

Patient information from the BMJ Group

GORD in adults

In this section

[What is it?](#)

[What are the symptoms?](#)

[How is it diagnosed?](#)

[How common is it?](#)

[What treatments work?](#)

[What will happen?](#)

[Questions to ask](#)

Gastro-oesophageal reflux disease (GORD) in adults

Everyone gets heartburn now and again. But if you get it often, you could have what doctors call GORD. This stands for gastro-oesophageal reflux disease. In this information, we'll refer to it as GORD.

We have brought together the best research about heartburn and GORD and weighed up the evidence about how to treat it. You can use our information to talk to your GP and decide which treatments are best for you.

What is GORD?

Everyone gets heartburn now and again. It's an uncomfortable burning feeling that usually starts just below your breastbone and rises into your throat.

You may get a sour or bitter taste in your throat. Most people get it only once in a while, usually after drinking alcohol or eating rich or spicy food.

But if you have heartburn often, you could have what doctors call GORD. This stands for **gastro-oesophageal reflux disease**.

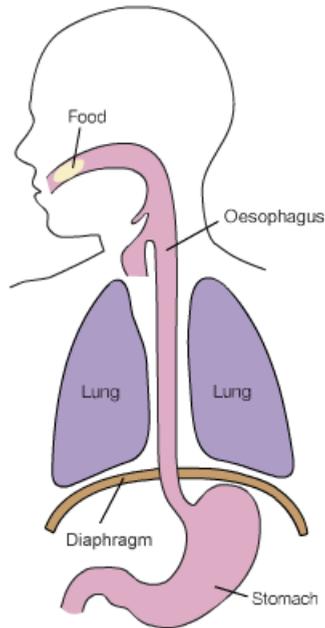
Key points for people with GORD

- The most common symptom of GORD is heartburn. If you have heartburn at least twice a week, you probably have GORD. ^[1]
- If you get heartburn several times a week, you will probably need treatment to get better.
- Drugs called proton pump inhibitors are the best treatment for GORD.
- Drugs called H2 blockers also work but not as well as proton pump inhibitors.
- Surgery can help if you have had GORD for a long time and drug treatment hasn't worked.

GORD in adults

How things normally work

To understand GORD and the best way to treat it, it helps to know something about your digestive system (the parts of your body that help break down food for cells to use).



Muscles in your oesophagus help carry food from your mouth to your stomach.

The tube that carries food from your mouth to your stomach is called the **oesophagus**. It's about 25 centimetres (10 inches) long. ^[2] It's made of muscle and stronger supporting tissue (called connective tissue). (Some people call the oesophagus **the gullet**.)

Your oesophagus starts at the back of your throat and runs down to your stomach. It sits next to your windpipe (the tube that goes to your lungs).

When you swallow, your windpipe closes off and food or liquid is pushed from your throat into your oesophagus. Muscles in your oesophagus start to tighten and relax, making a squeezing movement that carries the food down to your stomach.

The lining of your oesophagus is made of overlapping folds of tissue that allow it to stretch open so that larger pieces of food can pass through. The lining is pink and moist and looks a bit like the inside of your mouth. ^[3]

Underneath the surface of the lining are **glands** that make a thick fluid called mucus. Mucus helps food slip down more easily. And it also protects the oesophagus from damage. ^[4]

There is a ring of muscle at the lower end of your oesophagus, where it joins your stomach. This ring of muscle separates your oesophagus from your stomach. This muscle acts like a valve.

GORD in adults

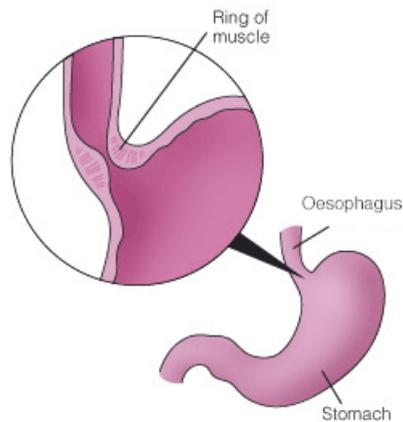
Usually, the ring of muscle is closed. But when food reaches it, nerves trigger the muscle to open so food can pass into your stomach. Once food has passed into your stomach, the muscle tightens up again and closes. This stops the contents of your stomach coming back into your oesophagus.

When food reaches your stomach, stomach juices and acid help break down the food so that it can move on to the next part of your digestive system.

As you breathe in, your chest presses down. This also helps keep acid out of your oesophagus.

What goes wrong when you have GORD?

If you have GORD, the ring of muscle that sits between your oesophagus and your stomach doesn't work properly. The muscle opens even when food isn't passing through. And the muscle may stay open for too long. When this happens, acid from your stomach can flow up into your oesophagus. Doctors call this backwards flow **reflux**.



The ring of muscle at the end of the oesophagus stops stomach acid flowing into the oesophagus.

You get heartburn when the acid from your stomach flows up into your oesophagus. Heartburn is the burning feeling that runs up inside your chest to your throat. You get this feeling when stomach acid touches the lining of your oesophagus. When you have heartburn, you may also get a bitter taste in your mouth. And it may feel as if food is coming back up into your throat or mouth.

Some people with GORD also have a problem getting rid of the acid in their oesophagus. Normally, if acid from the stomach flows into your oesophagus, it's quickly squeezed back into the stomach where it belongs. And when there is acid in your oesophagus, you tend to swallow extra saliva automatically to wash it down. But if you have GORD, the squeezing movement may be weak, or you may make too little saliva.

Any acid that stays in your oesophagus makes it sore. And this makes your heartburn worse.

GORD in adults

When your oesophagus gets inflamed

If you get heartburn often and you don't get treatment for it, then over time the acid may cause swelling that makes your oesophagus sore. Doctors call this **oesophagitis**. You may also get more serious problems, such as sores (called ulcers) and patches of bleeding, and your oesophagus may become blocked.

Between about 33 and 50 in 100 people with GORD get this problem.^{[1] [5] [6]} It doesn't necessarily mean your symptoms will be worse. Doctors aren't sure why, but some people with oesophagitis have milder symptoms than people without this swelling.

GORD: why me?

Researchers don't really know what causes GORD, so your doctor probably won't be able to tell you why you have it. Instead, your doctor may talk about **risk factors**. These are things that make it more likely that some people will get a particular condition.

The following things have been linked to GORD, but researchers aren't sure that they cause it, because there isn't much evidence about them. Please remember that having or doing any of these things does not mean that you will definitely get GORD.

Smoking

Smoking may weaken the valve that sits between your oesophagus and your stomach. If this valve is weak, more acid can flow into the oesophagus from the stomach. Doctors are not exactly sure why or how this happens. And so far there are no good studies to show whether stopping smoking can make your symptoms get better or go away.^[7]

If you smoke you may have less saliva in your mouth and throat. If this happens, there is less saliva to help wash down or reduce the effect of the acid that gets into your oesophagus.

Drinking alcohol

Alcohol may relax the muscular valve that sits between the end of your oesophagus and your stomach. When the muscle is relaxed, the valve opens. And acid from your stomach may flow into your oesophagus.

Alcohol may also irritate any sore spots on the lining of your oesophagus.

Eating certain foods

You may find that eating or drinking certain things makes your symptoms worse.

Chocolate, coffee, mints, onions, and sugary foods often make symptoms worse for people who have GORD. These foods may relax the valve that keeps your stomach's contents from flowing back up into your oesophagus.

Spicy foods, or acidic foods such as citrus fruits and tomatoes, may make your heartburn worse if your oesophagus is already irritated.

GORD in adults

Being pregnant

Pregnant women often get GORD. Some pregnant women have heartburn every day. And many get it once in a while.

This is probably because the unborn baby presses on the abdomen. When this happens, the ring of muscle that sits between the stomach and the oesophagus doesn't close as tightly as it should. If the muscle doesn't close all the way, then acid can flow from your stomach and up into your oesophagus.

Doctors think that changes in the level of **hormones** during pregnancy may also affect how well this muscle works.

Being overweight

If you are seriously overweight you may be more likely to get GORD. Extra weight puts extra pressure on your stomach area. This can stop the valve between your oesophagus and your stomach working properly. And this can force the acid from your stomach up into your oesophagus.

Having a family member with GORD

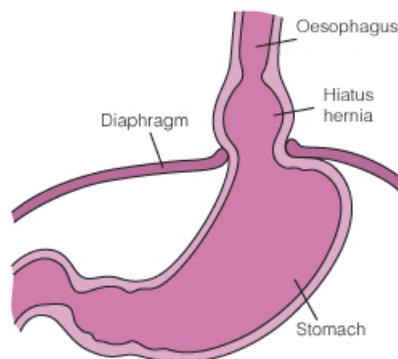
You may be more likely to get GORD if one of your parents has GORD. ^[8]

Slow digestion

Some people's digestion works slowly, so food stays in their stomach for too long. Doctors call this delayed gastric emptying. This condition can also push the contents of the stomach up into the oesophagus and cause heartburn.

Hiatus hernia

Your **diaphragm** is a thin, dome-shaped muscle that sits below your lungs. It separates your chest from your stomach. Your diaphragm tightens and relaxes as you breathe in and out.



When part of your stomach bulges up through the hole in your diaphragm, you get a hiatus hernia.

Before your **oesophagus** (the tube that carries food to your stomach) reaches your stomach, it passes through an opening in your diaphragm. Doctors call this opening a

GORD in adults

hiatus. In some people the upper part of the stomach bulges up through the opening in the diaphragm and into their chest. When it does this, it is called a **hiatus hernia**.

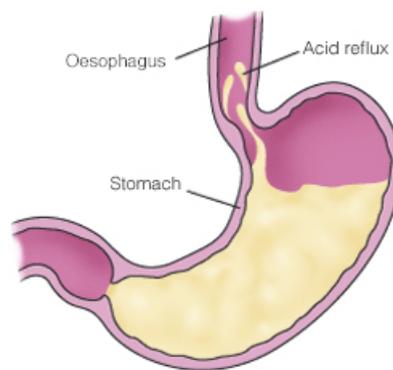
Women who are pregnant and people who are overweight are more likely to get a hiatus hernia. It can also be caused by coughing, vomiting, straining, or sudden physical effort. ^[9]

If you have a hiatus hernia, it is easier for acid to get into your oesophagus because the bulging part of the stomach can form a pouch that traps acid. ^[9] Also, if part of your stomach is in the chest area, the chest can no longer press down to keep acid from flowing up.

However, most people with a hiatus hernia do not get GORD.

What are the symptoms of GORD?

GORD stands for gastro-oesophageal reflux disease. If you get heartburn at least twice a week you may have GORD.



When you have heartburn, acid from your stomach splashes back into your oesophagus.

Heartburn

Heartburn is the main symptom of GORD. It's an uncomfortable burning feeling that usually starts in the middle of your chest, behind your breastbone, and moves upwards towards your neck and throat. ^[7]

- Most people with GORD get heartburn at least two or three times a week. ^[7] For some people, heartburn is their only symptom.
- On some days, bouts of heartburn may be brief. On others, heartburn may last for a long time. Sometimes it lasts for several hours.
- If you have GORD, your heartburn will tend to get worse after you eat, when you bend forward, or when you lie down. ^[10]

GORD in adults

- Another common symptom of GORD is having a sour or bitter taste in your mouth and feeling that food is coming up your throat and into your mouth. ^[11]
- You may also get bad breath and a dry cough. ^[11]

You get the burning feeling and bitter taste when acid from your stomach flows into the tube (oesophagus) that carries food from your mouth to your stomach. Doctors call this backwards flow **reflux**.

Other symptoms

Here are some of the other symptoms that people with GORD may have. You probably won't have all of these. Please remember that having these symptoms does not necessarily mean that you have GORD.

- [Difficulty swallowing](#)
- [A lump in your throat](#)
- [Watery mouth](#)
- [Chest pain](#)
- [Breathing problems](#)
- [Feeling tired](#)

Warning symptoms

Some symptoms could mean you have a more serious illness than GORD. You may need to have tests to find out what's wrong. Warning symptoms include:

- Vomiting blood
- Black stools
- A feeling that food sticks in your throat when you swallow
- Losing weight without trying
- Feeling tired or off-colour for no reason.

If you have black stools or you are vomiting blood, you should call your doctor or go to an accident and emergency department as soon as possible. These symptoms could be caused by bleeding in your stomach or your bowels.

GORD in adults

These symptoms may not be caused by anything serious. But the National Institute for Health and Care Excellence (NICE), which advises the government about what treatments should be available on the NHS, says that if you have warning symptoms, you should see a specialist or have a test called an [endoscopy](#) within two weeks. ^[12]

During an endoscopy, a doctor uses a long tube with a camera on the end to look inside your throat and stomach. The aim is to find out why you are getting symptoms.

Sometimes, these warning signs are caused by cancer. But this is rare. Out of 100 people who are advised to have an urgent endoscopy for any reason, only four are found to have stomach cancer. ^[12]

How do doctors diagnose GORD?

Your GP will listen to what you say about your symptoms to diagnose gastro-oesophageal reflux disease (GORD).

Your GP will want to know how long you've had your symptoms, how often you get them and whether you've noticed anything that triggers them. For example, if you have heartburn, you may find it gets worse when you bend forward or lie down or after you have eaten.

The most common symptoms of GORD are heartburn and the feeling that acid and bits of food are coming up into your throat or mouth. (This is sometimes called regurgitation.)

Everyone gets heartburn once in a while. But if you have heartburn or acid coming up into your mouth at least twice a week you probably have GORD. ^[1] If you don't have any other symptoms, there may be no reason for you to have any tests.

You may be prescribed medicine straight away. If your symptoms get better while you are taking the medicine, then there is a good chance that the diagnosis is right. ^{[1] [20]}

Tests

Your GP may wish to do some tests. This could be because:

- You've had symptoms for a long time (more than 10 years)
- Your symptoms don't get better when you take medicine
- You find swallowing difficult
- You're losing weight even though you're eating the same way
- You've vomited blood ^[12]
- You've been sick a lot

GORD in adults

- You have anaemia (this means your blood is low in iron and doesn't carry oxygen as well as it should)
- You have a lump in your abdomen. ^[12]

These symptoms mean you could have more serious problems in your oesophagus, such as ulcers or blockages.

If you're 55 or older, your doctor may suggest you have some tests. This is especially likely if you've already had an ulcer or surgery, or you are taking drugs that can cause indigestion. ^[12]

Sometimes your doctor will suggest that you have tests to make sure nothing else is causing your symptoms. For example, if you have chest pain (which is sometimes a symptom of GORD) your doctor may run some tests to see if you have a heart problem. ^[12]

Unfortunately, there isn't just one test that can tell your GP that you have GORD. To learn more about the tests you may have, see [Tests for GORD](#).

How common is GORD?

GORD stands for gastro-oesophageal reflux disease. If you get heartburn regularly you may have GORD.

It is difficult to say how many people have GORD. This is because lots of people who have symptoms, such as heartburn, don't go to see their doctor about them. ^{[21] [22]}

What we do know is:

- Over a year, between about 25 and 33 in 100 adults aged 20 to 69 have some symptoms of GORD, such as heartburn or acid reflux
- Men and women seem to be equally likely to have GORD
- Only about a quarter of people who have GORD talk to their GP about it
- In 2010, people in the UK spent more than £122 million on over-the-counter treatments for indigestion.

Babies and children can also get GORD, although it's less common than in adults. We couldn't find any studies of children in the UK, but this is what we know from studies in the US. ^[23]

- About 2 or 3 in 100 children between ages 3 and 9 have frequent heartburn and have acid that flows up into their mouths

GORD in adults

- About 5 to 8 in 100 children between ages 10 and 17 have these symptoms.

What treatments work for GORD?

Everyone gets heartburn now and again. It's an uncomfortable burning feeling that starts below your breastbone and rises into your throat. But if you have heartburn often you may have what doctors call GORD. This stands for gastro-oesophageal reflux disease. There are some good treatments for GORD.

Your GP may talk about some of the treatments that are listed below.

Key points about treating GORD

- If you have symptoms, such as heartburn, several times a week, you probably won't get better without treatment.
- Drug treatment won't cure GORD but it can make you feel better and may help your oesophagus to heal. (Your oesophagus is the tube that carries food from your mouth to your stomach.)
- If you have drug treatment, proton pump inhibitors work best. They are usually prescribed if your symptoms are very bad.
- Drugs called H2 blockers also work. But they don't work as well or as fast as proton pump inhibitors. They may be better if your symptoms are mild.
- Antacids are medicines that you can buy over the counter. They seem to help some people with mild symptoms.
- If you stop taking medicine, your symptoms will probably come back.
- Surgery can be used to cure GORD. It works but it does have risks.
- Cutting down on fatty foods and stopping smoking are good for your health but we don't know if they relieve symptoms of GORD. More research is needed.

Which treatments work best? We've looked at the research and given a rating for each treatment according to how well it works.

For help in deciding which treatment is best for you, see How to use research to support your treatment decisions.

Treatment Group 1

Treatments for GORD

Treatments that work

- [Proton pump inhibitors](#) (PPIs): These drugs lower the amount of acid your stomach makes. Some common names (and brand names) are omeprazole (Losec, Mepradec), lansoprazole (Zoton), rabeprazole (Pariet), pantoprazole (Protium, Pantoloc Control), and esomeprazole (Emozul, Nexium). [More...](#)
- [H2 blockers](#) : These drugs also reduce the amount of acid your stomach makes. Some common names (and brand names) are ranitidine (Zantac), nizatidine (Axid), famotidine (Pepcid), and cimetidine (Tagamet). You can buy some of these medicines from a pharmacist. [More...](#)

Treatments that are likely to work

- [Antacids](#) : These are drugs that you can buy over the counter at a pharmacy. [More...](#)

Treatments that work but whose harms may outweigh benefits

- [Surgery \(fundoplication\)](#) : The aim of surgery is to strengthen the ring of muscle that sits at the lower end of the oesophagus. The operation keeps stomach acid from flowing into the oesophagus. [More...](#)

Treatments that need further study

- [Changes to your diet and lifestyle](#) : Your GP may suggest you do some things that can improve your health generally, such as giving up smoking or eating fewer fatty foods. [More...](#)
- [Motility stimulants](#) : These are drugs that affect the muscle at the top of your stomach so that food and acid can't flow into your oesophagus. They are sometimes used for GORD. One example is metoclopramide (Maxolon). [More...](#)

What will happen to me?

If your GP has told you that you have gastro-oesophageal reflux disease (GORD), there's a good chance that treatment will help symptoms such as heartburn.

But we also know that about 80 in 100 people with GORD continue to need treatment to stop their symptoms coming back. ^[12]

We don't know much about how people with GORD do over the long term or why some people get more serious problems and others don't.

GORD in adults

But here is what we do know from the studies that have been done.

- If you have symptoms, such as heartburn, every day and you have swelling (inflammation) in the tube (oesophagus) that runs from your mouth to your stomach, you probably won't get better unless you have treatment. (Inflammation of the oesophagus is called oesophagitis.)
- Between 50 and 80 in 100 people who have symptoms only occasionally, or who have mild symptoms, will get better on their own. ^[14]
- If you take a prescription medicine to reduce the amount of acid your stomach makes, there is a good chance that your symptoms will get better and your oesophagus will heal.
- GORD may never go away completely. Even once your symptoms have eased and your oesophagus has healed, you may need to continue to take medicine. If you stop taking it, there's a good chance that your symptoms will come back within six months to 12 months.
- Some people find they need to take medicine only once in a while when their symptoms come back.
- People who have severe symptoms may need to take medicine regularly (perhaps daily) for the rest of their life to stop their symptoms coming back. But not everyone needs to continue taking medicine.
- You may wish to try cutting down on fatty foods and alcohol, or stopping smoking. We can't say for sure that these things help with GORD but they're good for your health generally. To learn more, see [Changes to your diet and lifestyle](#) .

Complications

If you get heartburn often, the acid from your stomach may cause more serious damage to your oesophagus. But this isn't common. ^[1] ^[11] Researchers don't know for how long or how often you have to have GORD before you get more serious problems.

Here are some of the most common complications of GORD.

- [Ulcers](#) : You get ulcers in the oesophagus when the lining of your oesophagus is damaged. [More...](#)
- [Blocked oesophagus](#) : Your oesophagus may become blocked if it is inflamed or has scars from sores that have healed. [More...](#)

GORD in adults

- [Barrett's oesophagus](#) : Acid from your stomach may change some of the cells that line your oesophagus. About 1 or 2 in 100 people who have an endoscopy test are have Barrett's oesophagus.^[12] [More...](#)

Questions to ask your doctor

If you get heartburn more than twice a week, you may have gastro-oesophageal reflux disease (or GORD).

If your GP has told you that you have GORD, you may want to find out more.

Here are some questions that you might want to ask:

- How do you know that I have GORD? Do I need any tests?
- How likely is it that my oesophagus has been damaged by GORD?
- Do I need to take a prescription medicine to treat GORD?
- How likely is it that GORD will get better on its own?
- What will happen if I don't get treatment?
- What is the best treatment for me?
- How often should I take my tablets?
- Do the tablets have any side effects?
- For how long will I need to take the tablets?
- Will I still need to take tablets once I stop having symptoms?
- Are there any changes I should make in my life that might help ease my symptoms?
Are there things I should avoid?
- Is surgery an option for me? What are the pros and cons?

Treatments:

Proton pump inhibitors (PPIs)

In this section

[Do they work?](#)

[What are they?](#)

[How can they help?](#)

[How do they work?](#)

[Can they be harmful?](#)

GORD in adults

[How good is the research on proton pump inhibitors?](#)

This information is for people who have GORD. It tells you about proton pump inhibitors (PPIs), a treatment used for GORD. It is based on the best and most up-to-date research.

Do they work?

Yes. Proton pump inhibitors are the best drugs for treating gastro-oesophageal reflux disease (GORD).

Proton pump inhibitors work better for heartburn than [H2 blockers](#), the other main drug treatment for GORD. (Heartburn is the main symptom of GORD.) Proton pump inhibitors are also better than H2 blockers at healing your oesophagus, the tube that runs from your throat to your stomach.

Proton pump inhibitors are also best if you need long-term treatment for GORD. Doctors call this maintenance treatment.

What are they?

Proton pump inhibitors are drugs that are designed to ease the symptoms of GORD and heal any soreness and swelling (inflammation) in your oesophagus. Doctors often call these drugs PPIs for short.

Most of these medicines you can get only on prescription. But you can buy omeprazole over the counter at pharmacies. But you can buy Rabeprazole (Pariet) over the counter.

In the UK, doctors are advised to prescribe these drugs to people with GORD.^[12] You'll probably take them for one or two months. Your doctor may also lower the dose or suggest you stop taking a PPI when your symptoms improve.^[12]

Some common PPIs (and their brand names) are:

- esomeprazole (Emozul, Nexium)
- lansoprazole (Zoton)
- omeprazole (Losec, Mepradec)
- pantoprazole (Protium, Pantoloc Control)
- rabeprazole (Pariet).

Your doctor will advise you to take this medicine every day to start with. When your symptoms are under control, you may want to take a lower dose every day to keep your symptoms away. Doctors call this **maintenance treatment**. Or if you find you are free from symptoms for long periods, then you may need to take a tablet only when you feel you need one. This is called **intermittent treatment**.

GORD in adults

At some point, most doctors will suggest that for a trial period you stop taking a proton pump inhibitor to see whether you still need it.

How can they help?

If you have GORD, proton pump inhibitors can get rid of symptoms, such as heartburn, and heal any swelling (or inflammation) and damage to your oesophagus. Most people taking proton pump inhibitors feel better within one month to three months of starting treatment.^[29]

Proton pump inhibitors work better than [H2 blockers](#) (the other main group of drugs used to treat heartburn).^[30] The damage in your oesophagus is more likely to get completely better if you take a proton pump inhibitor than if you take an H2 blocker.

If you take a proton pump inhibitor every day once you are better, you probably won't have any symptoms and your oesophagus will not be inflamed.^[31] Proton pump inhibitors are the best treatment if you need to take medicine for GORD for a long time.^[31]

All of the proton pump inhibitors seem to work about as well as one another.^{[32] [33] [34]} But some studies have found that esomeprazole is more likely to improve people's symptoms after four weeks than other PPIs.^{[30] [35] [36]} However, we need more research to know for sure.

Some research suggests that people who are overweight may need higher doses of PPIs to get good relief from their symptoms.^[37]

How do they work?

These drugs work by reducing the amount of acid that your stomach makes. This means there's less acid to flow into your oesophagus and make it sore. Your stomach makes acid to help break down food and kill any germs. But when you have GORD, some of the acid flows into your oesophagus, and this is what causes your symptoms.

Can they be harmful?

Most people who take proton pump inhibitors don't have any serious problems. However, you may get nausea, [diarrhoea](#), constipation, headaches, or a rash.^[38]

There is concern that taking a proton pump inhibitor for several years could cause more serious health problems, such as stomach cancer. But there haven't been any studies that looked at the effects of taking these drugs for a long time. In one study, patients took omeprazole every day for three years.^[39] At the end of the study, researchers found that the people taking the drug did not have a higher risk of getting stomach cancer.

If you have the [bacteria](#) called *Helicobacter pylori* (*H. pylori*) in your stomach, taking a proton pump inhibitor for several years may make it more likely that you will get a condition

GORD in adults

called atrophic gastritis, although researchers aren't sure about this.^[40] ^[41] ^[42] To find out more, see our articles on [stomach ulcers and H. pylori](#) .

If you have atrophic gastritis, the lining of your stomach is swollen ([inflamed](#)). In some people this condition can lead to stomach cancer.^[42] Your doctor may test you to see if you have *H. Pylori* before giving you a proton pump inhibitor.

Although diarrhoea can happen as a side effect of proton pump inhibitors, it usually clears up quickly. Some people taking proton pump inhibitors have developed a more serious kind of diarrhoea caused by the bacteria *Clostridium difficile*. Other things that may increase the risk of this include being older or taking antibiotics. You should tell your doctor if you get diarrhoea that doesn't get better, especially if you have a high temperature and stomach pain.^[43]

Proton pump inhibitors may increase the risk of broken bones in the hip, wrist, and spine. Studies have found a higher risk of these fractures among people taking high doses of these drugs or using them for a year or more. Most of the people with fractures were age 50 or older.

To help minimise this risk, doctors recommend taking the lowest dose of these drugs for the shortest amount of time needed to treat your symptoms. If you're taking these drugs long term, your doctor may recommend taking calcium supplement to help keep your bones strong.^[44] ^[45]

Tell your doctor if you are taking the blood-thinning drug called warfarin or the drug for epilepsy called phenytoin (Epanutin). Taking a proton pump inhibitor can affect how well these drugs work.

Proton pump inhibitors may prevent a heart drug called clopidogrel (brand name Plavix) from working properly. Clopidogrel is an anti-platelet drug, similar to aspirin, which stops the blood from clotting too easily. It's used for some heart conditions: for example, to prevent heart attacks. But proton pump inhibitors may prevent the body from breaking clopidogrel down properly, so it doesn't work as well. Doctors have been advised to avoid using proton pump inhibitors along with clopidogrel.^[46]

How good is the research on proton pump inhibitors?

We have good evidence from studies involving many thousands of people that treating gastro-oesophageal reflux disease (or GORD for short) with a proton pump inhibitor (PPI) can make you feel better and help heal any damage or swelling ([inflammation](#)) of the oesophagus (the tube that carries food from your throat to your stomach).^[30]

There's also good evidence from research that taking a proton pump inhibitor for a long time can stop symptoms coming back and help the oesophagus to heal.^[47]

We don't know whether taking a proton pump inhibitor can stop you getting more serious problems, such as a [blocked oesophagus](#) , a condition called [Barrett's oesophagus](#) , or cancer of the oesophagus. There haven't been any reliable studies.

H2 blockers

In this section

[Do they work?](#)

[What are they?](#)

[How can they help?](#)

[How do they work?](#)

[Can they be harmful?](#)

[How good is the research on H2 blockers?](#)

This information is for people who have GORD. It tells you about H2 blockers, a treatment used for GORD. It is based on the best and most up-to-date research.

Do they work?

Yes, if you have gastro-oesophageal reflux disease (GORD), taking drugs called H2 blockers can help symptoms, such as heartburn, and help heal your oesophagus (the tube that carries food from your throat to your stomach).

H2 blockers may not work as well as newer drugs called [proton pump inhibitors](#) .

What are they?

H2 blockers are drugs that aim to help your symptoms and heal any swelling (inflammation) in your oesophagus.

The H in H2 blockers stands for histamine. These drugs are also called **H2 antagonists** or **H2 receptor antagonists**.

Your doctor may ask you to try these drugs if your heartburn is fairly mild. You'll need a prescription to get full-strength H2 blockers. But you can get lower doses without a prescription. The tablets that you buy over the counter may help if you have mild heartburn or if you get it only now and again.

Some of these drugs (and their brand names) are:

- cimetidine (Tagamet, Dyspamet)
- famotidine (Pepcid)
- nizatidine (Axid)
- ranitidine (Zantac).

At first, you'll need to take a tablet every day. Once your symptoms are under control, you may need to take a lower dose every day to keep your symptoms away. Doctors call this **maintenance treatment**. Or you may need to take a tablet only when you feel you need one. This is called **intermittent treatment**.

How can they help?

Taking this medicine each day can make you feel better. Some people find that it relieves uncomfortable symptoms, such as heartburn. And it may help swelling (inflammation) or soreness in your oesophagus.

If you take these drugs you will probably get better more quickly than if you don't have any treatment. ^[29]

But H2 blockers don't work as well as proton pump inhibitors. ^[30] They are less likely than proton pump inhibitors to make your symptoms better or heal inflammation. And once you feel better and your oesophagus is not sore, H2 blockers do not work as well as proton pump inhibitors at stopping your symptoms coming back. So they are not so good for long-term treatment of GORD. ^{[32] [48]}

How do they work?

H2 blockers work by reducing the amount of acid your stomach makes. Your stomach makes acid to help break down food and kill any germs that may have got into it. But when you have GORD, some of this acid flows into your oesophagus (the tube that carries food from your throat to your stomach). This is what causes your symptoms.

If you reduce the amount of acid in your stomach, you reduce the amount that can get into your oesophagus and irritate it. This makes it less likely that you'll get heartburn, gives swelling (inflammation) a chance to heal, and keeps your condition from getting worse.

Can they be harmful?

The studies we looked at did not discuss side effects. But most people don't have serious side effects from these drugs. The most common side effects are: ^[49]

- Headaches
- Dizziness
- Diarrhoea
- Nausea
- Rashes
- Tiredness.

We don't know whether someone who takes these drugs for a long time will have any long-term effects from them, because there aren't any reliable studies that have looked into this.

How good is the research on H2 blockers?

The evidence is fairly good that treating gastro-oesophageal reflux disease (GORD) with an H2 blocker can make you feel better and help heal swelling (inflammation) in your oesophagus (the tube that carries food from your mouth to your stomach). ^[29]

There's also good research to show that symptoms were less likely to come back if people carried on taking H2 blockers for a long time. ^[48]

Antacids

In this section

[Do they work?](#)

[What are they?](#)

[How can they help?](#)

[How do they work?](#)

[Can they be harmful?](#)

[How good is the research on antacids?](#)

This information is for people who have GORD. It tells you about antacids, a treatment used for GORD. It is based on the best and most up-to-date research.

Do they work?

Yes, these drugs will probably give you short-term relief. But there hasn't been enough research to say for sure if they will help in the long term.

What are they?

Antacids are drugs that you can buy at a pharmacy. They coat the lining of your oesophagus (the tube that carries food from your mouth to your stomach), making a barrier against any acid that comes up from your stomach. This makes it less likely that the acid will irritate your oesophagus.

Some antacids are combined with substances called alginates. These form a gel in your stomach which stops acid flowing into your oesophagus. Other antacids also have a substance called dimeticone in them to help relieve wind (flatulence).

Antacids usually come as tablets that you chew or as liquids.

Here are some common brand names for antacids (and their main ingredients).

Tablets

- Maalox (aluminium, magnesium, and dimeticone)
- Tums (calcium)
- Gaviscon Double Action (sodium alginate, sodium bicarbonate, and calcium carbonate)

GORD in adults

- Gaviscon Advance (sodium alginate, potassium bicarbonate)

Liquids

- Gaviscon Advance (sodium alginate, potassium bicarbonate)
- Maalox (aluminium and magnesium)

How can they help?

Using antacids can relieve symptoms such as heartburn better than not using any treatment at all. ^[50]

They may work as well as drugs called [H2 blockers](#) , but researchers aren't sure about this. ^[50]

We don't know whether they work for the long-term treatment of GORD because no studies have looked at using them in this way.

How do they work?

Your stomach makes acid to help break down food and kill any germs that may have got into it. But when you have GORD, some of the acid flows into your oesophagus. Antacids work by reducing the effect that stomach acid has on your oesophagus. They protect your oesophagus by coating the lining of it.

If the antacid is combined with an alginate, the alginate may stop acid flowing into your oesophagus. Some types of antacids also contain an ingredient called dimeticone. This coats your stomach and helps relieve wind.

Can they be harmful?

Antacids can have side effects, so it is a good idea to talk to your GP or pharmacist before you start taking them, especially if you find that you are taking them often.

- One small study found that antacids sometimes caused [diarrhoea](#) , nausea, vomiting, blood in the stools, wind, or constipation. ^[51] But only about 12 in 100 of the people in the study had these problems.
- One person in the study above got an [ulcer](#) in the part of their small intestine called the duodenum. ^[51]
- Some antacids contain magnesium or aluminium. If you have [kidney disease](#) , these chemicals may be harmful. Magnesium can also cause diarrhoea and aluminium can cause constipation. Some antacids contain both magnesium and aluminium. The idea is that they will each cancel out the other's side effects.

GORD in adults

- Some antacids contain a lot of salt, which may be harmful to people with **high blood pressure** .
- Antacids can also affect other medicines that you are taking, especially if you take them at the same time. ^[52] If you take an antacid with another medicine, your body may not absorb as much of the other medicine as it should. Your doctor or pharmacist should be able to give you more advice about when to take your medicines.

How good is the research on antacids?

We found only three studies that looked at people with GORD who were treated with antacids. ^[50] ^[51] ^[53] The studies were good-quality (they were **randomised controlled trials**), but they weren't very big. So there isn't enough evidence from the research to draw strong conclusions.

Surgery (fundoplication)

In this section

[Does it work?](#)

[What is it?](#)

[How can it help?](#)

[How does it work?](#)

[Can it be harmful?](#)

[How good is the research on surgery \(fundoplication\)?](#)

This information is for people who have GORD. It tells you about the types of surgery that can help with GORD. It is based on the best and most up-to-date research.

Does it work?

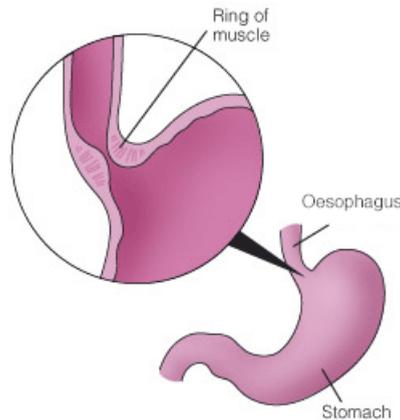
Yes. Having surgery to strengthen the ring of muscle that sits between your stomach and your oesophagus can make you feel better, and it can help heal your oesophagus (the tube that carries food from your throat to your stomach).

But some people find that their symptoms come back after surgery and they still have to take tablets.

And all operations have risks. The chances of problems happening are higher if you have a type of surgery known as open surgery (in which the surgeon makes a large cut in your stomach area).

GORD in adults

What is it?



The ring of muscle at the top of your stomach stops acid flowing backwards into your oesophagus.

The aim of surgery is to strengthen the ring of muscle that sits at the lower end of your oesophagus, where it joins your stomach.

This should stop acid flowing from your stomach into your oesophagus. It's this acid that causes the symptoms of GORD.

Your doctor may advise you to have this operation if drug treatment hasn't helped.

During the operation, the upper part of your stomach is pulled up and wrapped around the lower part of your oesophagus. It is then stitched into place. The stomach may be wrapped all the way around the oesophagus (a **total wrap**) or just around part of it (a **partial wrap**). The result is that part of the oesophagus passes through a ring of tight stomach muscle. And this helps keep the valve between the oesophagus and stomach closed.

This operation is called **fundoplication**. (The fundus is the upper part of the stomach.) There are a few ways to do this operation.

- Your surgeon can make a cut either in your stomach area (your abdomen) or your chest. The cut is usually made in your abdomen. It may be made in your chest if you have a short oesophagus that doesn't reach into your abdomen.
- The operation can be done through a large cut. This is called **open surgery**. Or the surgeon may make small cuts and pass a tiny camera and instruments through them. This is known as **keyhole surgery** or **laparoscopic surgery**.

Whichever kind of surgery you have, you will need a **general anaesthetic**. This means you will be asleep during the operation and will not feel anything.

Keyhole surgery is quicker than open surgery. So it may be better for people who have other health problems, such as a heart condition, that makes it risky to be asleep for a long time during surgery. ^[54]

GORD in adults

Doctors are now also looking at ways to use an endoscope to strengthen the ring of muscle at the lower end of the oesophagus. An endoscope is a long thin tube with a camera and tiny instruments at the end. It can be passed down your throat and into your oesophagus, allowing your doctor to do surgery without making cuts to your body. However, these techniques are new and may not be available everywhere. To read more, see [Surgery using an endoscope](#) .

How can it help?

Having surgery can make you feel much better, heal the swelling ([inflammation](#)) in your oesophagus and stop GORD coming back.

The benefits of surgery may be long-lasting, but some people continue to have symptoms after surgery, and they may still need to take tablets. ^[57]

One large, good-quality study of people with GORD found that: ^[57]

- After one year, 36 in 100 people who had surgery were still taking tablets, compared with 87 in 100 people who didn't have surgery
- After five years, 41 in 100 people who had surgery were still taking tablets, compared with 82 in 100 people who didn't take tablets.
- After one year, people who had surgery felt better than people who didn't, although after five years both groups felt about the same.

In another study, when doctors looked at the oesophaguses of people who had had treatment 10 years before, there was no difference between the people who had surgery and the people who took tablets. ^[54]

It doesn't seem to matter which type of surgery you have. A number of studies have found that surgery through small cuts in your abdomen (keyhole surgery) works as well as surgery through a large cut (open surgery). ^{[58] [59] [60] [61]} However, one study found that people who have keyhole surgery are more likely to have their symptoms come back and to need another operation than those who have open surgery. ^[62]

You may be able to leave hospital sooner if you have keyhole surgery (after about three days) than if you have open surgery (after about five days). ^[63]

Studies have found that open surgery works better than drugs called [antacids](#) and [H2 blockers](#) . ^[64] It may also work better than a drug called omeprazole (a [proton pump inhibitor](#)), but we need more studies to know for certain. ^[65]

Studies have also found that keyhole surgery may work better than tablets. ^[66]

How does it work?

The ring of muscle at the lower end of your oesophagus works like a valve. When food reaches it, the ring of muscle opens to let the food pass into your stomach. Once the food has passed through, the muscle tightens up to stop the contents of your stomach going back into your oesophagus.

If you have GORD, the ring of muscle doesn't work properly. It opens even when food is not passing through or it may stay open too long. This means that acid from your stomach can flow into your oesophagus. Doctors call this backwards flow **reflux** or **acid reflux**. The acid from your stomach can irritate and damage the lining of your oesophagus. This is what causes heartburn and other symptoms.

If the valve is strengthened by surgery, it's less likely that acid will flow into the oesophagus.

Can it be harmful?

All operations have risks. Some common problems are blood clots, bleeding, and infection. Problems that happen after surgery are called complications.

This is what we know from the research on people with GORD.

- About 7 in 100 people who have surgery needed more operations, to treat their symptoms or for complications. ^[57]
- You may be more likely to have complications if you have open surgery than if you have keyhole surgery. ^[58]
- In one study, more than 25 in 100 people who had open surgery had a complication. Only 10 in 100 people who had keyhole surgery had a complication. ^[58] People who had keyhole surgery tended to leave hospital sooner than people who had open surgery. They left after an average of three days instead of five days. ^[58]
- In one study, people who had open surgery were more likely to have some problems than people who took tablets. ^[64] These problems were feeling too full and not being able to belch or vomit.

How good is the research on surgery (fundoplication)?

We found three big summaries of the research (called systematic reviews). The summaries looked at whether surgery helps people who have had gastro-oesophageal reflux disease (GORD) for a long time. ^[66] ^[58] ^[64] They all showed that surgery can help the symptoms of GORD. There's also good research that the different types of surgery (called **keyhole** and **open surgery**) both work well. ^[60]

Changes to your diet and lifestyle

In this section

[Do they work?](#)

[What are they?](#)

[How can they help?](#)

[How do they work?](#)

[Can they be harmful?](#)

[How good is the research on changes to your diet and lifestyle?](#)

This information is for people who have GORD. It looks at the diet and lifestyle changes that might help with GORD. It is based on the best and most up-to-date research.

Do they work?

We are not sure whether changing your diet or lifestyle will help if you have gastro-oesophageal reflux disease (GORD). There haven't been enough studies to say.

But doing things like eating less fatty food and giving up smoking may be good for your health generally.

What are they?

Your GP may advise you to make changes to your diet and lifestyle to ease your symptoms.

Your doctor may suggest you:

- Stop smoking
- Cut down on caffeine and alcohol
- Lose weight
- Eat less fatty or spicy food
- Raise the head of your bed so that your head is higher than your feet (so that your head and shoulders are higher than your stomach).

How can they help?

We are not sure these changes will help. That is because not enough research has been done.

We found one study that showed that raising the end of your bed (so that your head and shoulders are higher than your stomach) may help ease some of the symptoms of GORD.

^[67] But only a small number of people took part in this study.

How do they work?

These changes aim to relieve your heartburn by reducing the amount of acid in your stomach, or by making it harder for the acid in your stomach to reach your oesophagus. They may also help the ring of muscle at the lower end of your oesophagus work better. And this should stop acid flowing into your oesophagus.

Can they be harmful?

There is no evidence that changing your habits or diet in these ways will be harmful. Losing weight, giving up cigarettes and cutting back on alcohol are changes that we know have benefits for your health.

How good is the research on changes to your diet and lifestyle?

There is not a lot of evidence about whether making changes to your diet or other aspects of your life can help if you have gastro-oesophageal reflux disease (GORD). ^[67] ^[68] ^[69]
The studies we found did not show clear results.

Motility stimulants

In this section

[Do they work?](#)

[What are they?](#)

[How can they help?](#)

[How do they work?](#)

[Can they be harmful?](#)

[How good is the research on motility stimulants?](#)

This information is for people who have GORD. It tells you about motility stimulants, a treatment used for GORD. It is based on the best and most up-to-date research.

Do they work?

These drugs may help if you have symptoms like belching or bloating, caused by gastro-oesophageal reflux disease (GORD). But we need further research to be certain. These medicines can have side effects.

One drug in this group (metoclopramide) shouldn't be taken by children and young adults. ^[70]

What are they?

These drugs are also called motility agents. They affect the ring of muscle that sits at the end of your oesophagus where it joins your stomach.

Your doctor may recommend one of these drugs if you get symptoms such as bloating, belching and feeling too full after eating only a small amount.

GORD in adults

In the UK, the only motility stimulant approved for GORD is metoclopramide (Maxolon). Another, called domperidone (Motilium), is no longer recommended because it increases the chance of serious heart problems. ^[71]

Metoclopramide shouldn't be taken by children and young adults. ^[70]

How can they help?

There's very little good-quality research on motility stimulants. But doctors think they may help people who have symptoms of bloating and belching caused by GORD.

How do they work?

These drugs tighten the ring of muscle that sits at the end of the oesophagus, where it joins the stomach. This stops acid flowing into your oesophagus from your stomach, which should help relieve your symptoms.

Can they be harmful?

Doctors do not normally prescribe metoclopramide to children and young adults under 20 for symptoms of GORD because of its side effects. ^[70] Metoclopramide may cause: ^[70]

- Movement disorders such as muscle spasms, especially in children and young adults
- Hormone problems.

Other side effects which have been reported include diarrhoea, depression, drowsiness, restlessness, and rashes. We do not know how common any of these side effects are and at what dose they might occur.

Domperidone can have side effects, some of which can be serious. ^[70]

It has also been linked to serious heart problems, including an irregular heartbeat. As a result, it is no longer used for GORD in the UK. ^[71]

How good is the research on motility stimulants?

There's not much good-quality research into using these drugs for gastro-oesophageal reflux disease (GORD).

Further informations:

Symptoms of GORD: difficulty swallowing

One of the symptoms of gastro-oesophageal reflux disease (GORD) is having difficulty swallowing. If you have GORD it may hurt to swallow your food, especially if the food is dry or isn't well chewed. ^[13]

This problem usually happens after acid from your stomach flows up into the tube (oesophagus) that carries food from your mouth to your stomach. This acid can burn your oesophagus and give you sores (known as ulcers). The sores can sting when they come in contact with food and liquid.

When the sores heal they may form scars. These scars can make the oesophagus narrow and may block it. This is what makes it hard for food to pass through.

You may also have difficulty swallowing even if test results show there's no scarring in your oesophagus. Doctors think that having acid in your oesophagus may make it more difficult for the oesophagus to push food down to your stomach. ^[14]

Symptoms of GORD: a lump in your throat

One of the symptoms of gastro-oesophageal reflux disease (GORD) is feeling as if you've always got a lump in your throat. Some people find they need to keep clearing their throat, and their voice may sound a bit hoarse. ^[13]

Doctors are not entirely sure why this happens. It may be caused by stomach acid flowing into your throat and voice box. But it may also be caused by other problems in the oesophagus (the tube that carries food from your mouth to your stomach) that have nothing to do with stomach acid.

Symptoms of GORD: watery mouth

If you have gastro-oesophageal reflux disease (called GORD for short), your mouth may get very watery. This symptom is not common. But it can be unpleasant because it may start suddenly and there is not much you can do about it. ^[13]

Some people with GORD make as much as two teaspoons of saliva each minute. We don't know why this happens to some people and not others. But it seems the glands in your mouth that make saliva react to having acid in your mouth by making extra saliva.

Symptoms of GORD: chest pain

If you have gastro-oesophageal reflux disease (GORD) your chest may feel like it is being squeezed or it may feel heavy. This feeling may spread to your back, jaw, arms, or neck. The pain may last for minutes or hours. People most often get it after they've eaten a meal. ^[15]

If you have chest pain, you should always see your doctor as soon as possible to make sure that you do not have serious problems with your heart or lungs. Your doctor may do some tests to see whether the pain is caused by GORD or another disease.

Symptoms of GORD: breathing problems

If you have gastro-oesophageal reflux disease (GORD) acid from your stomach sometimes comes up through your oesophagus and into your throat. (Your oesophagus is the tube that carries food from your mouth to your stomach). If you breathe this acid into your windpipe (the tube that carries air to your lungs) it may make you cough or wheeze. This seems to happen more often at night, probably because when you are lying down it is more difficult for the acid to trickle back down into your stomach.

There is some evidence that if you have asthma and you breathe in stomach acid, your symptoms may get worse. However, researchers don't know if having GORD can trigger asthma.

Symptoms of GORD: feeling tired

Having gastro-oesophageal reflux disease (GORD) can affect your daily activities. Studies have found that people who have GORD say they don't have much energy. They often say they have to change their lives to deal with feeling tired.

Some studies have found that people who have symptoms of GORD most of the time can feel worse than people with arthritis, high blood pressure, mild heart failure or angina, or women going through the menopause. ^[16]

Tests for GORD

Here are the most common tests for gastro-oesophageal reflux disease (GORD). ^[17]

Endoscopy (also called gastroscopy)

This test is used to see if there is any swelling (inflammation) or damage to the lining of your oesophagus (the tube that carries food from your mouth to your stomach). This test can also tell your doctor whether you have a complication of GORD called [Barrett's oesophagus](#). And it can be used to check for other diseases, such as cancer.

Your doctor will ask you to stop taking prescribed medicines for your symptoms for at least two weeks before the test.^[12] But you can carry on taking antacids.

Your doctor will first spray a local anaesthetic onto your throat to make it numb or you will be given medicine that makes you feel drowsy. Then the doctor will put a thin, flexible tube (called an endoscope) into your mouth and thread it down through your oesophagus. The tube has a tiny light and a camera on the end. Your doctor will be able to see pictures from the camera on a screen.

If the lining of your oesophagus looks damaged, the doctor will take a small sample of it and look at it under a microscope to see whether the cells are normal. (When doctors take a small sample in this way it is called a biopsy.)

The test doesn't hurt but it may feel a bit strange. Between about 5 and 10 in 100 people have a sore throat afterwards.

GORD doesn't always make your oesophagus look inflamed or damaged. About 33 in 100 people who have an endoscopy have nothing wrong with their oesophagus.^[12] So even if you have a clear test, you could still have GORD.

Up to 20 in 100 people who have an endoscopy have an inflamed oesophagus (oesophagitis). About 20 in 100 have a more serious problem, such as an ulcer.^[12]

We've prepared some extra information for people thinking of having this test. To read more, see [Upper gastrointestinal endoscopy](#).

pH monitoring

This test measures how much stomach acid flows into your oesophagus, how often it happens and when it happens. This test is done over 24 hours. During this time you may be asked not to eat certain foods. Measuring the pH in your oesophagus is a way of telling whether there is acid in it.

A doctor passes a thin tube through your nose and down into your oesophagus. This will feel uncomfortable at first. But the feeling goes away after a few minutes. The tube is attached to your nose with tape. The end of the tube rests just above the ring of muscle that sits between your oesophagus and stomach.^[17] The tube is attached to a small, portable recorder that measures how much stomach acid reaches your oesophagus.

For 24 hours, you will need to record when you eat, sleep, and have symptoms. Your doctor will study the results of this monitoring to see how much acid is flowing into your

GORD in adults

oesophagus and whether this is what is causing your symptoms.^[18] Your nose may feel slightly sore after this test.

Oesophageal manometry

This test is usually done at the same time as the pH study. It measures how good the muscles in your oesophagus are at moving food into your stomach and how tightly the valve of muscle between the oesophagus and stomach closes.

Your doctor will ask you to swallow a thin tube. This is then threaded through your oesophagus. The end of the tube measures how much the muscle in the oesophagus tightens up. This tells the doctor whether the valve is closing properly.^[17]

X-rays (or barium meal)

This test is normally used to check whether other problems may be causing GORD rather than to diagnose GORD. For example, if your oesophagus is blocked you may have symptoms of GORD but the blockage may be caused by another problem.

Your doctor may recommend this test if you are having difficulty swallowing. Before the x-rays are taken, you drink a paste that contains a chemical called barium. The paste coats your oesophagus so it can be seen on the x-ray.

Trying a proton pump inhibitor

A [proton pump inhibitor](#) is a drug that reduces the amount of acid that your stomach makes. Most people with GORD find that taking a proton pump inhibitor makes their symptoms go away. So one way your doctor can test for GORD is to give you a proton pump inhibitor for a trial period.^[19] ^[20] If the drug helps your symptoms, it's likely that you have GORD. If your symptoms don't improve, your doctor will probably look for another cause.

Ulcers

If you have gastro-oesophageal reflux disease (GORD) you may have damage to the lining of your oesophagus (the tube that carries food from your mouth to your stomach). This damage may form a sore called an ulcer. An ulcer is a patch of damaged tissue that doesn't heal.

You get an ulcer when acid from your stomach regularly attacks the lining of your oesophagus. This makes the lining swollen (inflamed).

Blocked oesophagus

If you have gastro-oesophageal reflux disease (GORD) your oesophagus may become narrower because it is swollen (inflamed) or has scars from sores that have healed. (The oesophagus is the tube that carries food from your mouth to your stomach.)

The blockage makes it difficult for food to pass through. And it may be difficult to swallow, or it may hurt when you swallow. Scarring blocks the oesophagus in about 10 in 100 people who have GORD.^[13] Doctors call this blockage an oesophageal stricture.

Barrett's oesophagus

About 10 in 100 people who have gastro-oesophageal reflux disease (GORD) get a condition called Barrett's oesophagus.^[24]

This means that over time, acid from the stomach changes the cells in the lining of the oesophagus so that it becomes thicker and harder. These changes may make it more difficult to swallow food, and it may hurt when you swallow. Even more importantly, people with Barrett's oesophagus have a higher chance of getting cancer in their oesophagus. But the risk is small.

Doctors are working on new tests for Barrett's oesophagus, which may make it easier to diagnose. At the moment, you need to have an endoscopy to get a diagnosis of Barrett's oesophagus.^[25]

Only about 10 in 100 people with GORD get Barrett's oesophagus.^[24] And each year, only about 4 in 1,000 people with Barrett's oesophagus get cancer.^[26] Men who are over 55 and have regular or daily heartburn for more than five years may be more likely to get Barrett's oesophagus.^[27]

The good news is the research tells us that people with Barrett's oesophagus live just as long as anyone else.^[28]

Surgery using an endoscope

An endoscope is a thin, flexible tube with a tiny light and camera on the end. Doctors use it to see if your oesophagus is damaged, or to see whether you have an ulcer in your stomach or the top part of your intestines (your duodenum).

You swallow the endoscope, and the doctor threads it down through your oesophagus and into your stomach.

GORD in adults

Doctors can also use an endoscope to carry out surgery on people with GORD. It's sometimes called endotherapy or endoscopic treatment. These techniques are new and may not be available everywhere.

Types of surgery using an endoscope include: ^[55]

- Stitching the lower end of the oesophagus
- Treating the area with radio waves
- Injecting a bulking agent into the area.

These techniques all aim to strengthen the muscle at the top of your stomach where it joins your oesophagus. This should help to stop acid flowing up from your stomach into your oesophagus. It's the flow of acid into the oesophagus that causes the symptoms of GORD.

Having surgery using an endoscope should be less complicated than having an operation through a large cut in your abdomen (**open surgery**), or even through small cuts (**keyhole surgery**). You can probably go home the same day. You may need only a local anaesthetic (to numb the back of your throat and oesophagus) rather than a general anaesthetic .

Stitching the lower end of the oesophagus

This technique takes about an hour and seems to be the most difficult for surgeons. ^[55] It involves placing two or three stitches in the area at the top of the stomach using a mini sewing machine that's attached to the end of the endoscope.

Up to a third of people treated using this technique need to have a general anaesthetic. ^[55] Afterwards, most people need to take far fewer antacids. But only about 25 in 100 people have a healed oesophagus. ^[55]

Most side effects after this operation are minor, such as a sore throat, nausea, and vomiting. But a few people have more serious problems, such as bleeding in the stomach. ^[55]

Treating the area with radio waves

The tissue just above the opening to the top of the stomach is treated with radio waves using an endoscope. This takes between 40 and 60 minutes. The waves damage the tissue and cause a scar to form. When the scar heals it shrinks and this tightens the area. This should help keep the opening to the stomach closed.

GORD in adults

This treatment works well. In one study nearly 9 in 100 stopped needing treatment with drugs ([proton pump inhibitors](#)) afterwards. ^[55] Nearly 70 in 100 people had a completely healed oesophagus.

Problems after this operation are rare. But they can be serious. For example, some people had holes in their oesophagus that needed more surgery. ^[55]

Injecting a bulking agent into the area

This operation is similar to cosmetic surgery to make people's lips larger or reduce the appearance of wrinkles. ^[55] An endoscope is used to inject a bulking material into the muscle around the top of the stomach. This should help to keep the gap closed and stop acid flowing up into the oesophagus.

In one study, 70 in 100 didn't need to take their proton pump inhibitors 12 months after their operation. ^[55]

Most people said they had some pain in their chest after this operation. And there's a risk that the injected material may gradually seep away.

Because these techniques are new, there are no long-term studies. We don't know what happens to people a few years after having one of these operations. And we don't know how these techniques compare with standard surgery for GORD, or treatment with drugs. We need more research to know these things for certain. ^[56]

Glossary:

gland

A gland is any group of cells in the body that makes and releases something for use by another part of the body. For example, the thyroid gland makes a hormone called thyroxine. This acts on receptors within cells. By acting on the receptors it gives the cells a message to speed up their metabolism and work harder.

oesophagitis

Oesophagitis is inflammation of the oesophagus, the tube that carries food from your mouth to your stomach.

hormones

Hormones are chemicals that are made in certain parts of the body. They travel through the bloodstream and have an effect on other parts of the body. For example, the female sex hormone oestrogen is made in a woman's ovaries. Oestrogen has many different effects on a woman's body. It makes the breasts grow at puberty and helps control periods. It is also needed to get pregnant.

asthma

Asthma is a disease of the lungs. It makes you wheeze, cough and feel short of breath. Asthma attacks are caused by inflammation and narrowing of your airways, which makes it hard for air to pass in and out of your lungs.

high blood pressure

Your blood pressure is considered to be high when it is above the accepted normal range. The usual limit for normal blood pressure is 140/90. If either the first (systolic) number is above 140 or the lower (diastolic) number is above 90, a person is considered to have high blood pressure. Doctors sometimes call high blood pressure 'hypertension'.

heart failure

When the heart loses its ability to push enough blood through the blood vessels, it is called heart failure.

angina

Angina is the name that doctors use for a pain in your chest that you get when your heart muscle isn't getting enough oxygen.

menopause

GORD in adults

When a woman stops having periods, it is called the menopause. This usually happens around the age of 50.

inflammation

Inflammation is when your skin or some other part of your body becomes red, swollen, hot, and sore. Inflammation happens because your body is trying to protect you from germs, from something that's in your body and could harm you (like a splinter) or from things that cause allergies (these things are called allergens). Inflammation is one of the ways in which your body heals an infection or an injury.

local anaesthetic

A local anaesthetic is a painkiller that's used to numb one part of your body. You usually get local anaesthetics as injections.

X-ray

X-rays are pictures taken of the inside of your body. They are made by passing small amounts of radiation through your body and then onto film.

Barrett's oesophagus

Your oesophagus is the tube that carries food to your stomach. Barrett's oesophagus is the name given to changes that can happen in the lining of your oesophagus if you've had gastro-oesophageal reflux disease (GORD) for a long time. Barrett's oesophagus isn't cancer, but there is a slight chance it can turn into a type of cancer.

diarrhoea

Diarrhoea is when you have loose, watery stools and you need to go to the toilet far more often than usual. Doctors say you have diarrhoea if you need to go to the toilet more than three times a day.

bacteria

Bacteria are tiny organisms. There are lots of different types. Some are harmful and can cause disease. But some bacteria live in your body without causing any harm.

ulcer

An ulcer is an open sore. Ulcers can happen in many parts of your body, such as in your stomach, and the skin of your legs, mouth, or genitals.

kidney disease

Your kidneys are the organs in your body that make urine. Kidney diseases are diseases in which your kidneys have been damaged. Kidney disease can be caused by several things, including high blood pressure (hypertension).

randomised controlled trials

Randomised controlled trials are medical studies designed to test whether a treatment works. Patients are split into groups. One group is given the treatment being tested (for example, an antidepressant drug) while another group (called the comparison or control group) is given an alternative treatment. This could be a different type of drug or a dummy treatment (a placebo). Researchers then compare the effects of the different treatments.

general anaesthetic

You may have a type of medicine called a general anaesthetic when you have surgery. It is given to make you unconscious so you don't feel pain when you have surgery.

infection

You get an infection when bacteria, a fungus, or a virus get into a part of your body where it shouldn't be. For example, an infection in your nose and airways causes the common cold. An infection in your skin can cause rashes such as athlete's foot. The organisms that cause infections are so tiny that you can't see them without a microscope.

systematic reviews

A systematic review is a thorough look through published research on a particular topic. Only studies that have been carried out to a high standard are included. A systematic review may or may not include a meta-analysis, which is when the results from individual studies are put together.

Sources for the information on this leaflet:

1. Dent J, Brun J, Fendwick AM. An evidence-based appraisal of reflux disease management: the Genval Workshop Report. *Gut*. 1999; 44 (supplement 1): S1-S16.
2. Bannister L, Berry MM, Collins P, et al. Alimentary system from oesophagus to anus. In: Standring S (editor). *Gray's anatomy: the anatomical basis of medicine and surgery*. 39th edition. Elsevier, Amsterdam, Netherlands; 2004.
3. Martini FH, Ober WC, Garrison CW, et al. *Fundamentals of anatomy and physiology*. 5th edition. Prentice Hall, New Jersey, NJ; 2001.

GORD in adults

4. Guyton AC, Hall JE. Propulsion and mixing of food in the alimentary tract. In: Textbook of medical physiology. 10th edition. WB Saunders, Philadelphia, PA; 2000.
5. Isolauri J, Luostarinen M, Isolauri E, et al. Natural course of gastroesophageal reflux disease: 17-22 year follow-up of 60 patients. *American Journal of Gastroenterology*. 1997; 92: 37-41.
6. Kuster E, Ros E, Toledo-Pimentel V, et al. Predictive factors of the long term outcome in gastro-oesophageal reflux disease: six year follow up of 107 patients. *Gut*. 1994; 35: 8-14.
7. Dent J, Brun J, Fendwick AM. An evidence-based appraisal of reflux disease management: the Genval Workshop Report. *Gut*. 1999; 44 (supplement): S1-S16.
8. Romero Y, Cameron AJ, Locke GR 3rd, et al. Familial aggregation of gastroesophageal reflux in patients with Barrett's esophagus and esophageal adenocarcinoma. *Gastroenterology*. 1997; 113: 1449-1456.
9. National Digestive Diseases Information Clearing House. Gastroesophageal reflux disease (hiatal hernia and heartburn). Available at <http://www.lapsurgery.com/gerd.htm> (accessed on 26 September 2014).
10. Institute for Clinical Systems Improvement. Health care guideline: initial management of dyspepsia and GERD. 7th edition. ICSI, Bloomington, Minn; 2006.
11. National Institute of Diabetes and Digestive and Kidney Diseases. Heartburn, gastroesophageal reflux (GER), and gastroesophageal reflux disease (GERD). May 2014. Available at <http://digestive.niddk.nih.gov/ddiseases/pubs/gerd> (accessed on 26 September 2014).
12. National Institute for Health and Care Excellence. Dyspepsia and gastro-oesophageal reflux disease: investigation and management of dyspepsia, symptoms suggestive of gastro-oesophageal reflux disease, or both. September 2014. Available at <http://www.nice.org.uk/Guidance/CG184> (accessed on 16 October 2014).
13. Kaynard A, Flora K. Gastroesophageal reflux disease: control of symptoms, prevention of complications. *Postgraduate Medicine*. 2001; 110: 42-44, 47-48, 51-53.
14. Everhart JE. Digestive diseases in the United States: epidemiology and impact. National Institute of Diabetes and Digestive and Kidney Diseases, Washington D.C., PA; 1994.
15. Richter JE. Typical and atypical presentations of gastroesophageal reflux disease. The role of esophageal testing in diagnosis and management. *Gastroenterology Clinics of North America*. 1996; 25: 75-102.
16. Wiklund I. Quality of life in patients with gastroesophageal reflux disease. *American Journal of Gastroenterology*. 2001; 96 (supplement): S46-S53.
17. Szarka LA, DeVault KR, Murray JA. Diagnosing gastroesophageal reflux disease. *Mayo Clinic Proceedings*. 2001; 76: 97-101.
18. Kahrilas PJ, Quigley EM. Clinical esophageal pH recording: a technical review for practice guideline development. *Gastroenterology*. 1996; 110: 1982-1996.
19. Jalal PK, Heatley RV. Medical treatment of gastro-oesophageal reflux disease. *Hospital Medicine*. 2000; 61: 478-482.
20. Jones R, Bytzer P. Acid suppression in the management of gastro-oesophageal reflux disease: an appraisal of treatment option in primary care. *Alimentary Pharmacology and Therapeutics*. 2001; 15: 765-772.
21. Kennedy T, Jones R. The prevalence of gastro-oesophageal reflux symptoms in a UK population and the consultation behaviour of patients with these symptoms. *Alimentary Pharmacology and Therapeutics*. 2000; 14: 1589-1594.
22. Proprietary Association of Great Britain. IRI UK OTC market summary - sales data 2010. Available at <http://www.pagb.co.uk> (accessed on 26 September 2014).
23. Nelson SP, Chen EH, Syniar GM, et al. Prevalence of symptoms of gastroesophageal reflux during childhood: a pediatric practice-based survey. Pediatric Practice Research Group. *Archives of Pediatrics and Adolescent Medicine*. 2000; 154: 150-154.

GORD in adults

24. Malfertheiner P, Hallerback B. Clinical manifestations and complications of gastroesophageal reflux disease (GERD). *International Journal of Clinical Practice*. 2005; 59: 346-355.
25. Kadri SR, Lao-Sirieix P, O'Donovan M, et al. Acceptability and accuracy of a non-endoscopic screening test for Barrett's oesophagus in primary care: cohort study. *BMJ*. 2010; 341: 4372.
26. Jonge PJ, van Blankenstein M, Looman CW, et al. Risk of malignant progression in patients with Barrett's oesophagus: a Dutch nationwide cohort study. *Gut*. 2010; 59(8): 1030-1036.
27. Spechler SJ. Clinical practice: Barrett's esophagus. *New England Journal of Medicine*. 2002; 346: 836-842.
28. Cameron AJ, Ott BJ, Payne WS. The incidence of adenocarcinoma in columnar-lined (Barrett's) esophagus. *New England Journal of Medicine*. 1985; 313: 857-859.
29. Delaney BC, Moayyedi P. Dyspepsia. In: Health care needs assessment, 3rd series. Department of Health, Radcliffe Medical Press, Abingdon, UK; 2003.
30. Khan M, Santana J, Donnellan C, et al. Medical treatments in the short term management of reflux oesophagitis (Cochrane review). In: *The Cochrane Library*. Wiley, Chichester, UK.
31. Donnellan C, Sharma N, Preston C, et al. Medical treatments for the maintenance therapy of reflux oesophagitis and endoscopic negative reflux disease (Cochrane review). In: *The Cochrane Library*. Wiley, Chichester, UK.
32. Caro JJ, Salas M, Ward A. Healing and relapse rates in gastroesophageal reflux disease treated with the newer proton-pump inhibitors lansoprazole, rabeprazole, and pantoprazole compared with omeprazole, ranitidine, and placebo: evidence from randomized clinical trials. *Clinical Therapeutics*. 2001; 23: 998-1017.
33. Edwards SJ, Lind T, Lundell L. Systematic review of proton pump inhibitors for the acute treatment of reflux oesophagitis. *Alimentary Pharmacology and Therapeutics*. 2001; 15: 1729-1736.
34. Eggleston A, Katelaris PH, Nandurkar S, et al. Clinical trial: the treatment of gastro-oesophageal reflux disease in primary care--prospective randomized comparison of rabeprazole 20 mg with esomeprazole 20 and 40 mg. *Alimentary Pharmacology & Therapeutics*. 2009; 29: 967-978.
35. Gralnek IM, Dulai GS, Fennerty MB, et al. Esomeprazole Versus Other Proton Pump Inhibitors in Erosive Esophagitis: A Meta-Analysis of Randomized Clinical Trials. *Clinical Gastroenterology and Hepatology*. 2006; 4: 1452-1458.
36. Labenz J, Armstrong D, Zetterstrand S, et al. Clinical trial: factors associated with resolution of heartburn in patients with reflux oesophagitis--results from the EXPO study. *Alimentary Pharmacology & Therapeutics*. 2009; 29: 959-966.
37. Chen WY, Chang WL, Tsai YC, et al. Double-dosed pantoprazole accelerates the sustained symptomatic response in overweight and obese patients with reflux esophagitis in Los Angeles grades A and B. *American Journal of Gastroenterology*. 2010; 105: 1046-1052.
38. Klinkenberg-Knol EC, Nelis F, Dent J, et al. Long-term omeprazole treatment in resistant gastroesophageal reflux disease: efficacy, safety, and influence on gastric mucosa. *Gastroenterology*. 2000; 118: 661-669.
39. Kuipers EJ, Lundell L, Klinkenberg-Knol EC, et al. Atrophic gastritis and *Helicobacter pylori* infection in patients with reflux esophagitis treated with omeprazole or fundoplication. *New England Journal of Medicine*. 1996; 334: 1018-1022.
40. Eissele R, Brunner G, Simon B, et al. Gastric mucosa during treatment with lansoprazole: *Helicobacter pylori* is a risk factor for argyrophil cell hyperplasia. *Gastroenterology*. 1997; 112: 707-717.
41. Lundell L, Miettinen P, Myrvold HE, et al. Lack of effect of acid suppression therapy on gastric atrophy. *Gastroenterology*. 1999; 117: 319-326.
42. Uemura N, Okamoto S, Yamamoto S, et al. *Helicobacter pylori* infection and the development of gastric cancer. *New England Journal of Medicine*. 2001; 345: 784-789.

GORD in adults

43. U.S. Food and Drug Administration. FDA Drug Safety Communication: Clostridium difficile-associated diarrhea can be associated with stomach acid drugs known as proton pump inhibitors (PPIs). October 2012. Available at <http://www.fda.gov/Drugs/DrugSafety/ucm290510.htm> (accessed on 26 September 2014).
44. Regional Drug and Therapeutics Centre. Can proton pump inhibitors increase the risk of osteoporotic fracture? Safer medication use. December 2009. Available at http://www.formulary.cht.nhs.uk/pdf_doc_files_etc/RDTC/Safer_Medication_Use/05_PPI_Fractures.pdf (accessed on 26 September 2014).
45. U.S. Food and Drug Administration. Proton pump inhibitors (PPI): class labeling change. May 2011. Available at <http://www.fda.gov> (accessed on 26 September 2014).
46. European Medicines Agency. Public statement on possible interaction between clopidogrel and proton pump inhibitors. May 2009. Available at <http://www.ema.europa.eu> (accessed on 26 September 2014).
47. Donnellan C, Sharma N, Preston C, et al. Medical treatments for the maintenance therapy of reflux oesophagitis and endoscopic negative reflux disease (Cochrane review). In: The Cochrane Library. Wiley, Chichester, UK.
48. Donnellan C, Sharma N, Preston C, et al. Medical treatments for the maintenance therapy of reflux oesophagitis and endoscopic negative reflux disease (Cochrane review). In: The Cochrane Library. Wiley, Chichester, UK.
49. British National Formulary. H2 receptor antagonists. Section 1.3.1. British Medical Association and Royal Pharmaceutical Society of Great Britain. Also available at <http://bnf.org> (accessed on 26 September 2014).
50. Farup PG, Weberg R, Berstad A, et al. Low-dose antacids versus 400 mg cimetidine twice daily for reflux oesophagitis: a comparative, placebo-controlled, multicentre study. *Scandinavian Journal of Gastroenterology*. 1990; 25: 315-320.
51. Graham DY, Patterson DJ. Double-blind comparison of liquid antacid and placebo in the treatment of symptomatic reflux esophagitis. *Digestive Diseases and Sciences*. 1983; 28: 559-563.
52. British National Formulary. Antacids and simeticone. Section 1.1.1. British Medical Association and Royal Pharmaceutical Society of Great Britain. Also available at <http://www.bnf.org> (accessed on 26 September 2014).
53. Earnest D, Robinson M, Rodriguez-Stanley S, et al. Managing heartburn at the 'base' of the GERD 'iceberg': effervescent ranitidine 150 mg b.d. provides faster and better heartburn relief than antacids. *Alimentary Pharmacology and Therapeutics*. 2000; 14: 911-918.
54. Spechler SJ, Lee E, Ahnen D, et al. Long-term outcome of medical and surgical therapies for gastroesophageal reflux disease: follow-up of a randomized controlled trial. *Journal of the American Medical Association*. 2001; 285: 2331-2338.
55. Vakil N, Sharma P. Review article: endoscopic treatments for gastro-oesophageal reflux disease. *Alimentary Pharmacology and Therapeutics*. 2003; 17: 1427-1434.
56. Chen D, Barber C, McLoughlin P, et al. Systematic review of endoscopic treatments for gastro-oesophageal reflux disease. *British Journal of Surgery*. 2009; 96: 128-136.
57. Grant AM, Boachie C, Cotton SC, et al. Clinical and economic evaluation of laparoscopic surgery compared with medical management for gastro-oesophageal reflux disease: 5-year follow-up of multicentre randomised trial (the REFLUX trial). *Health Technology Assessment*. 2013; 17: 1-167.
58. Catarci M, Gentileschi P, Papi C, et al. Evidence-based appraisal of antireflux fundoplication. *Annals of Surgery*. 2004; 239: 325-337.
59. Nilsson G, Wenner J, Larsson S et al. Randomized clinical trial of laparoscopic versus open fundoplication for gastro-oesophageal reflux. *British Journal of Surgery*. 2004; 91: 552-559.
60. Hakanson BS, Thor KB, Thorell A, et al. Open vs laparoscopic partial posterior fundoplication. A prospective randomized trial. *Surgical Endoscopy* 2007; 21: 289-298.

GORD in adults

61. Draaisma WA, Rijnhart-de Jong HG, Broeders IA, et al. Five-year subjective and objective results of laparoscopic and conventional Nissen fundoplication: a randomized trial. *Annals of Surgery*. 2006; 244: 34-41.
62. Peters MJ, Mukhtar A, Yunus RM, et al. Meta-analysis of randomized clinical trials comparing open and laparoscopic anti-reflux surgery. *American Journal of Gastroenterology*. 2009; 104: 1548-1561.
63. Ackroyd R, Watson DI, Majeed AW, et al. Randomized clinical trial of laparoscopic versus open fundoplication for gastro-oesophageal reflux disease. *British Journal of Surgery*. 2004; 91: 975-982.
64. Allgood PC, Bachmann M. Medical or surgical treatment for chronic gastroesophageal reflux? A systematic review of published evidence of effectiveness. *European Journal of Surgery*. 2000; 166: 713-721.
65. Lundell L, Miettinen P, Myrvold HE, et al. Continued (5-year) followup of a randomized clinical study comparing antireflux surgery and omeprazole in gastroesophageal reflux disease. *Journal of the American College of Surgeons*. 2001; 192: 172-181.
66. Wileman SM, McCann S, Grant AM, et al. Medical versus surgical management for gastro-oesophageal reflux disease (GORD) in adults. In: *The Cochrane Library*. Wiley, Chichester, UK.
67. Harvey RF, Gordon PC, Hadley N, et al. Effects of sleeping with the bed-head raised and of ranitidine in patients with severe peptic oesophagitis. *Lancet*. 1987; 2: 1200-1203.
68. Kjellin A, Ramel S, Rossner S, et al. Gastroesophageal reflux in obese patients is not reduced by weight reduction. *Scandinavian Journal of Gastroenterology*. 1996; 31: 1047-1051.
69. Piesman M, Hwang I, Maydonovitch C, et al. Nocturnal reflux episodes following the administration of a standardized meal. Does timing matter? *American Journal of Gastroenterology*. 2007; 102: 2128-2134.
70. British National Formulary. Domperidone and metoclopramide. Section 4.6. British Medical Association and Royal Pharmaceutical Society of Great Britain. Also available at <http://bnf.org> (accessed on 26 September 2014).
71. European Medicines Agency. CMDh confirms recommendations on restricting use of domperidone-containing medicines. April 2014. Available at http://www.ema.europa.eu/ema/index.jsp?curl=pages/news_and_events/news/2014/04/news_detail_002083.jsp&mid=WC0b01ac058004d5c1 (accessed on 26 September 2014).

This information is aimed at a UK patient audience. This information however does not replace medical advice. If you have a medical problem please see your doctor. Please see our full [Conditions of Use](#) for this content. For more information about this condition and sources of the information contained in this leaflet please visit the Best Health website, <http://besthealth.bmj.com>. These leaflets are reviewed annually.

