

## Patient information factsheet

# Having an EUS-guided PPG measurement

We have given you this factsheet because your doctor has requested that you have a procedure called endoscopic ultrasound (EUS) guided portal pressure gradient (PPG) measurement.

This factsheet explains what an EUS-guided PPG measurement is, what the procedure involves and what the possible risks are. Please make sure you read this information and follow the instructions carefully. If you have any further questions or concerns, please telephone us to speak to a member of the endoscopy team who will be happy to discuss these with you.

### What is an EUS?

An EUS is a procedure that combines endoscopy (a test to look inside your body) with ultrasound (a procedure that uses high-frequency sound waves to create an image of part of the inside of the body) to look at your internal organs in your chest, tummy, and small and large bowel. We may use an EUS to look at your:

- liver and bile duct (tube that drains bile - fluid that helps with digestion - from the liver into the gut) and/or
- pancreas and pancreatic duct (tube that drains digestive juices from the pancreas gland)

It is performed using an echoendoscope, which is a flexible tube with a camera and ultrasound probe built into its tip.

An EUS can be used to diagnose and treat disorders of the:

- liver
- bile duct
- pancreas
- gallbladder
- spleen and other organs that are close to the gastrointestinal tract (a very long tube that stretches from the back of the mouth to the anus)

### What is an EUS-guided PPG measurement?

An EUS-guided PPG measurement is a method used to measure the pressure in the veins of your liver (PPG).

### Why am I having an EUS-guided PPG measurement?

There are several reasons why an EUS-guided PPG measurement may be needed. The doctor who requested the test will have explained to you why an EUS-guided PPG measurement is needed in your case.

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Common reasons for having an EUS-guided PPG measurement are to:

- check for portal hypertension (high pressure in the veins of your liver)
- help decide the best treatment option for your portal hypertension
- help plan major surgery (especially if there is evidence that you may have liver disease or scarring in your liver)

## How to prepare for your EUS-guided PPG measurement appointment

### Before your appointment

You must contact the endoscopy department on **023 8120 3186** as soon as you receive your appointment letter if you are unable to keep your appointment, or if you:

- have diabetes
- are pregnant
- take any medication that thins your blood (please see medications section below)

**This is very important, because if any of these apply to you and you don't let us know in advance, we may need to delay or cancel your procedure on the day.**

### Blood test

You will usually need to have a blood test a day or two before the EUS-guided PPG measurement. A doctor or nurse will arrange this.

## On the day of your EUS-guided PPG measurement

### Eating and drinking

You must not eat or drink anything for 6 hours before your appointment, except for water, which you may drink up to 2 hours before your appointment.

### Medication

You may continue taking your usual medication. Please bring a list of the medications you are currently taking to your appointment.

Please contact the endoscopy department on **023 8120 3186** as soon as you receive your appointment letter if you are taking any **blood-thinning medications**, such as:

- warfarin
- clopidogrel
- edoxaban
- rivaroxaban
- apixaban
- dabigatran

These medications can increase the risk of bleeding during the procedure, so it's important we discuss this with you in advance.

If you are taking any other medications that you believe may thin your blood, please tell us.

### Diabetes

If you have diabetes, you must contact us as soon as you receive your appointment letter. We will arrange for your appointment to take place early in the morning, to make sure there is as little disruption to your diabetic medication routine as possible.

## Consent

The doctor will explain what will happen during your procedure. You will have an opportunity to ask any questions you may have. We will then ask you to sign a consent form giving your permission for the EUS-guided PPG measurement.

## Sedation

Most people have sedation (medicine to make you drowsy) before an EUS-guided PPG measurement. Sedation helps you stay relaxed and pain-free during the procedure. Different levels of sedation are available, depending on the complexity of the procedure and your individual needs. We will discuss this with you. A nurse will then give you an injection via a cannula (small plastic tube placed in your hand or arm) before your procedure starts.

After having sedation, you must have a responsible adult to take you home and stay with you overnight.

### For 24 hours after being sedated you must not:

- drive
- operate machinery
- drink alcohol
- sign important documents

## General anaesthesia

In some cases, you may need to have a full general anaesthetic (medicine to make you go to sleep). If this is the case, we will discuss it with you.

## What will happen during the EUS-guided PPG measurement?

You will have the EUS-guided PPG measurement in the endoscopy department. It will be performed by a doctor called an endoscopist.

Once the sedative has worked, we will pass the echoendoscope tube through your mouth, down your throat and into the first part of your stomach and beyond. We will then pass a small tube containing a thin needle through the echoendoscope tube. The tip of the needle has a pressure sensor attached to it which connects to a pressure measurement device. We will then pass the needle through your stomach or duodenum (part of the small intestine connected to your stomach) wall to gain access to the two large veins (portal and hepatic) in your liver. When the needle is safely inside your vein(s), we will inject a small amount of water. This will turn on the sensor and we can then measure the pressure in your vein(s).

We may also take a sample of cells from your liver (liver biopsy) during the procedure. These will then be sent to the laboratory for examination under a microscope.

## How long will it take?

It can take from 30 minutes to one hour to perform the EUS-guided PPG measurement.

## How long will I be in the hospital?

You may be in the department for up to 4 hours. We will usually move you to the endoscopy day case unit just before your procedure. You will then stay there for a few hours after the procedure. This is to make sure you remain well before getting ready to go home.

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It's a good idea to bring a small overnight bag with you in case you need to stay in hospital overnight.

## Risks

EUS-guided PPG measurement is generally a safe procedure, but as with any medical procedure, there are possible risks.

The most common side effect is a sore throat and/or a bloated feeling after the procedure, which can last for a few days.

The sedative may affect your breathing, and there is a small chance that your teeth or mouth may be damaged by this procedure. If you have any breathing problems or loose teeth, please tell the endoscopist before the procedure.

## Bleeding and perforation

There is a risk of bleeding (one in 100 people) or a tear or small hole (perforation) in the lining of the bowel (one in 500 people). However, if you have a liver biopsy in combination with the EUS-guided PPG measurement procedure, the risk is slightly higher. If you do experience bleeding or a tear, we may need you to stay in hospital so that we can observe you and carry out any further treatment if necessary. Sometimes, we may need to perform surgery or embolisation (a procedure used to block blood vessels at risk of bleeding) to stop the bleeding or close up the tear. If this is the case, we will discuss this with you in more detail.

To reduce the chance of this happening, we will do blood tests before the procedure to check that your blood is clotting normally.

## Symptoms to watch out for after your EUS-guided PPG measurement

Sometimes, complications can occur after you leave the hospital.

Call our team, your GP, or outside of normal working hours, go to your nearest emergency department immediately if you experience any of the symptoms below:

- nausea (feeling sick) or vomiting
- light-headedness or dizziness
- dark black poo
- chest or tummy pain (that is not relieved by passing wind)

## Results

You should receive your results on the day of your procedure. If the endoscopist took a biopsy or sample, these results will take longer to process. We will arrange any follow-up appointments for you.

## Parking

If you are arriving by car, please remember that our car parks can get very busy, so it's a good idea to allow plenty of time to find a space. You may wish to consider getting a lift or coming by public transport.

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## Contact us

If you have any questions, please contact the department before your test or ask to talk to a nurse when you arrive.

<b>Endoscopy reception</b>	<b>023 8120 4392</b>
<b>Endoscopy booking office</b>	<b>023 8120 2355 / 6336 / 8871</b>
<b>Hospital switchboard</b>	<b>023 8077 7222</b>

Endoscopy department  
E level  
West Wing  
Southampton General Hospital  
Tremona Road  
Southampton  
SO16 6YD

## Useful links

[www.patient.info/treatment-medication/endoscopic-ultrasound-scan](http://www.patient.info/treatment-medication/endoscopic-ultrasound-scan)

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

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