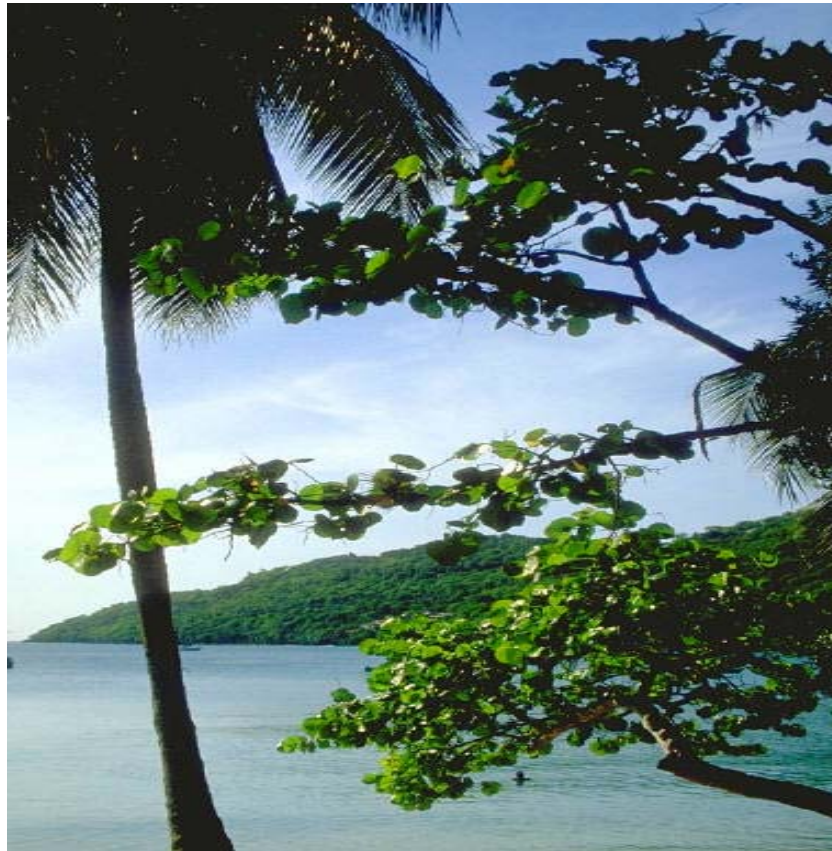


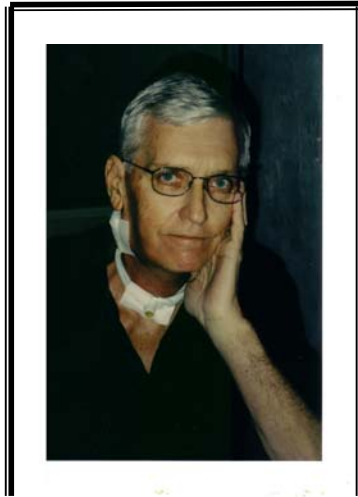
Windsor Essex County  
Tracheostomy Self Care Guide  
for  
Patients and Their Caregivers



January 2005

*This manual is dedicated in memory of*

Danny Lou Clarke  
December 11, 1945 – January 6, 2003



Along Danny's final journey there were many challenges. Danny was determined to meet his prognosis of cancer head on and viewed his tracheostomy as a gift of life. He braved each day with courage and battled the struggles with perseverance and dignity.

Hopefully this manual will ease the way for others who have to travel the same path. This is our opportunity to help others in remembrance of those who reached out and touched his life.

~Bernice Clarke



## Acknowledgements

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Please contact any of the following Health Care Professionals regarding future revisions, changes, and/or additions.

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## TEACHING CHECKLIST

This teaching checklist is to be initiated in hospital and will be completed at home as the teaching is re-enforced.

EDUCATION PROVIDED	Date Taught		Return Demonstration	Initials
	Hospital	Home		
Respiratory System Comments:				
Tracheostomy Tubes				
<b><u>Tracheostomy Care:</u></b> Changing Trach Dressing Comments:				
Changing Trach Ties Comments:				
Cleaning Inner Cannula Comments:				
Humidifications/Med Delivery-Operation of Equipment and Supplies Comments:				
Tracheal/Oral/Nasal Suctioning – Operation of Equipment and Supplies Comments:				
Speech with Tracheostomy Tube Comments:				
Emergency Airway Management Comments:				
Trouble Shooting Problems Comments:				
Daily Routine Comments:				
ADP Form Completed/Initiated Ordering of ADP Supplies				

## IMPORTANT INFORMATION/PHONE NUMBERS

This Book Belongs to: \_\_\_\_\_

My Diagnosis: \_\_\_\_\_

My Surgery Date: \_\_\_\_\_

My Surgeon: \_\_\_\_\_ Phone: \_\_\_\_\_

My Family Doctor: \_\_\_\_\_ Phone: \_\_\_\_\_

My Cancer Centre Doctor: \_\_\_\_\_ Phone: \_\_\_\_\_

Specialty/Other: \_\_\_\_\_ Phone: \_\_\_\_\_

My CCAC Case Manager: \_\_\_\_\_ Phone: \_\_\_\_\_

My Community Nursing Service Agency:  
\_\_\_\_\_ Phone: \_\_\_\_\_

My Respiratory/Oxygen  
Vendor: \_\_\_\_\_ Phone: \_\_\_\_\_

Pharmacy: \_\_\_\_\_

### Next of Kin to Call in Case of Emergency

1. Name: \_\_\_\_\_ Relationship: \_\_\_\_\_ Phone: \_\_\_\_\_

2. Name: \_\_\_\_\_ Relationship: \_\_\_\_\_ Phone: \_\_\_\_\_

### Tracheostomy Information

Brand: \_\_\_\_\_ Model: \_\_\_\_\_

Type/Model: \_\_\_\_\_ Reorder #: \_\_\_\_\_

Size: \_\_\_\_\_ Speaking Valve: Yes  No

Suction Catheter Size: \_\_\_\_\_

# **COMMUNITY RESOURCES**

## COMMUNITY RESOURCES

### RESOURCE

### PHONE NUMBER

Assistive Devices Program (ADP)	1-800-268-6021
Community Care Access Centre (CCAC)	258-8211
Canadian Mental Health Association (CMHA)	255-7440
Canadian Cancer Society (CCS)	254-5116 Windsor 326-6562 Leamington
Canadian Hearing Society	253-7241
Hospice of Windsor and Essex County	974-7100
New Voices	250-6536
Windsor Regional Cancer Center	253-5253
<u>Respiratory/Oxygen Vendors</u>	
At Home O <sub>2</sub> & Medical Supplies	944-5700
Medigas	255-9151
Pro Resp	254-0202
Professional Oxygen	253-6550
VitalAire	971-8585

You may have another respiratory/oxygen vendor providing services for you – Please see the yellow pages under “Oxygen Therapy Equipment” for contact numbers. For additional information on community resources, see page 5.

## **DESCRIPTION OF COMMUNITY RESOURCES**

### **1. Assistive Devices Program (ADP)**

This is a government-funded agency that provides financial assistance for your tracheostomy supplies. An ADP application form must be filled out and approved in order to obtain financial assistance. The application forms can be obtained from the respiratory/oxygen vendors.

### **2. Community Care Access Centre (CCAC)**

The Windsor Essex Community Care Access Centre (CCAC) is the provincially funded government agency responsible for allocating various in-home medical services. A person who is a Canadian citizen and an Ontario resident with an OHIP number is eligible to be assessed for in-home medical services by a Case Manager.

CCAC provides various professional services such as nurses to teach patients self-care, and assists in providing the first month of supplies and equipment for new tracheostomy patients. Your Case Manager is a valuable resource for all of your community healthcare needs, and can act as a liaison between you and other agencies. If you feel you require an assessment, please speak to your Case Manager at CCAC.

Various services that may be provided by CCAC based on your needs are:

Community Nurse – see “*Role of Community Nurse*”, page 13

Personal Support Worker – for assistance with bathing and activities of daily living

Occupational Therapist – for home safety assessment

Registered Dietitian – for nutritional needs

Physiotherapist – for walking aids

Social Worker – for financial or emotional needs

Speech Pathologist – for communication needs and swallowing concerns

Your case manager will gladly answer any questions you have, and come out to assess you for home services if you feel you are in need.

Windsor Essex Community Care Access Centre (C.C.A.C.) – 258-8211.

### **3. Canadian Mental Health Association (CMHA)**

CMHA is a non profit voluntary charitable organization whose objectives are to improve attitudes toward mental illness and promote mental health.

This is accomplished through community support workers who provide ongoing, individualized, and/or group counseling and support. Bereavement support and counseling services are also available. Service is available throughout Essex County with a satellite office in Leamington.

#### **4. Canadian Cancer Society (CCS)**

The Canadian Cancer Society (CCS) funds research, provides comprehensive and credible information on cancer, its treatment and risk reduction. CCS provides support for people living with cancer and family members and friends.

#### **5. Canadian Hearing Society (Teletypewriter Services)**

The Canadian Hearing Society provides services that enhance the independence of deaf, deafened and hard of hearing people, and that encourage prevention of hearing loss. The Canadian Hearing Society provides a wide range of services to meet your needs.

The TTY, teletypewriter service will enable you to place phone calls to an operator who will relay your message to your intended receiver. By means of a built in hand set, you will call an operator and type what you want to say and she/he will relay the message for you. This device may be set up with the help of your speech pathologist. An Assistive Devices Program (ADP) application may be required.

Website: [www.chs.ca](http://www.chs.ca)

#### **6. The Hospice of Windsor and Essex County**

The Hospice of Windsor and Essex County Inc is a community based non-profit organization that provides supportive care services and programs to patients and families who are facing a life-threatening illness. The services and programs are available to patients and families throughout the entire illness.

Services include nursing, social work, volunteer and pastoral care support. Onsite therapeutic/educational support groups include life style changes, relaxation and meditation, coping with illness and Kids Can Cope: a program for children whose family member is diagnosed with a life threatening illness. Diversional activities include radiant touch stress management and Tai Chi. The Hospice team may visit patients and families in their home and at all 3 area hospitals, home for aged and nursing homes. Service is available throughout Windsor and Essex County. The Hospice office also has a resource library that offers a wide range of educational materials and internet access.

Website: [www.hospicewindsorsex.com](http://www.hospicewindsorsex.com)

## **7. New Voices**

The Essex County Chapter of new Voices is a support group of men and women who have had their larynges (voice box) surgically removed as a result of injury or malignancy. These Laryngectomees and their spouses also conduct monthly meetings, with programs of interest designed to assist each other in the rehabilitation process.

There are monthly support meetings of the Essex County Chapter of New Voices. The support meetings are not held during the summer months of July and August.

Member of the International Association of Laryngectomees.

## **8. Windsor Regional Cancer Centre (WRCC)**

The Centre provides evaluation and information for referred patients with cancer, plus radiation treatment, chemotherapy services and post-treatment follow-up. The Centre also features a resource library that offers a wide range of educational materials for those interested in learning more about living and coping with the disease. The Library lends books, video and audiotapes.

The Centre also provides a wide variety of supportive care services including resource and referral information and assistance; relaxation sessions; radiant touch therapy; Internet access; social work and dietary consultations. These services are provided to cancer patients and their families and there is no charge for these services.

## **9. Respiratory/Oxygen Vendors**

Respiratory/Oxygen Vendors are local companies that will provide your tracheostomy supplies, equipment, as well as oxygen if required. Your respiratory health professional will provide ongoing support and education. The ADP application forms are available through these companies. You may select the vendor of your choice.

## **AFTER DISCHARGE**

Your home services will be assessed and monitored by the C.C.A.C. Case Manager and provided according to your needs. When you are discharged from hospital with a new tracheostomy you can expect home services from C.C.A.C. for approximately one month.

These services may include, but are not limited to:

### **Drug Coverage**

Provided you are receiving a professional service in the home such as nursing, you are eligible for Ontario Drug Benefits (ODB) which allows your pharmacy to dispense approved medications for a two dollar co-pay. You are responsible to notify your case manager which pharmacies you are dealing with. Ontario Drug Benefits (ODB) are provided for clients who are currently on CCAC services, clients over the age of 65 or on Ontario Disability or Social Services (ODSP)

### **Tracheostomy Supplies**

C.C.A.C. provides a limited amount of tracheostomy supplies for the first month after discharge. It is assumed that ADP funding will have been applied for, and an allowance will be forthcoming. Many vendors will charge the lesser rate of 25%, while awaiting ADP approval. If no funding is secured after the first month, you are responsible for your own supply costs. You are free to continue to use C.C.A.C.'s vendors, or choose your own. It is important for you to become familiar with your own supply needs and your vendor, who will be an invaluable resource.

### **Equipment Rental Fees**

C.C.A.C. pays the first month rental fee on needed equipment and you are responsible thereafter. ADP assists with approved equipment costs, and third party insurance often will absorb purchase costs if provided with quotes and a doctor's note. Vendors will assist with ADP funding and insurance forms, and often the rental equipment has their name and number on it.

### **Community Nurse/Nursing Visits**

Your community nursing services are arranged by your CCAC case manager in the hospital. You can expect to see your community nurse within 1-2 days following your discharge from hospital.

## **ROLE OF COMMUNITY NURSE**

The community nurse will visit you at home to teach and support you and your caregivers as you learn to care for your tracheostomy independently. The nurse will help you adapt to your home environment so that you will feel comfortable with the following:

- Suctioning
- Changing your trach ties
- Cleaning your cannulas
- Cleaning around your stoma
- Changing your dressing
- Accessing your supplier for ongoing supplies

The nurse will also be there to:

- Answer questions you may have
- Help you review your booklet
- Help you manage pain or other symptoms
- Review what may be normal to expect
- Review what signs or symptoms to report to your nurse or doctor
- Act as a liaison between you and your doctor, case manager and other members of your health care team

Your community nurse will provide you with a telephone number to reach the nursing agency. The frequency of visits is based on individual need and will be decreased as appropriate.

**ASSISTIVE DEVICES PROGRAM**  
**(ADP)**

## **ASSISTIVE DEVICES PROGRAM**

ADP provides financial assistance to Ontario residents who have long-term physical disabilities and require selected medical equipment essential for independent living. Any Ontario resident with a valid Health Card who has a long-term problem and does not live in an institution can apply. ADP does not pay for equipment available under the Workplace Safety & Insurance Board (WSIB) or Group "A" veterans for their pensioned conditions.

A physician must assess all applicants to determine if the client meets the criteria for ADP. An Equipment/Supply Authorization (ESA) form can be obtained from your physician or a vendor registered with ADP. The appropriate person must fully complete each section of the form or the claim will be denied.

The products prescribed by your physician can be obtained from any vendor registered with ADP. For medication compressors, high humidity compressors, suction machines, suction supplies, and tracheostomy products, ADP pays 75% of the approved price.

If you have private medical coverage, check with your agent to see if they will pay your share of the cost.

If you are receiving social assistance (Ministry of Community and Social Services – MCSS), benefits under Ontario Works (OW), Ontario Disability Support Program (ODSP), or Assistance to Children with Severe Disabilities (ACSD) you may be eligible to receive 100% funding. A copy of your drug card must accompany the ESA form. If the vendor's retail price is more than the maximum amount that ADP will pay, you will be responsible for the difference.

For further information, write or call:

**Assistive Devices Branch**  
7<sup>th</sup> Floor, 5700 Yonge Street,  
North York, ON M2M 4K5

(416) 327-8804  
Toll Free: 1-800-268-6021

The following chart indicates the ADP supplies that are available. You will receive supplies based on your individual needs.

**SUCTION ADP EQUIPMENT**

**YEARLY SUPPLIES**

QUANTITY	DESCRIPTION	SUPPLIES CURRENTLY BEING USED
390 Each	Catheters for oral suctioning (any size)	
65 Each	Connecting tubing	
65 Each	Tonsil Tips (Yankauer)	

**Medical Eligibility for Medication Compressor**

ADP will fund a medication compressor for people with a permanent tracheostomy who require inhaled aerosolized medications.

**Medical Eligibility for High Humidity Compressor**

ADP will fund a high humidity compressor for people with a permanent tracheostomy or long term tracheostomy who requires humidification of inspired air.

Funding approval is by special authorization only.

**Medical Eligibility for Suction**

ADP will fund a suction unit for people with a chronic respiratory illness or disability requiring long term suction therapy for secretion removal.

The following chart indicates the ADP supplies available. You will receive supplies based on your individual needs.

**TRACEHOSTOMY ADP EQUIPMENT**

**YEARLY SUPPLIES**

<b>QUANTITY</b>	<b>DESCRIPTION</b>	<b>SUPPLIES CURRENTLY BEING USED</b>
3600 each	Suction Catheters (any size)	
72 (500 ml bottles)	Hydrogen peroxide	
2210 each	2x2 Gauze or Q-Tips (not both)	
6 each	Tracheostomy Brush	
780 each	Tracheostomy Drain Sponges	
2 rolls	Twill Tape	
72 (4 litre container)	Distilled Water	
240 each	Heated Moisture Exchanges	
24 each	Disposable Inner Cannulae	
48 (500 ml bottles)	Alcohol for Cleaning Metal Tracheostomy Tubes	
20 each (500 ml)	Refillable Nebulizer	
2 each	Metal Tracheostomy Tubes (prior authorization required)	
1 each	Manual Resuscitator	

The following chart indicates the ADP supplies available. You will receive supplies based on your individuals needs.

**TRACHEOSTOMY TUBES**

**BASED ON A 3 YEAR PERIOD**

<b>MAX CONTRIBUTION</b> (based on a 3 year period)	<b>*MCSS CONTRIBUTION</b> (based on a 3 year period)	<b>DESCRIPTION</b>
\$5,625.00	\$7,500.00	Cuffed plastic tracheostomy tube
\$960.00	\$1,200.00	Passy Muir Speaking Valve
\$2,250.00	\$3,000.00	Uncuffed plastic Tracheostomy tube

**MCSS – Ministry of Community and Social Services – See Assistive Devices Program (ADP) page: 15.**

**Various items not covered by ADP:**

- Stoma scarves
- Knit stoma covers
- Shower protectors
- Larynx protection bibs
- Foam Tracheostomy ties
- Velcro Tracheostomy ties
- Oral connector dental tubes

If you have any questions regarding the above items, please contact your respiratory/oxygen vendor. Additional equipment and supplies not covered by ADP may be purchased at a cost.

**EVERYTHING YOU WANTED TO  
KNOW ABOUT YOUR  
TRACHEOSTOMY  
BUT WERE AFRAID TO ASK!**

## ANATOMY OF THE UPPER AIRWAY

### **Nose**

Passageway for air entering and leaving the body, which filters, warms and humidifies inhaled air.

### **Pharynx**

Passageway for food and air entering or leaving the body.

### **Epiglottis**

Leaf-like structure which acts as a lid, covering the trachea to protect the airway from foreign objects during swallowing.

### **Larynx (Voicebox)**

Houses the vocal cords and connects upper and lower airway. Air passed between these allows speech.

### **Trachea (Windpipe)**

Muscular breathing tube which is 4-5 inches in length. Directs the passage of air into the lungs.

### **Esophagus**

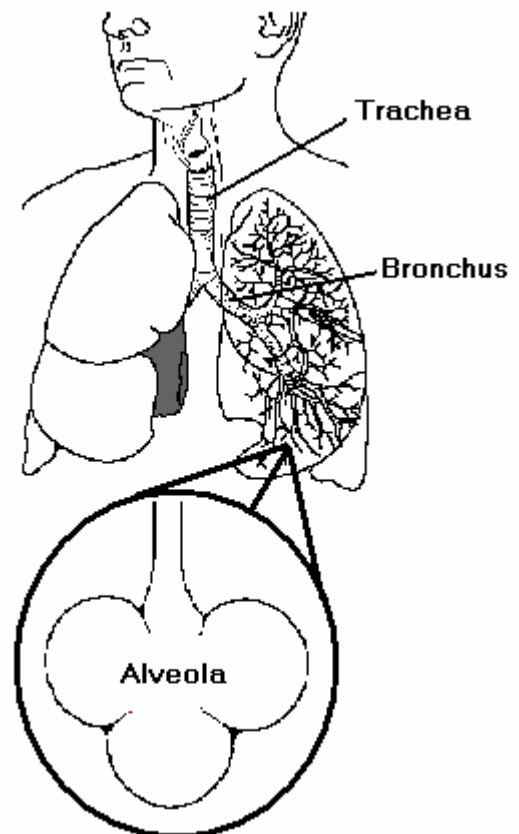
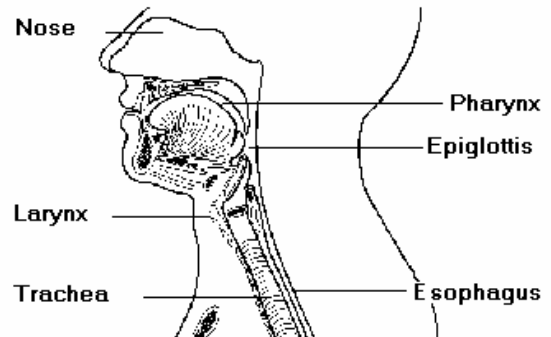
Food and fluids enter this tubular structure and are directed into the stomach. This is the tube that runs behind the windpipe

### **Bronchus (Airway)**

Branch-like structure that connects the trachea to the lungs.

### **Alveoli (Air Sacs)**

Grape-like clusters of sacs that allow inhaled oxygen ( $O_2$ ) to enter the bloodstream. Carbon Dioxide ( $CO_2$ ) leaves the bloodstream and enters the sacs where it is exhaled through breathing.



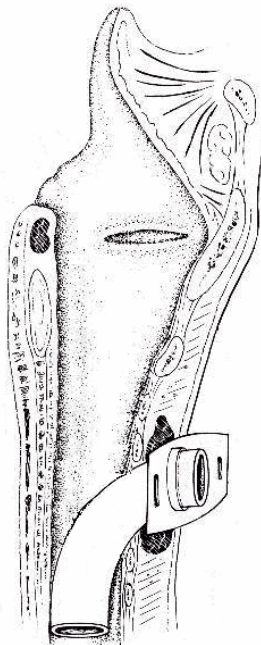
## WHAT IS A TRACHEOSTOMY?

A **Tracheotomy** is a surgical procedure usually done in the operating room under general anesthesia.

This procedure makes an incision into the trachea that forms a temporary or permanent opening which is called a **Tracheostomy**.

The opening is called a **Stoma**.

A tracheostomy tube is inserted through the opening which bypasses the normal airway (mouth and nose) to allow you to breathe and to clear your secretions (phlegm).



## **DIFFERENCES BETWEEN NORMAL BREATHING AND BREATHING WITH A TRACHEOSTOMY**

Normally, we breathe through the nose and mouth so that air is filtered, warmed and humidified before it goes down the trachea (windpipe) to the lungs.

With a tracheostomy, air goes directly into the trachea (windpipe) to the lungs. The mouth and nose is bypassed therefore the air is not filtered, warmed or humidified.

## **HUMIDIFICATION AND WARMING**

When an artificial airway (breathing tube) is in use, the natural humidification of air is bypassed. It is necessary that everyone with an artificial airway have supplemented inhaled humidity provided from heavy duty compression supplied by a Respiratory Care/Oxygen Vendor. This air (either with or without oxygen) can be warmed to maintain a constant body temperature. Humidification decreases the chances of thick sticky secretions (mucous plugs) which are hard to suction and may block the air passages. If secretions are thick, you may require more humidity.

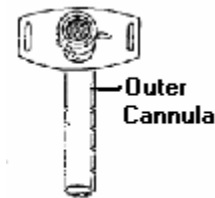
## TRACHEOSTOMY TUBES

Tracheostomy tubes come in different sizes and may be made of metal, plastic or foam. Tracheostomy tubes vary in length and diameter. It is important to know your size and brand of tracheostomy tube.

**IMPORTANT:** You should **ALWAYS** have a **REPLACEMENT** (spare) Tracheostomy tube, in case of emergency.

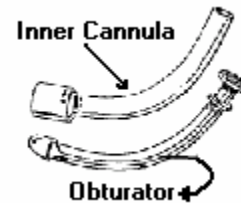
### **Outer Cannula**

The **outer cannula** is the external tube that is inserted into the trachea through the surgical opening. It provides an artificial passage for breathing and may have a removable inner cannula.



### **Obturator**

This stylet-like post fits into the tracheostomy tube to increase its rigidity for insertion through the stoma into the trachea. A fitted obturator should be packaged with each tracheostomy tube and is designed for use with only one size tracheostomy tube. This device should be kept wrapped and placed close by, in case re-insertion of the tube becomes necessary.



**IMPORTANT:** Do not throw out Obturator, in the event that the tracheostomy tube must be reinserted.

### **Inner Cannula**

This is only found on a two-piece tracheostomy tube system. This is the tube which is inserted inside the outer tracheostomy tube. It is locked within the outer tube by a locking mechanism, either by a twist lock or snap lock. This allows passage of airflow and removal of secretions, which may block tube.

### **Flange**

This is the hard plastic piece located at the top of the tracheostomy tube that lies against your neck and is used to secure your tracheostomy ties. The flange also identifies the size and make of the tracheostomy tube.

## TRACHEAL SUCTIONING

### **What is tracheal suctioning?**

Tracheal suctioning is the mechanical removal of secretions or phlegm from the lungs so that the airway passages do not become blocked. Remember it is much more difficult to clear your secretions through a tracheostomy tube, than it is through your mouth. Suctioning at best is an uncomfortable procedure. Tracheal suctioning will produce a cough. Do not be alarmed.

**Suctioning should only be done when it is needed.**

### **When is suctioning necessary?**

- If you are unable to cough up your secretions
- Secretions are visible in the tracheostomy tube and are unable to be coughed out
- Suspected aspiration of food or fluid into the lungs (choking)
- Hear wheeze, bubbling or gurgling when you are breathing

Suctioning is a **CLEAN** procedure and does not require sterile gloves.

### **Mucous/Secretions**

What to observe when suctioning?

**Normal:** Clear, with no odour

**Infection:** Yellow or green with a foul smelling odour

**Blood:** It is normal to see a few streaks of blood. Please notify your nurse or physician if there is a large amount of bright red or old dark blood.

**CAUTION: If an infection or blood is suspected please notify your physician.**

### **Equipment needed**

- Suction unit
- Sterile normal saline (NS) or water
- 1 clean cup
- Clean gloves
- Disposable suction catheters with control port (correct size)
- Mirror (if doing self suctioning)

## Procedure

1. Wash hands and assemble equipment and supplies.
2. Put your thumb over the suction connecting tube to test for adequate suction.
3. Pour distilled water/normal saline (NS) in a clean cup.
4. Put on clean gloves (avoid touching anything except the sterile catheter).
5. Remove the suction catheter from the package and lubricate the end in the sterile water/NS.
6. Take a deep breath (if possible) and gently but quickly advance the catheter into the tracheostomy tube **without applying suction** until resistance is met or a cough is produced.
7. Withdraw suction catheter slightly then apply suction while withdrawing catheter slowly. **NEVER exceeding a maximum time of 10 to 15 seconds. IMPORTANT: Prolonged suctioning causes a decrease of oxygen to the lungs and increased shortness of breath.**
8. **REAPPLY OXYGEN SUPPLY IF BEING USED.**
9. Examine the sputum and note if it has changed in colour, amount (small or large), consistency (thicker or thin) or developed an odour. **IMPORTANT: If there is a consistent change in the sputum notify your community nurse or physician.**
10. Reassess how you are feeling, has your breathing improved?
  - Give yourself some time to breathe or some recovery time between each suctioning.
  - Repeat the procedure if necessary until your lungs are clear of secretions or you are breathing easier.
11. Discard the catheter that you used to suction your lungs (reduces risk of infections).
12. Empty suction collection bottle daily or as needed.
13. If you need to suction your mouth, remove the catheter that you used to suction your lungs and use a tonsil or Yankauer suction tube.
14. **ENSURE OXYGEN is REAPPLIED if used!**
15. Wash hands.

**Helpful Hints/Suggestions:**

- Add a small amount of water and vinegar (about 1”) into the bottom of the suction collection container. This will help to reduce the odor and help with clean up.
- When you are finished suctioning, a small amount of Hydrogen Peroxide may be used to flush the tubing.

## CARE OF YOUR TRACHEOSTOMY

### **Cleaning of Inner Cannula (if your tracheostomy tube has one)**

Not all tracheostomy tubes have a two-piece tracheostomy tube system (inner cannula and an outer cannula). This cleaning procedure is only necessary if your tracheostomy tube has an inner cannula (either disposable or reusable). The inner cannula allows you to see and clean out secretions, which could block the tracheostomy tube. Frequency of cleaning should be a minimum of TWICE daily (morning and evening/before bed) or if you suspect the inner cannula may be partially or totally blocked.

In the hospital your health care provider used **sterile techniques** in caring for your tracheostomy. This was necessary immediately following your surgery to allow for healing, however at home you will be taught the care of your tracheostomy using **clean techniques**.

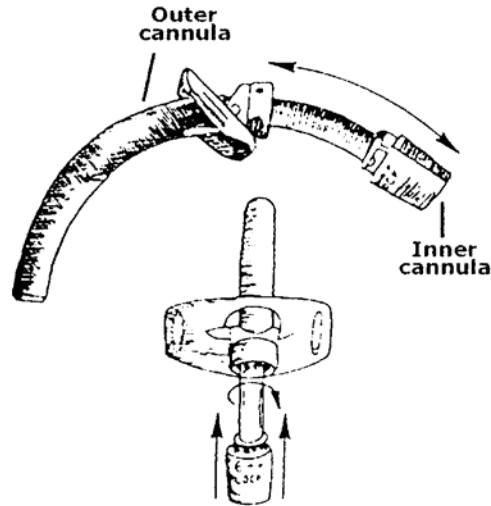
### **Equipment needed**

- Small wash basin
- Cleaning solutions depending on your needs:
  - Normal Saline (NS)
  - Water
  - Hydrogen Peroxide 3%
- Protective gloves
- Small non-abrasive brush or pipe cleaners
- Lint-free cloth (4x4)
- Same reusable inner cannula or disposable (depending on brand of trach)

### **Procedure**

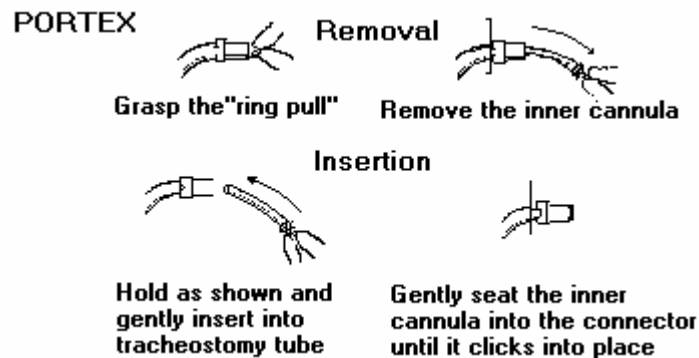
1. Wash hands thoroughly (gloves optional).
2. Assemble equipment and prepare wash-basin with cleaning solution.
3. Do not touch anything other than trach and equipment being used, to reduce the risk of cross-infection.
4. Suction, if necessary, or cough up any excessive secretions or phlegm (follow the suctioning procedure).
5. **For Tracheostomy tubes with inner cannulas:** Hold flange of tracheostomy tube with one hand, (using thumb and index finger to prevent movement), grasp inner cannula using the other hand.

- Using a counter clockwise motion, gently unlock the inner cannula and remove by pulling downward and outward. (Note: this is for **Shiley** trachs only).



**For Portex Tracheostomy tubes:** Gently grasp the small ring, “pull” and remove the inner cannula by pulling downward and outward.

**IMPORTANT:** If you are unable to remove your inner cannula contact your respiratory/oxygen vendor.



- Place inner cannula (if not disposable) into the small wash-basin containing Hydrogen Peroxide 3%. Using the non-abrasive brush or pipe cleaner, gently remove mucus and/or secretions. Rinse with sterile NS/water.
- Air dry on a clean surface or shake to dry.

9. While holding flange of trach with one hand, gently reinsert inner cannula into outer cannula.

**For Shiley Tracheostomy Tubes only:** Lock by twisting inner cannula clockwise. The inner cannula is locked when the two blue dots on the inner cannula and outer cannula are aligned.

**For Portex Tracheostomy Tubes only:** The inner cannula is locked into place when a click is felt or heard. (If friction is felt when inserting inner cannula, try lubricating with sterile NS/water).

**CAUTION: Make sure inner cannula is secure in outer cannula. If parts become worn or loose, immediately report this to your respiratory/oxygen vendor for prompt replacement.**

10. Wash hands.

## SKIN CARE AND CHANGING TRACHEOSTOMY DRESSINGS

Initially, stoma care is done every four hours or as necessary. As the site heals, the frequency of stoma care can be decreased depending upon the condition of the site. If there are a lot of secretions, stoma care may need to be done more frequently. A pre-cut tracheostomy dressing may be used around the trach tube to absorb drainage and to cushion between the flange and the neck. Trach dressings may not be needed as healing occurs if skin is in good condition and stoma is completely healed of rash or redness. It is important to change tracheostomy dressings as soon as they become soiled or routinely during your daily tracheostomy care procedure to reduce the chance of infections and skin irritations.

### **Equipment needed**

- Q-tips
- Clean gloves (optional)
- Cleaning solutions depending on your needs:
  - Normal Saline (NS)
  - Water
  - Hydrogen Peroxide 3%
- Tracheostomy gauze/dressing (if used) **CAUTION: Plain sterile cotton gauze should not be used, as fibers may become loose and inhaled.**
- Mirror (if doing self trach care)
- 2 clean bowls

### **Procedure**

1. Assemble equipment.
2. Ensure a comfortable position before starting the procedure.
3. Wash hands; gloves optional.
4. Pour cleaning solution into a clean bowl.
5. Remove the old dressing being careful to keep trach tube in place (use one hand to stabilize trach tube and the other to remove dressing). Dispose of used/soiled dressing. Wash hands again.

6. Assess the stoma for signs of infection such as creamy yellow drainage, foul odour, redness, swelling or pain. Evaluate the integrity of the site, ie. are there open areas or is the wound gaping more than normal?

**IMPORTANT: Notify your health care provider if you see any of these signs.**

**Note:** If you have dried secretions on your tracheostomy tube or around your stoma, Hydrogen Peroxide 3% and equal part of saline is useful in removing these dried secretions.

7. Remove dried secretions from stoma using 4 x 4 or Q-tips soaked in equal parts hydrogen peroxide and saline. Rinse with another 4 x 4 or Q-tips soaked in saline. If minimal or no secretions are present, the area may be cleansed with saline only. Gently pat area around the stoma dry. Be sure to clean under the tracheostomy face plate, using Q-tips to reach this area.
8. Unless excessive amounts of drainage are present, avoid using a tracheostomy dressing since this keeps the site moist and may predispose to infection.
9. If drainage is excessive, place dressing around the tube. A tracheostomy dressing or unlined gauze should be used. Do not cut the gauze because threads may be inhaled or wrap around the trach tube. Change the dressing frequently.
10. Repeat care as required based on presence of excessive secretions, soilage and diminished air flow as needed.
11. Wash hands.

## TRACHEOSTOMY TIES (TUBE HOLDER)

The tracheostomy ties hold the tracheostomy tube in place. They are changed routinely when they become soiled or damaged. It is important to check them every time you do any trach care or suctioning to ensure your tracheostomy tube is secure and will not become dislodged (fall out). **IMPORTANT: If the trach tube becomes dislodged contact Emergency Medical Services (EMS) immediately if untrained for re-insertion!**

Ensure that your obturator is available before you change your trach ties.

### **Equipment needed**

- Tracheostomy tube holder/foam neck strap/trach twill ties
- Clean gloves (optional)
- Second person to be an assistant
- Suction equipment, if necessary

### **Procedure**

1. Wash hands thoroughly.
2. Assemble equipment (ie remove ties from packaging, etc.)
3. Assume a comfortable position in front of a mirror.
4. Put on clean gloves (optional).
5.
  - If using twill ties, remove them from the packaging. **Note: do not remove old ties before new ones are secured.** Thread one end of the tie through one of the flange holes, leaving tie 3-4 inches longer than needed. Pull tie around back of neck and thread through other hole, placing 1-2 finger widths between the neck and the tie. Double back around neck to meet the loose end. Make a square knot to secure the ties. Trim excess tie. **DO NOT secure twill tie by tying a bow.**
  - If using foam neck strap (ties) with Velcro fasteners, remove from packaging. Insert one end of Velcro fastener through one flange hole. Attach the Velcro fastener to the fuzzy side of the neck strap. Pass foam neck strap behind the neck (adjustments to size may be made by adjusting Velcro strap and trimming excess). Place other Velcro fastener through other flange hole and secure as above. 1-2 finger widths should fit between neck and strap (to ensure tube is secure).

6. It is now safe to remove the old trach ties. If using scissors and a pilot balloon is present, **BE VERY CAREFUL** not to accidentally cut it. If the balloon is accidentally cut, call your health care provider or physician.
7. Wash hands.

## **TRACHEOSTOMY CARE ~ THE DO'S AND DON'T'S**

### **Do's:**

1. Do prevent water from entering the stoma when bathing or showering.  
Methods are:
  - Sit or stand with your back towards the shower head (face away from the shower head).
  - Use a hand shower hose to avoid getting water into your stoma.
  - Tie a baby bib around your neck with plastic side out and terry cloth against your neck.
  - Drape a washcloth from your mouth.
  - Place your hands securely over your stoma.
2. Do wear a medic alert bracelet (if trach is long term) indicating you have a tracheostomy, since CPR must be performed mouth to stoma and not mouth to mouth.
3. Do be careful when shaving since the neck area may still be numb and you may cut yourself without knowing it, and be careful of the whiskers that they don't fall into your stoma. You should caution your hairdresser to avoid getting hair particles into your stoma.
4. Do keep your stoma covered when outdoors to prevent anything in the air from being inhaled.
5. Do remember to cover your stoma when coughing.
6. In the event of an extended power failure you may consider one of the following:
  - Purchasing a generator for backup power.
  - Purchasing equipment with a battery backup system.
  - Go to your nearest hospital emergency department.
7. Keep the humidifier tubing above the level of the machine. If water accumulates in the tubing, manually drain the water from the tubing.

### **Do Not's:**

1. Do not swim or participate in other water sports because you could get water into your stoma and drown.
2. Do not use substances that will irritate your airway (ex: powders, hair sprays, etc.).

3. Do not use over-the-counter antihistamines (cold medications) because they dry secretions and your airway (unless under the direction of your physician).
4. Do not use Kleenex other than for coughing into or wiping sputum away from stoma because they may shred and be inhaled.
5. It is strongly recommended that you refrain from smoking and avoid exposure to environmental/second hand smoke.

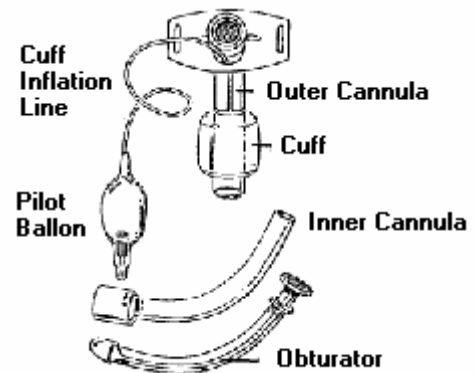
## CUFFED AND NON CUFFED TUBES

Plastic tubes may come with a cuff or be non-cuffed. The purpose of the cuff is to seal the airway so that all air flow goes through and not around the tube. This is also important when a patient is on a ventilator.

### **Cuffed**

This is a tracheostomy tube that has a cuff which, when inflated with air, acts as a seal to eliminate or reduce airflow through the mouth and nose. With an inflated cuff you will breathe only through your tracheostomy tube. This type of tube is used mostly for mechanical ventilation or when there is a large amount of secretion.

- The cuffed tracheostomy tube has a luer valve and pilot balloon.



### **Luer Valve:**

The luer valve houses a valve that can be opened by connecting a luer syringe and inflating or deflating the cuff.

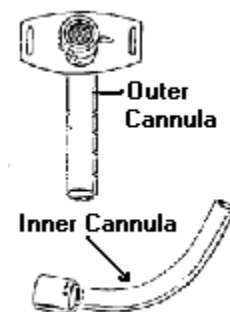
### **Pilot Balloon**

This is the plastic sac-like component connected to the inflation line and luer valve, which acts as an indicator for the amount of air pressure within the cuff.

### **Non Cuffed**

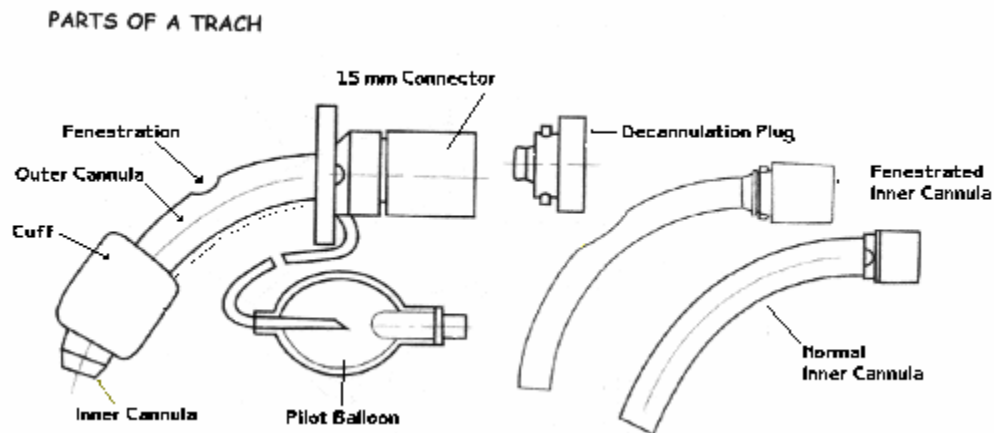
This is a tracheostomy tube without a cuff. It allows airflow through the mouth, nose and tracheostomy.

- The non cuffed tracheostomy tube will not have a luer valve or a pilot balloon.



## FENESTRATED TRACH CARE SET

The fenestrated trach care set is a specialized tube set used for longer term tracheostomies. Fenestration refers to the hole(s) in the outer, inner cannula or both that allows air to be directed past the vocal cords and through the mouth and nose, allowing speech.



*Diagram above shows cuffed fenestrated trach with swivel lock 15mm connector, Fenestrated and Non-Fenestrated inner cannula, decannulation plug, Luer Valve to inflate cuff, and other components.*

## PARTS OF THE FENESTRATED TRACH TUBE SET

### **Fenestrated Inner Cannulas**

This is the removable inner tube with hole(s) or fenestration permitting air to pass through the outer tube hole(s), up past the vocal cords and the mouth and nose, allowing speech. It can be easily identified by a green 15mm connector and hole, in the curved part of the body of the tube. If mechanical ventilation is required, the fenestrated inner cannula must be removed and replaced with a non-fenestrated inner cannula.

## **Decannulation Plug**

The decannulation plug, attaches to the outer cannula of a fenestrated tracheostomy tube when the inner cannula has been removed. It blocks the airflow through the tracheostomy tube and directs breathing through the nose and mouth. It is used for weaning. The cuff must be deflated fully prior to using a decannulation plug. If you experience respiratory distress while using the decannulation plug, remove the plug immediately.

## **Cap**

This is a white 15mm cap which is used only with the fenestrated inner cannula, forcing breathing through the mouth and nose, allowing speech.

## **Changing the Outer Tracheostomy Tube**

This procedure will be carried out only on the advice of your physician.

## **DEFINITION OF COMMON TERMS AND ABBREVIATIONS**

**Artery** – A vessel through which oxygen-rich blood passes to various parts of the body.

**Artificial Airway** – A surgical airway route that bypasses the normal airway (mouth and nose).

**Atmosphere** – Of or relating to air.

**Bacterial** – Pertaining to or caused by bacteria.

**Cannula, Inner** – The removable inner tube that acts as a passageway for airflow and removal of secretions.

**Cannula, Outer** – The external tube that is inserted into the trachea through a surgical opening. It provides an artificial passage for breathing and may have a removable inner cannula.

**Cap** – The white 15mm Cap is for use only with the Fenestrated (hole) Inner Cannula (Green 15mm Connector), forcing breathing through the mouth and nose, allowing speech.

**Capillary Network** – A group of tiny blood vessels that connect arteries to veins.

**Carbon Dioxide** – A heavy, colourless, odourless gas that passes out of the lungs during respiration.

**Cartilage** – A tough, elastic tissue forming parts of the trachea.

**Connector 15 mm** – The part of the inner cannula that secures the outer cannula to the inner cannula.

**Connector, Low Profile** – A part of the inner cannula designed to reduce tube protrusion at the neck. Not compatible with respiratory equipment.

**Connector, Snap-Lock** – A part of the inner cannula which is disposed of after each use. The 15 mm connector secures the inner cannula to the outer cannula. It also provides a universal attachment which adapts to standard respiratory equipment, such as ventilators.

**Connector, Twist-Lock** – A 15mm connector that attaches the inner cannula of the tracheostomy tube to the outer cannula of the tracheostomy tube by twisting into place.

**Cough Reflex** – Produced by the presence of irritants in the breathing passages (i.e. secretions, bronchospasm from irritation, etc). This reflex is stimulated during suctioning. If the cough is weak and the client is unable to clear the build up of secretions/irritants himself/herself, then suctioning is necessary.

**Cuff** – A balloon-like component that, when inflated with air, acts as a seal to eliminate or reduce airflow through the mouth and nose. With the cuff inflated, breathing will be directed through the tracheostomy tube.

**Cuffed Tube** – A tracheostomy tube that has a cuff which, when inflated with air, acts as a seal to eliminate or reduce airflow through the mouth and nose. With an inflated cuff, you will breathe only through your tracheostomy tube.

**Cuffless Tube** – A tracheostomy tube without a cuff that allows airflow through the mouth, nose and tracheostomy.

**Decannulation Plug** – A plug which attaches to the outer cannula of a fenestrated tracheostomy tube when the inner cannula has been removed. It blocks airflow through the tracheostomy tube and directs breathing through the nose and mouth.

**DCP** – Decannulation Plug

**DDCP** – Disposable Decannulation Plug

**Deflation** – Collapse by removing air or gas.

**Diaphragm** – The main muscle used in breathing. It separates the abdomen from the chest cavity. When inhaling, it flattens out downward, allowing the bottom parts of the lungs to expand. When exhaling, it elevates, allowing the lungs to restore to their natural shape.

**DIC** – Disposable Inner Cannula

**Encrustation** – A hardened build-up of mucous formations.

**Expiration** – The act of breathing out air from the lungs.

**Fenestration** – A hole(s) in the cannula that allows air to be directed past the vocal cords and through the mouth and nose.

**Fenestrated Inner Cannula** – A removable inner tube with a hole that permits air to pass through the outer tube hole(s), allowing speech. It can be easily identified by a green 15mm connector and hole, in the curve part of the body of the tube. **It should not be used with mechanical ventilation.**

**Flange** – The hard plastic piece located at the top of the tracheostomy tube that lies against the neck and is used to secure the tracheostomy ties to the care recipient. The flange also identifies the size and make of the tracheostomy tube.

**Gag Reflex** – This occurs when the epiglottis (flap) closes down to prevent oral or stomach secretions or contents from entering into the trachea. The gag reflex is one of many protective measures to prevent inhalation (aspiration) of oral or stomach secretions into the airways and lungs.

**Home Health Provider** – The clinician who provides medical support for the patient and family.

**Humidification and Warming** – When an artificial airway (breathing tube) is in use, the natural humidification of air is bypassed. It is necessary that everyone with an artificial airway have added inhaled humidity. This air (either with or without oxygen) can be warmed to maintain a constant body temperature. Humidification decreases the chances of thick, sticky secretions (mucous plugs) which are hard to suction and block the air passages. If secretions are thick, try to increase the amount of humidity delivered.

**Indentations** – Notches

**Inflation Line** – The thin plastic line connected to cuff, pilot balloon and Luer Valve, which allows the cuff to be filled with air.

**Inspiration** – The act of drawing or breathing air into the lungs.

**Lot Number** – The engraved number located on the neck plate that identifies the manufacturing lot number.

**Luer Syringe** – The device used to inflate or deflate the cuff.

**Luer Valve** – Houses a valve that can be opened when a Luer Syringe is connected to inflate or deflate the cuff.

**Lumen** – A cavity or opening within a tube.

**mm** – An abbreviation for millimeter. 1 millimeter = .039 of an inch.

**mm Hg** – A measurement of pressure. 1 millimeter of mercury represents a pressure equal to 1.36 cm H<sub>2</sub>O (centimeters of water).

**Mucous** – The thick fluid secreted by the mucous membranes and glands.

**Obturator** – A stylet-like post with a rounded end. The Obturator fits into the outer cannula to ease insertion by providing rigidity as well as protection to the tracheal wall. **Do not throw out obturator, in the event that the tracheostomy tube must be re-inserted.**

**Oxygen** – A colourless, odourless, gaseous element essential to life processes.

**P-V Gauge** – The Digital P-V Gauge is a precision electronic pressure measurement device that helps accurately set and monitor cuff pressure to help minimize tracheal damage.

**Patent, Patency** – Open, clear airway.

**Pilot Balloon** – A plastic sac-like component connected to the inflation line and Luer Valve, which acts as an indicator for the amount of air pressure within the cuff.

**Pliable** – Flexible, soft.

**Product Designation** – An abbreviation by which a product is called or identified.

**Prolapse** – To fall, sink down or extend abnormally.

**Protrusion** – A part that bulges or extends beyond the tip (end).

**Re-oxygenation** – Replenish with oxygen.

**Single Use Only** – For one time use only. Do not re-clean, re-sterilize or reuse.

**SIC** – Spare Inner Cannula

**Sterility** – The state or condition of being free from microorganisms.

**Suctioning** – A procedure in which a small catheter is placed into the tracheostomy tube to remove accumulated secretions from the tube and lungs.

**Swivel Neck Plate** – The swivel neck plate contains information on the size and product designation of your tube. The neck plate, with the tracheostomy ties properly attached, helps secure the tube to your neck. The swivel assists the tube in positioning properly within your trachea.

**Tissue Ingrowth** – The growth of tissue into the hole(s) (fenestrations) of a tracheostomy tube.

**Trach Ties** – The ties used to hold the tracheostomy tube in place.

**Tracheal Stoma** – An opening in the neck that forms an additional path for airflow to the lungs, usually bypassing the mouth and nose.

**Tracheal Wall** – The mucosal lining of the trachea.

**Tracheostomy** – The creation of a surgical opening through the lower neck and trachea to make breathing easier.

**Tracheostomy Tube** – An artificial tube inserted into the surgical opening in the trachea.

**Tracheotomy** – A surgical incision into the trachea.

**Vacuum** – A space from which most of the air or gas has been taken, creating a negative pressure.

**Ventilator** – A mechanical device which assists breathing.

**Ventilator Dependent** – The inability to breathe without the assistance from a mechanical device (ventilator).

**Vein** – A vessel through which blood passes from various parts of the body collecting CO<sub>2</sub> (carbon dioxide) for removal through the lungs.

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## **TROUBLESHOOTING TRACHEOSTOMY PROBLEMS ~ ALWAYS STAY CALM!**

<b>SYMPTOM</b>	<b>PROBLEM CAUSE</b>	<b>ACTION</b>
Audible breathing (rattling, gurgling)	Increased secretions/obstruction	Clear secretions by cough/suction
Mucus plugs/Difficulty clearing thick secretions	Inadequate humidity	- Increase humidity output on compressor - Increase frequency of high humidity compressor use
Mucosal irritation/bleeding/soreness	- Suction pressure too high - Suctioning too frequently	- Maintain suction pressure between 100-150 mm HG - Try coughing up secretions instead of suctioning - Increase humidity
Shortness of breath during or post suctioning	Prolonged suctioning	Limit suctioning to 10-15 seconds
Foul smelling/yellow/green secretions	Infection	Inform your nurse or physician
Unable to pass suction catheter	- Suction catheter too large - Secretions partially blocking air passage - Build up of mucous in trach tube	- Try smaller suctioning catheter - Remove and clean inner cannula - Instill 3-5 cc normal saline into trach tube and cough or suction
Laboured breathing	- Possible tube occlusion (plugged)  - Trach remains occluded and unable to breathe	- Reposition trach tube and/or reposition head and neck - Cough or suction - Remove inner cannula and clear - Instill 3-5 cc normal saline into trach tube and cough or suction - Call EMS as soon as possible! - Trach tube may need to be removed as a last resort
Trach tube becomes dislodged/Accidental extubation	- Excessive pulling or weight at neck flange - Trach ties too loose/tied incorrectly	Reposition and secure tube
Unable to correct dislodged tube/breathing ineffective/absent	Call for help!	- Initiate CPR - Call EMS as soon as possible!
Copious bleeding around trach site/hemorrhage	Artery rupture	- Call for help! - Hold pressure around site with hand - Suction and ventilate if needed - Call EMS as soon as possible

**NOTE:** Always have on hand in case of emergency:

- Resuscitation bag with mask
- Spare trach tube (same size or small, with obturator)
- Suction equipment with suction catheter ready