BARNES
HEALTHCARE SERVICES

INVASIVE VENTILATION EDUCATION GUIDE

TABLE OF CONTENTS

VIDEOS FOR VENTILATION, SUCTION, TRACH CARE

Suction Machine

Suction Technique

Closed (In Line) Suctioning

Trilogy Ventilator

Cough Assist

Trach PT Using Cough Assist

When a Patient is on a Ventilator

This information was designed to help you understand what a ventilator is and how it helps the patient. If you have any questions, please be sure to ask your Doctor, Nurse, or Respiratory Therapist.

What is a Ventilator?

A ventilator is a machine that helps a patient to breathe. Patients are usually placed on a ventilator because of a medical problem that makes it hard for them to breathe well on their own. When connected to an oxygen device, the ventilator brings oxygen into the lungs and helps get rid of carbon dioxide from the patient's body. While on the ventilator, the body can rest so it can heal. The ventilator can help with breathing or totally breathe for the patient.

What to Expect

The patient may feel frustrated or anxious because he or she can't talk while on the ventilator. There are several ways to help promote communication. You can give the patient a tablet and a pen so they can write down what they are trying to communicate. You can give them a computer or laptop and perhaps communicate by typing what they need or you may be able to read their lips.

Eating and Activity

The person may be able to continue to eat normally, but may also require tube feedings or IV feeding. This should be discussed with your physician, dietitian, social worker, or nurse.

How You Can Help

There are many things you can do to comfort the patient. Try talking to him or her as you normally would or let your loved one know you're nearby touching or holding his/her hand. You can bring him/her items that make them feel comfortable as long as it doesn't interfere with the patient’s medical care and treatment.

Alarms, Alerts, and Warnings

The ventilator is equipped with alarms. Each alarm will alert you if a change has taken place in the patient's condition or equipment. You will be instructed on the different sounds, their meanings and how to respond when there is an alarm.

The Team Effort

The care team is a group of professionals and support staff who act as a team to provide personal care to your loved one. You as a caregiver are a member of the team, other team members you will interact with could be:

- Doctors, Primary and / or Pulmonary specialists
- Nurses
- Respiratory Therapists
- Social Workers
- Nursing Assistants
- Dietitians
- Physical Therapists
- Occupational Therapists

If you have any questions about the care of your loved one, or if you hear something that you don't understand, please ask one of these health care professionals.

Barnes Healthcare Services: _____

Pulmonary Doctor: _____

Primary Doctor: _____

Home Health Agency: _____

Other Providers: _____

Anatomical placement of a percutaneous tracheostomy

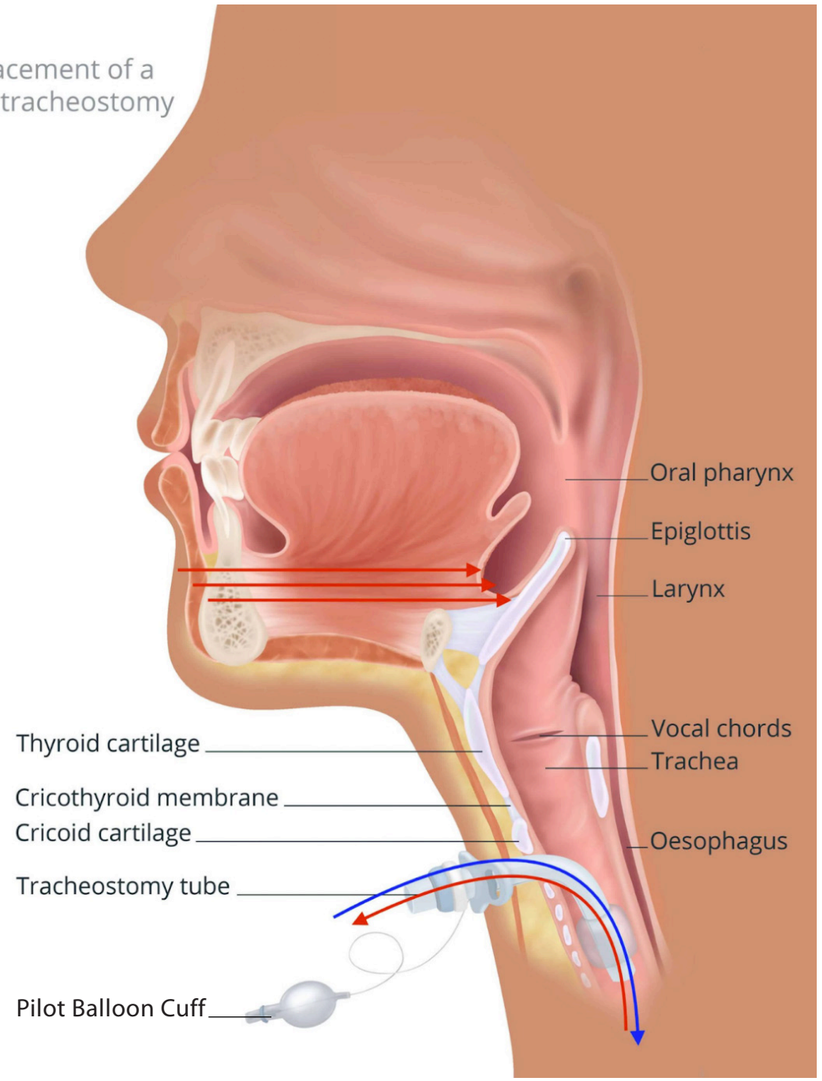
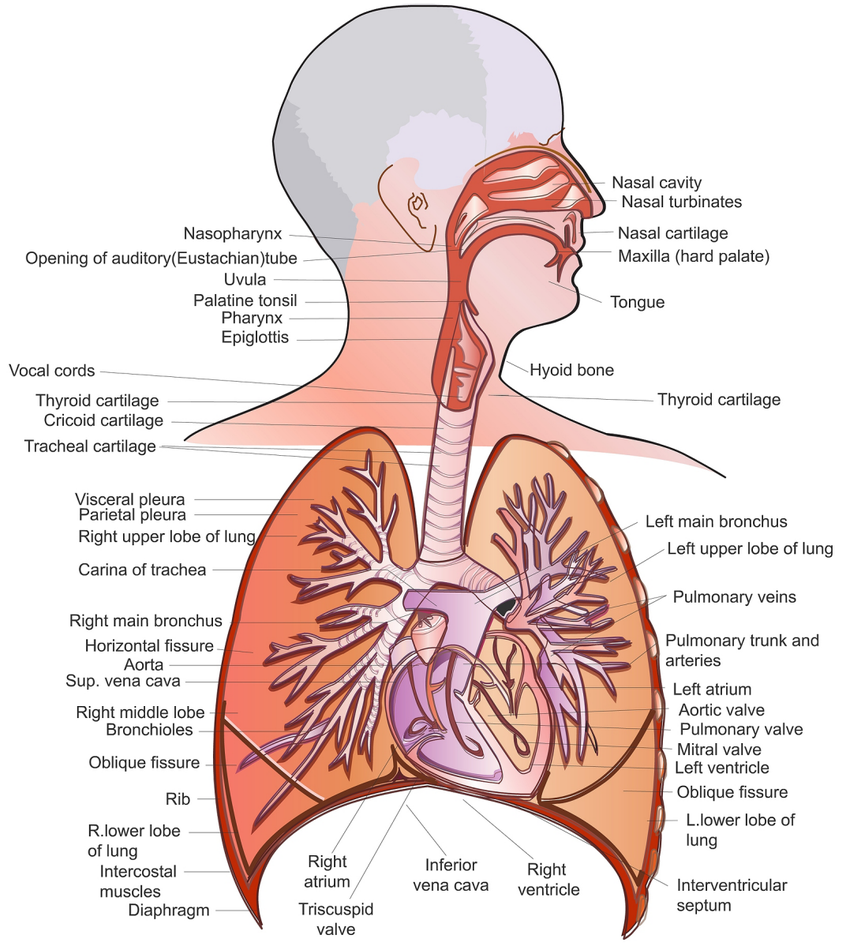


Diagram from https://tracheostomyeducation.com/is-tracheostomy-permanent/



Visual Indicators

Several power and alarm indicators appear on the front panel.

Alveoli *(al-VEE-o-lie)* - tiny sac like air spaces in the lungs where carbon dioxide and oxygen are exchanged

Bronchi *(BRON-key)* - large airway of the lungs

Bronchioles *(BRON-key-ols)* - smaller airways of the lungs

Carina *(kah-ri-nah)* - The ridge separating the openings of the right and left main bronchi

Diaphragm - the muscle that separates the chest cavity from the abdomen. The dia phragm is the main muscle of respiration. Contraction of the diaphragm muscle ex pands the lungs during inspiration.

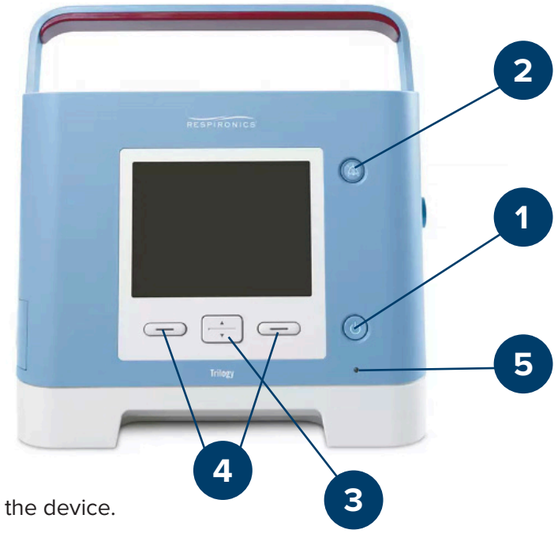
Trachea - or windpipe, is a wide, hollow tube that connects the larynx (voice box) to the bronchi of the lungs

Place the Vent on a hard, non-carpeted level surface,

NOT on the floor.

Make sure the air inlet port in the back of the device is not blocked.

Air MUST be able to flow freely around the unit.



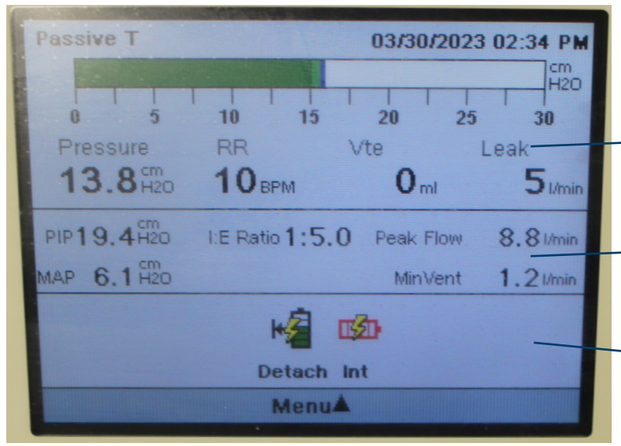
Front Panel Features:

The Front panel contains the control buttons, visual indicators, and display screen.

Buttons

The following buttons are included on the front panel of the device.

1. **Start/Stop Button**
   This button turns the airflow on or off, starting or stopping therapy.
2. **Alarm Indicator and Audio Pause Button**
   This button serves two purposes: it temporarily silences the audible portion of an alarm, and it also acts as an alarm indicator. When silencing an alarm, if the cause of the alarm is not corrected, the alarm sounds again after one minute. Each time the button is pressed, the alarm silence period resets to one minute.
   a) **Red Alarm LED**
      On the Alarm Indicator/ Audio Pause button, a red light flashes to indicate a high-priority alarm.
   b) **Yellow Alarm LED**
      On the Alarm Indicator/Audio Pause button, a yellow light flashes to indicate a medium priority alarm. A solid yellow light indicates a low-priority alarm
3. **Up/Down Button**
   This button allows you to navigate the display menu and edit device settings.
4. **Left and Right Buttons**
   These buttons allow you to select display options or perform certain actions specified on the screen.
5. **AC Power LED**
   In the lower right corner of the front panel, a green LED light indicates that AC power is ap plied to the device. This light remains on as long as adequate AC power is available.
6. **Keypad Backlight LEDs**
   The Start/Stop, Up/Down, and Left/Right buttons all have a white LED that lights up if the keypad backlight is turned on in the device Options menu.



Monitor Panel

Measured Settings Panel

Status Panel

Monitor Panel:

This panel lets you know which therapy mode is being used.

Pressure: Amount of force it takes to deliver a breath to the lungs.

RR: Number of breaths the patient is taking per minute

Vte: Tidal Volume is given in ml., volume or air exhaled with each breath

Leak: Measured in liters/min from the exhaled title volume. Some leak is normal and is necessary to allow exhalation.

Measured Settings Panel:

PIP: Peak Inspiratory Pressure - highest pressure delivered on patient's last breath

MAP: Mean airway pressure - average pressure in patient airway

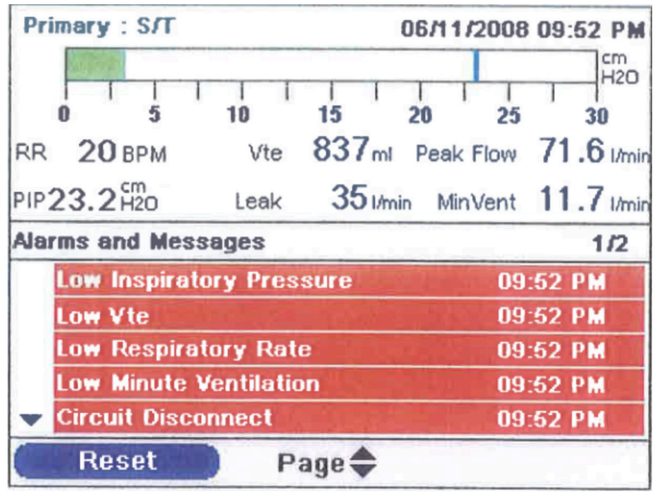
I:E Ratio: amount of time inhaling compared to the amount of time exhaling

Peak Flow: highest inspiratory flow delivered on patient's last breath

MinVent: amount of air delivered to patient over last minute.

Status Panel:

Shows what features are activated. Typically you will see icons that relate to the SD Card/ Detachable and Internal Battery and Access to the ventilator.



Other alarms you may experience:

Low Battery/ Battery Depleted: Check to make sure the green light on the front is on. If it is not, check the power cable's connection to the machine and ensure that it is plugged into a working (un-switched) outlet. This will start charging the internal and external batteries as indicated by the yellow lightning bolts over the icons.

Vent Inoperable: If you see this alarm, you will need to call Barnes Healthcare Services to have your vent exchanged.

Ventilator Alarms

High priority Alarms: 3 beeps followed by 2 beeps – the audio pause button will be flashing red. This alarm indicates a critical issue with breathing or operation of the ventilator.

ALWAYS LOOK AT THE PATIENT FIRST before attending to the equipment to ensure he/she is being properly ventilated.

The display portion of the screen will show you the alarm situation.

When the alarm situation has been taken care of, press the reset button under the display.

Medium Priority Alarms: 3 beeps – the audio pause button will be flashing yellow. *These types of alarms require prompt attention.*

The alarm situation will be on the display screen, and when the situation has been taken care of, you press the reset button to clear the alarm.

Low Priority Alarms: 2 beeps and the audio pause is a solid yellow light. *These types of alarms convey the information you should be aware of.*

Informational Messages and confirmation alerts: 1 single beep.

The message will be on the display screen that a condition has occurred that requires attention such as AC Power is disconnected or the detachable battery is not charging.

Alarm Summary:

Loss of Power **High Priority**

Press Start/ Stop button and then press Right button to silence the alarm. If using AC power, try plugging the device into an alternate AC power source. If loss of power continues and the detachable battery is depleted, connect patient to backup vent if available.

Ventilator Inoperative **High Priority**

Press Start/ Stop button. If the display is operational, Power Off confirmation screen appears. Select Right button to shut off the device and silence alarm. Remove the patient from the vent and connect to backup vent. Contact Barnes Healthcare Services for service.

Check Circuit **High Priority**

Make sure there is no kinked or pinched tubing. Make sure the tubing is properly attached. Make sure all tubing and exhalation devices are clean and free of condensation.

High Expiratory Pressure **High Priority**

Make sure the tubing is not kinked or pinched. Check the patient's breath rate. Check the patient to see if patient needs suctioning.

Low Expiratory Pressure **High Priority**

Make sure the tubing is not kinked or pinched.

Circuit Disconnect **High Priority**

Check breathing circuit and reconnect if it has become disconnected or fix the leak.

High Inspiratory Pressure **High / Medium Priority**

Make sure the tubing is not kinked or pinched. Check the patient to see if patient needs suctioning.

Low Inspiratory Pressure **High Priority**

Check patient circuit for leaks or disconnects. Check the trach. Is the leak occurring from the trach site, is the pilot balloon properly inflated?

SD Card Error **Low Priority**

There is a single audible beep whenever the unit is powered on and message on screen which requires reset. Also, there should be an SD card error message on the home screen. It will look like a square with an "X" over it. If there is no SD card image visible on the home screen, then there is no card present and you should call our office for assistance. All SD Card errors always require a call to the Respiratory Therapist.

These pages have been written to help you learn how to take care of your child / adult at home with a tracheostomy. As you learn about the care he / she needs you may have a wide range of feelings. Please feel free to talk about your feelings or concerns with our Respiratory Care Practitioner (RCP) or your doctor.

Remember, before you leave the hospital you will have many chances to practice all of the things that you will need to do at home. A nurse or an RCP will always be with you as your are learning. You may find that reading these pages answers many of your questions. It may also help you think of more questions. Please write down your questions so that you can ask the right people when you see them. If any information within these pages in confusing please ask our Respiratory Care Practitioner (RCP) to explain it. The more you understand about your loved one's medical condition and care, the more comfortable you will feel at home.

Please note: *The information included in this document is for informational purposes only, and is not intended to substitute in any way for medical education, training, treatment, advice, or diagnosis by a healthcare professional.*

Barnes Healthcare Services makes no warranties related to the information in this document. A qualified healthcare professional should always be consulted before making any healthcare related decisions.

In the event your complaint remains unresolved with Barnes Healthcare Services, you may file a compliant with our accreditor, The Compliance Team, Inc., via their website (www.thecomplianceteam.org) or via phone 1-888-291-5353

Equipment Warranty Information

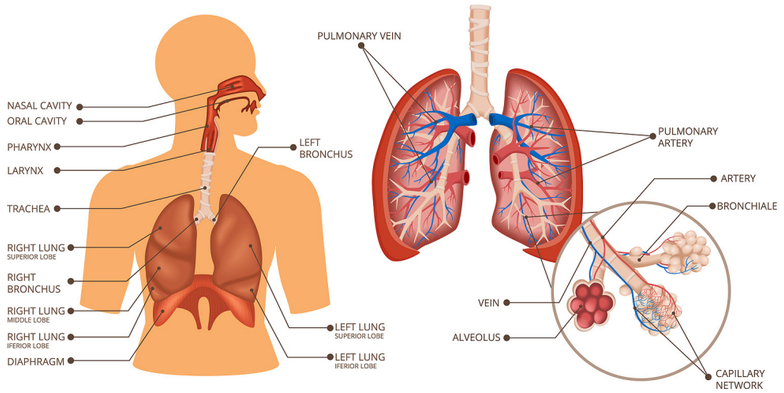
Every product sold or rented by our company carries 1-year manufacturer's warranty. Barnes Healthcare Services will notify all Medicare beneficiaries of the warranty coverage, and we will honor all warranties under applicable law.

Barnes Healthcare Services will repair or replace, free of charge, Medicare-covered equipment that is under warranty. In addition, an owner's manual with warranty information will be provided to beneficiaries for all durable durable medical equipment where this manual is available.

NORMAL BREATHING

Normal breathing takes little effort or thought. Air is inhaled through the nose and passes through the breathing passages into the lungs.

As air passes from the nose to the lungs, it picks up moisture and heat from the body.



Oxygen from the inhaled air passes from the lungs into the bloodstream so that it can be used by the tissues and organs of the body.

THE TRACHEOSTOMY

You may already know the reason why your child or adult needs a tracheostomy. If you are not sure, ask your RCP or doctor to explain the relevant medical condition or diagnosis to you.

A tracheostomy is NOT a surgical procedure, but rather a small opening is made into the windpipe (trachea) through a cut made in the skin on the neck. After the skin has healed, the opening is called a stoma or tracheostomy. A tracheostomy tube is kept in the stoma to keep the hole open. Sometimes you may hear people refer to the tracheostomy simply as the "trach".

HOME CARE VS. HOSPITAL CARE

While your child or adult is in the hospital, you will notice that the nurses and respiratory care practitioners will practice sterile technique (mostly used in the hospital) versus the clean technique which you will be using at home.

STERILE TECHNIQUE INCLUDES:

- Hand Washing
- Wearing sterile gloves
- Using a new trach tube and trach tie
- Using sterile water (new bottle or bag every 24 hours)
- Discarding suction catheters after each use. We don't recommend discarding suction catheters each time, as the patient only receives 90/month and sometimes more suction is needed. Proper cleaning is recommended.

CLEAN TECHNIQUE INCLUDES:

- Hand Washing
- Using gloves (optional)
- Re-using a trach tube and/ or inner cannula that has been properly cleaned
- Re-using suction catheters if they are properly cleaned

Since the home environment has fewer germs and few sick contacts, the clean technique can be used. For this reason, several adaptations have been made. You may also reuse many of your other supplies with proper cleaning instructions which are outlined in this booklet.

TRACHEOSTOMY SKIN CARE

This section reviews the care of a patient at home. Your nurse or RCP will also teach you how to clean the stoma in the hospital.

> Once a day, perform trach care with the trach care kit provided and a disposable inner cannula. Please note that you can do trach care with soap and water also, as many times is as needed, however in the home you only get one trach care kit and one disposable inner cannula per day.

The skin around the trach requires special care. Secretions (mucus) from the trach can cause the skin to become red and sore if allowed to remain on the skin too long. As much as possible, the skin should be kept clean and dry. You may need to clean the skin around the trach tube several times throughout the day. Also, it may be necessary to take the inner cannula out and clean it with peroxide solution, especially if secretions are thick.

THE SUPPLIES NEEDED ARE:

- ☐ Basic trach care kit and disposable inner cannula
- ☐ Wash basin with warm sterile/distilled water
- ☐ Mild antibacterial soap
- ☐ Clean Velcro trach ties (if ties need to be changed)
- ☐ Scissors (if necessary)

PROCEED AS FOLLOWS:

1. Wash hands thoroughly, open trach care kit and put-on gloves provided. Remember this is a home environment, so we are not in a sterile environment.
2. Use peroxide solution provided in kit or make your own½ peroxide,½ distilled water. Place in the trachkit tray (after removing the contents of the kit).
3. Take the disposable inner cannula out of the patient's trach and replace with a new one. REMINDER: ONE INNER CANNULA PER DAY/ ONE TRACH CARE KIT PER DAY (depending on insurance.)
4. Use the wire brush or pipe cleaners provided to clean the inner cannula if more than once per day is necessary.
5. Take care to clean under the trach flange and around the stoma with cotton swabs. You can use gauze in the peroxide solution or with a mild soap and water and wipe away from the trach. Wipe in one direction, never in a back-and-forth motion. Repeat until all mucus or drainage has been removed. Rinse away soap and make sure area is dry.
6. Assure Velcro trach holder is not wet, if so replace.
7. Place split gauze 4x4's under the trach flange.

CHANGING TRACH TIES

Tip: It is a good idea to use a spare set of trach ties already cut to the correct size as a guide when cutting another set of trach ties.

You will need to cut the trach ties to fit the neck properly. The trach tie will have a long end and a short end to attach the trach. You will be cutting the long end. Don't be afraid to cut the tie. It should not be so long as to lie underneath the flange (wings). You may also round the edges and cut off the label to increase the comfort. There are two sides to the trach ties. There is a dull side which lies against the neck. The fluffy side lies outward and is the side where the Velcro side will stick. You should not be able to place more than one finger's width between the trach tie and the neck.

You may place a dry gauze trach dressing between the skin and the trach tube if a lot of tracheal secretions are present. These dressings need to be checked for drainage and changed at least every 2-4 hours or as needed.

Make sure the dressing does not cover the trach opening. This could restrict air flow and make it difficult to breathe.

Lastly, call your doctor if you see any skin breakdown.

HOW TO SUCTION THE TRACHEOSTOMY

This section is going to review the importance of suctioning, and will cover:

- Signs and symptoms that indicate the need for suctioning.
- Supplies needed to suction
- Step by step instructions on how to complete the suctioning process.

Keeping the trach free of secretions is very important. However, mucus is a normal part of every person's airway. It helps protect the respiratory system by filtering out dust, dirt, and some germs, which are inhaled with the air we breathe. Sometimes we have more mucus than usual, such as when we have a cold.

The tracheostomized person cannot close off the airway to create enough pressure when coughing to remove secretions. By inserting a small catheter into the trach tube, mucus is removed and a person can breathe more easily. Effective suctioning can decrease the possibility of upper airway infections, pneumonia, and a possible oxygen requirement.

At first, a person may pull away or cry when you try to suction. Suctioning is a little uncomfortable because it causes coughing, but it should not hurt the person. Try to remember you are helping them breathe easier when you suction. Also think about what you are doing, rather than how one is acting when you suction them.

SIGNS AND SYMPTOMS THAT INDICATE THE NEED FOR SUCTIONING INCLUDE:

- Seeing mucus in the opening of the trach tube or hearing mucus in the airway. Increased respiratory rate or effort.
- Retractions (which are seen when the skin between the ribs pulls in while breathing)
- Nasal flaring (nostrils flare out when the person breathes in)
- Change in skin color from normal to pale or blue.
- Changes in activity, such as if a patient is upset or inconsolable, or appears to be more sleepy than usual.
- Increased coughing

Important: Call your doctor if you notice thick secretions that are yellow or green in color.

Other times to suction include before eating or before and after sleeping. Be aware that every sound you hear does not mean they need to be suctioned.

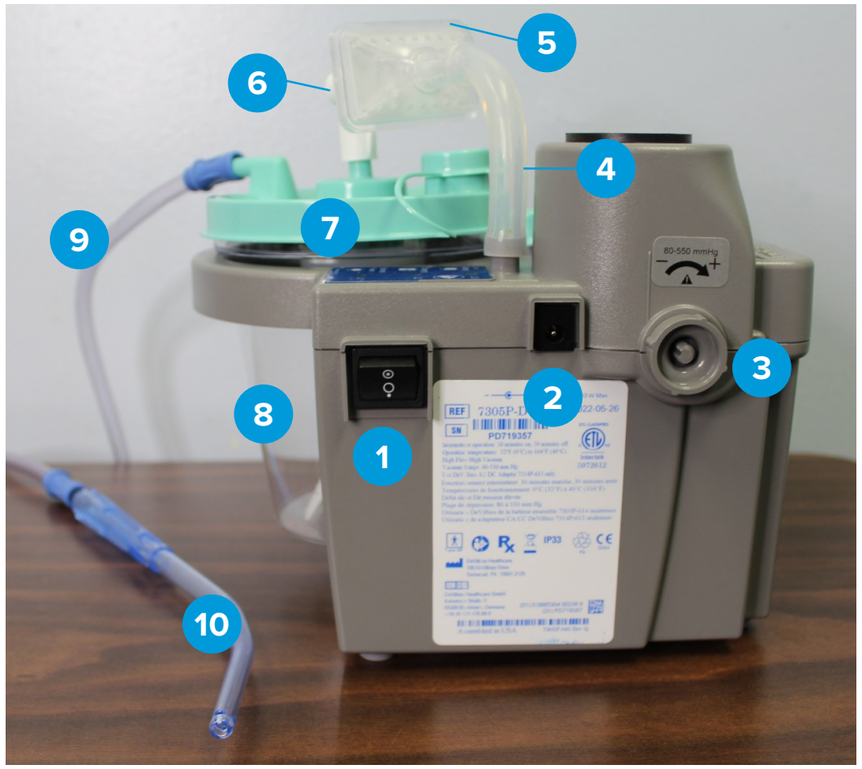
HOW TO SUCTION THE TRACHEOSTOMY

- ☐ Manual Resuscitation Bag (if on a ventilator or if supplemental oxygen needed)
- ☐ Distilled water for clearing secretions from the suction tubing. Saline if ordered and appropriate.
- ☐ Suction catheter kit
- ☐ Gloves (optional)
- ☐ Suction source
- ☐ Oxygen (if prescribed and required)
- ☐ Ziploc Bag (if you are reusing your suction catheters)

PROCEED AS FOLLOWS:

1. Wash your hands thoroughly with soap and water before beginning.
2. Open a suction catheter kit.
3. Pour some distilled water into a clean cup tray provided.
4. Put on gloves (optional).
5. Attach a suction source (thumb valve end) to the suction catheter.
6. Test the forced of the catheter by drawing up distilled water through the suction catheter. ***Remember: DO NOT get stuck in the suction cycle where "the more you suction, the more secretions you create!***
7. Keeping your thumb off the valve, gently insert the catheter into the trach tube. Make sure that you are only inserting the catheter until you reach an obstruction or until the patient starts coughing. If you do not clear the airway, you may have to insert the tube a little farther. ***DO NOT FORCE THE CATHETER!***
8. Place your thumb on the suction control as you pull the catheter out. Roll the catheter between your fingers as you withdraw. The catheter should only stay in the trach for 5-10 seconds at a time because a person cannot breathe during intermittent suctioning!
9. If prescribed, squirt 2-3 drops of prepared sterile normal saline down the trach tube if the mucus appears thick. This will initiate a cough reflex, so suction immediately. This should not be done routinely and should only be done if needed. Between suctioning, you may also give 2-3 breaths with the self-inflating bag if necessary.
10. If the airway still sounds noisy, suction 2-3 more times until the lungs sound clear. Once the lungs are clear, do not suction again.
11. Finally, suction a good amount of distilled water through the suction catheter to clear the mucus from the tubing.
12. Check the suction reservoir with each use, to ensure it is not over full.

Suction Equipment



Portable Suction Unit Model 7305

1. Power Button
2. AC/DC Power Input
3. Vacuum Regulator Knob
4. 3 1/8" Connection Tubing
5. Bacteria Filter
6. Connection Elbow
7. Lid
8. Jar/Canister
9. Tubing (6' long)
10. Yankeur

OPERATION:

Press power switch on.

Connect Suction Catheter or Yankauer to Patient Tubing and suction as needed. When done suctioning rinse Yankauer and or tubing out with water to clear tubing. Turn the power switch to off.

On top of Suction unit there are 3 LED lights:

LI = Green, External power supplied from AC power DC cord.

L2 = Yellow, Battery is being charged. Light will go out when battery is charged.

L3= Red, Low Battery. Seek another power source and charge battery.

NOTE: You should keep Portable Suction Unit plugged into external AC power at all times so the battery is fully charged in case of power failure or the need to travel with the suction unit.

NOTE: A fully charge battery will provide approximately 45-60 minutes of continuous operation, depending on vacuum level. Also, battery run time will decrease as the battery ages.

CAUTION: Discharging the battery completely will shorten the life of the battery. Do not operate the unit more than a few minutes if the low battery indicator light is lit. Recharge ASAP.

CLEANING AND DISINFECTING:

The cleaning and disinfecting of your respiratory supplies is essential to the health and wellness of any child or adult. Whenever moisture is present, from water supplies, from body humidity or any bodily fluid, bacteria can grow within 24-72 hrs. If your supplies are not properly cleaned and dried, bacteria can build up and can lead to infections in the body, especially in the airway passages. Also, the oils in our skin and the minerals in tap water can cause premature breakdown in the materials used to manufacture your supplies. Therefore, we recommend the cleaning and infection schedule be followed diligently.

DAILY:

- ☐ Rinse with water any supply that has body secretions: trach collar, trach swivel adapters, suction canisters (secretions must be disposed of in the toilet).
- ☐ Rinse humidifier/ nebulizer bottles.

WEEKLY:

- ☐ Wash your supplies in warm soapy water and rinse your supplies in the sink, then soak items in a warm soapy solution for 10 minutes. Rinse thoroughly with tap water and th en allow to air dry (tubing can be hung over shower rod or cabinet door). Once completley dry, put away in sealed containers if not reusing right away.
- ☐ If you want to use vinegar solution after the above process, then soak the supplies in 1- part white vinegar and 3-part water for 30 minutes. Rinse well and dry as instructed as above.
(Please note: speaking valves are not to be soaked in vinegar).

Ventilator Circuit and Air Compressor changes:

- ☐ Weekly dispose of all items on the ventilator circuit and replace with same new items: circuit, bacteria filter, Vent HME, In-line Suction Catheter (if using), and Trach Swivel Connector

  Weekly dispose of these items on the Air Compressor items: Aerosol Tubing
- ☐ These items should be washed in soapy water: 02 bleed in attachments, Nebulizer “T" pieces, Trach Collars, Nebulizer bottles, Pollen Filter (back of ventilator)

CLEANING:

DAILY:

Remove canister / lid and empty contents. Dispose of contents in toilet, rinse thoroughly and leave a little water in the bottom of canister. Also, it is helpful to have a container of water near the suction unit to rinse the tubing after each suction occurrence.

WEEKLY:

Wash canister/ lid and tubing once per week.

Wipe the suction unit off with a damp cloth. DO NOT USE cleaners that contain ammonia, benzene or acetone to clean the suction unit.

MAINTENANCE:

Change bacteria filter if it becomes wet or every two months if needed. You will need to order these with your monthly order.

ADDITIONAL NOTES:

Do not let yourself run out of supplies. If you find yourself out of cannisters / lids; pt. tubing, suction catheters or yankauer catheters, remember you can wash these in warm soapy water (dishwashing liquid) and rinse with clean water and dry.

When dry put them in a zip lock bag to keep clean. We don't recommend closing the bag.

If you wish to disinfect your supplies you can do the following:

Soak supplies in 1 part white vinegar to 3 parts water for 60 minutes and rinse with clean water.

TROUBLESHOOTING SUCTION

PROBLEM	ACTION
Unit does not turn on, but green external power light is illuminated.	• check power source and connections. • ensure wall outlet is live by plugging in a lamp. • check that battery is fully charged.
Suction unit runs, but there is no vacuum.	• check that all tubing is connected and the lid is securely fastened to cannister. • ensure that float in the lid is not stuck to the top of the lid. • check for leaks or cracks in the canister, lid or tubing. • check filter for fluid and replace as necessary.
Low Vacuum	• use vacuum adjustment knob to increase vacuum level. • check for leaks in system/ circuit.
Battery will not charge, but charge light is illuminated	• verify charge light turns on. • check electrical connections during charging. • ensure wall outlet is live by plugging in a lamp.

If you still need assistance after reviewing the troubleshooting methods above, please call:

Barnes Healthcare

AIR COMPRESSOR WITHOUT 02

AIR COMPRESSOR FOR HUMIDIFICATION TO THE TRACH
IMAGES WITH 02

The nose and mouth provide warmth, filtering and moisture for the air we breathe. A tracheostomy tube by-passes these mechanisms. Humidification must be provided to keep secretions thin and to avoid mucus plugs. Note, children and adults with tracheostomies do best in an environment of 50% humidity or higher.

Humidity should be delivered while sleeping and as needed during the day. Attach a mist collar (trachmask) with aerosol tubing over the trach with the other end of the tubing attached to the nebulizer bottle and air compressor. Distilled water goes into the nebulizer bottle (do not overfill, note the line guide). Oxygen can also be delivered via the mist collar via an oxygen bleed-in adapter. Drainage bags are used for the collection of excess water, condensation in the tubing. The position of the air compressor should be OFF of the floor and on a flat sturdy surface. The tubing should be lower than the patient to prevent aspiration from moisture in the tubing. If you notice that the patient secretions are getting thicker or blood tinged you should wear the mist collar more and consider increasing your fluid intake to help thin the secretions.

Supplies used for Air Compressor:

Corrugated Tubing
Large Volume Nebulizer (bottle)
Aerosol Drainage Bags
Trach Mask
Oxygen Bleed In Adapter (if ordered)

CLEANING/ MAINTENANCE:

Daily:

Clean the mist (trach) collar with warm soapy water to remove any secretions.

Weekly:

Throw away and replace the corrugated tubing.

The Large Volume Nebulizer bottle, trach collar and the Oxygen bleed in adapter will need to be washed in warm soapy water (dishwashing liquid) and rinsed. The drainage bag just needs to be emptied and wiped off

As Needed:

On the front of the compressor is a white felt filter. When this starts to turn dark gray, you need to replace. Empty the drainage bag of excess water as needed.

This should be ordered on your monthly order you place. Check order form.

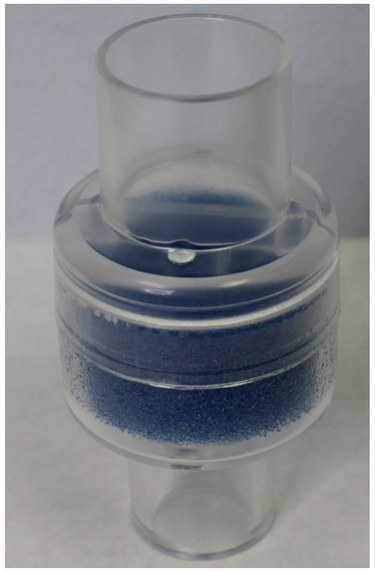
Supplies you may need to order:

Corrugated Tubing
Large Volume Nebulizer Bottle
Trach Mask
Aerosol Drainage Bag
Oxygen Bleed In Adapter
Air Compressor Felt Filter - #18450

HEAT MOISTURE EXCHANGER (HME)

Secretions can be kept thin during the day by applying a Heat Moisture Exchanger (HME) to the trach tube. An HME is a humidifying filter that fits onto the end of the trach tube and comes in several shapes and sizes (all styles fit over the standard trach tube opening). There are also HME's available for use with the portable ventilators.

Bedside ventilators also have an add-on humidifier with a water chamber. HME also helps to prevent small particles or insects from entering the trach tube.



Thermovent "T" - (Recommended for all Children and Adults)

Humidi VentTM - (used for infants< 50ml vt)

EMERGENCY CARE

In the event of any life threating / medical emergency please call 911, do not call Barnes Healthcare Services. Only call Barnes Healthcare Services once you or the patient are stable in the Emergency Room to make us aware of the situation.

These pages will cover the prevention of an emergency situation, and what to do in certain situations:

- Your loved one has trouble breathing or stops breathing
- You cannot insert a trach tube
- The trach falls out

The following list is a list of preventative measures that may help to avoid some problems:

Make sure the trach is getting enough humidity. Humidity will keep the mucus loose and decrease the chances of a mucus plug. If you hear a whistling sound from the trach, this might mean that the airway is dry.

Always make sure the trach ties are securely fastened and are tight enough around the neck.

Make sure that the trach is open to air and that nothing is blocking it such as clothing or bedding.

Always have a child nap or sleep with his / her apnea monitor or pulse oximeter on. Do not discontinue using this unless first discussing this with your doctor.

WHAT TO DO IF A PERSON HAS DIFFICULTY BREATHING

The most common reason for breathing problems, other than an illness, is that the trach tube becomes plugged with dried mucus. Making sure to provide enough humidity can help prevent this problem. However, if the trach does become plugged, try to remove the plug by suctioning.

If you have trouble passing the catheter into the trach and it feels tight, put a few drops of saline into the tube and try to suction again. Do not force the catheter; it may push the plug in further.

If you are unable to remove the mucus plug, change the inner cannula and try to suction again.

Signs and Symptoms of difficulty breathing are:

Retractions - Pulling of the skin between the ribs, under the breastbone or around the trach itself.

Sweaty and pale skin - A person is sweaty and pale and seems to be working hard to breathe while at rest.

Dusky lips or nail beds - The lips or nail beds look dark, dusky, or blue.

Feeling restless or frightened - A person is restless or looks frightened for no apparent reason.

WHAT TO DO IF SOMEONE STOPS BREATHING

REMEMBER THE ABC'S OF CPR

A - AIRWAY

Check to make sure that the tube is open to air. Look, listen, and feel for air coming from the trach and watch the chest for movement. Position the head so the neck is exposed.

B - BREATHING

Use your mouth or self-inflating bag to give the patient two breaths through the trach. Feel for air leaking from the nose or mouth. If this happens, cover the mouth and nose with your hand. If you cannot pass air through the trach, change the tube. You should squeeze the bag slowly and gently with only enough force to see the chest rise.

C - CIRCULATION

Check for signs of movement such as coughing or signs of breathing after giving 2 breaths. After giving the two initial breaths, start compressions.

If someone is available, have them call 911. If no one is available, perform CPR for one minute then call 911. Continue CPR as you were taught until help arrives. You will not be sent home without learning CPR. This will be taught to you while you are in the hospital.

WHAT TO DO IF YOU CANNOT INSERT A NEW TRACH TUBE?

Barnes Healthcare Services does NOT recommend inserting a new trach tube in the home unless you have been trained to do so. Please take the patient to an Emergency Room and call the physicians office.

WHAT TO DO IF THE TRACH FALLS OUT?

Barnes Healthcare Services does NOT recommend inserting a new trach tube in the home unless you have been trained to do so. Please take the patient to an Emergency Room and call the physicians office.

SUPPLIES THAT CAN BE CLEANED & DISINFECTED FOR REUSE:

- Trach Tubes
- Trach Swivel Adapters
- Trach Ties
- Aerosol Masks
- T-Pieces I Adapters
- Speaking Valves (these cannot be soaked in Vinegar)
- Nebulizers Kits and bottles
- Most hard-plastic supplies

CLEANING YOUR RESPIRATORY EQUIPMENT WEEKLY:

1. Always unplug the equipment before cleaning it.
2. Never immerse the equipment in water.
3. Using a slightly wet cloth with water & dish detergent wipe the outside of the equipment.
4. Use a dry cloth to wipe the unit and then let it air dry.
5. Make sure the unit is thoroughly dry before plugging it in.
6. For Ventilators/ Air Compressors/ 02 concentrators, there is a black foam filter that will need the dust rinsed once per week to assure proper operation of the equipment.

DO'S AND DO NOT'S:

DON'T use alcohol-based products to clean your supplies, because it can cause the materials to become hard and brittle.

DON'T put equipment or supplies in the dishwasher.

DON'T use any caustic or household cleaning solutions such as bleach on your supplies or equipment.

DO follow a regular cleaning schedule.

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