Patient information

Laparoscopic Heller's Myotomy

General Surgery – Aintree Hospital

What is Heller's Myotomy

Heller's myotomy is a surgical procedurein which the muscles of the lower oesophageal (gullet) sphincter or LOS) are cut (myotomy means cutting muscle), allowing food and liquids to pass to the stomach. It is used to treat **achalasia cardia**, a disorder in which the lower oesophageal sphincter fails to relax properly, making it difficult for food and liquids to reach the stomach. Heller was the name of the surgeon who described this procedure in the past.

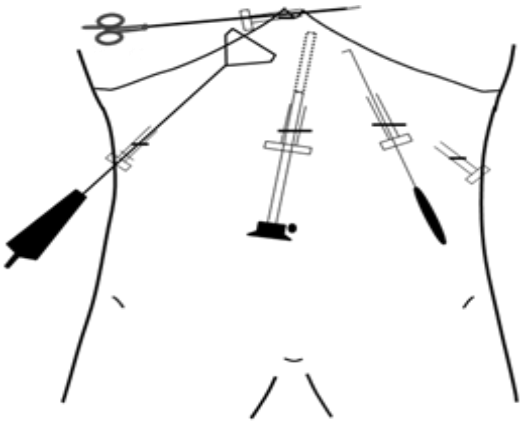
In modern times, Heller's myotomy is usually performed using minimally invasive or laparoscopic technique, which minimises risks and speed recovery significantly. Though this surgery does not correct the underlying cause and may not always completely eliminate achalasia symptoms, the vast majority of patients find that the surgery greatly improves their ability to eat and drink. It is considered the definitive treatment for achalasia.

The procedure is usually done laparoscopically (key-hole technique).

Why is laparoscopic or 'key-hole' surgery better?

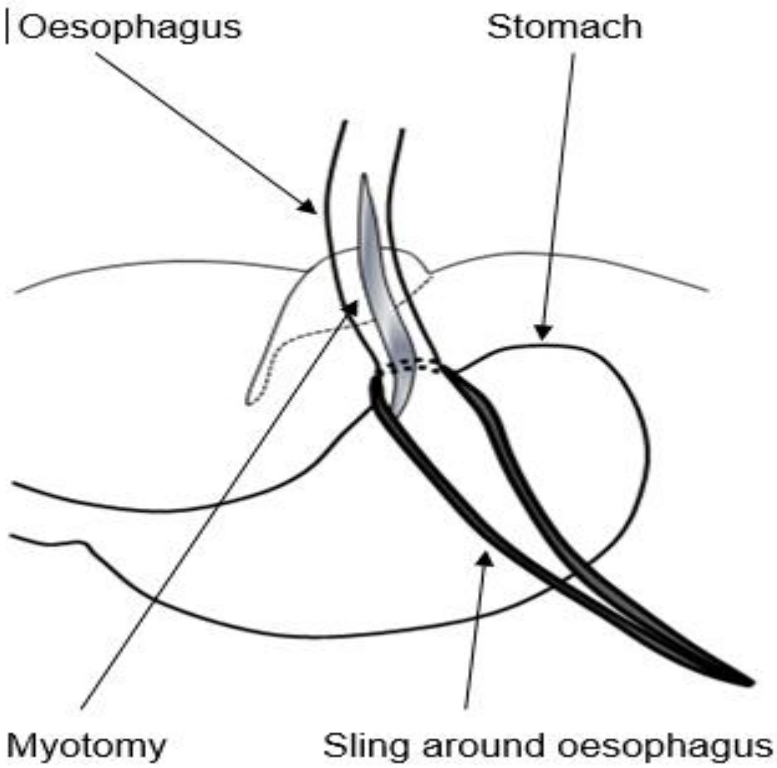
Laparoscopic surgery has many advantages over traditional surgery. Less pain, less scarring and early recovery time are two of the most significant advantages of this procedure. Hospital stays arereduced and total recovery time is cut in half. The risk of infection is also lower because of the smaller incisions.

Laparoscopic surgery usually requires only a one-day hospital stay instead of four to five days required for traditional surgery. In many cases a patient's total recovery time can be as little as one to two weeks, compared with four to six weeks for traditional surgery.



Procedure

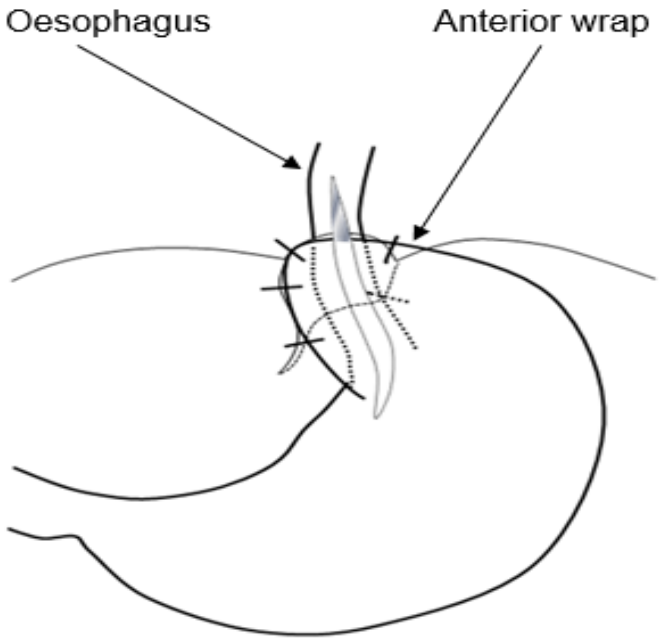
The procedure is performed under general anaesthesia. Five incisions are made in the abdominal wall and laparoscopic instruments are inserted. The **myotomy (muscle-cut)** is a lengthwise cut along the oesophagus, starting above the sphincter (LOS) and extending down onto the stomach a little way. The oesophagus is made of several layers, and the myotomy only cuts through the outside muscle layers which are squeezing it shut, leaving the inner layer (inner lining or mucosa) intact.



Food can easily pass downward after the **myotomy** has cut through the lower oesophageal sphincter, but stomach acids can also easily reflux upward. Therefore, this surgery is often combined with a partial wrap of stomach around the lower end of stomach (**fundoplication**) to reduce this incidence of postoperative acid reflux. Thfe wrap can be in the front (anterior) or at the back (posterior) of the lower end of oesophagus.

In **anterior fundoplication**, which is the most common method, the top part of stomach (the fundus) is laid over front of the oesophagus and stitched into place so that whenever the stomach contracts, it also closes off the esophagus instead of squeezing stomach acids into it. In posterior fundoplication, the fundus is passed around the back of the esophagus instead. Very rarely a complete fundoplication (wrapping the fundus all the way around the esophagus) is done.

Your surgeon will explain you the kind of wrap that will be performed in your case.



After laparoscopic surgery, most patients can take clear liquids later the same day, start a soft diet within two–three days, and return to a normal diet after one month. The typical hospital stay is two–three days, and many patients can return to work after two weeks. If the surgery is done open instead of laparoscopically, patients may need to take a month off work. Heavy lifting is typically restricted for six weeks or more.

How long will I have to stay in hospital? When can I resume normal activities?

The laparoscopic surgery often requires a hospital stay of only 23 hours. You should be able to return to normal activities between one and two weeks, compared with four to six weeks for traditional surgery.

Who are good candidates for the procedure?

Surgical candidates are those whose heartburn is not well controlled with medicine, those who want to fix the problem without having to take medicine long term, and those who are having complications from reflux, including ulcers, strictures, hernias or Barrett's oesophagus.

What can I do to help make the operation a success?

Lifestyle changes

If you smoke, try to stop smoking now. There is strong evidence that stopping smoking several weeks before general anaesthetic reduces your risk of getting complications.

If you are overweight, losing weight will also reduce our risk of developing complications.

If you need help to stop smoking or lose weight, ask a member of the healthcare team or your GP for advice.

Can I eat and drink before surgery?

You will need to fast avoiding all food and drink for up to six hours before the procedure, as it will be done under general anaesthetic. Your standard medications for the heart or blood pressure can be taken with a few sips of water at your usual time or early morning, unless advised during pre-operative assessment.

If you are on **aspirin** or **clopidogrel** (blood thinning medications), you will need to stop as per doctor's advice given at time of discussion of procedure in the clinic, anaesthetic assessment or pre-operative checkup (usually seven days at least).

If you are on **warfarin** (blood thinning medication) or any other special/new type of blood thinner, this will definitely be stopped, at least four days before procedure. An alternative may or may not be used depending on your underlying problem for which warfarin is being used.

What complications can occur?

The healthcare team will try and make your operation as safe as possible. However, some complications can happen, some of these can be serious and can even cause death. You should ask your doctor if there is anything you don't understand. Your doctor may be able to tell you if your risk of complications is higher or lower for you. Generally the consultant will discuss the issues around common complications only. There are uncommon and/or serious complications that you may wish to know about and you can ask questions about these and get details if you so wish. If you are worried about any particular complication-s, that you know about or have read about (elsewhere or as mentioned in this leaflet), please ask the consultant/surgeon who will be performing your operation.

The complications fall into three categories:

1. Complications from anaesthesia.
2. General complications of any operation.
3. Specific complications for this operation.

1 Complications from anaesthesia

Your anaesthetist will be able to discuss with you the possible complications of having an anaesthetic.

2 General complications of any operation

- **Pain –** It is normal to have pain after surgery. The healthcare team will try and reduce your pain by giving you medication to control it. It is important you take your medication as advised so that you can move about and cough freely. After a laparoscopy, it is common to feel bloated and to have pain in your shoulders because a small amount of gas may be left under your diaphragm. Your body will usually absorb the gas naturally over the next 24 hours, which will ease the symptoms. You may also notice that you have a slightly sore throat. This is due to the 'breathing' tube which is placed in your throat during surgery and should subside in a day or two.
- **Bleeding –** During or after surgery. This occasionally requires blood transfusions or further surgery.

- **Infection in the surgical wound –** This may require treatment with antibiotics or occasionally further surgery.

- **Developing a hernia in the scar –** If you have open surgery, the deep muscle layers may fail to heal causing an incisional hernia. This appears as a bulge or rupture and is it causes problems may require a further operation.

- **Blood clots –** In the legs (deep vein thrombosis). This can occasionally move through the bloodstream to the lungs causing a pulmonary embolism (PE), making it difficult for you to breathe. The nurses will encourage you to mobilise soon after surgery and may give you injections to reduce the risk of blood clots.

3 Specific complications for this operation

A Laparoscopic complications

- **Damage to internal organs –** When placing instruments into the abdomen (risk 1 in 1,000). The risk is higher in people who have previously had surgery to the abdomen. If an injury does happen, you may require open surgery, which involves a much larger cut. About one in three of these injuries is not obvious until after surgery, so if you have been in pain which does not improve each day after surgery, you should let your doctor know.

- **Developing a hernia near one of the cuts used to insert the ports –** (Risk 2 in 10,000). Your surgeon will try and reduce this risk by using small ports (less than 10mm in diameter) where possible or, if they need to use larger ports, using deeper stitching techniques to close the cuts.

- **Surgical emphysema –** (Crackling sensation in the skin due to trapped gas), which settles quickly and is not serious.

B Heller's myotomy procedure complications

- **Injury to organs –** It is possible, but extremely rare for injury to occur to the oesophagus, stomach, spleen, liver or bowel, which are in the field of surgery. In patients, who have had previous treatment for achalasia cardia such as stretching (dilatations) or injection of botox, the risk of making a hole in the inner lining of oesophagus or stomach is more common than other patients.

  Perforation of either the oesophagus or stomach may occur during the myotomy. If this is recognised it is stitched up at the time of surgery. If it is considered a high risk but not obvious during surgery, then a blue-dye test at time of surgery or a swallow test (contrast dye swallowing with X-rays to look at the same time) is performed after the surgery.

- **Diarrhoea –** This can sometimes happen as nerves around the lower oesophagus may get injured or trapped in scar tissue of surgery.

- **Inflammation –** In the abdomen (peritonitis) due to a collection of bile or blood.

- **Difficulty in stomach emptying:** inability of stomach to empty properly, causing bloating, nausea and vomiting. This is a rare complication of this operation.

Some ***expected side effects*** of the operation which should improve over a period of few weeks to a few months.

- **Reflux –** Some degree of heart-burn or reflux is common (hence the wrpa helps).
- **Dysphagia –** some transient difficulty in swallowing solids can occur in the first few weeks due to swelling in the area of operation (lower gullet) and for this reason dietary advice needs to be followed strictly.
- **Gas bloat syndrome –** Due to inflammation and an over-competent new valve, most patients will not be able to burp naturally or vomit. These result in feeling of bloating, trapped wind and excessive flatulence. As the wrap around the lower oesophagus is partial, these symptoms are not usually significant after Heller's myotomy.

Should I worry about death?

Routine or elective (planned non-emergency) surgery in general has usually low risk of death as compared to emergency surgery. Risk of death is dependent on how complex the operation is, what your co-existing medical conditions are (for example – diabetes, heart or breathing problems, kidney problems) and if you develop any complications after surgery. In general, risk of death after general anaesthetic is 1 in 100,000 and risk of death after Heller's myotomy has variously been reported around 0.05% (5/10,000). Most elective or planned myotomy procedures are done as a short-stay operations (overnight stay), so the risk will be on the lower side.

Please discuss with consultant or your doctor if you worry about this.

How soon will I recover?

In hospital

Following your operation you will be transferred to the recovery area and then to the ward. You should be able to go home later that day or the following day. However, your doctor may recommend that you stay a little longer.

What do I get at time of discharge?

1. Discharge information leaflet.
2. Medications (called TTOs).
3. E-discharge copy (electronic discharge statement that your GP gets).
4. Leave certificate for work (if applicable).

If you do not get the above documents/ prescription, please discuss with your discharge nurse/ward nurse/doctor on ward.

At home

- **Returning to normal daily activities –** After a week or so you should be able to resume most of your normal daily activities. It is normal to feel tiered after surgery, so take some rest, two to three times a day and try and get a good night sleep. You should avoid heavy lifting and vigorous exercise for at least two weeks.

- **Driving –** You should not drive for at least one week. Before driving you should ensure that you can perform a full emergency stop, have the strength and capability to control the car, and be able to respond quickly to any situation that may occur. Please be aware that driving whilst unfit may invalidate your insurance.

- **Returning to work –** You can return to work as soon as you feel well enough. This will depend on how you are feeling and the type of work you do. Typically you will need between two and three weeks off work.

- **Eating –** Patients are counselled before the operation about lifestyle and dietary adjustments that are needed for about six weeks (variable period) following surgery. They are advised to eat smaller amounts of food at each meal, to chew their food well, and avoid chewing gum and drinking carbonated drinks. You should start with light frequent meals and then increase at your own pace. You will be given a leaflet with dietary advice at discharge to help you.

- **Bowels –** You may find it takes three or four days to have normal movement. If you have not had a bowel movement in three days following surgery, a mild laxative should help. Your local chemist should be able to advise you. Alternatively, you may experience some diarrhoea following surgery. This should settle within three to four weeks. If the diarrhoea is bothersome your local chemist can advise on over- the-counter remedies. Remember to drink plenty of fluids so that you don't get dehydrated.

When do I need to seek advice?

- If you have a discharge of blood or pus from your wounds.
- If you develop a temperature above 38.5C.
- Vomiting that continues for more than three days after surgery.
- Inability to have a bowel movement after four days.
- Persistent pain not relieved with your prescribed painkillers.
- Persistent abdominal distension (bloating of your stomach).
- Increasing pain or swelling around your wounds.
- Chest pain and shortness of breath.
- Crackling sensation under the skin, especially in the neck area.

What do I do if there are problems after surgery?

- Please read this leaflet carefully regarding side-effects and risks of surgery.
- **Check with your doctor before discharge from hospital after surgery.**
- Standard procedure to follow would be to **contact the consultant's secretary** and ask for advice in working hours. The secretary may be able to contact the registrar or the consultant for advice that may be passed on to you.
- If no team member is available to deal with your query or if you have any problems out of hours, it is best to check with your GP or attend the Accident & Emergency Department at Aintree Hospital for a clinical review and advice.

What is the success rate for this surgery/procedure?

- Heller's myotomy is a long-term treatment, and most patients do not require any further treatment. The success rate for the minimally invasive surgery is above 90 percent for patients who have the typical symptoms of achalasia cardia. Very rarely the myotomy can be incomplete and some patients can come back for completion (typically after a few years after first surgery).
- Some patients can come back with severe or increasing reflux symptoms as the partial wrap to prevent reflux fails. In this case you may have to be reinvestigated for revision surgery. If different symptoms appear after surgery, you may need different investigations appropriately. In all cases it is best to get a reappointment with your original surgeon if possible.
- It is important to monitor changes in the shape and function of the oesophagus with an annual timed barium swallow.
- Some patients will need endoscopic (camera) balloon dilation. Rarely repeat myotomy (laparoscopic or open, depending on difficulty) maybe needed.
- Extreme cases (sometimes due to complete failure of oesophagus to work properly – aomplete atonia) may need removal of the oesophagus or gullet Oesophagectomy).
- Regular endoscopy is necessary as surveillance procedure to monitor changes in the oesophagus or gullet, since reflux may damage it over time, potentially causing the return of dysphagia, or a premalignant condition known as Barrett's oesophagus.

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Further information

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