

Surgery for Laryngeal & Tracheal Stenosis

WHAT IS LARYNGEAL/TRACHEAL STENOSIS?

This is a narrowing (stenosis) of the larynx (voice box) and/or the trachea (windpipe). In this condition a tracheostomy is normally performed first under local anesthetic. A tube is then inserted into the trachea to help you breathe, and so that the anesthesiologist can administer general anesthesia during the main operation. The procedure to repair the stenosis is carried out under a general anesthetic. After 2-3 weeks a second operation is required to remove the supporting structure inserted during the first procedure. Assisted respiration may be necessary throughout. It is inevitable that your voice will be impaired after the operation, but speech therapy should enable you to regain a good degree of vocalization.

WHY IS IT PERFORMED?

The major causes of damage to the larynx or trachea leading to stenosis are accident and injury. Any damage to this part of the throat can result in impaired breathing and is therefore potentially lethal. It is quite possible that an emergency tracheostomy has already been performed, either at the site of the accident or in the hospital's emergency room. This would have removed the immediate danger to life. Sometimes, a stenosis is formed by damage from a previous tracheostomy.

RISKS AND BENEFITS

There is always some degree of risk with surgery performed under general anesthesia, a risk which is even greater for patients with an obstructed airway. Even a mild stenosis will cause respiratory distress, but if it is severe then breathing may be totally obstructed; in this case the technique is essential to prolong life. Unfortunately, the tracheostomy may adversely affect the only remaining bit of normal trachea from which to effect the repair. There is also a risk of infection at the tracheostomy site, especially if it was performed in an emergency outside the hospital.

THE PROCEDURE: ON THE DAY OF SURGERY

A curved incision is made across the front of the neck under local anesthesia. The damaged section of windpipe is exposed and a strong tube inserted. A general anesthetic is then given for the rest of the procedure. Any scar tissue is removed and the structures restored to their natural relationship with each other; sutures are used to hold them in place. A specially molded supporting tube, known as a stent, is inserted into the damaged area, and sewn in place using wire sutures. A tracheostomy is performed through a separate incision. A nasogastric tube is then inserted to aid postoperative nutrition. After about three weeks the stent can be removed. The wire is cut, and the tube itself is extracted endoscopically. The tracheostomy is left in for a

further 2-3 days.

AFTER THE PROCEDURE

You will wake up to find a nasogastric tube has been inserted. Great care has to be taken of the airway to prevent a blockage, and constant humidification of the air will be necessary. Immediately after the operation you may need a respirator to help you breathe. You will be unable to cough and so lung secretion will have to be removed by suction. Leakage of saliva is a constant problem and this will also have to be sucked out. During convalescence you will suffer loss of voice, and perhaps difficulty in breathing and feeding. All this could have a severe psychological effect on you. Encouragement and support from the surgeon and other medical staff are essential at this stage. Occupational therapy can also help you over this stage. When you are ready, a speech therapist will help you regain use of your voice.

GOING HOME

After leaving the hospital you will need to see the surgeon for regular checkups for a considerable time. This will be to monitor the progress and to look out for delayed paralysis of the vocal cords or recurrence of the stenosis. It will be some time before your voice is restored, and speech therapy will be required for this.

POSSIBLE COMPLICATIONS

Hemorrhage and fluid accumulation under the skin (emphysema) are the most likely postoperative complications. Good drainage and wound dressing will reduce this risk. Infection, especially from the tracheostomy, is a further cause for concern. Damage to the larynx and vocal cords may result in impaired speech.