

Oesophageal manometry and pH monitoring

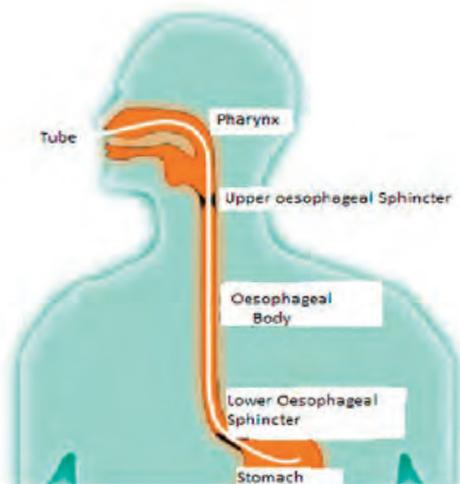


What is the oesophagus?

The oesophagus is a long muscular tube which joins the mouth to the stomach. Between the bottom of the oesophagus and the stomach there is a ring of muscle or valve. The valve opens to allow food and drink to pass into the stomach but then closes to prevent stomach contents flowing back into the oesophagus (regurgitation or reflux).

What is its purpose?

It passes chewed food and liquids from the mouth to the stomach in co-ordinated wave-like muscle contractions.



Why do I need oesophageal manometry and pH monitoring?

You have been asked to have these tests to investigate how your oesophagus (gullet or food tube) and stomach are functioning. The test will take around 45 minutes.

Following these tests your doctor will be able to assess how well your oesophagus is functioning; establish the severity of your acid reflux; plan any further treatment and provide reassurance if the tests are normal.

Are there any alternatives to these tests?

No. There are other studies to investigate oesophageal function but these are used to provide additional information. For example:

- endoscopy – which allows the doctor to view the lining of the oesophagus
- barium swallow – which shows the anatomy of the swallowing muscles of the oesophagus.

How do I prepare for it?

Prior to the test:

Please do not eat for 6 hours. You may have water until 2 hours before the test.

If you suffer from asthma, please continue to take your inhalers as instructed by your GP.

Continue to take the majority of your regular medication as prescribed. If you take blood thinning medication, we will advise you on whether you should hold this prior to the procedure.

What about my medications?

Please **stop** taking any of the following antacid medication for **7 days before** the test:

Losec (Omeprazole)

Zoton (Lansoprazole)

Nexium (Esomeprazole)

Protium (Pantoprazole)

Pariet (Rabeprazole)

Axid (Nizatadine)

Please **stop** taking the following medication **3 days before** the test:

Zantac (Ranitidine)

Tagamet (Cimetadine)

Motilium (Domperidone)

Maxalon (Metoclopramide)

Cisapride (Prepulsid)

Famotidine

Please **stop** the following medications **24 hours before** taking the test:

Gaviscon

Rennies

Bisodol

Tums

Maalox

Nefedipine

Mucogel

Buscopan

Asilone

Algicon

Spasmonal

Topal

Or any simple antacid preparations from your local pharmacy.

Test 1 – Oesophageal manometry

This test checks that the nerves and muscles of your oesophagus are working properly. It will also check that the valve at the bottom of your oesophagus is at the normal pressure and opens and closes properly.

What does it involve?

1. A thin tube is gently passed into a nostril to the back of your nose. You will then be asked to drink a cup of water through a straw, which will help to move the tube down through your oesophagus into the stomach. Your breathing will not be affected during the procedure.
2. Once the tube has been passed you may have the sensation of a 'lump' in the back of your throat. It will feel slightly uncomfortable rather than painful and will settle quickly.
3. You will then be asked to lie down.
4. The tube in your oesophagus will be connected to the equipment which measures how well the muscles in your oesophagus are working. This recording takes approximately 10 minutes.
5. During this time you will be asked to be still, quiet and have relaxed breathing. You will also be asked to swallow small mouthfuls of water and/or solids at regular intervals until the test is complete.

Test 2 – 24 hour pH (acid) and/or impedance monitoring

This test measures the amount of acidic stomach contents that may be leaking up from your stomach into your oesophagus. This is measured over a 24 hour period so we can see what happens after meals and overnight when you're asleep.

The test will also show how your symptoms are related to the presence of acid in your oesophagus.

What does it involve?

1. A thin tube is gently passed into a nostril to the back of your nose. You will then be asked to drink a cup of water through a straw, which will help to move the tube down through the oesophagus into the stomach. Your breathing will not be affected during the procedure.

2. Once the tube has been passed you may have the sensation of a 'lump' in the back of your throat. It may feel a little uncomfortable rather than painful and will settle within 30 minutes.
3. The end of the tube will be positioned in your oesophagus above your stomach.
4. The tube will be taped to the outside of your nose, passed around your ear and attached to a small recording box which is worn on a shoulder strap or belt around your waist.
5. You will be given instructions before you leave and asked to fill in a special diary of your meals, bedtimes and symptoms.
6. You will be sent home and be able to eat, sleep and carry on normal daily routines.
7. You will be told how to remove the tube after 24 hours and will need to return the recorder along with your diary the following day.

Could the tube fall out?

The tube is very small and safe. Even if you sneeze, cough or vomit it is highly unlikely to fall out.

Are there any risks or side effects?

- Both tests are usually very safe. They might cause some discomfort but should not be painful.
- You may feel slightly sick when the tube is first positioned, but this should settle quickly.
- Other mild side effects may include: sore throat, nosebleed, a runny nose, fainting or wheezing.
- There is a very small risk that the probe could damage the oesophagus, but this is highly unlikely as the tube is very flexible and the practitioner who does the test has specialised training.
- During the test most patients are able to carry on as normal. Some prefer not to work because they feel self-conscious about having a tube coming out of their nose.
- If you have any allergies please inform the practitioner carrying out your test.

- If you are pregnant, please inform the department by telephone before your appointment.

What happens afterwards?

- You may go back to normal activities.
- You can eat and drink normally.
- You will be advised how to remove the tube and where to drop off the recorder box.
- Your test results will be analysed by an expert and your consultant specialist will discuss the results with you at your next clinic appointment.

Test 3 – 48-96 hour pH (acid) monitoring – wireless (Bravo®)

What is the test for?

5-10% of patients are unable to tolerate insertion of the conventional pH measurement catheter (Test 2 outlined above) or keep it in place for 24 hours. In addition the 24 hour test may be too short a time period to detect reflux. In these cases wireless (Bravo®) pH monitoring may be recommended by your specialist.

This test measures the amount of acidic stomach contents that may be leaking up from your stomach into your oesophagus. This is measured over a 48-96 hour period so that we can see what happens after meals and overnight when you're asleep.

The test will also show how your symptoms are related to the presence of acid in your oesophagus.

How is the test done?

A tiny capsule, which measures pH (acid), is 'stitched' at the bottom of your oesophagus during a gastroscopy. This is a very simple process whereby a small 'well' in the capsule sucks up a tiny bit from the wall of the oesophagus in order to pass a small needle through. It is usually performed under either sedation or a general anaesthetic.

The data is sent via radio waves to a small, box-like receiver, which is carried on a belt or strap across your shoulder.

What is a gastroscopy?

This is a test that allows the doctor to look directly at the upper part of your digestive system (oesophagus, stomach and first part of the small intestine). The test is sometimes called an endoscopy or an OGD (oesophago-gastro-duodenoscopy). The doctor passes a flexible tube with a very small camera at the end through your mouth and into your stomach.

How long does the capsule stay in place?

The pH capsule usually stays in place for 5 days, with a 10% risk of dropping off each day after it is inserted. At least 24 hours is required for the study to be considered sufficient. Once the capsule drops off, it passes through your stomach, small and large bowel and is passed in your stools without you being aware. You do not need to worry about finding the capsule after it passes through.

Are there any risks or side-effects?

As the capsule is placed during endoscopy, risks are primarily related to the gastroscopy. For most people a gastroscopy is a simple and safe procedure. Unusual complications do sometimes arise and include chest infections, damage or perforation (a hole) in the gullet, stomach or intestine wall, allergy to sedative medication, bleeding or damage to teeth.

With regard to capsule insertion, there is a theoretical risk of a tear in the wall of the oesophagus from the capsule itself, but to the best of our knowledge this has not been reported in the UK. There is also a very small risk of feeling a lump in the bottom of your oesophagus due to the presence of the capsule, but this should pass with the passing of the capsule.

There is a reported one per cent risk (1%) of chest pain severe enough to warrant repeat endoscopy requiring removal of the capsule, although in reality the need to remove the capsule is a very rare occurrence indeed. Also there is a very small risk that if there is a blockage or narrowing in the small or large bowel, the capsule could get stuck. There is a theoretical risk that while lying flat during endoscopy, if the capsule comes up the oesophagus rather than down, it might be inhaled, but this has never actually been reported as having happened. To minimise this risk anaesthetising throat spray is not used so that your natural cough reflex should prevent this from happening.

It is important that you do not have an MRI for 30 days following insertion of the capsule or unless you have seen the capsule drop out into the toilet. Please inform us if you have a pacemaker in place and if you are known to have problems with bleeding (eg low platelets). Please also inform us if you have a nickel allergy as you would not be suitable for the Bravo® procedure.

What happens after the test?

Normally you should feel nothing different. You will be asked to go about your daily business and in fact try to reproduce your normal daily activities so that reflux that occurs under typical circumstances can be captured. You will also be asked to fill in a food and sleep diary and to press buttons on the recorder whenever symptoms take place so that we can associate your reflux events with your symptoms. You will be advised where and when to return the recorder box.

Any questions?

If you have any questions or concerns please contact:

- Paul Rosenfeld – Upper GI Nurse 07785744872
- Louise Goldsmith – Upper GI Nurse 07557499244
- Sian Lewis – Secretary/Manometry Appointments Clerk 01872 252373
(for Mr Cota and Mr Clarke)

If you would like this leaflet in large print, braille, audio version or in another language, please contact the General Office on 01872 252690

