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Laryngectomy

WHAT IS LARYNGECTOMY?

This is an operation to remove a part, or the whole of the larynx (voice box). It is a very serious operation, requiring a general anesthetic and a stay of several weeks in hospital. You will have to be prepared for the loss of your voice, and extensive pre-operative counseling should be available for this. It is possible to regain a certain amount of vocalization with speech therapy. After the operation you will have to breathe through a hole in your neck (tracheostomy) which will be a permanent feature.

WHY IS IT PERFORMED?

Laryngectomy is mostly performed to remove malignant tumors (cancers) from the larynx. This procedure is used to remove a tumor as a life-saving procedure. Occasionally this type of surgery is used to relieve a stenosis (narrowing) of the larynx. A laryngectomy may also be necessary, again as a last resort, when the larynx has been severely damaged by disease or injury.

RISKS AND BENEFITS

There are all the usual risks of surgery using a general anesthetic. Laryngectomy is a very radical procedure, and is only used when other methods to remove a tumor are inappropriate. In these circumstances it is life-saving. For the majority of patients the most serious result is loss of the voice. Some form of verbal communication can be restored with the proper therapy, but nevertheless the experience will be very traumatic for both you and your family.

THE PROCEDURE :
PREPARING FOR SURGERY

By the time laryngectomy has been recommended you will probably be in a traumatized state and need counseling. The procedure, and the consequences will be explained as carefully as possible in terms that you and you're spouse/family can understand. The hospital staff will prepare you as much as possible for the loss of verbal communication. This should be explained by the surgeon and followed up by regular sessions with a speech therapist. It should also be possible to arrange visits by a member of a laryngectomy organization (a group of people who have already learned to live with a laryngectomy).

You will normally be admitted to the hospital several days before the operation. A thorough medical examination is given to assess the condition of your heart and lungs. Blood, urine, sputum and samples taken from the nose and throat are sent to the laboratory for analysis; blood will also be cross-matched in case a transfusion is necessary. Should the tests reveal anemia or electrolyte imbalance then you will be given a blood transfusion or an intravenous infusion of electrolytes to stabilize your condition in preparation for surgery. Bacteriological tests will reveal which, if any, antibiotics should be used. Sometimes a physiotherapist will come to check your breathing and to help clear your lungs of mucus and sputum.

ON THE DAY OF SURGERY

No food or drink is allowed after midnight. You might be given a sedative to help you to sleep. In the morning your face and neck are shaved, and the skin washed with antiseptic soap. A premedication injection is given about an hour before surgery to help you relax.

IN THE OPERATING ROOM

The surgeon will work with you lying, anesthetized, on your back, with your neck extended as much as possible. A V-shaped incision (sometimes called the Gluck Sorenson Incision) is made from just under the jaw bone on one side of the neck, down to below the larynx, and then back up to the opposite side of the neck. The base of this incision is used to create the stoma (hole) through which you will have to breathe. The larynx is cut away from the trachea (windpipe). The top end of the trachea is then brought out through the skin and the endotracheal tube used by the anesthesiologist is taken out of the mouth and inserted into the trachea through the stoma. The tracheal opening is now sutured to the opening in the skin. The larynx can now be separated from the pharynx (back of the throat) and the esophagus (the tube through which food passes from the mouth to the stomach) and removed. A nasogastric tube is then inserted through the nose and down the esophagus tot he stomach. After this the pharynx is closed up, using the remaining muscles from the pharynx and tongue to reinforce the repair. Two wound drains are inserted and the incision is sutured closed.

BACK IN THE HOSPITAL ROOM

Your vital signs (heart rate, blood pressure, respiration, temperature) will be monitored constantly. You will wake to find a nasogastric tube in place, and possibly an intravenous infusion in one arm. The wound drains will be connected to a vacuum bottle or pump and the tube in the stoma connected too an air humidifier. The humidifier will have to be used for several days, but in time the airways will adapt to the dramatic change in their anatomy and physiology. A spray of saline or sodium bicarbonate can be used to humidify the air when necessary. Such intermittent humidification may be necessary for several weeks; some patients may always need tot use the spray. You will no longer be able to clear your lungs by coughing. Mucus and sputum are continually being produced and will have to be sucked out of the laryngectomy tube. In the immediate postoperative period the nurse will know when to apply suction, and it will probably have to be done quite frequently. A physiotherapist will come regularly to check your breathing and to help dislodge any secretions obstructing the airways. There should not be much pain, but any painkillers or other medications, such as antibiotics, that are necessary will be given through the nasogastric tube. it is possible that you will experience some discomfort through having had your neck extended during the operation. As you will have lost the power of speech, you will be encouraged to communicate with the nurses by writing or by a signboard. The drain tubes are normally left in for about three days, or until the wound has stopped discharging. They are then removed and the punctures covered with sterile dressings. At the same time the nurse will check for any complications such as hematoma (blood collection). A nasogastric tube will be in place to maintain nutrition and for the administration of drugs. however, immediately after the operation, whole blood or electrolyte fluids will be given by intravenous infusion. you will not be allowed to swallow for several days, and saliva will have to be sucked out of your mouth. The nurse will clean your mouth regularly to help you keep

comfortable. When bowel activity resumes (as detected by the return of bowel sounds) sterile water will be given through the nasogastric tube. The stomach is aspirated (sucked out) before each feeding to see if the water has been absorbed. If you are able to absorb all the water in an hour, then the volume is increased. Eventually the water is replaced by dilute nutrient solution. If this is absorb
ed, the concentration is increased.

AFTER SURGERY

A laryngectomy tube is inserted into the stoma to prevent stenosis (narrowing) and to stop the air passage from being blocked by the dressings. You are placed under observation in the recovery room while you come out of the anesthetic before being moved back to your hospital room, or, should it be necessary, the critical care facility.

RECOVERY PERIOD

By about a week after surgery, if all has gone well, you will able to swallow saliva without discomfort. At this stage the nasogastric tube can be removed and you can start to take food by mouth. This needs to be done carefully and will be closely monitored to ensure there are no leaks from the pharynx into the neck. At the first sign of complications the nasogastric tube is reinserted. During this time you will be frustrated by reduced powers of communication and you will be anxious to start talking as soon as possible. However, patience is urged as undue strain on the pharynx before it has had time to heal can lead to complications. The speech therapist will start to teach you how to vocalize, using air trapped in the esophagus, as soon as possible.

GOING HOME

If all goes well you should be able to go home after about three weeks. Instruction in the care of the stoma and laryngectomy tube will be given, and if you still need suction to clear secretions from the lungs, a machine will be loaned. The laryngectomy tube may be removed after about a month, but the check-ups will continue to look out for recurrent disease.
As well as regular medical check-ups you will need counseling and advice on how to cope with living with a laryngectomy. The speech therapist will help with this and you will be put in touch with a society for laryngectomy patients who will be able to provide support and counseling. Laryngectomy patients often worry about simple things and need reassurance. A common, and unfounded fear is of suffocating in the night; this does not happen and you will be able to sleep normally, and without fear. Esophageal speakers become very fluent.

POSSIBLE COMPLICATIONS

Because laryngectomy is such a radical procedure postoperative complications are always a possibility. Breakdown of the wound, due perhaps to trying to swallow or talk too soon, can result in saliva and other fluids seeping out of the pharynx and into the neck tissues surrounding the wound. if the leakage is small it will usually heal itself but the nasogastric tube has to be reinserted. If such a breakdown includes the stoma then stenosis (narrowing) might occur. This can usually be controlled by leaving the laryngectomy tube in for a longer period of time; otherwise there may be a need for further surgery. Another possible problem is bleeding leading to the formation of a hematoma (blood clot) under the skin flap. If the drain tubes are not blocked then this will not cause any problems. However, if the bleeding is serious, then you may

have to go back into surgery to have the blood vessel tied off. As well as blood it is also possible for other fluids to collect under the skin flap, resulting in what is known as a seroma. This is normally controlled by the drain tubes and pressure dressings. Infection is another possibility, especially with bleeding, seroma and wound breakdown. Finally, there is always the risk of the tumor recurring. This can only be dealt with by more extensive surgery.

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