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

Department of General Surgery

Information for Patients

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Introduction

This booklet gives you and your family information and advice about your operation. Please read it carefully before you come into hospital. Please make a note of any questions you would like to ask.

Your surgeon has advised that you have **anti-reflux surgery.** It is also called **fundoplication** or a **hiatus hernia repair.** It will correct your hiatus hernia and/or stop heartburn (acid reflux).

What happens during the operation?

- The surgeon makes a new valve at the lower end of your food pipe (oesophagus). They use the top part of your stomach.
- Most people have it done with small cuts (**keyhole (laparoscopic) surgery** or **robotically assisted keyhole surgery)**. Some people may need a larger cut (open surgery). Your doctor will talk to you about which type of surgery is best for you.
- Most patients go home the next day.

My questions

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Understanding your body

The gastrointestinal tract is the tube that starts in the mouth and ends at the anus.

The upper gut includes the food pipe (oesophagus), stomach and duodenum.

Food passes down the food pipe into the stomach.

The stomach makes acid which helps to digest food. It then passes into the first part of the small intestine (duodenum) to be digested.

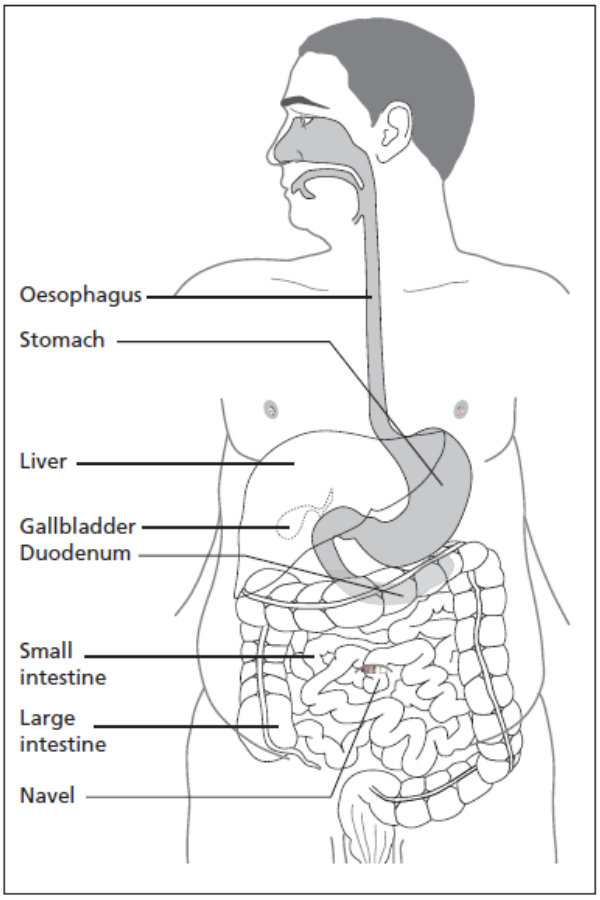
At the junction of the stomach and the food pipe there is a thickened area of muscle. It is called a 'sphincter'. It acts like a valve.

When food comes down the food pipe into the stomach, the sphincter relaxes. It closes at other times to stop food and acid in the stomach coming back up the food pipe.

The diaphragm is a large flat muscle. It separates the lungs from the tummy. It helps us breathe. The food pipe 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 in the diaphragm, around the lower food pipe helps the sphincter to keep the food pipe closed. This stops food or acid travelling back up or refluxing.

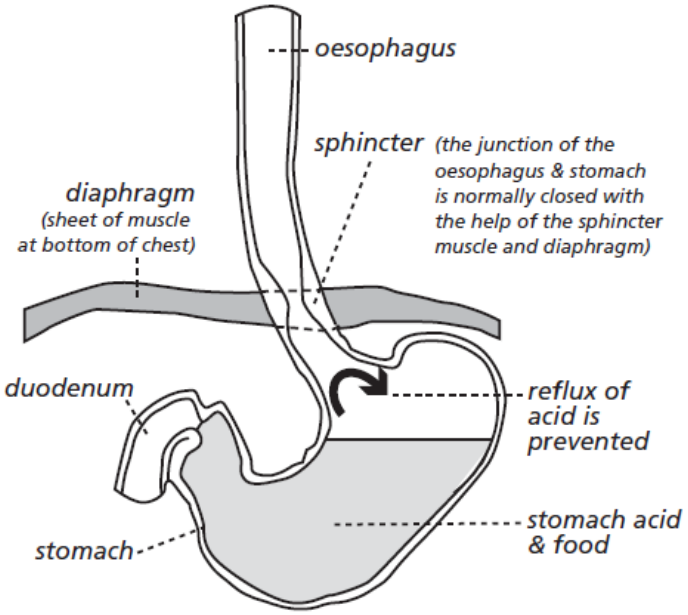


What is gastro-oesophageal reflux disease?

Gastro-oesophageal reflux disease happens when the stomach contents come back up (reflux) into lower part of the food pipe. A large part of the stomach contents are acid. This acid burns the lower part of the food pipe causing damage. The burning is felt as heartburn. It may be felt through the chest and up into the throat and neck.

The valve between the stomach and the gullet breaks down.

Other symptoms you may get are



- being sick (often on stooping and bending)
- choking attacks (particularly at night)
- long-term cough
- difficulty swallowing

What causes gastro-oesophageal reflux?

Some people are born with a faulty valve. They may 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?

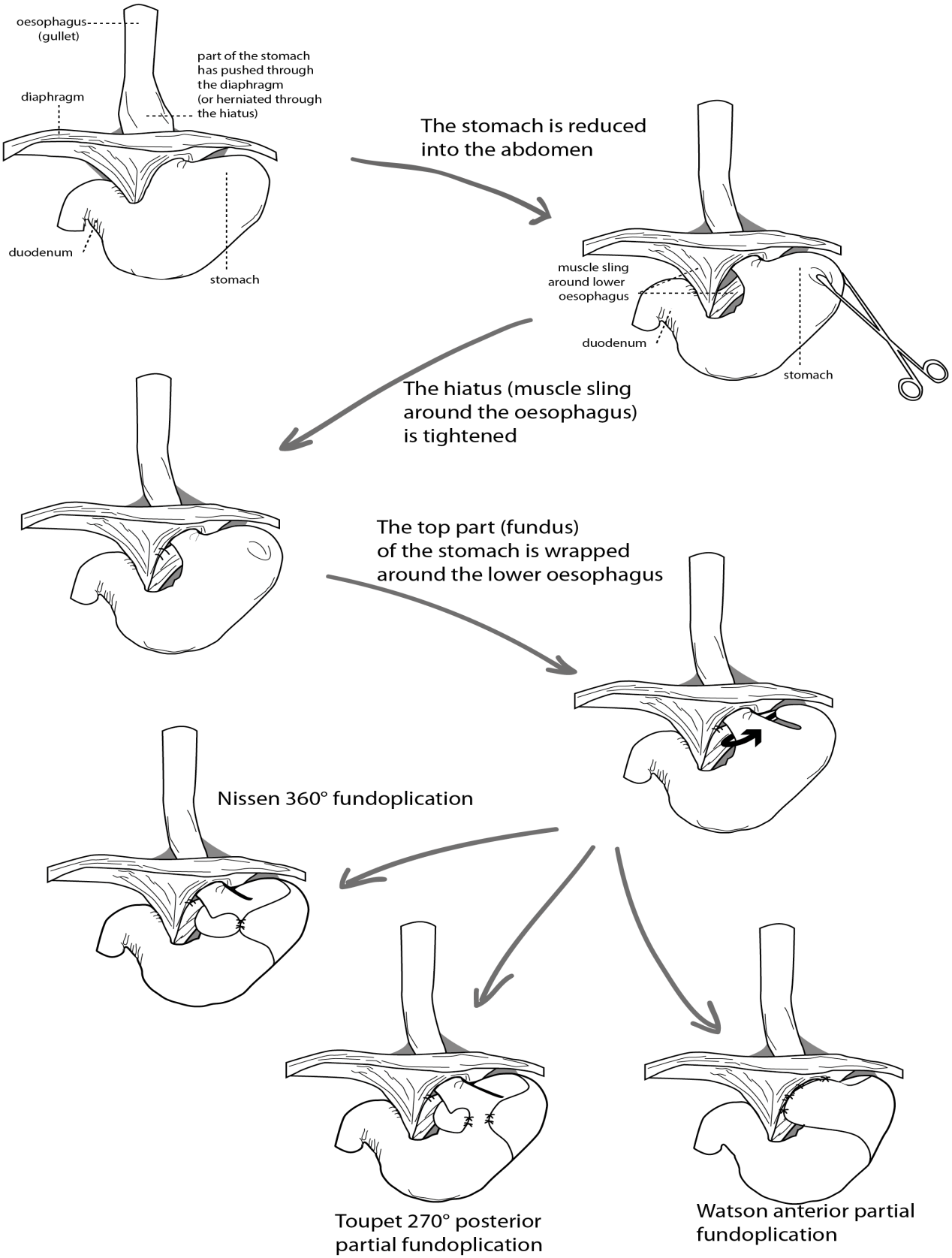
There is an opening or **hiatus** in the diaphragm through which the food pipe passes. When the hiatus is larger than it should be, a small part of the stomach pushes (herniates) through the diaphragm into the lower chest. This is called a **hiatus hernia.**

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. They will be able to see the upper stomach, the lower food pipe and the diaphragm. They will stitch the diaphragm to make the hole the food pipe passes through smaller.
- Your surgeon will then wrap and stitch the top part of the stomach around the lower food pipe, to make 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). Your surgeon will discuss this with you.
- You will have a general anaesthetic. This means that you will be asleep. It usually takes 1 to 2 hours.
- We make small cuts made in your tummy (abdomen). One of these will be in the area of your tummy button. We make 4 other small cuts above your tummy button. These cuts are called port sites. We put carbon dioxide gas in your tummy so the surgeon can see. We put hollow tubes (ports) into the cuts. The surgeon passes the instruments through these to perform the operation whilst watching on a large TV screen.
- They will close any wounds with a special stitch. It will dissolve when it is no longer needed. This may vary depending on who your surgeon is.
- **If you have a para-oesophageal hernia or massive hiatal hernia** much more of the stomach is in the chest. Sometimes the stomach flips upside down on itself in the


oesophagus
(gullet)
part of the stomach
has pushed through
the diaphragm
(or herniated through
the hiatus)
diaphragm
duodenum
stomach
The stomach is reduced
into the abdomen
muscle sling
around lower
oesophagus
duodenum
stomach
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

chest. This is called gastric volvulus. It is seen as more of a priority for surgery. If it not treated the stomach can become blocked (obstructed), or it can lead to repeated chest infections. These operations typically take 1 to 2 hours more than normal. The recovery is often 24 hours longer in hospital. The long-term success rate is not as good.

Are there any risks or complications?

Laparoscopic or robotic anti-reflux surgery is very effective and safe. Most patients do not have any major problems after the operation. There are some risks and complications you should be aware of. There is more information about risks for your operation on your digital consent form.

Complications from surgery

Damage to the food pipe, stomach or lung lining: This is a rare but potentially serious complication. It may need more surgery or a longer hospital stay. (Risk around 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. (Risk around 1 in 1000.)

Changing from keyhole to open surgery: Sometimes, 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 tummy. This happens in about 1 in 300 patients.

Sometimes there can be more bleeding than expected. This cannot be controlled using the keyhole method. Such bleeding can sometimes come from 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. Your recovery will take longer. A blood transfusion is sometimes needed. You will have a blood test before your surgery to make sure blood is available if needed. Please tell your surgeon if you do not want a blood transfusion.

Damage to your internal organs: This may occur when placing instruments into your tummy. (Risk around 1 in 1000 patients). If you have had operations on your tummy before, these may have caused scarring. This can make 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 get better each day, you should let your doctor know.

Wound infection: The wounds can sometimes get infected. You 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 sometimes develop. The risk of hernia is higher if your operation needs to be done by the open method.

General complications

Deep vein thrombosis (DVT, blood clot in the lower leg): We put a few things in place to reduce this risk. We may give you an injection in your tummy whilst you are in hospital. This helps to thin your blood. We will also give you a pair of special compression stockings to wear. We will encourage you to get up and about after your operation as soon as the effects of the anaesthetic have worn off.

Chest infection: If you smoke, try to stop about 2 weeks before your operation. This will help reduce the risk of an infection. 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 let yourself get constipated. Straining changes the pressure inside the tummy. You should avoid this in the early days after your operation.

Are there any side effects of anti reflux surgery?

Difficulty swallowing (dysphagia): Problems with swallowing, mostly chunks of bread and meat, are common after this operation. This is due to the fact that the food pipe tends to be rather inactive for 1 to 2 weeks. There is also some swelling in the area of the surgery. This can last for a couple of months. The problem usually resolves itself. You may need to have a fairly soft diet for a few weeks after your operation (which is what we recommend). Most patients swallow normally after anti-reflux surgery.

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

Abdominal bloating and flatulence: The operation is usually very effective. It does reduce the amount of wind that is able to be brought back up. This may lead to you feeling very bloated after eating. Some people find this painful. You can lower the amount of air you swallow by

- using a straw to drink cold fluids .
- eating slowly and not talking at mealtimes

Because the extra air has to go somewhere, you may well find that you pass larger amounts of “wind” from your bottom. Your poo may be looser and more frequent. This feeling can last on a long term basis. It is also possible that you will not be able to be sick (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 adapts to a normal meal. It is common for patients to lose some weight after this type of surgery.

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

Long-term

As time goes by, there is a small chance that your hiatus hernia repair can loosen, and reflux control is not as good as it was. The bigger your hiatus hernia at the time of your surgery, the more is the chance that this can happen.

With small hernias, the risk of the surgery working less well is around 1 in 10.

With big hernias (more than 5 cm in size), sometimes called para-oesophageal or massive hiatal hernias, the risk can be as high as 4 in 10.

Are there any other options 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.

Medicines that lower the acid content in the stomach are good at controlling symptoms. They heal the inflammation in the food pipe. A class of drugs called 'proton pump inhibitors' (such as lansoprazole and omeprazole) are currently the most effective. They are the main treatment for acid reflux. These are safe drugs that for most people work well to control their symptoms. You may need to take them for the rest of your life.

Surgery: If your surgeon has offered you an operation it is likely that you have tried the above methods and they have not worked, 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 food pipe opening into the stomach through an endoscope. The long term evidence on how well this works is lacking. They are not available locally on the NHS at the moment.

LINX procedure: A small 'bracelet' of magnetic titanium beads is placed around the lower food pipe to help stop reflux. There is little information on the how well this works in the long term or if it is value for money. This procedure is not available locally on the NHS.

Before your operation

You will be seen in the Pre-assessment Clinic. You must 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 explain about the operation. They will answer any questions you may have. They may arrange some blood tests for you.

Medicines

Please bring any medicines you are taking to your pre-assessment appointment.

You may need to stop some of your tablets before your operation. We will tell you which tablets you may need to stop taking.

If you are taking any

- **anti-platelet drugs** (such as aspirin, clopidogrel) or
- **anti coagulants/medications to thin your blood** (such as apixaban, dabigatran, edoxaban, rivaroxaban, warfarin)

you must tell us as soon as possible. Please bring your tablets into hospital with you when you are admitted.

If you are taking the birth control pill or HRT, you may be told to stop this 4 weeks before your operation. This is due to the slightly higher risk of a blood clot (DVT) forming.

You will need to use a different method of contraception during this time. You will be able to go back on the pill after your operation.

Preparing for your operation

We will send you a letter with 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 not sure please ask during your pre-assessment appointment. Please do the following before coming to hospital:

- If you smoke, stop around 2 weeks before. The hospital is now a ‘Smoke Free Environment’. This means that you or your relatives cannot smoke on the site. This includes the hospital grounds.
- Do not bring any valuables into hospital. We are not 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. We will do this in the theatre if needed.
- 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. If another patient cancels, you may get an earlier date.

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 have not 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. We will give you pain relief whilst you are asleep. You should wake up feeling fairly 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 gas in your tummy used during the operation which presses under the rib cage. Moving soon after the operation will help to ease this. It usually settles within 24 to 48 hours.

We will prescribe painkillers to take home with you. If you are in pain it is important for you to take these. Follow the instructions on the packet. 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 make sure you have a comfortable recovery.

Sickness: Sometimes patients feel sick after a general anaesthetic. It is important that you tell the nurse looking after you if you feel sick. They can give you medicine to help with this.

Wound care: You will have small plasters over your wounds. You can take these off 4 to 5 days after your operation, as long as the wounds are clean and dry. A small amount of leakage is normal.

After this time you may choose not to cover the wounds. 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, make sure the water is shallow. 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. It 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. You may need antibiotics. Sometimes, 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, we will arrange this 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 carry on walking around doing a little bit more each day.

Going home

Patients are ready to go home the morning after surgery. Sometimes it may be possible for patients to go home on the same day as surgery. If the operation was very difficult or you are having major symptoms (for example, difficulty swallowing, difficulty breathing or severe pain) you may need to stay in hospital for longer.

You need 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 (see page 12) as soon as possible:

- A temperature or fever.
- Severe tummy 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 do an emergency stop). The first time you drive have somebody in the car with you in case you feel unwell. Check with your insurance company, to make sure your insurance is still valid.

Sex: You can have sex when you feel you are ready.

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

Diet: See the information below and the dietary advice leaflet (please ask for a copy of this leaflet before you go home if you have not 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 phone/video consultation with your surgical team. We will send the appointment by post after you leave hospital. It is important that you attend for your appointment. If you are not able to attend please tell the clinic co-coordinator (the number will be on your appointment letter). Please do not waste your outpatient appointment.

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 after the surgery either at your pre-assessment clinic or before you are discharged or you can search leaflet 1308 Dietary advice after surgery to treat acid reflux at https://yourhealth.leicestershospitals.nhs.uk/

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. 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.

Try foods with the consistency of Ready Brek or Weetabix with plenty of milk

Eat slowly and chew well. 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 a few 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. They are easily mashed with a fork on your plate before eating.

We advise that you have 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. If they cause symptoms, avoid them and try again at a later date.

People progress at different rates. It can take some people many months to manage a normal diet. Some people continue to have problems with very lumpy foods in the long term. This is rarely a major issue if you make sure that you chew your food well before you swallow it.

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** or Ward 22 **0116 258 4165**

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.

Previous reference: SUR004-1007

If you would like this information in another language or format such as EasyRead or Braille, please telephone 0116 250 2959 or email uhl-tr.equalitymailbox@nhs.net

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Leicester's Hospitals is a research active trust so you may find research happening on your ward or in your clinic. To find out about the benefits of research and become involved yourself, speak to your clinician or nurse, call 0116 258 8351 or visit www.uhleicester.nhs.uk/research/patients-public/be-part-of-our-research/