

Oesophagectomy

Brief description:

- You have been advised to have surgery to remove most of the oesophagus – termed an oesophagectomy. An oesophagectomy is nearly always performed for a cancerous growth.
- Here, we explain some of the aims, benefits, risks and alternatives to this procedure (operation/treatment). We want you to be informed about your choices to help you to be fully involved in making any decisions.
- There are different ways of performing an oesophagectomy. You have been recommended to have a two phase oesophagectomy. Two phase means part of the operation is performed in the chest and part in the abdomen. An incision is required both on the chest wall and on the abdomen because the oesophagus resides in both the chest and the abdomen. You may hear the operation also referred to as an Ivor-Lewis operation.
- Please ask about anything you do not fully understand or wish to have explained in more detail.

About oesophagectomy

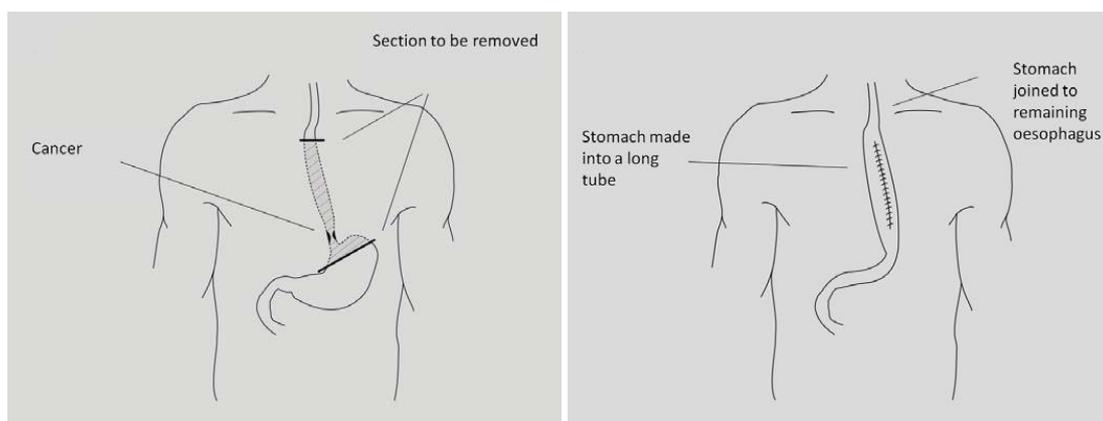
The main function of the oesophagus is to transport food and liquid from your throat to your stomach. An operation to remove the oesophagus is called an oesophagectomy. A replacement oesophagus has to be made so that you can continue to eat and drink and this is usually made from your stomach.

Before your procedure

- Patients attend a pre-admission clinic, when you will meet a member of the surgical team.
- At this clinic, we shall ask you for details of your medical history and carry out any necessary clinical examinations and investigations. This is a good opportunity for you to ask us any questions about the procedure, but please feel free to discuss any concerns you might have at any time.
- You will be asked if you are taking any tablets or other types of medication - these might be ones prescribed by a doctor or bought over the counter in a health food shop. It helps us if you bring details with you of anything you are taking (for example bring the packaging with you).
- This procedure involves the use of general anaesthesia. See below for further details about this type of anaesthesia.
- You will usually be admitted to hospital early in the morning on the day of your operation.
- You will have had a number of investigations including an endoscopy (telescope test), CT scans and an EUS (endoluminal ultrasound scan). These give us a fairly accurate indication of whether there is a chance of curing you by radical surgery. In addition, you may have had some special tests to assess your lung and heart function to see whether you will cope with the anaesthetic. These are all designed to make sure that the operation is the right treatment for you.

During the procedure

- The object of the operation is to remove the most of the oesophagus with any cancer and associated lymph glands. We usually use the stomach to replace it but occasionally part of the colon (large bowel) is used instead.
- The stomach tube is brought up into the chest and joined on to the remaining upper oesophagus, at the very top of the chest.
- You may find the following schematic diagrams useful in understanding the operation



Before oesophagectomy

After oesophagectomy

- Some patients will have a cut across the upper part of the abdomen under their ribs and one in the right side of their chest. Some patients have a single, continuous long cut across the left side of the chest, across the rib margin and onto the left side of the upper abdomen. **The consultant will discuss the exact details of the operation with you.**

After the procedure

- **When you wake up:** You will be in the Intensive care unit. A nurse will be with you at all times monitoring your progress and ensuring that your pain is well controlled.
- **Pain and nausea:** If you have pain or feel sick tell your nurse who will adjust your medication to control these symptoms.

- **Drain Tubes:** You will have tube drains in your abdomen, chest and down your nose (nasogastric). The chest drains are each attached to bottles containing water to create a one way valve allowing air and fluid out but nothing back in to the space around your lungs. The nasogastric tube drain allows fluid to drain out of the new oesophagus and into a bag and prevents pressure building up inside the anastomosis which in turn helps prevent anastomotic leakage. It is important not to pull this drain out by accident. You will also have a catheter in your bladder until you are fully mobile so you do not need to get up to pass water.
- **Feeding jejunostomy tube:** During surgery a fine plastic tube will be placed through the abdominal wall into the bowel beyond the stomach. This is called a feeding jejunostomy. Through this tube a special formulation of feed will be administered starting on the first day after surgery. Giving feed into the bowel hastens recovery. The tube is removed simply either on the ward before you go home or at your first clinic visit two weeks after you go home depending upon your progress.

Expected progress

- **Day 0:** The operation; this usually takes about five to six hours. You spend your first night in the Intensive care unit. You will be transferred to a regular ward when your condition deems it appropriate.
- **Day 1:** Here you will be encouraged to get out of bed for a short period sitting in a reclining chair and have physiotherapy to help you cough. The nurses will monitor your pulse, blood pressure, temperature and oxygen levels frequently.
- **Day 2-5:** You will spend more time sitting in your chair each day. You will only be allowed small sips of water by mouth. Your feeding will be via the jejunostomy tube. You must work hard on doing deep breathing and coughing. You will have a special X-ray to check that there is no leak from the anastomosis.
- **Day 6-7:** If you have an epidural, this will usually be removed around day five to six to prevent infection. Your pain will then be controlled with a morphine drip that you control (PCA) via a small button. All your drains are usually removed by seven days after surgery. If you are well you will be allowed to drink water in unlimited volumes, progressing on to all fluids. You are often well enough to be moved to the ward by this stage of your recovery.
- **Day 8-11:** You will now start a light soft diet. While you are getting back to eating we usually continue giving you some feed via the jejunostomy but aim to stop this before you go home. You will be encouraged to walk around as much as possible. Your pain will now be controlled with pain killing tablets taken orally. You will also be taking a medicine to stop stomach acid (Omeprazole).
- **Day 12-14:** You will be discharged home. Some people recover faster and might be home before this. Any patient who has a complication like pneumonia may be in hospital a lot longer. You will not be allowed home until you are fit for discharge.
- **Eating:** You will start on soft foods at first and will only tolerate small amounts. You will be seen by a specialist Dietitian who will advise you on what to eat and drink. As you become more confident you will manage larger portions of food and move on to normal meals but the portions will still be smaller than you could manage before and you will have to snack frequently through the day. Remember, "little and often".
- **When you can leave hospital:** You will feel very tired at first. This is normal. Try to get up and dressed in the morning and keep active around the house. You will need a sleep in the middle of the day. Remember to eat frequently. Don't eat late at night as this will give you indigestion. Get out for some short walks and take pain killers if you need to for the wounds if they are still sore. As you become stronger you can increase what you do each day. Most patients are not fit to drive for at least six weeks after surgery. If in doubt ask your surgeon.
- **Weight loss:** Most patients will lose weight after an oesophagectomy. This will often be in the region of 10Kg (20lbs). It is important that this does not happen too quickly as it can make you very weak and affect your immune system. If you are losing weight rapidly and struggling to eat you must call your surgeon for advice.
- **Dumping Syndrome:** During your operation, the main nerve (vagus nerve) to the intestines has to be cut. This usually has some effects on the bowel function and is called "Dumping syndrome". One of the commonest effects is that you can have attacks of unexpected diarrhoea. This is sometimes associated with abdominal pain, severe tiredness and occasionally hot flushes. It usually occurs shortly after eating and the effects normally disappear within an hour or so. Ordinarily, food is partially digested in the stomach and then released gradually into the intestines. Dumping syndrome occurs when the food you have eaten passes into your small intestine more rapidly as a consequence of the surgery. This does not affect everyone and those who experience it usually find that it improves with time. If you suffer with Dumping, avoid taking liquids at meal times and reduce the amount of sweet foods in your diet. Your Dietitian can advise you on changes to your diet that can reduce these effects.

- **When you can resume normal activities including work:** As your strength improves and the discomfort in your wounds settles you will be able to do more. It can take between six and twelve months to feel back to normal again but many patients start back with part-time work three to four months after their operation. You will not harm yourself drinking alcohol.
- **When do you have to come back for a check up?** We routinely give everyone a check up at two to four weeks in the Consultant surgeons rooms. Then we review you at three, six and twelve months from the date of your surgery and then yearly thereafter, for five years. Your prognosis will depend a lot on how advanced the tumour was and this information comes from the histology report. Your Consultant will discuss this with you when you come to the clinic.

Intended benefits of the procedure

- The aim of the surgery is to remove the cancer or abnormality– completely if possible. For cancer operations, surgery gives the best chance of cure, but the treatment may need to be combined with chemotherapy and/or radiotherapy.

Alternative procedures that are available

- Surgical removal of the Oesophagus is currently the only known way of curing most oesophageal cancers. In many cases surgery is combined with chemotherapy +/- radiotherapy before, and sometimes after, surgery to maximise the chances of cure. You may be one of the patients who will benefit from this and it will have discussed with you prior to any surgery. Not everyone is suitable for this treatment so don't worry if you are just having surgery.
- Some very early, small oesophageal cancers can be removed via a gastroscopy that is passed via the mouth and therefore does not require any cuts. This technique is only appropriate for very early or precancerous growths.

Serious or frequently occurring risks

- **Anastomotic leak** – This is the most important, serious complication following an oesophagectomy. Fortunately, it is rare (approx 5% risk). Where the gastro-intestinal tract is rejoined after an operation is called the anastomosis. Surgeons take great care and time in constructing a water tight anastomosis that will not leak. However, in rare cases the anastomosis does not remain water tight. This is often because of a poor blood supply rather than any particular problem with the surgery. If a leak does occur, there is a significant risk of infection and you will require antibiotics and possibly a fine drain tube to be inserted (under local anaesthetic) next to the anastomosis to get rid of any excess fluid or infection. With an anastomotic leak you usually are not permitted to take anything by mouth as this may worsen the leak. Most anastomotic leaks are very small (pin head size) and resolve spontaneously after 10-14 days, without too many problems. In rare cases, patients can become very ill and need to be transferred back to the intensive care unit or require further surgery.
- **Chest infection** – Major surgery carries with it a risk of developing an infection in the lungs or pneumonia and it is quite common following this procedure (25%). This is usually because you are a little immobile and not breathing deeply following surgery, resulting in the lower part of the lungs becoming stagnant. Chest infections are treated with antibiotics and physiotherapy. It is very important that you get up and move as soon as possible and work closely with the nursing staff or physiotherapist in making sure you are taking regular, deep breaths. You will be given deep breathing exercises to undertake. The risk of developing a chest infection is greatly increased if you smoke cigarettes (particularly within three months of surgery).
- **Pleural effusion** – Fluid that collects between the lung and the chest wall is called a pleural effusion. The chest drains are designed to allow this fluid to drain out. After the drains are removed there is a small risk that fluid can collect again around the lung and you will become breathless. If this happens it will need to be drained under local anaesthetic.
- **Chyle leak** – A chyle leak is a rare (3%) but serious complication of surgery performed in the chest. In order to remove all the appropriate lymph glands it is necessary to also take out the “thoracic duct” which is a vein like tube which drains fat from the intestines. If the clips or ligature used to seal it fail to do so, fluid called chyle accumulates in the chest. This fluid also contains immune cells and is critical in the absorption of necessary fats from the gut. If chyle leakage does occur we will feed you via the feeding jejunostomy as this will often dry up the chyle leak. In rare cases the chyle leak does not stop and another operation is required to find the leaking duct and ligate it again.

- **Stomach necrosis** – This severe complication is very rare (1% risk). If the blood supply to the stomach tube is very poor, over a few days it may die (“necrosis”). As a result, a second operation is required and the stomach tube needs to be removed from where it is has been brought up into the chest. If this is problem is not dealt with by surgery there is a risk that you can become critically ill. If stomach tube necrosis occurs, the upper oesophagus is sewn to the skin in the neck and covered with a drainage bag. This means you temporarily will not be able to eat or drink. Swallowing liquids will be allowed as they will come out into the drainage bag. You will be fed via the feeding jejunostomy. After around three months another operation can be needed to reconnect the gut so that you are able to swallow normally again.
- **Complications relating to the heart** – Major surgery places considerable stress on the body and there is a small risk of a problem relating to the heart. This may take two forms and varies from very minor to severe. Firstly, the heart may develop an abnormal rhythm (usually beating excessively quickly). You may notice a fluttery feeling (palpitations) in the chest or nothing at all. Usually, simple measures such as balancing the body’s salt concentrations, or administering medications resolves these problems. Secondly and more seriously, suffering a heart attack (damage to the heart muscle) is possible. Because of these risks you are very closely monitored (including continuously recording the rhythm of the heart) for the first five days following your surgery. Therefore, if a problem arises it can usually be treated early and effectively. The risk of developing a heart problem is increased if you have a history of heart problems, smoke cigarettes (particularly within three months of surgery) or have other risk factors for heart disease.
- **Death** – All major surgery carries a risk of death related to the procedure and the anaesthetic. The risk of death with this procedure is 1-2% for fit patients but may be higher for those with pre-existing medical conditions. The national average risk of death in hospital after oesophagectomy is 5%.
- **Complications related to the feeding jejunostomy** – A feeding jejunostomy is routinely inserted during this procedure. It is a fine tube that passes through the skin into the bowel beyond where the surgery has been performed. It allows us to feed you during the first week or so following surgery when you are unable to eat. There are, however, small risks of complications specifically relating to the feeding tube (estimated 1-5%). These risks include the tube moving or leakage from the bowel where the tube has been inserted. In rare cases, the bowel may twist around the tube causing an obstruction. These complications can sometimes be managed with antibiotics or removal of the tube. In rare cases an operation may be required to correct the problem.
- **Deep vein thrombosis (DVT) and pulmonary embolus** - All surgery carries varying degrees of risks of thrombosis (clots) in the deep veins of your leg. In the worst case a clot in the leg can break off and travel to the lung (pulmonary embolism). This can significantly impair your breathing. To prevent these problems around the time of your operation and following your operation we give you some special injections to ‘thin’ the blood. We also ask you to wear compression stockings on your legs before and after surgery and also use a special device to massage the calves during the surgery. Moving about as much as you can, including pumping your calf muscles in bed or sitting out of bed as soon as possible reduce the risk of these complications.
- **Damage to the spleen** - During the operation, the small blood vessels between the spleen and the upper part of the stomach (fundus) are cut using special instruments that seal the blood vessels before they are divided. Very rarely, damage to the spleen can occur that results in bleeding. Most times, this is not serious and can be controlled simply, however, if the spleen were to sustain more severe injury the spleen may have to be removed to prevent further bleeding. Removing the spleen normally has few complications. If your spleen is removed you will be given some vaccinations prior to leaving hospital. Additionally, you will be advised to stay on a low dose of preventative antibiotic for at least two years.
- **Altered Voice** - A rare complication of oesophagectomy is damage to the nerves of the voice box. This can result in hoarseness of the voice. This is nearly always temporary and is due to bruising of the nerve. Very rarely, permanent damage is done, resulting in a change in the quality of the voice. It is not uncommon to have a slightly hoarse voice following your anaesthesia. This is because of slight swelling as a result of the breathing tube used in your operation. This will usually recover over a few days to weeks. In rare cases it may slowly resolve over several months.
- **Bleeding** – This very rarely occurs after any type of operation. Your pulse and blood pressure are closely monitored after your operation as this is the best way of detecting this potential problem. If bleeding is thought to be happening, you may require a further operation to stop it. This can usually be done through the same scar(s) as your first operation. It is possible that you also may require a blood transfusion.
- **Wound haematoma** - Bleeding under the skin can produce a firm swelling of blood clot (haematoma), this may only become apparent several days after the surgery. It is essentially a bruise. This may simply disappear gradually or leak out through the wound without causing any major consequences to you.

- **Wound Infection** – This affect your scars ('wound infection'). If the wound becomes red, hot, swollen and painful or if it starts to discharge smelly fluid then it may be infected. It is normal for the wounds to be a little sore, red and swollen as this is part of the healing process and represents the body's natural reaction to surgery. It is best to consult your doctor if you are concerned. A wound infection can happen after any type of operation. Simple wound infections are easily treated with a short course of antibiotics.
- **Deep Infection** – A rarer and more serious problem with infection is where an infection develops inside your abdominal or chest cavity. This will often need a scan to diagnose, as there may be no obvious signs on the surface of your body. Fortunately, this type of problem will usually settle with antibiotics. Occasionally, it may be necessary to drain off infected fluid. This is most frequently performed under a local anaesthetic by our colleagues in the X ray department. In the worst case scenario a further operation is required to correct this problem.
- **Anastomotic stricture** - The join between the remnant of your oesophagus and your new stomach tube ("anastomosis") can sometimes narrow down during its healing phase during the first few months after surgery. A stricture is a technical term that simply means a narrowing. This narrowing can cause problems with swallowing, particularly with solid foods. If this happens you might need to have the join stretched gently to make it wider again. This can be done as an outpatient in the endoscopy unit under gentle sedation.
- **Other complications** – We have tried to describe the most common and serious complications that may occur following this surgery. It is not possible to detail every possible complication that may occur following any operation. If another complication that you have not been warned about occurs, we will treat it as required and inform you as best we can at the time. If there is anything that is unclear or risks that you are particularly concerned about, please ask.

General Anaesthesia

During general anaesthesia you are put into a state of unconsciousness and you will be unaware of anything during the time of your operation.

In modern anaesthesia, serious problems are uncommon. Risks cannot be removed completely, but modern equipment, training and drugs have made it a much safer procedure in recent years. The risk to you as an individual will depend on; whether you have any other illness, personal factors (such as smoking or being overweight) or surgery which is complicated, long or done in an emergency. Please discuss any pre-existing medical condition with your anaesthetist.

Very common and common side effects (1 in 10 or 1 in 100 people)

Feeling sick and vomiting after surgery, sore throat, dizziness, blurred vision, headache, itching, aches, pains and backache, pain during injection of drugs, bruising and soreness, confusion or memory loss.

Uncommon side effects and complications (1 in 1000 people)

Chest infection, bladder problems, muscle pains, slow breathing (depressed respiration), damage to teeth, lips or tongue, an existing medical condition getting worse, awareness (becoming conscious during your operation).

Rare or very rare complications (1 in 10,000 or 1 in 100,000)

Damage to the eyes, serious allergy to drugs, nerve damage, death, equipment failure.

Before your operation

Before your operation you will be seen in a pre-anaesthetic assessment clinic. The anaesthetist who looks after you on the day of your operation is the one who is responsible for making the final decisions about your anaesthetic. He or she will need to understand about your general health, any medication that you are taking and any past health problems that you have had. Your anaesthetist will want to know whether or not you are a smoker, whether you have had any abnormal reactions to any of the drugs or if you have any allergies. They will also want to know about your teeth, whether you wear dentures, have caps or a plate. Your anaesthetist needs to know all these things so that he or she can assess how to look after you in this vital period. Before your operation you will usually be changed into a gown and wheeled to the operating suite into an anaesthetic room. This is an ante-room outside the theatre. The anaesthetist, his or her assistant and your surgeon will meet you there. An intravenous line (drip) may be inserted. **Epidural anaesthesia** is one method of reducing pain following major abdominal or chest surgery and we have found it to be a most effective technique. An epidural is a very fine, hollow plastic tube that is placed between the vertebrae in your spine, so that it sits close to where the nerves enter the spinal cord. It is usually left in place for five days. Because of its location, anaesthetic medications in very low doses can be delivered directly to the important nerves. It has the advantage of providing very effective pain relief, without sedating you or risking other complications that large doses of pain relief may cause. An epidural works well by blocking the nerves that convey sensations of pain. There are small risks associated with having an epidural and your anaesthetist will discuss these with you and the alternatives before a final decision is made on the best way of controlling your pain after surgery.

During your operation

While you are unconscious and unaware your anaesthetist remains with you at all times. He or she monitors your condition and administers the right amount of anaesthetic drugs to maintain you in the correct level of unconsciousness for the period of the surgery. If you have any other medical conditions, your anaesthetist will know of these from your pre-operative assessment and be able to treat them during surgery.

After your operation

You are likely to feel drowsy and sleepy at this stage. Some patients feel sick, others may have a sore throat related to the insertion of the breathing tube during surgery. During this time it is important that you relax as much as you can, breathe deeply, do not be afraid to cough, and do not hesitate to ask the nursing staff for any pain relief, and about any queries you may have. You are likely to have hazy memories of this time and some patients experience vivid dreams.

Information and support

- If you have any questions or anxieties, please feel free to ask your surgeon.