

# Endoscopic Ultrasound +/- Fine Needle Aspiration or Biopsy (EUS +/- FNAB)

## Information for patients

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Your doctor has referred you for an Endoscopic Ultrasound procedure.

### What is an Endoscopic Ultrasound (EUS)?

An Endoscopic Ultrasound (EUS) is a procedure that enables your doctor to examine the lining of the upper part of your gastrointestinal tract, i.e the oesophagus (gullet), stomach and duodenum (first part of your small intestine) as well as surrounding areas and organs e.g pancreas, gallbladder, bile ducts.

This is done by using a long, thin flexible tube, called an endoscope that has a small ultrasound probe at the tip. The endoscope relays images back on to a TV screen.

### Why do I need to have an EUS?

If you are having an EUS, it is likely that it is being done to get more information about your condition and symptoms and if necessary, take a small tissue sample.

EUS allows us to evaluate any abnormalities in the gastrointestinal tract which have been detected by other tests. It is especially useful in clarifying the size and nature of abnormalities which may lie under the surface of the lining of the gut.

### How do I prepare for these tests?

You need to fast to have the EUS so you should **have nothing to eat for 6 hours and nothing to drink for 4 hours before your appointment.**

If your appointment is in the afternoon, you may have a light breakfast (tea and toast) no later than 8am, but no food or drinks after that.

Small amounts of water (sips) are ok to take up to 2 hours before the procedure.

### How long will I be in the Endoscopy Unit?

The time on your appointment letter is 1 hour before to your procedure. This allows us to prepare you for the EUS and carry out safety checks. You could be in the unit all morning or all afternoon depending on how busy it is so you may want to bring something to pass the time, such as a book or magazine.

Please do not bring any valuables (including jewellery) into the hospital.

### What does the procedure involve?

#### Before

A nurse will look after you while you are in the Endoscopy Unit, and you can ask questions at any time. The test will be done by a trained endoscopist (specialist doctor), or by a trainee supervised by a trained endoscopist. We will make the investigation as comfortable as possible for you.

Before we start the procedure, we will check your breathing, heart rate, blood pressure and oxygen levels. You might be given oxygen through small tubes placed at your nose. Some local anaesthetic will be sprayed to the back of your mouth to numb the area before the endoscopy is carried out. A small plastic guard will be placed in your mouth to protect any teeth and to keep your mouth in a comfortable position.

## **Sedation**

Some people feel anxious about the thought of having these tests done. We help with this by giving you an injection of the medications Fentanyl (an opioid painkiller) and Midazolam (like valium, a sedative). Their main purpose is to take away feelings of anxiety, make you feel more comfortable, and relaxed but you will still be awake.

EUS procedures take longer than standard endoscopies, and the telescope is larger so, for these reasons, we do not recommend having the procedure without sedation, therefore you **must** have someone to pick you up from the unit, take you home and stay with you for the next 12 hours.

If you do not do this, you will not be able to have sedation for your test. We would advise you to arrange to have someone stay with you overnight.

The endoscopist will pass the endoscope over your tongue to the back of the mouth and down into your stomach. This will not interfere with your breathing and you will be able to breathe through your nose or your mouth, whatever you prefer. This test takes around 20-40 minutes and is not painful.

## **Samples**

During the investigation, we may need to take some tissue samples (biopsies) from your gastrointestinal tract or surrounding tissues (e.g. pancreas or lymph glands): this is painless. The samples may be retained. Photographs and/or a video recording may be taken for your records.

## **Consent**

Before we can do the test, we need you to sign a form giving us permission, if you are happy for the test to be done.

Before you do this, you need to understand why the test is being done and any potential risks. The following information will help with this but if you have any questions, please contact the nursing staff on the numbers provided on page 7 of this booklet.

## **Benefits of the procedure**

EUS gives the doctors extra information about your condition, why you might be experiencing certain symptoms, and is used to determine the treatment most suitable for you.

It is a method of obtaining high quality pictures or images of the digestive tract. Sometimes it is used to obtain a tissue sample through a small needle (EUS-FNB/FNA).

Your doctor will have thought about the other ways of looking at your gut and decided that EUS is the most suitable.

## **Risks of the procedure**

The risk of a serious complication as a result of EUS is very small. Approximately 1 person in every 1000 undergoing a diagnostic EUS will have a significant problem. The risk increases if a biopsy is performed (but still around 1 in 100 procedures) or if the patient has certain other medical problems.

**Bleeding**

This occurs in less than 1 in every 100 cases. It usually occurs at the site of the needle biopsy (FNAB). The risk may be increased by the presence of a bleeding condition, or if you are on blood thinners, your blood tests will be checked to ensure it is safe to proceed, and blood thinning medication will usually be put on hold to reduce any bleeding risk.

**Perforation**

Perforation is a tear of the lining of the oesophagus, stomach, or duodenum. This occurs in less than 1 in 1000 cases, but can occur in more complex cases. A perforation will require admission to hospital for intravenous fluids, pain relief and antibiotics, and might require surgery to repair.

**Pancreatitis**

This is swelling and inflammation of the pancreas and can occur in 1 to 2 of every 100 cases of people having EUS FNA (fluid removed from a cyst) or biopsy (FNB) of the pancreas. It causes abdominal pain which requires a hospital admission treatment with IV fluids and painkillers, in most cases it will settle within 24-48 hours.

Sometimes during EUS FNA procedure antibiotics are given to reduce risk of infection.

**Missed pathology**

Rarely during EUS in a small number of cases, significant pathology can be missed, even by experienced endoscopists.

**Intravenous sedation**

"Intravenous" (IV) sedation means that a sedative drug is given through a vein to help relax a patient. Sometimes sedation can cause problems with breathing, heart rate and blood pressure. If any of these problems do happen, they usually don't last long. A trained nurse will look after you during the procedure and will deal with any problems straight away.

Older people, people who have breathing difficulties or people who have problems with their heart may be checked by a doctor before having the procedure. It might be safer for these people to have less or no sedation, because the risk of problems from sedation might be higher for them.

**Damage to teeth**

Very rarely this procedure can result in damage to teeth, especially if your teeth are weak or damaged. Every attempt will be made to prevent this however we cannot take away this risk completely. For this reason dentures are removed, and you will be asked about loose or weak teeth, crowns or bridgework before we start the test.

**Incomplete procedure**

There is a small chance that we are unable to complete your procedure for various reasons. If your procedure is not completed on the day of your appointment, the endoscopist will speak to you before you go home and let you know the next steps.

You can ask for more information at any time, so if you have questions please bring this information booklet along with the unsigned consent form and you can speak to a health care professional before signing the form.

If you have read the information and you do not wish to go ahead with the procedure, please speak to your GP or hospital doctor as soon as possible.

Please let us know if you do not plan to come to your appointment. There is a waiting list for this procedure and we could give your appointment to someone else who is waiting.

## What are the alternatives?

EUS is usually performed as part of a series of investigations of the gastrointestinal tract to help us understand where your symptoms might be coming from.

Other scanning techniques such as conventional ultrasound and CT or MRI scanning may provide some of the information needed, but for some specific problems, EUS provides the most accurate information, and enables biopsies to be taken if necessary.

## Medicines

Please bring your current medicines with you on the day of your procedure.

Some of the tests need you to stop taking medicines that thin your blood (anticoagulants/ antiplatelets) such as:

**Warfarin**

**Heparin**

**Clopidogrel**

**New anticoagulants (Rivaroxaban, Apixaban, Edoxaban or Dabigatran).**

If you are taking any of these medicines, you **must** contact the Endoscopy department phone number on page 7 of this booklet. A nurse will ask you a few questions and let you know if you should stop taking your medicines.

Please note: you do not need to stop taking Aspirin before your procedure.

## Other medicines

If you have any questions about your medicines, please call the telephone number for the nurses shown on page 7.

## What happens after the procedure?

You will be able to rest in the recovery area until you feel able to have a drink and something light to eat. This varies from person to person but is usually around 30-60 minutes. You will have your pulse and blood pressure checked a few times and your nurse will ask you how you feel. Once everything has returned to normal you will be ready for discharge (to leave the hospital). Some people recover quickly but others need a bit more time. If you have had sedation, you **must** be picked up from the unit.

Before you go home the nurse or endoscopist will go over the results of the test. They will let you know if any medication or extra tests are needed, and they will tell you if you need another appointment. You will also be given some written information with details of the results of the test.

If the person taking you home has left the department, the nursing staff will telephone them when you are ready to go. As you will be having sedation, you might feel drowsy for the rest of the day. The effect of the sedation lasts for 24 hours.

## **As you will be having sedation and/or a painkilling injection:**

**You should not drive for 24 hours, or you will be driving under the influence of drugs.**

**You should not drink alcohol, look after other people, sign any legally binding documents or operate machinery or possibly dangerous household appliances for 24 hours following the procedure.**

## **Points to remember**

- As you will be having sedation, you **must** have someone to take you home and stay with you for 12 hours. We would advise that you arrange to have someone stay with you overnight
- Our aim is for you to be seen and have your procedure as soon as possible after your arrival. However, the department is very busy and also deals with emergencies so it is possible under these circumstances that your procedure may be delayed
- If you have any problems with worsening abdominal pain or continuing bleeding after your procedure, please contact the Endoscopy department between the hours of 8am – 5pm Monday to Friday on the telephone number on page 7 of this booklet. Outwith these times please phone NHS24 on 111.

## **Information for Patients with other medical conditions**

### **Information for patients with implanted cardiac devices (pacemakers, defibrilators)**

Some implanted cardiac devices need to be adjusted before EUS can be carried out. Please telephone the number for the nurses shown on page 7. The nurses can then arrange for this to be done.

### **Information for patients with diabetes**

Most people with diabetes do not need to be admitted to hospital for EUS. We try and arrange for you to have an early morning appointment so that you do not need to fast too long. If you do not have an early appointment, please phone the number for the nurses on page 7.

You need to fast before the procedure so you may need to adjust your diabetes medication to prevent your blood sugar becoming too low. Because of this your diabetic control may not be as good as usual, but it will return to normal soon after the procedure when you are eating and drinking normally. However, it is important that you avoid low blood sugars (less than 4 mmol/l) and high blood sugars (more than 15 mmol/l).

**Diet-Treated Diabetes:** If your diabetes is controlled by diet alone (i.e. you do not take tablets or injections to control your blood sugar levels), then the limited food fast should have little or no impact on your diabetes. If you are unsure if you take tablets for your diabetes, then you should contact your GP or your Diabetic Specialist Nurse for advice.

**Tablet-Treated Diabetes:** Continue taking your tablets as normal until the day of your procedure, when you should omit your diabetes tablets.

Check your blood sugar more often than usual if you have a monitor. If you do not monitor your sugars, do not worry. The risk of your sugar levels going low or high is much less than for people with insulin-treated diabetes. If your blood sugar drops or you feel shaky and sweaty, you can take a sugary drink like Lucozade or Lemonade (not diet) to bring your levels back up. You should start to feel better within 10 to 15 minutes. If you do not feel better, then you should contact your GP or NHS 24.

**Diabetes Treated with GLP-1 Analogue Injections:** If you take weekly or daily injections of GLP-1 analogues (e.g. Trulicity, Victoza, Byetta, Bydureon) then you should continue to take these as normal (along with any tablets for your diabetes). Follow the advice above as for tablet-treated diabetes.

**Insulin-Treated Diabetes:** Insulin -Treated Diabetes: Ideally you should have nothing to drink for 4 hours before your appointment time. Check your blood sugar on waking. If your blood sugar is less than 5 mmol/l, have a small glass of a sugar-containing drink. Inform the nurse on arrival in the endoscopy unit that you have done this.

Don't take your morning dose of insulin, but take all your blood testing and insulin injecting equipment with you.

**On the day of the examination:** A nurse will check your blood sugar level when you arrive in the endoscopy unit.

If you need more advice about your diabetes medicines, please contact your Diabetes Specialist Nurse as soon as possible. Remember to bring your diabetic tablets, insulin and injecting equipment with you when you attend for your appointment.

After the test the nursing staff will let you know when you can eat and drink again. Take your tablets/insulin once you have had something to eat.

When you get home, your sugar levels may vary for a short time, but this should quickly return to your usual level.

## Cancellation

While we make every effort to avoid this where possible, there is always a risk that your procedure may be cancelled at short notice. This is due to either emergency patients who require urgent surgery or other reasons which are beyond our control. We realise that this can cause distress and inconvenience, but in the event that your procedure is postponed, you will be offered a new date as soon as possible.

## Keeping your appointment

If you cannot keep your appointment, or have been given one that is unsuitable, please change it as soon as possible by phoning **0131 242 2315**. Your call will give someone else the chance to be seen and will help us keep waiting times to a minimum.

## Public transport and travel information

Bus details available from:

Lothian Buses on **0131 555 6363** [www.lothianbuses.co.uk](http://www.lothianbuses.co.uk)

Traveline Scotland on **08712 002 233** or [www.travelinescotland.com](http://www.travelinescotland.com)

Train details available from:

National Rail Enquiries on **03457 484 950** or [www.nationalrail.co.uk](http://www.nationalrail.co.uk)

## Patient transport

Patient Transport will only be made available if you have a medical/clinical need. Telephone **0300 123 1236** \*calls charged at local rate up to 28 days in advance to book, making sure you have your CHI Number available. Hard of hearing or speech impaired? Use text relay: **18001-0300 123 1236\*** (calls charged at local rate). To cancel patient transport, telephone 0800 389 1333 (Freephone 24-hour answer service).

## Interpretation and translation

Your GP will inform us of any interpreting requirements you have before you come to hospital, and we will provide an appropriate interpreter. If you are having this procedure as an existing in patient, staff will arrange interpreting support for you in advance of this procedure. This leaflet may be made available in a larger print, Braille, or your community language.

**For legal reasons family members cannot interpret for you.**

**Family members cannot come into the procedure room with you.**

## Patient Information Online

Our information leaflets are now available online. To access these, please visit the website below or scan the QR code:

<https://policyonline.nhsllothian.scot/PatientInformation>



## Contact telephone numbers

**To cancel or change an appointment: 0131 242 2315**

**To speak to a nurse: 0131 242 1600**

<p align="center"><b>Consent Form for Endoscopic Ultrasonography (EUS) +/- Fine Needle Aspiration or Biopsy</b></p>	Addressograph, or
	Name:
	DOB:
Unit No./CHI:	
<p>Name of procedure/investigation: <b>Endoscopic Ultrasonography (EUS) +/- Fine Needle Aspiration or Biopsy</b></p> <p>Inspection of the upper gastrointestinal tract using a flexible scope – with or without a biopsy or fine needle aspirate (FNA) Please read the patient information leaflet for further details 'Endoscopic Ultrasound (EUS) +/- FNA or Biopsy v1.0'</p>	
<p>This procedure will involve: Intravenous analgesia <input type="checkbox"/> Sedation <input type="checkbox"/></p>	

<b>Following a request for further information: Statement of the healthcare professional</b>	
With appropriate knowledge of the proposed procedure, I have explained the procedure to the patient, in particular:	
The intended benefits of the procedure:	
<p>The possible risks involved. I have discussed and listed below the significant, unavoidable and/or frequently occurring risks, including any risks that may be of specific concern to the patient:</p> <p>Risks specific to EUS are bleeding, perforation, incomplete procedure, pancreatitis, missed pathology and possible damage to teeth.</p>	
The benefits and risks of alternative treatments that might be offered for this patient – including the option of no treatment:	
<p>Any extra procedure(s) that might become necessary during this procedure e.g. blood transfusion <input type="checkbox"/></p> <p>Other procedure (please state) <input type="checkbox"/></p>	
Healthcare Professional's signature:	Date:
Print name and job title:	___/___/___

<b>Statement of interpreter (where appropriate)</b>	
I have interpreted the information above to the patient/parent to the best of my ability and in a way in which I believe that she / he / they can understand	
<p>Signature:</p> <p>Print name:</p> <p>Or, please note the telephone interpreter ID number:</p>	<p>Date:</p> <p>___/___/___</p>



### To the patient

**You have the right to change your mind at any time, including after you have signed this consent form.**

I have read and understood the information in the patient information leaflet.

I confirm that the risks, benefits and alternatives of this procedure have been discussed with me and that my questions have been answered to my satisfaction and understanding.

I wish to proceed with the planned procedure.

Signature:	Date:
Print name:	___/___/___

If signing for a child or young person (*delete if not applicable*)  
I confirm that I am a person with parental responsibility for the patient named on this form:

Signature:	Date:
Relationship to the patient:	___/___/___

If the patient is unable to sign but has indicated his/her consent, a witness should sign below:

Signature (Witness)	Date:
Print name:	
Address:	
	___/___/___

### Confirmation of Consent (where the procedure/treatment has been discussed in advance)

On behalf of the team treating the patient, I have confirmed with the patient that she/he has no further questions and wishes the treatment/procedure to go ahead.

Healthcare Professional's signature:	Date:
Print name and job title:	___/___/___

### Withdrawal of patient consent

The option of withdrawing consent has been discussed and agreed by the team treating the patient.

Signature:	Date:
Print name:	___/___/___
Healthcare Professional's signature:	Date:
Print name and job title:	___/___/___