

## Information for Patients

# Catheter free BRAVO Capsule 48 hour pH study via Gastroscopy (Whilst taking PPI medication)



BRAVO capsule using a pencil for scale.

### Please Note:

Your test may be carried out at any of the endoscopy sites across Manchester NHS Foundation Trust. Please check your appointment letter to make sure you attend the right unit.

You may need to start preparing for your test up to two weeks before your appointment. Please ensure you read this information in good time to ensure you know what to do. Poor preparation can result in cancellations and incomplete procedures.

If you are unable to keep your appointment, please telephone the Waiting List Office as soon as possible via the number on your appointment letter. Your appointment can then be offered to someone else which helps to keep waiting lists shorter.

Thank you.

## Introduction

Your consultant has referred you for a BRAVO capsule 48 hour pH study because you are having problems with your stomach. The most common reason for referral for this test is heartburn/acid reflux.

## What is a BRAVO capsule pH study?

This test is used to examine the amount of acid passing up from the stomach into the gullet. The BRAVO capsule is a small pill that attaches to the lining of the gullet above the valve for the stomach. The capsule sends wireless signals to a receiver to record the acid levels in the gullet over 48 hours.

## What does the test involve?

You will be asked to attend the Endoscopy Unit, where they will prepare you for a gastroscopy procedure. A gastroscopy is a test to look at the lining of your gullet (Oesophagus), stomach and the first part of your small bowel (duodenum). A thin flexible tube, about the width of a little finger, is passed through your mouth. The test will be carried out by a doctor or specialist nurse, called an endoscopist.

During the gastroscopy they will also measure where to place the BRAVO capsule.

The camera will then be removed and the BRAVO capsule will be inserted through the mouth and down the throat to the required position. The capsule is pinned to the lining of the gullet and it will then transmit signals to a receiver. The receiver is about the size of a mobile phone and can either be carried in an over shoulder pouch or clipped onto your belt.

The capsule will send signals to the receiver for 48 hours, when the receiver will stop recording automatically. The capsule will stay attached to the lining of the gullet for between 5-12 days where it will drop off and passes naturally through your digestive system.

## Preparation for the Gastroscopy

It is important that your stomach is empty for the test to be successful. Therefore:

- You must not have anything to eat or drink for at least 6 hours before your test.
- You may then have sips of water only, up to 2 hours before your test.

## Should I take my usual tablets or medications?

For the BRAVO study, please continue to take antacid medications as prescribed, if you currently take them:

Tablet Name	Advice
Lansoprazole (Zoton), Omeprazole (Losec), Pantoprazole (Protium), Rabeprazole (Pariet), Esomeprazole (Nexium), Ranitidine (Zantac)	Continue to take these medications as prescribed.

## Blood Thinning Tablets

**Before stopping any of the below medications please seek advice from your GP or Consultant to ensure that it is safe to do so.**

Tablet Name	Advice
Warfarin Synthron	Should be stopped for 5 days before the test. Please contact endoscopy if you have been advised that you should not stop this medication.
Apixiban Edoxaban Fondaparinux Rivaroxaban Dabigatran	Should be stopped for 3 days before the test. Patients with a coronary stent may need to take Aspirin. If you require further advice, or have been told not to stop these medications, please call us.
Asasantin Clopidogrel Dipyridamole Ticagrelor Prasugrel	Should be stopped for 7 days before the test. Please contact endoscopy if you have been advised that you should not stop this medication.
Clexane Dalteparin Enoxaparin Inhixa	Please call us. We may need to speak to your doctor for advice.

Aspirin does not need to be stopped.

### If you are a diabetic treated with insulin or tablets:

- You will need an early morning appointment. If you have been given a later appointment, please contact us.
- Do not have any breakfast.
- On the morning of your test, do not take your insulin or diabetic tablets.

If you require more advice about managing your diabetes, please contact your diabetes specialist (eg. Diabetes clinic, GP, Practice Nurse).

**All other medication** normally taken in the morning may be taken as follows:

- Morning appointments - take your medication before 7am or bring it with you to take after your test.
- Afternoon appointments - take your medication before 10am.

## Medical History

If you have a Pacemaker or Implantable Cardioverter Defibrillator (ICD), please contact the unit using the phone number on your appointment letter.

Also, please let us know if you:

- Are pregnant or breast feeding
- Have had any surgery (including eye surgery) in the past 6 weeks
- Have had a heart attack within the last six weeks

- Are waiting for heart surgery
- Are waiting for coronary angioplasty
- Have a tracheostomy or laryngectomy.
- Are on peritoneal dialysis

## Sedation

**We strongly recommend sedation for all patients who undergo this treatment.** You may have had a normal gastroscopy without sedation in the past, but this particular test does take longer so we advise sedation.

**Sedation and/or a pain relief drug** can be given as an injection into a vein in your hand or arm. The sedation will make you feel relaxed and less anxious but won't make you go to sleep. You will be awake and will still be able to communicate with us. Sedation may make you forgetful. Afterwards you may remember very little about the test.

You must have a responsible adult (18+) to take you home and look after you for 24 hours after having sedation. You will need to be collected from the Endoscopy Department directly. Do not travel home on public transport.

After having sedation you will be drowsy and small amounts of medication will remain in your body for up to 24 hours. During this period, although you may feel wide awake, you will still be under the influence of the sedation. Your concentration and co-ordination may be impaired and you may feel light-headed, faint or become forgetful. Due to this you must NOT do the following for 24hrs:

- Drive (you will not be covered by your insurance)
- Operate any machinery or electrical items such as kitchen appliances
- Drink alcohol, take recreational drugs, sedative drugs or sleeping tablets (the sedation may mean that the effects are greater)
- Sign any legally binding documents or make life changing decisions
- Return to work
- Be responsible for anyone else including children or elderly relatives

## Throat spray

Before your test, your throat will be sprayed to make it numb. You will be offered throat spray whether or not you choose to be sedated. You must not eat or drink for 1 hour after receiving the spray.

## How long will I be in hospital?

Your length of stay can vary, but on average you should expect to be in the department for up to three hours. If your test and recovery is complete, you may be ready to go home sooner.

We will always try to see you at your appointment time. However, please note that there are several factors that may cause unavoidable delays. We will endeavour to keep you informed of any major delays.

## Do I need to bring anything with me?

- Please bring a copy of your most recent prescription or a list of your medication.
- A book or magazine to read whilst you are waiting.

Please do not bring any valuables with you. We cannot be responsible for loss or damage to personal property.

## Visitors

Our Endoscopy Units are very busy and to ensure the privacy and dignity of all our patients we are unable to accommodate friends and relatives in the department. However, staff may assess your circumstances and make exceptions where necessary. For example:

- The patient concerned has specific additional needs or requirements
- The patient is 16 to 18 years of age
- The patient requires support with communication needs

During your test, friends and relatives can make use of on-site facilities for refreshments. If you are having sedation you will need to be collected from the department. Staff will contact friends and relatives by phone when you are ready if necessary.

If you would like to discuss your needs before arrival, please telephone the Endoscopy Department.

## What happens when I arrive?

The receptionist will ask you a few questions and ask you to take a seat in the waiting room. A nurse will then take you to a private area where:

- Your personal details will be checked.
- You will be asked some questions about your general health.
- Your blood pressure, pulse, temperature and oxygen level will be recorded.
- Your test will be explained, and your questions answered.
- Arrangements for going home and aftercare will be checked. If the person that is collecting you is not present, we will need to call them to confirm they are available to collect you.
- If you wish to have sedation, a needle will be inserted into the back of your hand or arm. The needle will be removed, and a soft plastic tube left in place. This will be used to give your sedation.
- If you are a diabetic, your blood sugar level will be checked before and after your test.
- If you are taking tablets to thin your blood, we will check the result of your most recent blood test. Occasionally, we may need to take another sample to make sure it is safe to carry out your test.
- You may be asked to take a seat in the waiting area.

Our aim is to maintain your privacy and dignity at all times. Please raise any concerns or issues with endoscopy staff.

## Before the test

Your admitting nurse, or the endoscopist, will make sure you understand the test before asking you to sign a consent form.

**Please make sure you fully understand the test and any possible treatments before signing your consent form. You may ask questions about anything you are unsure of.**

## What happens during the test?

- When you enter the procedure room, additional checks will be completed (For example, your name, date of birth, allergies, medical history etc.).
- If you have dentures, you will be asked to take them out. Your throat will then be sprayed with a banana flavour local anaesthetic to make it numb which can taste unpleasant.
- You will be asked to lie down on your left-hand side. A mouthguard will be placed between your teeth - this will prevent you from biting the scope.
- A probe will be clipped on to your finger to monitor your breathing and heart rate. We may also periodically check your blood pressure.
- If you are having sedation, this will be given just before the test starts. Oxygen will be given to you via a tube under your nose.
- The flexible tube is passed through your mouth. You may be asked to swallow when the scope reaches the back of your throat. This will help the scope to pass easily into your oesophagus (gullet) and down into the stomach.
- The procedure is not painful, but your stomach may feel bloated because air is gently blown into the stomach to improve the view.
- We may take internal photographs. These images are only used for medical purposes.
- The BRAVO capsule will be deployed.
- Tiny samples of tissue may also be taken. This is painless.
- If required, we may carry out some treatment during the test, unless you ask us not to before the test begins.
- Normally the test will take less than 10 minutes. At the end of your test, the flexible tube is easily removed.
- If you decide to watch your test on the monitor, please note that images are greatly magnified.

## Who will be present during my test?

As a minimum:

- The Endoscopist.
- Two members of endoscopy nursing staff.

Sometimes, additional staff may be present, depending on circumstances on the day of your test:

- \*A trainee Endoscopist, who may carry out your procedure under the supervision and guidance of a consultant Endoscopist.
- Another doctor in an observational capacity.
- A specialist nurse if required.
- \*A student nurse or medical student on placement.

\*The Trust participates in the training of doctors, nurses and other healthcare staff. Should you wish to discuss this during your visit, please speak to a member of the nursing staff.

## After your test

- You will be transferred into the recovery area to rest.
- You will be monitored by the nurses until you are fully recovered. Although you are not allowed to eat or drink for an hour following the throat spray, you may not need to remain in the department for this time.
- A nurse will talk to you (in a private room) about the findings of your test and any follow-up. If you would like someone with you whilst receiving results, please inform the nurse. You will also be given written information about this and a discharge advice sheet. If we have taken biopsies (samples) during your test, you will be informed of the results either at a future out-patient appointment or by letter. If you have sedation, the person collecting you will need to speak with the nurse to know how to look after you before you can go home.
- Again, you will be able to ask any questions you have.
- If someone is taking you home, we will contact this person for you when you are ready to go. If you have not had sedation, you may leave on your own if you wish.

Problems following your test are unusual. When you leave the unit, we will provide you with a discharge advice sheet which will contain the possible after effects of your test and contact details should you need them.

Depending on the treatment carried out during your test, we may advise you to avoid lifting or strenuous activity, for up to two weeks after your test. On rare occasions we may also advise that you do not fly. Please can you contact the endoscopy unit if you are due to fly within two weeks of your appointment date for further advice or rescheduling of your appointment.

## Will it be painful?

No. It will be uncomfortable during the procedure and you may feel a strange sensation between your ribs where the capsule is attached. Some patients have reported discomfort when swallowing. If you experience this, chewing carefully and drinking liquids may help minimise this sensation.

You also might have chest pain. You can take pain relief medication such as paracetamol and ibuprofen to help ease this. However, if the pain becomes severe please contact the Endoscopy department (between 8.00am – 6.00pm) or go to your nearest A&E department.

## What do I do during the 48 hour BRAVO test?

Before you leave the Endoscopy department, a nurse will discuss a diary sheet with you. Over the 48 hour test period, you will be asked to complete a diary listing your activities. You can eat and drink as normal and can continue your normal activities.

You can shower/bathe during the test but DO NOT take the receiver in with you as it is not waterproof. The receiver can pick up signals from the capsule up to 3 feet (1 metre) away so you can leave it in a safe, dry place nearby when you bathe and put it back on when you are dry.



## How do I care for the receiver?

During the 48 hour study period, you need to ensure the receiver is with you at all times. Please keep it dry.

The receiver may beep during the procedure and show a flashing 'C1' on the screen on top. This can be due to:

1. The receiver being out of range from the capsule.
2. External interference – wireless broadband, wifi, Bluetooth devices and mobile phones may use the same frequency as the capsule

If this happens:

1. Bring the receiver close to your chest bone and keep it there until the flashing C1 message disappears. Then keep the receiver within 3 feet distance of your chest.
2. Stop using your wifi/wireless broadband and move away from any potential source of interference.
3. If these actions do not work, please ring the Gastrointestinal (GI) Investigations Unit on 0161 291 4298 or 0161 291 4293.

## Will I be able to take any medicine for indigestion during the test?

Yes. Your consultant has asked for you to continue taking your indigestion medication during this test. These include Lansoprazole (Zoton); Omeprazole (Losec); Pantoprazole (Protium); Rabeprazole (Pariet); Esomeprazole (Nexium) and Ranitidine (Zantac). This is to determine whether the medication is effective in preventing acid reflux or not.

Therefore, please take your indigestion medication as normal and record it on the diary sheet. However, you will not be able to take Gaviscon, Gastrocote, or any other liquid based antacids as these will coat the capsule and give a false result.

## Is the test suitable for all patients?

The test is not suitable for everyone. If you have bleeding disorders, strictures, severe oesophagitis, varices, obstructions, pacemaker or implantable cardiac defibrillator you should not undergo a BRAVO procedure.

**Additionally, because the capsule contains a magnet, you should not have an MRI scan within 30 days of undergoing a BRAVO pH study. This is to ensure that the capsule has passed out naturally from your body.**

## Benefits and Risks

The BRAVO study is a good alternative to measure acid reflux in patients who cannot tolerate a tube down the nose for 24 hours.

Complications are very rare and those associated with gastroscopy are documented in the leaflets sent with your appointment letter. Potential complications with the BRAVO pH capsule include:

- Premature detachment of the capsule



- Failure to complete the test.
- Sore throat, damage to teeth/dentures.
- Allergic reaction to medications or equipment containing latex.
- Changes in your heart rate and breathing caused by the sedation or the test itself.
- Missed lesions (1 in 100 risk).
- Bleeding (less than 1 in 5000 risk).
- A hole in the gut wall (1 in 5000 risk).

If you experience these complications, they can be minor and resolve themselves fairly quickly. However, sometimes you may need to stay in hospital for observation, have a blood transfusion, undergo a repeat endoscopic test or radiological test, or have an operation to repair damage.

## What happens next?

Once the study has been completed, you will be asked to return the receiver and your diary sheet to the Endoscopy Unit. It is very important that you return the receiver promptly on the day agreed with the nurse as the receiver is needed for use by other patients.

The recording will be uploaded and the results sent to your consultant. The consultant will write to you to arrange an outpatient appointment where they will explain the results to you and discuss further treatment.

## Any questions?

If you have any questions please contact us using the details on your appointment letter.

You can read more about this test at the following websites:

- [www.diagmed.co.uk/download.pdf](http://www.diagmed.co.uk/download.pdf)
- [www.givenimaging.com/en-us/PressKitDocuments/Bravo%20Patient%20Brochure.pdf](http://www.givenimaging.com/en-us/PressKitDocuments/Bravo%20Patient%20Brochure.pdf)

## Research

Manchester University NHS Foundation Trust is at the forefront of research into a variety of conditions. You may be asked to consider taking part in a clinical trial. If approached, further information will be provided and you will be asked for additional consent if you decide to proceed. You are under no obligation to take part in research. Deciding not to take part will not affect your care.

## No Smoking or Vaping Policy

The NHS has a responsibility for the nation's health. Protect yourself, patients, visitors and staff by adhering to our no smoking policy. Smoking, and the use of e-cigarettes, is not permitted within any of our hospital buildings or grounds.

For some great information go to: [www.nhs.uk/smokefree](http://www.nhs.uk/smokefree)

## Violence, aggression and harassment

We are committed to the wellbeing and safety of our patients and staff. Please treat others with the courtesy and respect that you expect to receive. Verbal abuse, harassment and physical violence are unacceptable and will lead to prosecution.

## Comments, complaints, concerns and compliments

During your visit, we may ask you to provide feedback on the service you have received in one of the following ways:

- Fill in the Friends and Family Test (FFT) via a card or tablet.
- Complete a patient survey form online.
- Complete a paper version of the patient survey which you can post back to us (a stamped addressed envelope will be provided).

Other ways in which you can provide feedback are:

- Ask to speak to the ward or department manager. If you would like to discuss a concern or make a complaint, they may be able to help straight away.
- Complete the Family and Friends Test (FFT) online at [mft.nhs.uk/fft](https://mft.nhs.uk/fft). Please make sure that you select the correct hospital and ward/unit.
- Contact the Patient Advice and Liaison Service (PALS):
  - Write to PALS, Ground Floor, Entrance 2, Manchester Royal Infirmary, M13 9WL.
  - Telephone (0161) 276 8686.
  - Email [pals@mft.nhs.uk](mailto:pals@mft.nhs.uk).
  - Ask for a PALS information leaflet.
- Log onto the Patient Opinion website [www.patientopinion.org.uk](https://www.patientopinion.org.uk) and click on "Tell Your Story".
- Inpatients can speak to a senior nurse or manager by contacting the Tell Us Today service on (0161) 701 1999.

We welcome your feedback so we can continue to improve our services.

## Translation and Interpretation Service

It is our policy that family, relatives or friends cannot interpret for patients. If you require an interpreter for your test, please call to let us know.

These translations say "If you require an interpreter, or translation, please ask a member of our staff to arrange it for you." The languages translated, in order, are: Arabic, Urdu, Bengali, Polish, Somali and simplified Chinese.

اذا كنت بحاجة الى مترجم، او ترجمة، من فضلك اطلب من احد موظفينا ترتيب ذلك لك

اگر آپ کو ایک مترجم، یا ترجمہ کی ضرورت ہے، تو برائے کرم ہمارے عملے کے کسی رکن سے کہیں کہ وہ آپ کے لیے اس کا انتظام کرے۔

আপনার যদি একজন দোভাষী, অথবা অনুবাদের প্রয়োজন হয়, দয়া করে আমাদের একজন কর্মীকে বলুন আপনার জন্য ইহা ব্যবস্থা করতে।

Jeśli Pan/Pani potrzebuje tłumacza lub tłumaczenie prosimy w tym celu zwrócić się do członka personelu.

Haddii aad u baahantahay tarjubaan, fadlan waydii qof ka mid ah shaqaalahayga si uu kuugu.

如果你需要翻译或翻译员，请要求我们的员工为你安排

matters  
to you?

[www.england.nhs.uk/what-matters-to-you](http://www.england.nhs.uk/what-matters-to-you)

