Speech after total laryngectomy

Surgical removal of the vocal cords results in an inability to phonate. This can be a source of immense frustration for patients. There are a variety of options available to total laryngectomees which will be considered in turn.

Electrolarynx

These devices vibrate the external skin of the neck. They are used in combination with altering the shape of the mouth to create artificial speech. A degree of training is usually required.

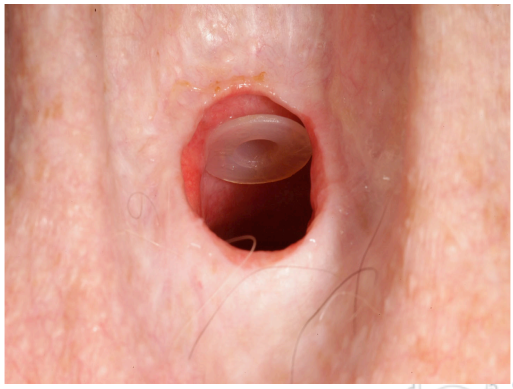
Oesophageal speech

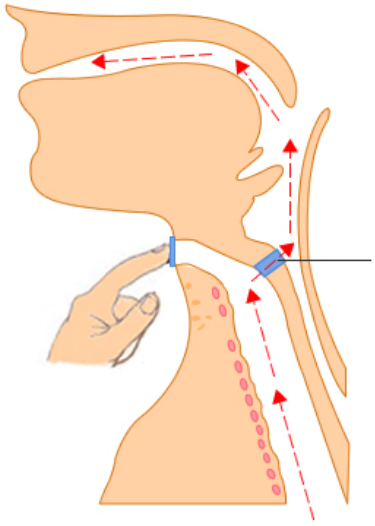
This type of speech involves swallowing air into the gullet via the mouth/nose and then 'burping' it back into the pharynx. This can be coupled with mouth shaping to generate speech. Some patients are very good at this, but again, this technique requires practice.

Tracheo-Oesophageal Punctures

These devices are often known as TEP (from the US spelling of 'esophagus'). They can be created at the time of primary surgery, or later. A puncture is made into the posterior portion of the trachea into the oesophagus behind. Exhaled air can be forced through this connection by the patient by covering their stoma in expiration. Air passes through the pharynx as above and oesophageal speech is possible. A one-way valve is usually placed into the puncture site to reduce the risk of contamination of the airways with GI contents. Some stoma covers incorporate an additional valve to direct air through the TEP valve without manual occlusion of the stoma, which makess hands-free speech. possible. TEP valves *should not be removed* in an emergency as they should not occlude the airway and removing them will not improve acute respiratory problems.

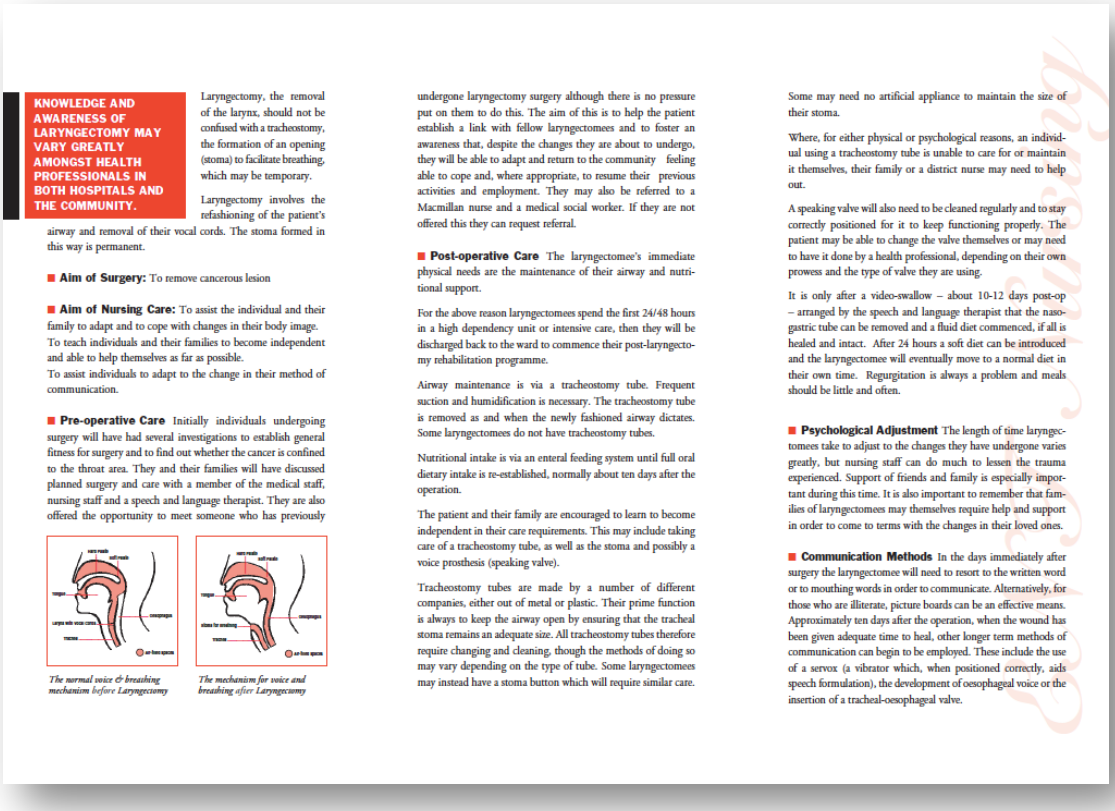
Image: TEP valve visible through the laryngectomy stoma, between the posterior wall of the trachea and the oesophagus behind.





Patient information sheets

There are a selection of information sheets for patients, carers and staff developed by the National Association of Laryngectomee Clubs in the UK. Their resources can be found at www.laryngectomy.org.uk



KNOWLEDGE AND AWARENESS OF LARYNGECTOMY MAY VARY GREATLY AMONGST HEALTH PROFESSIONALS IN BOTH HOSPITALS AND THE COMMUNITY.

Laryngectomy, the removal of the larynx, should not be confused with a tracheostomy, the formation of an opening (stoma) to facilitate breathing, which may be temporary.

Laryngectomy involves the refashioning of the patient's airway and removal of their vocal cords. The stoma formed in this way is permanent.

■ **Aim of Surgery:** To remove cancerous lesion

■ **Aim of Nursing Care:** To assist the individual and their family to adapt and to cope with changes in their body image.
To teach individuals and their families to become independent and able to help themselves as far as possible.
To assist individuals to adapt to the change in their method of communication.

■ **Pre-operative Care** Initially individuals undergoing surgery will have had several investigations to establish general fitness for surgery and to find out whether the cancer is confined to the throat area. They and their families will have discussed planned surgery and care with a member of the medical staff, nursing staff and a speech and language therapist. They are also offered the opportunity to meet someone who has previously undergone laryngectomy surgery although there is no pressure put on them to do this. The aim of this is to help the patient establish a link with fellow laryngectomees and to foster an awareness that, despite the changes they are about to undergo, they will be able to adapt and return to the community feeling able to cope and, where appropriate, to resume their previous activities and employment. They may also be referred to a Macmillan nurse and a medical social worker. If they are not offered this they can request referral.

The normal voice & breathing mechanism before Laryngectomy

The mechanism for voice and breathing after Laryngectomy

■ **Post-operative Care** The laryngectomee's immediate physical needs are the maintenance of their airway and nutritional support.

For the above reason laryngectomees spend the first 24/48 hours in a high dependency unit or intensive care, then they will be discharged back to the ward to commence their post-laryngectomy rehabilitation programme.

Airway maintenance is via a tracheostomy tube. Frequent suction and humidification is necessary. The tracheostomy tube is removed as and when the newly fashioned airway dictates. Some laryngectomees do not have tracheostomy tubes.

Nutritional intake is via an enteral feeding system until full oral dietary intake is re-established, normally about ten days after the operation.

The patient and their family are encouraged to learn to become independent in their care requirements. This may include taking care of a tracheostomy tube, as well as the stoma and possibly a voice prosthesis (speaking valve).

Tracheostomy tubes are made by a number of different companies, either out of metal or plastic. Their prime function is always to keep the airway open by ensuring that the tracheal stoma remains an adequate size. All tracheostomy tubes therefore require changing and cleaning, though the methods of doing so may vary depending on the type of tube. Some laryngectomees may instead have a stoma button which will require similar care. Some may need no artificial appliance to maintain the size of their stoma.

Where, for either physical or psychological reasons, an individual using a tracheostomy tube is unable to care for or maintain it themselves, their family or a district nurse may need to help out.

A speaking valve will also need to be cleaned regularly and to stay correctly positioned for it to keep functioning properly. The patient may be able to change the valve themselves or may need to have it done by a health professional, depending on their own prowess and the type of valve they are using.

It is only after a video-swallow – about 10-12 days post-op – arranged by the speech and language therapist that the nasogastric tube can be removed and a fluid diet commenced, if all is healed and intact. After 24 hours a soft diet can be introduced and the laryngectomee will eventually move to a normal diet in their own time. Regurgitation is always a problem and meals should be little and often.

■ **Psychological Adjustment** The length of time laryngectomees take to adjust to the changes they have undergone varies greatly, but nursing staff can do much to lessen the trauma experienced. Support of friends and family is especially important during this time. It is also important to remember that families of laryngectomees may themselves require help and support in order to come to terms with the changes in their loved ones.

■ **Communication Methods** In the days immediately after surgery the laryngectomee will need to resort to the written word or to mouthing words in order to communicate. Alternatively, for those who are illiterate, picture boards can be an effective means. Approximately ten days after the operation, when the wound has been given adequate time to heal, other longer term methods of communication can begin to be employed. These include the use of a servox (a vibrator which, when positioned correctly, aids speech formulation), the development of oesophageal voice or the insertion of a tracheal-oesophageal valve.