

Service: **Endoscopy**

Endoscopic Ultrasound examination (EUS)



Introduction

You have been advised by your GP or hospital doctor to have an investigation known as Endoscopic Ultrasound examination (EUS).

This procedure requires your formal consent. If you are unable to keep your appointment, please notify the department as soon as possible. This will enable the staff to give your appointment to someone else and they will be able to arrange another date and time for you.

This booklet has been written to enable you to make an informed decision in relation to agreeing to the investigation and whether you wish sedation to be used. At the back of the booklet is the consent form. If however there is anything you do not understand or wish to discuss further but still wish to attend do not sign the form, but bring it with you and sign it after you have spoken to a health care professional.

The consent form is a legal document. Please read carefully all the information, including the possibility of complications, and sign and date the consent form. You will notice that the consent form is duplicated, allowing you to keep a copy for your records. Please fill it in while it is still attached to this booklet.

What is an endoscopic ultrasound?

The examination you will be having is called an endoscopic ultrasound (EUS). This is a specialised technique used to examine the lining and walls of the upper gastrointestinal tract. It also gives excellent images of the organs that lie next to the gastrointestinal tract, such as the bile ducts, lymph nodes and pancreas.

A flexible tube called an endoscope, which has an ultrasound probe at the tip, is passed through your mouth and down your oesophagus (gullet) into your stomach and duodenum. The endoscope has a small light which is shone onto the lining of your gut. It also has a very small camera which sends a live image to a screen, where it is viewed by the endoscopist.

We normally recommend that you have sedation that you have sedation before having the EUS. This can help you to relax and makes the procedure more comfortable .If you would prefer not to have sedation, please discuss this with the endoscopist

Other procedures that may be done during the endoscopic ultrasound will be discussed with you by the endoscopist before the procedure is carried out. These include:

- Biopsy (collection of a sample tissue) or aspiration of fluids
- Insertion of a stent (a plastic or metal drainage tube) to drain a fluid collection.

The samples will be looked under a microscope in our laboratories.

The tissue sample and associated clinical information will be kept and may be used for teaching purposes and for research aimed at improving diagnosis and treatment of gastrointestinal disorders. This may benefit other patients in the future If you do not wish us to keep the tissue samples for this purpose or have any questions or concerns, please ask the endoscopist before signing the consent form. Images from the EUS will be kept in your health record.

Why do I need an Endoscopic Ultrasound?

You may have been advised to have an endoscopic ultrasound for the following reasons, for example:

- To try and find the cause of your symptoms.
- To evaluate a lesion that was seen during other examinations, to help us decide on the most appropriate treatment.
- If you have dilated bile ducts
- If you have abnormalities of any internal organs

What are the alternatives?

Computerised tomography (CT) and magnetic resonance imaging (MRI) scans can also be used to examine your internal organs and gastrointestinal wall. The disadvantages of these scans are that the tissue or fluid samples cannot be collected and the pictures may not be very clear.

Intravenous Sedation

The sedation and a pain killer will be administered into a vein in your hand or arm which will make you slightly drowsy and relaxed but not unconscious. You will be in a state called cooperative sedation. This means that, although drowsy, you will still hear what is said to you and therefore will be able to follow simple instructions during the investigation. Sedation makes it unlikely that you will remember anything about the examination.

Whilst you are sedated, we will monitor your breathing and heart rate so changes will be noted and dealt with accordingly. For this reason you will be connected by a finger probe to a pulse oximeter which measures your oxygen levels and heart rate during the procedure. Your blood pressure may also be recorded.

Please note as you have had sedation you must not drive, take alcohol, operate heavy machinery or sign any legally binding documents for 24 hours following the procedure and you will need someone to accompany you home.

What are the risks of having an EUS?

Endoscopic ultrasound is a safe examination for most people and serious problems are rare. However, you need to weigh up the benefits against the risks of having the procedure itself, as well as from sedation.

The main risks are:

- a tear (perforation) in the lining of the gut. This happens to approximately 1 in 2000 patients. An operation may be required to repair a tear if it cannot be closed during the EUS.
- a slight risk of bleeding where we take a sample (biopsy) , but this is usually minor and stops on its own
- a small risk of infection when a biopsy is taken , which may need treatment with antibiotics
- pancreatitis (inflammation of the pancreas) which can sometimes develop after an EUS
- short term problems with breathing , heart rate and blood pressure (related to sedation). We will monitor you carefully so that if any problems do occur they can be treated quickly. Older people and those with significant health problems (for example, people with serious breathing difficulties), may be at higher risk.
- a sore throat after the examination is common and should resolve after a few hours
- a small risk of damage to crowned teeth or dental bridge work
- a risk that small abnormalities may be missed although this is unlikely.
- a reaction to the drugs used during the test. This may mean you need to stay in hospital so that we can treat and monitor you.
- accidentally breathing in gastric (stomach) contents, can cause pneumonia. This might require treatment with antibiotics.

If you have any problems after the endoscopic ultrasound which you may feel may be related to the test, please tell your doctor or a member of staff at once. If you have any questions or concerns about these risks, please do not hesitate to speak with the hospital staff before the endoscopic ultrasound.

Eating and Drinking

It is necessary to have clear views and for this the stomach must be empty. Therefore do not have anything to eat for at least six hours before the test. Small amounts of water are safe up to two hours before the test.

If your appointment is in the morning, have nothing to eat after midnight.

If your appointment is in the afternoon you may have a light breakfast no later than 7:30 am and small amounts of water until two hours before your appointment.

What about my medication?

Your routine medication should be taken.

Diabetes

If you are a diabetic controlled on insulin or medication please ensure the Endoscopy Department is aware so that the appointment can be made at the beginning of the list. Please see guidelines printed in the back of the book.

Anticoagulants

Please telephone the unit if you are taking anticoagulants, e.g. warfarin, clopidogrel (Plavix), Rivaroxaban, Apixaban or Dabigatran.

How long will I be in the endoscopy department?

This largely depends on how busy the department is and whether you have sedation. You should expect to be in the department for the whole morning and afternoon depending on your appointment time. We suggest you bring a book or a magazine.

The department also looks after emergencies and these can take priority over our outpatient lists.

What happens when I arrive?

When you arrive in the department you will be met by a qualified nurse who will ask you a few questions, one of which concerns your arrangements for getting home. You will also be able to ask further questions about the investigation. The nurse will ensure you understand the procedure and discuss any outstanding concerns or questions you may have.

You will be offered the choice of sedation or local anaesthetic throat spray (this is dealt with in more detail in the next section of this booklet). If you have sedation, the nurse may insert a small cannula (plastic tube) into a vein usually on the back of your hand through which the sedation will be administered later.

If you have sedation you will not be permitted to drive home or use public transport alone, so you must arrange for a family member or friend to collect you. The nurse will need to be given their telephone number so that she can contact them when you are ready for discharge.

You will have a brief medical assessment when a qualified endoscopy nurse will ask you some questions regarding your medical condition and any surgery or illnesses you have had in the past to confirm that you are sufficiently fit to undergo the investigation. Your blood pressure and heart rate will be recorded and if you are diabetic, your blood glucose level will also be recorded. Should you suffer from breathing problems a recording of your oxygen levels will be taken.

If you are happy to proceed, you will be asked to sign your consent form at this point.

What happens during the test?

The endoscopist will gently put the endoscope into your mouth and pass it down into your stomach. They will view ultrasound images of your oesophagus, stomach, the first part of your small bowel and nearby organs on a screen. A nurse will be with you at all times during your procedure to reassure you, talk you through what is happening and clear saliva (spit) from your mouth. Even with the endoscope down your throat, there will still be more than enough room for you to breathe. You may be asked to concentrate on this during the procedure and to breathe in through your nose. If the endoscopist takes biopsies, you will not feel this at all. They will tell you if they take any.

How long does the test take?

It usually takes no longer than 30-45 minutes.

What will happen after the EUS?

We will ask you to rest for up to an hour after the procedure. Your blood pressure, heart rate and breathing will be monitored. If you are diabetic, your blood glucose will be regularly checked. Once you have recovered from the initial side effects of the sedation, you will be offered a drink and biscuits.

Before you leave your department, a nurse or the endoscopist will explain what was seen during the examination and whether you need any further appointments. The sedative can make you drowsy and forgetful for up to 24 hours, even though you may feel alert. It is good to have a member of your family or a friend with you when you are given the results, just in case you don't remember everything we are telling you.

You must be collected and accompanied home; otherwise we may need to cancel the procedure.

If the person collecting you has left the unit while you are having your examination, they will be telephoned by a nurse to ask them to return when you are ready to go home.

If you live alone, we recommend that you try to arrange for someone to stay with you overnight.

For 24 hours after sedation you must not:

- drive
- operate heavy machinery
- drink alcohol
- sign any legally binding documents.

The effects of sedation usually wear off after 24 hours.

Advice for People with Diabetes

Guidelines for people with diabetes undergoing Endoscopic Ultrasound procedure

Inform the endoscopy department that you have diabetes so the appointment can be arranged where possible for the beginning of the list.

You need to avoid all solid for 6 hours before the examination. You can sip water up to 2 hours before the test.

It may be necessary to modify normal diabetic treatment so that fasting can be tolerated. This may result in erratic blood sugar levels for a short period but diabetic control should return to normal with 1-2 days.

Remember to monitor blood glucose levels four hourly if you are on insulin (bring your meter with you). If your blood glucose level falls below 4mmol/L inform a member of staff in the Endoscopy Unit. Take 4-5 glucose tablets or 150mls of a glucose drink e.g. glucojuice if you have these with you and ensure you re-check after 10 minutes.

Morning Appointments

Diabetes treated with tablets

Do not take your diabetes tablets on the day of the test. Take your next dose of tablets when you are allowed to eat again.

If your diabetes is treated with a combination of insulin and tablets, follow the advice for tablets as before and insulin as outlined below

Diabetes treated with GLP-1 injections

If your diabetes is treated with GLP-1 injections e.g. (Exenatide (Byetta), Liraglutide (Victoza), Lixisenatide (Lyxumia) or Dulaglutide (Trulicity)

- Omit on the day of the procedure
- Resume once you are eating normally again

Diabetes treated with insulin

For once daily insulin e.g. Lantus (Glargine), Abasaglar, Levermir (Determir), Tresiba (Degludec), Toujeo, Insuman Basal, Insulatard or Humulin I

- No dose change is required

For twice daily long acting or intermediate acting

- Take half of your normal dose in the morning
- Take the normal dose after the test when it is next due once you resume your normal diet

For twice daily mixed insulin e.g. Humulin M3, Humalog Mix 25, Humalog Mix 50, Novomix 30, Insuman Comb 15, Insuman Comb 25, Insuman Comb 50

- Take half of the normal dose in the morning
- Resume your regular dose in the evening once you are eating normally

For four or more injections a day

- Omit the quick acting insulin (Novorapid, Humalog, Apidra, Humalog U200, Humulin S, Actrapid or Fiasp) whilst you are not eating and drinking
- Take the same long acting insulin in the morning if it is due
- Inform the nurse of any symptoms of hypoglycaemia. Give morning dose of insulin as soon as you are able to eat and drink safely after the procedure followed by breakfast (bring your insulin and food with you).

Afternoon Appointments

Diabetes treated with tablets

Do not take your diabetes tablets on the day of the test. Take your next dose of tablets when you are allowed to eat again.

If your diabetes is treated with a combination of insulin and tablets, follow the advice for tablets as before and insulin as outlined below.

Diabetes treated with GLP-1 injections

If your diabetes is treated with GLP-1 injections e.g. (Exenatide (Byetta), Liraglutide (Victoza), Lixisenatide (Lyxumia) or Dulaglutide (Trulicity)

- Omit on the day of the procedure
- Resume once you are eating normally again

Diabetes treated with insulin

For once daily insulin e.g. Lantus (Glargine), Abasaglar, Levemir (Determir), Tresiba (Degludec), Toujeo, Insuman Basal, Insulatard or Humulin I

- No dose change is required

For twice daily long acting or intermediate acting

- Take half of your normal dose in the morning
- Take the normal dose after the test when it is next due, once you resume your normal diet

For twice daily mixed insulin e.g. Humulin M3, Humalog Mix 25, Humalog Mix 50, Novomix 30, Insuman Comb 15, Insuman Comb 25, Insuman Comb 50

- Take half of the normal dose in the morning
- Resume your regular dose in the evening once you are eating normally

For four or more injections a day

- Omit the quick acting insulin at lunchtime (Novorapid, Humalog, Apidra, Humalog U200, Humulin S, Actrapid or Fiasp) but take the breakfast dose as normal
- Take the same long acting insulin in the morning if it is due

For people with Type 1 diabetes on pump therapy, discuss with a member of the diabetes team.

If you have any concerns about adjusting your dosage please contact the Diabetes Nursing Team well in advance of the appointment, to discuss appropriate measures.

**PATIENT
APPROVED** 

How to contact us:



01174145040



www.nbt.nhs.uk/endoscopy

If you or the individual you are caring for need support reading this leaflet please ask a member of staff for advice.

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