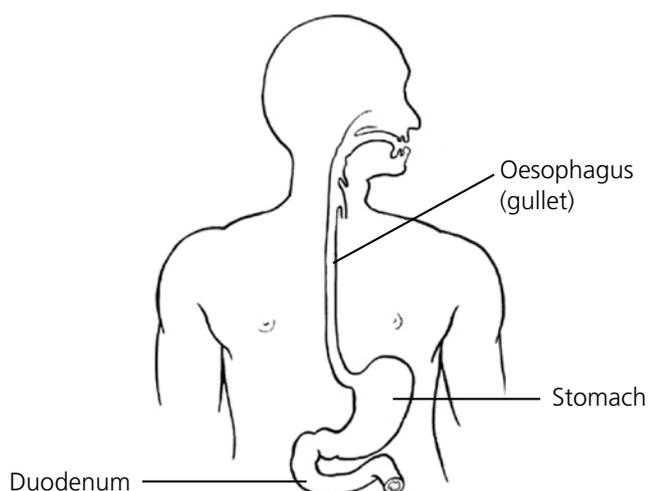


## Endoscopic Ultrasound (EUS) A Guide to the Procedure

Please read all your information leaflets as they give you instructions you will need to follow.

### Upper digestive tract



### Introduction

The time of your arrival will be indicated on your letter. This is to allow time for your assessment and admission to be completed by the nurses. Your actual procedure time will therefore differ from your arrival time, and you may well be in the Endoscopy Unit for the **whole morning or afternoon**. Please be prepared for what may be a long wait if unforeseen alterations to the Consultant's list occur. Emergency inpatients take a greater priority.

Bring a good book with you!

### Why do I need to have an Endoscopic Ultrasound?

You have been advised to undergo this investigation to:

- try and find the cause of your symptoms;
- help with assessment or treatment of a problem;

### What is an Endoscopic Ultrasound?

Endoscopic Ultrasound (EUS) is a very accurate way of looking at structures and internal organs associated with your upper digestive tract.

During this procedure the doctor uses an instrument called an endoscope to look directly at the lining of the oesophagus (gullet), stomach and duodenum (first part of the intestine), which are together known as the upper digestive tract.

The endoscope is a long, flexible tube, about 15mm in diameter.

Light travels through the endoscope and is shone at the lining of your upper digestive tract. Images are then transmitted back up the endoscope, relaying a picture onto a TV screen.

During an EUS the endoscope also uses high frequency sound waves (ultrasound). These sound waves are reflected by internal organs, structures and tissues, and the resulting 'echoes' form a picture on the screen that can be photographed and carefully examined.

During the investigation samples of tissue (biopsy) from the lining of the upper digestive tract may need to be taken and sent to the pathology department. In addition, very slim needles may be passed through the wall of the upper digestive tract to take samples from structures seen by ultrasound. This is called fine-needle aspiration (FNA) or fine-needle biopsy (FNB).

The collection of tissue samples is painless. These samples may be retained in the pathology department. A video recording and/or photographs 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 examination as comfortable as possible for you.

## Preparation

### Eating and drinking

It is necessary to have clear views and, therefore, **the stomach must be empty**. You must not eat anything for **at least six hours** before your appointment time.

If your appointment is in the **morning** then you **must not eat anything after midnight**. If your appointment is in the **afternoon** you may have a light breakfast **no later than 8 am**.

You may drink fluids, i.e. water, tea or coffee with **no milk, up to two hours before your appointment**.

Any prescribed medication or tablets should be taken as normal (further instructions to follow) unless you have **diabetes**, in which case please talk to your General Practitioner (GP) or ring the hospital switchboard on **01392 411611** and ask for the diabetes on call nurse. You will have to leave a message (including your name and telephone number) and state that you require advice on preparation for Endoscopic Ultrasound. You will be called back as soon as the nurse becomes available.

## Current medication

If you are taking any anticoagulant/antiplatelet medications to 'thin your blood' (such as Warfarin, Heparin, Clopidogrel, Dabigatran (Pradaxa), Rivaroxiban (Xarelto) or Apixaban (Eliquis), **please ring the Endoscopy Department on 01392 402400 at least 1 week before your appointment**. This is necessary to allow time for arrangements regarding these medication to be made prior to the appointment. An Endoscopy nurse will ask you some questions about your anticoagulant/antiplatelet medication, such as why you are being prescribed the drug, and you will be advised what to do to prepare for your procedure.

You are advised to bring all your current medication with you for your admission. During the procedure your medication will be kept with you or given to an accompanying adult.

## What happens when I arrive?

When you arrive in the Endoscopy Unit, Area N, Level 2, a qualified nurse or healthcare assistant will explain the procedure, and you will be given the opportunity to ask questions.

Please keep jewellery to a minimum. If at all possible, only wear wedding bands in order to avoid loss or damage occurring. Please do not bring excessive amounts of money with you.

You will also be asked some questions about your travel arrangements for getting home. After you have had sedation, you will not be able to drive (your car insurance is invalid for 24 hours), nor should you use public transport, so you must arrange for a family member or friend to collect you. The nurse will need a contact number to be able to arrange for your collection once you are ready for discharge. You must have someone to collect you from the endoscopy unit to take you home.

You will have a brief assessment of your medical condition and any surgery or illnesses you have had, in order to establish that you are fit to undergo the procedure. Your medications will be checked and recorded.

Your blood pressure, heart rate and oxygen levels (saturation) will be recorded, and, if you are diabetic, your blood glucose will also be checked and recorded.

## Sedation and local anaesthetic

Intravenous sedation and local anaesthetic throat spray will be given to you to improve your comfort during the procedure and enable the endoscopist to perform the procedure successfully.

### Intravenous sedation

Intravenous sedation is an injection to make you feel relaxed and sleepy, but not unconscious.

The sedative medications will be administered into a vein in your hand or arm, and you will be in a state called conscious sedation. You will still be able to hear what is said to you and so will be able to follow simple instructions during the investigation, but you will feel drowsy.

A plastic clip will be placed on your finger or ear to monitor your pulse rate and oxygen levels during the procedure, so that any changes can be dealt with quickly. A cuff may be placed on your arm to monitor your blood pressure.

After the examination you may not remember the procedure because the sedative medications can affect your memory.

It is important to remember that after sedation you must not drive, take alcohol, operate heavy machinery or sign any legally binding documents for 24 hours, and someone will have to take you home. After sedation you must follow the instructions given at the end of this leaflet.

### Anaesthetic throat spray

The local anaesthetic spray numbs the throat much like a dental injection.

After the procedure you must wait (about an hour) until the sensation in your throat and mouth has returned before having anything to eat or drink. It is strongly advised that the first drink you have after your procedure should be cold and sipped to ensure that you do not choke.

### The procedure

Once you are in the treatment room you will be asked if you have any further questions and you

will be asked to remove any dentures or contact lenses. A plastic clip will be placed on a finger or ear to monitor your pulse rate and oxygen levels. A cuff may be placed on your arm to monitor your blood pressure. Your throat may be sprayed with local anaesthetic, and you will be made comfortable on a trolley. A plastic mouth guard will be placed between your teeth. The doctor will give you the sedative injections. Any saliva or other secretions produced during the procedure will be removed using a small suction tube (similar to that used by a dentist).

The doctor will pass the endoscope over your tongue and you may be asked to swallow once or twice at this stage. This will not cause any pain or interfere with your breathing, and your windpipe will be deliberately avoided.

The endoscope will then gently pass into your oesophagus, stomach and upper part of the small intestine (duodenum). Sometimes the doctor will take a very small piece of tissue (biopsy) for analysis in the laboratory. Any photographs or recordings will be retained with your notes.

### After the procedure

You will be allowed to rest for as long as necessary. Your blood pressure and heart rate will be recorded, and, if you have diabetes, your blood glucose will be monitored. If you have underlying breathing difficulties, or if your oxygen levels were low during the procedure, we will continue to monitor your breathing.

As you have had a sedative injection, you may need to stay for about 1-3 hours after the procedure, and you must have someone to collect you from the Endoscopy Unit and take you home. **For the next 24 hours** you should follow the instructions as laid out on the back page of this leaflet.

Once you have recovered from the initial effects of the sedation (which normally takes 30-60 minutes), you will be offered light refreshments.

Although you may feel fully alert after the investigation, the drug can remain in your blood system for about 24 hours. You may feel drowsy later on with intermittent memory lapses. You

must arrange for someone to stay with you or, if possible, arrange to stay with family or a friend. The nursing staff will telephone the person collecting you when you are ready for discharge.

Your throat may feel slightly sore for up to 24 hours, but this should soon ease.

## Results

Often the doctor or another member of the Endoscopy Team will be able to give you the results immediately after the procedure. However, if a biopsy was taken the results of this may take up to 14 days. If a clinic appointment has not been arranged, you should contact your GP or referring consultant to discuss the findings after this time.

## Risks, Benefits and Alternatives

EUS is an invasive investigation. It is not without associated risks and complications. Although these occur infrequently, it is important that you are aware of them so that you can make an informed decision to consent to the procedure.

It is important that you have discussed the purpose of the EUS with your referring doctor and understand the benefits, risks and limitations of the procedure. There may be alternative tests, such as X-ray scans, that may provide information about your problem, but they are unlikely to provide the same information as your EUS. You can choose at any time not to undergo EUS and should be aware of the risks and benefits of your decision.

If you are unsure about whether to go ahead with your EUS, a further discussion can be arranged in outpatients. It is important to understand that this might introduce unwanted delay to your investigation and treatment.

Some of the more important risks and complications of EUS are described below. It is important to realise that there is also a number of very rare, unpredictable and potentially serious complications, some of which are unknown. You can discuss this in more detail with the endoscopy team if you wish.

It is also important to understand that the impact

of a complication on your health or life will be more severe if you already have underlying health problems that limit your activities or mobility. A complication will usually result in a stay in hospital, which may have an impact on those living with you, your family and friends, and may affect you if you are a carer for another person.

## Risks associated with EUS

- Damage to teeth and dental bridge work.
- Sore or painful throat - this is usually temporary.
- Bleeding from the lining of the upper digestive tract, especially after biopsy - this usually stops on its own but can occasionally be heavy or prolonged and may require further treatment or surgery to control.
- Perforation or tear of the lining of the digestive tract - although rare, this is almost always a very serious complication and can require emergency surgery to repair the damage or even be fatal.
- Pancreatitis - this can happen after biopsy of the pancreas in a small number of cases and can cause severe pain and sickness, resulting in admission to hospital in the days following the procedure. In a small number of cases, pancreatitis can be serious or even life-threatening.
- Sedative drugs can cause problems with your breathing, heart rate or blood pressure. These problems are usually short-lived and are carefully monitored by a fully trained endoscopy nurse. Close monitoring means that any problems can be acted on quickly.
- Allergic reactions to sedative drugs are uncommon - please let the staff know of any existing allergies to medicines or latex.
- The risk of death due to the procedure is very small indeed.

**If you have any problems or questions following the procedure, you can seek advice from the Endoscopy Unit by telephone on 01392 402400 on Monday to Saturday 0800 - 1800. At other times, be sure to inform your GP if you have any pain, black tarry stools, or**

**troublesome vomiting in the hours or days after EUS.**

**If you are unable to speak to your GP you must telephone NHS 111 to seek advice.**

**In an emergency, either telephone 999 or go immediately to the Emergency Department, informing them that you have had an endoscopy.**

**For further information on any aspect of the procedure, please contact: The Endoscopy Unit, tel: 01392 402400.**

If you have had sedation, it is important **for the next 24 hours** to have someone stay with you and to observe the following instructions.

- You should make arrangements for someone to take you home by car or taxi (public transport is not appropriate) **and to stay with you for the next 24 hours.**
- *Do not* drive a car or any other vehicle, including bicycles (note that your insurance is invalid if you do so).
- *Do not* operate machinery or appliances such as cookers and kettles.
- *Do not* drink alcohol.
- *Do not* make important decisions or sign important documents.
- *Do not* lock the bathroom or toilet door, or make yourself inaccessible to the person looking after you.
- Drink plenty of fluids and eat a light diet.
- Take things easy for the next 24 hours, and, if you have any problems, please contact your GP.

**If you are unable to speak to your doctor you must telephone NHS 111 to seek advice.**

**In an emergency, either telephone 999 or go immediately to the Emergency Department, informing them that you have had an endoscopy.**

After 24 hours, the effects of the sedation should have worn off and you should be able to resume normal activities.

The Trust cannot accept any responsibility for the accuracy of the information given if the leaflet is not used by Royal Devon staff undertaking procedures at the Royal Devon hospitals.

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