Endoscopy Department

Endoscopic Ultrasound (EUS)

Important Information

Before your appointment

- All medications should be taken as normal with a little water.
- If you are taking, Warfarin or Clopidogrel or other blood thinning medication please read the ‘Alert’ on page 2 as you may need to have an INR test seven days before or stop your medication.
- If you have diabetes please read the advice on page 7 and 8.
- If you have implanted cardiac device such as a Pacemaker or Implanted Cardioverter Defibrillator please contact the endoscopy unit on 01223 216515.
- If you have any questions about the procedure or find that you cannot keep this appointment, please contact the endoscopy office between 9:00 and 17:00 Monday to Friday on 01223 257080.

On the day

- Have nothing to eat for six hours and nothing to drink for four hours before your appointment.
- Please ensure you have arranged an escort home, we cannot sedate you if you do not provide details of your escort.

At the hospital

- Please come to the endoscopy department on level 3 of the Addenbrookes Treatment Centre (ATC).
- Use the ‘Car Park 2’. The car park is busy early in the morning; please allow yourself enough time to arrive in time for your appointment. Take your parking ticket to the Endoscopy reception desk to have your ticket stamped; this will enable you to have discounted parking.
- Please note you need to arrive 30 minutes prior to your appointment time for your pre procedure check. The length of time you will be here will vary enormously but may be anything from two to four hours or more. Please ask your admitting nurse for further information during your admission check.
Alert for Endoscopy patients on Warfarin or Clopidogrel or other anticoagulant medication

You must read this guidance before your procedure.

If you have any questions or do not know whether to stop your medication before your endoscopy please phone 01223 216515

**Warfarin:**
- You should **stop Warfarin five days** before the endoscopy.
- After the Endoscopy go back to your usual daily dose as soon as you are eating again (that will usually be the same evening).
- You should have your INR checked one week later to ensure you are adequately anticoagulated again.

If you have:
- metal mitral valve
- metal valve + previous stroke/thrombosis
- valvular heart disease
  you may need Heparin injections instead of Warfarin. Ask your local anticoagulant service for advice.

**Clopidogrel:**
- You should stop **Clopidogrel seven days** before the endoscopy.

If you have:
- coronary artery stent
  Please contact the endoscopy department for further advice.

**Rivaroxaban, Apixaban, edoxaban, dabigatran:**
- You should stop your medication 2 days before the endoscopy
- The nursing staff will confirm when you need to restart your medication before you are discharged home.

**Other anticoagulant medication:**
Acenocoumarol, sinthrome, phenindione, dindevan: If you are taking any of these please contact the endoscopy department 01223 216515
What is endoscopic ultrasound?

Your doctor has requested this procedure to help investigate and manage your medical condition.

Endoscopic ultrasound (EUS) is a procedure that combines the ability to look directly at the lining of the gut, with ultrasound, that allows the operator to see structures beneath the surface.

To do this a special endoscopy/ultrasound scope is used which is a long flexible tube (thinner than your little finger) with a light at the end and a built in miniaturised ultrasound probe.

The scope is passed into the mouth and down the gullet (oesophagus) and stomach into the duodenum to see structures in the upper abdomen. The procedure is performed under sedation (not a general anaesthetic). The level of sedation is such that generally no discomfort should be experienced. It can take around 20 minutes, but if it takes longer, you should not worry.

Sometimes EUS is used to take fluid or tissue samples; this is done by passing a small needle through the scope to obtain the samples which are sent to the laboratory for analysis.

In certain conditions EUS is also used to guide a special injection as treatment for severe pain, this is called a coeliac plexus neurolysis (CPN).

EUS may also be used to guide other procedures such as cyst or abscess drainage

Getting ready for the procedure

Wear loose fitting washable clothing and leave valuables at home.

On arrival to the department

Please register your arrival with the receptionist, they will ask for your pre-procedure questionnaire. Some patients may arrive after you but be seen quicker; we have seven procedure rooms all undertaking different procedures therefore patients are not seen in arrival order.

Before your procedure you will meet one of the nurses who will ask you some health questions, and explain the procedure to you.

Once this is completed, you will be escorted to a single sex changing area. You are able to wear your own clothes for this procedure. Your escort cannot wait with you from this point and can leave the department until you are ready to go home.

You can change your mind about having the procedure at any time.
Sedatives

Endoscopic ultrasound is performed under sedation. You can also be offered anaesthetic throat spray so that you are as comfortable as possible during the procedure.

The sedation will be administered via a plastic tube called a cannula which is inserted into a vein, and will make you feel relaxed and sleepy but not unconscious (this is not a general anaesthetic). This option means you may not be aware of the procedure. As you will required sedation:

- You will need to stay whilst you recover which may take up to an hour or more.
- You will need to be escorted home; your procedure will be cancelled if you do not have an escort.
- The injection will continue to have a mild sedative effect for up to 24 hours and may leave you unsteady on your feet for a while.

You must arrange for a responsible adult to collect you from the department and take you home. You will not be able to drive yourself. You cannot be collected in a taxi without your escort present.

Please provide reception with the contact details of your escort, they need to be available to collect you from 90 minutes after your appointment time.

If you are entitled to use hospital transport, an escort is not required. Please inform the department prior to your appointment if you have arranged hospital transport.

What happens during the procedure

You will be collected from the changing room by the endoscopist and taken to a private bay to complete your consent form, when this has been completed they will escort you to the procedure room. The team in the procedure room will introduce themselves and ask you some questions; this is to confirm you are ready and prepared to continue with the procedure.

In the procedure room, we will ask you to remove false teeth, glasses and hearing aids in the left ear. We will make you comfortable on a couch lying on your left side. The endoscopist will give you the injection or throat spray. We will put a plastic guard into your mouth so that you do not bite and damage our instrument. We will also put a plastic ‘peg’ on your finger to monitor your pulse and oxygen levels. For your comfort and reassurance, a trained nurse will stay with you throughout.

As the endoscope goes through your mouth you may gag slightly, this is quite normal and will not interfere with your breathing. During the procedure, we will put some air into your stomach so that we have a clear view; this may make you burp and belch a little. This is also quite normal but some people find this unpleasant. We will remove the air at the end of the procedure.

Minimal restraint may be appropriate during the procedure. However if you make it clear that you are too uncomfortable the procedure will be stopped.
Potential risks

Diagnostic endoscopic ultrasound procedures carry a very small risk (one in 10,000 cases) of haemorrhage (bleeding) or perforation (tear) of the gut following which surgery may be necessary.

The use of guided needle sampling slightly raises the risk of haemorrhage but the risk remains very slight. The risk of perforation is about one in 1,000 when using an endoscope to take samples with EUS. There is a similar risk of causing inflammation of the pancreas (pancreatitis). Infection can rarely occur during aspiration of cysts, so you may be given antibiotics to reduce the chance of this happening.

If you have had a coeliac plexus neurolysis (CPN) we will observe your blood pressure for a while after the procedure. CPN may temporarily lower your blood pressure, but this is very unusual. Some patients may have diarrhoea for a few days after the procedure. A very small number may experience a temporary increase in pain.

As with all endoscopic procedure there may be a slight risk to teeth, crowns or dental bridgework; you should tell the nurses if you have either of these. Other rare complications include aspiration pneumonia (inflammation of the lungs caused by inhaling or choking on vomit) and adverse reactions to intravenous sedative drugs and, when used, antibiotic treatment.

Like all tests this procedure will not always show up all abnormalities and, on rare occasions, a significant abnormality may not be identified. If you have any questions about this please ask either at the time of your procedure or the person who referred you.

After the procedure

We will take you to a recovery area while the sedation wears off. When you are sufficiently awake, we will give you a drink before you get dressed. You can then go home; this may be up to an hour following the procedure.

We advise you not to drive, operate machinery, return to work, drink alcohol or sign legally binding documents for a 24-hour period after the procedure. **We also advise you to have a responsible adult to stay with you for the next 12 hours.** You can eat and drink as normal.

You may feel a little bloated and have some wind-like pains because of the air in your gut; these usually settle down quickly.

We will always do our best to respect your privacy and dignity, e.g. with the use of curtains. If you have any concerns, please speak to the department sister or charge nurse.

When do I know the result?

The endoscopist or endoscopy nurse will tell you about the procedure in the recovery area when you are awake. If you would like more privacy, we will take you to a private room.

The sedation can affect your ability to remember any discussion. If you would like someone with you when you talk to the endoscopist or endoscopy nurse please inform the nurse looking after you who will arrange for you to be seen in a private room with your escort when they arrive.
Final results from biopsies will be given to you either by the healthcare professional who requested the procedure at a clinic appointment or by letter. These results can take several weeks to come through. You should discuss details of these results and any further treatment with that person.

**After discharge**

If you experience any severe pain, black tarry stools or persistent bleeding you should contact your GP informing them that you have had an endoscopic ultrasound.

If you are unable to contact your GP: during working hours (08:00-18:00) contact the endoscopy department on 01223 216515, outside of these hours please attend your nearest emergency department informing them that you have had an endoscopic ultrasound.

**Alternatives**

Due to the unique information obtained from an EUS there are no real alternatives although in a few instances other radiological tests may give the answers required.

**References**

Mohamad A. Eloubeidi, MD, MHS, Ashutosh Tamhane, MD, MSPH, Shyam Varadarajulu, MD, C. Mel Wilcox, MD  Frequency of major complications after EUS-guided FNA of solid pancreatic masses: a prospective evaluation. Gastrointestinal Endoscopy 2006; 63:622-29


**For more information**

- Contact the endoscopy office between 0900 and 1700 on 01223 216546
- See [www.addenbrookes.org.uk/consent](http://www.addenbrookes.org.uk/consent)
Diabetic advice - EUS morning appointment

Please follow these instructions if you have diabetes which is controlled with insulin or tablets.

If you have any questions related to your diabetes during this preparation, please contact your GP or the diabetes specialist nurse on 01223 245151 bleep 152078.

Food and drink

- Do not eat for six hours prior to your appointment.
- Do not drink for three hours prior to your appointment.
- Test your blood glucose regularly. If it drops below four, please treat with a sugary drink such as lucozade 100ml, apple or grape juice 200ml, until your level is five.
- After your procedure, you may eat and drink normally unless specifically told otherwise.

Insulin and tablets

Please adjust your normal insulin and tablet doses as instructed below.

If you take insulin once daily

- No change to insulin dose necessary.

If you take insulin twice daily

- Do not have your morning insulin. Bring it with you, plus something to eat.
- If you are able to eat before 11:00, have your normal morning dose with food.
- If you are able to eat after 11:00, have half your normal morning dose with food.
- Have your normal evening dose.

If you take insulin four times daily

- Do not have your morning insulin. Bring it with you, plus something to eat.
- If you are able to eat before 11:00, have your normal morning dose with food.
- If you are able to eat after 11:00, omit your breakfast dose and have your normal lunchtime dose with food.
- Have your normal tea time and bedtime evening doses.

If you take tablets for diabetes

- Do not have your morning diabetic tablets.
- After your procedure, re-start your tablets at the next dose time.
Diabetic advice - EUS afternoon appointment

Please follow these instructions if you have diabetes which is controlled with insulin or tablets.

If you have any questions related to your diabetes during this preparation, please contact your GP or the diabetes specialist nurse on 01223 245151 bleep 152078

Food and drink

- Do not eat for six hours prior to your appointment.
- Do not drink for three hours prior to your appointment.
- Test your blood glucose regularly. If it drops below four, please treat with a sugary drink such as lucozade 100ml, apple or grape juice 200ml until your level is five.
- After your procedure you may eat normally unless specifically told otherwise.

Insulin and tablets

Please adjust your normal insulin and tablet doses as instructed below.

If you take insulin once daily

- No change to insulin dose necessary.

If you take insulin twice daily

- Have your normal morning insulin dose unless your breakfast is smaller than usual. If so reduce your normal dose by half.
- Have your normal evening dose.

If you take insulin four times daily

- Have your normal morning insulin.
- Do not have your lunchtime insulin.
- Have your normal tea time and bedtime evening doses.

If you take tablets for diabetes

- Do not have your morning diabetic tablets.
- After your procedure, re-start your tablets at the next dose time.
We are a smoke-free site: smoking will not be allowed anywhere on the hospital site. For advice and support in quitting, contact your GP or the free NHS stop smoking helpline on 0800 169 0 169.

Other formats:

If you would like this information in another language or audio, please contact Interpreting services on telephone: 01223 256998, or email: interpreting@addenbrookes.nhs.uk For Large Print information please contact the patient information team: patient.information@addenbrookes.nhs.uk

Document history

Authors
Endoscopy department
Pharmacist
Ellis Rahill
Department
Cambridge University Hospitals NHS Foundation Trust, Hills Road, Cambridge, CB2 0QQ www.cuh.org.uk

Contact number
01223 245151
Publish/Review date
January 2019/January 2022
File name
Endoscopic_ultrasound_(EUS).doc
Version number/Ref
8/PIN0657/1135