ENT SURGICAL CONSULTANTS

Michael G. Gartlan, MD, FAAP, FACS
Rajeev H. Mehta, MD, FACS
Scott W. DiVenere, MD
Sung J. Chung, MD
Ankit M. Patel, MD
Walter G. Rooney, MD

2201 Glenwood Ave., Joliet, IL 60435
(815) 725-1191, (815) 725-1248 fax

1890 Silver Cross Blvd. A-435
New Lenox, IL 60451
(815) 717-8768

900 W. Rte 6, Suite 960., Morris, IL 60450
(815) 941-1972

www.entsurgicalillinois.com

LARYNGECTOMY HOME CARE (4/14)

Your **larynx** or voice box is a structure of muscle and cartilage at the upper end of the **trachea** (windpipe). This area of the neck is commonly referred to as the "Adam's apple." The larynx contains the vocal cords, which serve two very important functions. The vocal cords move together to allow us to **speak** and move apart to allow us to **breathe**. A **total laryngectomy** is a surgical procedure (operation) that removes the entire larynx. As a result, breathing and speaking will be forever altered after the surgery.

How will my breathing be different?

This is probably the biggest change you will face. After surgery you will have a permanent hole in your neck called a **stoma.** This stoma connects directly to your trachea (windpipe) which leads to your lungs. **All** of the air you breathe passes through this stoma (i.e., no air passes through your nose and mouth). As a result, the sensation of breathing is different. Because this is your only breathing passage, ensuring that this stoma is clear is of vital importance.

This permanent opening between the trachea to the surface of the neck is sometimes referred to as a **tracheostomy**. While a tracheostomy stoma and laryngectomy stoma appear quite similar, they are not the same. A tracheostomy is a "fork in the road," with some of the air passing through the stoma and some passing up through your voice box and out your nose and mouth. As mentioned earlier, with a laryngectomy the only route the air can take is through the stoma. As a result, the true term for this type of opening is **laryngectomy stoma.**

Will I ever be able to speak again?

In almost all people, the answer to this question is a resounding "YES!" A speech pathologist may see you before and definitely after surgery and will give you instructions on an alternate method of speaking. You may need to communicate in writing until you learn one of these alternate methods. In the past, 2 options existed: 1) artificial larynx (**electrolarynx**). This is a vibrating device that is held up to the neck while the person mouths the words. While easy to learn and generally quite effective, speech is certainly quite "robotic" and artificial; and 2) esophageal speech. This is basically "speaking while belching." While some learn to perform this amazingly well, it takes a great deal of training and many are never able to master it.

Today, the primary option for voice restoration is through a **voice prosthesis** (generally a *Provox 2*) that is inserted either at the time of surgery or afterward. This prosthesis is inserted through the back wall of the stoma and serves as a connection between the trachea and the esophagus. Because this method allows lung-generated air to pass through your own mouth and lips, the quality of the speech is generally much more natural. The voice prosthesis is inserted either at the time of the original surgery or several weeks after. Generally, speech therapy begins within several weeks after the laryngectomy and effective speech is usually achieved very quickly. This is successful for approximately 90% of all laryngectomy patients.

What should I expect after surgery?

After surgery you will be admitted to the Intensive Care Unit to be closely monitored. You will be hooked up to an IV, EKG and humidified oxygen as routine monitoring while in the Intensive Care Unit. It is normal to experience swelling to the neck and face, which will gradually decrease day by day.

Some other changes you may experience after your laryngectomy are:

- Decreased ability to smell because you are unable to inhale odors through your nose.
- Decreased ability to taste because taste sensation is greatly affected by odors and ability to smell.
- Inability to blow your nose because you cannot exhale air through your nose.
- Inability to hold your breath and bear down (Valsalva maneuver)
- Inability to warm, moisten and filter the air you inhale because these functions previously took place in your nose and mouth.

It is important that you know about these changes, as this will help you understand your home care instructions and why they are necessary. You will be given individual instructions, demonstrations, and practice sessions before you are discharged so you will be able to care for yourself effectively. A family member of friend should also learn how to care for you and practice helping you so that someone can assist you at home. This handout summarizes what will be taught and should be kept as a resource for you and your family/friend.

HOW TO CARE FOR YOUR AIRWAY

In most cases the use of normal saline and a humidifier effectively keeps your secretions thin enough to cough or suction out. If you have thick secretions, mucous plugs, or a feeling that your airway is not clear, you may try the following suggestions:

1. Fill the bathtub with hot water and sit in the steam-filled bathroom for 20 minutes. Do not submerge in the bathtub. Repeat as necessary.
2. Place a moist all-gauze square over your stoma. Remoisten it frequently. The gauze may be held in place by folding it over twill tape or bias tape and securing it around your neck.
3. Stand in the shower with the water directed away from your stoma.
4. Fill an atomizer or spray bottle with normal saline and spray into your stoma several times a day.

SUCTIONING

The purpose of suctioning is to remove secretions that you cannot cough out. Suctioning will clear your airway, making it easier to breathe.

1. Connect suction catheter to tubing from suction machine.
2. Instill 2 to 3cc of normal saline into the stoma to loosen secretions.
3. Moisten the tip of the catheter in a small container of normal saline.
4. Breathe deeply before inserting the catheter.
5. Gently insert the catheter through the stoma. Do not cover the suction control vent while inserting the catheter. Pass the catheter until you meet resistance, then withdraw slightly before applying suction.
6. To apply suction, cover the vent with your thumb. Do not apply suction for more than ten seconds. Gently rotate the catheter as it is withdrawn.
7. Do not insert the catheter more than three times during one suctioning period. If the additional suctioning is required, allow yourself a five- or ten-minute rest before suctioning again.

HOW TO MAKE NORMAL SALINE

1. Carefully clean and rinse a 1-quart glass jar. Fill the clean jar with tap water or bottled water. You do not have to boil the water.
2. Add one heaping teaspoon of “pickling/canning” salt. Do not use table salt. Table salt has unwanted additives. You can ask for pickling salt at the grocery store. It is often difficult to find during the winter months.
3. Add 1 rounded teaspoon of baking soda (pure bicarbonate).
4. Stir or shake before each use. Store at room temperature. After a week, pour out any mixture that is left over and make a new recipe.

HOW TO CARE FOR SUCTION EQUIPMENT

Cleaning the Suction Catheters:

1. Place catheters under cool running tap water to rinse secretions.
2. Wash catheters well in hot, soapy water (mild liquid soap) and rinse thoroughly with tap water. It may be helpful to attach the catheter to suction to remove any remaining soapy water.
3. Soak catheters in equal parts of white vinegar and tap water (one cup vinegar to one cup water) for one hour. Rinse suction catheters with normal saline and connect catheter to suction to rinse inside of each catheter.
4. Air dry catheters on a clean towel.
5. Store catheters in a clean, covered container.

Care of Suction Machine:

1. Dispose of secretions from the suction bottle into the toilet.
2. Wash the suction bottle and tubing daily with hot, soapy water.

HAND-WASHING/CLEAN TECHNIQUE

The importance of hand washing cannot be overemphasized. Because your hands may spread germs, it is essential that you wash your hands before and after all care, and clean equipment must be used.

HUMIDITY

Additional moisture is necessary because the nose and mouth, which normally filter, warm and moisten the air you breathe, are bypassed. The required amount of additional moisture will vary. Use a room-size humidifier in your bedroom in addition to the furnace humidifier. Drinking plenty of fluid also helps to keep your airway moist. Increased humidity will be essential during the winter months when your home becomes dry. More moisture is needed whenever tracheal secretions become thick, dry, or form plugs. Pink or blood-tinged secretions may also indicate a lack of moisture. Putting normal saline (a salt solution) into the trachea adds moisture and stimulates a cough to clear secretions from your airway. You will be able to tell how often to instill normal saline by the type and amount of secretions.

HOW TO CLEAN THE HUMIDIFIER

Germs will grow in a humidifier making it necessary to clean the unit to decrease the possibility of respiratory infections. Refer to package instructions for specific cleaning methods.

Daily:

1. Empty and clean tub with hot soapy water. Rinse well.
2. Fill with fresh tap water.
3. Never add water to the humidifier without emptying and rinsing the tub.

Weekly:

1. Empty and rinse.
2. Fill the humidifier tub with equal parts of vinegar and water and turn the humidifier on for one hour. Due to the strong smell of the vinegar, place the humidifier in an unoccupied room.
3. Empty the humidifier and wash all parts with hot soapy water. Rinse well.
4. Fill the tub with clean water and turn on the humidifier for another hour.
5. Empty and air-dry. Unit is ready for use.

HOW TO CARE FOR YOUR STOMA

A skin care nurse will assist you with cleaning and caring for your laryngectomy tube and stoma while you are in the hospital. The skin care nurse will work together with your physician for your individual needs. They will assist you and your family/friend with home care before you are discharged. You may see the skin care nurse prior to surgery at the request of your physician.

Cleaning: The skin around your stoma should be kept clean and dry. Cotton-tipped applicators or a damp washcloth may be used to gently remove secretions surrounding the opening. It may be helpful to apply a thin film of Vaseline® to the **outer edges** of your stoma to loosen crusting. Do not use ointment if undergoing radiation.

Covering: You may want to keep your stoma covered to help keep dust, insects, or other foreign matter from entering your stoma, to maintain moisture, and to warm the air you inhale. The covering will also decrease the sound of breathing from your stoma, stoma odors, and "breathing on" other people. Cover your stoma with an all-gauze square folded over twill tape or bias tape and secured around your neck. A variety of commercial stoma shields or covers are available. (See list of suppliers at the end of this handout). Also available are directions for handmade stoma covers. If you are interested, ask your skin care nurse or speech pathologist for more information.

As you become more comfortable with your altered airway, you may wish to use a different style of stoma cover. Women may like to use a scarf, high-necked dress, or a turtleneck sweater. For men, a high neck t-shirt, turtleneck, or dress shirt with an ascot may be worn.

Appliances: Your stoma will remain open; therefore, you may not need an appliance inserted into your stoma. Over a period of time, the stoma may slowly decrease in size. This is called stoma stenosis. This gradual shrinking may be minimized be the periodic or continuous use of a stoma button, stoma vent, or a laryngectomy (tracheostomy) tube.

.

The stoma vent is the most commonly used appliance. Some people prefer to use the stoma vent continuously because it helps to keep the stoma edges clean and free of accumulated secretions in addition to maintaining the stoma size. Your nurse or physician will select the correct size stoma vent for you.

To Insert Your Stoma Vent:

1. Clean stoma.
2. To secure vent in stoma, insert ties into openings in outside rim of the vent.
3. Lubricate the vent with normal saline or water-soluble gel (K-Y lubricant).
4. Insert the vent and secure ties around neck.

Clean the vent at least twice a day using a soft brush or pipe cleaners, mild soap and water. Rinse well under running tap water.
Do not use the vent if it is cracked, damaged, or too small for your stoma. Consult your nurse or doctor when necessary.
If you use a laryngectomy (tracheostomy) tube or stoma button, individual instructions will be given regarding care, insertion, and cleaning.

Bivona HME (Heat and Moisture Exchange) System

This system replaces the functions of the nose and upper airway bypassed by laryngectomy. It helps heat, humidify and filter the inhaled air and partially restores breathing resistance. It also reduces both coughing and the production of mucus, provides easy stoma closure, and facilitates speech. It is also suitable for use with or without a voice prosthesis. See Bivona Medical Technologies below

HOW TO CARE FOR YOUR INDWELLING VOICE PROSTHESIS

Your speech therapist will instruct you on the care of your voice prosthesis. In general, your prosthesis requires daily cleaning with a special brush. The lifespan of each prosthesis is generally 6-12 months. You will know the prosthesis needs to be changed when liquids that you swallow begin to leak around the prosthesis. Occasionally, treatment with topical nystatin or oral antifungal medications can be used to extend the life of the prosthesis. While the initial procedure to place the prosthesis is performed in the operating room, subsequent changes are performed in the office, usually by the speech therapist. You should have a cleaning brush, an extra placement prosthesis, and a plug in case of emergency after hours.

PRECAUTIONS

1. When bathing or showering prevent water from entering the stoma. **Do not swim.**
2. Avoid substances that will irritate your airway (e.g., powders, aerosol sprays, dust, and smoke). **DO NOT SMOKE**.
3. Do not use facial tissue to cover your stoma because they may shred.
4. Do not use over- the-counter antihistamines (cold medications). Antihistamines dry secretions and the airway.
5. You do not need to take any precautions to keep bed linens from your stoma, as you will awaken if anything interferes with your breathing.

EMERGENCY INFORMATION

Talking on the telephone may be difficult. Be sure to establish a method to summon help in the event of an emergency. Place emergency numbers near the phone-fire department, ambulance, visiting nurse, physician, and so forth.

During cardiopulmonary resuscitation (CPR), breathing must be performed **mouth to stoma**, not mouth to mouth.

We suggest that you order a medical alert bracelet/necklace from a drug store. Medical information may be engraved on the back of the bracelet/necklace. In an emergency it is necessary to know that you breathe through an opening in your neck.

ACTIVITY

Unless there are other limiting conditions, you should be able to continue your usual activities. It may not be necessary to change occupations unless the environment in which you work is very dusty or there are extreme temperatures, as you will find breathing in these conditions uncomfortable. You cannot swim submerged.

MOUTH CARE

Because of your decreased ability to taste and smell you will not be aware of mouth odors. Establish a daily routine for oral hygiene.

DIET

Unless you have had additional surgery or radiation therapy, your ability to eat and swallow should not be affected by your laryngectomy. Since your taste sensation will be diminished, food may be more appealing if well prepared and tastefully seasoned. If you have difficulty swallowing or eating, contact your physician. Because you are unable to hold your breath and bear down, constipation may be a problem. Include high fiber foods (fresh fruit and vegetables, bran, whole grain bread and cereal) in your daily diet to facilitate normal bowel movements. Exercise and increased amounts of liquids will also help. Use a laxative as a last resort.

DISCHARGE INFORMATION

Before you leave the hospital and with your permission, a visiting nurse will be contacted and informed of your home-care needs. The American Cancer Society, Visiting Nurse Association, or the social service department in your area may also provide information and assistance for obtaining and buying supplies. A humidifier may be obtained from any drugstore if you wish to buy one. A suction machine and humidifier may be rented from a local rental agency or medical supply store. Arrangements for this equipment should be completed before you leave the hospital.

Home supplies: The following may be sent home with you:

1. Sterile normal saline.
2. Small pre-packaged plastic vials of normal saline to instill into the stoma. A medicine dropper may also be used.
3. Plastic cups for normal saline.
4. Gauze squares to use when coughing. Soft paper towels are an acceptable substitute.
5. Trach cleaning kits.
6. Suction catheters.
7. Connecting tube for suction machine.
8. Cotton-tipped applicators – extra long.
9. Plastic basin.
10. Velcro straps (2) to secure stoma vent/laryngectomy tube.
11. *ProVox 2* brush
12. Spare *ProVox 2* prosthesis
13. *ProVox 2* emergency plug

Following Discharge: Please **notify your physician if you feel you are having problems or if any of the following occur:**

1. Difficulty breathing or noisy breathing that sounds obstructed.
2. Persistent mucous plugs or blood-tinged secretions from stoma.
3. Persistent chest discomfort.
4. Unusual increase in amount of tracheal secretions.
5. Thick, foul-smelling tracheal secretions.
6. Persistent fever.
7. Decrease in stoma size or inability to insert stoma vent.
8. Difficulty swallowing or eating.

To contact your physician, call (815) 725-1191

SOURCE OF SUPPLIES FOR LARYNGECTOMIES

ATOS Medical
Phone: (800) 217-0025
Provox 2 Voice Prosthesis supplies, cleaning brush, etc.

B and K Prescription Shop
Phone: (800) 432-0224
Shower collars and a complete line of laryngectomy supplies.

Bivona Medical Technologies
Phone: (800) 424-8662
Supplier of laryngectomy tubes, tracheostoma vents, universal adhesive remover, stoma cover/protectors, foam stoma covers, artificial saliva, protective barrier wipes, unit dose saline vials, laryngectomy tube holders and ties, water soluble lubricant, Bivona HME (Heat and Moisture Exchange) system.

Bruce Medical Supply
Phone: (800) 225-8446, Fax: 781-894-9519
Call for a free catalog. Nations largest assortment of laryngectomy products. Latex shower collars.

Luminaud, Inc.
Phone: (800) 255-3408 www.luminaud.com
Wide variety of styles and colors of collars, ascots, women's lace collars with filter backing, stoma cover starter kit

Lauder Enterprises, Inc
Phone: (800) 388-8642 www.electrolaryx.com
Self Help For the Laryngectomee by Edmund Lauder

Dean Rosecrans
Phone: (800) 237-3699 www.rosecrans.com
Original FOAM FILTER since 1972, original foam stoma cover, filtering foam & tape, new laryngectomees call or send for free sample kit; Medicare assignments accepted. Products available covered by Medicare. Also available: shower stoma covers, bibs and contour fitting collars.

OTHER RESOURCES

Joliet Second Voice Club
Joliet area support group that meets monthly on topics which are helpful to laryngectomee patients.

International Association of Laryngectomees (IAL)
Phone: (866) 425-3678 www.theial.com
The international Association of Laryngectomees (IAL) is a nonprofit voluntary organization composed of approximately 300 laryngectomee member clubs designed to benefit you and your spouse.

American Cancer Society (Illinois Division, Inc)
Phone: (800) 782-7716 www.illinoiscancerhelp.org