

## Children's Services

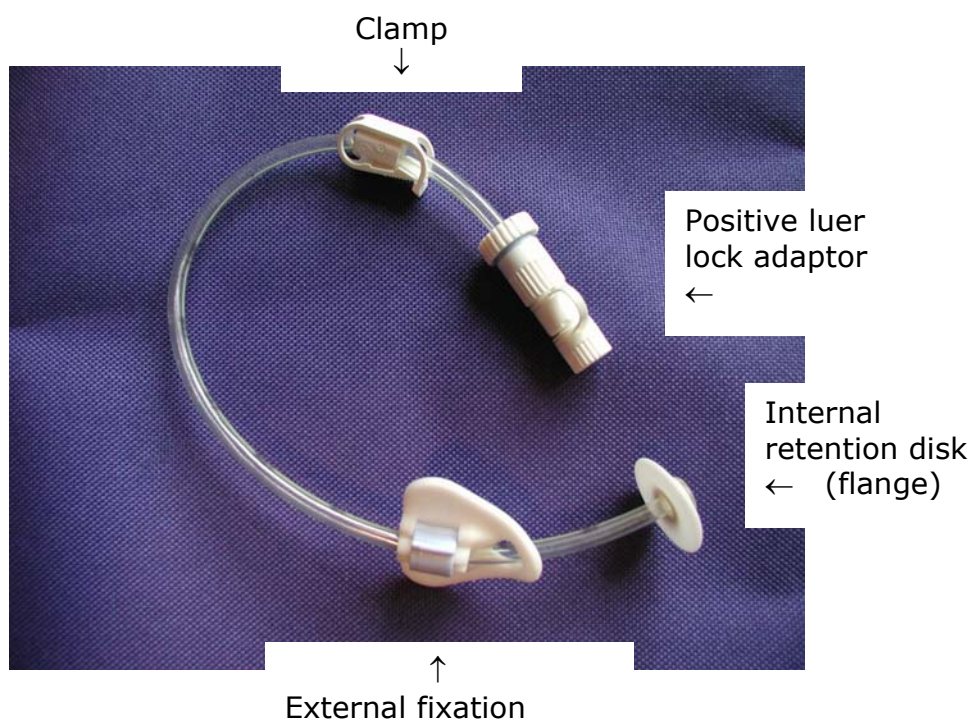
# Percutaneous endoscopic gastrostomy ('PEG') tubes

### What is a gastrostomy?

A gastrostomy is a surgically made stoma ('hole') from the skin to the stomach. A gastrostomy is formed when you/your child cannot eat or cannot eat enough to meet nutritional requirements. A gastrostomy tube is used to deliver nourishment and liquid (and medication where applicable) into the stomach.

### What is a percutaneous endoscopic gastrostomy ('PEG') tube and how is it inserted?

A 'PEG' tube is a feeding tube which is inserted into the stomach to provide a safe and long term method of obtaining nutrition. A PEG tube is inserted in children under a general anaesthetic. A gastroscope (a flexible instrument with inbuilt camera) is passed through your child's mouth, down their oesophagus ('food pipe') and into the stomach.



The stomach is then filled with air and a needle is passed through the skin into the stomach. The tube itself is inserted by it being threaded down the oesophagus, into the stomach and out through the hole made by the needle. The internal retention disk (flange) remains inside the stomach and then an external fixation plate is applied next to the skin to hold the tubing in place. Connectors and clamps are then added to the external tubing before the child is woken from the anaesthetic.

**Internal retention disk ('flange'):** Holds PEG tube in place next to the stomach wall and prevents tube from being pulled out.

**External fixation plate:** Keeps PEG in position next to skin. Together with the internal retention disk this prevents the PEG from dislodging.

**Clamp:** Prevents feed from coming back up tube.

**Positive luer lock adaptor:** Connector which fits into syringes/feeding administration sets by which feed/fluids/medications can be administered.

### What are the advantages of a PEG tube?

- Cannot be pulled out.
- Long lasting (the tube is made from polyurethane which is compatible with the human body and can last for one to three years).
- Usually easy to insert under General Anaesthetic.
- Easy to care for.
- More cosmetically pleasing than a naso gastric ('NG') tube.

### What are the disadvantages/complications regarding PEG tubes?

- Requires a general anaesthetic in children for insertion.
- Requires a general anaesthetic to change/remove it.
- The PEG tube is a foreign object in the body and can therefore be associated with infections around the site. Daily cleaning of the surrounding skin helps to prevent this.
- PEG tubes can block if not flushed appropriately (see section below on tube blockage)
- Serious complications related to PEG tubes are very rare and symptoms are seen usually within a maximum of 72 hours after PEG insertion or PEG change. If your child develops any of the 'red flag' symptoms **within 72 hours** of PEG insertion or change you should contact the Paediatric Surgery Nurse Specialist Team (contact number at the end of this leaflet). The Nurse Specialist team are available Mon-Fri 08:00 to 18:00 excluding bank holidays. Outside of these hours you should speak to your GP or local hospital who will contact the Paediatric Surgery Specialist Registrar at Addenbrookes. The 'red flag symptoms' are:

**Red Flag Symptoms**

- Pain or signs of distress
- Fresh bleeding
- Leakage of feed around the tubing

**Administering feed/fluids via a PEG tube**

- Your gastrostomy care team (Nutrition Specialist/Nurse Specialist/Dietitian) will recommend a feeding plan suitable for your child's needs and will provide teaching for you on how to administer it. This may be via a pump, by gravity ('bolus') feeds or a combination of both.
- It is important to wash hands carefully prior to and after accessing any gastrostomy tube.
- It is not necessary to check the position of the tube prior to feeding via it unless you are concerned that the tube does not have its normal appearance/may have dislodged.
- To maintain tube patency (prevent blockage) it is essential that a flush of at least 20mls of water (sterile or cooled boiled water in children aged below one year) is administered after a feed has been given. (Smaller volumes may be used in exceptional circumstances).
- Your gastrostomy care team will teach you how to administer feeds whilst you are in hospital.

**Administering medication via a gastrostomy tube**

- Administering medication correctly will avoid the gastrostomy tube becoming blocked.
- Remember to wash your hands prior to and after accessing a gastrostomy tube.
- Remind anyone prescribing medication for your child that the medication is to be delivered via the gastrostomy tube.
- Request that your child's medication is provided in a liquid form wherever possible.
- Some liquid medications are known to be associated with tube blockages and so need to be further diluted with water (usually a 50:50 dilution – half liquid medication, half water) before being administered via a gastrostomy tube. Ask a member of your gastrostomy care team if you are unsure. Clarithromycin (an antibiotic) is known to irreparably block gastrostomy tubes and therefore we advise that this medication is avoided via tube.
- If medication is only available in tablet form, seek advice from your GP/Pharmacist/Nurse Specialist on whether tablets can be crushed / mixed with water and how to make a solution with crushed tablets as tablet particles can lead to tube blockages.
- Ensure the gastrostomy tube is flushed between drugs and with a minimum of 20mls of water after drugs. Use sterile (cooled boiled) water if your child is aged below one year. (Smaller volumes may be used in exceptional circumstances).

## General care

### Cleaning/skin care

- Always ensure that you wash your hands before and after caring for your child's gastrostomy tube.
- The area where the tube goes through the skin is called the stoma site. You/your child may experience a discharge at the stoma site for the first few days (7-10 days) until the stoma heals.
- Daily care of the gastrostomy site and tube will reduce the possibility of soreness or infections. Older children should be encouraged to care for their gastrostomy sites themselves.
- The gastrostomy site should be cleaned daily with warm soapy water.
- Always avoid using cream/powders on the skin around the tube (unless otherwise advised by your care team) as they can damage the tube material and may lead to irritation of the skin and give rise to infection.
- If you notice that the skin is becoming inflamed or there is any pus discharge (oozing) from the site you should contact a member of your gastrostomy care team.
- Dressings around the gastrostomy tube are usually not required (unless advised in specific circumstances).

### Infection

- Daily cleaning of the gastrostomy site with soapy water will help to reduce the risk of infection.
- If you notice that the gastrostomy site is inflamed/red/sore/discharging, contact a member of your gastrostomy care team for advice.

### Flushing

- To maintain patency (prevent blockages) the PEG tube should be flushed with a minimum of 20mls of water (sterile or cooled boiled water if child is aged below one year) after feeds. (Your dietitian may advise that you give flush prior to administering a feed to ensure your child's fluid requirements are met).
- See section on 'Administration of medicines'.

### Replacing feeding sets

- We advise that all gravity (bolus) feeding sets are changed every 24 hours. Between each use the tubing should be washed with hot soapy water, rinsed then left to dry.
- Continuous ('Pump') feeding sets should be discarded 24 hours after first use.

## Tube rotation

It is known that some children may be prone to what is called 'Buried Bumper Syndrome'. This means that the internal disk of the PEG becomes buried in the stomach wall and stomach lining grows over it. This makes removing the PEG (for example, when it is due to be changed for a new one/removed as gastrostomy feeds are no longer required) extremely difficult.

To prevent Buried Bumper Syndrome, the PEG tube should be rotated once per week. A member of your gastrostomy care team will talk you through this before discharge. Rotation of the PEG tube means pushing the tube into the stomach, rotating it 360 degrees (a complete circle) and then returning it to its normal position.

### Rotate as follows:

1. Wash hands with soapy water
2. Measure the length of tubing from stoma site to start of Positive Luer Lock Adaptor.
3. Open the fixation catch on the External Fixation Plate.
4. Detach the tubing from the groove in the Fixation Plate.
5. Move the Fixation Plate away from the skin.
6. Clean the tube, fixation plate and stoma area.
7. Push 2-4cms of the tube into the stomach.
8. Rotate the tube by turning it in your fingers.
9. Gently pull the tube back until resistance is felt.
10. Place the Fixation Plate back to its normal position, reinsert the tubing into the groove and close the fixation catch carefully ensuring that both spokes fit completely into their holes.
11. Re measure the length of tubing to make sure that none has been left inside the stomach. (If the tube is shorter, undo the fixation plate again and pull back until resistance is felt again).

## Common questions

### Can I/my child bath/shower?

Yes, once the site is fully healed (usually two to four days after insertion) you can bath/shower as normal. Always ensure that the tube end is closed. Dry the area thoroughly afterwards.

### Can I/my child go swimming?

Yes. Make sure the tube end is closed and the clamp applied. Some people prefer to coil the tubing under a waterproof dressing whilst swimming.

### Will I/my child be able to move around freely?

Yes. Your/Your child's gastrostomy tube should not affect or restrict your normal activities.

## Where do I get the equipment and supplies?

We will provide you with initial supplies (usually enough to last for one week). You will receive further supplies from your community healthcare team; some areas use a home delivery service. If you have any problems getting supplies at home please ring your nurse specialist who will be able to help you. You should remember to order new supplies in good time before you run out and only use equipment for the length of time specified by the manufacturer.

## Will I/my child be able to go to school?

You/Your child should be able to go to school as normal. Staff at the school can be taught to care for the device and spare supplies will be kept at the school for emergency use.

## Can we go on holiday?

- It is fine to travel with your child but it is advised that you discuss travel plans with your doctor/gastrostomy care team. It may be helpful, particularly if your child has complex needs, to take a letter with you from your care team which can help you if you need to seek medical advice whilst on holiday. In addition letters from your care team can be useful to prevent any problems with airport security when you are travelling with 'medical equipment'.
- Remember to take extra supplies – emergency and replacement set - with you and to pack at least some of these in your hand luggage in case your main luggage goes astray.
- Use a large dressing to avoid getting sand near the stoma site as this can irritate the skin.
- If you are travelling abroad you may wish to contact HALF PINNT ('Patients on Intravenous and Naso gastric Nutrition Therapy'). They can provide you with useful information re travelling with a child who has a gastrostomy tube including travel insurance advice. (See contact details at end of leaflet).
- Your home delivery company will also offer practical advice.

## If I am/my child is not using my tube what care is required?

The tube must be flushed at least once per day with a minimum of 20mls of water (sterile water if child is aged below one year).

## How long will my/my child's tube last?

If needed your tube should last for several years, usually between one and three years.

## How is the tube removed?

Whether your tube is being removed because it is no longer needed or whether it is being removed and a new one inserted, you will need to have a general anaesthetic to

remove the tube. The tube is then removed by an endoscope in the same way as it was inserted.

## Problem solving

### Tube blockage

To prevent tube blockage the tube should be flushed with water after giving feeds/medication (see section on 'Flushing'). Always ensure medications are being administered in a way that limits the chances of tube blockage (see section on 'administering medication').

If the tube does block you may try the following. If unsuccessful on the first step, try the next:

1. Ensure all clamps are open and the tube is not kinked.
2. Try to flush using a pumping action with the plunger on the syringe.
3. Connect a 50ml syringe to the end of the tube and try to draw back ('aspirate').
4. Massage the tube around the area of blockage if it is obviously visible.
5. Mix a solution of sodium bicarbonate (baking soda). Mix half a teaspoon of sodium bicarbonate (baking soda) with 30mls of boiling water. Leave this to cool to a warm temperature then use a syringe to flush this solution down the tube. Leave the solution in the tubing for at least two hours (can be left overnight) then flush it through with 20mls of water. If you do not have any sodium bicarbonate, try soda water or pineapple juice.
6. Contact a member of your gastrostomy care team.  
**Important: Never** use excessive force and **never** attempt to unblock the tube by inserting objects down it.

### Discharge observed from stoma site

It is usual to experience a small amount of clear discharge at the stoma site until the stoma heals (usually 7-10 days after placement). It is important to clean the area carefully during this time. If the discharge is spoiling clothing a small 'key hole' dressing can be applied but should be changed regularly/removed when no longer needed.

### Feed leakage from stoma site

- In most cases leakage of feed occurs due to a minor problem such as trapped wind (see below). However, if leakage of feed is seen within the first 72 hours following PEG insertion/PEG change you should seek advice from the Clinical Nurse Specialist Team (see section 'disadvantages/complications')
- Feed may leak from the stoma because the PEG tube is not being held tightly next to the skin. Check that the External Fixation Plate is not loose and is lying flat against the skin.

- Leakage from the stoma site can occur because the stomach is too full/contains gas. (See section on Venting).
- If the problem persists you should contact a member of your gastrostomy care team for advice.

### **Stomach is swollen and/or feels hard: 'venting' (or 'decompression')**

- Some children suffer from trapped wind. This gas can be released by decompressing the stomach via the gastrostomy tube.
- To decompress the stomach attach a syringe to the tube, hold the syringe 10cms above the height of the child's abdomen and unclamp the PEG. If necessary aspirate the gas.

### **Sore skin**

- Redness or soreness around the skin and stoma may be the result of gastric leakage.
- Clean and dry the area frequently.
- Call your community nurse if the stoma is persistently red and sore, the stoma emits an odour, the surrounding skin is swollen, you observe pus or there is bleeding from the site.

### **Overgranulation**

Granulation tissue is the result of the body trying to repair itself. You may recognise overgranulation as a clear brownish discharge and occasional bleeding or as pinkish raised tissue. If bleeding occurs or a large amount of tissue builds up, contact a member of your gastrostomy care team for advice as treatment may be needed. Where treatment is required this is most commonly in the form of an ointment.

### **When sickness and/or stomach cramps occur:**

- See section on 'Venting/Decompression'.
- You may need to slow the rate of feeding. Contact your dietitian if this problem continues.
- The feed may be too cold, let the feed reach room temperature before administering it.

### **When diarrhoea occurs:**

- The rate of feeding may need to be slowed down.
- If diarrhoea continues contact your doctor.

### **When vomiting occurs:**

- See section on 'Venting/Decompression'.
- You may need to slow the rate of feeding.
- Always check expiry dates of feed.

- The feed may be too cold. Let the feed reach room temperature before administering it.
- If your child continues to vomit and the above simple steps have not helped you should contact your doctor.

## Details of your/your child's percutaneous endoscopic gastrostomy tube

Make of tube:

French size (Fr):

Length of tube (cms) from skin to start of positive luer lock adaptor:

### Useful Contact Numbers:

Paediatric Surgery Clinical Nurse Specialist Team	Office: 01223 586973 (Mon to Fri 08:00 to 18:00 except bank holidays) For emergency queries call 01223 245151 and ask for 'bleep 152-789'
Addenbrookes Switchboard	01223 245151
Your Children's Community Nurse	
Your Home Delivery Company	



We are currently working towards a smoke free site. Smoking is only permitted in the designated smoking areas.

For advice and support in quitting, contact your GP or the free NHS stop smoking helpline on 0800 169 0 169

### Help with this leaflet:



If you would like this information in another language, large print or audio format, please ask the department to contact Patient Information: 01223 216032 or [patient.information@addenbrookes.nhs.uk](mailto:patient.information@addenbrookes.nhs.uk)

### Polish

Jeżeli chciałbyś uzyskać te informacje w innym języku, w dużej czcionce lub w formacie audio, poproś pracownika oddziału o kontakt z biurem Informacji Pacjenta (Patient Information) pod numerem telefonu: 01223 216032 lub pod adresem [patient.information@addenbrookes.nhs.uk](mailto:patient.information@addenbrookes.nhs.uk)

### Portuguese

Se precisar desta informação noutra língua, em impressão de letras grandes ou formato áudio, por favor peça ao departamento que contacte a secção de Informação aos Doentes (Patient Information) pelo telefone 01223 216032 ou através do e-mail [patient.information@addenbrookes.nhs.uk](mailto:patient.information@addenbrookes.nhs.uk)

### Arabic

إذا كنت تود الحصول على هذه المعلومات بلغة أخرى، بالأحرف الكبيرة أو بشكل شريط صوتي، يمكنك أن تطلب من القسم الاتصال بمعلومات المريض على الرقم: 01223216032 أو عبر البريد الإلكتروني: [patient.information@addenbrookes.nhs.uk](mailto:patient.information@addenbrookes.nhs.uk)

### Cantonese

如您需以另一語言版本、特大字體或錄音形式索取本資料，請要求部門聯絡病人諮詢服務：電話 01223 216032，電郵地址 [patient.information@addenbrookes.nhs.uk](mailto:patient.information@addenbrookes.nhs.uk)

### Turkish

Eğer bu bilgileri başka bir dilde veya büyük baskılı veya sesli olarak isterseniz, lütfen bulunduğunuz bölümdeki görevlilere söyleyin Hasta Bilgilendirme servisini arasinlar: 01223 216032 veya [patient.information@addenbrookes.nhs.uk](mailto:patient.information@addenbrookes.nhs.uk)

### Urdu

اگر آپ کو یہ معلومات کسی دیگر زبان میں، بڑے الفاظ میں یا آڈیو طریقہ سے درکار ہوں تو برائے مہربانی اس شعبہ سے پیشینٹ انفارمیشن سے ذیل کے ذریعہ رابطہ کرنے کی درخواست کریں: 01223 216032 یا [patient.information@addenbrookes.nhs.uk](mailto:patient.information@addenbrookes.nhs.uk)

### Bengali

আপনি যদি এই তথ্য অন্য কোন ভাষায়, বড় অক্ষরে বা অডিও রেকর্ডিং পেতে চান তাহলে 'প্যাশেন্ট ইনফরমেশান' এর সঙ্গে 01223 216032 নম্বরে ফোন করে বা [patient.information@addenbrookes.nhs.uk](mailto:patient.information@addenbrookes.nhs.uk) ঠিকানায় ই-মেইল করে যোগাযোগ করার জন্য ডিপার্টমেন্টটিতে অনুরোধ জানান।

### Document history

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