of the material:

✓ A clean cannula with an appropriate numbering, with the retainer placed and the securing tape half-close around one side.  
Optional: add soluble lubricant to the water or soak in saline.

✓ Gauze and scissors.

✓ Saline solution

✓ Paper towels.

✓ Suction device on and suction catheters.

✓ If the person cannot stay seated: a rolled towel or small blanket.

3. We perform a pre-change suctioning.

4. We place the person in position:

If it is a baby or the person cannot sit up, the  
a. ideal position is lying on the back with a rolled towel or blanket under the neck and shoulders to keep the neck in hiperextension.

- For children or cooperative adults, seated or reclined with the chin pointing to the ceiling to keep the neck in hiperextension.



5. We remove the protective gauze.
6. We put on gloves (always for healthcare staff) or disinfect our hands with hydroalcoholic gel (if it is the patient or their family).
7. Grasp the cannula with one hand and remove the securing tape with the other. \*If it is a cannula with a balloon, deflate the balloon first.
8. Take the newly prepared cannula (with the retainer in place, the support semi-attached, and lubricated or moistened with saline).
9. The other person removes the used cannula.
10. \*It is advisable to have paper on hand in case it is necessary to clean secretions or a gauze soaked in saline solution to clean the periestomal area.
11. Insert the new cannula smoothly, but quickly. With the curve of the cannula pointing downward and immediately remove the guide once inserted. \*If it is a cannula with a balloon, insert it slightly at an angle, remove the retainer and inflate the balloon and finish placing the securing tape, with one hand holding the cannula.

# What to do if the cannula cannot be inserted?

- Stay calm and act quickly.
- Reposition the patient in a position with the neck hyperextended.
- Try to lubricate the tip of the cannula better and try again. Never force.
- If you still cannot, try to reinsert the cannula you just removed that previously fit.
- If it doesn't work, insert the spare cannula with a smaller size and call the specialist doctor or go to the emergency department with the previous cannula.
- If that also doesn't work, try to maintain the airway patent.
- Call emergency services and begin rescue or CPR if necessary. If there is no obstructive pathology, cover the stoma and ventilate with Ambu bag and facial mask until help arrives.

# CPR in children with tracheostomy

If the child stops breathing, start CPR (Cardiopulmonary Resuscitation): While you begin CPR, ask someone to CALL 112. Pinch the child's heel. Secrete/suction the tracheostomy cannula. Change it if it is blocked. Place the Ambu bag over the tracheostomy cannula. Give 2 breaths. Watch for chest movements in your child with the breaths.

- For infants (less than 1 year): Press the chest downward to  $1/3 - 1/2$  of its depth, using 2 fingers on the sternum at the level of one finger below the nipple line, at a rate of 100 times per minute. Do not lift your fingers off the chest. Give 15 compressions and then 2 breaths.
- For children aged 1 to 8 years: Press the chest downward to  $1/3 - 1/2$  of its depth, using the heel of one hand on the lower half of the sternum at a rate of at least 100 times per minute. Give 15 compressions and then 2 breaths.



- For children over 8 years old: Press the chest down to  $\frac{1}{3}$  -  $\frac{1}{2}$  of its depth, using the heels of both hands, on the lower half of the sternum at a rate of at least 100 times per minute. Give 30 compressions and then 2 breaths. Continue the cycle with 30 compressions and 2 breaths until help arrives.

How to use the Ambu: Attach the Ambu mask to the tracheostomy cannula. Squeeze the bag with both hands. Apply only the necessary pressure that allows the chest to rise. Delivers breaths every 5 seconds.

# Possible complications



## ACCIDENTAL DECANNULATION:

1. Stay calm.
2. Check if the tracheostomy is outside the stoma.
3. Immediately replace the tracheostomy with a new or clean one (if ready and at hand) or, if not possible, try to reinsert the cannula that came out.
4. Observe the child ensuring that he/she no longer has difficulty breathing.

## MUCUS BLOCKAGE IN THE CANNULA:

1. Try to suction.
2. Instill a few drops of saline solution into the cannula and suction immediately.
3. Use Ambu (resuscitation bag) to
4. Emergency cannula change.

## BLEEDING FROM THE STOMA OR CANNULA:

Sometimes there is a small amount of red or pink mucus after suctioning. Other causes of bleeding can be skin irritation around the stoma, dryness in the airways, coughing, very frequent and deep suctioning, very high pressure, infection, and trauma from tracheostomy changes. Consult your doctor.



## CHILDHOOD DISEASES:

Like other children, you can catch colds or other illnesses. You should watch for signs such as fever, pain, discomfort, and changes in the color and smell of secretions.

## SIGNS OF STOMA INFECTION:

It appears red, inflamed or swollen, tender to the touch, more secretion or drainage, possibly foul odor, fever, rash, hives, pimples, itching...

## "ITCHES" FOR THE TUBE:

Entry of foreign objects, dirt, food, water, vomiting or flying insects into the cannula. To prevent such situations, it is advisable to use HME filters; but if they occur, it is important to act quickly and try to prevent them from reaching the lungs.

\* IN CASE OF ANY EMERGENCY CALL  
112.

## OTHERS:













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