

## Patient information factsheet

# Oesophageal manometry test and 24-hour pH and impedance measurement test

## Patients off proton pump inhibitors (PPIs)

We have given you this factsheet because your doctor has referred you for an oesophageal manometry test and a 24-hour pH and impedance measurement test. It explains what these tests are and what they involve, so you know what to expect at your appointment. We hope this factsheet helps to answer some of the questions you may have. If you have any further questions or concerns, please contact us using the details at the end of this factsheet.

### What is the oesophagus?

The oesophagus (also known as the food pipe) is a tube that connects your mouth to your stomach. The wall of your oesophagus contains nerves and muscles that squeeze together (contract) to help push food along to your stomach.

### What is an oesophageal manometry test?

An oesophageal manometry test measures the pressure in your oesophagus as you swallow, allowing us to see how well the muscles and nerves in your oesophagus are working.

### What is a 24-hour pH and impedance measurement test?

A 24-hour pH and impedance measurement test measures the amount of acid and other liquids and gases that rise from your stomach up into your oesophagus over a 24-hour period.

### Why do I need these tests?

You have been referred for these tests because you have been having problems with swallowing or experiencing symptoms of acid reflux. For example, heartburn, regurgitation (bringing swallowed food and drink up again to your mouth) or chest pain.

These tests can help us to determine the cause of your symptoms and decide on the best treatment for you.

### Are there any risks?

An oesophageal manometry test and a 24-hour pH and impedance measurement test are both safe tests, but as with all medical procedures, there are some risks. These include:

- a temporary nosebleed caused by the catheters (flexible tubes) irritating the tissue inside your nose
- not being able to correctly place the catheters (if we cannot perform the tests, we will need to go back to the doctor who referred you for the tests)
- perforation (a tear) of your oesophagus (this is very rare)

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We will explain all the risks to you in more detail when you come in for your tests.

## Are there any alternatives?

These tests are the best way to find out what the muscles and nerves in your oesophagus are doing when you swallow and how much acid is coming back up from your stomach into your oesophagus.

## How should I prepare for the tests?

### Eating and drinking

You must not eat or drink anything for **four hours** before your tests.

**If you have diabetes, contact your diabetic nursing team for advice on how to manage your diabetes while fasting for these tests.**

### Medication

Stop taking the medications listed in the table below before your tests, as these may interfere with the results of your tests.

Medication	When to stop taking it
All PPI medications, including: <ul style="list-style-type: none"><li>• Lansoprazole (Zoton)</li><li>• Pantoprazole (Protium, Pantoloc)</li><li>• Omeprazole (Losec)</li><li>• Esomeprazole (Nexium)</li><li>• Rabeprazole (Pariet)</li></ul>	7 days before your test
All histamine (H2)-receptor antagonist (H2RA) medications, including: <ul style="list-style-type: none"><li>• Ranitidine (Zantac)</li><li>• Famotidine (Pepcid)</li></ul>	48 hours before your test
Domperidone (Motilium)	48 hours before your test
Sucralfate (Carafate)	48 hours before your test
Antacids (for example, Rennie, Peptac, Gaviscon)	24 hours before your test

Continue taking all your **other** usual medications before your tests (unless we have advised you otherwise).

### Clothing

You should wear comfortable clothing to your appointment (ideally a top and trousers or a skirt as a catheter will be inserted under your top and attached to a recording device at your waist).

### Items to bring with you

On the day of your test, please bring the following items with you:

- a list of all the medications you are currently taking
- an inhaler for asthma or a spray for angina (if you have been prescribed either of these)
- if you suffer with dysphagia (difficulty swallowing), some of the food or drink that usually gets stuck in your oesophagus
- if you have any food allergies or specific dietary requirements, an allergen-free biscuit (for example, a gluten-free biscuit)

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## Who will perform the tests?

The tests will be performed by a specialist healthcare professional (a gastrointestinal (GI) physiologist or a clinical scientist).

## What will happen before the tests?

When you come into hospital for your tests, we will first ask you some questions about the symptoms you have been experiencing. We will then explain the tests to you and answer any questions you may have. If you are happy to proceed with the tests, we will ask you to sign a consent form.

## What will happen during the tests?

We will perform both tests in a treatment room in our GI physiology department.

### Oesophageal manometry test

We will ask you to lie down on a couch. We will then pass a thin catheter (flexible tube) through one of your nostrils, down your oesophagus and into your stomach. We will ask you to drink some water as we pass the catheter into your stomach to help it go down more easily. You may find this uncomfortable, but it should not be painful. The sensation may also make you sneeze, cough or gag. This is normal.

This test can only be performed when you are fully awake, so we will not give you a sedative (a medicine that makes you feel sleepy and relaxes you), but we can give you some local anaesthetic spray to numb the back of your throat if needed.

When the catheter is in the correct position, we will gently tape it to your cheek to prevent it from moving. You will be able to breathe, eat, drink and talk normally with the catheter in place. We will then ask you to swallow small quantities of water and some solid food, such as a biscuit. The catheter has special pressure sensors on it that will record how well the nerves and muscles in your oesophagus are working as you drink and eat and will send this information to a computer.

Once the test is finished, we will gently remove the catheter.

### 24-hour pH and impedance measurement test

Like the oesophageal manometry test, we will pass another thin catheter through one of your nostrils, down your oesophagus and into your stomach. We will then withdraw the catheter slightly so that the tip is just above your stomach.

When the catheter is in the correct position, we will gently tape it to your nose, cheek and neck to prevent it from moving. You will be able to feel it at the back of your throat, but it should not be too uncomfortable. You will be able to breathe, eat, drink and talk normally with the catheter in place.

We will then attach the other end of the catheter to a small recording device, which you will need to wear (on a belt or as a bag) for the full duration of the test.

## 24-hour pH and impedance measurement test diary and recording device

You will need to keep a diary and use a recording device during the 24-hour test period.

You will need to record:

- any acid reflux symptoms you experience (for example, heartburn, indigestion, chest pains, belching, regurgitation, coughing, sore throat or loss of voice)
- when and what you eat and drink (please note that we may ask you to eat foods and drinks that you usually avoid during the 24-hour test period, such as spicy foods and alcohol, as it is important that you experience your typical symptoms)
- when you go to bed (if you normally sleep with several pillows to relieve your symptoms, please remove a couple to lie flatter during the 24-hour test period)
- when you wake up in the morning (if you are woken up at night by your symptoms, please make a note of the time in your diary)

**When recording events and symptoms in your diary, make sure you use the time displayed on the recording device.**

Before you leave hospital, we will:

- explain how to use the diary and the recording device
- explain when and how to safely remove the catheter yourself at home (if you do not feel you will be able to remove the catheter yourself, please let us know)
- answer any questions you may have

Once we have set up the catheter and the recording device, you will be able to go home and carry on with your normal daily activities for the next 24 hours. If we numbed the back of your throat with a local anaesthetic spray, you must not eat or drink anything hot for one hour after we inserted the catheter.

**It is important that you treat the test equipment with the utmost care as it is extremely expensive to repair or replace.**

### How long will the tests take?

Please expect to be in our department for 75 minutes in total.

### Frequently asked questions

#### Will I be able to drive during the 24-hour test period?

We will not give you any medicine that will make you drowsy. However, we advise avoiding driving while you have the catheter in place, as it may distract you.

#### Can I take my usual medications during the 24-hour test period?

**Do not** take any indigestion medications or anti-reflux medications during the test period.

Continue taking all your **other** usual medications (unless we have advised you otherwise).

#### What happens if I cough, vomit or sneeze during the 24-hour test period?

Coughing, vomiting or sneezing will not usually affect the test. We will make sure the catheter is held securely in place before you go home.

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Very occasionally, some people may bring up the catheter into their mouth if they are sick. If this happens, you should:

1. Disconnect the catheter from the recording device.
2. Take the tape off your nose, cheek and neck.
3. Gently pull the catheter from your nose to remove it.
4. Record the time that you removed the catheter in your diary.
5. Throw the catheter away in your normal household waste bin.
6. Place the recording device and partially completed diary in the plastic bag we provided you with and return it to our GI physiology department reception.

## Can I get the equipment wet during the 24-hour test period?

The recording device is not waterproof so must **not** get wet. Do not bathe, shower or swim during the test period.

## Will I be able to go to work during the 24-hour test period?

Where possible, we advise you to continue with your normal daily activities, including going to work. However, if you feel it is inappropriate, impractical, or dangerous to go to work, try to be as active as you can at home.

## What will happen after the tests?

You will need to remove the catheter at home 24 hours after it was inserted. We will tell you when to do this before you leave hospital.

Once you have removed the catheter from your nose, you can dispose of it in your normal household waste bin. Place the recording device and your completed diary in the plastic bag we provided you with and return it to our GI physiology department reception **before 4pm** that day.

You can then re-start any medications you stopped taking for the duration of the tests.

## Are there any side effects?

After the tests, some people may experience:

- a mild sore throat
- a nosebleed
- a runny nose
- a hoarse voice (when your voice sounds breathy, raspy, or strained)

These are all temporary side effects and should settle within 24 hours of the catheter being removed.

If you have any concerns after your tests, contact us for advice using the details at the end of this factsheet. Outside of our working hours, contact NHS **111** for clinical advice.

## When will I receive my results?

We will analyse the data from both of your tests and then send a report with our findings to the doctor who referred you for these tests. Depending on the findings, your doctor will either write to you or invite you to a clinic appointment to discuss your results.

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## Contact us

If you have any questions or concerns, please contact us.

Gastrointestinal (GI) physiology department

Telephone: **023 8120 4132** (Monday to Friday, 8am to 4pm)

## Useful links

[www.nhs.uk/conditions/swallowing-problems-dysphagia](http://www.nhs.uk/conditions/swallowing-problems-dysphagia)

[www.nhs.uk/conditions/achalasia](http://www.nhs.uk/conditions/achalasia)

[www.nhs.uk/conditions/heartburn-and-acid-reflux](http://www.nhs.uk/conditions/heartburn-and-acid-reflux)

[www.gutscharity.org.uk/advice-and-information/symptoms/heartburn-and-reflux](http://www.gutscharity.org.uk/advice-and-information/symptoms/heartburn-and-reflux)

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For help preparing for your visit, arranging an interpreter or accessing the hospital, please visit **www.uhs.nhs.uk/additionalsupport**