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# Having surgery to treat acid reflux and/or repair a hiatus hernia

## Department of General Surgery

Information for Patients

Produced: March 2021
Review: March 2024
Leaflet number: 1150 Version: 3

## Introduction

This booklet is designed to give you and your family information and advice about your operation. You are advised to read this information before you come into hospital and to make a note of any questions you would like to ask. There is some space provided below for you to write any questions you would like to ask.

Your surgeon has recommended that you have **anti-reflux surgery (**or an operation also known as a **fundoplication** or a **hiatus hernia repair)** to correct your hiatus hernia and/or to prevent heartburn (acid reflux). The operation is designed to make a new 'valve' at the lower end of your gullet (oesophagus) using the top part of your stomach. This is usually done by **keyhole (laparoscopic) surgery.**

Most patients will go home the next day. Some patients are not suitable for this type of operation and will need an open operation. Your surgeon will discuss this if it is likely to be the case for you.

## My Questions

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**or call 111 for non-emergency medical advice**

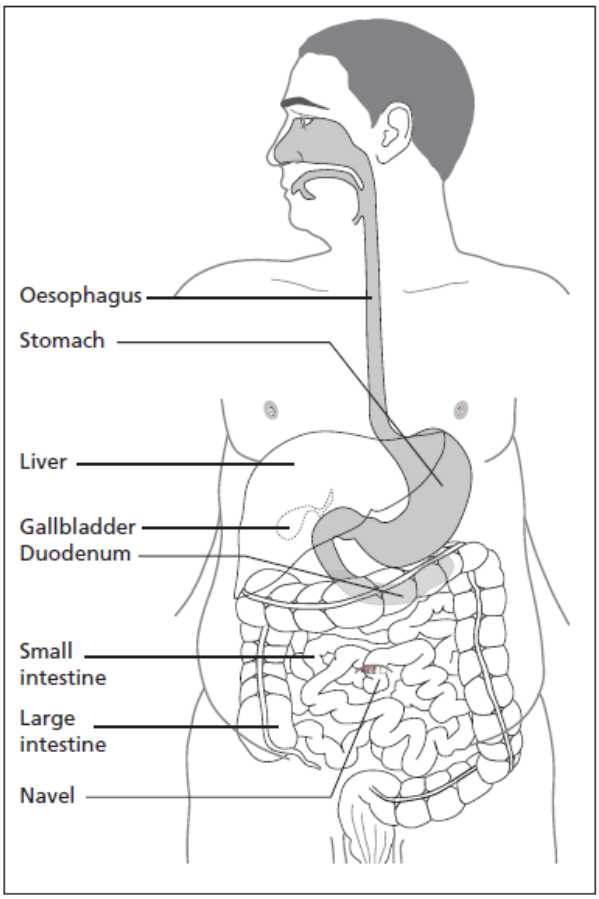
Visit www.leicestershospitals.nhs.uk for maps and information about visiting Leicester's Hospitals
To give feedback about this information sheet, contact InformationForPatients@uhl-tr.nhs.uk

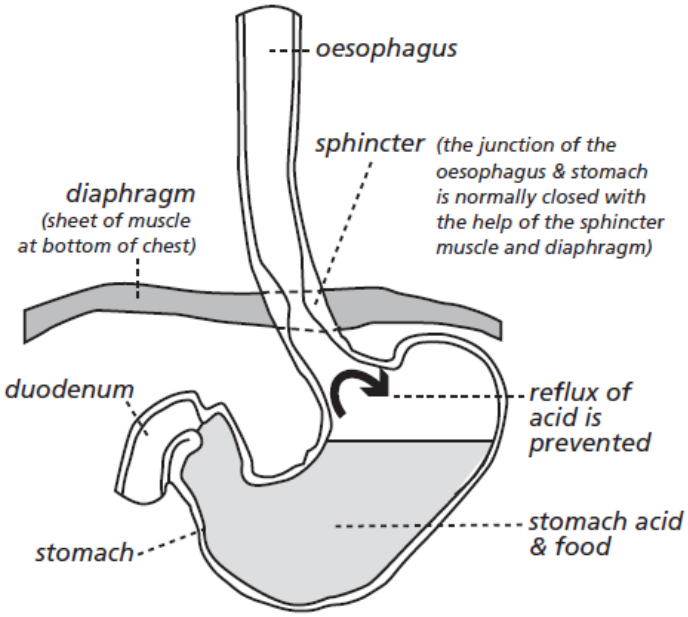
# Understanding your anatomy

The gastrointestinal tract is the tube that starts in the mouth and ends at the anus. The upper gut includes the gullet (oesophagus), stomach and duodenum. Food passes down the oesophagus into the stomach. The stomach makes acid which is not essential, but helps to digest food. After being mixed in the stomach, food passes into the duodenum (the first part of the small intestine) to be digested.

The walls of the stomach contain muscle. At the junction of the stomach and the oesophagus there is a thickened area of muscle which is called a 'sphincter'. The sphincter acts like a valve. When food comes down the oesophagus into the stomach, the sphincter relaxes. It closes at other times to stop food and acid in the stomach coming back up the oesophagus.

The diaphragm is a large flat muscle that separates the lungs from the abdomen. It helps us to breathe. The oesophagus comes through a hole (hiatus) in the diaphragm just before it turns into the stomach. Normally all of the stomach is below the diaphragm. The muscle fibres in the diaphragm, around the lower oesophagus help the sphincter to keep the oesophagus closed to prevent food or acid travelling back up or refluxing.



## What is gastro-oesophageal reflux disease?

Gastro-oesophageal reflux disease is the backward flow (reflux) of the stomach contents into the lower part of the gullet. A large portion of the stomach contents are acid; this acid burns the lower part of the gullet causing damage. The burning is felt as heartburn, a burning sensation that may be felt through the chest and up into the throat and neck. The basic cause for this problem is the break down of a 'valve' between the stomach and the gullet which stops reflux occurring. Other symptoms that may occur are regurgitation or vomiting, (particularly on stooping and bending); choking attacks (particularly at night), chronic cough and difficulty swallowing.

## What causes gastro-oesophageal reflux?

Some people are born with a faulty valve and have problems with reflux from an early age. In adult life, reflux may be bought on by eating fatty and spicy foods, wearing tight clothing, smoking, drinking alcohol or being overweight. A hiatus hernia may also be present.

## What is a hiatus hernia?

There is an opening or **hiatus** in the diaphragm through which the food pipe passes. When the hiatus is larger than it should be, a small part of the stomach pushes (herniates) through the diaphragm into the lower chest. This is called a **hiatus hernia.**

## What is anti-reflux surgery (laparoscopic fundoplication)?

***Fundus* = *Stomach*  *Plication* = *To stitch***

This is the operation to repair a hiatus hernia.

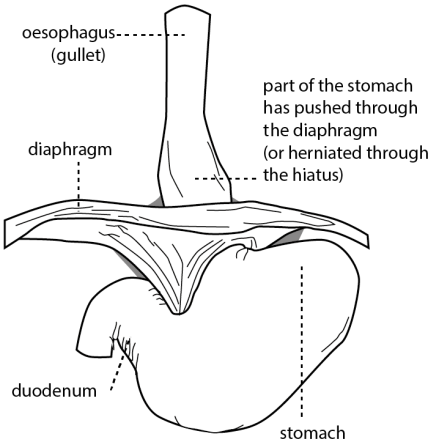
Your surgeon will hold your liver out of the way with special instruments. This will give a clear view to the upper stomach and the lower oesophagus, along with the muscular part of the diaphragm. The diaphragm will then be stitched to reduce the size of the hole the oesophagus passes through.

Your surgeon will then wrap and stitch the top part of the stomach around the lower oesophagus, to produce a valve effect. This should stop your heartburn (reflux) returning. There are different ways this can be done (see the diagram on the next page) and your surgeon will discuss this with you.

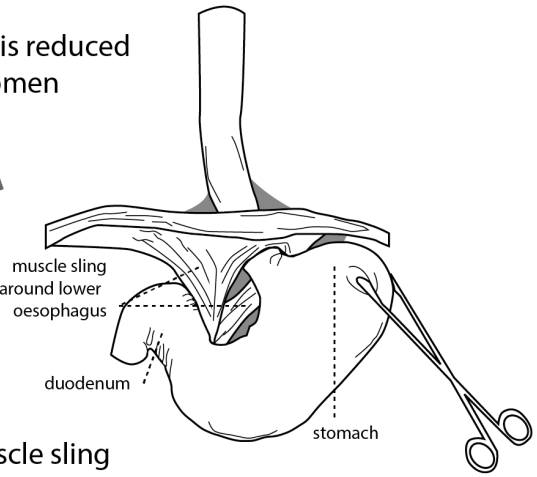
Your operation is done under a general anaesthetic. This means that you will be asleep. It usually takes 1 to 2 hours depending on your individual circumstances.

The operation is done through small cuts made in your tummy (abdomen). One of these will be in the area of your tummy button. 4 other small cuts will be made above your tummy button. These cuts are called port sites. Carbon dioxide gas is put into your abdomen to allow the surgeon to see whilst they are operating. Hollow tubes (ports) are placed into the cuts and through these your surgeon passes instruments to do the operation. The operation is viewed on a large television screen.

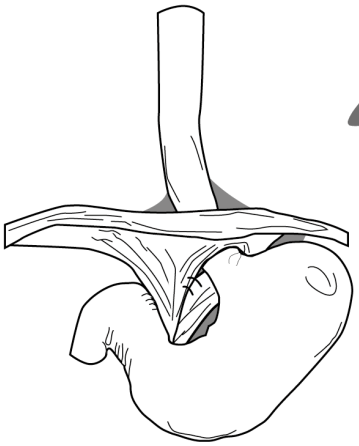
Wounds left after this operation may be closed with a special stitch which dissolves when it is no longer needed. This may vary depending on who your surgeon is.



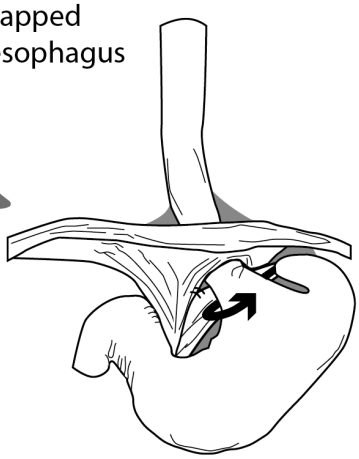

The stomach is reduced into the abdomen



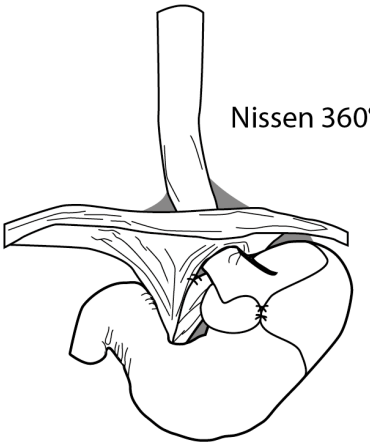

The hiatus (muscle sling around the oesophagus) is tightened

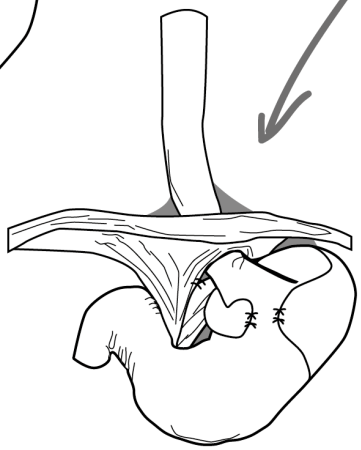


The top part (fundus) of the stomach is wrapped around the lower oesophagus

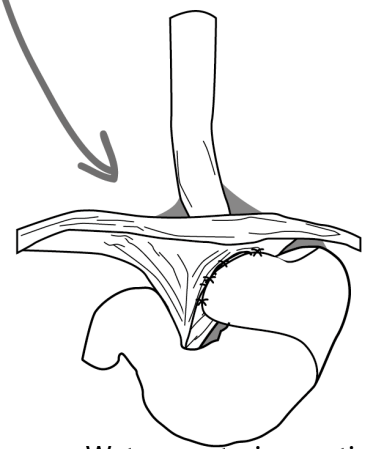


Nissen 360° fundoplication





Toupet 270° posterior partial fundoplication



Watson anterior partial fundoplication

## Are there any risks or complications?

Laparoscopic anti-reflux surgery is considered a very effective and safe procedure. Although the majority of patients do not have any major problems following the operation, there are some specific risks and complications you should be aware of.

## Surgical complications

**Damage to the oesophagus, stomach or lung lining**: This is a rare but potentially serious complication that may require more surgery or a longer hospital stay. (Approximate risk 1 in 1000 for first time operations, 1 in 100 for repeat operations.)

**Damage to the liver**: This may occur when your liver is being held out of the way during your operation. Serious damage is very rare. (Approximate risk 1 in 1000.)

**Conversion from keyhole to open surgery**: Occasionally, the surgeon will not be able to do the operation with just keyhole surgery. In these cases a bigger cut will be made on your abdomen. This happens in approximately 1 in 300 patients.

**Sometimes there can be more bleeding than expected**, which cannot be controlled using the keyhole technique. Such bleeding can sometimes come from with the spleen which may need to be removed (splenectomy). If your surgeon has to change your operation to the open method, then it will mean you staying in hospital a few days longer, and your recovery will take longer. A blood transfusion is occasionally needed and you will have a blood test before your surgery to make sure blood is available if needed. Please tell your surgeon if you would not want to have a blood transfusion.

**Damage to your internal organs**: This may occur when placing instruments into your abdomen. (Approximate risk 1 in 1000 patients.) If you have had previous operations on your abdomen, these may have caused scarring, making the keyhole operation more difficult. Sometimes, the small or large bowel can be damaged because of this. This injury may not be obvious until after your operation. If you have pain which does not continue to improve each day, you should let your doctor know.

**Wound infection:** The surgical wounds can sometimes get infected and may need some antibiotics. Sometimes the best treatment for a wound infection is to open the wound up.

**Incisional hernia:** Although the wounds are small, a hernia can occasionally develop. The risk of hernia is higher if your operation needs to be performed by the open method.

## General complications

**Deep vein thrombosis (DVT, blood clot in the lower leg):** Several precautions are taken to reduce this risk. A small injection may be given to you in your abdomen whilst you are in hospital. This helps to thin your blood. You will also be given a pair of special compression stockings to wear. You will be encouraged to get up and about after your operation as soon as the effects of the anaesthetic have worn off.

**Chest infection:** If you smoke, stopping about 2 weeks before your operation will help reduce the risk of an infection occurring. Also getting up and about as soon as possible is very important.

**Bowel disturbance:** Your bowels may be quite slow to work at first, especially if you have been taking some strong painkillers. It is important not to allow yourself to become constipated. Straining changes the pressure inside the abdomen, and this should be avoided in the early days after your operation.

## Side effects of anti reflux surgery

**Difficulty swallowing (dysphagia):** Problems with swallowing, particularly chunks of bread and meat are common after this operation. This is due to the fact that the oesophagus tends to be rather inactive for 1 to 2 weeks Additionally, there is some swelling in the area of the surgery. This can persist for a couple of months. The problem usually resolves itself but you may have to follow a fairly soft diet for a few weeks after your operation (which is what we recommend). The vast majority of patients eventually swallow normally after anti-reflux surgery.

If the problem persists you may need to have your food pipe stretched. This involves having an endoscopy. This is a quick procedure and you should be able to go home the same day. Occasionally, a second operation is required to loosen the wrap.

**Abdominal bloating and flatulence:** The operation is usually very effective and this does reduce the amount of wind that is able to be brought back up. This may lead to you feeling very bloated after eating, and some people find this painful. Many patients find that using a straw to drink cold fluids helps to reduce the amount of air they swallow. Eating slowly and not talking at mealtimes can also help to reduce the amount of air taken in when eating. Because the extra air has to go somewhere, you may well find that you pass larger amounts of “wind” from your bottom and your stools may be looser and more frequent. This feeling can persist on a long term basis. It is also possible that you will be unable to vomit after this operation.

**Feeling full and weight loss:** As the stomach has been made smaller by the wrap, it is common to feel full very quickly during meals. Over time the stomach adjusts to accommodate a normal meal but it is common for patients to lose some weight after this type of surgery.

Most patients are satisfied with the results of surgery. Follow-up indicates that 10 years after surgery, 80-85% of patients continue to have relief from symptoms.

## Are there any alternatives to having this operation?

**Lifestyle changes:**

- Lose weight.
- Avoid food within 4 hours of going to bed.
- Stop smoking.
- Avoid certain foods such as chocolate, citrus fruits and juices, tomato products, caffeine and alcohol (especially red wine).
- Raise the head of your bed or mattress if possible. This can be better than several pillows.

**Drug Therapy:** Drugs that lower the acid content in the stomach are effective at controlling symptoms and healing the inflammation in the oesophagus. A class of drugs called 'proton pump inhibitors' (such as lansoprazole and omeprazole) are currently the most effective and are the main treatment for acid reflux. These are safe drugs that for most people work well to control their symptoms. However, they may need to be taken regularly for the rest of your life.

**Surgery:** If your surgeon has offered you an operation it is likely that the above methods have not worked for you, or your symptoms return as soon as you stop taking your tablets. A large number of patients prefer to have an operation rather than take tablets for the rest of their life.

**Endoscopic treatments:** These involve altering the oesophageal opening into the stomach through an endoscope. The long term evidence on how well these techniques work is lacking and currently these techniques are not available locally on the NHS.

**LINX procedure:** This is a surgical technique where a small 'bracelet' of magnetic titanium beads is placed around the lower oesophagus to help prevent reflux. Information on the long term effectiveness and cost efficiency on this procedure is somewhat lacking at present and this technique is not routinely available on the NHS.

## What can I eat after surgery?

This is a guide to what to expect after surgery. You may be advised differently to this by your surgical team depending on your individual circumstances.

You will get a more detailed leaflet about dietary advice following the surgery either at your pre-assessment clinic or before you are discharged.

## Free fluids - straight after surgery

Once you have recovered from the anaesthetic you may have some water to drink. If you can manage this without problems you can have other fluids to drink.

Avoid very hot or very cold fluids and drink slowly.

No carbonated/fizzy drinks

## Sloppy/puree diet - morning after surgery

If you have tolerated fluids, you can move on to a very soft diet.

Initially try foods with the consistency of Ready Brek or Weetabix with plenty of milk

Eat slowly, chew well and drink fluids with food to keep food moist.

If you find you are able to manage this type of food easily, you can move onto a slightly more textured **softer, mashed diet.** It may be several days before you feel ready to move from a pureed diet to a softer, mashed diet.

No carbonated/fizzy drinks

## Softer, mashed diet

These are foods that are very soft, tender and moist. These foods do not have to have a completely smooth texture but are easily mashed with a fork on your plate before eating.

We would recommend staying on a softer, mashed diet until about 4 weeks after your surgery.

If you are having difficulty in swallowing, drop back to a pureed diet for a while.

No carbonated/fizzy drinks

## Normal diet

After about 4 to 6 weeks it is likely that you will be able to manage more challenging foods and return to a more normal diet. Try to introduce firmer foods 1 at a time, and if they cause symptoms, avoid them and try again at a later date.

People progress at different rates and it can take some people many months to manage a normal diet. Some people continue to have problems with particularly lumpy foods in the long term although this is rarely a major issue if you make sure that food is thoroughly chewed before it is swallowed

## Before your operation

You will be seen in the Pre-assessment Clinic. It is very important that you attend. If you do not attend your operation may be postponed or cancelled.

At this clinic a member of the nursing team will see you. They will check that you are fit for your operation. They will also be able to explain about the operation and answer any questions that you may have. You may also be seen by a doctor who will examine you and may organise for you to have some tests.

## Medication

If you are taking any tablets at the time of your pre-assessment appointment, please bring them with you. You may need to stop some of your tablets before your operation and you will be told which tablets to stop if necessary. If you are taking any **anti-platelet drugs** (eg aspirin, clopidogrel) or **anti-coagulants/medications to thin your blood** (eg apixaban, dabigatran, edoxaban, rivaroxaban, warfarin) it is important that you tell us as soon as possible. Please bring your tablets into hospital with you when you are admitted.

If you are taking the oral contraceptive pill or HRT, you may be told to stop this 4 weeks before your operation. This is due to the slightly increased risk of a blood clot (DVT), forming. You will need to use an alternative method of contraception during this time. You will be able to go back on the pill following your operation.

## Preparing for your operation

We will send you a letter telling you the date of admission and ward you will be on. You will also be told when you should stop eating and drinking before your operation. If you are unsure please ask during your pre-assessment appointment. The following points should be noted before coming into hospital:

- If you smoke, it is recommended that you stop around 2 weeks beforehand. The hospital is now a 'Smoke Free Environment'. This means that you or your relatives are not allowed to smoke on the site. This includes the hospital grounds.
- Do not bring any valuables into hospital, as we cannot be held responsible for any loss or damage.
- Please remove all jewellery. You may wear a wedding ring.
- Take a bath or shower before coming into hospital.
- There is no need to shave the operation area. If necessary this will be done in the operating theatre.
- Bring in an overnight bag with nightclothes and wash bag.
- Have a contact number for the person who is going to take you home.
- If for any reason your operation is postponed we will do our best to give you a new date as soon as possible. You are not put to the bottom of the waiting list and you may be offered an earlier date if another patient cancels.

## On the day of your operation

Your letter will say what time and where to arrive. Before your operation you will be seen by a nurse, a member of the surgical team and a member of the anaesthetic team. They will check that all your questions have been answered and that you are happy to have the operation. If you haven't already signed a consent form they will ask you to sign one at this point.

## After your operation

- You may be given oxygen until you are fully awake. This is given through a mask which is placed over your nose and mouth.
- You will have a 'drip' going into the back of your hand. This is normal and only temporary until you are drinking enough fluid.
- You may have a small tube in your nose which goes down into your stomach. This will usually be removed the day after your operation. You may be aware of this tube in the back of your throat when you swallow.

**Pain**: Some pain after your operation is normal. You will be given pain relief whilst you are asleep and you should wake up feeling reasonably comfortable. If you have pain, please tell the nurse looking after you.

You may have some shoulder pain and/or lower back pain. This is caused by the introduction of gas into your tummy during the operation which presses under the rib cage. Moving soon after the operation will help to relieve this and it usually settles within 24 to 48 hours.

You will be prescribed painkillers to take home with you. If you are in pain it is important for you to take these according to the instructions on the packaging. It is much better to keep pain under control than to try and treat it when it has become unbearable.

If your surgeon has to change to 'open' surgery, you will be given stronger pain relief to ensure that you have a comfortable recovery.

**Sickness**: Occasionally patients feel sick after a general anaesthetic. It is important that you tell the nurse looking after you if you feel sick, so you can be given medicine to help relieve this.

**Wound care:** You will have small plasters over your wounds, which you may remove 4 to 5 days after your operation, providing they are clean and dry. A small amount of leakage is normal.

After this time you may choose not to cover the wounds, although you can apply new dressings to protect your clothes from your wounds.

You may have a shower when you are at home. It is perfectly safe for water to splash onto the wounds in the shower. If you take a bath, ensure the water is shallow. Afterwards gently pat the skin dry around the wounds with a clean towel.

The wounds may itch and there may be bruising. This is quite normal and will settle in the same way as any other bruise.

A small number of people develop an infection in the wound after the operation. The signs of infection are redness, swelling, heat, leaking fluid, smell or tenderness around the wound edges. If you think your wounds are infected, please contact your GP as you may need antibiotics. Occasionally, the pus has to be released from an infected area by a further operation.

If you have skin stitches or clips that need to be removed, this will be arranged before you leave the hospital.

## Getting up and about

It is very important to get up an about as soon as possible after your operation. You must not get out of bed the first time without the help of a nurse, as you may feel dizzy. When you go home you should continue to walk around doing a little bit more each day.

## Going home

Normally, patients are ready to go home the morning after surgery, although in certain circumstances it is possible for patients to go home on the same day as surgery. If the operation was particularly difficult or you are experiencing significant symptoms you may be advised to stay in hospital for longer.

You are advised to continue to wear your compression stockings until you are moving around as much as normal.

Once you have left hospital, if you have any of the following symptoms please contact us (details in the back of the booklet) as soon as possible:

- A temperature or fever.
- Severe abdominal pain.
- A swollen or distended tummy.

## General advice

Once you have gone home from hospital do not compare your recovery with other people who have had the same operation. We are all different and recover at different rates.

You must not drink alcohol, operate machinery, sign any legal documents or cycle for 24 hours.

**Tiredness**: Most people feel tired for several days, sometimes weeks after their operation. Do not fight the tiredness, rest if you can. Do not expect too much too soon.

**Work**: Most people return to work after 2 weeks, but it may be as long as 4. If you need a sick note then please ask the ward staff before you are sent home.

**Driving**: You should not drive for 48 hours after a general anaesthetic, but it may be up to a week before you can safely drive (you should be able to perform an emergency stop). The first time you drive have somebody in the car with you in case you feel unwell. It is also advisable to check with your insurance company, to ensure your insurance is still valid.

**Sex**: You may resume normal sexual activity as soon as you feel comfortable.

**Exercise**: Usually after 2 weeks you can start gentle exercise, but avoid heavy lifting, weight training and contact sports for at least 4 weeks.

**Diet**: See the information on page 8 and the dietary advice leaflet (please ask for a copy of this leaflet before you go home if you haven't already had one)

## Follow-up

A follow-up appointment will be arranged. This will either be for a face-to-face clinic appointment or for a telephone/video consultation with your surgical team. The appointment will be sent through the post after you leave hospital. It is important that you attend for your appointment. If you are unable to attend please tell the clinic co-coordinator (the number will be on your appointment letter). Please do not waste your outpatient appointment.

## Contact details

If at any time after you are sent home, you are concerned about any symptom or problem you should contact your GP.

If you are unable to contact your GP, please contact: Ward 21 **0116 258 5475**

Ask to speak to the nurse in charge. It would be helpful if you are able to tell them:

- the name of your consultant
- the operation that you had
- the date of your surgery
- your hospital number

Please also make a note of the name of the person that you speak to for advice.

اگر آپ کو یہ معلومات کسی اور زبان میں درکار ہیں، تو براہِ کرم مندرجہ ذیل نمبر پر ٹیلی فون کریں۔
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Aby uzyskać informacje w innym języku, proszę zadzwonić pod podany niżej numer telefonu

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LEICESTER'S RESEARCH

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Previous reference: SUR004-1007