96 Hour Wireless pH Study

Information and advice for patients

GI Physiology

What is 96 hour wireless pH monitoring?

Your consultant has requested that you have a wireless pH study to investigate the reflux (regurgitation) of acid from the stomach into the oesophagus (gullet). Reflux of acid into the gullet can cause various symptoms such as heartburn, cough, etc. This condition is called gastro-oesophageal reflux disease.

The traditional way to measure acidity levels in the gullet is to place a catheter (polythene tube) which is passed through the nose into the gullet. The catheter is then connected to a monitoring device, which is worn on a waistband. This records the acidity levels in the gullet over a 24-hour period. While the majority of patients can tolerate the procedure relatively well, a small proportion find it difficult to tolerate, due to the discomfort, and some have an abnormality in the nose making it difficult to pass the catheter. The wireless pH study is an alternative method of studying the acidity levels in the gullet. It is more patient-friendly as it does not involve passing a catheter through the nose. This allows you to maintain your usual activities without the embarrassment and discomfort associated with the traditional catheter based study.

How does the test work?

The test involves a miniature capsule that is attached to your gullet a few centimetres above the junction where your gullet joins your stomach (gastro-oesophageal junction). Throughout the test period, the capsule measures the acidity level in the gullet (usually over a period of 96 hours) and transmits this information to a pager sized receiver worn on your belt or waistband. You will be given a diary to write down the times when you have symptoms e.g. heartburn, regurgitation, coughing. You will also need to write down the times you eat, drink, lie down and get up. After the test is completed you return the diary and the receiver to the GI Physiology Department, Sandwell Hospital, at a prearranged date and time. The information from the receiver is uploaded to a computer which provides a detailed report of the degree of acid reflux into your gullet over the 96-hour period.

How is the capsule attached?

The details of the procedure will first be explained to you and then you will be asked to sign your consent for the procedure. The capsule is attached to the end of an introducer, which is passed through the mouth. Since the capsule must be attached to the wall of the gullet, 6cm above the junction where the gullet joins the stomach (gastro-oesophageal junction) the physician will first have to perform a gastroscopy (a flexible camera with a light at the end) to precisely locate and measure the distance of the gastro oesophageal junction from the mouth. Once the exact measurement is done, the introducer device (with capsule at the end) is then

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passed through the mouth and positioned in place. The introducer is connected to a suction device. Suction is applied which enables the capsule to be sucked into place on to the wall of the gullet. The capsule is them deployed and attaches to the wall of the gullet. The introducer is then removed.

How long does placing the capsule and the monitoring take?

The actual procedure of placing the capsule only takes a few minutes. After that the test itself lasts for 96 hours.

What are the benefits?

The wireless pH monitoring provides comfort and convenience. Data is recorded when the capsule and the receiver are within one metre of each other. What this means is that you can bathe and get a useful night's sleep because you can place the receiver outside the shower or on your bedside cabinet and the test will not be interrupted.

Is wireless pH monitoring suitable for everyone?

Unfortunately, the test is not for everyone. Patients with pacemakers, implantable defibrillators or neurostimulators cannot have this test. Patients with a history of bleeding disorders, those who are on anticoagulant therapy (unless they can come off it), or patients who suffer from stricture, severe oesophagitis (inflammation of the gullet) or oesophageal varices are also not suitable for wireless pH monitoring.

What are the risks?

As with all procedures there may be risks. Potential risks during endoscopy and capsule placement include; failure of the capsule to attach/detach, dizziness, fainting and a very small risk of perforation and bleeding from the oesophagus. Once the capsule is in place some people experience mild chest discomfort until the capsule has detached. Another risk is premature detachment. If the capsule should prematurely detach the test may have to be repeated.

Please note:

- **The capsule contains nickel, please contact the department for advice if you are known to have a nickel allergy**
- **It is very important that you do not have an MRI scan for 30 days after your test**

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Are there any alternatives to this test?

An alternative method of measuring the acid levels in the gullet is 24-hour pH metry. During this test a very thin catheter with a pH electrode built into the catheter is placed 5cm above gastro-oesophageal junction. This catheter is connected to a recorder which you carry with you for 24 hours and return the following day for removal of the catheter and to allow the data to be uploaded and analysed.

Preparing for the test

It is important that you follow the instructions in the endoscopy leaflet and also note the following:

YOU MAY TAKE YOUR MEDICATION AS NORMAL EXCEPT FOR THE FOLLOWING:

SEVEN DAYS before the test you must stop taking:

Losec (Omeprazole)
Zoton (Lansoprazole)
Nexium (Esomeprazole)
Protium (Pantoprazole)
Pariet (Rabeprazole)

THREE DAYS before the test you must stop taking:

Cimetidine (Tagament, Dyspamet)
Nizatidine (Axid)
Famotidine (Pepcid)
Cisapride (Propulsid)

24 HOURS before the test you must stop taking:

Gaviscon Tums Mucogel Algicon
Rennies Maalox Bisodol Asilone
Topal

Any other simple antacids from your local pharmacy.

During the test

Prior to the procedure your Consultant will explain the test and, if required, will discuss local anaesthetic throat spray and sedation. They will also ask you to read a consent form. If you are happy with the information given to you and fully understand the test you may sign the form. However, you may want to ask further questions and your Consultant will be happy to answer them before you sign.

An endoscopy is carried out. The capsule is then positioned, usually through the mouth, via a fine flexible tube. Once in the correct place the capsule is attached to the wall of the

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oesophagus by means of a tiny pin and suction. The delivery device is then removed (this should all only take a few minutes).

A repeat endoscopy is then carried out to ensure the capsule is correctly positioned.

After the test

You will be allowed to leave the department as soon as the Endoscopy Staff are happy (the length of stay will depend on factors such as whether you have had sedation or not - please refer to the endoscopy instructions enclosed).

What happens when you go home?

It is vital that the recorder stays within one metre of the capsule during the recording period. It is also important that you carry out your usual daily activities as much as possible. We will ask you to accurately document activities such as meals and drinks, when you are in bed/ lying down and when you are having symptoms during the test. These details are important to help us analyse the recording.

Baths/ showers are allowed as long as the recorder does not get wet.

What happens after the test?

You will be able to restart your acid medication (providing no other relevant tests are pending). Within a week of the procedure, the capsule should naturally detach from the wall of the oesophagus and pass through the digestive system. The capsule does not need to be retained. Your results will be sent to the Consultant who referred you within 10 working days of your test. If you have not already been given an appointment to see your Consultant, you will be contacted by the consultants team in due course.

Contact details

If you have any questions or concerns before or after the test, please contact:

GI Physiology:
Telephone number: 0121 507 2490

If there is no answer, please leave a message including your name and telephone number on the answerphone and we will get back to you as soon as possible.

The Department is open Monday-Wednesday and Friday 8am-4pm

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Further information

NHS Website
Heartburn and acid reflux
www.nhs.uk/conditions/heartburn-and-acid-reflux/

Guts UK
Heartburn and acid reflux
https://gutscharity.org.uk/advice-and-information/symptoms/heartburn-and-reflux/

(Websites accessed 13 June 2023)

For more information about our hospitals and services please see our website *www.swbh.nhs.uk*, follow us on Twitter *@SWBHnhs* and like us on Facebook *www.facebook.com/SWBHnhs*.

Sources used for the information in this leaflet

Trudgill, N. J., Sifrim, D., et al. (2019). British Society of Gastroenterology guidelines for oesophageal manometry and oesophageal reflux monitoring. *Gut, 68*(10), 1731-1750.

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