Endoscopic Ultrasonography (EUS)

Patient information

Endoscopy Unit,
Royal Infirmary of Edinburgh

Endoscopy Nurses: 0131 242 1600
Bookign Office 0131 242 2315

This document contains important information about your upcoming investigation and therefore should be read immediately, giving you time for questions, if you have any.

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<th>June 2011</th>
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Introduction

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

If you are unable to keep your appointment, please notify the department as soon as possible. This will enable the staff to arrange another date and time for you (and give your appointment to someone else)

It is essential that you read this booklet thoroughly and carefully. Please bring this booklet and appointment letter with you when you attend.

Consent

This procedure requires your formal consent. This booklet has been written to enable you to make an informed decision about agreeing to the procedure. At the back of the booklet is the consent form.

The consent form is a legal document, therefore please read it carefully. Once you have read and understood all the information, including the possibility of complications, and you agree to undergo the procedure, please 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.

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 you can sign it after you have spoken to a health care professional.

If having read the information you do not wish to go ahead with the procedure, or want to consider alternative methods of investigation, please discuss with your GP or hospital doctor as soon as possible before the date of your appointment.

Sedation

If you are having sedation, the drug can remain in your system for up to 24 hours and you may feel drowsy later on, with intermittent lapses of memory.

If you are having a procedure under sedation, you MUST have someone available to accompany you home, and if you live alone, to stay with you overnight.

If this is not possible it may be necessary to be admitted overnight after the procedure. Please notify the department as soon as possible if this is the case.

FAILURE TO DO THIS MAY RESULT IN YOUR TEST BEING CANCELLED ON THE DAY
General information about the procedure

What is Endoscopic Ultrasonography?
EUS is a procedure that enables your doctor to examine the lining of the upper part of your gastrointestinal tract but also some of the surrounding areas and organs. This is done by using a flexible endoscope that has a small ultrasound probe at the tip. The endoscope relays images back to the endoscopist on a TV screen.

During the investigation, the endoscopist 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.

The procedure will be performed by or under the supervision of a trained doctor, and we will make the investigation as comfortable as possible for you. Most patients require to have the procedure carried out with sedation injected into a vein as it takes longer than an ordinary endoscopy and may be uncomfortable without sedation.

Why do I need to have a EUS?
EUS is usually performed to evaluate 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. If you are having an EUS, it is likely that it is being done to get more information about your condition and if necessary take a small tissue sample.

What are the alternatives?
EUS is usually performed as part of a series of imaging investigations of the gastrointestinal tract, and for very specific indications. Other scanning techniques such as conventional ultrasound and CT 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.

How long will I be in the Endoscopy department?
This largely depends on whether you have had sedation and how busy the department is. You should expect to be in the department for approximately 5-6 hours. The department also looks after emergencies and these can take priority over our outpatient lists. You may be in the department 2-3 hours before the investigation therefore you may want to bring something to read.

We recommend you do not bring any valuable items with you to the hospital.
Preparation for the procedure

Eating and drinking
It is important to have clear views and for this the stomach must be empty.

- If your appointment is in the **morning**, take no food or drinks after midnight.
- If your appointment is in the **afternoon**, you may have a light breakfast (tea & toast) no later than 8am, but no food or drinks after that.
- Small amounts of **water** are ok to take up to two hours before the procedure.

What about my medication?
Your routine medication should be taken.

For people with diabetes
If you have diabetes that is controlled by insulin or tablets, 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 this booklet.

Anticoagulants
Please telephone the unit if you are taking blood-thinning drugs such as **Warfarin** or **Clopidogrel**.

If you have any other queries regarding your medications please telephone the Endoscopy Unit on 0131 2421600.

Allergies
Please telephone the Endoscopy Unit on 0131 2421600 for information if you think you have a latex allergy.

What happens when I arrive?
When you arrive in the department, a qualified nurse or health care assistant will meet you and will ask you a few questions, including about 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. If you are having sedation they may insert a small cannula (plastic tube) into a vein in your arm through which sedation will be administered later.

You will have a brief medical assessment where a qualified nurse will ask you some questions regarding your medical condition and any surgery or illnesses you have had. This is to confirm that you are fit to undergo the investigation. Your blood pressure and heart rate will be recorded and if you have diabetes, your blood glucose level will also be recorded.

If you have not already done so, and you are happy to proceed, you will be asked to sign your consent form at this point.
The EUS examination

You will be escorted into the procedure room where the Endoscopist and the nurses will introduce themselves. You will also be able to ask further questions about the investigation.

If you have any dentures you will be asked to remove them at this point. Any remaining teeth will be protected by a small plastic mouth guard, which will be inserted immediately before the examination starts.

If you are having local anaesthetic throat spray, this will be sprayed on to the back of your throat whilst you are sitting up and swallowing: the effect is rapid and you will notice loss of sensation of your tongue and throat. The nurse looking after you will ask you to lie on your left side.

If you are having sedation, the medication will be administered into the cannula in your vein, which will make you relaxed and lightly drowsy but not unconscious. 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. Some patients experience amnesia with the sedation so that afterwards they remember very little of the procedure, but this does not always happen.

During the procedure we will monitor your breathing, heart rate and oxygen levels. This is done by means of a probe attached to your finger or earlobe. Your blood pressure may also be recorded during the procedure using a cuff, which will inflate on your arm from time to time. Any saliva or other secretions produced during the investigation will be removed using a small suction tube like the one used at the dentist.

The Endoscopist will introduce the endoscope into your mouth, and by asking you to swallow can pass it down your oesophagus, into your stomach and then into your duodenum. Your windpipe is deliberately avoided and your breathing will be unhindered.

If you have sedation, you will need someone to accompany you home and stay with you until the following day. You should not drive, take alcohol, care for dependents, sign any legally binding documents or operate machinery or potentially hazardous household appliances for 24 hours following the procedure.

Risks of the procedure

The doctor who has requested the procedure will have considered and discussed this with you. The risks should be weighed against the benefit of having the procedure carried out. There are two sets of procedural risks you should be aware of:

Risks associated with intravenous sedation

Sedation can occasionally cause problems with breathing, heart rate and blood pressure. If any of these problems do occur, they are normally transient. Careful monitoring by a fully
trained endoscopy nurse ensures that any potential problems can be identified and treated rapidly.
Older patients and those who have significant health problems (for example, people with significant breathing difficulties due to a bad chest) may be assessed by a doctor before having the procedure. In these situations it may be advised that less or no sedation is used, as the risks of complications from sedation may be higher.

**Risks associated with the endoscopic examination**
EUS is generally a very safe investigation, but as with any invasive procedure it has the possibility of complications. A sore throat after the procedure is the most common side effect. More serious complications occur infrequently but can include:

**Damage to teeth.** For this reason dentures are removed and you will be asked about loose teeth, crowns or bridgework
**Chest infection** can occur after the procedure if some fluid passes into the lungs. The risk of this is greater with procedures requiring heavier sedation. Treatment with antibiotics may be necessary.
**Bleeding** from the site of a biopsy. This is usually minor and stops on its own.
**Perforation** (or tear) of the lining or wall of the digestive tract. This is very rare with a diagnostic examination only, but can occur more often with the more complex procedures involving endoscopic treatment. A perforation would require admission to hospital for treatment with fluids and antibiotics, and might require surgery to repair the tear.

Rarely, tissue sampling at EUS with fine needle aspiration (FNA) or biopsy of the pancreas can lead to acute pancreatitis or infection (if fluid is removed from a cyst). This may require urgent admission to hospital for treatment. Sometimes antibiotics are given if fluid is being removed from a pancreatic cyst.

**After the procedure**
Your blood pressure and heart rate will be recorded and if you are diabetic, your blood glucose will be monitored. Should you have underlying breathing difficulties or if your oxygen levels were low during the procedure, we will continue to monitor your breathing. Discharge will depend on whether you have had throat spray or sedation.

**Throat spray** – You will not have anything to eat or drink for about 30 minutes after the procedure, until the sensation in your mouth and throat has returned to normal. You will be given a first cold drink before discharge as well as something to eat.

**Sedation** - Once you are awake and have recovered from the initial effects of the sedation (which normally take 30 - 60 minutes) you will be offered a drink and toast/sandwiches.

Before you leave the department, the nurse or Endoscopist will discuss the findings and any medication or further investigations required. They will also tell you if you need further appointments, and you will also be given some written information.

If the person accompanying you has left the department, the nursing staff will telephone them when you are ready for discharge.
Because the sedative remains in your system for about 24 hours, you may feel drowsy later on, with intermittent lapses of memory.

**Points to remember**

- It is our aim for you to be seen and investigated as soon as possible after your arrival. However, the department is very busy and your investigation may be delayed. If emergencies occur, these patients will obviously be given priority over the less urgent cases.

- The hospital cannot accept any responsibility for the loss or damage to personal property during your time on these premises.

- If you are unable to keep your appointment please notify the Endoscopy department as soon as possible.

- **If you are having sedation, please arrange for someone to collect you**

- If you have any problems with worsening neck/chest/abdominal pain, after your procedure please contact the endoscopy department between the hours of 7am – 1700 Monday to Friday on 0131 242 1600.

- Out with these times please contact NHS 24 on 08454 24 24 24.
Information for patients with diabetes
You should inform the Endoscopy department about your diabetes and request an early morning appointment.

The day of the procedure

Diet-controlled and tablet-controlled diabetes (Type 2 Diabetes)
Check your blood glucose on waking. If your blood glucose is less than 5 mmol/l, or you feel that your blood glucose level may be low, have a small glass of a sugar-containing drink. Inform the nurse on arrival in the Endoscopy unit that you have done this. A nurse will check your blood glucose level when you arrive in the Endoscopy Unit.

- Do not take your morning dose of tablets; bring your tablets with you to have after the procedure
- Report to the nursing staff if you have needed glucose before arriving and inform them immediately if you feel ‘hypo’ at any time during your visit
- Your dosage of tablets can be given as soon as you are able to eat and drink safely; the nursing staff will inform you when it is safe.

Insulin-controlled diabetes
- Monitor your blood glucose at least 4 times during the day, but ideally you should monitor even more frequently than this. Continue to take your daily insulin injections, but the amount you take may need to be altered according to how your blood glucose levels are behaving and how much carbohydrate containing drinks you are taking. In general, insulin doses often need to be reduced by one quarter to one third.
- You should reduce your evening insulin injection by one third, unless your blood glucose levels are running very high (e.g. greater than 15 mmols/l) when you should leave your dose unaltered.
- If you have concerns about adjusting your insulin dosage please contact the Diabetes Specialist Nurses on 0131 242 1470, to discuss appropriate measures. You can also contact the diabetes doctor on call on 0131 537 1000 and ask to speak to the diabetes doctor.

Carrying glucose to treat hypoglycaemia
If you are on tablets or insulin for your diabetes, then on the day before and day of the procedure, carry glucose tablets (Dextrosol) in case of hypoglycaemia. As these are absorbed quickly through the tissues of the mouth, if sucked, they will not interfere with the procedure. Take three (3) tablets initially, followed by a further three (3) if symptoms continue after 15 minutes. If your medication has been adjusted this should not be a problem.

Blood glucose monitoring
If you usually test your blood glucose levels, check them, as usual, on the morning of the procedure and carry your equipment with you to the appointment. If you do not usually test your blood, do not worry, your blood glucose levels will be checked when you arrive for the procedure.
Location of the Endoscopy Unit
The endoscopy unit is located within the Medical Daycase Unit of the Royal Infirmary

Directions to the Medical Day Case Unit

If entering via North Junction Road/Car park B: Entrance signed Day Case & Day Surgery (No.2 on map) adjacent to Main Front Entrance (West)

If entering via South Junction Road/Car park C: Enter the hospital through Main Rear Entrance (East). Continue through main mall and exit at Main Front Entrance (West). Turn left and enter at Day Case & Day Surgery (No.2 on map).

Please report to reception desk on arrival.

Plan of the hospital and grounds. Entrance to Endoscopy Unit is at “2”
**Location of the Royal Infirmary of Edinburgh.**

The hospital is on the south side of Edinburgh on old Dalkeith Road (A7).

The full address is:
Royal Infirmary of Edinburgh, 51 Little France Crescent, Old Dalkeith Road, EH16 4SA

**By Public Transport**

The following services stop at the hospital, either at the West main entrance bus stop, or close by on Old Dalkeith Road.

- LRT 8, Muirhouse to Little France
- LRT 18, Gyle Centre to Little France
- LRT 21, Gyle Centre to Little France
- LRT 24, Davidson’s Mains to Little France
- LRT 33 & N33 Baberton Mains to Little France
- LRT 38, Muirhouse to Little France
- LRT 49, The Jewel to NRIE
- Munros 51 or 52, Edinburgh to Jedburgh or Kelso respectively.
- First 79, Haymarket to Rosewell
- First 86, Clerwood to Mayfield
- Eve Car and Coaches 128, Haddington to Little France
- First 140 & 142, Rosewell to NRIE, passing Musselburgh

Please note that the proposed services and timetables may have changed by the time of your appointment, therefore you are advised to check the details by contacting the City of Edinburgh Council’s Traveline or the bus operator on the numbers below.

**Contact details for full timetables or further information are:**

- Lothian Buses: 0131 555 6363  www.lothianbuses.co.uk
- First Edinburgh: 0131 663 9233  www.firstedinburgh.co.uk
- Stagecoach: 01592 642394  www.stagecoachbus.com/fife
- Munros: 01835 862253
- Traveline 0800 23 23 23

**By car:**

**Directions from City Centre** – Leave the city centre via North Bridge at the East end of Princes Street. Follow this road for approx. two and a half miles until you reach the Liberton Road/Lady Road junction. Turn left on to Lady Road. Go straight over the Lady Road roundabout to the Cameron Toll roundabout. Take the 3rd exit sign posted to Dalkeith and New Royal Infirmary (A7). Continue on this road for around ¾ mile. The hospital is on the left hand side.

**Directions from Bypass** – Leave the Edinburgh City Bypass (A720) at the Sheriffhall Roundabout onto Old Dalkeith Road (A7) toward Edinburgh City Centre. Turn right into the hospital after just over 2 miles.
Entry to the site is via two access roads, one to the north and one to the south of the site. The nearest Car Park and drop off point to our department is reached by entering the North Junction road.

Please use Car Park B and enter the Hospital by the entrance signed Day Case & Day Surgery.

There are free disabled parking spaces located near the main entrances. The current parking charges for all other patients and visitors are:

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<th>Duration</th>
<th>Charge</th>
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<tr>
<td>0-1 hours</td>
<td>£1.20</td>
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<tr>
<td>2-3 hours</td>
<td>£3.20</td>
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<tr>
<td>4-5 hours</td>
<td>£5.20</td>
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<tr>
<td>6-24 hours</td>
<td>£7.00</td>
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<tr>
<td>1-2 hours</td>
<td>£2.20</td>
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<tr>
<td>3-4 hours</td>
<td>£4.00</td>
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<tr>
<td>5-6 hours</td>
<td>£6.40</td>
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**By bicycle/motorbike:**

New cycle/bus lane from Cameron Toll to the Royal Infirmary of Edinburgh via Old Dalkeith Road, as well as improvements to the cycle and footpaths on Craigmillar Castle Road, may make this an option for some patients and visitors.

There is currently provision to park both bicycles and motorbikes on site, free of charge. Motorcycle parking is within marked spaces out with the car parks at various points around the perimeter of the building. Cycle parking is available close to all the entrances to the building, in the form of Sheffield stands. CCTV monitors these areas at all times.
Patient Details

NHS Lothian

Consent Form
Patient agreement to endoscopic investigation or treatment

<table>
<thead>
<tr>
<th>Name of procedure/s (include a brief explanation if the medical term is not clear)</th>
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<tr>
<td><strong>Endoscopic Ultrasonography (EUS)</strong></td>
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<tr>
<td>Examination of the upper gastrointestinal tract with ultrasound using a flexible endoscope (with or without biopsy, photography)</td>
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<tr>
<td><strong>Biopsy samples will be retained</strong></td>
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Statement of patient

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

I have read and understood the information in the attached booklet including the benefits and any risks.

I agree to the procedure described in the booklet and on this form.

I understand that you cannot give me a guarantee that a particular person will perform the procedure. The person will, however, have appropriate experience. If a trainee performs this examination it will be performed under supervision by a fully qualified practitioner.

I would like to have: local anaesthetic throat spray ☐ sedation ☐ Please tick box

Signed (patient) ______________________ Date __________________

Name (print in capitals) ______________________________________

If you would like to ask further questions please do not sign the form now. Bring it with you and you can sign it after you have spoken to the healthcare professional.

Confirmation of consent
(To be completed by a healthcare professional when patient is admitted for procedure)

I have confirmed that the patient/guardian understands what the procedure involves, including the benefits and any risks

I have confirmed that the patient/guardian has no further questions and wishes for the procedure to go ahead

Signed ______________________ Date __________________

Name (print in capitals) ______________________ Designation __________________

(If your patient requires further information please complete page 3 of this consent form)
**Patient Details**

**NHS Lothian**

*Consent Form - COPY*

**Patient agreement to endoscopic investigation or treatment**

**Name of procedure/s** *(include a brief explanation if the medical term is not clear)*

**Endoscopic Ultrasonography (EUS)**

Examination of the upper gastrointestinal tract with ultrasound using a flexible endoscope (with or without biopsy, photography)

**Biopsy samples will be retained**

**Statement of patient**

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

I have read and understood the information in the attached booklet including the benefits and any risks.

I agree to the procedure described in the booklet and on this form.

I understand that you cannot give me a guarantee that a particular person will perform the procedure. The person will, however, have appropriate experience. If a trainee performs this examination it will be performed under supervision by a fully qualified practitioner.

I would like to have:  **local anaesthetic throat spray** ☐ **sedation** ☐ **Please tick box**

**Signed (patient)** ___________________________ **Date** ___________________________

**Name (print in capitals)** ___________________________

If you would like to ask further questions please do not sign the form now. Bring it with you and you can sign it after you have spoken to the healthcare professional.

**Confirmation of consent** *(To be completed by a healthcare professional when patient is admitted for procedure)*

I have confirmed that the patient/guardian understands what the procedure involves, including the benefits and any risks

I have confirmed that the patient/guardian has no further questions and wishes for the procedure to go ahead

**Signed** ___________________________ **Date** ___________________________

**Name (print in capitals)** ___________________________ **Designation** ___________________________

*(If your patient requires further information please complete page 3 of this consent form)*
Statement of healthcare professional (to be completed by a healthcare professional with appropriate knowledge of proposed procedure, as specified in the consent policy)

In response to a request for further information I have explained the procedure to the patient. In particular I have explained:

The intended benefits

1. Investigation of symptoms

Potential Risks

1. Procedure risks:
2. Sedation risks:

I have also discussed what the procedure is likely to involve, the benefits and risks of any available alternative investigations/treatments (including no treatment), any extra procedures, which may become necessary and any particular concerns of those involved.

Signed __________________________ Date __________________________

Name (print in capitals) __________________________ Designation __________________________

Statement of interpreter where appropriate

I have interpreted the information above to the patient/guardian to the best of my ability and in a way in which I believe she/he/they can understand.

Signed __________________________ Date __________________________

Name (print in capitals) __________________________