NHS
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Endoscopic Retrograde Cholangio Pancreatography (ERCP) explained: A guide to the test at the Royal Berkshire Hospital

Your GP or hospital doctor has advised you to have an investigation known as an ERCP. This procedure enables us to examine and treat conditions of the biliary system (liver, gall bladder, pancreas, pancreatic and bile ducts). This test is used to diagnose problems with the pancreas and bile ducts. It is often possible to treat the problem at the same time. This leaflet explains what to expect so you can make an informed decision prior to signing your consent form. If you have any questions or concerns, please do not hesitate to speak to a doctor or nurse caring for you in the Endoscopy Unit. Please bring this leaflet with you.

Introduction

- If you are unable to keep your appointment please inform us 0118 322 7459 as 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. **Any patients failing to attend for their appointment will not routinely be offered another appointment.**
- There is limited free drop off / collection parking bays and 3 disabled bays outside the Endoscopy Unit. There are limited 30 minutes free drop off parking bays on the left side as you enter the car park. Some limited Pay and Display bays are also available. Public parking can be found in the main multi-storey car park on levels 0, 1, 2 and 3. Payment is 'on exit' with pay point machines on level 0 and 2.
- Please note that there is no access to the Endoscopy Unit through the main hospital, the entrance is in Craven Road. The Unit is situated at the top of Craven Road, past the main entrance and maternity block.
- Please arrive at the time stated in our letter so you can be assessed by the nurse and if necessary have a blood test taken pre-procedure.
- Please note your appointment time is your arrival time on the Unit, not the time of your test. Your test will happen sometime later and although there may be other patients in the Unit who will arrive after you but are taken in for their test before you, this is for medical reasons or because they are seeing a different endoscopist (doctor).

For our information: collection details

Please write your relative's or friend's name and telephone number below:

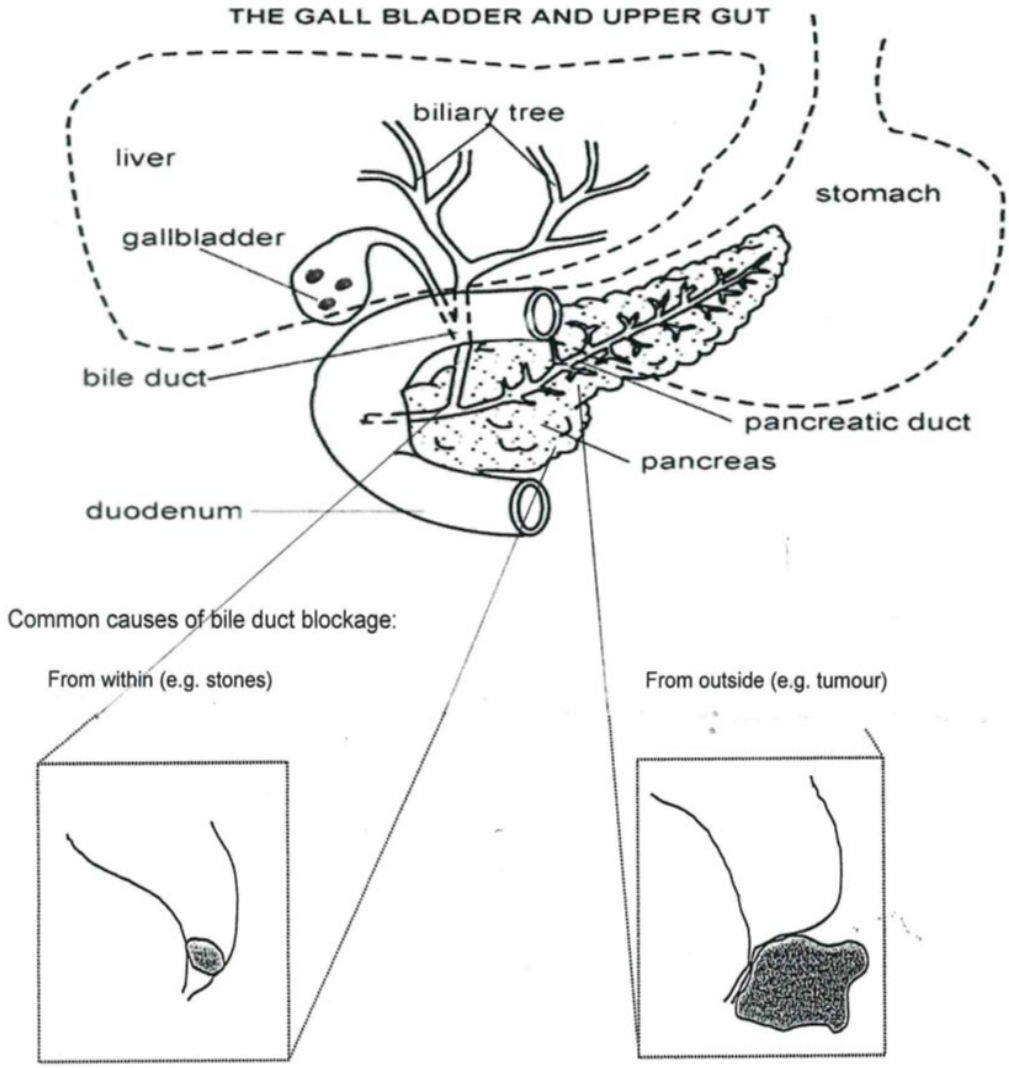
Name: _____

Telephone number: _____

ERCP Consent Clinic

The Biliary Clinical Nurse Specialist runs a weekly ERCP-consent clinic on a Friday afternoon. This involves taking a detailed medical history and discussing the procedure risks and benefits in greater detail. The Biliary CNS can answer any questions or concerns prior to the day and gain informed consent (record electronic consent) if you are in agreement. If you have any questions or want to know more about the procedure, please contact the Biliary CNS Sinead McEvoy 0118 322 7417 between 9.00am and 5.00pm, Monday to Friday.

What is an ERCP?



ERCP is a procedure that enables your doctor to examine the pancreatic and bile ducts. A bendable lighted tube (endoscope) about the thickness of an index finger is placed into your

mouth and into your stomach and the first part of the small intestine (duodenum). In the duodenum a small opening is identified (ampulla) and a small plastic tube (cannula) is passed through the endoscope and into this opening. Dye (contrast material) is injected and x-rays are taken to study the ducts of the pancreas and liver. You will have sedation that will make you feel drowsy and relaxed but you may be aware of parts of the procedure.

Why do I need an ERCP performed?

ERCP is an endoscopic procedure performed by experienced endoscopy consultants with therapeutic intent (to clear stones, get a tissue biopsy or insert a stent). The most common reasons to do an ERCP are jaundice (yellowing of the skin or eyes) or abnormal liver blood tests, especially if you have pain in the abdomen, or if a scan (ultrasound or CT scan) shows a blockage of the bile or pancreatic ducts. Blockages can be caused by stones, narrowing of the bile ducts (strictures), and growths or cancers of the pancreas and bile ducts.

During an ERCP, stents (small plastic or metal tubes) can be inserted into the bile ducts, to allow drainage of bile into the intestine. Stents can also be inserted into the duodenum for patients who have a blockage to the flow of food out of the stomach. The surgeon may also make a small incision in the bile duct (sphincterotomy) to aid removal of any stones.

An ERCP can give more information about the pancreas and bile ducts, and brushings and biopsies (specimens of cells for analysis) can be taken from the bile ducts or the pancreas.

What are the benefits – why should I have an ERCP?

An ERCP allows your doctor to gain detailed and accurate information about your pancreatobiliary system. It often allows treatment of obstructive jaundice (jaundice caused by a blockage in the bile drainage system).

Is there an alternative test to ERCP?

Other types of diagnostic imaging used to investigate the pancreatobiliary system include:

- A CT (computerised tomographic) scan can be performed, but the investigation is less precise, so small growths (less than 1cm) or gallstones can be missed, no biopsies can be obtained, and no stents can be inserted.
- An MRI (magnetic resonance imaging) scan can be performed, but the investigation does not allow direct vision of the bile ducts, no biopsies can be obtained and no stents can be inserted. Also, you cannot have an MRI scan if you have any internal metalwork (e.g. certain pacemakers or joint replacements <6 weeks old).
- An ultrasound scan can provide limited images of the biliary system, but a biopsy cannot be obtained and no stents can be inserted.
- An endoscopic ultrasound can be performed, but stones cannot be removed, a sphincterotomy (cut at the base of the bile duct) cannot be performed, and no stents can be inserted.

Although ERCP carries risks, it is only carried out when the doctors have carefully balanced the risks of doing this test compared with doing any other test or operations, and the risks of doing nothing. The consultant will be happy to discuss this with you further.

What are the risks?

ERCP is a complex type of endoscopy and complications can occur so we need to make you aware of these.

Minor complications:

- Mild discomfort in the abdomen and a sore throat, which may last up to a few days.
- You may develop a reaction to the sedative used; however, this will be monitored.
- There is also slight risk of damage to dental crowns or dental bridge work from the procedure.

Potential serious complications:

- Pancreatitis can occur following an ERCP in approximately 5-6 in 100 people. If pancreatitis should develop, you will experience severe pain in the centre of the chest getting progressively worse, usually starting a few hours after the procedure and lasting for a few days. The pain can be controlled with painkillers and you will be given an intravenous (into a vein) infusion of fluids in hospital to keep you hydrated until the pain subsides. Although it is very rare, severe pancreatitis can be fatal (less than one in 500 cases).
- If a sphincterotomy (a small cut in the bottom of the bile duct) is performed, there is a risk of bleeding which usually stops quickly by itself. If it does not stop by itself we may inject you with adrenalin through the endoscope. If you experience any vomiting blood and/or passing black bowel motions please seek urgent medical care.
- A hole may be made in the wall of the duodenum (perforation), either as a result of sphincterotomy or due to a tear made by the endoscope. This happens in less than one in 750 cases. It might require corrective surgery.
- A very rare complication is a reaction to one of the sedative drugs used.

The risks of sedation

ERCP is usually carried out with sedation – a drug to make you drowsy and relaxed (but not asleep). Sedation can occasionally cause problems with breathing, heart rate and blood pressure. If any of these problems do occur, they are normally short lived. Careful monitoring by endoscopy nurse ensures that any potential problems can be identified and treated rapidly. Very occasionally some patients become restless and agitated; in these instances we may need to stop the procedure. Patients who have significant health problems, for example, acute or chronic breathing difficulties, may be assessed by a doctor before having the procedure.

What if ERCP is unsuccessful?

Patients are sometimes discussed at a special meeting called Biliary MDT, attended by radiology consultants and surgeons, alongside the interventional endoscopists and the Biliary CNS.

If the ERCP is unsuccessful, a percutaneous trans-hepatic cholangiogram (PTC) may be considered. This would be performed under x-ray guidance in the radiology department, which also allows therapeutic intervention. It would only be agreed after detailed discussion, with a

clear clinical need. It can be useful particularly if the obstruction is higher up within the biliary system. The risk of potential complications of a PTC, such as bleeding, infection and even death, is greater than in ERCP.

Preparing for the ERCP

- The biliary nurse specialist, who is also an experienced endoscopy nurse, will telephone you prior to your ERCP to take a medical history and answer any questions or concerns that you may have.
- Blood tests need to be pre-booked and done at least three days before your ERCP procedure to check the clotting of your blood and your blood count. This can be done at your GP surgery or at the Royal Berkshire Hospital, Bracknell Healthspace or the West Berkshire Community Hospital.
- In order for the doctor to be able to have a clear view with the camera, it is important that you **do not eat anything for six hours before the test**. **However, you can have sips of water up to two hours before the test.**
- You should continue to take your usual medications, unless we tell you otherwise.
- You will be asked to undress and put on a hospital gown and to remove your jewellery and false teeth, if you have them. We also provide ERCP patients with disposable paper shorts in the event we need to administer a rectal drug called Voltarol to reduce the risk of pancreatitis.
- Bring a dressing gown and slippers with you. Please be aware, on occasion, it may be necessary to admit you to a hospital ward overnight, so we recommend that you bring an overnight bag.
- Bring something to occupy yourself. This is because all the patients on this list will be asked to attend the endoscopy unit at the same time. We will keep you informed of the progress of the list and try to keep waiting times to a minimum. Only later in the day will we be able to give an approximate time when you are likely to go home.

Anticoagulants and Antiplatelet (drugs that affect the blood)

Please telephone the Endoscopy Unit on 0118 322 7458/5249 if you are taking anticoagulants such as Warfarin, Clopidogrel, Dabigatran, Rivaroxaban, Apixaban, Edoxaban, Prasugrel, Ticagrelor and Dipyridamole.

If you have any questions about any other of your medicines, please discuss with your GP, or please contact the Endoscopy Unit.

Patients with diabetes

If you have diabetes, please read the section called ‘Advice for people with diabetes undergoing a gastroscopy and/or colonoscopy’ at the end of this leaflet.

Asking for your consent

We want to involve you in all the decisions about your care and treatment. If you decide to go ahead with the ERCP, you will be asked to sign a consent form. This confirms that you agree to have the procedure and understand what it involves.

How long will I be in the Endoscopy Unit?

We request that all our ERCP patients on a particular list arrive at the same time. Due to the potential complexity of each case we are unable to give you a more precise time but expect to be in the Endoscopy Unit for most of the day as you will be monitored, post procedure, for up to eight hours. The unit staff will keep you updated as to approximate waiting times on the day of your procedure.

How long does an ERCP take?

The procedure time can vary between 30-60 minutes, according to the complexity of each case.

What happens when I arrive?

- When you arrive in the unit you will be met by a 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 ERCP procedure. The nurse will ensure you understand the procedure and discuss any outstanding concerns or questions you may have.
- As a safety measure, each time you meet a different member of the team, you will be asked to confirm your personal details.
- You will be receiving intravenous sedation, a strong painkiller and a drug that relaxes the bowel. 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 to go home.
- You will have a brief medical assessment with an endoscopy nurse who will ask you some questions regarding your medical conditions and any past surgery or illness. This is to confirm that you are sufficiently fit to undergo the investigation. Your blood pressure and heart rate and oxygen levels will be recorded and if you have diabetes, your blood glucose level as well.
- If you have not already done so, and you agree to proceed, you will be asked to sign your consent form at this point.

Intravenous sedation and pain relief

- The sedation and pain relief will be given into a vein in your hand or arm and will make you lightly drowsy and relaxed but not unconscious, in a state called conscious sedation. This means that, although drowsy, you will still hear what is said to you and respond to simple instructions. Sedation will not necessarily put you to sleep. Sedation also makes it unlikely that you will remember much about the procedure.

- We will give you some extra oxygen through small tubes inserted in your nose. While you are sedated we will check 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 will also be recorded.

What happens during the ERCP procedure?

- ERCPs at the Royal Berkshire Hospital are performed by specialist consultants – called interventional gastroenterologists.
- You will be escorted into the procedure room where the endoscopist and the nurses will introduce themselves and you will be asked again to confirm your personal details and have the opportunity to ask any final questions.
- All staff will be wearing lead aprons to protect against over exposure to X-rays.
- You will be given some sips of water with a bubble breaking solution to drink. This is to allow clear views during the procedure.
- 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 that will be inserted immediately before the examination starts. This enables the telescope to pass through your mouth.
- You will be given a local anaesthetic spray; this will be sprayed onto the back of your throat to numb the throat and reduce the gag reflex The effect is rapid and you will notice loss of sensation to your tongue and throat.
- The nurse looking after you will ask you to lie on your left side with your left arm straight behind you and your right arm bent on an arm rest.
- A nurse will attach a probe to one of your fingers to record your pulse and oxygen level, as well as monitoring your blood pressure and heart rhythm.
- During the examination the nurse will give oxygen via two very small tubes inserted into your nostrils.
- We may also place a cold, adhesive diathermy pad onto your buttock or thigh. This is to enable the endoscopist to do a sphincterotomy (small cut at the entrance to the bile duct).
- You will be given an injection of intravenous sedation and painkiller through a small needle in the back of your hand or arm. A nurse will sit behind your head and monitor you for the duration of the procedure. Once you are drowsy, a flexible tube about the width of an index finger, with a tiny camera lens on the side (duodenoscope) will be passed through your mouth, down your gullet, into the stomach, and then into the second part of the small intestine (duodenum).
- CO2 is used to inflate the stomach. If you have a lot of saliva in your mouth, the nurse will remove it using a small suction tube like the one used by dentists.
- A very thin plastic tube with a fine wire will be inserted through the duodenoscope, into the duodenum, then through the existing tiny hole (papilla) that gives us access to the common bile duct (CBD). We then inject a special dye through this tube, so that the bile ducts can be seen on the X-ray screen. The dye is later passed out of your body harmlessly.
- The endoscopist will then carry out any treatment that is required.

- The endoscopist may perform a number of procedures to clear the bile duct.
- If the procedure is being performed to remove stones from the CBD, a small incision (sphincterotomy) may be made to the papilla to allow accessories such as a small basket or balloon to be inserted to grasp/trawl the stone(s). Any small stones that may get into the bile duct in future are likely to easily get into the small intestine. The sphincterotomy is permanent but does heal. Sometimes, we might crush stones if they are difficult to remove.
- If the problem in the bile duct is due to a blockage, then a plastic or metal tube (stent) can be placed through the blockage, allowing the bile to drain freely with a gradual improvement or resolution of jaundice over several days.
- Specimens may be taken from the ampulla or bile ducts using a small brush or forceps. We will advise you regarding when the results will be available.

What happens after the procedure?

- The nurse will monitor your pulse and blood pressure regularly and observe you for any complications in our recovery area. If you have diabetes, your blood glucose will be monitored. If you have underlying difficulties or if your oxygen levels were low during the procedure, we will continue to monitor your breathing and can administer additional oxygen.
- You will need to stay in the Endoscopy Unit until your observations are stable and you are eating and drinking. This can take up to eight hours.
- An antibiotic may be administered intravenously to prevent infections, e.g. cholangitis (infection in the bile duct).
- A suppository may be inserted into your back passage (anus) to minimize the risk of pancreatitis.
- You might experience a sore throat and bloating if there is still some air in your stomach. Both of these are normal and will get better gradually.
- The doctor will decide whether to discharge you home or admit you to a ward overnight.
- The doctor or the biliary nurse will explain the results of the ERCP, what treatment has been given or is planned. The results will be sent to your referring doctor (this can be either your GP and/or hospital doctor).
- Since sedation can make you forgetful it is a good idea to have a member of your family or a friend with you when you are given an explanation of what happened during your procedure; although a short written report will be given to you.
- You may feel fully alert following the investigation despite having had sedation; however, the drug remains in your blood system for up to 24 hours and you can intermittently feel drowsy with lapses of memory.
- **As you have had sedation you are not permitted to drive, take alcohol, operate heavy machinery or sign any legally binding documents for 24 hours. Following the procedure you must have someone to accompany you home and stay with you for up to 8 hours. You are not allowed home alone in a taxi. If you are having sedation and you do not have anyone to accompany you home, then your procedure will be cancelled.**
- You will be nil by mouth for up to three hours after the ERCP procedure.

- If you have been asked to stop any medicines before the procedure, we will confirm when to restart these before you leave the Endoscopy Unit.

Will I feel any pain?

The air introduced into your stomach during the procedure may cause mild stomach cramps. These will soon disappear. We will give you a strong painkiller called Pethidine directly into a vein which works quickly. Afterwards, simple painkillers tablets such Paracetamol, may be taken. Taking peppermint (e.g. as peppermint tea or peppermint water) can help to pass the air.

If you develop severe abdominal pain or feel hot, sweaty or feverish after you have returned home, please call 111 or go to the nearest Emergency Department (A&E), taking a copy of your ERCP report with you (if possible).

Will I have any side effects?

Serious side effects from this procedure are rare but for the rest of the day you may have a sore throat. You may also feel a little bloated if some air we use in the test has been left behind. Both of these things will pass with no need for medication.

You may eat and drink normally on your return home.

If you develop severe abdominal pain, a fever/chills, black stools (melena) or vomiting blood please go to the Emergency Department (bringing a copy of your ERCP report if possible).

The biliary nurse specialist will telephone you the next day (or on the Monday following a Friday procedure) to check that you feel well and answer any additional questions.

What do I need to do after I go home?

Once you get home, eat and drink as normal and take things easy for the rest of the day.

Will I have a follow-up appointment?

If you need a follow up gastroenterology appointment, a letter will be sent in the post.

Summary of important information

- Patients undergoing an ERCP procedure are carefully selected where potential benefits outweigh the risks of the procedure. Complications are rare, however it is your decision whether you wish to go ahead with the procedure or not and you are free to change your mind at any time.
- It is everyone’s aim for you to be seen as soon as possible. However on an interventional list it is difficult to give patients a precise time when they will be seen. The unit can be busy and your investigation may be delayed. If emergencies occur, these patients will obviously be given priority over the less urgent cases.
- Please do not bring valuables to the hospital. 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 Unit on 0118 322 7459 as soon as possible.
- **If you may be pregnant please contact the Endoscopy Unit as soon as possible. This procedure uses X-rays.**

Contacting us

Contact the Endoscopy Unit during office hours (9.00am to 5.00pm) on telephone number 0118 322 7458 / 7459.

Out of office hours, and weekends, please ring Sidmouth Ward on 0118 322 7468.

Royal Berks Charity Gastroenterology Support Fund U200

The Gastroenterology Support Fund was set up with the purpose of providing gastrointestinal services that may not otherwise be available through NHS resources. The Gastroenterology Department carries out many hundreds of complex diagnostic test procedures each year and is one of the most technically advanced departments in the UK. Nevertheless, much of the equipment and some of the staffing are funded through non-NHS money raised by donations and charitable resources. In Endoscopy this funding supports Specialist Nurse Training. In order to expand these facilities and to remain up to date with the technological advances that are continually occurring, further donations are greatly needed and appreciated.

Donate today to the Royal Berks Charity Gastroenterology Support Fund and help make a difference. Scan this QR code to find out how to donate.

Patient and visitor Park & Ride 300 bus service

If you are coming to the Royal Berkshire Hospital and wish to avoid long waits for parking in the multi storey, please consider using the park & ride bus service. Running Monday to Friday between 6am and 7pm, the hospital park & ride 300 service links the Royal Berkshire Hospital with the Mereoak and Thames Valley park & ride sites. For timetables and more information, visit https://www.reading-buses.co.uk/services/RBUS/300 or call 0118 959 4000.

To find out more about our Trust visit www.royalberkshire.nhs.uk

Please ask if you need this information in another language or format.

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Advice for people with diabetes undergoing a gastroscopy

The day before the procedure:

- **<u>If not on insulin:</u>**
  - Take your medications as normal
- **<u>If on insulin:</u>**
  - Reduce the dose of long / intermediate acting insulin by 20% *(Lantus, Levemir*, Degludec, *Humulin I, Insulatard*)
  - No change to Rapid acting *(Humalog, Novorapid, Apidra, Humulin S, Actrapid)*
  - No change to pre-mixed insulin (*Novomix 30, Humalog 25, Humulin M3)*

On the day of the procedure:

- **<u>If not on insulin:</u>**
  - Omit (leave out) morning dose of all tablets
- **<u>If on insulin:</u>**
  - Reduce dose of morning long acting/ intermediate dose by 20% *(Lantus, Levemir, Degludec, Humulin I, Insulatard)*
  - Omit (leave out) your Rapid acting insulin until you're able to eat. *(Humalog, Novorapid, Apidra, Humulin S, Actrapid)*
  - Reduce the dose of your morning pre-mixed dose by half *(Novomix 30, Humalog 25, Humulin M3)*

Remember, you are allowed clear sugary drinks if your blood glucose levels are low i.e. below 5 mmol/L.

For people with Type 1 diabetes on Insulin Pump therapy (Continuous Subcutaneous Insulin):

Please discuss what to do before your procedure with a member of the Diabetes Specialist Team. As a general rule use a temporary basal rate reduction of 10% (divide by 10) from 6.00am on the morning of the test.

Remember to monitor your blood glucose levels every four hours if you are on insulin. If your blood glucose level falls below 4mmol/L, take 4-5 glucose tablets or 150mls of a glucose drink. Remember to inform a member of staff in the Endoscopy Unit if your blood glucose level is low.