Laryngectomy: Your Operation Explained

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Introduction
This booklet is designed to give you information about having a laryngectomy and the care you will receive before, during and after your operation. We hope it will answer some of the questions that you or those who care for you may have at this time. It is not meant to replace the discussion between you and your surgeon, but helps you to understand more about what is discussed.

What is a laryngectomy?
A laryngectomy is a surgical operation in which all or part of the larynx (voice box) is removed. This is normally done to remove a malignant tumour (cancer) with the aim of curing the cancer. This results in two major changes following the operation:
• A different way of breathing
• Loss of voice

Often this is the first stage of treatment and is followed with radiotherapy to ensure that all the cancer is removed. Rarely, a laryngectomy may be carried out to correct a severe mechanical problem.

What is the larynx (voice box) and what does it do?
The voice box is the area at the top of the trachea (windpipe) through which air passes in order to breathe (see diagram on page 3). The vocal cords stretch across the larynx and vibrate in order to make sounds for speech. The voice box also prevents food, drinks, saliva or any particles from going into your windpipe.

What does the operation involve?
The operation can differ from person to person depending upon the position of the cancer in the larynx in relation to the surrounding structures. For example, the tumour could be located in the thyroid gland which sits in front of the larynx or in the pharynx which is the upper part of the oesophagus (gullet) through which food enters. Your consultant will discuss this with you (see diagram below).
Please use the space below to write down any questions you may have and bring this with you to your next appointment.

The operation usually involves removal of your voice box and part or all of your thyroid gland which sits in front of your larynx. Usually some glands on either side of your neck are also removed to ensure the cancer is completely taken away. This is called a neck dissection. More information about this surgery can be found in the patient information leaflet explaining neck dissection. This can vary from person to person and your consultant will discuss this with you as well as giving you some more information.

**What will I look like after the operation?**

Once your voice box has been removed, the top of your windpipe is separated in front of your gullet, and a hole will open at the front of your neck. The opening is called a stoma.
Most people find that a stoma is a lot smaller and less of a problem than they first thought. Having a stoma is safe and it will not close down. Once you have recovered from your operation the hospital staff looking after you will give you some advice on what to wear in order to protect your stoma. Following the operation you will no longer breathe through your mouth or nose or cough up mucus from your chest into your mouth. Instead, you will breathe through the stoma which extends into your windpipe and down into your lungs.

You will be able to breathe and cough comfortably through this opening. Because air is no longer going through the nose you are no longer able to sniff effectively and you will lose your sense of smell. Once you have recovered from the operation you should not have any problems with eating or drinking, however it may take longer to eat than you are used to and some consistencies of food may be more difficult to eat than others.

**Will I be able to speak after the operation?**

When your voice box is removed you will not be able to talk as before. However, once you have recovered from the surgery there are different ways in which you may be able to regain a form of voice. Your consultant and the speech and language therapist will discuss this with you before the operation and you will be given some more information on communicating after your surgery. The method you use will depend on the type of surgery you have and your individual circumstances.

Some of the different ways of communicating are:

- Use oesophageal voice
- Use an artificial larynx
- Use mouthing
- Have surgical voice restoration
- Writing

There will always be a way, in which you can communicate, such as sound, gestures, writing or other people reading your lips. The hospital and community staff are dedicated to helping and supporting you.

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**Glossary of medical terms used in this information:**

**Oesophagus:** the tube through which food passes on the way to the stomach, also known as the gullet.

**Radiotherapy:** X-ray treatment that uses high energy rays to damage or kill cancer cells.

**Stoma:** an artificial opening between two cavities, or between a cavity and the surface of the body.

**Local sources of further information**

You can visit any of the health/cancer information centres listed below:

**Sandwell and West Birmingham Hospitals NHS Trust**
The Courtyard Centre, Sandwell General Hospital (Main Reception) 
Lyndon, West Bromwich B71 4HJ 
Telephone: 0121 507 3792 Fax: 0121 507 3816

**University Hospital Birmingham NHS Foundation Trust**
The Patrick Room, Cancer Centre 
Heritage Building (Queen Elizabeth Hospital) 
Edgbaston, Birmingham B15 2TH 
Telephone: 0121 371 3539

**About this information**

This guide is provided for general information only and is not a substitute for professional medical advice. Every effort is taken to ensure that this information is accurate and consistent with current knowledge and practice at the time of publication.
• Take care not to spray aerosols such as polish or perfume too near the stoma area as this may irritate your airway causing coughing.
• During hot weather take care to protect your skin from harmful effects of the sun – a sunburnt stoma is very painful.
• While on the beach take care not to get sand in the stoma. Remember that it gets windy on the beach, so ensure that your stoma is protected. It would be useful for your friends/relatives etc. to be aware of how to carry out mouth to stoma resuscitation in case of emergency.

You will be given an emergency card explaining this and you should carry this at all times. Most people find that when they return home they need to make a few changes and are then able to return to normal life. These changes could include things such as:
• Change to personal hygiene routine, you may no longer be able to lie down in a bath or swim
• Organisation of necessary equipment to maintain the newly formed stoma/altered airway
• Adapting to the new stoma – care to avoid/protect against extreme temperature/atmospheric changes
• Communication concerns – use of electronic devices and aim to become well practised in non-verbal communication skills i.e. mouthing, pointing, miming and gesturing.

It is important that you make a list of all medicines you are taking and bring it with you to all your follow-up clinic appointments. If you have any questions at all, please ask your surgeon, oncologist or nurse. It may help to write down questions as you think of them so that you have them ready. It may also help to bring someone with you when you attend your outpatient appointments.

For details of local cancer support groups and organisations, please ask your head and neck nurse.

and your family adopt a new way of communication. Another leaflet is available detailing the communication options available to you - ‘Communicating after laryngectomy – information for patients’.

**Surgical voice restoration**
If you are having surgical voice restoration this is usually done at the time of your laryngectomy. A small opening is made at the back of the windpipe so that a voicing valve can be inserted when you have recovered from your surgery. Straight away after surgery you will have a small tube inserted through this opening into your gullet. This tube will be used to provide you with liquid food while you are unable to take anything by mouth. If you have other kinds of more complex surgery then voice restoration may need to be done at a later time. Your speech and language therapist will talk to you about this and give more information so you know what to expect after your operation.

**Who will be involved in my care?**
You will meet several health professionals before your operation as well as the surgeons and nurses. These include:

**Head and Neck Macmillan Nurses / Clinical Nurse Specialist**
The nurses will provide you and your family with support and advice concerning all aspects of your illness, treatment and recovery.

**Speech and Language Therapist**
The therapist will help you develop new ways of communicating, help with swallowing and teach you new skills. You will be invited to meet with a person who has already gone through this operation and this may help you and your family understand what to expect.

**Dietician**
Your dietician will give you advice on all your nutrition needs throughout your treatment and ensure these are met while you are recovering from your surgery.
Physiotherapist
A physiotherapist will help you with your breathing whilst recovering from your laryngectomy. He or she will also help with neck and shoulder exercises.

Head and Neck Counsellor
A counsellor will help give you and your family psychological support through your surgery and treatment and give opportunity for a structured counselling programme if necessary.

What hospital appointments will I have before my surgery?

Pre-treatment assessment
You may be asked to attend a pre-treatment clinic where you will have a chance to meet and talk to the professionals involved in your care and discuss any issues you have with your treatment and recovery plan. You may be asked to complete some questionnaires in order for your professional team to assess any immediate needs, both physical and psychological, to prepare you and your family for surgery.

Pre-admission
You may be invited to attend a pre-admission assessment one or two weeks before your operation. This enables both the doctors and the nurses to assess your health needs and carry out tests such as blood tests, heart monitoring also know also known as electrocardiogram (ECG) and chest X-rays. This ensures that it is safe for you to undergo a general anaesthetic. It is important that you bring any medication that you are taking for the medical staff to see.

How long does the operation take?
Your operation will be carried out under a general anaesthetic which means that you are fully unconscious for the whole time. Because having a laryngectomy involves delicate surgery the operation can last between 5–12 hours.

• Breathing in steam from a bowl of hot water may be helpful if your mucus is becoming thick and difficult to cough up
• Remember that your mucus may change according to the time of year

Your mucus may also become thicker during a cold or flu so you may need to take steps to ensure that you are able to clear your airway

Things to remember about your laryngectomy stoma – safety needs
• You should wear a stoma protector or filter system all the time, including when you sleep. This will warm and moisten your mucus, help to keep it thin and also filter out the dust and dirt in the air. While you are in hospital your nurses will discuss this with you and show you how to use them
• During the summer time there are more flies, wasps, blossom leaves and dust in the air which may present a hazard to the unprotected stoma
• Never cut up small pieces of gauze to clean around the stoma as fragments may fall into the stoma
• Do not use cotton wool or tissues as small fibres may be inhaled causing irritation in the airway which is often difficult to relieve
• Be careful when using cotton buds around the stoma and make sure they are moistened first so that small fibres are not inhaled. Thin white kitchen roll is best
• You need to take care not to get water into your stoma as it will go straight into your lungs. Take care when bathing and you may wish to ask a relative or friend to help you wash your hair
• You can use a plastic shower shield to protect your stoma when showering and shaving etc. These may be available on prescription or can be obtained from your delivery company
• Do not go swimming unless you have the correct breathing equipment and have had lessons in how to use it. Your local laryngectomy support group may run these
Preventing mucus build-up inside your stoma
You will be able to feel, when you breathe in and out, whether your airway is clear. By placing your hand near your stoma you will feel a good volume of warm air as you breathe out. You will have chest secretions to cough up and clear away from your stoma area. The amount of secretions can vary from person to person.
- Hold some clean kitchen towel or gauze near to your stoma, take some deep breaths and cough any secretions to the top of your airway and then wipe away
- Try to look inside your stoma with a pen torch and a mirror to ensure that there is no build-up of mucus. If this is difficult then a relative or your district nurse may help you
- If you allow mucus to build up in your stoma this may alter your breathing
- You will need to clean your stoma at regular intervals morning, midday and night
- Keeping your mucus thin will help make it easier to cough up and should help reduce build-up

How to keep your mucus thin
- You should wear a stoma protector or filter system which will warm and moisten your mucus, helping to keep it thin. While you are in hospital your nurses will discuss this with you and show you how to use them
- Drinking plenty of water will help to keep the body tissues moist, which will help to keep the secretions in your chest thin making it easier to cough up
- You may have a nebuliser and if you use sterile water or saline it may help to loosen the mucus to enable you to cough it up
- Practice deep breathing exercises regularly throughout the day
- You may need to continue using suction for a little while if you find it difficult to clear your airway. This equipment will be ordered for you before you leave hospital. The nursing staff will teach you and your relatives how to do this

To prevent vomiting and other complications during the operation you should not have anything to eat or drink (including chewing gum) for at least six hours before the operation. You will be advised of what time to starve from when you attend the pre-admission assessment.

How long can I expect to be in hospital?
You should expect to be in hospital for at least 2–3 weeks or longer if complications arise.

What are the risks of a laryngectomy?
The main risk following a laryngectomy is wound infection or poor healing. This can delay normal eating and drinking as the wound needs to be fully healed so that food and drink enters the stomach and not the tissues in the neck.

A small connecting opening from the windpipe into the new gullet (called a fistula) can sometimes develop. This needs longer healing time and prevents you taking any food or drink by mouth. There is no immediate operation for this it just needs more healing time.

As with all surgery, complications can occur although these are uncommon. After any major operation there is a risk of:

Chest infection - you can help by practicing deep breathing exercises and following the instructions from your physiotherapist. If you smoke, it is highly recommended you stop smoking as far ahead of the operation as possible as this will also reduce your risk of chest infection.

Wound infection - antibiotics will usually be given through a drip to help reduce the risk of this happening.

Thrombosis (blood clot in the leg) - this is due to changes in blood circulation during and after surgery. A small dose of heparin (blood thinning medication) may be injected daily until you go home. You can
help by moving around as much as you are able to, and in particular regularly exercising your legs. You will be fitted with some support stockings for the duration of your stay in hospital. Stopping smoking may also help reduce this risk.

**Pulmonary embolism** - rarely a blood clot from the leg can break off, travel through the heart and get stuck in the lungs. This can be very serious and even fatal. The risk of this happening is less than one in a hundred, and therefore rare.

**Bleeding** - most people will not experience any serious complications from their surgery. However, risks do increase with age and for those who already have had previous radiotherapy, heart, chest or other medical conditions such as diabetes or if you are overweight or smoke. Occasionally patients die from major surgery, however this is very rare. (less than 1%) Your surgeon will discuss these risks with you.

**What are the benefits of having a laryngectomy?**
The aim of removing the diseased larynx is to treat your condition. Your consultant surgeon will discuss this with you in more detail.

**What are the alternatives?**
Your consultant surgeon will discuss alternative options with you.

**What about smoking?**
Most hospitals now adopt a ‘no smoking’ policy and there are no smoking facilities on the ward. If you do smoke it is in your own health interest to stop smoking for at least 24 hours prior to your anaesthetic. Following your operation you will be unable to smoke as you will not be able to draw in from a cigarette. It is in your best interest to start a programme designed to help you give up smoking. The staff at the hospital can help you with this or you can seek advice from your GP. Most people are surprised how easily they learn to look after their airway. The care needed is safe, simple and does not take too much time. You should:
- Not allow any secretions (liquid substance) to build up around your stoma area or down the airway
- Check for secretions in and around the stoma at least three times daily – morning, midday and before going to bed. You may wear a stoma tube or stud so you will need to remove it and replace it with a clean one when you clean your stoma

**How to clean your stoma**
Before you start cleaning your stoma you will need to get the following equipment ready. You will be given what you need at the hospital:
- A free standing table mirror
- A good light (pen torch)
- Gauze swabs
- Cleaning solution (freshly boiled and cooled water or saline solution)
- Angled forceps

**You will then need to do the following:**
1. Once the tube is removed, clean around the stoma with gauze swabs dampened in the cleaning solution wiping away any secretions. You may also need to do this on the inside of your stoma. Moisten any dried secretions with a damp gauze and gently remove using angled forceps. You may need a relative, friend or district nurse to help you
2. Use a pen torch to check that the inside of your stoma is clear
3. When your stoma is clean reinsert a clean tube or stud
4. Occasionally the skin around the stoma may become sore, Vaseline, Unguentum Merck, E45 cream or Cavilon can be used to protect the skin. Report any changes in your stoma such as size, redness, swelling or sores to your GP or nurse
Recovering from your laryngectomy

Will I be able to eat and drink as before?
You will receive liquid food through a tube which will be placed in your nose, into your stomach, or through the back of your stoma. This will continue for around one week. You may have a swallow test (called a Water Soluble Contrast Swallow) in the imaging’ department to determine if all the internal wounds have healed. Your doctors will let you know when you can start to drink. You will then gradually increase drinks and food by mouth, and the liquid food will be reduced and stopped.

Will I be able to cope?
Mixed emotions can be felt when a person is first told they need a laryngectomy. Some feel numb; others feel they knew all the time that they would need surgery. We are all individuals and cope in different ways and need different lengths of time to get used to the changes we face. Support and help is available from all the Head and Neck Unit staff at the Queen Elizabeth Hospital, Birmingham.

What professional support will I receive at home?
When you go home help can be arranged for you if you need it. For example this could include visits from the district nurses, home helps, social services and your GP. District nurses are often invited to meet you in hospital before you go home to assess your needs and see what you need at home. The specialist nurses who have looked after you in hospital may be able to visit you at home if this is needed. You will be given contact numbers for the ward so that if you have any immediate problems they can advise you. There is always somebody available 24 hours a day.

How will I care for my stoma after going home?
Before you leave hospital you will be taught by the nurses how to care for your stoma. You will go home when you are confident and feel ready.

What will happen just before my operation?
When you have been taken to your bed the nurse will welcome you and check your details. It is necessary for you to wear a theatre gown for your operation. This will be given to you by the nurse who will instruct you how to wear it and give assistance if required.

Please only wear cotton underpants / knickers under your gown. All other underwear must be removed to ensure your safety in the operating theatre.

You will also be given a pair of dark elastic stockings to wear during and after the operation which will help to prevent blood clots in your legs. They will feel quite tight to wear and the nurses can help you put these on. You may need to have your neck shaved before the operation. This may be done in the theatre.

Going to theatre
Just before going to theatre a checklist is completed by the nurse. You will then be taken on your bed to the operating theatre usually by a porter and a nurse. Dentures, glasses and hearing aids can be taken out in the anaesthetic room and taken back to the ward by the nurse, or you may like to put them in your locker before your operation.

Here the anaesthetist will insert a small needle into the back of your hand through which you will receive the anaesthetic. The nurse will stay with you until you are fully under the anaesthetic and fully asleep. You will be in theatre for most of the day. You will not wake up until the operation is over and you are back on your bed in the recovery area. You will then be taken back to the ward, on your bed, by a porter and a nurse. You may stay in the Intensive Care Unit (also known as Critical Care or high dependency Unit) for a few days after surgery in order to receive specialist care.
How will I feel when I wake up?

- Back on the ward you will be made comfortable and a nurse will probably stay with you for most of the time. You will be nursed in a fairly upright position, in your bed, supported by several pillows. This will help reduce swelling in the neck area and make breathing easier.
- You will have your blood pressure, pulse and oxygen levels checked. This will be monitored by a machine which has a blood pressure cuff and a rubber attachment to fit on your finger.
- There will be a fluid drip going into a vein probably in the back of your hand. This will help to maintain your fluid levels as you will not be able to eat and drink for about seven days after your operation.
- You may have a long feeding tube going into your stomach through your nose or through the opening made at the back of your windpipe (if you have had a primary voice restoration procedure). This will be used to give you water and liquid feeds a day or so after your operation.
- Pain relief may be given through a fluid drip, by injections/liquid medication or by a pump which you may be able to operate yourself.
- You will have a tube in your throat in the stoma and some stitches around the operation area. There will be a mask around your neck to give you oxygen and moisture in your lungs. There may be metal clips on either side of your neck if you have also had a neck dissection. You will have a small tube on either side of the neck. These tubes are quite long and attach to drainage bottles and remove excess fluid from around the neck area.
- It is normal for there to be some swelling in the neck and around the jaw line after surgery. As the drainage reduces the tubes will be removed, usually between 2–4 days after surgery.

Removing mucus

- Because you are now breathing through the tube in your stoma you will have more mucus than you are used to and you will need to cough this up. You may find this tiresome at first. The nurses will help you with this.
- A small narrow tube connected to a suction machine will be inserted into your stoma to remove this mucus and this will make breathing feel easier. This is called suctioning. You will learn, with help from the physiotherapist and the nursing staff how to cough this mucus out through your stoma by yourself. The mucus may be blood-stained at first – do not worry as this is normal.
- You will be given a mist to breathe in and out through a mask over your stoma and this will help to loosen mucus so that you can cough it out. This is called a nebuliser.
- The tube in your neck, through which you breathe, will be removed after a couple of days and the stoma will be cleaned regularly. The nurses will begin to show you how to do this.
- You may or may not have to wear a laryngectomy tube in your stoma but your nurse will explain all this to you.
- After a few days and once your wounds have healed some of the clips and stitches will be taken out on the ward. The air you now breathe no longer passes through the nose, which previously moistened and filtered the air before it reaches your lungs. Instead air goes straight through your stoma to your lungs. To replace the moisture needed you will have moistened oxygen given through a mask into your neck stoma – this can be quite noisy. After a few days you will progress to wearing a humidification cover (bib) or filters which help warm and moisten the air that you breathe.
- At first when you need to use the toilet the ward staff will bring you a commode or bedpan. However soon you will be able to walk to the bathroom yourself.
- You will have a call bell by which you can contact the ward staff for assistance as needed. As you will have no voice initially you can communicate by writing, picture cards and by others lip-reading. You may like to bring a pen and notebook, magic slate, electronic tablet or mobile phone for texting family and friends.
- Following your operation you may not feel very sociable so it is wise to only have a couple of visitors. You will be advised on visiting hours.