

# Endoscopic Ultrasound (EUS)

## Information for patients

This leaflet can be made available in other formats including large print, CD and Braille and in languages other than English, upon request.

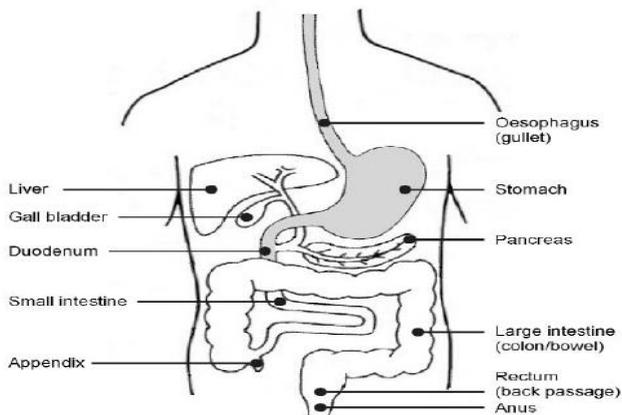
This leaflet explains why you are having an Endoscopic Ultrasound (EUS) and what is involved.

Please read this carefully before coming for the test so that you can ask for more explanation or reassurance when you attend.

You will be asked to sign the consent form after you have had a chance to ask questions.

## What is an Endoscopic Ultrasound (EUS)?

You have been advised to have an Endoscopic Ultrasound (EUS). This is an examination that allows an Endoscopist (a Consultant trained to do EUS) to see inside your oesophagus (gullet), stomach and duodenum (small intestine) and the organs outside it (liver, pancreas, gall bladder, kidneys, adrenal glands and lymph glands) using an EUS endoscope. (See diagram below).



An EUS endoscope (a thin, flexible tube with a bright light and small ultrasound probe on the end), will be passed through your mouth and down into your stomach and small bowel.

Once the EUS endoscope is in position, ultrasound waves are used to visualise the area and structures deeper in the chest and abdomen.

Your Doctor may have requested to take a biopsy (a small sample of tissue) or a Fine Needle Aspiration (FNA) during the procedure. This will be explained to you in more detail before the procedure.

If this is the case, you will need to have a blood test before the procedure to check that your blood is clotting properly.

## **What are the risks and possible complications?**

Most EUS procedures are straightforward, however, there is a small chance of side-effects or complications such as:

- **damage to teeth or bridge-work.** The EUS endoscope can occasionally cause damage to teeth or bridge-work.
- This is rare and a mouth-guard is used to lower the risk.
- **discomfort.** You may feel some discomfort during the procedure; we try to keep this to a minimum.
- **feeling bloated and sore throat.** You may feel bloated for a few hours afterwards and have a sore throat for 24-48 hours.
- **aspiration.** If you are sedated and your stomach contains food or drink it can leak into your lungs, affect your breathing and cause an infection. This is one of the reasons why **you must not eat or drink for 6 hours before this examination.**
- **bleeding.** If any bleeding occurs during your EUS steps will be taken to stop it. This may need a blood transfusion, or rarely, an operation. This can happen to 2 patients in every 100.
- **unable to complete EUS.** Occasionally your doctor may not be able to complete the procedure.

- **perforation (hole).** (a hole or tear in the gullet or stomach) Depending on the type of EUS procedure, this can happen from 1 patient in 500 to 1 patient in every 1000. If this happens, this will need treatment with fluids, antibiotics and sometimes surgery.
- **failure to achieve a tissue diagnosis.** If this happens the procedure may have to be repeated.
- **missed lesion.** EUS is a very accurate examination but very occasionally a problem may be missed during the procedure.
- **pancreatitis** (inflammation of the pancreas gland leading to abdominal pain, vomiting and fever). This is rare and may happen if a biopsy or FNA has been taken from the pancreatic tissue.

If this happens, you would need to stay in hospital for a few days to receive intravenous fluids, pain relief and fluids. This can happen to 2 patients in every 100.

- **infection.** This may happen following a puncture of cysts in the abdomen (cyst puncture is carried out to obtain tissue and fluid for analysis).

To help prevent infection you will be given antibiotics before the procedure and a 3 day course of antibiotics afterwards. This can happen to 1 patient in 200.

- **adverse effects of conscious sedation** (a drug which should make you feel comfortable and relaxed). This can occasionally cause problems with your breathing, heart rate and blood pressure.

Careful monitoring (checking) by a fully trained endoscopy Nurse will make sure they are identified and treated quickly.

- **procedure related mortality (death).** This can happen to 1 patient in every 2500.
- Severe complications are rare, but may require emergency admission, repeat endoscopic procedure, surgery, blood transfusion or, in extremely rare circumstances, result in death.

## **Are there any other tests that can be done instead of having an EUS?**

You do not have to have any examination or tests you do not want, but the Doctor who has requested the examination has advised this is best for you.

Your Consultant has recommended this procedure as being the best option. There are no alternative procedures available that could give the same information.

This procedure is usually carried out after you had a CT or MRI scan and further information is required based on your symptoms and scan results.

## **What will happen before my EUS?**

You will be admitted as a day case patient unless your appointment letter states otherwise. You will usually be able to go home 2 - 3 hours after your procedure. Very occasionally, your Doctor may advise you to stay in hospital overnight.

## **What will I need to do to prepare for my EUS?**

It is very important you follow the instructions given in this leaflet to make sure your oesophagus, stomach and duodenum are empty. This will allow the Endoscopist to get a clear view and make sure no areas are hidden.

**You must** stop eating or drinking at least 6 hours before your procedure. This is very important. **You must** follow the instructions. Nothing means nothing at all.

If you forget and do eat or drink anything **you must** tell your Doctor or Nurse, as your procedure may need to be postponed for your safety.

This is because when you are sedated, if your stomach contains food or drink, you may be sick and it could get into your lungs, affect your breathing and cause an infection.

If you are taking any medication to thin your blood or if you are unsure, **you must** contact the Endoscopy Unit as soon as you get your appointment.

There is no problem if you are taking Aspirin.

**If you have diabetes, you should contact the Endoscopy Unit for advice about your medication.**

## **Can I be sedated for the examination?**

Yes, the effect of sedation will stay with you for at least 24 hours so it is important you follow this advice.

Under rare circumstances, we can do the test without sedation; this can mean that the procedure might become slightly uncomfortable.

There **must** be a responsible adult to take you home and look after you for the first 24 hours after your examination as the effects of the sedation **will** affect your judgement.

For the first 24 hours after sedation you:

- **must not** go back to work.

- **must not** drive a car, ride a bicycle or motorcycle. It is an offence to drive while unfit to do so because of drugs and it will probably invalidate your insurance policy.
- **must not** supervise children.
- **must not** make important decision or sign any legal documents.
- **must not** operate machinery or electrical appliances.
- **must not** go near open flames or sources of high heat.
- **must not** drink alcohol.
- **must not** take sleeping tablets, tranquillisers or any drugs other than those prescribed, for you by your GP.
- **must not** lock the toilet or bathroom door in case you need any help.
- **should not** smoke.

If you have not made these arrangements, you will not be able to be sedated and your EUS will have to be postponed.

## **What will happen when I arrive for my appointment?**

When you arrive at the Endoscopy Unit, you will be advised by the endoscopy Nurse of the approximate time you should be ready to go home. Anyone wishing to stay and wait for you will be advised of where they can wait.

There is limited space in the Unit, so only in special cases will someone be allowed to stay with you, for example, adults with special needs.

A Nurse will call you through to the Unit, check your personal details, ask you questions about your health, check your blood pressure and pulse and explain the examination and risks to you.

This is to make sure you understand everything before you sign the consent form.

You should tell the Nurse if you have had any allergies or reactions to drugs or other tests in the past and of any previous endoscopies you may have had.

Please bring with you a list of medications (drugs) you are currently taking, either prescribed by your Doctor or those you have bought yourself.

You will be asked for a contact telephone number of the relative or friend who will take you home and stay with you after your EUS.

You will be taken to a comfortable waiting area to wait your turn. We operate a list system. This means you will be seen when it is your turn and not the time given for you to arrive at the Unit.

Before your examination if you have any worries or questions, please talk to your Nurse or Endoscopist.

## **On the day of your EUS:**

- do not smoke
- long hair should be tied back for comfort
- avoid bringing valuables with you
- wear loose fitting clothing
- false teeth, glasses and hearing aids may be removed in the Endoscopy Room.

When it is time for your EUS a Nurse will take you into the examination room.

## **What will happen during my examination?**

Before your examination begins, if you have any false teeth you will be asked to remove them. A local anaesthetic is sprayed on to the back of your throat to numb the area.

You will be given a sedative drug before the examination starts. This is called conscious sedation. You will still be awake but should feel more comfortable and relaxed. This involves injecting medication (drugs) through a cannula (a fine tube) inserted into a vein in the back of your hand or arm using a small fine needle.

In the examination room you will then be asked to lie down on a trolley on your left side. Your pulse, blood pressure and oxygen levels in your blood will be checked before and during your examination by putting a small plastic clip on to one of your fingers.

A Nurse will make sure you are comfortable and your privacy and dignity will be maintained at all times throughout the procedure.

You will be given extra oxygen to breathe through a soft plastic tube on your nose. A small plastic guard will be put gently between your teeth to protect them. Do not worry, this is all routine and is not painful.

The Endoscopist will then pass the EUS scope through your mouth, into your stomach and then into your duodenum. Air will be passed through the tube to inflate your stomach so your Endoscopist can see all parts of your stomach wall. This can cause "windy" discomfort. If needed, biopsies or FNA (Fine Needle Aspiration) will be taken.

During the examination, any extra saliva will be cleared from your mouth using a fine suction tube. When the test is over the air and the EUS scope are removed quickly and easily.

We routinely take photographs or videos of your insides during this procedure. These are used to help in your investigations and treatment.

The procedure may take up to 45 minutes to complete.

## **What happens to the pictures taken during my examination?**

The pictures taken during your examination will be kept as part of your healthcare record. These may sometimes be used anonymously for training or research.

If hospital staff want to use any of your pictures for any other purpose, for example, in an article to be published (printed) in a professional magazine or book, they will ask your permission before this happens.

## **What will happen after the procedure?**

You will be taken to the recovery area where you will be able to rest on a trolley until the immediate effects of the sedation have worn off. This can be up to 2 hours. You will usually be able to go home 3 hours after your procedure.

The person you have arranged to take you home will then be asked to come onto the Unit to collect you. **You will not be able to go home on your own.**

## **When will I be told the outcome of my examination?**

Before you leave the Endoscopy Unit your Nurse or Endoscopist will explain the outcome of your examination to you. A copy of your report will be sent to your GP within 24 hours.

If you have had any biopsies or FNA taken, these are sent to the laboratory for further examination; you may have to wait up to 6 weeks for these results. Your GP will also be sent a copy of these results.

You can make an appointment to discuss biopsy results with your GP or if you have been given an outpatient appointment, your results will be discussed with you then.

## **Biopsy and FNA results will not be available from the Endoscopy Unit.**

If you are an inpatient, the outcome of the EUS will be discussed with you on the ward by the Doctor responsible for your care.

## **References**

1. Adverse events associated with EUS and EUS-guided Procedures, Nauzer Forbes, Nayantara Coelho-Prabhu, Mohammad A. Al-Haddad et al, ASGE Standards of Practice Committee, Gastrointestinal Endoscopy Volume 95, No. 1, 2022, [https://www.giejournal.org/article/S0016-5107\(21\)01640-0/fulltext](https://www.giejournal.org/article/S0016-5107(21)01640-0/fulltext)
2. Wang KX, Ben QW, Jin ZD, Du YQ, Zou DW, Liao Z, Li ZS. Assessment of morbidity and mortality associated with EUS-guided FNA: a systematic review. *Gastrointest Endos.* 2011 Feb;73(2):283-90. doi: 10.1016/j.gie.2010.10.045. PMID: 21295642.

## **Contact numbers**

If you need further advice, or have any problems, please contact the Unit where you are to have your examination.

## **University Hospital of North Tees**

### **Endoscopy Unit**

Telephone: 01642 624387

Monday and Wednesday, 8.00am - 7.00pm

Tuesday, Thursday and Friday, 8.00am – 7.00pm

Saturday, 8.00am – 2.00pm

### **Emergency Department**

Telephone: 01642 382899

24 hours a day, 7 days a week

## **Further information is available from:**

### **NHS Choices**

Telephone: 111 (when it is less urgent than 999)

Calls to this number are free from landlines and mobile phones or via the website at [www.nhs.uk](http://www.nhs.uk)

This leaflet has been produced in partnership with patients and carers. All patient leaflets are regularly reviewed, and any suggestions you have as to how it may be improved are extremely valuable. Please write to the Clinical Governance Team, North Tees and Hartlepool NHS Foundation Trust, University Hospital of North Tees or Email: [nth-tr.leaflets@nhs.net](mailto:nth-tr.leaflets@nhs.net)

## **Comments, Concerns, Compliments or Complaints**

We are continually trying to improve the services we provide.

We want to know what we're doing well or if there's anything which we can improve, that's why the Patient Experience Team is here to help.

Our Patient Experience Team is here to try to resolve your concerns as quickly as possible. If you would like to contact or request a copy of our PET leaflet, please contact:

Telephone: 01642 624719

Monday – Friday, 9.30am – 4.00pm

Messages can be left on the answering machine and will be picked up throughout the day.

Freephone: 0800 092 0084

Email: [nth-tr.PatientExperience@nhs.net](mailto:nth-tr.PatientExperience@nhs.net)

Out of hours if you wish to speak to a senior member of Trust staff, please contact the hospital switchboard who will bleep the appropriate person.

Telephone: 01642 617617

24 hours a day, 7 days a week

The Patient Experience Team is available to discuss your concerns in person Monday – Friday, 9.30am – 4.00pm. The office is based on the ground floor at the University Hospital of North Tees.

## **Data Protection and use of patient information**

The Trust has developed a Data Protection, Caldicott and Disclosure Policy (IG5) in accordance with the Data Protection Legislation (General Data Protection Regulations and Data Protection Act 2018) and the Freedom of Information Act 2000. All of our staff respect this policy and confidentiality is adhered to at all times. If you require further information please contact the Information Governance Team.

Telephone: 01642 383551 or Email: [nth-tr.infogov@nhs.net](mailto:nth-tr.infogov@nhs.net)

University Hospital of North Tees, Hardwick, Stockton-on-Tees. TS19 8PE

University Hospital of Hartlepool, Holdforth Road, Hartlepool. TS24 9AH

Telephone: 01642 617617