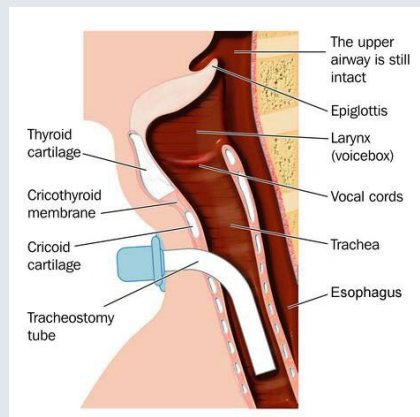




Tracheostomy Care

What is Tracheostomy?

Tracheostomy is a procedure that involves creating an opening in the skin of the neck that leads into the trachea (windpipe). A tracheostomy tube is inserted to create a stable airway which may be needed for assisted ventilation and/or airway secretion clearance. This procedure can be temporary or permanent.



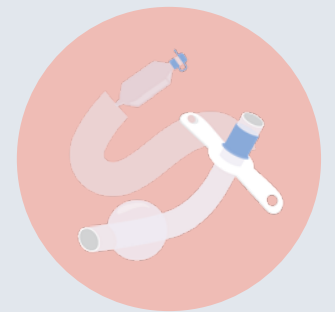
Your child may require a tracheostomy for the following reasons:

- Upper airway obstruction
- Long-term ventilatory support due to respiratory insufficiency
- Facilitate the removal of phlegm/secretions
- Reduce the risk of aspiration due to poor or absent cough reflex

Types of tracheostomy tubes:

- For children: Single cannula
- For older children or adults: Dual cannula which includes an inner cannula

Tracheostomy tubes are typically made of plastic. Your doctor will advise the type of tracheostomy tube best suited for your child.



Caring for a child with tracheostomy

Before discharge, the team will ensure that you and your designated caregivers are equipped with skills to care for your child with a tracheostomy. These include:

- Tracheostomy suction and oro-nasopharyngeal suction
- Tracheostomy tube change
- Tracheostomy dressing and care
- Handling tracheostomy emergencies



General items required



Vacutip suction catheter (Size 6/8/10)



Suction connector (Fingertip control)



Suction PVC tubing



Normal saline ampoule



Gauze



Lubricating gel



- Tracheostomy tube ties
- Velcro strap/Cotton ties



10ml syringe
(if a cuffed tube is used)

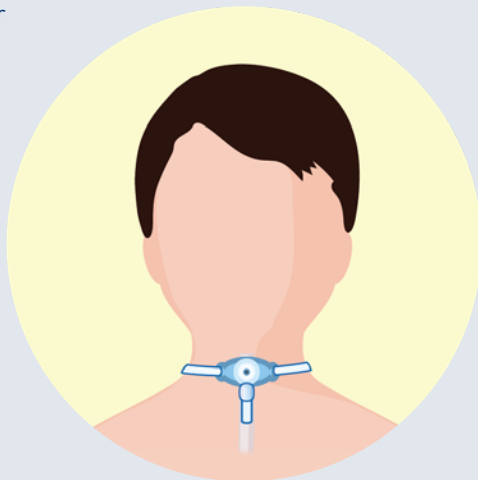
Additional items:

- Tracheostomy tube of the same size
- Disinfectant solution
- Cleansing brush
- Tracheostomy tube elbow extension*
- Tracheostomy tube strong hold*
- Heat and Moisture Exchanger (HME)*
- Sterile polythene glove*

*These items may be required depending on your child's requirements.

Equipment (will be advised by the care team accordingly):

- Suction machine
- Oxygen saturation monitor
- Bag Valve Mask with appropriately sized face mask
- Oxygen cylinder/concentrator
- Home Ventilator (BiPAP or CPAP)
- Nebuliser machine
- Humidifier



Tracheostomy suctioning



+ When to perform a suction?


Your child may require suction if there is a build-up of secretions in the airway, and he/she will display some of these symptoms:

- Noisy breathing
- Increased coughing
- Decrease in oxygen levels
- Visible phlegm/secretions at the opening of the tracheostomy tube
- Laboured breathing:
 - » Increasing effort to breathe
 - » Retractions (sucking in of the skin in between or around the bones of the chest when inhaling)
 - » Nasal flaring (nostrils widen while breathing)
- Change in facial colour from normal to blue (cyanosis)

It is recommended to perform suctioning **prior to feeding** as doing it soon after feeding or drinking may lead to vomiting. Your child will feed better after phlegm/secretions are cleared.

+ How to perform a tracheostomy suction

1. Begin by washing your hands with soap and water.
 2. Prepare your necessary equipment:
- 
3. Place your child on oxygen saturation monitoring.
 4. Set up the suction apparatus and ensure that the bag valve mask and oxygen are readily available and in good working condition.
 5. Position your child flat on their back.
 6. Open the suction catheter wrapper exposing only the connecting end and connect it to the suction connector/tubing.
 7. Put on a sterile glove on your dominant hand.
 8. Remove sterile catheter without touching the catheter end. Use 'non-touch' technique if sterile gloves are not available.
 9. Measure the suction catheter to determine the permitted depth to advance the catheter into the tracheostomy, ensuring the catheter does not touch any surface.
- (Suctioning deeper than the measured length may increase the risk of granuloma formation in the trachea.)*
- 

10. Insert the suction catheter into the tracheostomy tube.
 11. Apply intermittent suction while slowly withdrawing the catheter. Rotate the catheter between your finger and thumb as you remove it. Repeated suctioning may be required for thick, copious secretions.
 12. Perform suction for no more than 15 seconds each time. Provide oxygen if required and allow your child to rest between each suction episode.
 13. Monitor your child throughout the suctioning process.
 14. Repeat suctioning (steps 9-12) until secretions are cleared.
 15. Perform oro-nasopharyngeal suctioning as required after tracheostomy suction.
 16. After suctioning is completed, flush the suction tubing to clear off secretions. Remove the glove and discard/disinfect the suction catheter.
 17. Reposition your child if needed.
 18. Monitor your child until they return to their baseline condition (e.g. heart rate returns to normal range).
 19. Finally, wash your hands again with soap and water.
- 
- 

Tracheostomy care

+ Tracheostomy tube change

Tracheostomy tube change should be done **weekly or more often** as required. It is recommended to have two individuals perform this procedure.

The optimal time for a tracheostomy tube change would be when your child is comfortable and before feeding. Avoid changing the tube after feeding as this may cause vomiting and further complications.

Ensure your child has not consumed any food for at least three hours prior to the tracheostomy tube change.



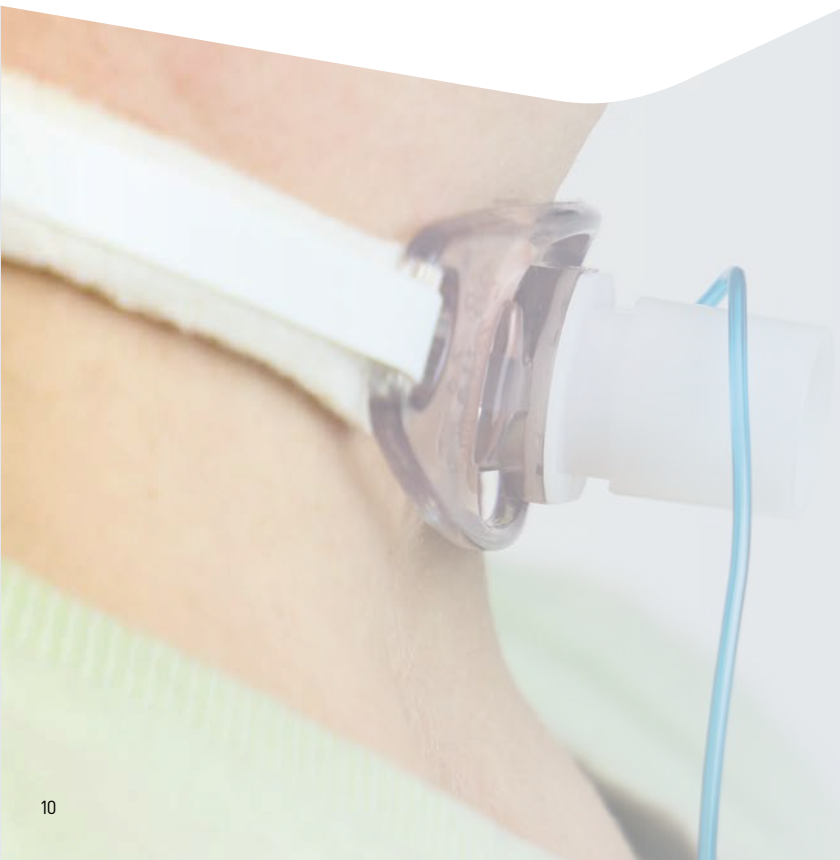
+ How to perform tracheostomy tube change:

1. Wash your hands thoroughly with soap and water.
2. Gather your supplies on a clean surface:



Additional items:

- 10ml syringe - if your child is using a cuffed tube
- Shoulder roll
- Scissors



3. Place your child on oxygen saturation monitoring.



4. Prepare the suction apparatus and bag valve mask with an appropriately sized face mask connected to oxygen, if available, ensuring all are in good condition.

5. Wash your hands with soap and water.

6. Pour normal saline onto gauze for cleaning of tracheostomy stoma.

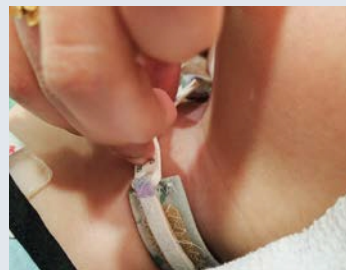
7. Apply a thin coat of lubricating gel to the tracheostomy tube and the introducer.

8. Perform tracheostomy and oro-nasopharyngeal suctioning prior to tube change if required.

9. Position the child in flat lying position. Use a shoulder roll to extend the neck if necessary.



10. Remove gauze and securing strap/ties from existing tracheostomy tube.



11. Hold the neck flange firmly and remove the tube from the child's neck in a curved movement. *For cuffed tubes, use a syringe to deflate the cuff before removal.*



12. Insert a clean tube and remove introducer. Inflate cuff if a cuffed tube is used.



13. Secure the tracheostomy tube using Velcro straps/cotton ties, ensuring there is a 'finger space' within the straps/ties to ensure it is not too tight.



+ Tracheostomy dressing and care



3. Dress the tracheostomy site by applying a piece of gauze on each side of the tracheostomy tube beneath the flange.
4. Secure the gauze with micropore tapes if required.

1. Cleanse the tracheostomy site with normal saline and gauze.
2. Assess the site for any signs of bleeding or infection, such as redness, swelling, discharge, or granulation tissue. Monitor accordingly and seek advice from the medical team if in doubt.

Note: Perform tracheostomy and oro-nasopharyngeal suctioning after tube change. Monitor your child until they return to their baseline condition.

+ Cleaning of the tracheostomy tube

- Wash soiled tracheostomy tube with soap and water.
- Clean inner lumen of tube with a brush.
- Soak the tube in sodium bicarbonate solution to remove crust and secretions.
- Disinfect the tracheostomy tube by soaking in a sterilising solution (as per manufacturer's recommendation).
- Allow tracheostomy tube to air dry.
- Store the clean tracheostomy tube in a clean air-tight container.



**Disinfectant's colour may vary based on manufacturer*

+ Cleaning and disinfecting equipment at home

The home environment has fewer germs and sick contacts hence clean / 'non-touch' technique can be applied when performing nursing care at home, unlike a 'sterile' setup within the hospital.

Properly disinfected catheters can be reused to reduce financial strain. Disinfection solution or tablets can be purchased and used according to the manufacturer's recommendations.

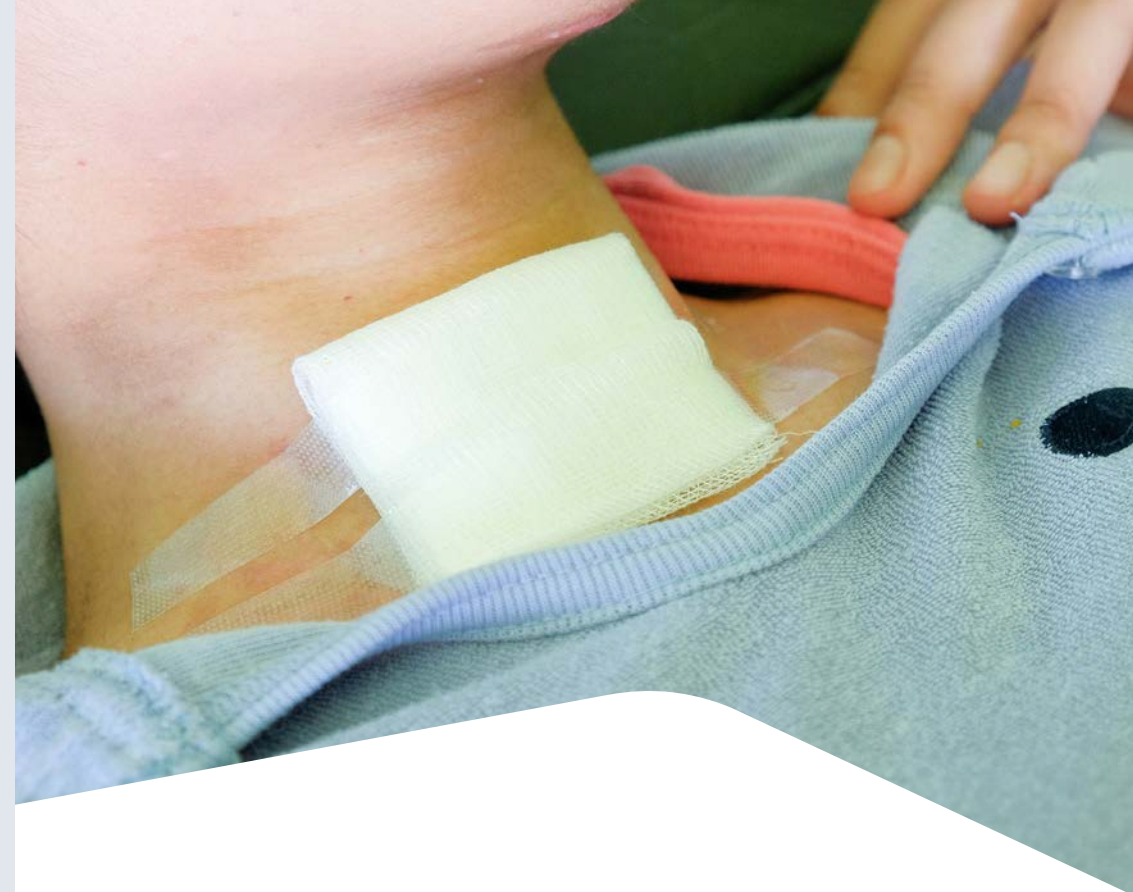
Cleaning of respiratory equipment (weekly):

- Unplug the equipment before cleaning it.
- Use a slightly dampened cloth with water and mild detergent to wipe only the exterior surface of the equipment and allow to air dry thoroughly before use.

+ Humidification

Humidification helps to maintain thin secretions and prevent mucus plugs.

- For patients on home ventilators, ensure there is adequate water in the humidifier at all times.
- For patients relying on room air (if recommended by medical team), ensure that the Heat and Moisture Exchanger is attached to the tracheostomy tube. Change daily when soiled.



Tracheostomy emergencies

In the event of an emergency, stay calm and remember what was taught to you during your time in the ward.

A flowchart for managing tracheostomy emergencies will be given to you. Refer to the flowchart when in doubt.

If you have any doubts or serious concerns about your child's condition, call the ambulance 995 and bring your child to the nearest hospital.

Remember to inform the paramedics that your child has a tracheostomy!

During the ambulance transfer, bring along and keep the home ventilator attached to child, or as instructed by the paramedics.

Notes

About the National University Centre for Women and Children

National University Centre for Women and Children (NUWoC) is a national university specialist centre that aims to empower women, children and their families to lead healthier lives. We provide comprehensive medical and surgical services ranging from pre-conception to child and maternal health.

NUWoC comprises the Department of Obstetrics & Gynaecology (O&G) and Khoo Teck Puat – National University Children’s Medical Institute (KTP-NUCMI) of National University Hospital. It focuses on the right-siting of appropriate services in the community and builds complementary services in National University Health System’s (NUHS) centres of excellence – Ng Teng Fong General Hospital and Alexandra Hospital.

Through a generous gift from the Estate of Khoo Teck Puat, KTP-NUCMI established an integrated outpatient facility with medical, diagnostic and rehabilitation services for children. We are also the only public specialist centre in Singapore that offers paediatric kidney and liver transplant programmes.

For more information about us, visit www.nuh.com.sg/NUWoC

Children’s Emergency (24-hr)

Location NUH Main Building, Zone F, Level 1
Contact +65 6772 5000

KTP-NUCMI

Location NUH Main Building, Zone E, Level 2
(Accessible via Kent Ridge Wing, Zone C, Level 2, Lift Lobby C)
Operating Hours 8.30am – 5.30pm (Mon to Fri), 8.30am – 12.30pm (Sat)
General Enquiry +65 6772 5736
Appointment Line +65 6908 2222
Email ktpnucmi_appt@nuhs.edu.sg

9a Viva-University Children’s Cancer Centre

Location NUH Medical Centre, Zone B, Level 9
Operating Hours 8am – 5.30pm (Mon to Fri)
Appointment Line +65 6772 5030
Email cbccappt@nuhs.edu.sg

NUH Children’s Urgent Care Clinic @ Bukit Panjang

Location Junction 10, #01-22
Operating Hours 9am – 11pm daily (including public holidays)
General Enquiry +65 6219 1538
Email childrenucc@nuhs.edu.sg

NUH Child Development Unit @ JMC

Location Jurong Medical Centre, Level 2
Operating Hours 8.30am – 5.30pm (Mon to Fri)
Appointment Line +65 6665 2530 / 2531
Email cdu@nuhs.edu.sg

NUH Child Development Unit @ Keat Hong

Location Keat Hong Community Club, #03-01
Operating Hours 8.30am – 5.30pm (Mon to Fri)
Appointment Line +65 6769 4537/4637
Email cdu@nuhs.edu.sg

Clinic A22 NUWoC Children’s Clinic @ NTFGH

Location Ng Teng Fong General Hospital
Tower A – NTFGH Clinics, Level 2
Operating Hours 8.30am – 5.30pm (Mon to Fri)
Appointment Line +65 6908 2222
Email appointment@nuhs.edu.sg

Our Patient Care Institutions

National University Hospital

Ng Teng Fong General Hospital &

Jurong Community Hospital

Alexandra Hospital

National University Polyclinics

Jurong Medical Centre

National University Cancer Institute, Singapore

National University Heart Centre, Singapore

National University Centre for Oral Health, Singapore

NUHS Diagnostics

NUHS Pharmacy



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OneNUHS Hotline: (65) 6908 2222

OneNUHS General Enquiries: contactus@nuhs.edu.sg

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