College of
Respiratory Therapists
of Ontario

Home Ventilation & Tracheostomy Care

Teaching Manual for Paediatrics

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Introduction

This Manual has been written to help you learn how to care for your child's tracheostomy.
It will be used to provide instructions on the basic care of a tracheostomy tube and will be yours to keep as a reference guide. This Manual will give you some instruction on how to suction, change the trach ties, and some general safety guidelines. This book is only a guide. If you have any questions, ask any of your healthcare teamprofessionals.

Important terms are used in this manual. Please refer to the Glossary of Terms for a complete list of definitions. A troubleshooting section is also available.

The Normal Respiratory System

The respiratory system is made up of the:

Upper Respiratory Tract
- ✓ Nose
- ✓ Mouth
- ✓ Larynx (voice box)

Lower Respiratory Tract
- ✓ Trachea (windpipe)
- ✓ Right and Left Lung
- ✓ Airways (bronchi)
- ✓ Alveoli (air sacs)
- ✓ Capillaries

Respiratory Muscles
- ✓ Diaphragm (largest muscle)
- ✓ Intercostals (rib cage muscles)
- ✓ Abdominal Muscles

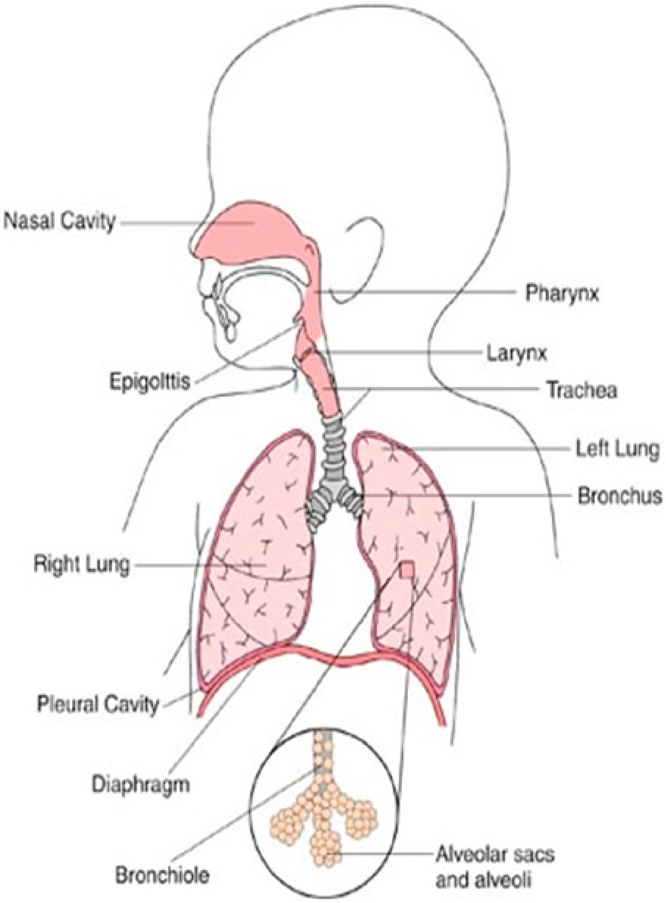


Figure 1: Respiratory System
Illustration used with permission from Hamilton Health Sciences

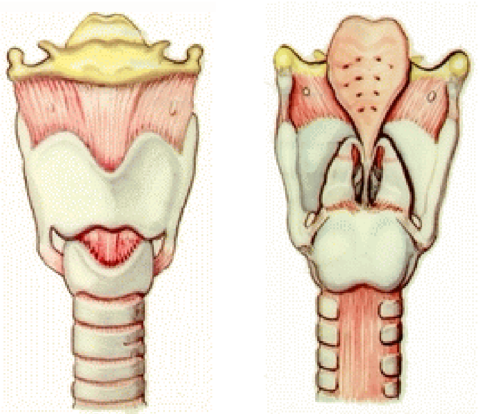
The **nose** is the best way for outside air to enter the lungs. In the nose the air is cleaned, warmed and moistened. There are hairs lining the inside of the nose that filter the air.

When you breathe through your **mouth** you are not filtering the air, but it will be warm and moist. When you have a cold and your nose is blocked you may not be able to breathe through your nose.

The **larynx** (voice box) contains the vocal cords. This is the place where air, when breathed in and out, creates voice sounds. It is also used to build up pressure for a strong cough.

Figure 2: Larynx
Reproduced with permission from Ottawa Rehabilitation Centre

The **epiglottis** is a flap of tissue that hangs over the larynx (voice box). When you swallow food or drink this flap covers the voice box and windpipe so you do not choke.



Figures 3 & 4: Epiglottis
Reproduced with permission from Ottawa Rehabilitation Centre

The **trachea** (wind pipe) is the tube leading from the voice box to the lungs.

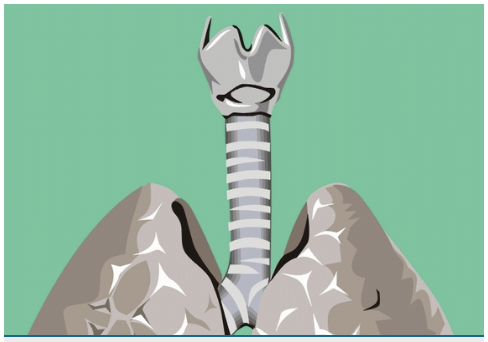


Figure 5: Trachea
Reproduced with permission from Ottawa Rehabilitation Cente

The **bronchi** are tubes that let air in and out of the lungs. The bronchi lead to tiny air sacs called the **alveoli**.

Mucous is made in the smaller tubes. The mucous traps dust, germs and other unwanted matter that has been breathed into the lungs.

Tiny hairs called **cilia** move back and forth moving the mucous up toward the throat where it is can be coughed out or swallowed.

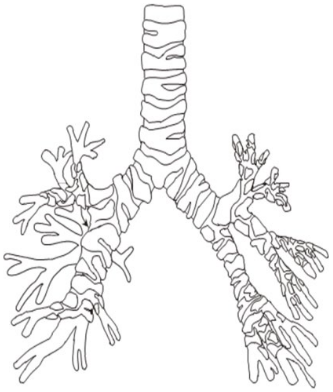


Figure 6: Bronchi
Reproduced with permission from Ottawa Rehabilitation Centre

Infants and small children make more mucous than adults. They often have a harder time getting rid of the mucous. Mucous tends to build up and block the nose making it hard to breathe.

The **capillaries** are blood vessels that are in the walls of the alveoli (air sacs). Blood flows through the capillaries, removing carbon dioxide from the air sacs and picking up oxygen.

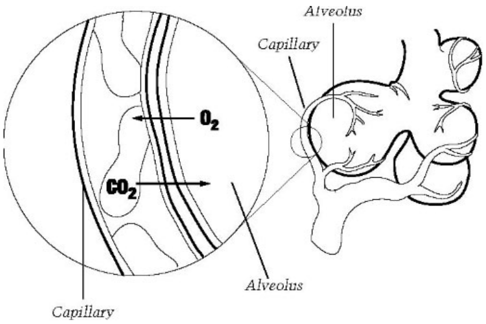


Figure 7: Capillaries and Aveoli
Diagram courtesy of SIMS Portex Inc Tracheostomy Care Handbook 1998
Reproduced with permission
http://www.tracheostomy.com/resources/pdf/TrachHandbk.pdf

The **ribs** are bones that support and protect the chest cavity. They move up and out, helping the lungs expand and contract.

Infants and children have weak bucket-handle shaped ribs. This translates into inefficient rib action and lower volumes taken into the lungs.

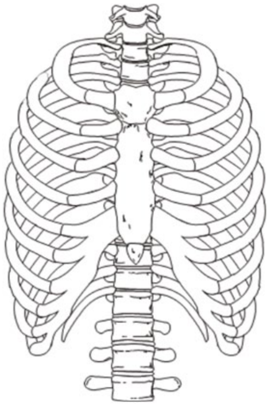


Figure 8: Rib Cage
Reproduced with permission from Ottawa Rehabilitation Centre

The **diaphragm** is a large strong muscle that separates the lungs from the belly. When the diaphragm contracts it moves downward, creating a suction effect, drawing air into the lungs.

Infants and children have diaphragms that are higher than in adults. This means they have to work a little harder to breathe in than adults do.

The i**ntercostals** are the muscles in-between the ribs. There are two types of intercostals muscles.

The **external intercostals** help you take deep breaths in, such as when you prepare to cough.

The **internal intercostals** help you forcefully breathe out, such as when you cough or sneeze.

The **abdominal muscles** help create a good strong cough.

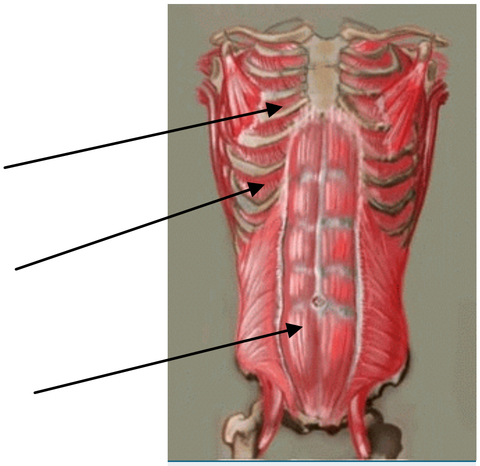


Figure 9: Intercostal and Abdominal Muscles Reproduced with permission from Ottawa Rehabilitation Centre

Infants and children have a large tummies compared to their size. This places extra pressure on the chest and gets in the way with how the lungs expand.

What does the Respiratory System do?

Breathing In

When you breathe in a large muscle called the diaphragm contracts causing air to be sucked into the lungs. The air that is carried into the lungs contains oxygen that your body needs to survive.

When you breathe in, the diaphragm moves down and the ribs move out and up. This causes a suction effect that lets air come into the lungs. The air comes into the nose where it is warmed, filtered and moistened. The air then goes down the windpipe past the voice box. From there it moves into two large main branches of the lungs called the left and right bronchi. The air moves through airways that get smaller and smaller until they reach tiny air sacs. These air sacs let oxygen into the capillaries. The blood flows from these capillaries to the heart where it is pumped out to the body.

Breathing Out

When you breathe out the lungs remove carbon dioxide, a gas that your body does not need.

Just before you begin to breathe out the carbon dioxide goes across from the capillaries into the air sacs. The air sacs begin to relax and the air begins to move out of the lungs. Then the diaphragm and the muscles between the ribs also relax. This causes the ribs to gently fall, helping to push the air out from the lungs. Under normal conditions, the diaphragm and rib cage muscles are relaxed when you breathe out. However, when you cough or sneeze, these muscles work hard to push the air out quickly.

Normally breathing takes place without any thought. Some conditions can cause breathing problems. Every condition is different. So talk to your healthcare professionals about how your child’s condition affects their breathing.

Preventing Infection

What can I do to Prevent Infections?

Keep Things Clean!

Hands

- ✓ Insist that everyone wash their hands, often
- ✓ Buy hand sanitizers for your home

Air

- ✓ Make your home smoke free. Insist that no one smoke around you
- ✓ Tell friends and family to stay away if they have a cold or the flu. If they need to be near you and your child they **must** wear a mask and wash their hands often

Trach

- ✓ Follow trach care instructions carefully. Clean trach tubes
- ✓ Keep the trach dressings and the stoma (opening) clean and dry

Equipment

- ✓ Clean equipment regularly, such as ventilator tubing and suction equipment
- ✓ Replace equipment on a regular schedule. Ask your healthcare professional when supplies are to be thrown out

IMPORTANT! It is very important that *everyone* wash their hands. Wash your hands before and after doing anything with the trach tube or the stoma.

What is Pneumonia?

It is important to protect the lung from viruses and germs. If the air your child breathes is clean and moist, it will stop an infection from happening.

Breathing in dry, dirty air can cause germs and viruses to get into the lung, which can lead to pneumonia. Pneumonia is a lung infection where the airways swell and more mucous than normal, is made. Pneumonia can lower the amount of air getting into the lungs. It can also lower the amount of oxygen getting into the blood.

IMPORTANT! Wash your hands before and after doing anything with the tracheostomy.

What are the signs of an infection?

If your child has any of these signs, it may mean they have an infection.

Your child is:

- coughing more
- has a fever or the chills
- feels unwell or are really tired
- is more short of breath
- is having chest tightness

Your child's mucous:

- is thick and/or there is more of it
- is yellow or green
- has an unpleasant smell

Your child needs:

- to be suctioned more often
- to take puffers more often

Your child's ventilator:

- has higher than normal pressures

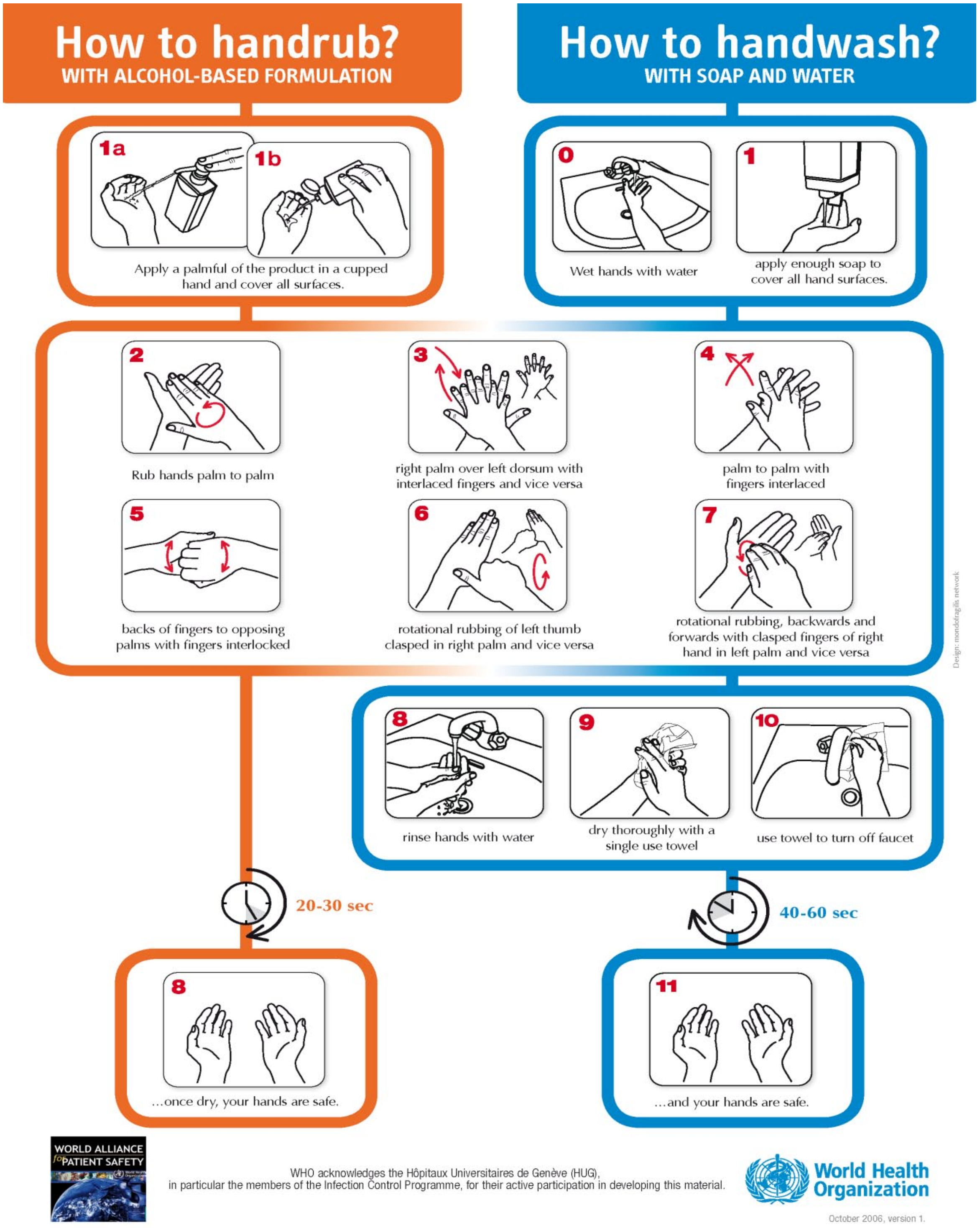
Your child's stoma:

- is red, swollen or is painful

What should I do if my child has an infection?

- Call your doctor or healthcare professional if think your child has an infection
- Follow your doctor's orders on giving your child medicine, such as antibiotics
- If you have an action plan, go over it with your healthcare professional. Do not be afraid to ask for advice

Washing Your Hands at Home



How to handrub?
WITH ALCOHOL-BASED FORMULATION

How to handwash?
WITH SOAP AND WATER

1a 1b Apply a palmful of the product in a cupped hand and cover all surfaces.

0 Wet hands with water

1 apply enough soap to cover all hand surfaces.

2 Rub hands palm to palm

3 right palm over left dorsum with interlaced fingers and vice versa

4 palm to palm with fingers interlaced

5 backs of fingers to opposing palms with fingers interlocked

6 rotational rubbing of left thumb clasped in right palm and vice versa

7 rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa

8 rinse hands with water

9 dry thoroughly with a single use towel

10 use towel to turn off faucet

20-30 sec

40-60 sec

8 …once dry, your hands are safe.

11 …and your hands are safe.

WHO acknowledges the Hôpitaux Universitaires de Genève (HUG), in particular the members of the Infection Control Programme, for their active participation in developing this material.

October 2006, version 1.

Figure 10: Hand Washing
Reproduced with permission from the World Health Organization
Accessed on July 7, 2009 from: http://www.who.int/gpsc/tools/GPSC-HandRub-Wash.pdf

Sterilizing Distilled Water

Why do I need sterile distilled water?

You will be instructed to use sterile distilled water several times in this manual. To help stop infections from happening you need to make sure you use **sterile** distilled water.

You will need sterile distilled water when you:

- ✓ Suction the trach tube
- ✓ Fill a pass over humidifier
- ✓ Clean the tracheostomy opening
- ✓ Clean the trach tube inner cannula

Legionella is a germ that can grow in water. To stop germs from growing, use *sterile distilled water*. You can buy *sterile distilled water* or you can boil distilled water to sterilize it. You can buy distilled water from your home care company, drug store or supermarket.

IMPORTANT! Only use distilled water that has been sterilized. This will help stop lung infections from happening.[1]

How do I make sterile distilled water? [2]

Follow the directions below to make enough sterile distilled water to last 2 or 3 days. Do not use the water after the 3rd day. Make or buy more.

1. Find one pan with a lid, large enough to boil enough water for 2-3 days. Use this pan for sterilizing distilled water **only**. Do not use this pan to cook with
2. Bring the distilled water to a boil. Let boil for 5 minutes[3]
3. Turn off heat and cover the pan. Never leave the pan unattended. Use the boiled distilled water as soon as it has cooled or put it in a clean container and seal. It does not need to be refrigerated
4. To sterilize the containers, put the containers in the water and let the water boil for 10 minutes. Turn off heat and cover the pan with a lid
5. Leave the lid on the pan while the water is cooling. Do not use ice to cool down the water

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[1] The APIC Curriculum for Infection Practice, Vol. III. 1988.

[2] This section on distilled water is courtesy of Hamilton Health Science and Saint Elizabeth Care.

[3] http://www.phoenixchildrens.com/emily-center/child-health-topics/handouts/Sterile-Water-Saline-861.pdf

Tracheostomy Care

What is a Tracheostomy?

A tracheostomy is an opening made into the windpipe just below the vocal cords. The hole, called the stoma, is where the trach tube is put in. You can breathe and cough through the trach tube as long as it stays clear.

The nose normally warms and moistens the air we breathe. With a trach, the air goes right into the lungs and not through the nose first. Without moisture your child's mucous will become thick and it will be hard to cough out. This can lead to problems breathing. There are ways to warm, filter and moisturize the air for those with a trach tube in place.

When someone has a trach tube you need a way to moisten and filter the air. This can be done using a nebulizer, a humidifier or a heat moisture exchanger *(HME).*

A trach tube can be cuffed or uncuffed. When the trach tube is cuffed, there is a balloon on the tube, called a cuff. When it is inflated it seals the airway. When the trach tube is uncuffed, some air can pass around the tube and up through the mouth and nose. Children with a cuffed trach tube cannot speak when the cuffed balloon is inflated. This is because no air is reaching the voice box. If the trach tube is uncuffed or the cuffed tube has the balloon deflated, the child can often speak with the trach tube in the airway. There are devices that can help the child with a trach speak.

A tracheostomy tube is often called a "trach tube." There are many kinds of trach tubes.

Your child has a ____ trach tube

Going Home with a Trach

While in hospital you or a support person will learn how to care for your child's trach. When you go home your caregivers will assist you if you need help. Your community respiratory therapist, nurse or personal support worker will also support you.

Have a spare trach tube at all times. Keep the obturator available at all times.

This unit will cover the following:

- ✓ Description of trach tubes – parts and brands
- ✓ Stoma care – cleaning
- ✓ Trach tube care – cleaning and changing ties/holders
- ✓ Other information about trach tubes – cuffs, fenestrations and speaking valves
- ✓ Tracheal suctioning

When your child has a trach, it is a good idea to:

- ✓ Have your emergency numbers close by
- ✓ Have your community healthcare support telephone number close by
- ✓ Equipment supplier number, e.g. home care company, Community Care Access (CCAC)
- ✓ Keep a list of questions, problems, notes in a book or diary
- ✓ Keep a calendar for follow-up appointments

Setting up your home:

- ✓ Good lighting
- ✓ A place to put all your child's supplies; a room with shelves or an empty large drawer
- ✓ A room that is easy to keep clean and free of dust
- ✓ A comfortable spot in the room to sit or lie down
- ✓ A safe area away from other children and pets
- ✓ A place free of drafts away from open windows, heating ducts and fans

When doing your child's trach care:

- ✓ Your child's trach tube needs to be changed every 1 to 2 weeks
- ✓ Do trach care at the same time each day
- ✓ Set aside 20 to 45 minutes
- ✓ Limit distractions (do not answer your phone)

Description of Tracheostomy (Trach) Tubes

Trach tubes are man-made airways that are made to fit into a cut in the neck.

There are many kinds of trach tubes. They can be made from rubber, plastic, silicone, nylon, Teflon, polyethylene, or metal. The most common type of tube is made from a plastic called Polyvinyl Chloride (PVC). All trach tubes are made with non-toxic materials.

All children have a different size neck, so the tubes come in different sizes. The length can vary from 5cm to 15cm and the width of the opening can vary from 2mm to 12mm wide.

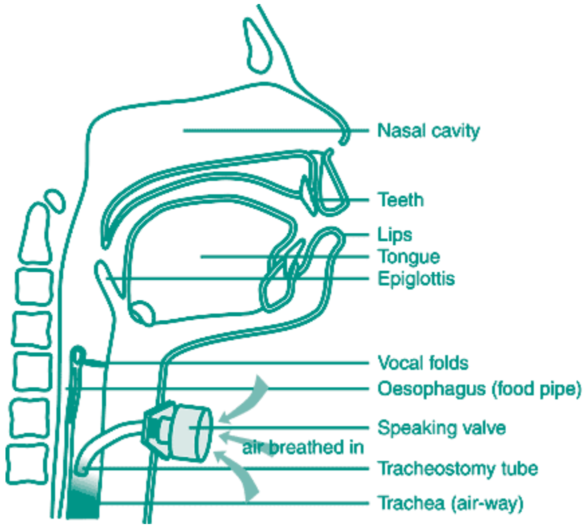


Figure 11: Trach Tubes
Reproduced with permission from Great Ormond Street Hospital for Children NHS Trust. Copyright GOSH 2008
http://www.ich.ucl.ac.uk/gosh_families/information_sheets/speaking_valves/inhalation.gif

Trach Tube Parts

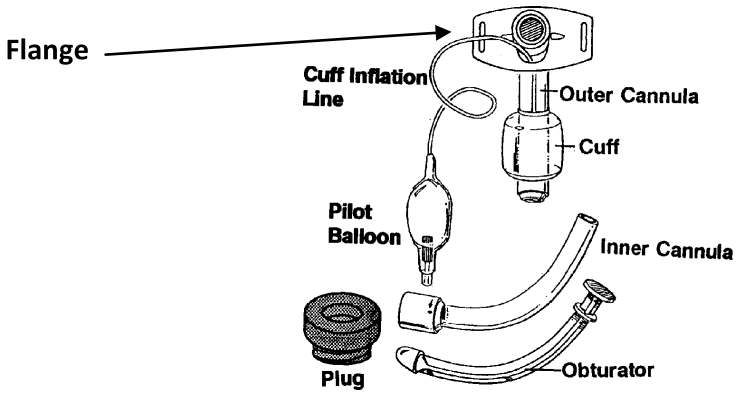


Figure 12: Trach Tube Parts
Reproduced with permission from the Ohio State University Medical Centre (OSUMC)
http://medicalcenter.osu.edu/pdfs/PatientEd/Materials/PDFDocs/procedure/tube-care/trach/fenestr.pdf

Obturator (OB-ter-ay-ter)

- ✓ This is an important piece. The obturator goes into the trach tube and is used to put the trach tube in the stoma (opening). It is also used when changing trach tubes
- ✓ The obturator is specially made for the size of trach tube in that package. So you will **not** be able to use an obturator from one size trach tube to put in a tube that is a different size

IMPORTANT! Keep the obturator somewhere where it is easy to find. If the trach tube falls out by accident, you need to use the obturator that came with that trach tube to put the trach tube back in.

Inner Cannula (CAN-you-luh)

- ✓ This is a smaller tube that fits inside the trach tube. It can be removed quickly if it becomes blocked with mucous
- ✓ Most inner cannulas are disposable, but some inner cannulas are reusable and need to be cleaned. Ask your child's nurse or respiratory therapist about what type you have and how to take care of it
- ✓ Some trach tubes do not have an inner cannula

Flange

- ✓ This is the piece at the top of the trach tube that lies against the neck and is used to hold the trach to the child's neck
- ✓ Markings on the flange show the size and make of the trach tube

Ties or holder

- ✓ Ties are used to hold the trach tube to the neck so it will not fall out. There are foam, Velcro®, and twill trach ties
- ✓ Care must be taken when putting the trach ties on. They are not to be tied too tight or too loose. When tied correctly you will be able to fit one or two fingers between the trach ties and the neck

Cork

- ✓ A plug for the trach tube is also called a button, plug, or cap, depending upon the type of tube. It seals off the cannula of the trachtrach tube
- ✓ It allows the individual to breathe around the trach tube, through the upper airway. It also allows for speaking
- ✓ Not all patients can be corked
- ✓ Never inflate the cuff when the cork/cap is in use

IMPORTANT! Make sure the cuff is deflated, or in the "down" position before using a cork. Take off the cork before you inflate the cuff.

Speaking Valve

- ✓ These are valves that are placed on the end of a trach tube to allow air to enter as your child breathes in. Air is sent around the tube and out the upper airway as your child breathes out
- ✓ Helps with speaking , and swallowing, and in some cases, coughing
- ✓ These valves are one-way
- ✓ **Never inflate the cuff with speaking valve in place**
- ✓ Not all patients can use a speaking valve

IMPORTANT! Make sure the cuff is deflated, or into the "down" position before using a speaking valve. Take off the speaking valve before inflating the cuff.

Cuff

- ✓ Trach tubes are made with and without cuffs. An uncuffed trach tube has no cuff and no pilot balloon. A cuffed trach tube has a balloon-like device at the end. Most of the time uncuffed tubes are used for children
- ✓ The cuff is a small balloon that is at the end of the trach tube. When this balloon is inflated it seals against the wall of the windpipe. A seal is often needed when your child is on a ventilator. The seal stops the air flow from going into the mouth
- ✓ Some cuffs are filled with air, some are filled with water. If your child has a cuffed tube, it is important to know what the cuff needs to be filled with
- ✓ The cuff needs to be filled (inflated) with the smallest amount of air, or water to seal the airway

- ✓ When you inflate the cuff you are putting air or water into the *pilot balloon.*When the cuff is full of air or water it is said to be *"up".* There is a set amount of air or water to fill the cuff and it is measured with a syringe. The amount or air or water will be different for each person and will depend on the size of the trach tube
- ✓ Care must be taken when inflating the balloon to avoid causing damage to the windpipe. Have your nurse or respiratory therapist show you how to properly fill the cuff
- ✓ When the cuff is flat, or deflated, it said to be "*down".* When the cuff is down there is no seal against the windpipe wall and air can go up through the vocal cords and out the mouth.

Types of Trach Tubes

There are many kinds of trach tubes; there are Portex, Shiley and Bivona TTS Tubes.

Portex and Shiley Tubes

- ✓ These tubes are made of plastic and can come with or without a cuff
- ✓ If these brands have a cuff, the cuff is always filled with air
- ✓ Some models have an inner cannula, some do not
- ✓ The Portex Blueline Ultra tubes are colour coded

IMPORTANT! Always fill Portex and Shiley tube cuffs with air. Never fill with water.

Bivona TTS Tubes

- ✓ A *Bivona Tight-to-the shaft (TTS) Tube* is made of silicone and has no inner cannula.
- ✓ *Cuffed Bivona TTS Tube*. When the cuff is deflated, it flattens very close to the shaft of the trach tube, allowing for speech. Fill the cuff with sterile distilled water
- ✓ *Uncuffed Bivona Tube.* It looks the same as the Bivona TTS tube except there is **no** cuff or pilot line

Cleaning Bivona Tubes

- ✓ You can re-sterilize these tubes up to 10 times
- ✓ These tubes have a special Superslick® coating on them that keeps mucous from sticking to them. Do not scrub too hard or the coating will come off

IMPORTANT! Only use sterile distilled water to inflate TTS tube cuffs. If you fill it with air, it will leak.

How do I know when I should replace my trach tube?

You need to replace your trach tube when the:

- ✓ Obturator is too tight
- ✓ Trach shaft is not centred
- ✓ Trach tube is 'off color'
- ✓ Trach tube markings have faded

IMPORTANT! Always have an extra trach tube with you at all times. Have a trach tube that is one size smaller than one in use. Keep the obturator on hand at all times.

My child's trach tube type is: ________________________________

My child's trach tube size is: ________________________________

My child's trach:

- ☐ **has an inner cannula**
- ☐ **does not have an inner cannula**

☐ **My child's trach has a cuff that:**

- – **needs to be filled with _______ml of air**
- – **needs to be filled with _______ml of water**

☐ **My child's trach does not have a cuff**

Figure 13: Bivona Tubes
Reproduced with permission from Smiths Medical North America http://www.smiths-medical.com/upload/products/mainImages/670180.jpg

Figure 14: Shiley Neonatal Tracheostomy Tube
Reproduced with permission of Vitality Medical www.vitalitymedical/isroot/Stores/VitalityMedical/picx1/SPX505080.jpg

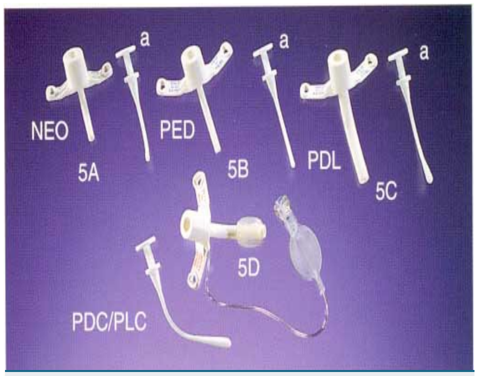


Figure 15: Various Tracheostomy Tubes
Reproduced with permission from the American College of Chest Physicians (Pulmonary & Critical Care Updates; Vol. 18, lesson 15) www.chestnet.org/images/education/online/pccu/vol18/lesson15/Fig1.jpg

See your personal information for your child's tube type and size.

Stoma Care

The stoma is the hole made in your child's windpipe that is kept open with a trach tube. Stoma care is the cleaning of the skin around the opening in the neck. Good stoma care will help prevent infections. Do stoma care at least once a day, such as first thing in the morning or just before going to bed. Clean it more often when the skin is swollen, red, or tender to touch.

How do I clean the stoma?

1. You will need:
    - ✓ Sterile distilled water (or sterile normal saline)
    - ✓ Cotton tipped swabs or gauze
    - ✓ Sterile trach dressings
    - ✓ Disposable cups for water
    - ✓ Suction equipment
    - ✓ Disposable gloves

2. Wash hands well
3. Put on clean gloves
4. Make sure you are in a comfortable position. Make sure you can see the trach area easily.
5. Suction, if needed

IMPORTANT! Make sure the trach tube is stable and not at risk of falling out during the cleaning process.

6. Take off the old dressing and throw it in the garbage. Note the colour of the mucous, the amount of mucous and if there is any unpleasant smell
7. Check the skin around the trach opening (stoma) every day for signs of an infection

    Watch for:
    - ✓ Redness or swelling
    - ✓ Creamy yellow or green mucous
    - ✓ Crusting, dry mucous
    - ✓ An unpleasant smell
    - ✓ Pain or tenderness around the stoma
    - ✓ Any extra tissue growth

Take note of any differences and report them to your healthcare professionals

8. Dip a cotton swab or gauze in sterile distilled water and clean the area around the opening, gently removing any dried mucous
9. Clean from the skin opening outward. Check to see that the opening is not open more than usual. Throw away each swab or gauze after use
10. Dip a new cotton-tipped swab or gauze in sterile distilled water and clean/rinse the area
11. Dry with fresh applicator swab or gauze
12. Put on the sterile dressing being careful not to twist the trach tube or pull on the flange
13. Change trach ties when they are dirty or when the Velcro® is no longer holding properly
14. Pour the water into the toilet and clean the containers
15. Take off gloves and wash hands well
16. Gather clean supplies so they are ready for the next cleaning

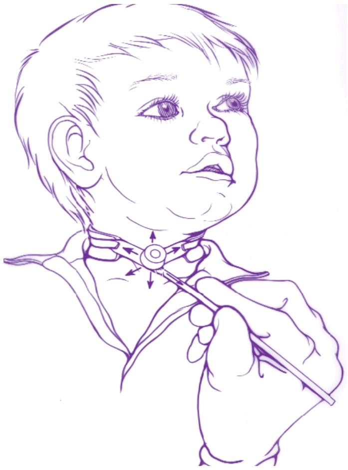


Figure 16: Stoma Care
Reproduced with permission from the Ohio State University Medical Centre (OSUMC)
http://www.trach.com/resources/pdf/tracheotomymanual.pdf

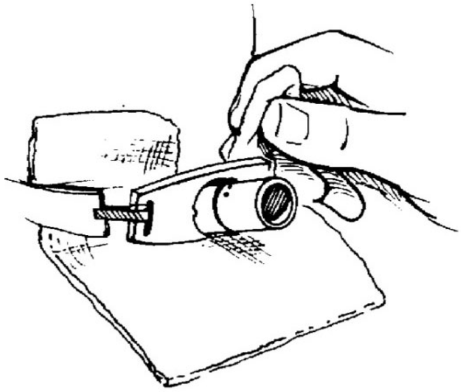


Figure 17: Putting on the trach dressing
Reproduced with permission from the Ohio State University Medical Centre (OSUMC)
http://medicalcenter.osu.edu/pdfs/PatientEd/Materials/PDFDocs/procedure/tube-care/trach/t-non-di.pdf

IMPORTANT! Dirty swabs and dressings may cause infections so they should be thrown away carefully. Wrap them in a plastic or paper bag and then put them in the garbage.

Trach Tube Care

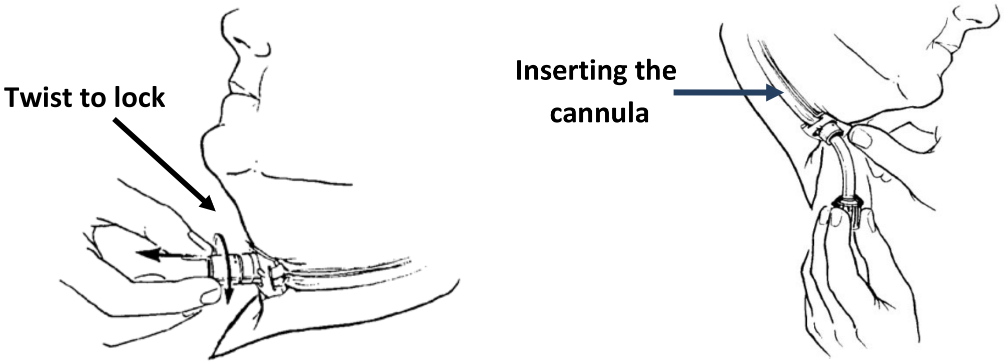
How do I clean my child’s inner cannula and corks?

Many trachs have an inner cannula that needs to be cleaned or replaced on a daily basis. If there is a lot of mucous in the inner cannula, you need to clean it more often. Proper cleaning of the inner cannula will help stop lung infections from happening.

Daily

1. You will need:
    - ✓ A clean inner cannula, cork or speaking valve
    - ✓ Cotton tipped swabs or gauze
    - ✓ Tweezers
    - ✓ Pipe cleaners
    - ✓ Clean small plastic bags or dry container
    - ✓ Suction machine and supplies
    - ✓ Disposable gloves
    - ✓ Two covered containers to be numbered and labelled

2. Label the containers #1 and #2 to avoid mixing up the clean and dirty containers
3. *Container #1 is for the dirty cannula and corks*. Pour hydrogen peroxide or sterile distilled water into this container
4. *Container #2 is to rinse the cleaned cannula and corks*. Pour sterilized distilled water into this container
5. Wash hands well and put on clean gloves
6. Make sure you are in a comfortable position. Make sure you can see the trach area easily
7. Suction, if needed
8. Remove the dirty inner cannula, the cork or speaking valve from the trach tube and place it into container #1 (hydrogen peroxide or sterile distilled water)
9. Put in a clean inner cannula, cork or speaking valve and lock in place



Figures 18, 19: Cleaning the Cannula
Reproduced with permission from the Ohio State University Medical Centre (OSUMC)
http://medicalcenter.osu.edu/pdfs/PatientEd/Materials/PDFDocs/procedure/tube-care/trach/t-non-di.pdf

10. Remove the **dirty** cannula from **container #1** with tweezers and clean with a cotton swab, gauze, or pipe cleaners. Do not scrub
11. Look for cracks or breaks in the tube and locking mechanism. If there are cracks or breaks the trach tube needs to be changed
12. Place the cannula in **container #2** (sterile distilled water) and **rinse** well
13. Remove the cleaned cannula from container #2 (sterile distilled water) with the tweezers
14. Dry the outside of the inner cannula with clean dry gauze. Tap it against the gauze to remove any drops of water from inside the cannula

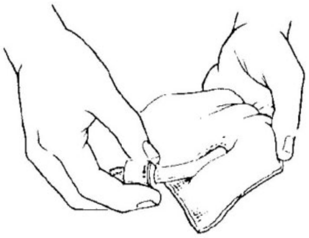


Figure 20: Drying the inner cannula
Reproduced with permission from the Ohio State University Medical Centre (OSUMC)
http://medicalcenter.osu.edu/pdfs/PatientEd/Materials/PDFDocs/procedure/tube-care/trach/t-non-di.pdf

IMPORTANT! Do not whip or shake the cannula to remove drops as this can spread drops into the air.

15. Store the now clean inner cannula in a small clean plastic bag or dry container
16. Throw out all soiled supplies, along with the dirty distilled water and hydrogen peroxide
17. Wash all containers in soap and water. Rinse well. You can wash the containers on the top shelf in the dishwasher

18. Take off gloves and wash hands well
19. Get clean supplies ready for the next use

IMPORTANT! Be sure to change the distilled water and hydrogen peroxide every day!

Weekly

Soak each container and lid in a solution of 1 part vinegar and 3 parts water for 20 minutes. Rinse and let air dry.

How do I clean a metal or silver trach tube?

Hydrogen peroxide can damage these tubes. If you have a metal or silver trach tube, ask your respiratory therapist for cleaning instructions.

How do I change my child's trach ties? [4]

Keeping the trach ties clean and dry will prevent skin irritation, sores and infections from occurring around the neck area.

The only thing holding the trach tube in place is the trach ties. These ties are usually made of twill cotton or cloth with a Velcro® closure.

When changing the ties be careful not to accidentally remove the trach tube. The ties should be changed by two people. One person will hold the trach in place while the other person cleans the skin and changes the ties. If a second person is not around to help, tie the clean ties first and then remove the old ones. This will keep the trach tube from coming out by accident.

---

[4] This section on changing trach ties is courtesy of "Changing Tracheostomy Ties" from the Department of Inpatient Nursing, The Ohio State University Medical Center 2005 http://medicalcenter.osu.edu/pdfs/PatientEd/Materials/PDFDocs/procedure/tube-care/trach/changing.pdf

Change the tie tapes daily and as needed.

1. You will need:
   - ✓ New trach tube ties
   - ✓ Clean gloves
   - ✓ Second person to assist, if available
   - ✓ Tweezers
   - ✓ Scissors
   - ✓ Suction machine and supplies
   - ✓ Tracheostomy Kit
2. Make sure your child is in a comfortable position
3. Wash hands well and put on clean gloves
4. Have the second person hold on to the trach tube by gently holding onto the edges of the flange
5. Cut and remove the dirty trach ties. If your child has a pilot line on the cuff, take care that you do not cut it by accident
6. Put one end of the clean trach tie through the hole on one side of the flange. Use the tweezers to pull the trach tie through the hole
7. Bring both pieces of the ties around the back of the neck to the other side of the trach flange
8. Using tweezers take one end of the tie and pull it through the hole on one side of the flange
9. Bring the ends of the tie to the side of the neck and tie them in a knot
10. Do not tie them too tightly. Allow enough space for 1 finger between your child’s neck and the trach ties
11. Take off gloves and wash hands well

Example of one method of securing cotton ties

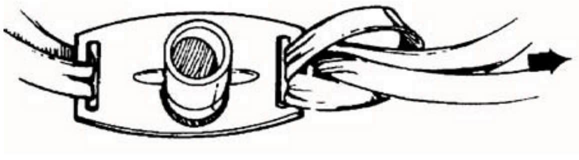


Figure 21: Securing Trach Ties
Reproduced with permission from the Ohio State University Medical Centre (OSUMC)

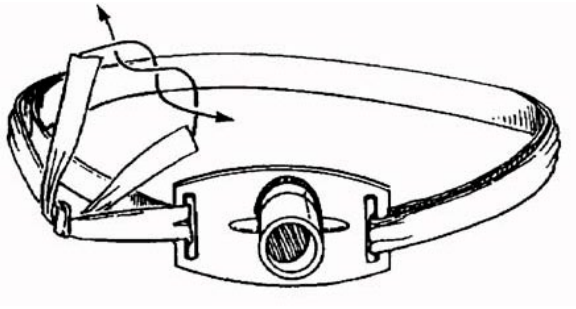


Figure 22: Securing Trach Ties
Reproduced with permission from the Ohio State University Medical Centre (OSUMC)

Figure 23: Tapes with Velcro strips

Other Information About Trach Tubes

What is a cuff?

A trach cuff is a balloon around the outside of the trach tube. When the balloon is inflated it fits the shape of your child's windpipe and seals off the space between the wall of your child's windpipe and the trach tube. This seal might be needed when your child is on a breathing machine (ventilator). If the cuff is not inflated, air can pass around the outside of the trach tube up through the voice box.

The cuff is inflated by putting either air or water in through the pilot line. If your child has a cuffed *Shiley or a Portex trach tube*, you will fill the balloon with *air*. If it is a *Cuffed Bivonia TTS Tube*, you will fill the balloon with distilled *water*.

The pilot balloon on the inflation line shows whether the cuff is 'up' or 'down'. The pilot balloon does not tell you how much air or water is in the cuff. Ask your respiratory therapist or nurse how much air or water needs to be in your child's cuff.

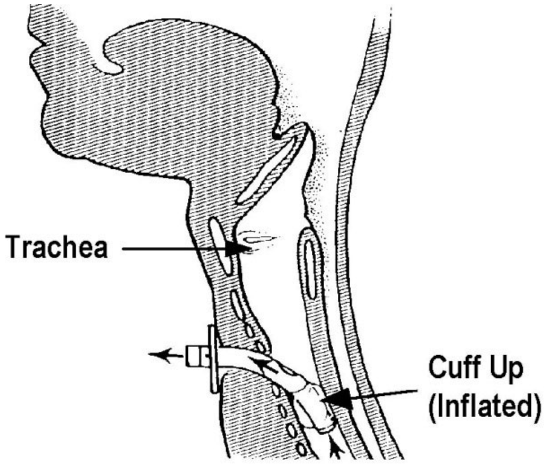


Figure 24: Inflated Cuff
Reproduced with permission from the Ohio State University Medical Centre (OSUMC)

IMPORTANT! Make sure that you know how much air or water needs to go into your child's cuff. Ask your healthcare professionals to show you how.

Inflating the Cuff – Putting the Cuff “up”

1. Make sure that the trach tube is not blocked, so the air can move freely through it. Before inflating the cuff, attach a syringe to the cuff pilot line. Draw back on the syringe to suck out any air that may be in the cuff. The cuff needs to be fully “down” before filling it again. If the pilot balloon already has air in it you should **not** add more air

IMPORTANT! Never add air to a cuff that already has air in it.

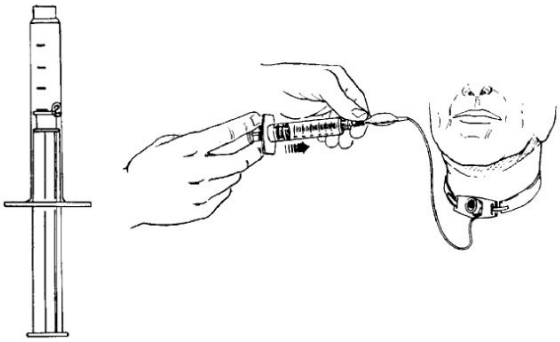


Figure 25: Inflating the Cuff
Reproduced with permission from the Ohio State University Medical Centre (OSUMC)

✓ **Your child’s trach has a cuff that needs to be filled with:**

________ ml of air (Shiley or Portex tubes)

________ ml of distilled water (Bivona TTS Tube)

2. Attach the syringe to the cuff pilot line. Slowly push the plunger in so the air (or distilled water) fills the cuff with the right amount
3. Remove the syringe. There is a valve in the pilot line that stops the air or water from leaking out
4. If there is a leak around the cuff, see see “How do I fix a Cuff Leak?” question below.

IMPORTANT! If the cuff is filled with too much air or water,

it will cause damage to the trachea. Do not over inflate the cuff.

Deflating the Cuff – Putting the Cuff "down"

1. Suction the mouth, if needed

   Note: Sometimes mucous sits in the throat or on top of an inflated cuff. When the cuff is deflated, this mucous can fall from around the cuff into the lungs making your child cough. It is a good idea to have a suction catheter ready in case this happens.

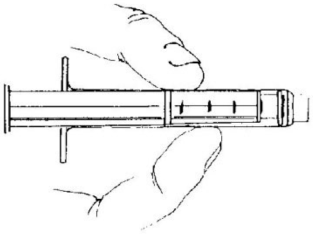


Figure 26: Syringe
Reproduced with permission from the Ohio State University Medical Centre (OSUMC)

2. Get a syringe (without the needle) and push the plunger all the way in to remove the air from the syringe
3. Attach the syringe to the cuff pilot line
4. Slowly pull back on the plunger of the syringe until the pilot balloon on the cuff pilot line is flat and the syringe plunger cannot be pulled back any more
5. You have now deflated the cuff

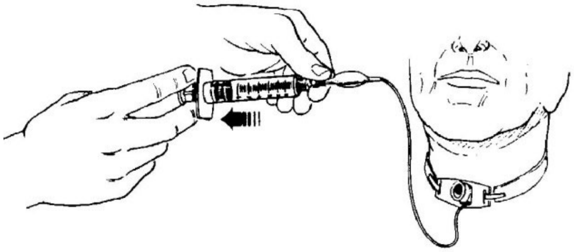


Figure 27: Deflating the Cuff
Reproduced with permission from the Ohio State University Medical Centre (OSUMC)

How do I fix a cuff leak?

First remove all the air (or distilled water) from the cuff. Then reinflate the cuff with the right amount of air or distilled water. Wait a few minutes. If there is a leak, then:

1. Remove all the air or distilled water from the cuff
2. If the amount removed was less than it was suppose to be, and then re-inflate with the correct amount
3. If your child's cuff is filled with air you can try this. Put the pilot balloon in a cup of water while it is "inflated". If you see bubbles then there is a leak in the pilot line or pilot balloon
4. If there is still a leak, the trach tube needs to be changed

I have tried everything and there is still a leak in the cuff, what do I do now?

If you have been given directions on how to do this, and you are comfortable doing a trach change, then change the tube. If you have not been told what to do, or you are not comfortable call homecare professional or respiratory therapist for help. If no one is available to help , go to the nearest emergency room.

Speaking Valves

A speaking valve is a one-way valve that allows air in but not out. The one-way valve connects to the trach tube and only opens when your child breathes in, letting air go into the lungs. The valve will close when your child breathes out, forcing the air up around the outside of the trach tube, through the voice box, and out the mouth, so your child can speak.

There are many brands of speaking valves, but the Passy Muir valve is the most common. Speaking valves can be used while your child is on humidity or oxygen and even if they are on a ventilator.

Speaking valves can improve:

- ✓ Swallowing – You child will be less likely to choke on food
- ✓ Smelling – Your child will smell food and have an improved appetite
- ✓ Coughing – Your child will have a stronger cough and will not need to be suctioned as often

Special Considerations

- ✓ **Do not use with inflated trach cuff**
- ✓ The valve may occasionally pop off; just replace it cleaned and be sure
connections are tight
- ✓ The valve can be attached to the trach tie with a fastener

Figure 29: Boy with Speaking Valve
Reproduced with kind permission from
www.trach.com

Remove the speaking valve when:

- ✓ Having an aerosol treatment
- ✓ Suctioning is needed
- ✓ Sleeping

Figure 28: Passy-Muir® Tracheostomy Speaking Valve
This section on speaking valuves is courtesy of "Passy-Muir® Tracheostomy Speaking Valve" from the Department of Inpatient Nursing, The Ohio State University Medical Center, 2002
http://medicalcenter.osu.edu/pdfs/PatientEd/Materials/PDFDocs/procedure/tube-care/trach/passey.pdf

IMPORTANT! Never use a speaking valve when the cuff is "up" or in the inflated position.

Your child's trach speaking valve is: ____________________________

How do I use a speaking valve?

If your child is not on a ventilator and is able to breathe on their own:

1. If the mucous cannot be coughed out, then suctioned it out
2. Completely deflate the trach tube cuff
3. Remove the oxygen and humidity, if you have it on

To put the valve on:

1. Gently hold on to the edges of the trach tube flange and put the speaking valve onto the trach tube
2. Twist the valve gently to make sure it is on the trach tube properly.The valve may sometimes pop off. If this happens just replace it and be sure the connection is tight
3. Replace the oxygen and humidity, if you have it

To remove the valve:

1. Gently hold the flange and twist the valve off
2. Replace the oxygen and humidity, if you have it

If your child is on a ventilator and cannot breathe on their own:

1. If the mucous can't be coughed out, then suction it out
2. Completely deflate the trach tube cuff (Put the cuff 'down')
3. Place the valve in-line with the ventilator tubing in the following way. Have your nurse or respiratory therapist fill in the steps you should follow below:
    a. ____
    b. ____
    c. ____

4. Change the ventilator settings to:

   FiO_2 or O_2 litre flow: ______________________ Tidal Volume: _______________________
   Pressure Control: ____
   Alarms: Low Pressure; test to be sure that the Low Pressure Alarm is working with the valve in-place

5. To remove the valve, take the valve out of the ventilator circuit
6. If your child is on a ventilator return the settings to:

   FiO_2 or O_2 litre flow: ______________________Tidal Volume: _______________________
   Alarms: ____
   Other: ____

7. When the speaking valve is removed, it is safe to inflate the cuff again

How do I clean my child's speaking valve?

Clean the speaking valve every day using a mild soap and warm water. Rinse well. Allow to air dry. When dry, store in sealed plastic container when not using.

Some cleaning products will damage the valve.

Do not use the following:

Hot water or harsh chemicals

Hydrogen Peroxide, bleach

Alcohol

Cleaning brushes

When can I get a new valve?

If you take care of these valves they will last a long time. Before replacing a valve with a new one first wash and dry it carefully. If the valve is still sticky, noisy or begins to vibrate it needs to be replaced. Talk to your respiratory therapist for more information.

Trach Kit

☐ Trach tube of current size
☐ Trach tube that is half a size smaller than the current one
☐ Obturator
☐ Trach ties
☐ Water soluble lubricant
☐ Normal saline nebules
☐ Trach gauzes
☐ Scissors
☐ Suction unit
☐ Suction catheters
☐ Suction tubing
☐ Oximeter with probe
☐ Manual Resuscitator Bag

Tracheal Suctioning

Suctioning removes mucous from the windpipe and the trach, keeping the airway open. A suction catheter is a tube that is used to take out mucous from the lungs and mouth.

The suction pressure will be:

✓ For babies: 60-80 mmHg (8-10 kPa)
✓ For older children: Up to 120 mmHg (<16 kPa)

Ask your healthcare professional to write down the suction

unit pressure: ____

Size of suction catheters to be used: _____________________ fr

How to Suction

**IMPORTANT! Check your suction equipment every day;
it must always be ready-for-use.**

---

1. You will need:
   - ✓ Suction machine – electrical or portable
   - ✓ Suction tubing
   - ✓ Distilled water (flushing solution)
   - ✓ Clean container for flushing solution
   - ✓ Disposable suction catheters of correct size
   - ✓ Clean disposable gloves
   - ✓ Mask
   - ✓ Manual resuscitation bag with flex hose and trach adapter, if needed
   - ✓ Extra inner cannula if needed
   - ✓ Obturator
   - ✓ Hand sterilizer
   - ✓ Suction unit plug and charger, if needed
   - ✓ Plastic bag for disposal of materials

2. Wash hands well
3. Fill the container with sterile distilled water
4. Attach the suction catheter to the connecting tubing of the suction machine
5. Turn on the suction machine and be sure there is good suction
6. Make sure the person you will be suctioning is in comfortable position. Their head should be above their shoulders
7. Put on clean gloves being careful not to touch anything except the catheter
8. Push the thumb control through the paper backing on the package, and attach it to the suction tubing

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IMPORTANT! Use a clean suction catheter for each suction session.

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9. Withdraw the catheter from package slowly. Hold the catheter with your gloved hand 10 to 15 cm (4 to 6 inches) from the tip. Be careful not to have the catheter touch anything
10. Remove the ventilator, trach cork or speaking valve. from trach tube. If necessary, bag the child with a manual resuscitator
11. Dip the catheter tip into flushing solution and suction a bit of fluid into the catheter to make sure it works
12. Insert the catheter into trach tube only as far as you were told to go

Note: There are three ways to suction: Deep suctioning,Tube Suctioning and Tip Suctioning. Ask your healthcare professional to show you how to suction these three ways.

Deep Suctioning

Put the catheter in until you feel something stopping you. Pull the catheter out a bit then gently use the suction.

Tube Suctioning

The catheter is only put just past the end of the trach tube. It is not put all the way into the lungs.

Tip Suctioning

The catheter tip is used to suction just at the opening of the trach tube.

IMPORTANT! Do not push or force the catheter.

13. You are now ready to apply the suction. Cover the thumb hole on the catheter and slowly take the catheter out while twisting, or ‘rolling’ it between your fingers. You can pull the catheter straight out or roll it back and forth between your fingers. It all depends on what works best to remove the mucous. It takes practice to find what works best to remove the mucous

IMPORTANT! Do not cover the thumb hole on the catheter until you are ready to suction. Suction only when you are removing the catheter.

IMPORTANT! The suction catheter should not be in the trach for more than 5 seconds.

14. Look at the mucous being suctioned out. Take note of the amount, the colour, the thickness and the smell
15. Rinse the catheter out by dipping the tip into sterile distilled water and suction water through the catheter until it is clear. You can use the same catheter to suction a few times, as long as it is kept clean. However, if the catheter becomes blocked with mucous, remove it and use a new one
16. Repeat steps 12 to 15 if needed. Ways to know if you need to suction again
    - ✓ Ask if they feel "okay" or if they want to be suctioned again
    - ✓ If you hear "gurgling" when they are breathing, then you need to suctioned again

Note: Suctioning can cause your child to feel very short of breath. So take breaks between suction attempts. You may need to place the child back on ventilator for a while or give some manual breaths with the resuscitation bag.

17. When done, replace the trach cork, speaking valve, or ventilator, if needed
18. Coil or wrap the suction catheter around the fingers and palm of one hand, then pull the cuff of the glove over the top of the coiled catheter to completely cover it. Throw out the gloves and dirty catheter. Throw out the suction catheter after each suction session. Dispose of glove / catheter and cup
19. Turn off the suction unit
20. Empty and clean the suction drainage bottles and containers, if needed
21. Wash hands well
22. Be sure the suction equipment and supplies are ready for the next use. You never know when you need to suction your child. Have all the equipment ready in case you need it quickly

When should I suction my child?

Many children need to be suctioned at least once a day, such as first thing in the morning or before going to bed.

Your child needs to be suctioned when:

- ✓ They can coughing a lot and are not able to cough up the mucous
- ✓ They are having trouble breathing or their breathing sounds harsh
- ✓ The ventilator airway pressures are higher than normal
- ✓ You see mucous in the trach tube or in the ventilator tubing

Why does my child feel so short of breath when they are being suctioned?

Oxygen is removed from the airway when someone is being suctioned. Try to keep the suction time to less than 5 seconds. This will help. Allow your child to take a few breaths between suction attempts, to give your child a break.

Use a manual resuscitator bag before and after suctioning. This often helps move the mucous up the airway so it is easier to suction or cough up. This may also help with the shortness of breath that occurs when being suctioned.

Why is blood coming up the suction tube?

This may be happening because the catheter is pushed too hard into the airway. Sometimes it happens if the suction catheter is too large. You can prevent bleeding by using the right size catheter and not forcing the catheter down the airway.

Suctioning on the go:

Before going out make sure the portable suction unit is fully charged and you have all your supplies.

Portable suction supplies:

- ✓ Suction catheters
- ✓ Connecting tubing
- ✓ Gloves
- ✓ Masks
- ✓ Hand sterilizer
- ✓ Distilled water, if desired

- ✓ Spare inner cannula, if applicable
- ✓ Manual resuscitator
- ✓ Trach Kit

Other Helpful Tips

- ✓ The same catheter may be used during each suction attempt as long as it has remained clean
- ✓ The same suction catheter should not be used for more than one suction session
- ✓ If the catheter becomes plugged, throw it out. Replace with another sterile catheter
- ✓ Some individuals may have to be manually ventilated (bagged) before and after suctioning. This may help move mucous higher in the airway. This may also help with breathing
- ✓ Replace cork/speaking valve and/or the heat and moisture exchanger when needed
- ✓ Suctioning is a clean procedure so it does not require the use of sterile gloves. Clean gloves are used to act as a protective barrier so that secretions or organisms cannot be transferred to the caregiver

Changing the Trach Tube

Some children change their trach tube once a month, others change it more often. Some will change it if it becomes plugged or falls out by accident. The following are steps everyone in the family needs to know. In case of an emergency, you need to be prepared and know what to do. Everyone in the family should know what to do if the trach were to become plugged, or falls out by accident. Do a practice-drill at home, so you can remain calm if these situations arise.

For a trach change, it is best if you have a second person to help you.

1. You will need:
    - ✓ Clean or new trach tube with obturator; same size as the one that is currently in
    - ✓ One size smaller trach tube – in case of an emergency where you cannot get the new same size tube in
    - ✓ Trach ties
    - ✓ Supplies to clean the stoma
    - ✓ Syringe, if the tube is cuffed
    - ✓ Scissors
    - ✓ Sterile distilled water
    - ✓ Manual resuscitation bag and mask

- ✓ Water soluble lubricant
- ✓ Suction machine and suction catheter

2. Wash your hands well and put on clean gloves
3. Check the new trach tube:
   - ✓ Remove the trach tube from the package. Look at the new tube. If you notice any cracks or breaks get a new tube
   - ✓ If there is a cuff on the tube, check that it is working by inflating it and deflating it
   - ✓ Inflate the cuff with air or water, as ordered by your doctor. If you notice a leak, get another tube. If there are no problems, deflate the cuff completely
4. To keep the tube as clean as possible, touch only at the flange
5. Put the obturator into trach tube
6. Lubricate the end of the trach tube with a water soluble lubricant
7. Make sure the child is comfortable and lying on their back with their neck tilted slightly backward. To do this, some people find it helpful to put a rolled towel under their shoulders
8. Do stoma care, if needed
9. Suction, if needed
10. Have the second person hold the trach tube at the flange. Remove the old trach ties. Take care the trach tube does not fall out accidentally
11. If the child has a cuffed tube, deflate the cuff completely
12. Take out the old trach tube but try not to pull it straight out. Use a motion that follows the curve of the trach tube
13. Guide the new trach tube into the stoma. Again, try to using a motion the follows the curve of the trach tube
14. As soon as the new trach tube is in, remove the obturator
15. If the child is on a ventilator and has a cuffed tube, inflate the cuff
16. Place back on ventilator, or oxygen, if needed
17. Tie the trach ties and put on a clean dressing
18. Wash your hands

What should I do if I cannot get the trach tube in?

1. Moisten the trach tube with sterile distilled water and try again
2. Make sure you are using the obturator and that the cuff is completely deflated
3. Make sure the neck is extended. You may need to reposition the child
4. If the child can breathe and is not in distress:
    - ✓ Ask the child to take a big breath in. Guide the tube in as they breathe in
    - ✓ Try to put in a smaller size trach tube in
5. Put the obturator into the stoma and gently pull down on the skin around the opening. This should open the stoma a little more giving you room to put in the smaller trach tube
6. If the smaller tube will not go in and the child is having trouble breathing:
    - ✓ Put the face mask on the manual resuscitator bag and place the mask over the nose and mouth to ventilate. You will need to cover the stoma
    - ✓ Have the second person call 911

The trach tube is out a little, but has not completely fallen out. What do I do?

1. Deflate the cuff on the trach tube (if it has one)
2. Gently push the tube back in
3. Adjust the ties so the trach tube will not fall out

What do I do if the trach tube is plugged?

1. If the child is on a ventilator, the high pressure alarm will probably go off
2. Check to see if your child is having trouble breathing
3. If so, try suctioning. If the suction catheter does not go down the trach very far then it may mean that the tube is plugged
4. If your child is having trouble breathing you will need to act fast. Remove the trach tube and insert a new one

Mechanical Ventilation

What is Mechanical Ventilation?

Your child may need a ventilator to move air in and out of their lungs because they can not breathe well enough on their own. The ventilator can do all of the breathing (total support) or just partly help your child's own breathing effort (partial support). Most ventilators can give extra pressure (PEEP pressure) to keep the lungs open so the air sacs do not collapse. Mechanical Ventilation can be done using a ventilator and a trach tube, a ventilator and a mask, or a ventilator and a mouthpiece.

Total Support

Those children who need the ventilator to do all their breathing would be on total support. A trach tube is often used for those who need the ventilator to do all their breathing. People on 'total support' are not able to use a mask.

Partial Support

This is when the person is able to breathe on their own in-between the breaths delivered by the ventilator. The ventilator does not have to deliver the full breath, if the person has some breathing effort of their own.

Why is Mechanical Ventilation Needed?

Certain lung diseases change how the respiratory system works. Mechanical ventilators are used when the:

- ✓ Brain cannot send signals to the lungs to breathe
- ✓ Lung is too stiff to expand fully
- ✓ Lung tissue is damaged causing breathing problems
- ✓ Muscles for breathing are not strong enough to move air in and out of the lungs
- ✓ Heart has been damaged and causes the lungs to work very hard

Ventilator Settings

Below is a list of the most common ventilator settings. Your child's ventilator settings will depend on your ventilator type and mode.

Modes of Ventilation

The ventilator mode is how the ventilator delivers the breath.

Common ventilator modes are:

AC or C - Assist/Control or Control

IMV - Intermittent Mandatory Ventilation

SIMV - Synchronized Mandatory Intermittent Ventilation

CPAP- Continuous Positive Airway Pressure

PS - Pressure Support
When Pressure Support is working, the machine will deliver a set pressure when the child breathes a breath on their own. It helps to boost the breath, so it is larger than they might do on their own.

PC - Pressure Control
This sets the highest pressure to be delivered during a breath. This pressure is held for the whole 'breathing in' time.

Ventilator Rate

- ✓ Also known as Breath Rate and Respiratory Rate
- ✓ The number of breaths the ventilator delivers in one minute

Tidal Volume

- ✓ The amount of air the ventilator gives with each breath

Inspiratory Time

- ✓ The time it takes for the ventilator to give one breath

Inspiratory Flow Rate

- ✓ How fast the air travels during one breath

I: E Ratio (Inspiratory to Expiratory Ratio)

- ✓ The length of time it takes to breathe in compared to the time it takes to breathe out
- ✓ This is often expressed as a ratio

Peak Inspiratory Pressure (PIP)

- ✓ This shows the amount of pressure it takes to fill up the lungs when your child breathes in
- ✓ The number shown may be slightly different with each breath
- ✓ Each person has a normal PIP
- ✓ The amount of pressure is displayed on the control panel of the ventilator, either as a number on a screen or on a gauge

PEEP (Positive End Expiratory Pressure)

- ✓ This is the pressure the ventilator holds at the end each breath. PEEP helps to keep the air sacs open so they do not collapse

Sensitivity or Breathing Effort

- ✓ This control shows how much effort is needed to start a new breath from the ventilator

Low Pressure Alarm

- ✓ This is a safety alarm that goes off when the ventilator does not reach the pressure needed to give the full breath
- ✓ This usually means there is a leak somewhere in the tubing or that the ventilator tubing has come off the patient's trach tube. For a more information on low pressure alarms, see the ***Troubleshooting*** section

High Pressure Alarm

- ✓ This is a safety alarm that goes off when the ventilator reaches the high pressure setting
- ✓ This usually happens when:
  - There is a blockage in the airway, often caused by too much mucous. Your child might need to be suctioned
  - Your child is wheezing, coughing or hiccupping
  - There is a kink in the ventilator tubing

Oxygen

- ✓ If your doctor wants to give more oxygen, it may be added into the ventilator tubing

Your ventilator is a: ____

The ventilator settings are: ______________________________________

Ventilator Power Sources

Ventilators operate on electricity. There are three sources of electricity that are available to run the ventilator: Alternating Current (A/C), External D/C battery and Internal D/C battery.

Alternating Current (A/C)

Most of the time your child's ventilator will be plugged into your home wall outlet which is 120 volts of alternating current (A/C). Always use wall outlet power if you are planning to stay in one place.

Internal Direct Current (D/C)

This is the battery inside the ventilator. It is used when there is a sudden drop in electricity to power the ventilator. This may happen when the ventilator is unplugged accidently, or during a power failure. A fully charged battery should keep the ventilator working for about 30-60 minutes.

This battery should not be used often. This battery is a safety feature and is only to be used in an emergency. Keep the ventilator plugged into a wall outlet so the battery will always be charged.

The Internal D/C battery is:

- ✓ Built into the ventilator
- ✓ For short term emergency power only
- ✓ On when the ventilator is on
- ✓ On when you unplug the ventilator from the wall or an external D/C battery
- ✓ Recharged when the ventilator is plugged in to a wall outlet
- ✓ Able to power the ventilator for 30-60 minutes, if it is fully charged
- ✓ To be discharged and recharged every month

Note: Depending on the ventilator, this battery may not recharge when the ventilator is plugged into a D/C external battery. Check with your respiratory therapist.

External Direct Current (D/C)

If a power failure were to last longer than 30-60 minutes, the battery inside your ventilator will not last. So you need to have another way to power the ventilator, if this were to happen.

The Ventilator Equipment Pool (VEP) provides an external D/C battery for emergencies such as a power outage. The battery is a standard 12 volt battery that would provide power to the ventilator for 5 - 12 hrs.

IMPORTANT! This battery should not be used for portability, such as with a wheelchair. They are for emergency backup power only.

How do I hook up the external battery to the ventilator?

1. Check to make sure the battery is fully charged. If it needs charging, do so first. Never charge the battery while the battery is connected to the ventilator
2. Place the battery in a safe place away from the ventilator's inlet filter (on the back of the ventilator panel). Do not put the battery on top of ventilator
3. Plug the battery cable into the proper connection on the ventilator
4. Plug the battery cable into the battery

IMPORTANT! Some internal ventilator batteries may not recharge when the ventilator is plugged into an external D/C battery.

How do I remove the external battery from the ventilator?

1. Unhook the battery cable from the battery
2. Unhook the battery cable from the ventilator
3. Make sure ventilator is plugged into the wall outlet (A/C power source)
4. Recharge the battery in a well ventilated area

I would like to use my child's ventilator with their wheelchair. What battery should I use?

- ✓ A battery is needed when you use your child's ventilator with their wheelchair. You will need to buy another battery for this purpose
- ✓ Do not use the external battery that VEP has given you. That one is for emergency use only. **VEP does not supply batteries for wheelchair use**

When do I need to recharge the external battery?

- ✓ Recharge the battery after every use in a well ventilated area
- ✓ Old batteries will lose their charge quickly so check the battery charge every week
- ✓ Discharge and recharge the battery monthly

How do I recharge the external battery?

1. Charge the battery in a well ventilated area
2. Do not charge the battery when it is hooked up to the ventilator
3. Use a 12 volt battery charger to recharge the battery
4. Connect the battery to the charger
5. Connect the charger to the wall outlet (A/C power)
6. Let the battery charge. ***Note: It will take one hour of recharge time for every hour that it was used***
7. When the battery is 80% charged, the yellow light will flash
8. When the battery is 90% charged the green light will come on. When the green light is on it means the charge is complete
9. Leave the battery hooked up to the charger for another 3 hours **after** the green light comes on
10. When the battery is fully charged, unplug the charger from the wall outlet first, before unhooking the charger from the battery

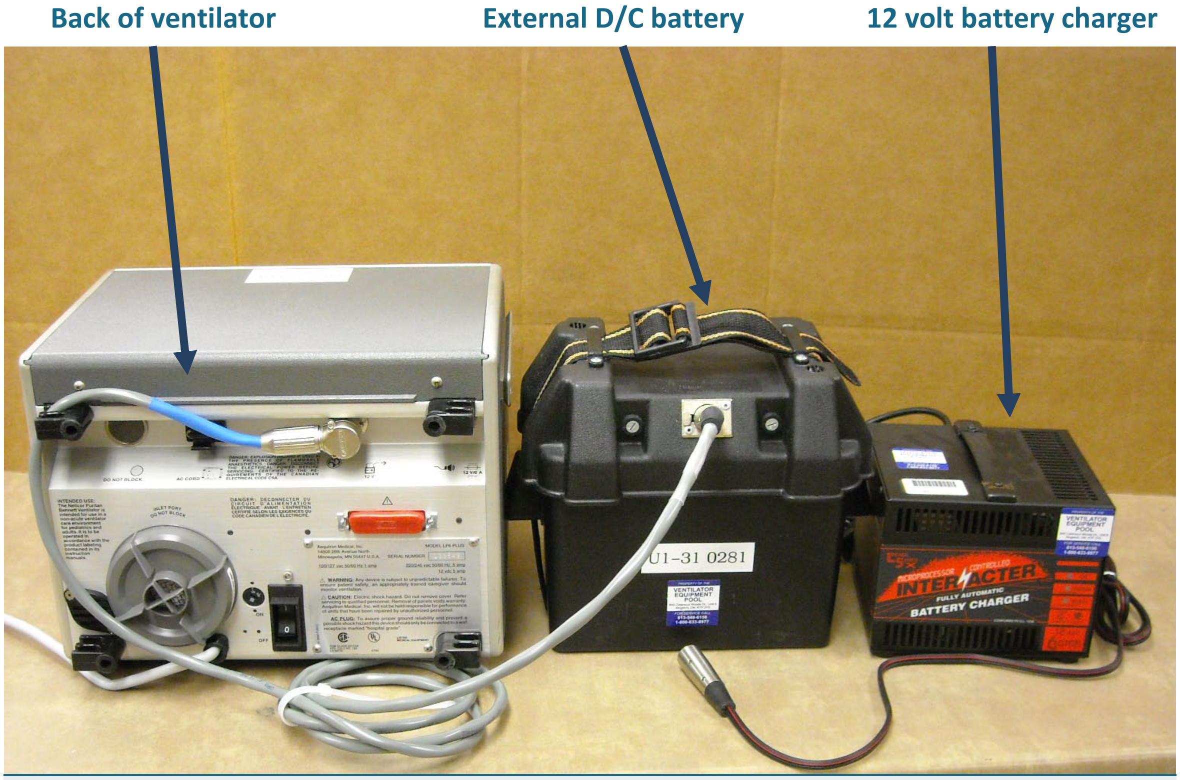

Figure 30: Ventilator & Battery
Photo courtesy of Ventilator Equipment Pool

General Tips: Ventilator Management

- ✓ Place the ventilator on a night stand or a table away from drapes or other things that could block the air flow to the inlet filter opening
- ✓ Spills will damage the ventilator and cause it to not work properly. Never place food or liquids on top of the ventilator
- ✓ Use the protective doors, covers or lock out features on the ventilator. They protect the settings from being changed by mistake
- ✓ Make sure the humidifier is lower than your child’s head
- ✓ Make sure the alarm port is not blocked by objects. If it is blocked, it may not be heard if it goes off

Daily

- ✓ Make sure the ventilator is plugged into a 3 - pronged wall outlet (A/C power source)
- ✓ Turn the ventilator on and check that the proper lights and sounds come on. Your ventilator manual will tell you what to look for
- ✓ Check the ventilator settings to make sure that they are set correctly
- ✓ Check the respiratory rate. To do this your child cannot be connected to the ventilator. Hold a glove tightly over the flex tube connector where it would attach to your child. Count the number of breaths for one minute (60 seconds). It should be the same as the set breath rate on the machine
- ✓ Test the Ventilator Circuit by doing a 'Low Pressure Test' and a 'High Pressure Test'

Weekly

- ✓ Wipe down the ventilator with a damp cloth
- ✓ Clean and change the Ventilator Circuit
- ✓ Clean the Portable Suction machine
- ✓ Check that the external battery is charge

Monthly

- ✓ Change the bacteria filter in the breathing circuit
- ✓ Change or clean the inlet filters on the ventilator. These must be replaced/cleaned as needed
- ✓ Discharge and recharge the external battery

Annually, or as needed

- ✓ Preventive maintenance is recommended by the manufacturer. Some ventilators need to be serviced every 1-2 years, or after a certain number of hours of use
- ✓ The Ventilator Equipment Pool will contact you to arrange service on your machine

The Ventilator Circuit

Below is a picture of a ventilator circuit. Your ventilator circuit may look a little different than this picture. Circuits currently provided through the Ventilator Equipment Pool. Please see specific user's manual for circuit details.

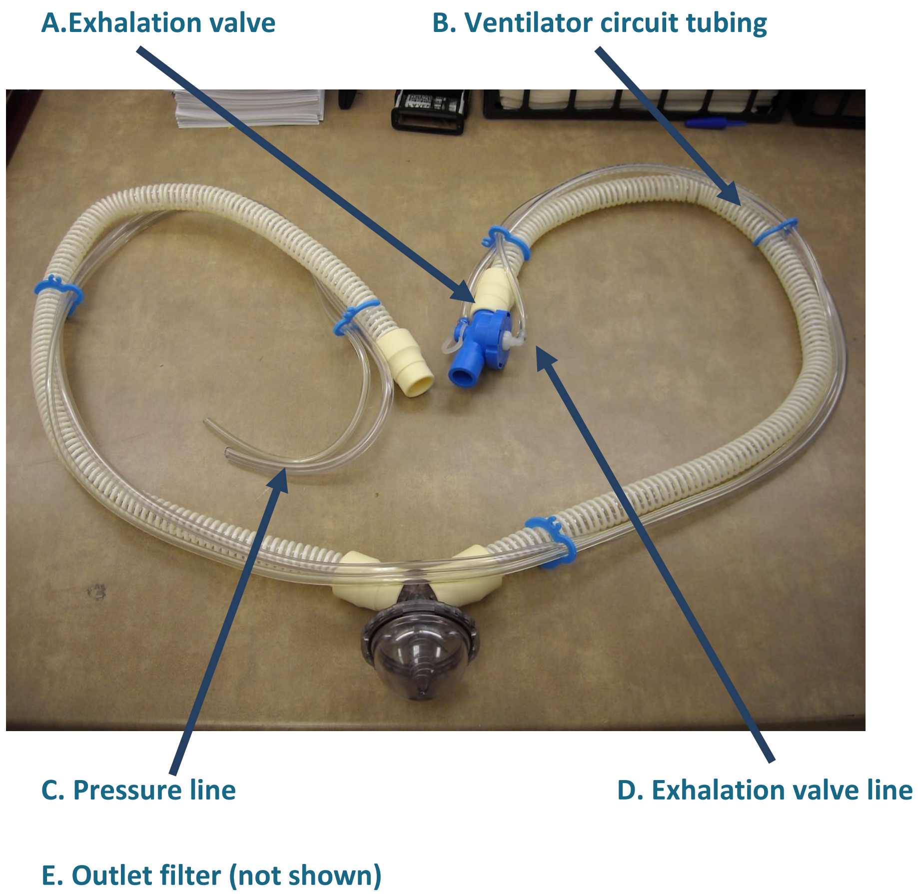

Figure 31: Ventilator Circuit
Courtesy of Ventilator Equipment Pool

A The *exhalation valve*: is a balloon that closes when someone breathes in and opens when they breathe out. The flex tube attaches to one end and the ventilator circuit tubing to the other end.

B The *ventilator circuit tubing:* is a 6 foot hose that attaches to the exhalation port at one end and to the outlet port on the ventilator on the other end.

C The *pressure line*: is a small tube that is connected to two pressure ports; one on the ventilator and the other on the exhalation valve.

D The *exhalation valve line:* is connected to the exhalation valve and the exhalation valve port on the ventilator.

E The *outlet filter:* *this* filters gas coming from the ventilator, going into the ventilator circuit tubing (not shown in the picture above)

Figure 32: LTV 950 Ventilator
Reproduced with permission of CareFusion www.CareFusion.com

Figure 32 shows the LTV 950 ventilator. Your child's ventilator may look different than the picture shown here.

How do I clean and change the ventilator circuit?

Clean the ventilator circuit, resuscitation bag, humidifier and suction canister at least once a week.

1. You will need:
   - ✓ Mild dishwashing soap
   - ✓ Pail for soaking
   - ✓ Water
   - ✓ White vinegar
   - ✓ Clean towel
   - ✓ Storage bag
2. Take apart the ventilator circuit. This includes the tubing, connectors and humidifier reservoir jar, if used. Refer to your Patient Circuit Assembly Instructions

IMPORTANT! The ventilator will *not* work properly if water gets into the pressure sensor line or exhalation valve.

3. Wash tubing and connectors in warm soapy water
4. Rinse with tap water to remove the soap
5. Make a solution of 1 part vinegar to 3 parts water in the pail. Soak humidifier jar, tubing, and connectors in the vinegar solution for 30 minutes. Make sure that all the parts are in the solution
6. Drain and rinse well. Place connectors and humidifier jar on a clean towel to air dry. Hang the hoses to dry. Allow all parts to air dry completely before putting back together
7. Look carefully at the tubing and equipment for breaks or cracks. Check that everything is clean. Replace anything that is broken or cannot be cleaned properly
8. Put the ventilator circuit together, so it is ready to use. If it is to be stored, cover the circuit with a clean towel or store it in a clean plastic bag

Testing the Ventilator Circuit

1. Inspect the Circuit:
    - ✓ Make sure that all connections are tight
    - ✓ Make sure the humidifier and exhalation valve are put together properly
    - ✓ Check that the sensor lines are all connected
2. Do the “Disconnect Test” (Low Pressure Test):
    - ✓ Make sure the low pressure alarm setting is set correctly
    - ✓ Turn on the ventilator with the circuit connected
    - ✓ Do not connect the circuit. Wait to see if the low alarm goes off
3. If the alarm does not sound, check the alarm setting to make sure it is set correctly
4. If it still is not alarming:
    - ✓ Check the exhalation valve
    - ✓ Try another circuit or use another ventilator, if you have one. You may need to use a manual resuscitation bag to ventilate the person
    - ✓ Then contact the Ventilator Equipment Pool (VEP) right away if it is still not alarming
5. Do the “High Pressure Test”. The purpose of this test is to check that there are no holes or leaks in the tubing or connections
    - ✓ Glove one hand
    - ✓ Block the end of the trach adapter with your gloved hand and wait for the ventilator to give a breath
    - ✓ A high pressure alarm should sound after 1 - 3 breaths
    - ✓ If there is no alarm check the high pressure alarm setting to make sure it is set correctly. Also check all the connections to make sure they are tight and secure
    - ✓ If still not alarming, try another circuit or use another ventilator if available

IMPORTANT! Use a manual resuscitation bag to ventilate your child. Call the Ventilator Equipment Pool (VEP) if your ventilator continues to not work.

Ventilator Safety and Troubleshooting

Below is some information to help you troubleshoot some common problems that may occur. For more information read the user manual supplied with your ventilator. Also read the “Problems and Emergency Manual”.

What do I do if an alarm is sounding?

When a ventilator alarms you will see a warning light come on and hear a warning sound. Alarms are to alert you to a safety concern. **When an alarm goes off you need to pay attention to it right away!**

IMPORTANT! Do not change the alarm settings!

Ventilator Troubleshooting Guide

Alarm	Possible Causes	Steps to Take
Ventilator IN OP You will see a warning light and hear a warning sound.	There is a problem with how the ventilator is working	Turn the main power switch on the ventilator *off* and then *on* again. If the IN OP alarm is still alarming**, do not** use this ventilator ✓ Switch to another ventilator, if available ✓ Use manual resuscitator bag ✓ Call VEP right away
High Pressure You will see a warning light and hear a warning sound.	1. Mucous is blocking the airway 2. Wheezing or bronchospasm 3. There is a respiratory infection 4. Alarm setting is not set correctly 5. Damaged Exhalation Balloon (valve) 6. Kink in the tubing 7. Water in tubing 8. Coughing, swallowing or hiccupping	1. Suction to remove mucous. 2. Give inhaled medicine 3. Contact your child's healthcare professional 4. Change alarm to proper setting 5. Replace exhalation valve or change the circuit. 6. Straighten the tubing 7. Drain water 8. If coughing, try suctioning

Alarm	Possible Causes	Steps to Take
Low Pressure/Apnea You will see a warning light and hear a warning sound.	1. Visual and auditory 2. Leaks in the ventilator circuit (exhalation valve, humidifier, pressure line, holes in tubing) 3. Water in the pressure line 4. The ventilator has come off the patient's trach 5. Leak around your child's trach and/or cuff 6. Alarm set incorrectly 7. Incorrect circuit 8. Loose trach ties 9. Loose inner cannula	1. Look and feel for any leaks. Do the "Disconnect Test" 2. Recheck circuit and test 3. Drain water 4. Connect the ventilator to trach tube 5. Reposition the patient and/or tube. May need a trach tube change.Verify the volume in the trach cuff-deflate and reinflate 6. Set the correct alarm setting 7. Change circuit 8. Tighten trach ties 9. Change inner cannula or change trach tube
Setting	1. Settings are incorrect. 2. Dirty inlet filter	1. Correct the settings 2. Replace filter
Power Switch Over	1. Power source has changed from AC (wall outlet) to internal or external power source. 2. Power source has changed from external to internal	1. Make sure the ventilator is plugged in and there is power and press the reset button
Low Power	Internal battery has drained and needs to be recharged	Operate ventilator on AC power for at least three hours

Always follow the instructions found in the ventilator manual.

IMPORTANT! When a ventilator alarms, look at your child to see how they are doing. If they are not doing well, use a manual resuscitation bag to ventilate them.

Other Equipment

Using and Cleaning the Portable Suction Unit

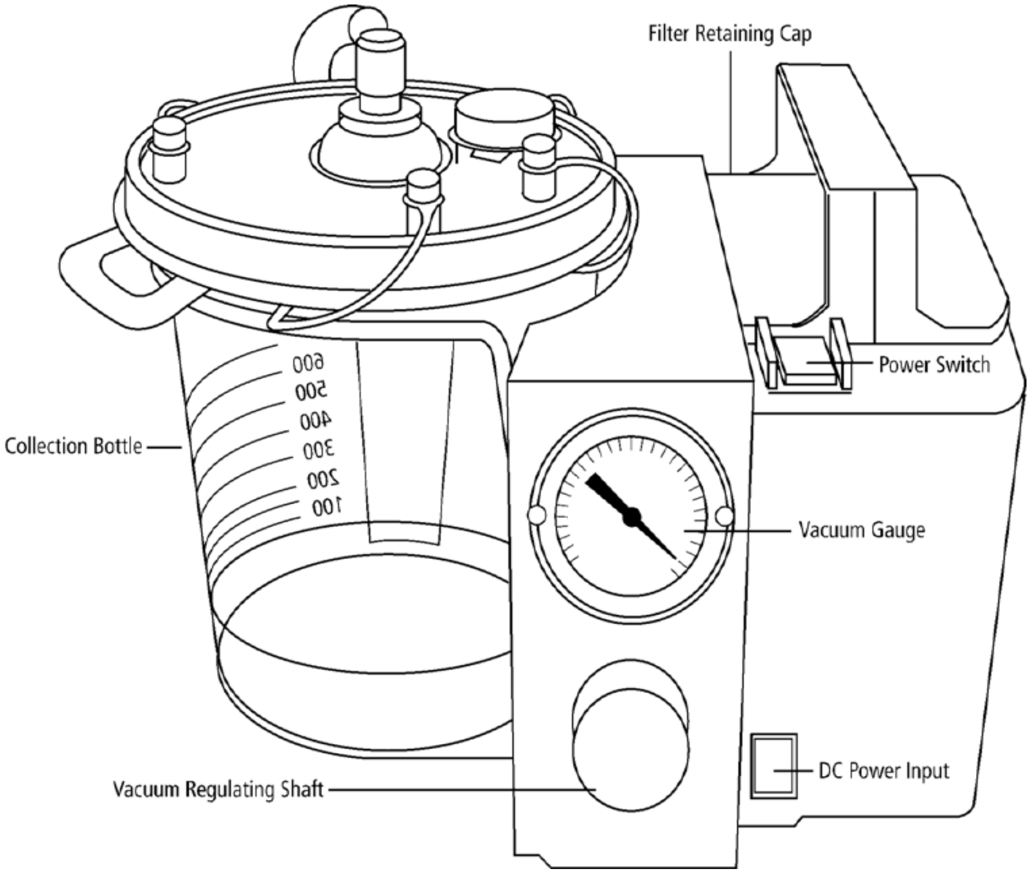

Figure 33: Portable Suction Machine
Reproduced with permission from Hamilton Health Sciences Centre

These units are portable so if you are going somewhere, make sure the machine's battery is fully charged and that you have all your supplies (see "Suctioning on the Go", page 36).

How do you set the suction pressure?

The suction pressure is preset by your healthcare professional. To check the suction pressure, first turn on the unit. Then cover the open end of the connective tubing with your finger and look at the number on the gauge.

How do I charge the battery?

Plug the portable suction machine into AC power (home wall outlet) when it is not in use. When using the machine on AC power, the on/off light will come on. When using the machine from the battery power the on/off switch **does not** light up.

How do I clean the suction unit?

Daily

The canister should be emptied daily into the toilet. Wash it with soapy water and rinse well. Leave a little water in the bottom of the canister as it will stop mucous from sticking to the bottom.

Weekly

Clean the suction canister at least once a week.

1. You will need:
    - ✓ Mild dishwashing soap
    - ✓ White vinegar
    - ✓ Water
    - ✓ Two pails:
        - One for warm soapy water
        - One for vinegar (1 part) and water (3 parts) mix
    - ✓ Clean towel
2. Remove the short tubing from the lid. Unfasten the canister and remove the lid from the suction unit. Empty the contents into the toilet
3. Wash all parts in warm soapy water
4. Rinse with tap water to remove soap
5. Sink the pieces in one part vinegar to three parts water for **30** minutes. Rinse well and remove the extra water. Place parts on a dry towel to air dry

6. Put the tubing and canister back together. Look for any cracks and tears. Throw away and replace any broken or cracked parts
7. Wipe the machine down with a damp cloth
8. Change the connecting tubing weekly or when soiled
9. Wash hand well

Monthly

Look at the filter and change it when it looks dirty or at least once every 2 months.

The Manual Rescusitation Bag

The resuscitation (re-suss-i-TAY-shun) bag is a football-shaped bag that can help give breaths to a child who needs help breathing or is unable to take breaths on their own. When the bag is squeezed, the air leaves the bag and goes into the child's lungs. The air they breathe out goes out of the lungs and through a valve in the resuscitation bag. Manual resuscitations bags are also called "bags", "ambu bags" or "manual ventilators".

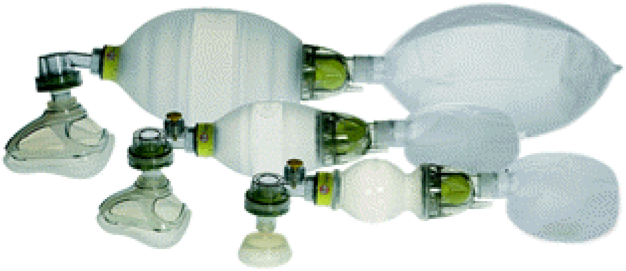

Figure 34: Laerdal Bag
Photo Courtesy of Hamilton Health Sciences, used with permission of Laerdal Medical Canada Ltd www.laerdal.ca

The manual resuscitator bag may look different from the picture.

When do I need to use a Manual Resuscitator Bag?

- ✓ When your child is having trouble breathing
- ✓ When there is a problem with the ventilator
- ✓ With chest physiotherapy, if needed
- ✓ Before and after suctioning, if needed

How to use the Manual Resuscitator Bag

1. You will need:
    - ✓ Manual resuscitator bag
    - ✓ Adaptor for the trach tube
    - ✓ Flex hose/tube
    - ✓ Oxygen tubing, if needed

2. Take your child off the ventilator

3. Connect the resuscitator bag to your child's trach tube

4. Squeeze the bag gently – try to deliver about 1/3 - 1/2 the volume of the resuscitator bag. Squeezing the bag should take about 1 second

5. Look at your child to make sure:
    - ✓ The chest is rising
    - ✓ They are comfortable, are awake and aware of what is happening
    - ✓ They are not turning blue

6. As soon as you finish squeezing the bag completely, release the bag to let your child breathe out. Make sure you give your child enough time to breathe out before squeezing the bag again

7. Squeeze the resuscitator bag in a regular pattern, about once every 4 - 5 seconds. Ask "Is this enough air? Do you want more?" Adjust how much and how fast and how much you are giving based on your child's needs and comfort level

IMPORTANT! Never squeeze too hard on the manual resuscitator bag, as it could damage the lungs. Do not squeeze the bag too fast. If your child is not responding while suctioning, then call 911 right away.

How do I care for a Manual Resuscitator Bag?

A leak in the resuscitator bag will stop the right amount of air from filling the lungs. In order for the bag to work well it must be leak free. Every day you must do these two simple tests to make sure there are no leaks in the manual resuscitator bag.

Test # 1

1. Wash hands well and put on gloves
2. Cover the outlet of the resuscitator bag with the palm of your gloved hand
3. With your other hand squeeze the resuscitator bag; you should feel the pressure in the bag against your hand
4. If you hear or feel a leak then tighten all the connections
5. After checking all the connections, test again for leaks by repeating steps 2 & 3. If it does not leak continue to *Test #2*
6. If it still leaks, you will have to replace your manual resuscitator bag. Call your respiratory healthcare professionals

Test # 2

1. Squeeze the resuscitator bag to empty it
2. Cover the outlet of the resuscitator bag with the palm of your gloved hand
3. Release the resuscitator bag while keeping the outlet covered with your gloved hand
4. The resuscitator bag should fill up freely. If it does not, then the inlet valve maybe sticking
5. If the bag does not refill, unscrew the inlet valve assembly (pieces 6, 7 and 8 in picture) and gently loosen the valve. Then put it back together
6. Do the test over again to make sure the resuscitator bag fills freely. If it still does not fill freely, you will have to get another manual resuscitator bag. Call your respiratory healthcare professionals

How do I clean the manual resuscitator bag?

1. Clean the bag at least once a month, or when it is dirty
2. Take apart all the pieces of the resuscitator bag
3. Fill sink/pail with warm soapy water
4. Put all the pieces in the soapy water making sure all pieces are covered for 20 minutes
5. Rinse the pieces well
6. Fill sink/pail with 1 part vinegar to 3 parts water. Soak for 20 minutes
7. Rinse well
8. Place on clean towel to dry
9. Reassemble pieces of resuscitator and do both the leak and pressure tests

The pieces go together in order from 1 to 8 from photo below.

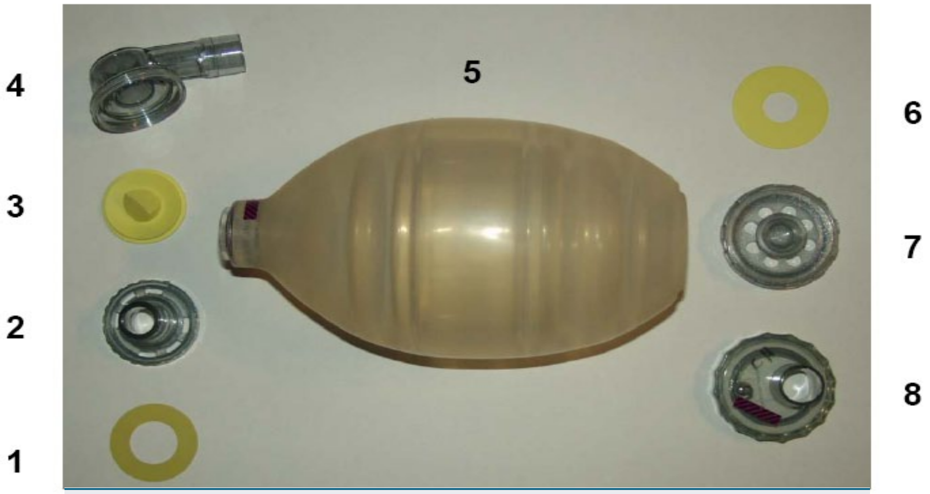

Figure 35: Manual Resuscutator Bag
Photo Courtesy of Hamilton Health Sciences, used with permission of Laerdal Medical Canada Ltd www.laerdal.ca

IMPORTANT! Anyone who needs a ventilator to breathe, will need a manual resuscitation bag. Those with a trach but do not need a ventilator to breathe, may also need a manual resuscitation bag.

Humidifiers

Humidification means to make moist or wet. Proper humidification helps keep the mucous thin and easy to cough up. There are two common types of humidifiers; the Heat and Moisture Exchanger (HME) and the pass-over humidifier.

What is a Heat and Moisture Exchanger (HME)?

An HME is a filter-like sponge that is put onto the trach tube and stays there while your child breathes. It traps the heat and moisturize from the air that is breathed out from the lungs. On the next breath in, the air passes through the HME and becomes warm and moist.

HMEs are sometimes called an ‘artificial nose’.

IMPORTANT! Never dampen the HME with water.

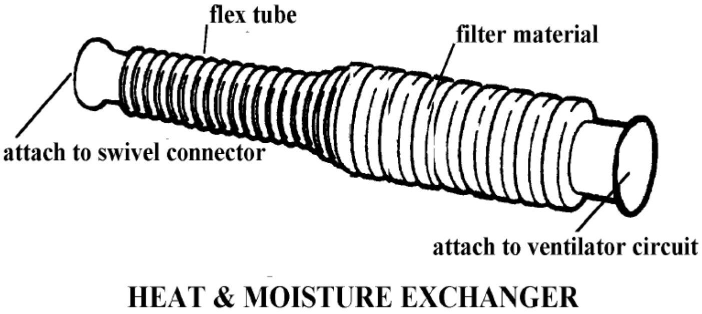

Figure 36: Illustration of an Heat Moist Exchanger
Reproduced with permission from West Park Healthcare Centre Long-Term Ventilation,Centre of Excellence

When do I need to change the HME?

Change the HME:

- ✓ Every day, if your child is always using one
- ✓ Every second day, if your child is using it only at night time
- ✓ When it becomes dirty

What is a Pass-Over Humidifier?

Air from the ventilator passes over heated water, becoming warm and moist before going to the lungs.

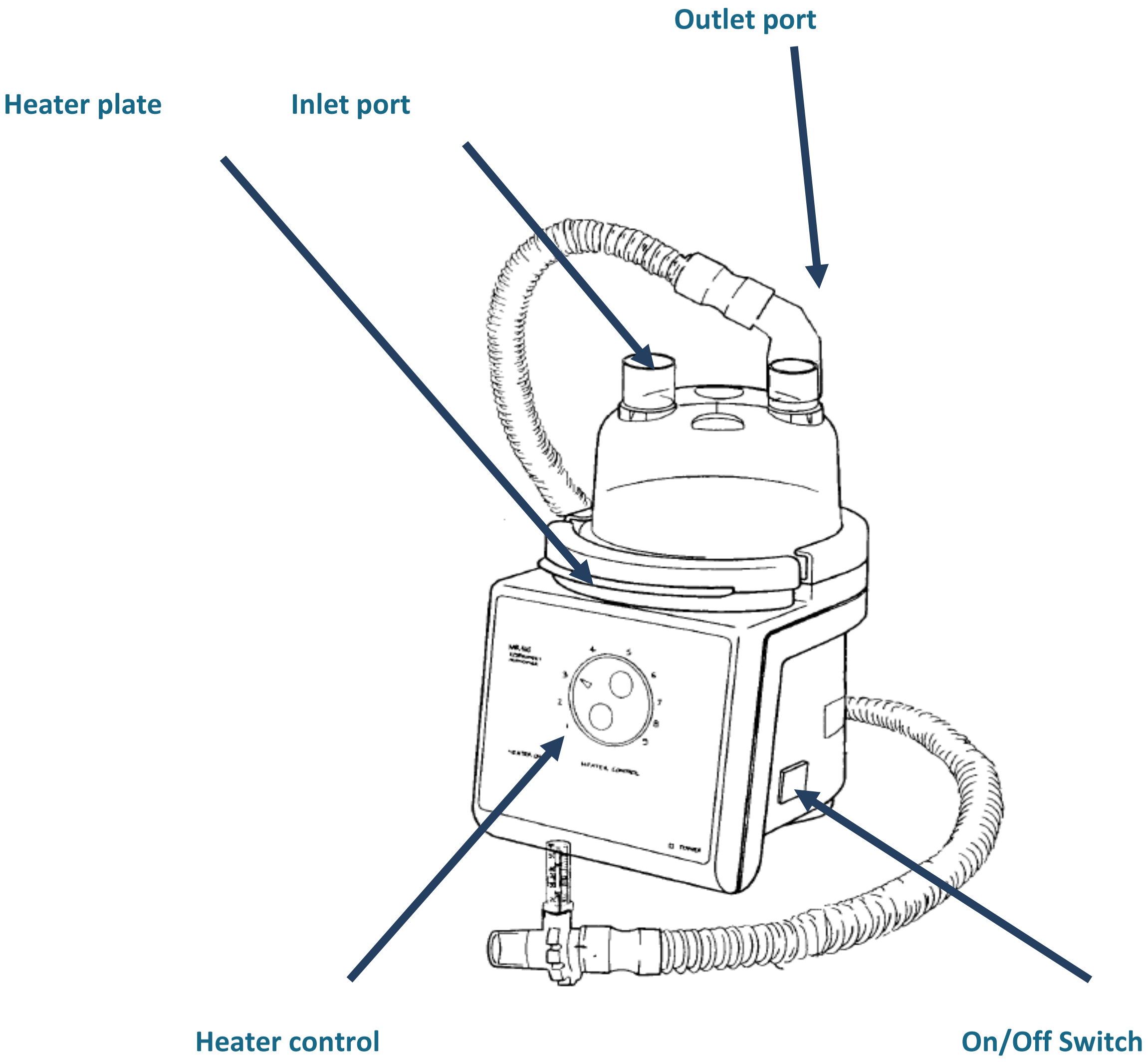

Figure 37: Fisher Paykel MR 410 Humidifier
Reproduced with permission from Fisher & Paykel Health Care Inc

There are a many types of pass-over humidifiers. All work in the same way, but the parts may look different. A common brand is The Fisher-Paykel humidifier. To learn more about how to care for your child's unit, read the user manual that comes with your child's equipment.

All units have:

- ✓ Three pronged wall plug for electricity
- ✓ Reservoir unit to hold the water
- ✓ Heater control that controls water temperature
- ✓ Heating plate that heats the water to the temperature that is dialled in

IMPORTANT! Only use sterile distilled water. Sterile distilled water is very clean and free of germs.

Changing the Temperature

- ✓ The numbers on the heating control are "guides" for changing the temperature of the water
- ✓ The temperature will depend on your child's comfort level and your healthcare professional's instructions
- ✓ It takes a little time for the unit to warm up
- ✓ The water temperature can change depending on the room temperature, heaters, fans, or blankets

How do I fill the reservoir unit with water?

The humidifier works best when you keep the water in the reservoir unit between the 'refill' and the 'full' line. Keep the water level in the reservoir at the highest water level mark. Although the water between the lines will last for a number of hours, you will have to fill or refill the humidifier often. Once the level is at the low water level mark, throw out any water left in the reservoir.

Ensure that you change the water every day and that the humidifier is in a safe place so it will not get tipped over.

IMPORTANT! Never drain water from the ventilator tubing back into the reservoir. Always drain the water from the ventilator tubing into a separate container.

If the ventilator is not in use

1. Wash your hands well
2. Use a funnel or a measuring cup
3. Disconnect the humidifier tubing and throw out the water
4. Rinse well and refill with sterile distilled water (fill to the ‘full line’ marking)
5. Reconnect the circuit tubing to the reservoir port opening

If your child is on the ventilator

You will need to know how long your child can stay off the ventilator, while breathing on their own, before doing this next step. You will need to complete all the steps in the time they are off the ventilator and breathing on their own. Ensure you have a manual resuscitation bag on hand, in case they need to be given some breaths while off the ventilator.

1. Wash your hands well
2. You will need to change the circuit to ‘go around’ the humidifier. You can do this by following these steps:
    - ✓ Take off the short hose going to the humidifier from the ventilator outlet port
    - ✓ Separate your child’s tubing from the humidifier port
    - ✓ Connect your child’s tubing directly to the ventilator outlet port. Make sure there is no water in the circuit
3. Throw out any water that is in the reservoir unit and rinse well
4. Fill the reservoir unit by using a funnel or measuring cup and fill with sterile distilled water to the “fill line” marking
5. Disconnect your child’s tubing from the ventilator outlet port and reconnect it to the humidifier port
6. Re-connect the short humidifier tubing to the ventilator outlet port

There is water in the tubing, what should I do?

Sometimes when the air leaves the humidifier it cools in the tubing and water will collect in the ventilator tubing. Water in the circuit can:

- ✓ Cause problems ventilating your child
- ✓ Cause germs to grow in the tubing which can lead to a lung infection

To remove the water from the circuit:

1. Wash your hands well
2. If the circuit has a “water trap”, let the water inside the tubing run down into the water trap. Then empty the water trap collector. ***Note: you do not have to unhook the ventilator circuit when emptying the “water trap” collector***
3. Disconnect the ventilator tubing from your child at the trach site
4. Empty the short flex hose tubing by stretching it out and letting any water drain into a container
5. Remove the ventilator tubing from the humidifier outlet and drain it away from the exhalation valve
6. Drain the flex hose **away** from the exhalation manifold
7. Do not shake water from the tubing as it may spread germs
8. Attach the short flex hose to the patient's trach tube

Inhaled Medicine

The use of inhalers or "puffers" is one way to give medicine. Often only a small amount is needed. Because the medicine is breathed into the lungs, it does not take long to work.

Puffers can be given to someone on a ventilator, by using a special chamber such as the AeroVent®.

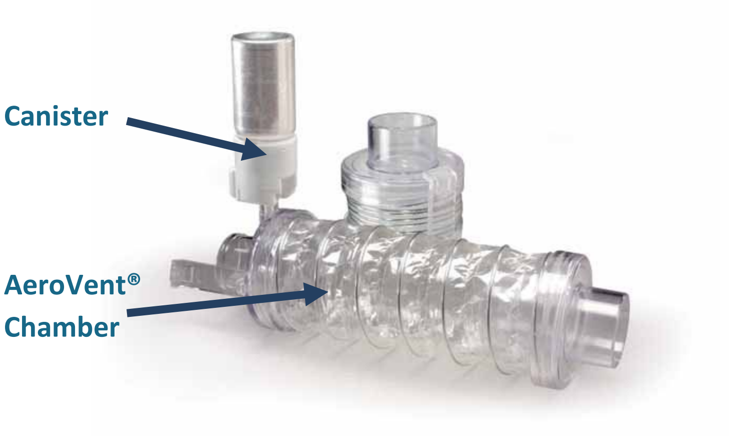

Figure 38: Puffer Cannister and Aerovent Chamber
Reproduced with permission from Trudell Medical International

How do I give a puffer to someone on a ventilator?

1. Make sure that your are using the most current puffer ordered by your doctor
2. Check the expiry dates
3. Check that there is medicine in the canister. Shake the canister slowly close to your ear to feel if it is full
4. Place the chamber into the inspiratory side of the ventilator circuit. If you have an HME on, take it off
5. Shake the canister 10 times
6. Attach the puffer canister to the chamber adaptor (AeroVent®)
7. Press down on the canister once, just as your child begins to breathe in
8. Remove the canister. Replace the cap on the inlet port, to stop any leaks
9. Wait 30 seconds. If another puff is needed, repeat steps 5-8

Clean the chamber once a week, or when you clean the ventilator circuit.
Also inspect the puffer adaptor for cracking and leaks.

Other Issues

Assistive Devices Program (ADP) Funding for Respiratory Supplies

How do I get funding for a ventilator and other supplies?

Anyone getting a ventilator and related supplies has to apply to ADP for funding assistance. While your child is in the hospital getting ready to go home, you and your child's doctor will be asked to complete an ADP form to see if you qualify for funding.

To be approved for funding you must:

- ✓ Be an Ontario resident
- ✓ Have a valid Ontario Health Card
- ✓ Have a physical disability for at least 6 months
- ✓ Have the proper ADP forms completed by your doctor
    - A sample ADP form can be found in ***Appendix A*** in this Manual
    - The ADP forms need to be filled out every 3 years to renew the funding

The Assistive Device Program will pay for 100% of the cost of your child's ventilators and **some** of the accessories. ADP will pay 75% of the cost of your child's respiratory care supplies, such as:

- ✓ Custom-made masks
- ✓ Commercial masks
- ✓ Ventilator circuit supplies
- ✓ Suction units
- ✓ A manual resuscitation bag
- ✓ Disposable trach supplies

There is a limit on the amount of supplies that will be covered. To find out more about what is covered and what is not, you can read the ADP Respiratory Manual or talk to your respiratory therapist.

The Ventilator Equipment Pool (VEP) supplies your child's ventilator and ventilator circuits, battery, battery cable and humidifier. The VEP is located in Kingston Ontario. You will not need to go there to get your equipment. It will be sent to your home.

ADP is a part of the Ontario Ministry of Health & Long Term Care (MOHLTC) which is part of the Ontario government. Your ADP bill will be sent to the MOHLTC who will pay for your child's equipment. You will need to pay the remaining cost, which is 25% of the total for respiratory supplies.

What other funding sources are there?

If you cannot afford to pay the remaining 25%, there are also some other options.
Try the following agencies.

Insurance Companies

- ✓ Extended Health Care (EHC) Insurance through workplace or privately
  e.g. Ontario Blue Cross

Government assistance programs

- ✓ Ontario Disability Support Program (ODSP)
- ✓ Ontario Works
- ✓ Assistance for Children with Severe Disabilities (ACSD)

If you are interested in finding out more about other funding sources, contact your CCAC case worker, social worker or physician who will help you find out what is best for you.

The Ventilator Equipment Pool

What is the Ventilator Equipment Pool (VEP)?

The VEP is a central place where the ventilators are kept. VEP is part of Assistive Devices Program (ADP). The VEP supplies your child's ventilator and related equipment for those who are approved by ADP.

Getting your Ventilator

Once ADP approves your request they inform VEP. VEP will then send you the equipment that your doctor has ordered.

Ventilator Circuits

VEP will send you two ventilator circuits for every ventilator you are approved for. You will get 2 new circuits every 2 years.

The equipment is to be returned to VEP if you:

- ✓ No longer need it
- ✓ Are not approved for funding
- ✓ Are admitted to hospital and are not coming home for quite a while
- ✓ Are living in Long Term Care

The VEP does not give ventilators for use in long term care facilities. Patients entering these facilities must tell VEP that their status has changed.

Who will service and repair the ventilator?

The ventilator will need regular service. Service and repairs are done by the VEP at no cost to you. It is important to make sure that your ventilator receives the service when it should. Read the manual that came with the ventilator for more information.

VEP will **not** pay for equipment that is lost, stolen or damaged through neglect or abuse.

- ✓ When it is time for service, the VEP will call and to make arrangements to pick up the ventilator
- ✓ The replacement ventilator will be sent from Kingston and it will become your new ventilator. You will keep this 'new' ventilator until the next time your ventilator needs to be sent back for service

- ✓ Make sure the ventilator settings and alarm limits are set properly, before using the new ventilator

I am having problems with my child’s ventilator. Who do I call?

If you are having problems with your child’s ventilator first look at the manual and the trouble shooting section in this book. **Your home care company may be able to help you to find out what the problem might be.** If you are still having problems with the ventilator, then contact your equipment provider.

Call your home care company if you have problems with your child’s ventilator circuit, such as the tubing and connectors.

IMPORTANT! Call your ventilator equipment provider if you are having trouble with your child’s ventilator.

My ventilator equipment provider is:

☐ **VEP**
VEP phone number is 1**-800-633-8977** or **1-613-548-6156.**
Follow the prompts on the message for service after business hours. A respiratory therapist is available 24 hours a day.

☐ **My ventilator supply provider’s name is:**
____

Phone number is: _______________________________________

References

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Pulmonary Clearance Techniques

Introduction

A strong cough is important so you can remove mucous from your lungs. If you have weak muscles you may not be able to cough out your mucous. Perhaps you cannot take a deep breath in. Perhaps you cannot breathe out with enough force to bring up the mucous. For a strong cough you need two things:

- ✓ To be able to completely fill your lungs and
- ✓ To be able to breathe out forcefully

There are ways to help you if your muscles are too weak. This section lists several methods and exercises to help you cough. If you use these exercises daily, you will be able move the mucous up from the airway into your throat or mouth, where it can be suctioned out.

Pulmonary Clearance Techniques may improve:

- ✓ The amount of air you can breathe into and out of the lungs
- ✓ Coughing and speaking
- ✓ The amount of oxygen getting to the body

Pulmonary Clearance Techniques may prevent:

- ✓ The air sacs from collapsing
- ✓ Lung infections

Common Techniques

- ✓ Breath Stacking
- ✓ Assisted Cough Technique
- ✓ Postive Expiratory Pressure (PEP)
- ✓ Cough Assist Device

All these techniques have one thing in common. They all need someone to help you.

Breath Stacking

Breath stacking is a breathing exercise that can help people who have breathing problems due to muscle weakness or poor chest movement.

You will need 2 manual resuscitation bags. You need one in case of emergencies where you need to use it to manually ventilate. The second one will be changed to become your Breath Stacking Bag. The bag used for breath stacking prevents the person from breathing out. The bag used for breath stacking should be clearly marked “Not for resuscitation”

Making a Breath Stacking Bag

- ✓ Manual resuscitator bag
- ✓ One-way valve
- ✓ Extension tube
- ✓ Either a mask or mouthpiece
- ✓ Nose clips

How is breath stacking done?

1. Have the person sit comfortably. They can lean back a bit, but they should not be slouching
2. Put on nose clips
3. Look at the person being bagged and try to squeeze the bag as the person breathes in
4. Have the person take a deep breath in
5. Have them place their lips around the mouthpiece or hold the mask on their face
6. Have the person breathe in the air as the bag is squeezed
7. Ask them to try to to keep breathing in more air, as the bag is squeezed a second time
8. They should fill their lungs as full as possible and feel a stretch across the front of their chest.
9. Have them hold the air in as long as possible before letting it go out. Use the air they are breathing out to cough.
10. Regular breath stacking is good to do even if it is not used with an assisted cough. You may find that breath stacking with an assisted cough is only needed once a day.

When breath stacking is done right, it should **not** result in:

- ✓ dizziness
- ✓ chest discomfort
- ✓ chest pain

IMPORTANT! If you encounter dizziness, chest discomfort or chest pain, stop the breath stacking exercise and rest.

How often should breath stacking be done?

Each time you do this exercise, do it 3 to 5 times. Breath stacking should not be done more than every ten minutes. Breath stacking should be done 3 to 5 times a day.

Assisted Cough Method

Having someone push on your abdomen (belly) just when you are trying to cough out is called the Assisted Cough method. If you are not able to have someone push on your abdomen, then they could push on your rib cage as you try to cough.

IMPORTANT! If you are sitting when this is done be sure that the chair will not tip over.

When should assisted cough be done?

Doing breath stacking and assisted cough method on a full stomach may cause you to vomit. To prevent this from happening do it:

- ✓ Before eating a meal
- ✓ 2 hrs after eating a meal
- ✓ Bedtime

Helpful Hints for Children

Children 2 to 6 years of age are often not able to take a deep breath in while you insert the mouthpiece or put the mask on. Ask them to pretend to blow out candles. This will help them to empty their lungs. Try to catch them on their next breath-in and say “take a deep breath, and another one, and another one”. Make eye contact with them the whole time. Then tell them to “cough” or “breathe out” when they exhale.

Cough Assist Device

The Cough Assist Device helps you get rid of mucous by trying to create a stronger cough. You hold a mask on the face and the machine delivers a slow pressure increase when you breathe in. Then it is followed by a rapid 'suction' effect. The slow breath-in followed by a quick breath out, creates a cough.

PHILIPS RESPIRONICS

Figure 1: Cough Assist Device.
http://www.coughassist.com/default.asp
Reproduced with permission of Philips Respironetics

You can use either a mask or a mouthpiece with the Cough Assist Device. Small children and people with muscle weakness will have trouble keeping a seal on a mouthpiece, so will need to use a mask. When using a mask you will need a good seal. If using a mask, be sure you have good head and neck support, such as against a head rest on a wheelchair.

How do I give a Cough Assist Treatment?

1. You need two people to do the Assisted Cough technique
2. Have the patient sit comfortably with good head and neck support. They can be in bed, with their head partially supported.
3. Check that the suction unit is working and ready
4. Check that the pressure settings on the Cough Assist Device are what was ordered
   - Turn on the unit
   - Seal the mask with your hand while you operate the Cough Assist Device
   - Look at the pressure settings on both the IN and EX side

5. Make eye contact with the patient
    - Have the patient breathe out fully, then place the mask on their face just as they begin to breathe in -OR-
    - Have the patient breathe in and hold their breath as you place the mask on their face
6. Move the lever to IN side and hold while you call out clearly “IN, IN, IN”
7. Quickly switch lever to EX side and call out “Cough, Cough, Cough”
8. Remove mask right away
9. Suction, if needed

Young Children

Children need some time to become familiar with the sounds of the device. Let them play with the mask and push the buttons so they can hear the sounds. When they are comfortable with the sounds, let them try one assisted breath. Be patient. It will take some time for them to be comfortable with the exercise.

Other Pulmonary Clearance Techniques

Chest Physiotherapy

Chest physiotherapy is a physical technique of removing secretions with the use of clapping, percussion, vibrations and/or postural drainage. Talk to your healthcare professional to learn more about this technique.

Positive expiratory pressure devices (PEP)

The PEP device is a small hand-held device where you breathe out against a pressure.

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Resources

Ottawa Rehabilitation Center, www.rehab.on.ca

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Routine Tasks

What to do
and when to do it

Task	Daily	Weekly	Monthly
Stoma care	✓		
Trach care	✓		
Clean reusable inner cannula or replace disposable inner cannula	✓		
Clean speaking valves	✓		
Clean suction canister – warm soapy water	✓		
Change HME: if it is used all the time	✓		
Ventilator plugged in	✓		
Test ventilator alarms	✓		
Check ventilator settings	✓		
Test the ventilator circuit	✓		
Test the manual resuscitator bag, if used often	✓		
Make sterile distilled water	Every 2-3 days		
Test the manual resuscitator bag – if not used frequently		✓	
Clean suction canister in vinegar and water		✓	
Change HME: if being used only at night time		✓	
Wipe down suction machine		✓	
Change suction tubing		✓	
Clean and test manual resuscitation bag		✓	
Clean ventilator circuit		✓	
Clean puffer chamber		✓	
Clean humidifier		✓	
Unplug ventilator and wipe with a damp cloth		✓	
Check and order supplies		✓	
Change bacterial filter in breathing circuit			✓
Clean or replace inlet filters (see manual)			✓
Discharge and recharge ventilator internal battery			✓
Discharge and recharge the D/C External battery			✓
Change suction filter			Every 2nd month
Ventilator preventative maintenance by VEP or other equipment provider	As required by equipment provider		
Update the ventilator equipment pool with any changes	As changes occur		

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My Education Checklist and Learning Log

Introduction to Checklist

Below is a list of learning goals. It is important that all caregivers take part in learning how to care for someone who is ventilated. You will learn from many different healthcare professionals. This checklist is a guide to make sure that everything you need to know is covered. At any time, if you feel you need to redo something, or are unsure of something, just ask. Your healthcare professionals are eager to help you.

Individual's Name: ____

Learning Objectives

At the completion of the training, the participant will be able to…

Individual Care	Date	Initials	Caregiver Initials
1. Describe in general terms normal anatomy and physiology of the respiratory system: – How we breathe – Humidification – Upper airway anatomy and placement of a tracheostomy – What is different with a tracheostomy – Location and role of vocal cords – Explain why an individual with a trach tube might not be able to speak			
2. Describe how changing body position or eating a meal can affect breathing			
3. Demonstrate safe technique for: – Bathing – Feeding/Eating – Dressing			
4. Explain the importance of drinking water and using a humidifier to manage secretions			
5. Describe why heart rate or breathing rate may change with activity or illness			

6. Describe possible signs and symptoms of a chest infection and the steps to take if there is an infection			
7. Explain the importance of proper hand hygiene and how the use of gloves and a mask can prevent the spread of infection			
8. Explain the purpose of breath stacking			
9. Describe what equipment is needed for breathstacking			
10. Demonstrate how to do the breathstacking technique			
11. Describe the plan for follow-up care			
12. Explain the role of the family physician in the care of the individual			

Home Equipment	Date	Initials	Caregiver Initials
1. Identify the hazards and safety implications for someone with a trach due to a loss of the protective mechanisms of the upper airway			
2. Identify home environment hazards			
3. Determine if there are sufficient number of grounded plugs			

Inhaled Medication	Date	Initials	Caregiver Initials
1. Explain the function, dose and frequency of individual-specific Metered Dose Inhalers (MDI)/puffers			
2. Demonstrate/explain how to give an MDI/puffer with the ventilator			

Humidification System	Date	Initials	Caregiver Initials
1. Explain the importance of humidification			
2. Demonstrate when and how to use an heated moister exchanger (HME)			
3. Demonstrate how to use and clean a passover humidifier			

Tracheostomy Care	Date	Initials	Caregiver Initials
1. Define tracheostomy			
2. Explain why an individual might need a tracheostomy			
3. Name the parts of the tracheostomy tube			
4. Describe stoma care			
5. Describe how to prevent and manage skin breakdown			
6. Describe how to recognize and treat skin problems around stoma (e.g. granulomas) and neck			
7. Demonstrate how to clean the stoma and describe what equipment is needed			
8. Demonstrate correct inflation and deflation of a cuffed tracheostomy tube			
9. Explain the purpose of an inner cannula			
10. Demonstrate how to insert or remove an inner cannula			
11. Explain how a trach tube could become blocked and how to clear it			
12. Describe how to clean and take care of the trach equipment			
13. Demonstrate how to change the tracheostomy ties or holder			
14. Main role: Changes outer cannula, holds cannula in place until helper is finished securing the trach ties, assesses and maintains airway			

15. Helper role: removes ties, cleans neck and stoma, positions and holds person for tube change, suctions (tip or measured), secures ties when tube is change			
16. Describe and demonstrate the emergency replacement of the trach tube			
17. Trach Tube Change: ✓ Demonstrates Helper role on patient – Practice # 1 – Practice # 2 – Practice # 3 ✓ Demonstrates Main role on patient – Practice # 1 – Practice # 2 – Practice # 3 ✓ Demonstrates Solo trach change competently – Practice # 1 – Practice # 2 – Practice # 3			

Speaking Valves and Other Adjuncts	Date	Initials	Caregiver Initials
1. Describe how a speaking valve works and when to use it			
2. Describe how to clean and take care of the speaking valve			
3. Explain the importance of cuff deflation before using a speaking valve, if applicable			
4. Trach Mask			
5. Oxygen therapy			
6. Explain the need for a specialty trach tube and how to order one			

Oximeter	Date	Initials	Caregiver Initials
1. Explain what parameters the oximeter measures including the waveform, and perfusion index			
2. Demonstrate how to get a good saturation and heart rate reading			
3. Demonstrate correct application of probe			
4. Explain when to use oximeter; asleep and/or unattended			
5. Identify oximeter assessment abilities			
6. Demonstrate how to set correct alarm settings; low and high settings for saturation and Heart Rate (HR)			
7. Describe when and how often to change probe, every 4 hours and as needed (PRN)			
8. Systematic troubleshooting (refer to user guide)			
9. Explain the battery power requirements			
10. Explain the routine monitor maintenance			

Suctioning	Date	Initials	Caregiver Initials
1. Explain why an individual might need suctioning			
2. Identify the appropriate interventions for secretions that are: dry and thick, yellow or green, blood tinged			
3. Explain the purpose of suctioning			
4. Identify the characteristics of secretions: colour, consistency, amount, and odour and why it is important			
5. Demonstrate how to correctly set up the suction equipment			
6. Explain why it is important to use two gloves when suctioning			
7. Demonstrate clean suctioning technique including asking the individual for direction before and during suctioning			

8. Explain why suctioning should be done only when needed, trying to avoid over suctioning or frequent suctioning			
9. Explain what to do if blood is suctioned from the trachea, and explain what difference it might make if the individual takes blood thinners			
10. Explain how to troubleshoot the suction unit			
11. Describe correct disposal of dirty suction equipment including suction catheters and gloves			
12. Demonstrate how to: – Tip suction – Tube suction – Deep suction			
13. Demonstrate how to stock the portable suction bag for use outside the home			

Manual Ventilation	**Date**	**Initials**	**Caregiver Initials**
1. Demonstrate how to properly connect and disconnect an individual from a ventilator			
2. Demonstrate when and how to use the manual resuscitation bag			
3. Demonstrate how to test the manual resuscitation bag for proper functioning			
4. Demonstrate how to properly clean the manual resuscitation bag			
5. Demonstrate how to add oxygen when using the manual resuscitation bag			

Ventilator Care	Date	Initials	Caregiver Initials
1. Describe the purpose of a ventilator and when an individual might need one			
2. Demonstrate what needs the check-out procedure when starting the ventilator at the bedside: high and low pressure testing			
3. Demonstrate what needs to be turned on and checked when starting the ventilator on the wheelchair			
4. Demonstrate how to change the water in the humidifier, and describe what kind of water is used in the humidifier			
5. Explain what needs to be plugged in when the wheelchair ventilator is not in use			
6. Demonstrate how and when to make ventilator setting changes, including oxygen			
7. Demonstrate how to check the ventilator high and low pressure alarms			
8. Describe the kind of situations that make the low-pressure alarm sound and what to do for the individual			
9. Describe the kind of situations that make the high-pressure alarm sound and what to do for the individual			
10. Describe the kind of situations that make the power switch over alarm sound and what to do for the individual			
11. Describe the kind of situations that make the ventilator inoperative alarm sound and what to do for the individual			
12. Describe all ventilator alarms including high and low pressure alarms			
13. Describe what to do when there is a ventilator IN OP alarm			
14. Demonstrate how to assemble and disassemble the ventilator circuit			

15. Demonstrate changing the ventilator circuit and checking the ventilator after changing the circuit			
16. Describe how to use a PEEP valve (if applicable)			
17. Demonstrate how to assemble and disassemble the PEEP valve (if applicable)			
18. Demonstrate how to clean the ventilator circuit			
19. Describe how and when to clean the ventilator circuit and change the filters			
20. Demonstrate how to check the external and internal battery			
21. Discuss how long a battery should last			
22. Discuss how often to check and discharge the battery			
23. Demonstrate how to charge and discharge the battery			

Emergency Management	Date	Initials	Caregiver Initials
1. Describe the emergency plan, i.e. when to call 911			
2. Describe the role of the home care company in an emergency			
3. Describe the role of the acute care hospital in an emergency or power failure situation			
4. Describe the role of Hydro and the Fire Department in an emergency			
5. Explain the emergency preparedness plan, including the procedure during a power failure			
6. Explain what to do if the individual has an obstructed air passage, such as how to clear the airway			
7. Explain how to identify and manage someone in respiratory distress			
8. Describe/demonstrate correct actions for each of the following situations: – Accidental decannulation – Mucous Plug – Trauma to stoma area			
9. Identify and indicate how to contact local emergency resources 10. Identify what information needs to be conveyed to emergency personnel 11. Ensure family is provided with emergency contact list			
12. Caregivers are trained in CPR			
13. Demonstrate manual ventilation of a tracheostomy			
14. Demonstrate how to ventilate should the trach come out and you can't replace it			

Funding and Equipment Supply	Date	Initials	Caregiver Initials
1. Explain the role of Assistive Devices Program (ADP) in funding the equipment and supplies			
2. Explain the role of the Ventilator Equipment Pool (VEP) and how to contact them			
3. List the equipment provided by the VEP			
4. List equipment not provided by the VEP			
5. Explain the role of the home care company and how and when to contact them			
6. List the supplies that come from the home care company, how to place an order and explain funding			
7. List the supplies not covered by ADP that the individual is responsible for			
8. Describe how to safely store equipment			
9. Describe when to discard equipment (please refer to guidelines in the *Ventilation & Tracheostomy Care* section)			

Healthcare Provider Name/Designation	Signature	Initials

Best Time for Education Sessions

Check off morning (M), afternoon (A) or evening (E) in the chart below for the best time for our education sessions.

Caregiver	Relationship to Patient	Su	Mo	Tu	We	Th	Fr	Sa

Additional Comments

I understand that, although I may complete this education checklist, I am not being certified to do any of the acts described. Any actions that I take following this training will be done under the direction and responsibility of the patient or their authorized agent.

Caregiver Signature: ___________________________________ Date: _________________________

Facility Name: ____

Address: ____

Instructor Signature: ___________________________________ Date: _________________________

Facility Name: ____

Address: ____

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Oximeter Teaching Checklist

This is a checklist for the healthcare professional to use when reviewing the oximetry equipment with the caregiver. Verify receipt of the equipment, probes, the reference manual and user guide.

1. **Ensure all probes and cables are working by testing them on either yourself or patient. Ensure caregiver performs the same test on the child**

2. **Review and explain parameters**:
   - ☐ Spo2
   - ☐ Heart rate
   - ☐ Waveform
   - ☐ Perfusion Index

3. **Review and explain alarms (must be ordered by physician):**
   - ☐ Low Saturation
   - ☐ High Saturation (if a patient is not on oxygen this can be turned off as ordered by physician)
   - ☐ Low Heart Rate
   - ☐ High Heart Rate
   - ☐ Explain that adjusting alarms must have a physician's order
   - ☐ Demonstrate how to adjust alarms (in case physician orders it to be made at home)

4. **Review and explain:**
   - ☐ Power indicator light
   - ☐ Battery indicator (four shaded segments = fully charged)
   - ☐ Heart rate volume
   - ☐ Alarm volume
   - ☐ Backlight
   - ☐ Lock function
   - ☐ Alarm silence button – one for two min silence; three quick will silence indefinitely – press once to reset to normal function

5. **Review battery power:**
   - ☐ Needs 3.5 hours to completely charge internal battery
   - ☐ Battery life – 24 hours if completely charged (if backlight is on the internal battery lasts 12 hours)

6. **Troubleshooting:**
   - ☐ Review the troubleshooting guide in the technical reference manual page 3-1

7. **Contact information to tell family/ caregiver:**
   - ☐ Contact Ventilator Equipment Pool (VEP)
   - ☐ Explain to the caregiver when equipment is no longer needed and physician has discontinued use, caregiver to contact VEP to return

____

Caregiver Signature and Date

____

RRT Signature and Date

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Troubleshooting Guide

Problems and Solutions

When caring for patients on long term ventilation, you need to be aware of problems that may arise. The problems may be related to what is happening with the patient or what is happening with the ventilator.

Problems Related to the Patient

Whenever there is a problem, the first thing you need to do is look at the patient to see if they are having any breathing problems. Patients will try to tell you if they are having trouble breathing, are in pain, or need something. Every person is different, but common ways of getting your attention include:

- ✓ Clicking their tongues
- ✓ Making unusual sounds
- ✓ Triggering an emergency bell or a ventilator alarm

If the patient is having trouble breathing they may look:

- ✓ Short of breath
- ✓ Pale, dusky or blue
- ✓ Scared or frightened

Consider using a baby monitor alarm, so others can hear if there is a problem.

IMPORTANT! If the patient cannot speak or communicate, then they are not getting any air. If this happens, manually ventilate using the resuscitation bag. A patient with a speaking valve who cannot talk usually means they are not getting any air.

What do I do if the patient is in distress?

1. Try to find out what the problem is by asking the patient “What is the problem?” or “Are you getting enough air?” or “Do you need to be suctioned?”
2. Manually ventilate using a resuscitation bag
3. Use oxygen with the resuscitation bag, if needed

4. If the patient has nodded yes to "Do you need to be suctioned?" then suction them immediately
5. Call out for help to anyone who can hear you, such as a family member. Phone 911 or your regional emergency number for an ambulance
6. Keep on manually ventilating the patient until help arrives
7. Stay with the patient. Tell the patient what is happening, and that help is on the way
8. Once emergency support has arrived explain the problem to the attendants

The following **table** lists problems and some steps to take to solve them. If you at any time do not feel that you are able to correct the problem, do not wait to call for help.

Problem	What to do
– Blocked Airway – Choking on food – Mucous in the airway	✓ Suction to remove mucous or food ✓ Manually ventilate using the resuscitation bag ✓ If there is an inner cannula, change it
Patient is "not getting enough air"	✓ Manually ventilate using the resuscitation bag ✓ Suction to remove anything that may be blocking the airway ✓ Tighten all ventilator tubing connections ✓ Check that there is no leak in the system ✓ Make sure the humidifier hose is connected ✓ Make sure the ventilator settings are set correctly ✓ Check to see if there is a trach tube cuff leak ✓ If oxygen is being used, check that the oxygen supply is set up correctly ✓ If patient is short of breath right after activity, allow them to settle or rest a little to see if there is improvement ✓ The patient may need their bronchodilator (puffer); if it is part of the care plan, then give the dose now ✓ If you have an oximeter, check the reading ✓ If there is a cuffed trach tube, make sure the cuff is properly inflated

Problem	What to do
Problem with the Trach Tube	✓ Make sure the ventilator tubing is not pulling on the trach tube ✓ Reposition the patient so the tube is not being pulled on ✓ Reposition the head and neck ✓ If on the ventilator, and you hear air coming from around the trach, you may have a trach tube cuff leak ✓ Check that the inner cannula is not blocked and is locked in place ✓ Check that the trach ties are tied securely, but not too tight ✓ May need a trach tube change
Possible infection: – Stoma is red, swollen or painful to touch – Mucous is yellow or green – There is more mucous – You need to suction more often – Needs more puffer medicine – Has a fever or chills – Is not feeling well and is really tired – Oximeter reading, if you have one, is low	✓ If you have an action plan that the doctor has given you, follow that ✓ Call the doctor or healthcare professional right away
The patient is very anxious	✓ Instill 2-5 mls of normal saline into trach and apply manual resuscitator or ventilator for a few breaths ✓ Use *Breath Stacking and Cough Assist* techniques to move any mucous up the airway ✓ Try to remain calm and tell them what you are doing to solve the problem ✓ Have patient do relaxation exercises ✓ If necessary, give medication as ordered

Problem	What to do
There is a lot of mucous and it is difficult to suction it all out	✓ Suction 1. Lubricate the suction catheter with water and try suctioning again 2. Use manual resuscitation bag to deliver 3-5 breaths 3. Change the inner cannula, if there is one 4. Suction 5. Repeat steps 1-4, if needed ✓ Use *Pulmonary Clearance Techniques* – such as Breath Stacking. This will help move the mucous up so it can be suctioned out ✓ Moving often will help a patient cough up their mucous. You can turn the patient every 1-2 hours or have them sit in a chair several times a day ✓ If you have learned how, change the trach tube ✓ Call 911 if airway is still blocked
The trach tube has fallen out and the patient is not having any trouble breathing	✓ Try to put the trach tube back in. Only try this once. If this does not work, get a new trach tube to insert 1. Completely deflate the cuff of the new trach tube 2. Lubricate the trach tube with water soluble lubricant 3. Insert obturator into the new trach tube 4. Slide new trach tube into stoma, but do not force 5. **Remove the obturator** 6. Insert the inner cannula, if there is one 7. Reinflate cuff, if there is one 8. Try to ventilate with a manual resuscitation bag 9. Check that the chest is rising and falling with each breath 10. Place patient back on the ventilator 11. Check patient to make sure they are okay ✓ If you are **not** able to **re-insert the trach tube**: 1. Use a manual resuscitation bag with mask and ventilate the patient 2. **CALL 911** 3. Contact your doctor and your respiratory therapist

Problem	**What to do**
The patient is in pain	✓ Determine the type and location of the pain. For example; is the pain with coughing, swallowing or only on breathing in? ✓ Try to reposition the patient ✓ Give pain medicine, if ordered ✓ If there is chest tightness, then give inhaled medicine (puffer), if ordered
The trach tube has fallen out and the patient is having trouble breathing	✓ Attempt to re-insert trach tube **ONCE** (see above) ✓ **CALL 911** ✓ **If you cannot reinsert a trach tube of same size: try inserting either a tube that is one size smaller or a cuffless tube** ✓ Put a mask on the manual resuscitator bag ✓ If the **patient needs oxygen**: remove oxygen supply from ventilator and connect to the manual resuscitation bag ✓ Place the mask over the patient's mouth and nose and give manual breaths. Have a second person cover the stoma while you manually ventilate

IMPORTANT! Always use a manual resuscitation bag to give breaths while you are troubleshooting.

Problems and Solutions – The Ventilator

IMPORTANT! When a ventilator alarms, always look at the patient first, not the ventilator. Look to make sure that the chest is moving up and down. Make eye contact with the patient and ask "Are you okay?"

Ventilators will alert you to a safety problem with a visual or an audible alarm. Some situations will trigger a visual or an audible alarm. Serious situations will trigger both audible and visual alarms together. You need to learn what the alarms mean on your ventilator.

Whatever the warning signal is, follow these steps:

1. Never leave the patient alone until the problem has been fixed
2. Use a manual resuscitation bag to ventilate the patient while you are trying to fix a ventilator problem
3. Find out which alarm went off
4. Correct any problems, if you find any
5. Replace any broken equipment
6. Change the ventilator circuit, if needed. You should always have a spare ventilator circuit set up, ready for use
7. Any equipment that failed is called 'defective'. Do not use defective equipment. If your ventilator is defective, manually ventilate the patient. If there is no other ventilator available then call for an ambulance to take the patient to the nearest hospital
8. Once the patient is stable and taken care of, call the VEP to report the problem. The telephone number for VEP is 1-800-633-8977. A respiratory therapist is on hand 24 hours a day to help with ventilator issues and problems. Follow the prompts on the message for service after business hours
9. For other replacement disposable supplies, contact the home care company

The following **table** lists specific problems and what you can do to solve them. Please see manufacturer's instructions for a complete list of alarms for your ventilator.

Alarm	Possible cause	What to do
High Pressure	✓ Mucous plugs or mucous	✓ Suction to remove mucous
	✓ Coughing, swallowing or hiccupping	✓ If coughing, may need puffer or suctioning
	✓ Bronchospasm	✓ Give inhaled medicine, if ordered
	✓ Changes in patient's breathing pattern. Patient is not responding to medicine or suctioning	✓ Contact the appropriate healthcare provider
	✓ Alarm set incorrectly	✓ Change alarm to proper setting
Low Pressure/ Apnea	✓ Leaks in the ventilator circuit	✓ Look and feel for any leaks: exhalation valve, humidifier, pressure line, and tubing for leaks
	✓ Water in pressure line	✓ Drain water
	✓ Patient is disconnected from ventilator	✓ Reconnect patient to ventilator
	✓ Leaks around trach or trach tube cuff	✓ Reposition patient and, or the trach tube. Try to deflate/ reinflate the cuff
	✓ Alarm set incorrectly	✓ Reset alarm to proper setting
	✓ Dirty inlet filter	✓ Replace filter
Setting	✓ Settings are incorrect	✓ Reset settings
	✓ Ventilator malfunction	✓ Manually ventilate patient and call the equipment provider
Power Switch Over	✓ Power source has changed from AC to internal or external power source ✓ Power source has changed from external to internal	✓ Ensure ventilator is plugged in and there is power ✓ If switching to or from an external battery, then press the **reset button to cancel the audible and visual alarm**
Low Power	✓ Internal battery is discharged	✓ Plug in and operate ventilator on AC power for at least three hours. If no power is available then manually ventilate

Notes

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Emergency Contacts and Planning

All About You

Your Contact Information

First Name: ____

Middle Name: ____

Last (Family) Name: ____

Street Address: ____

City: ______________________________ Postal Code: ______________________________

Home Phone: _______________________ Cell Phone: ______________________________

Fax: ______________________________ Email: ___________________________________

Date of Birth: ___________________________

Allergies: ____

Your Ventilator Settings

These settings have been determined by your doctor and healthcare professionals team. Do not change the settings without first talking with your doctor and healthcare professionals.

Make: ______________________________ Model: ________________________________

Mode: ______________________________

Volume: ____________________________ Breath Rate: ____________________________

Low Minute Volume: __________________Pressure: ______________________________

IMPORTANT! You need to have a complete list of your ventilator settings, even those settings that do not appear on the front panel of the ventilator.

If you use a speaking valve, first deflate the cuff. Then change the ventilator settings to:

Volume: ______________________________ Breath Rate: _____________________________

Inspiratory Time (I:E ratio): ____

Breath Effort (sensitivity): ____

Low Alarm: ____________________________ High Alarm: _____________________________

Keep track of ventilator setting changes

Ventilator Setting Change	Reason for Change	Date Changed

Your Trach Tube

Make: _______________________________ Model: ________________________________

Type/Serial #: ________________________ Size: __________________________________

Ordering information: ____

Keep track of when the trach tube was changed

Date of Change	Tube Make/Model	Tube Size	Tube Type	Location	Who changed it?

Keep track of medicine taken

Drug Name	What it does	How much or how many	When to take

Special Instructions

Your Personal Support Network

Your personal support networks are people who know about your healthcare needs and can be called upon to help you in an emergency.

Family Doctor

Name: ____

Phone: ____________________

Other Doctor Specialty: ____

Name: ____

Phone: ____________________

Home Healthcare Professional Specialty: ____________________________________

Name: ____

Phone: ____________________

Home Healthcare Professional Specialty: ____________________________________

Name: ____

Phone: ____________________

Equipment Supplier

Name: ____

Phone: ____________________

Family Friend

Name: ____

Phone: ____________________

Family Friend

Name: ____

Phone: ____________________

Other Contact Specialty: Ventilator Equipment Pool

Name: ____

Phone: ____________________

Other Contact Specialty: Home Care Company

Name: ____

Phone: ____________________

Your Personal Emergency Plan

Developing a personal plan can help you to cope during an emergency. Completing the information below will help you to develop a good plan.

What to do if there is a power failure?

Use your external D/C battery, given to you by the Ventilator Equipment Pool (VEP), for emergency use. A full charged battery should last 5-12 hours.

- ✓ Go somewhere where there is power. Somewhere close to your home. This could be a hospital, a hotel, a fire or ambulance hall. These places usually have power even during a power outage
- ✓ Call family or friends to see if their power is out. If they still have power, you could go there. Make sure there is at least one person on your contact list that lives close by and understands your needs
- ✓ Plan on how you might escape from your home. Getting out of your home quickly and safely can be difficult, so you need a plan. For example, if you live in a high rise apartment, it may not have adequate back up power for a long power outage. It may not be easy to get out of the building when the elevators are not working. So you need to have a plan

You need two external D/C batteries, if you want to be mobile with your ventilator. One battery to use when you are mobile, and the other battery in case of a power failure. The backup battery from the VEP is not to be used with your wheelchair. You need to buy another D/C external battery if you want to use your ventilator while you are mobile.

If you are having trouble paying for a second battery, consider going to Assistance for Children with Sever Disabilities (ACSD) or Ontario Disability Support Program (ODSP), insurance, or various service clubs to ask for help. Sometimes they can help with funding.

Consider where you could go if there was a prolonged power outage: List friends, family, hospital or fire station address here.

Family/Friend: ____

Street Address: ____

City: _______________________________ Postal Code: ____________________________

Contact Person: _____________________ Home Phone: ___________________________

Cell Phone: _________________________

Out-of-Town Family/Friend: ____

Street Address: ____

City: _______________________________ Postal Code: ____________________________

Contact Person: _____________________ Home Phone: ___________________________

Cell Phone: _________________________

Long-term Emergency Refuge

If the power outage is long term you will have to leave your home and stay somewhere else for a while. Make plans on where you will go if this happens.

Street Address: ____

City: _______________________________ Postal Code: ___________________________

Contact Person: ______________________ Home Phone: __________________________

Cell Phone: ________________________

How will I get there?

Have a transportation plan ready in case you need to leave home quickly.

Contact Person: ________________________ Home Phone: ________________________

Cell Phone: ____________________________

Travel Bag Checklist

In an emergency you will have to leave your home quickly. Have a travel bag packed with everything you would need to take with you in an emergency. The contents of your travel bag should include:

- ☐ Spare trach tubes: current trach tube size and another one that is one size smaller
- ☐ Ventilator settings
- ☐ Spare ventilator circuit and HMEs
- ☐ Your Contact List
  - Healthcare team names and phone numbers
  - Personal support network names and phone numbers
  - VEP phone number
  - Equipment supplier name and phone number
  - Oxygen supplier name and phone number
- ☐ List of medicines and inhalers (puffers)
- ☐ Resuscitation bag and mask
- ☐ Portable suction unit and supplies
- ☐ D/C Battery

Fire Precautions

Fire Extinguishers

- ✓ Have two fire extinguishers in the home
- ✓ Your fire extinguishers need to be checked once a year

Smoke Detectors

- ✓ Have one smoke detector on every level in your home
- ✓ Change the batteries in your smoke detectors twice a year. Many people change their smoke alarm batteries twice a year; when they change their clocks in the spring and the fall. Write the date you changed the batteries, on the smoke detector
- ✓ Post a “No Smoking/Flame” sign, if oxygen is in use

Emergency Supplies

An emergency situation may occur that requires you to stay in your home for a long period of time. So it is wise to have some emergency supplies. Have enough supplies for a week. According to the “Emergency Preparedness Guide for People with Disabilities/Special Needs” from Emergency Management Ontario. Here is what they suggest:

- ☐ Respiratory travel bag
- ☐ Enough medications
- ☐ MedicAlert® bracelet or identification
- ☐ Bottled water
- ☐ Food (non-perishable)
- ☐ Manual can opener
- ☐ Flashlight(s) & batteries
- ☐ Battery operated radio & batteries or crank radio
- ☐ Spare batteries
- ☐ Candles and matches/lighter
- ☐ Important papers (identification)
- ☐ Clothing and footwear
- ☐ Blankets or sleeping bags
- ☐ Toilet paper and other personal items
- ☐ Telephone that can work during a power disruption
- ☐ Extra car keys and cash

☐ Whistle (to attract attention, if needed)
☐ Playing cards
☐ First-aid kit
☐ Backpack or duffle bag

This Guide may found at the web site www.emergencymanagementontario.ca. Make sure that your supplies do not become too old to use. For example, keep your medicine up to date. Buy bottled water and food with a long expiry date. You should also check your flashlight(s) and replace the batteries from time to time.

Notes

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Useful Web Resources

Respiratory Related Sites

West Park Healthcare Centre

Includes online e-learning modules, example:

- Respiratory Anatomy and Physiology
- Tracheal Suctioning and Manual Ventilation
- Tracheostomy Tubes and Stoma Care
- Introduction to Long Term Mechanical Ventilation (Invasive)

http://www.ltvcoe.com

The Institute for Rehabilitation Research and Development (The Rehabilitation Centre Ottawa)

Includes “Respiratory Protocols for SCI and Neuromuscular Diseases”:

- Anatomy and Physiology
- Clinical Pathway
- Interventions (LVR with bag, MI-E, ventilator, and GPB)
- CoughAssist™ - New Generation of MI-E
- Mechanical Insufflation/Exsufflation Policy
- Lung Volume Recruitment with Resuscitation Bag Policy

http://www.irrd.ca/education/

The Ventilator Equipment Pool

http://www.ontvep.ca/

The Ministry of Health & Long-Term Care, Assistive Devices Program, Respiratory Devices Category Administration Manual (June 2007)

http://www.health.gov.on.ca/english/providers/pub/adp/resp_manual_20070627.pdf

Aaron’s Tracheostomy Page

A web site that provides information about tracheostomy

http://www.tracheostomy.com/

Information on Diseases

ALS Society of Canada
http://www.als.ca

Chronic Obstructive Airway Disease (COPD)-Canadian Lung Association
http://lung.ca/diseases-maladies/copd-mpoc_e.php

Cystic Fibrosis
http://www.cysticfibrosis.ca

Multiple Sclerosis Society of Canada
http://www.mssociety.ca/en/default.htm

Muscular Dystrophy of Canada
http://www.muscle.ca

Ontario March of Dimes/March of Dimes Canada
http://www.marchofdimes.ca/dimes

Post Polio Health International
http://www.post-polio.org

Spinal Muscular Atrophy
http://www.smafoundation.org

Government Listings and Publications

Assistive Devices Program (Ontario Ministry of Health & Long Term Care)
http://www.health.gov.on.ca/english/public/program/adp/adp_mn.html

ADP Respiratory Manual
http://www.health.gov.on.ca/english/providers/program/adp/product_manuals/respiratory_devices.pdf

How to Hand Wash
http://www.health.gov.on.ca/en/ms/handhygiene/video/hand_wash.aspx

Best Practices for Hand Hygiene in all Healthcare Settings
http://www.health.gov.on.ca/english/providers/program/infectious/diseases/best_prac/bp_hh_20080501.pdf

Health Canada: Health Products and Food Branch
http://www.hc-sc.gc.ca/index-eng.php

Ontario's Community Care Access Centres
http://www.health.gov.on.ca/english/public/contact/ccac/ccac_mn.html

Associations/Agencies

Canadian Paraplegic Association Ontario
http://www.cpaont.org

Canadian Sleep Society
http://www.css.to

College of Physicians and Surgeons of Ontario
http://www.cpso.on.ca

College of Respiratory Therapists of Ontario
http://www.crto.on.ca

Canadian Society of Respiratory Therapists
http://www.csrt.com

International Ventilator Users Network
http://www.ventusers.org

Ontario Hospital Association
http://www.oha.com

Respiratory Therapy Society of Ontario
http://www.rtso.ca/

The BC Association for Individualized Technology and Supports for People with Disabilities: Home of the Provincial Respiratory Outreach Program (PROP)
http://www.bcits.org/default.htm

The Canadian Lung Association
http://www.lung.ca

The Ontario Lung Association
http://www.on.lung.ca

Home/Long Term Ventilation Education

AARC Clinical Practice Guideline
Long-Term Invasive Mechanical Ventilation in the Home – 2007 Revision & Update
http://www.rcjournal.com/cpgs/pdf/08.07.1056.pdf

AARC Clinical Practice Guideline
Providing Patient and Caregiver Training
http://www.rcjournal.com/cpgs/pcgtcpg.html

AARC Clinical Practice Guideline
Training the Health-Care Professional for the Role of Patient and Caregiver Education
http://www.rcjournal.com/cpgs/thcpcpg.html

AARC Clinical Practice Guideline
Pulse Oximetry
http://www.rcjournal.com/cpgs/pulsecpg.html

Battery University is an on-line resource that provides practical battery knowledge
http://www.batteryuniversity.com

Emergency Management Ontario: Emergency Preparedness Guide for People with Disabilities/Special Needs
http://www.emergencymanagementontario.ca/stellent/idcplg/webdav/Contribution%20Folders/emo/documents/Disability%20Guide_Eng.pdf

http://www.getprepared.ca

IVUN-Home Ventilator Guide
http://www.ventusers.org/edu/HomeVentGuide.pdf

The Institute for Rehabilitation Research and Development: The Rehabilitation Centre, Ottawa: Respiratory Protocols for Spinal Cord Injuries and Neuromuscular Disease
http://www.irrd.ca/education/default.asp

The Toronto East General Hospital Progressive Weaning Centre
Provincial Centre of Excellence
http://www.tegh.on.ca/bins/content_page.asp?cid=3-2850&lang=1&pre=view

West Park Healthcare Centre Long-Term Ventilation Centre of Excellence: On-line e-learning modules
http://www.ltvcoe.com/index.html

Chronic Ventilation Strategy Task Force: Final Report, June 30, 2006
http://www.health.gov.on.ca/english/providers/program/critical_care/docs/report_cvtg.pdf

Vendors

The Porta-Lung
http://portalung.com/index.htm

Breathing Pacemakers: Avery Biomedical
http://www.averylabs.com/index.html

Diaphragm Pacing System: Synapse Biomedical
http://www.synapsebiomedical.com/products/neurx.shtml

Cough Assist Device
http://www.coughassist.com

Respironics
http://www.healthcare.philips.com/main/homehealth/index.wpd

Resmed Corporation
http://www.resmed.com/en-en

Fisher & Paykel HealthCare
http://www.fphcare.com

Carestream Medical
http://www.carestream.com

Draegar Medical-Canada
http://www.draeger.com/CA/en_US/

Quadromed Inc.
http://www.quadromed.com/en/index.html

Passy-Muir Tracheostomy and Speaking Valves
http://www.passy-muir.com

Bivona Tracheostomy Tubes
http://www.smiths-medical.com/catalog/bivona-tracheostomy-tubes

Shiley® Tracheostomy Tubes
http://www.nellcor.com/prod/list.aspx?S1=AIR&S2=TTA

Instrumentation Industries, Inc
http://www.iiimedical.com

Intersurgical Complete Respiratory Systems
http://www.intersurgical.com

Hans Rudolph Inc.
http://www.rudolphkc.com

DeVilbiss Healthcare
http://www.devilbisshealthcare.com

Cardinal Health
http://www.cardinalhealth.com

Covidien
http://www.covidien.com

Lifetronics
http://www.lifetronics.com

Advance for Managers of Respiratory Care
At-a glance charts detailing various interface/mask products available
http://respiratory-care-manager.advanceweb.com/Sharedresources/advanceforMRC/Resources/DownloadableResources/MR040108_p64AirwayBG.pdf

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Emergency Preparedness Guide

Acknowledgement of Source

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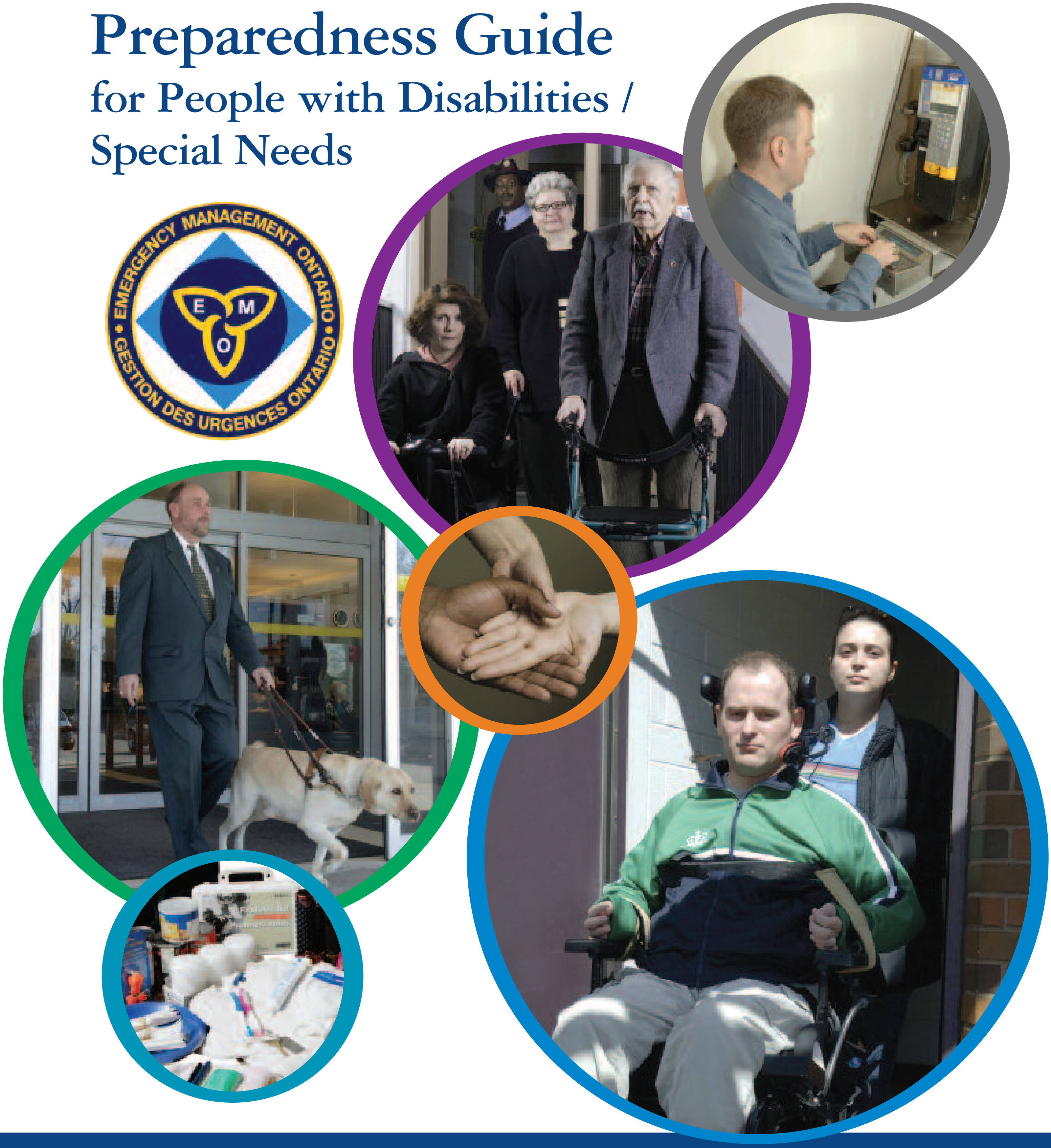
Ontario

Emergency Preparedness Guide

for People with Disabilities / Special Needs

EMERGENCY MANAGEMENT ONTARIO • GESTION DES URGENCES ONTARIO



www.ontario.ca/emo

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- Canadian Diabetes Association
- Canadian MedicAlert® Foundation
- Canadian Paraplegic Association (Ontario)
- Canadian Red Cross
- Centre for Independent Living in Toronto (CILT) Inc.
- CNIB
- Foreign Affairs and International Trade Canada
- Learning Disabilities Association of Ontario
- Ministry of Community and Social Services Emergency Management Unit
- Ministry of Government Services
- Multiple Sclerosis Society of Canada, Toronto Chapter and Ontario Division
- National (USA) Organization on Disability - Headquarters
- Office of the Fire Marshal – Ontario Head Office
- Ontario March of Dimes (Provincial Office)
- Ontario Seniors' Secretariat
- Ontario SPCA (Ontario Society for the Prevention of Cruelty to Animals)
- SOS Emergency Response Technologies
- St. Demetrius Development Corporation
- The Canadian Hearing Society
- Toronto Rehabilitation Institute

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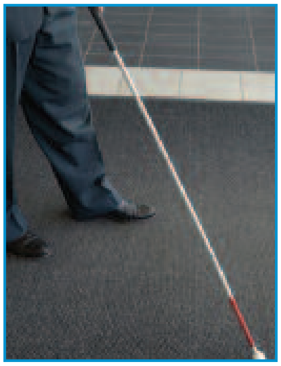
Emergency Management Ontario
Ministry of Community Safety
and Correctional Services
www.ontario.ca/emo

Accessibility Directorate of Ontario
Ministry of Community
and Social Services
www.mcss.gov.on.ca

Since not every emergency situation is similar or predictable, every person should rely on and use their best judgement when offering assistance to others in an emergency, without putting their own or other people's safety at risk.

Contents

Categories



Introduction

Emergencies can occur suddenly and without any advance warning. Although Ontario has effective emergency management legislation and programs, individuals and families play a vital role in preparing for times of crisis when emergency services and other government resources may be strained. It is important that individuals and families prepare to be self-reliant for at least three (3) days immediately after or during an emergency. This guide provides special emergency preparedness considerations and advice for the estimated 1.5 million Ontarians with disabilities and/or special needs, including seniors with special needs.

Prepare Now

Emergency preparedness includes developing and practising a family emergency response plan and the preparation of an emergency survival kit.

For those living with a physical, visual, auditory and/or other non-visible disability, emergency preparedness should also involve incorporating special accommodations into their family emergency response plan. To best prepare for an emergency according to one's special needs, please refer to the appropriate category in this guide for a list of suggested emergency survival kit items and contingency planning considerations.

For more information on emergency management arrangements in your area contact your municipal Emergency Management Coordinator through your local government office.

Using this Guide

This guide covers topics relevant to the emergency preparedness needs of people with visible and/or non-visible disabilities and seniors with special needs.

- Disabilities/special needs are identified as separate categories according to colour and a symbol shown on the top right hand corner of each page.
- Each category provides information on how individuals should prepare for an emergency given their special needs, how the public can best assist a person with a disability and additional suggested survival kit items.
- The last page is an additional contact information resource for the reader.
- Copies of this guide are available in both English and French, and in alternative formats upon request. Please contact:

Emergency Management Ontario
General Tel: 416-314-3723
Toll-free Phone: 1-877-314-3723

Accessibility Directorate of Ontario
General Tel: 416-326-0207
Toll-free Phone: 1-888-520-5828
TTY: 416-326-0148
Toll-free TTY: 1-888-335-6611

Emergency Survival Kit Checklist

This Emergency Survival Kit checklist outlines the basic items every individual should keep in an easy-to-reach place to help them be self-reliant for at least three (3) days immediately after or during an emergency. Since emergency supply requirements vary for individuals with different disabilities, please refer to the appropriate category in this guide for additional suggested survival kit items.

Prepare Now,
Emergency Survival Checklist
Learn How...

○ Flashlight and batteries
○ Radio and batteries or crank radio
○ Spare batteries (for radio, flashlight, assistive devices, etc.)
○ First-aid kit
○ Telephone that can work during a power disruption
○ Candles and matches/lighter
○ Extra car keys and cash
○ Important papers (identification)
○ Non-perishable food and bottled water
○ Manual can opener
○ Clothing and footwear
○ Blankets or sleeping bags
○ Toilet paper and other personal items
○ Medication
○ MedicAlert® bracelet or identification
○ Backpack/duffle bag
○ Whistle (to attract attention, if needed)
○ Playing cards

Service Animal Emergency Kit Checklist

This Service Animal Emergency Kit checklist outlines the basic items every person with a service animal should have prepared in advance to keep their service animals comfortable during the stress of an emergency situation. It is advisable to keep all items in a transportable bag that is easy to access should evacuating the home become necessary. Also, remember to check the kit twice a year (an easy way to remember is to do it when you check your smoke alarms bi-annually) to ensure freshness of food, water and medication, and to restock any supplies you may have "borrowed" from the kit.

Service Animal Emergency Kit Checklist

○ Minimum 3-day supply of bottled water and pet food
○ Portable water and food bowls
○ Paper towels and can opener
○ Medications with a list identifying reason (e.g., medical condition), dosage, frequency and contact information of prescribing veterinarian
○ Medical records including vaccinations
○ Leash/harness
○ Muzzle (if required)
○ Blanket and favourite toy
○ Plastic bags
○ Up-to-date ID tag with your phone number and the name/phone number of your veterinarian (microchipping is also recommended)
○ Current photo of your service animal in case they get lost or separated from you
○ Copy of licence (if required)

Pet Owners:

While service animals are accepted at shelters in an emergency, family pets are not. Hence, it is advisable for pet owners to prepare a similar emergency kit for each family pet according to the needs of each different animal (e.g., cat, rabbit, bird, etc.). In the case of cats, include a cat carrier, little pan, litter, scooper and plastic bags. It is also recommended for pet owners to have prior arrangements made with family or friends to take care of their animal, should evacuating the home be necessary during an emergency.
For additional information on pets and emergencies, please visit the Emergency Management Ontario website at www.ontario.ca/emo.

Important Considerations

Remember…

- The emergency survival kit items listed in this guide are only a suggestion and may or may not apply to every emergency situation and/or a person's special needs. Therefore you should decide which essential items to include for yourself and your family members.
- During an emergency you may have no electrical power.
- During an emergency you may need to go to an emergency evacuation shelter. It is recommended that you and your family have a designated contact person that resides outside of your immediate community. This way, in the event of an evacuation, family members can easily notify each other by calling their designated contact person.
- Pack and store all emergency survival items (including medications, medical supplies and/or assistive devices) in an easy-to-access and easy-to-transport container should you need to evacuate.
- Select a network of individuals at work and at home that will be able to assist you during an emergency. (Make sure you inform your network of where you keep your emergency survival kit.)
- Prepare a list of any food or drug allergies you might have and all the medications you are taking. You may want to provide this list to your designated network and also keep a copy in your emergency survival kit, on your person, at home, your workplace and in your car (if applicable).
- On your list of medications, specify the reason for each medicine that you are taking (e.g., medical condition being treated) including the generic name, dosage, frequency, and the name and contact information of the prescribing physician.
- If you have children with a disability or special needs, prepare a similar list for each of your children and provide it to their caregiver, school, emergency contact members, etc.
- If you have an allergy, chronic medical condition, or special medical need you may want to consider owning and wearing a MedicAlert® bracelet or identification as part of your emergency preparedness plan.
  For more information visit: www.medicalert.ca.

Important Considerations

Remember…

- Regularly check expiration dates on all medications, bottled water, and canned/packaged food in your emergency survival kit. It is best to replace food and bottled water at least once a year.
- Prepare a contact information list of all your emergency contact persons and provide a copy to your designated network at work and/or home. Also keep a copy in your survival kit, on your person, at home, at your workplace and in your car (if applicable).
- Provide written instructions for your network on how best to assist you and your service animal (if applicable) during an emergency.
- Label all of your special needs equipment and attach laminated instruction cards on how to use, retrieve and/or move each assistive device during an emergency.
- Since your medications, assistive devices, etc. may change over time, it is advisable for you to regularly assess your needs and incorporate any changes to your emergency survival kit supplies and your family emergency plan.
- If your personal needs require regular attendant care and/or life sustaining apparatus, arrange with your network to check on you immediately if an emergency occurs or if local officials issue an evacuation order.
- Carry a personal alarm that emits a loud noise to draw attention to your whereabouts.
- If you rely on any life sustaining equipment/apparatus, develop an emergency back-up plan that will ensure the equipment/apparatus works in the event of a power outage.
- Install working smoke alarms on every floor of your home and outside all sleeping areas.
- Test smoke alarms on a monthly basis by pushing the test button. Replace smoke alarm batteries every six months and whenever the low-battery warning sounds.
- Develop and practise a home fire escape plan or refer to your building's fire safety plan so that everyone in your home knows what to do in the event of a fire.
- Practise your emergency plan with your network at least twice a year.
- If during an emergency your support network cannot assist you for whatever reason, ask other individuals around you to help you. Remember to inform them of your special needs and how they can best offer any assistance to you.

Tips on Helping a Person with a Disability

- "Ask First" if the person needs or wants your help – do not just assume that they do.
- Allow the person to identify how best to assist them.
- Do not touch the person, their service animal and/or their assistive device/equipment without their permission.
- Follow instructions posted on special needs equipment and/or assistive device during an emergency.
- Avoid attempts to lift, support or assist in moving someone unless you are familiar with safe techniques.
- Never administer any food or liquids to an unconscious or unresponsive person.
- Be aware that some people who have disabilities may request that you use latex-free gloves to reduce spread of viral infection to them.
- Ask the person with special needs if areas of their body have reduced sensation and if they need you to check those areas for injuries after a disaster.

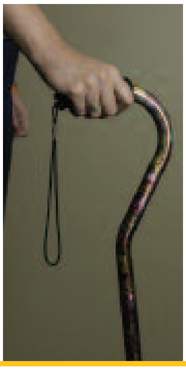
Mobility

Mobility limitations may make it difficult for a person to use stairs or to move quickly over long distances. These can include reliance on mobility devices such as a wheelchair, scooter, walker, crutches or a walking cane. In addition, people with a heart condition or various respiratory difficulties can experience certain levels of mobility limitations.

Your Emergency Plan:

- Ask your network to practise moving your special needs equipment during your emergency practice plan.

  This will help your network become more comfortable handling or using your special needs equipment during an emergency.
- If you use a wheelchair or scooter, request that an emergency evacuation chair be stored near a stairwell on the same floor that you work or live on, so that your network can readily use it to help you safely evacuate the building.
- In your instruction list for your network, identify areas of your body that have reduced sensation so these areas can be checked for injuries after an emergency, if you cannot check them yourself.
- Check with your local municipal office to find out if emergency evacuation shelters in your area are wheelchair accessible.



Dos & Don'ts

Assisting People with Disabilities

✔ Use latex-free gloves when providing personal care whenever possible. (People with spinal cord injury have a greater risk of developing an infectious disease during an emergency. Gloves help control secondary medical conditions that can easily arise if personal care is disrupted during an emergency.)

✔ Ensure that the person's wheelchair goes with the person.

✘ Do not push or pull a person's wheelchair without their permission.

Additional Items

Emergency Survival Kit

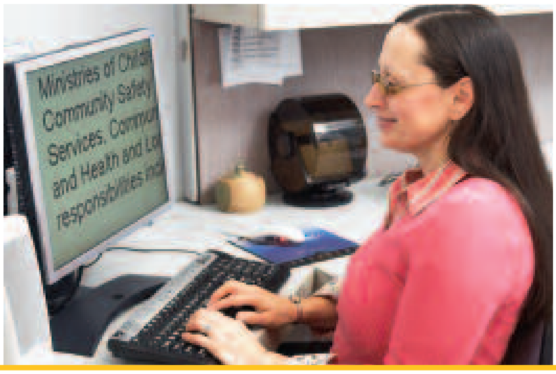
- Tire patch kit.
- Can of seal-in-air product (to repair flat tires on your wheelchair or scooter).
- Supply of inner tubes.
- Pair of heavy gloves (to protect your hands while wheeling or making way over glass or other sharp debris).
- Latex-free gloves (for anyone providing personal care to you).
- Spare deep-cycle battery for motorized wheelchair or scooter.
- A lightweight manual wheelchair for backup to a motorized wheelchair (if feasible).
- Spare catheters (if applicable).
- An emergency back-up plan that will ensure any life sustaining equipment/apparatus is operable in the event of a power outage.
- Any other contingency supplies unique to your special needs.

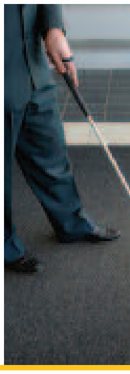
Vision

Vision loss can include a broad range of conditions ranging from complete blindness to partial or low vision that cannot be corrected with lenses or surgery. A person's ability to read signs or move through unfamiliar environments during an emergency may be challenged, creating a feeling of being lost and/or being dependent on others for guidance.

Your Emergency Plan:

- Have a long cane available to readily manoeuvre around debris on the floor or furniture that may have shifted after an emergency.
- Mark all emergency supplies in advance with fluorescent tape, large print or in braille.
- Mark gas, water and electric shutoff valves in advance with fluorescent tape, large print or in braille.
- Familiarize yourself in advance with all escape routes and locations of emergency doors/exits on each floor of any building where you work, live and/or visit.





Additional Items
Emergency Survival Kit

- Extra white cane, preferably a cane that is longer in length.
- Talking or braille clock.
- Large-print timepiece with extra batteries.
- Extra vision aids such as an electronic travel aid, monocular, binocular or magnifier.
- Extra pair of prescription glasses – if you wear them.
- Any reading devices/assistive technology to access information/ portable CCTV devices.
- Any other contingency supplies unique to your special needs.

Dos & Don'ts

Assisting People with Disabilities

✔ Always ask first if you can be of any assistance to them.

✔ For people who are deaf-blind, use your finger to draw an “X” on their back to let them know you are there to help during an emergency.

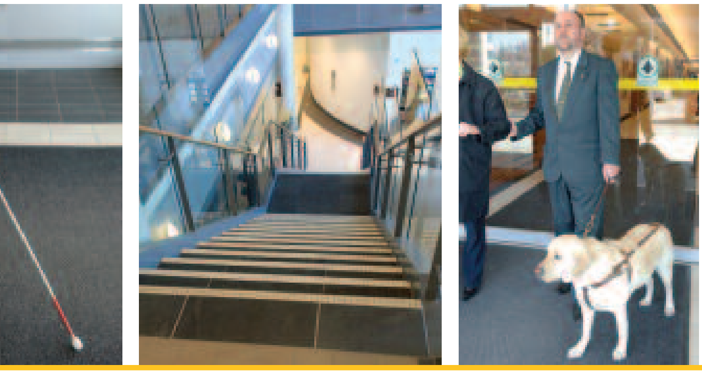
✔ To communicate with a deaf-blind person, try tracing letters with your finger on the palm of their hand.

✔ To guide the person, offer them your arm instead of taking theirs and walk at their pace. Keep half a step ahead of them.

✔ If the person has a service dog, ask them where you should walk to avoid distracting the animal.

✔ Provide advance warning of upcoming stairs, curbs, major obstacles, or changes in direction.

✔ Watch for overhangs or protrusions the person could walk into.



✘ Do not assume the person cannot see you, or that they need your help.

✘ Never grab or touch a person with vision loss.

✘ Do not touch, make eye contact or distract the person’s service dog as this can seriously endanger the owner.

✘ Do not shout at a person with vision loss. Speak clearly and provide specific and precise directions.

✘ Avoid the term “over there”. Instead, describe locating positions such as, “to your right/left/straight ahead/ behind you”, or by relaying clock face positions. (For example: 12 o’clock)

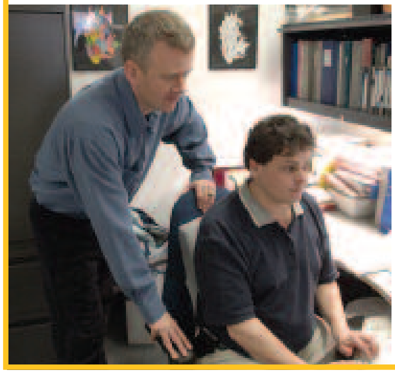
Hearing

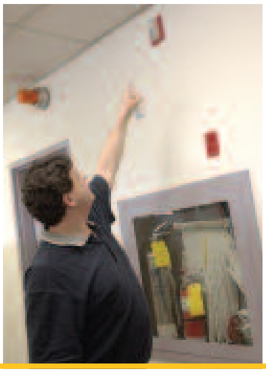
A person can be deaf, deafened or hard of hearing. The distinction between these terms is based on the individual's language and means of communicating rather than the degree of hearing loss.

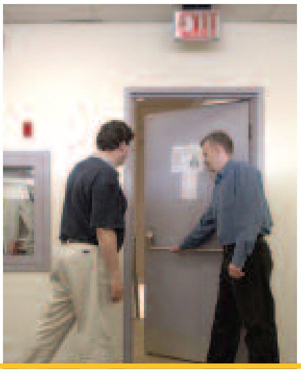
In an emergency, the method in which emergency warnings are issued becomes critical to how a person with hearing loss is able to respond and follow instructions to safety.

Your Emergency Plan:

- If your network is unavailable during an emergency, seek the assistance of others to whom you can communicate your hearing loss by spoken language, moving your lips without making a sound, pointing to your ear, using a gesture, or if applicable, pointing to your hearing aid.
- Keep a pencil and paper handy for written communication.
- Obtain a pager that is connected to an emergency paging system at your workplace and/or the building that you live in.
- Install a smoke-detection system that includes smoke alarms and accessory flashing strobe lights or vibrators to gain your attention if the alarms sound.
- Test smoke alarms on a monthly basis by pushing the test button.
- Replace batteries in battery-operated smoke alarms every six months and whenever the low-battery warning sounds.
- Keep a laminated card on your person and in your survival kit that identifies you as deaf or hard of hearing and explains how to communicate with you.



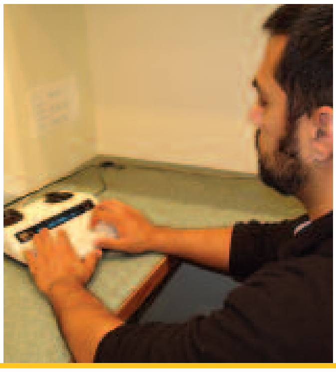




Dos & Don'ts

Assisting People with Disabilities

- ✓ Get the person's attention via a visual cue or a gentle touch on their arm before speaking to them.
- ✓ Face the person and make eye contact when speaking to them as they may rely on speechreading.
- ✓ Communicate in close proximity.
- ✓ Speak clearly and naturally.
- ✓ Use gestures to help explain the meaning of what you are trying to communicate to the person.
- ✓ Write a message if there is time and keep a pencil and paper handy.
- ✗ Avoid approaching the person from behind.
- ✗ Refrain from shouting or speaking unnaturally slowly.
- ✗ Do not make loud noises as hearing aids amplify sounds and can create a physical shock to the user.



Additional Items

Emergency Survival Kit

- Extra writing pads and pencils for communication.
- Flashlight, whistle or noisemaker.
- Pre-printed key phrases you would use during an emergency.
- Assistive devices - unique to your needs (e.g., hearing aid, pager, personal amplifier, etc.).
- Portable visual notification devices that allow you to know if a person is knocking on the door, ringing the doorbell, or calling on the telephone.
- Extra batteries for assistive devices.
- A CommuniCard (produced by The Canadian Hearing Society) that explains your hearing loss and also helps identify how rescuers or assisters can communicate with you during an emergency.
- Any other contingency supplies unique to your special needs.

Note: Typically people who are deafened or hard of hearing will need information presented in a text format.

Non-Visible Disabilities

Non-visible disabilities can include communication, cognitive, sensory, mental health, learning or intellectual disabilities in which an individual's ability to respond to an emergency is restricted. They can also range from allergies, epilepsy, hemophilia, diabetes, thyroid condition, multiple sclerosis, pulmonary or heart disease and/or dependency on dialysis, sanitary or urinary supplies. Individuals with non-visible disabilities may have difficulty performing some tasks without appearing to have a disability.

Your Emergency Plan:

- Prepare an easy-to-understand list of instructions or information for yourself that you think you may need in an emergency.
- Keep an emergency contact list on your person of key people that are aware of your special needs.
- Inform your designated support network of where you store your medication.
- Keep a pencil and paper or portable electronic recording device handy to write down or record any new instructions provided to you in an emergency.
- Consider owning and wearing a MedicAlert® bracelet or identification because it will help notify emergency responders about your non-visible disabilities. For more information visit: www.medicalert.ca.
- Request a panic push-button to be installed in the building you work and/or live in, so that in the event of an emergency you can notify others of your whereabouts and that you need special assistance.
- **People with Multiple Sclerosis:** Symptoms are often made worse by heat and humidity. Be prepared to keep cool and dry.
- **People with Diabetes:** Keep frozen water bottles or ice packs in your freezer. Have an insulated bag or cooled thermos ready to store your insulin, should there be a power outage or you need to evacuate.

Dos & Don'ts

Assisting People with Disabilities

- ✓ Allow the person to describe what help they need from you.
- ✓ Find effective means of communication (e.g., provide drawn or written instructions. When giving directions use landmarks instead of terms “go left” or ”turn right”).
- ✓ Be patient, flexible and maintain eye contact when speaking to the person.
- ✓ Repeat instructions (if needed).
- ✓ Ask the person about their medication and if they need any help taking it. (Never offer medicines not prescribed by their physician.)
- ✓ Keep people with multiple sclerosis cool and dry to avoid making their symptoms worse.
- ✗ Avoid shouting or speaking quickly. Instead, speak clearly but not so slowly as to offend the person.
- ✗ Do not restrain a person having a convulsion. Instead, roll them on their side to keep their airway clear and place something soft (e.g., your jacket) under their head to protect it from injury. Once the convulsion passes and they become conscious, help them into a resting position.

Additional Items

Emergency Survival Kit

- Supply of food items appropriate to your disability or dietary restrictions.
- List of instructions that you can easily follow in an emergency.
- Personal list and minimum three days supply of all needed medications, medical supplies and special equipment (e.g., ventilator for asthma, nitrolingual spray for heart condition, Epinephrine pen against allergic reaction/anaphylactic shock, etc.).
- Detailed list of all prescription medications.
- MedicAlert® identification.
- Any other contingency supplies unique to your special needs.

For Example: People with Diabetes

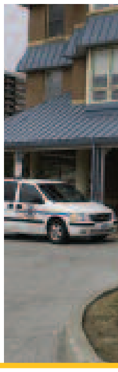
- Extra supply of insulin or oral agent.
- Extra supply of syringes, needles and insulin pens (if used).
- Small container for storing used syringes/needles (if applicable).
- Blood glucose testing kit, spare batteries and record book.
- Supply of blood glucose and urine ketone testing strips.
- Fast-acting insulin for high blood glucose (if applicable).
- Fast-acting sugar for low blood glucose.
- Extra food to cover delayed meals.
- Ice packs and thermal bag to store insulin (if applicable).

Seniors with Special Needs

Since an emergency situation or an evacuation can be a frightening and confusing time, it is important that seniors, especially those with special needs, know the steps to take in an emergency. This includes seniors contacting their local municipal office to find out about programs and services available in their community that will help them during an emergency and assist them to return to their regular routine.

Your Emergency Plan:

- Create an emergency contact list with names and telephone numbers of your physicians, case worker, contact for your seniors group, neighbours, building superintendent, etc. Keep a copy of this list in your survival kit and on your person.
- Write down the names and phone numbers of on-site doctors, nurses, social workers, etc., at your place of residence (if applicable), including the hours they keep.
- Familiarize yourself with all escape routes and location of emergency doors/exits in your home.
- Know the location of emergency buttons. (Many seniors' buildings have emergency buttons located in bedrooms and washrooms that have a direct link to 911 or the building's superintendent.)
- If asked to evacuate, bring with you any equipment or assistive devices you may need immediately.
- Always wear your MedicAlert® identification.



Additional Items

Emergency Survival Kit

- ■ Supply of food items appropriate to your disability or dietary restrictions.
- ■ Assistive devices needed such as canes, walkers, lightweight manual wheelchair, hearing aids, breathing apparatus, blood glucose monitoring device, etc.
- ■ Prescription eyewear and footwear (if required).
- ■ Extra supply of medications and vitamin supplements.
- ■ Personal disability-related list of all your needed medical supplies and special equipment.
- ■ Copies of all medication prescriptions.
- ■ Extra dentures (if required) and cleaner.
- ■ Latex-free gloves (to give to anyone providing personal care to you).
- ■ Any other contingency supplies unique to your special needs.

For Seniors with Diabetes:

- ■ Please refer to previous "Other Non-Visible Disabilities" category.

Dos & Don'ts

Assisting People with Disabilities

- ✔ Check on neighbours who are seniors with special needs to find out if they need your help during an emergency or evacuation.
- ✔ Allow the person to describe what help they need and how it can be provided to them.
- ✔ Be patient, listen actively.
- ✔ If the person appears anxious or agitated, speak calmly and provide assurance that you are there to help.
- ✔ If evacuation is necessary, offer a ride to seniors who do not have access to a vehicle.
- ✔ If time permits, offer to carry the person's emergency survival kit to your car, along with any equipment or assistive devices they will need.
- ✔ Follow instructions posted on special needs equipment and/or assistive devices during an emergency.
- ✘ Refrain from shouting or speaking unnaturally slowly.
- ✘ Avoid being dismissive of the person's concerns or requests.

Highrise Safety

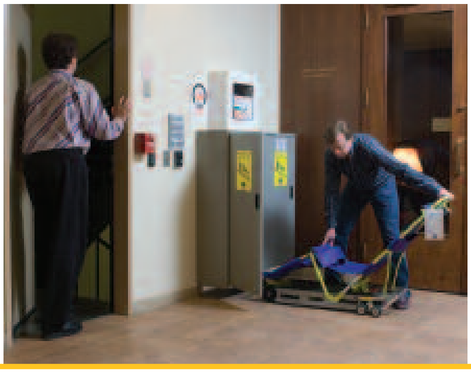
High-rise buildings present unique challenges when evacuation is necessary during an emergency.

Residents should make themselves aware of:

- ✔ Building superintendent's name and phone number.
- ✔ Who sits on the Building Safety Committee.
- ✔ Who the floor monitors are.
- ✔ Who conducts evacuation drills, and how often.
- ✔ Location of fire extinguishers, automated external defibrillator units, and oxygen tank.
- ✔ Location of emergency evacuation device(s).

Your Emergency Plan:

- Advise your building manager/superintendent of your special needs and/or requirements during an emergency.
- Familiarize yourself with your building's evacuation plan.
- Know where all escape routes and location of emergency doors/exits are on each floor.
- Know the location of emergency buttons in the building and exits that are wheelchair-accessible (if applicable).
- Request that an emergency evacuation chair be installed on the floor you live or work on, preferably close to the stairwell (if applicable).
- If you live in a highrise building, create a '**buddy**' system with your neighbours and regularly practise your emergency response plan with them.
- If you rely on any life sustaining equipment/apparatus, develop an emergency back-up plan that will ensure the equipment/apparatus is operable in the event of a power outage.
- Obtain large printed signs from the building manager that you can place in your window in the event of an emergency, indicating that you need assistance.



Dos & Don'ts

Assisting People with Disabilities

✔ Check on neighbours and/or co-workers with special needs to find out if they need your help during an emergency or evacuation.

✔ Listen actively to what the individual with special needs is saying.

✔ During an emergency evacuation (if time permits), offer to carry the person's emergency survival kit for them along with any special equipment or assistive devices they will need.

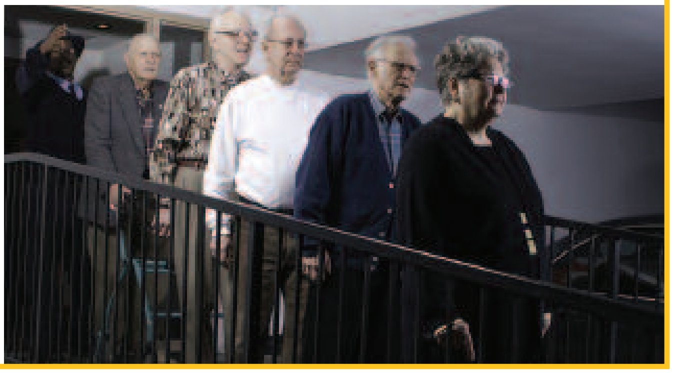
✔ Review previous categories in this guide on how to assist people with specific disabilities and/or special needs.

✘ In general, avoid attempts to lift, support or assist in moving a person down the stairs, unless you are familiar with safe techniques.

Additional Items

Emergency Survival Kit

- Personal alarm that emits a loud noise to draw attention to your whereabouts.
- Supply of food items appropriate to your dietary restrictions.
- Supply of medications and assistive devices appropriate to your disability.
- Supply of plastic bags for storing garbage/personal waste.
- Names and contact information of your neighbours, superintendent and property/building manager.
- Laminated copy of your building's evacuation plan and diagram of escape routes and location of emergency doors/exits on each floor.
- Any other contingency supplies unique to your special needs.

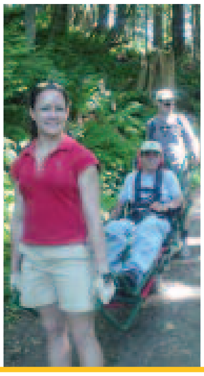


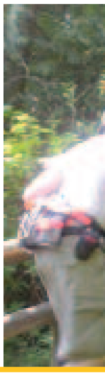
Travel Considerations

Whether travelling locally or internationally, people with disabilities and seniors with special needs should take extra time to research and plan their trip to make their travel experience safe and enjoyable. This includes preparing in advance, an emergency plan and "Ready-Go-Bag" with emergency survival items.

Your Emergency Plan:

- Before travelling, visit the **Foreign Affairs and International Trade Canada** website at www.voyage.gc.ca where you can register and find other helpful travel information safety tips.
- Discuss your particular accommodation needs with your travel agent.
- Discuss your trip with your doctor to prepare contingency plans in case of illness.
- Obtain necessary travel medical insurance.
- Carry a copy of the booklet **Bon Voyage, But…**, that contains contact information for your destination's Canadian office and Emergency Operations Centre. You can order it free of charge at www.voyage.gc.ca.
- Divide your medications and medical supplies between your carry-on and check-in baggage, keeping them in their original labelled containers. Bring copies of your prescriptions with you.
- Always wear your MedicAlert® bracelet.
- Inform your travel companion(s) on how to assist you in an emergency.
- If travelling alone, establish a network (e.g., hotel staff) that can assist you during an emergency.
- If you have difficulty using stairs request a room on a lower floor.
- Review the hotel emergency exit plan.
- If needing to evacuate, bring your emergency "Ready-Go-Bag" and any assistive devices you may need.





Dos & Don'ts

Assisting People with Disabilities

- ✔ Check on fellow travellers with visible disabilities or special needs to find out if they need your help during an emergency or evacuation.
- ✔ Listen actively to what the individual with special needs is saying and how they might need your help.
- ✔ If they speak in a foreign language that you do not understand, try to communicate using gestures.
- ✔ During an emergency evacuation (if time permits), offer to carry the person's emergency survival kit for them along with any special equipment or assistive devices they will need.
- ✔ Review previous categories in this guide on how to assist people with specific disabilities or special needs.
- ✘ Do not let the person be separated from their wheelchair or mobility aids.

Additional Items

Emergency Survival Kit

- Supply of food items appropriate to your dietary restrictions.
- Supply of medications/assistive devices appropriate to your disability (e.g., **Glucagen injection** if you manage your diabetes with insulin and you are travelling to a remote location that does not have ambulance service).
- Laminated personal information card that you keep on your person at all times when travelling. (Card identifies your special needs, lists all medications you are taking, any food/drug allergies you might have, your treating physician's name and contact information, and your next of kin.)
- Copy of your travel medical insurance and other important travel documents.
- A personal alarm that emits a loud noise to draw attention to your whereabouts.
- Small container that can store or disintegrate syringes or needles safely (if applicable).
- Anti-nausea and anti-diarrhea pills and pain medication.
- Sunblock.
- Insect repellent.
- Dictionary to help you communicate in a foreign language.
- Any other contingency supplies unique to your disability or special needs.

For More Information

Specific Disabilities and Special Needs

Canadian Diabetes Association
Tel: 416-363-3373
Toll-free Phone: 1-800-226-8464
Fax: 416-408-7117
www.diabetes.ca

Canadian Paraplegic Association Ontario
Tel: 416-422-5644
Toll-free Phone: 1-877-422-1112
Fax: 416-422-5943
Email: info@cpaont.org
www.cpaont.org

Canadian Red Cross
Tel: 905-890-1000
Fax: 905-890-1008
www.redcross.ca

Centre for Independent Living in Toronto (CILT) Inc.
Tel: 416-599-2458
TTY: 416-599-5077
24hr Newsline: 416-599-4898
Fax: 416-599-3555
Email: cilt@cilt.ca
www.cilt.ca

CNIB
Tel: 416-486-2500
Toll-free Phone: 1-800-563-2642
TTY: 416-480-8645
Fax: 416-480-7700
www.cnib.ca

Learning Disabilities Association of Ontario
Tel: 416-929-4311
Fax: 416-929-3905
www.ldao.ca

Multiple Sclerosis Society of Canada - Toronto Chapter and Ontario Division
Tel: 416-922-6065
Toll-free Phone: 1-866-922-6065
Fax: 416-922-7538
www.mssociety.ca

Ontario March of Dimes
Tel: 416-425-3463
Toll-free Phone: 1-800-263-3463
Fax: 416-425-1920
www.dimes.on.ca

Ontario SPCA (Ontario Society for the Prevention of Cruelty to Animals)
Tel: 905-898-7122
Toll-free Phone: 1-888-ONT-SPCA (668-7722)
Fax: 905-853-8643
E-mail: info@ospca.on.ca
www.ontariospca.ca

The Canadian Hearing Society
Tel: 416-928-2500
Toll-free Phone: 1-877-347-3427
TTY: 416-964-0023
Toll-free TTY: 1-877-347-3429
Fax: 416-928-2523
www.chs.ca

Toronto Rehabilitation Institute
Tel: 416-597-3422
Fax: 416-597-1977
www.torontorehab.com

Accessibility Initiatives

Accessibility Directorate of Ontario
Tel: 416-326-0207
Toll-free Phone: 1-888-520-5828
TTY: 416-326-0148
Toll-free TTY: 1-888-335-6611
Fax: 416-326-9725
www.mcss.gov.on.ca

Ontario Seniors' Secretariat
Tel: 416-326-7076 (Seniors' INFOline)
Toll-free Phone: 1-888-910-1999
Toll-free TTY: 1-800-387-5559
Fax: 416-326-7078
www.ontarioseniors.ca

Emergency Preparedness

Emergency Management Ontario
Tel: 416-314-3723
Toll-free Phone: 1-877-314-3723
Fax: 416-314-3758
www.ontario.ca/emo

For Information on MedicAlert® Bracelets or Identification

Canadian MedicAlert® Foundation
Tel: 416-696-0142
Toll-free Phone: 1-800-668-1507
Toll-free Fax: 1-800-392-8422
www.medicalert.ca

For Travel Advice and Registration Service when Travelling Abroad

Foreign Affairs and International Trade Canada
Tel: 613-944-6788
TTY: 613-944-1310
In Canada and USA:
Toll-free Phone: 1-800-267-6788
Toll-free TTY: 1-800-394-3472
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Local Emergency Management Contact:

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