James Paget University Hospitals NHS
NHS Foundation Trust

Percutaneous Endoscopic Gastrotomy (PEG)

The procedure explained.

Your appointment details, information and consent form.

Patient Information

Please bring this booklet with you to your appointment

What is a PEG?

A Percutaneous Endoscopic Gastrostomy (PEG) is a procedure to place a feeding tube through your skin and into your stomach. Your doctor has recommended a PEG, however it is your decision whether to go ahead with the procedure or not. This document will give you information about the benefits and risks to help you make an informed decision. If you have any questions after you've read this information, you should ask your doctor or any member of the healthcare team.

Why do I need a PEG?

Your healthcare team is concerned that you are not able to eat or drink enough in the normal way. This is usually caused by a problem that makes it difficult for you to swallow, such as a stroke or growth in the wall of the pharynx (throat). A PEG should allow the healthcare team to give you the nutrients and fluids you need to stay alive. They can also give you medication through the tube.

A PEG will help if you have a condition that increases the amount of nutrients you need to maintain your energy levels, such as cystic fibrosis.

Are there any alternatives to a PEG?

It is possible to be given nutrients and fluids through a tube that is placed into your nostrils and down into your stomach (naso-gastric or NG tube). However, an NG tube is suitable only if you need help for a short period of time and if your throat is healthy. If you need help for a longer time or if you have a problem with your throat your doctor will normally recommend a PEG.

The feeding tube can be placed directly into your stomach by an operation (surgical gastrostomy). However, this involves an anaesthetic and has a higher risk of complications.

The tube may be guided into your stomach using x-rays. This procedure has similar risks and benefits to a PEG.

It is also possible to be given nutrients and fluids directly into your bloodstream (parenteral nutrition-PN). However, PN has more possible complications and is usually recommended if you cannot take food through you digestive system.

Your doctor will tell you why a PEG has been recommended for you.

What will happen if I decide not to have a PEG?

Your doctor may be able to recommend another way of feeding you. However, if a PEG is the only dependable way to give you fluids and nutrients, you may lose weight and become ill if you choose not to have it.

You should discuss this with your doctor.

Preparation for the test

If you are having the procedure during a hospital admission, then you will be prescribed daily Octenisan® body wash by the ward team.

If you are being admitted from home, you will be prescribed Octenisan® body wash for daily use for three days before the procedure.

If you are being admitted from a care home, the staff will take swabs to check whether or not you are a carrier of bacteria called MRSA. If you are MRSA positive your GP will prescribe Octenisan® body wash daily and mupirocin (Bactroban®) nasal ointment three times a day for five days and then further swabs will be taken. If you still test positive for MRSA, advice will be sought from the infection control team.

Eating and drinking

The procedure must be performed on an empty stomach to reduce risk of vomiting so you must not eat or drink for six hours before the test, even if you are already being fed using a tube (only sips of water are safe up to two hours before the test).

Blood Tests

You will need to have some blood tests one to two days before the procedure.

Diabetics

Adjusting therapy

As a person with diabetes, you will need to adjust your treatment according to the timing of the appointment. As a result your blood sugar may be a little higher than usual. This is only temporary in order to maintain your blood sugars through the procedure and you will be back to your usual level of control within 24-48 hours. Please see guidelines printed in the back of this booklet.

Medication

Anticoagulants

If you are taking anticoagulants e.g. warfarin, dabigatran, rivaroxaban and apixaban the anticoagulation nurse will contact you about stopping or dosing and arranging a blood test. You will also need a blood test on the day of the procedure to check your INR and advise on dosing.

Anti-platelet agent

There is no restriction in taking aspirin or dipyridamole which can be taken as usual. If you are taking clopidogrel, ticagrelor or prasugrel please stop seven days before the procedure. The referring doctor will tell you if you are required take aspirin for that time period. However, if you have had a cardiac stent inserted in the last 12 months your consultant will need to discuss any changes to your medication with a cardiologist. If your consultant has not discussed this with you please ring the relevant secretary.

If you have ever been told that you have CJD or vCJD or were at risk of developing it, please ring the department as soon as possible.

If you are taking warfarin or clopidogrel please contact your consultant's secretary or the endoscopy department as it may

be necessary to adjust the dose or temporarily stop these medications. If you have been on warfarin you will need to have a blood test on the morning of the procedure.

What happens when I arrive?

A nurse will ask you some questions about your medical history, check how you have prepared for the procedure and about your means of transport home. You will be able to ask the nurse any questions relating to the procedure.

You will be allocated a bed and asked to change into a gown. A cannula will be placed in the back of your hand so we can give you sedation if appropriate.

The consultant will take consent for the procedure and enable you to ask any further questions.

In the Endoscopy Room

You will be introduced to the team looking after you and they will attach you to monitoring equipment for blood pressure and a finger probe to monitor your breathing.

Once you have removed any false teeth, your throat may be sprayed with local anaesthetic and you will be asked to swallow. This may taste unpleasant.

You will then be laid flat and a plastic mouth guard placed between your teeth. You may be given oxygen through a small tube in your nose.

If you are having sedation it will be given at this point.

A PEG usually takes between 15 and 20 minutes. It involves placing a flexible telescope (endoscope) into the back of your throat and down into your stomach. The endoscopists will use the endoscope to guide them while they insert the feeding tube.

You may be asked to swallow when the endoscope is in your throat. This will help the endoscope to pass easily into your stomach. The endoscope will be used to blow air into your stomach to improve the view and to expand your stomach so

that it presses against your abdominal wall.

- Local anaesthetic will be injected into the area on your abdomen where the tube will be inserted. This stings for a moment but will make the area numb, allowing the tube to be placed into your stomach with much less discomfort for you.
- They will press on your stomach to help make sure the tube is placed in the correct position. The endoscopists may need to use a special device to attach your stomach to your abdominal wall.
- They will pass a fine thread through the needle and into your stomach. The endoscope will be used to get hold of the end of the wire and will remove the endoscope bringing the wire out of your mouth.
- The feeding tube will be attached to the wire and the thread to pull the tube down into your stomach. They will use the needle as a guide while they bring the thread and tube out of your stomach and through the hole in your abdominal wall (exit site).
- The endoscopists will remove the needle to leave one end of the feeding tube in your stomach with about 8 to 10 centimetres (about 3 to 4 inches) of tube outside of your abdomen.

The tube known as a bolster (cross–piece or internal flange) sits inside your stomach and helps to prevent the tube from coming out.

Over the next few months, the stomach and abdominal wall will join together.

The procedure is usually not painful. However, you may feel bloated because of the air blown into your stomach.

What complications can happen?

The healthcare team will make your procedure as safe as possible. However, complications can occur and some of these can be serious.

The possible complications of a PEG are listed below. Any numbers which relate to risk are from studies of people who have had this procedure. Your doctor may be able to tell you if the risk of a complication is higher or lower for you.

- Infection: usually any infection is mild and affects only the area around the exit site (risk 1 in 10). However, sometimes the tissues of your abdomen can get infected (risk 1 in 1000). It is possible to get an infection from the equipment used, or if bacteria enters your blood. The equipment is sterile so the risk is low, but you should let the endoscopists know if you have a heart abnormality or a weak immune system. You may need treatment with antibiotics. You should let your GP know if you get a temperature or feel unwell.
- Chest infection: The risk is higher if you already have problems swallowing and you need sedation or the local anaesthetic spray. A chest infection can also be caused by reflux, where some of the food from the tube travels up into the oesophagus.
- Bleeding during or after the procedure. This can usually be stopped by using the tube to put pressure on the wound.
- Blocked tube. This can happen after a number of months as the tube deteriorates. You may need another PEG to replace the tube.
- Peritonitis (infection in the peritoneum). This can happen if some air or bowel contents leak into your abdominal cavity. Peritonitis can usually be treated with antibiotics and normally settles in two to three days. However, it may delay the time until the healthcare team can feed you using the tube.

- PEG tube falling out within the first 12 weeks, before the stomach properly joins to the abdominal wall. This is a serious problem. Do not try to put the tube back. Go to the nearest Accident and Emergency department or call an ambulance.
- Damage to the liver or intestine by the needle (risk: less than 1 in 500). This can be life-threatening, and can happen if the liver or intestine is stuck close to the stomach as a result of previous surgery.
- Buried internal bolster. The bolster can sometimes get attached to the lining of your stomach. It is important to follow the advice from your healthcare team to help prevent this from happening.
- Leaking from the exit site. If over time the hole in your stomach gets bigger than the tube. The healthcare team may need to remove the tube for a few days while the hole gets smaller.
- Tissue granulation around the exit site. This is where moist tissue, dark pink or red in colour, develops around the tube as the body tries to heal the wound. A small amount is normal. However, a lot of granulation tissue can cause pain and make it difficult to care for the PEG tube. Follow your doctor's advice about using silver nitrate to treat the tissue.
- Allergic reaction to the equipment, materials or drugs. The endoscopy team can detect and treat any reactions that might happen. Let the endoscopists know if you have any allergies or if you have reacted to any drugs or tests in the past.
- Breathing difficulties or heart irregularities as a result of reacting to the sedation or inhaling secretions such as saliva. To help prevent this from happening, your oxygen levels will be monitored and a suction device will be used to clear any secretions from your mouth.
- Making a hole in the oesophagus or stomach. If a hole is made, you will need further treatment which may include surgery.

- Damage to teeth or bridgework. The endoscopists will place a plastic mouthpiece in your mouth to help protect your teeth. Let the endoscopists know if you have any loose teeth.
- Death, which does sometimes happen with a PEG (risk: less than 2 in 100). The risk is less the fitter you are. The risk will increase if any other complications happen following the operation, such as a chest infection.

You should discuss these possible complications with your doctor if there is anything you do not understand.

How soon will I recover?

After the procedure you will be transferred to the recovery area and then to the ward. If you were given a sedative, you will normally recover in about an hour. However, this depends on how much sedation you were given.

You may feel a bit bloated for a few hours but this will pass. You will usually have a tight feeling in the area where the feeding tube is, but this will settle over the next couple of days.

You (or your carer) will usually be trained by a specialist nurse or dietician who will show you how to feed yourself using the tube. It is important to follow the advice you are given to prevent infection and the tube becoming blocked.

Depending on how much support you need, you may not be able to look after yourself at home and may need to go to a care home. Your healthcare team will support you.

If you are worried about anything, in hospital or at home, contact a member of the healthcare team. They will reassure you or identify and treat any complications.

Returning to normal activities

If you have a lot of pain when feeding, or if you have bleeding or leaking from the exit site within 72 hours of having the feeding tube, it is important that you stop feeding and contact the healthcare team.

Depending on the problem that made it difficult for you to swallow, you should be able to return to your normal activities after one to two weeks. If you go swimming, you should wear a waterproof dressing.

If you have any problems with the feeding tube or exit site, contact a member of the healthcare team. In an emergency, go to your nearest Accident and Emergency department.

Do not drive until you are confident about controlling your vehicle and always check your insurance policy and with your doctor.

Lifestyle changes

If you smoke, you should stop smoking now as this will improve your long term health. Regular exercise will also help. Before you start exercising, ask a member of the healthcare team or your GP for advice.

The future

The healthcare team will monitor you closely. Your doctor will advise you on how long you need to have the tube. This will depend on the problem that made it difficult for you to swallow. If you no longer need the tube, your doctor will discuss this with you. Once the PEG tube is removed, the hole in the stomach may leak for a few days but then usually heals by itself. If it does not heal properly, contents of the stomach can leak onto the skin (gastrocutaneous fistula). This is more likely if the PEG tube has been in place for longer than eight months. If this happens, you may need an operation.

Summary

A PEG is usually a safe and effective way of allowing you to get the nutrients and fluids you need to stay alive. However, complications can happen. You need to know about them to help you make an informed decision about the procedure. Knowing about them will also help the early detection and treatment of possible problems.

Keep this information leaflet. Use it to help you if you need to talk to a healthcare professional.

General points to remember

- If you are unable to keep your appointment please notify the Endoscopy unit as soon as possible.
- 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 less urgent cases.
- If you have any problems with persistent or worsening abdominal pain, please contact your GP immediately informing them that you have had an endoscopy.
- If you are unable to contact or speak to your doctor, you must go immediately to the nearest Accident and Emergency department.
- The hospital cannot accept any responsibility for the loss or damage to personal property during your time on these premises.

Privacy and dignity

Please note we have single sex changing, recovery and toilet facilities available in the unit.

Please be advised that relatives are not permitted into the procedure room with the patient or into the recovery areas. This is to protect other patients' privacy and dignity and enable staff to concentrate on looking after the patients.

Contact telephone number

Advice can be obtained from the Endoscopy unit on 01493 452370 Monday to Friday 08.00 – 18.00 hours. Alternatively you can contact the Accident and Emergency department on 01493 452559.

Guidelines for people with diabetes undergoing endoscopic procedures

Insulin

Every effort will be made to offer you a morning appointment if you are on insulin and require an endoscopic procedure. If you have been given an afternoon appointment please be sure to tell the department that you are a diabetic on insulin.

a. **If you are on insulin 4 times daily or more and require insulin adjustment advice, contact the Diabetes Nursing Team on 01493 453373 (answer phone).**

b. **If you are on an insulin infusion pump** there is no need to make any adjustment to your bolus insulin doses. Your basal insulin should be reduced by 30% for 2 hours before and 2 hours after any booked procedure time. This can be extended, if necessary, according to recovery and diet.

c. **If you are on pre-mixed insulin (e.g. Humulin M3, Insuman Comb 25 or NovoMix 30) up to 3 times daily**

Evening before:
Reduce your insulin dose by a third at your evening meal

Morning of the appointment:
You should have nothing to eat after midnight but may have water up to 06.00 hours. If you feel hypoglycaemic, take glucose tablets, or drink clear sugary fluids from the list at the end of this information.

Do not take your morning dose of insulin but bring your insulin with you to take after the procedure and once the nursing staff have informed you that you are able to eat and drink safely.

You should only take your insulin with food.

If you normally take insulin at breakfast and evening meal, reduce the first dose after your procedure by half if taken after 1100 hours. This is to give you sufficient time lapse between the two injections to reduce the risk of hypoglycaemia in the evening.

If you take insulin at breakfast, lunch and evening meal omit the morning dose and take your normal dose at lunchtime.

d. **If you are on short acting and medium / long acting insulin which are not pre-mixed eg Actrapid and Insulatard or Hypurin Porcine / Beef Neutral and Hypurin Porcine / Beef Isophane and have a morning appointment**

Evening before:
Reduce medium / long acting insulin by a third.

Take normal short acting insulin.

Morning of appointment:
Do not take your morning dose of short acting insulin but bring it with you to take after the procedure and with food.

You should take half your normal dose of medium / long-acting insulin at your normal time even though you are not eating.

e. **If you are on once daily insulin and have a morning or afternoon appointment**

You should not need to make any adjustment to your evening dose.

You should reduce any morning dose by a third even though you are not eating.

Diabetic Tablets

Every effort will be made to offer you a morning appointment if you are a tablet controlled diabetic and require an endoscopic procedure. If you have been given an afternoon appointment please be sure to tell the department that you are a diabetic on tablets.

You should have nothing to eat after midnight but may have water up to 0600 hours. If you feel hypoglycaemic, take glucose tablets, or drink clear sugary fluids from the list at the end of this information.

a. If you are on Diabetic tablets and have a morning appointment

Evening Before:

If you are taking - Nateglinide (tablet)
Repaglinide (tablet
Gliclazide (tablet)
Glimepiride (tablet)
Glipizide (tablet)
Tolbutamide (tablet)

It is not necessary to make any dose reduction.

If you are taking glibenclamide (tablet) reduce any evening dose by half.

If you are taking metformin, it is not necessary to make any dose reduction.

Pioglitazone, Sitagliptin, Saxagliptin, Linagliptin and Dapaglifoxin are all diabetic tablets normally taken in the morning. If you are taking any of these you do not need to make any dose changes.

Vildagliptin is normally taken twice daily but it is not necessary to reduce the evening dose.

Acarbose may be taken up to three times daily. If you are on Acarbose it is not necessary to make any dose changes on the day before the procedure.

Liraglutide and Lixisenatide (injections) are normally taken once daily in the morning. You do not need to make any changes on the day before the procedure. If you normally inject either of these before your evening meal, do not take the evening dose but restart your normal dose on the following evening (the day of the procedure).

Exenatide (injection) is normally taken twice daily. Take your morning injection as normal but do not take the evening injection.

Morning of the appointment:
Do not take your morning dose of tablets, but bring them with you to take after the procedure. Report to nursing staff if you have needed glucose before arriving, and inform them immediately if you feel hypoglycaemic at any time during your visit.

You can take the following diabetic medications, **with food**, as soon as the nursing staff inform you that you can eat and drink safely: metformin, Pioglitazone, Sitagliptin, Saxagliptin, Linagliptin, Vidagliptin, Liraglutide, Lixisenatide, Exenatide, Dapaglifloxin, Acarbose.

You should **not** take your morning dose of any of the following: Nateglinide, Repaglinide, Gliclazide, Glimepiride, Glipizide or Tolbutamide but resume your normal dose at the evening meal.

Bydureon (slow release exenatide) is taken once weekly by injection. If this coincides with the morning of your procedure, do not take in the morning but take with the evening meal.

b. If you are on diabetic tablets and have an afternoon appointment

Take any medication, as normal on the day before the procedure. If you feel hypoglycaemic, take glucose tablets, or drink clear sugary fluids from the list at the end of this information.

Morning of the appointment:
You should have nothing to eat after 0930hrs on the morning of the procedure. Do not take your morning dose of tablets or injection but bring them with you to take after the procedure or with your evening meal using the same guidelines as for a morning procedure.

Report to nursing staff if you have needed glucose before arriving, and inform them immediately if you feel hypoglycaemic at any time during your visit.

Alternatives to Glucose Tablets
Lucozade Sport 200mls (13 tablespoons)
Grape Juice 100mls (6 tablespoons)
Sparkling apple juice 200mls (13 tablespoons)
Coke or Pepsi (not diet) 200mls (13 tablespoons)
Ribena 30mls (2 tablespoons) diluted
Squash / barley water 70mls (4 tablespoons) diluted
Sugar 4 teaspoons dissolved in 200mls of water

Notes

Notes

This booklet was produced by:

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and

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This booklet was adapted from an original document produced by the Winchester and Eastleigh Healthcare NHS Trust, Endoscopy Department

James Paget University Hospitals NHS
NHS Foundation Trust

Courtesy and respect
- A welcoming and positive attitude
- Polite, friendly and interested in people
- Value and respect people as individuals

So people feel **welcome**

Responsive communication
- Listen to people & answer their questions
- Keep people clearly informed
- Involve people

So people feel **in control**

Attentively kind and helpful
- Look out for dignity, privacy & humanity
- Attentive, responsive & take time to help
- Visible presence of staff to provide care

So people feel **cared for**

Effective and professional
- Safe, knowledgeable and reassuring
- Effective care / services from joined up teams
- Organised and timely, looking to improve

So people feel **safe**

IN TRAN
communication for all

The hospital is able to arrange for an interpreter to assist you in communicating effectively with staff during your stay through INTRAN.

If you need an interpreter or a person to sign, please let us know.

If you require a large print version of this booklet, please contact PALS on 01493 453240

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