

Children's Services

Transgastric Jejunal Tubes

Introduction

There are two types of Transgastric feeding tubes used in Children's Services at Addenbrooke's Hospital:

- **Percutaneous Endoscopic Gastrostomy-jejunostomy ('PEG J') tube**
- **Low Profile Balloon Retained Transgastric-Jejunal Feeding Tube (MIC J).**



Fresenius PEG J tube:



Vygon MIC J tube:

Your Nurse Specialists will meet you and show you the type of tube that your child will have and teach you how to care for it. This leaflet, which discusses both types of Transgastric jejunal feeding tubes, contains information about tube insertion and tube care as a reference for you. The leaflet has been divided in to four sections:

Part 1: General information about what a jejunal feeding tube is, why it has been recommended for your child and the advantages and disadvantages related to this type of feeding tube.

Part 2: Commonly asked questions

Part 3: How to care for and use a PEG J tube

Part 4: How to care for and use a MIC J tube

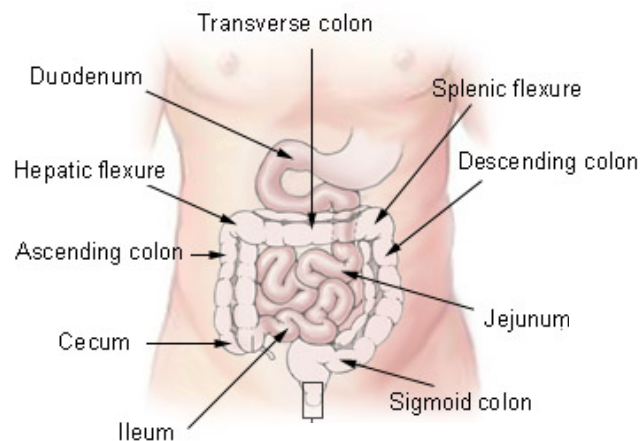
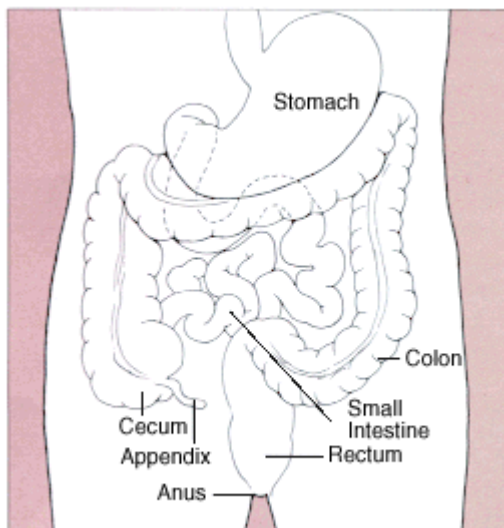
Part 1: General information

What is jejunal feeding?

Rather than delivering fluid and food into the stomach, jejunal feeding delivers fluid and nutrition directly into the jejunum.

What is the jejunum?

The small intestine is part of the gastrointestinal tract between the stomach and the large intestine (also known as the colon). The small intestine is where most of the water nutrients from food are absorbed.



Small and Large Intestine

The small intestine is divided into three parts:

- The duodenum
- The jejunum
- The ileum

What is a Transgastric feeding tube?

Transgastric feeding tubes combine both a gastrostomy tube (which is placed in the stomach) and a jejunal tube (which is placed in the jejunum). The tube therefore has two access ports, one for the stomach and one for the jejunum. These are clearly labelled on the tube. By having a combined type of tube, fluids, feed or medicines can be given into the stomach **and/or** the jejunum.

When a Transgastric jejunal tube is inserted, the feeding tube enters in through the stomach. It then passes down through the muscle at the bottom of the stomach (called the pylorus), through the duodenum and into the jejunum.

Why has a Transgastric jejunal feeding been recommended for my child?

There are a number of reasons why a child might have a Transgastric jejunal tube and your doctor and nurse specialist will explain these to you. Some of the common reasons are:

- Children who have had a recurrence of their gastro-oesophageal reflux after a Nissen's Fundoplication operation and for whom a 'redo' Nissen's Fundoplication is not likely to be in the child's best interests/helpful.
- Children who have severe gastro-oesophageal reflux but for whom a Nissen's Fundoplication may not be in their best interests.
- Children with gastric dysmotility problems.
- Children with acute pancreatitis.
- For children who cannot tolerate gastric feeding (i.e. feeding into the stomach).
- Children who have had major surgery on their gastro intestinal tract.
- Children with a high risk of aspiration (also known as aspiration pneumonia). Aspiration pneumonia happens when a liquid, such as fluids or food from the stomach, goes into the lungs.

Advantages of a Transgastric jejunal feeding tube:

- Ensures the child receives their hydration and nutritional requirements who are unable to do so by other means
- Prevents the need for a Naso-jejunal tube which can be less cosmetically pleasing, are more likely to be accidentally pulled out and are difficult to insert.
- Allows for the stomach to be accessed so, if tolerated, some fluid, feed or medicine can still be administered into the stomach.
- Allows air to be removed from the stomach.
- Transgastric tubes can be left in place for at least six months before they need changing.
- Reduces the risk of aspiration.

Disadvantages of a Transgastric jejunal feeding tube:

- Usually an operation is required to pass the tube the first time.
- An operation is needed to change/remove a Percutaneous Endoscopic Gastrostomy-jejunoscopy ('PEG J') tube.
- The jejunal tube can migrate (go back) into the stomach and so need replacing.
- The child who requires jejunal feeding will have to be fed over many hours of the day and night. This is because, unlike the stomach, the jejunum is not a storage organ and so cannot tolerate 'boluses'. Instead, feed must be slowly dripped into the jejunum. This is achieved through a pump being connected most of the time which can slowly administer the feed.

- The tube can be pulled out and will therefore need replacing.
- The tube can get blocked and will therefore need replacing.

Part 2: Commonly asked questions

Where will I get supplies of the consumable items from?

- The children's nutrition nurse specialist will visit you and ascertain what equipment you need and how much.
- Before you go home your gastrostomy care team will provide you with an initial 7-14 day supply of equipment.
- In most areas an ongoing supply of equipment can be delivered to your home. Your care team will arrange this while you are still in hospital. If this service is not available in your area, your care team will ensure that alternative arrangements are in place for 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.

Can I/my child bath and shower?

- Yes! Showers are permitted after 24 hours and baths after 48 hrs.
- Always ensure that the tube end is closed and, where applicable, the clamp applied.
- Dry the area thoroughly afterwards.

Can I/my child go swimming?

- Yes! Ensure the tube end is closed and, where applicable, the clamp applied.
- If your child has a PEG J tube you may prefer to coil the tubing under a waterproof dressing.
- Although it is not clinically necessary to do so, some swimming centres request that the tube is covered. Check with your local pool.

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

- Your child should be able to go to school as normal.
- Staff at the school must be taught what to do if the tube falls out and spare supplies should be kept at the school for emergency use.

Can we go on holiday?

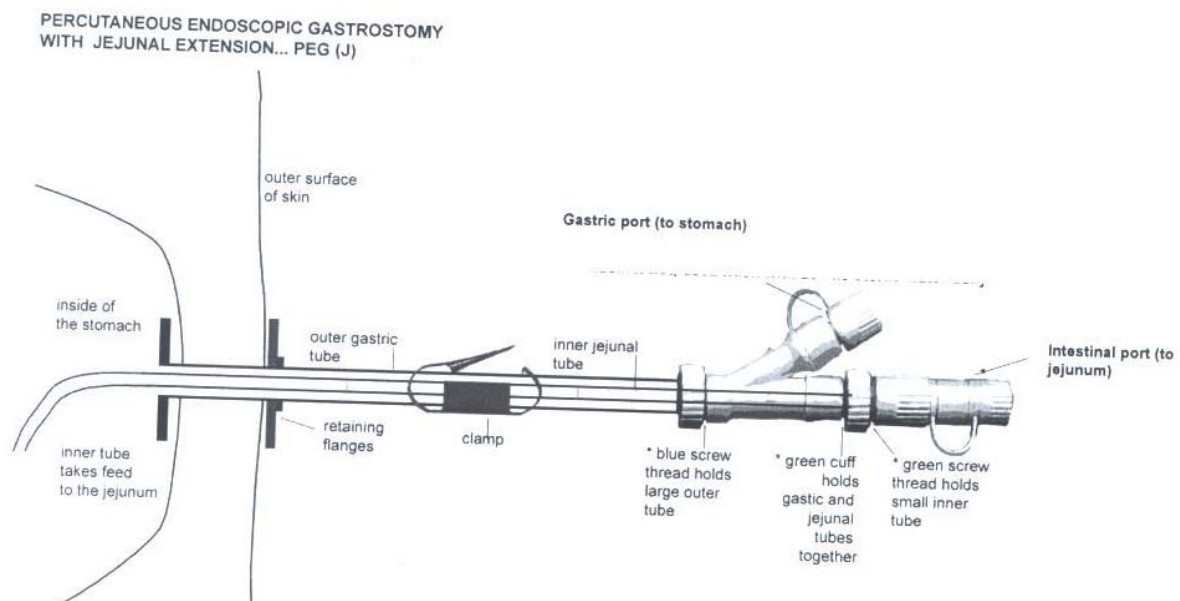
- It is fine to travel with your child but it is advised that you discuss travel plans with your doctor/care team. It may be helpful, particularly if your child has complex needs, to take a letter with you from your doctor which can help you if you need to seek medical advice whilst on holiday. In addition 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 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.
- Your home delivery company may offer to give practical advice.

Part 3: How to care for and use a PEG J tube

What is a PEG J tube?



A PEG J tube (also called a Percutaneous Endoscopic Gastro-Jejunal Tube) combines both a gastric and jejunal feeding tube. The following is a diagram of a 'Fresenius' PEG J tube:



How is a PEG J tube inserted?

- A PEG J tube is inserted under general anaesthetic.
- The first part of the procedure involves inserting the gastric part of the tube. To do this 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 flange remains inside the stomach and an external fixation plate is applied next to the skin to hold the tubing in place.
- Once the gastric part of the tube is in place the jejunal part of the tube is threaded down the inside of the gastric tube. This is watched on an x ray machine to ensure that the jejunal tube is put into the correct position.
- (If your child already has a PEG gastrostomy tube, the jejunal tube can be threaded down through the existing gastrostomy tube.)

Caring for your PEG J tube

Tube rotation:

- Unlike gastrostomy tubes, Transgastric jejunal tubes **must not** be rotated. This is because the rotation of the tube would cause a twist (kink) to occur in the jejunal tube.

Flushing:

- To prevent blocking, both the jejunal and gastric ports need to be flushed regularly.
- The tubes should be flushed with **cooled**, boiled water.
- Flushes should take place before a continuous feed is started and when it is stopped. In addition, a flush should be given before and after a medicine is put down the tube. If more than one medicine is being given, a flush should also be given between each medicine (see section on administration of medicines).
- Your dietician will specify the amount of water to be used to flush the tube.
- If the gastric access ports are not being routinely used, flush every 24 hours with 10 mls of water.
- If the jejunal access port is not being routinely used, flush every 6-12 hours with 5-10 mls of sterile water.

Administering fluid/feed via a PEG J tube:

- It is important to always wash your hands carefully before and after using the tube.
- Your child's dietician will recommend a feeding plan suitable for your child's needs.
- Because your child will need to have their feed delivered slowly over the course of many hours, it will be given via a feeding pump (machine). Your children's nutrition nurse specialist will teach you how to use this pump. The pump will be fully portable for ease of use at home. Information leaflets about the actual pump itself will be provided for you.
- It is not necessary to check the position of the tube before starting the feed unless you are concerned that the tube does not have its normal appearance, for example looks like it may be falling out. If you are unsure, take an aspirate (pH should be six to eight).
- Prior to commencing the feed, check that the connectors are tight.
- Before the feed is started and when it finishes, water needs to be given to prevent the tube from blocking. This is normally at least 20 mls but your dietician will advise you on the exact amount for your child. If the water is being given from a syringe, it must be pushed in very slowly (2 to 3 mls per minute). The water used should have been boiled and then allowed to cool.

Procedure:

1. Wash hands.
2. Set up the pump as shown by the children's nutrition nurse specialist.
3. Unscrew the cap from the relevant (gastric/jejunal) port.
4. Flush the tube with cooled boiled water with.....mls of water (remember to unclamp the tube).
5. Connect the feed as shown by the children's nutrition nurse specialist.
6. Once the feed has been completed, wash your hands and flush the tube with mls of water.
7. Reapply the clamp and screw the cap back on.

Replacing feeding sets:

- Feeding sets need to be changed every 24 hours.

Administering medication via a PEG J tube:

- It is important to always wash your hands carefully before and after using the tube
- Ideally your child's medication should be given into the stomach through the gastrostomy port.

Where this is not possible the jejunal port may be used but this must be in discussion with your specialist care team and children's pharmacist. Reasons for this include the fact that some medicines need to mix with the acid in the stomach (that is not present in the jejunum) to work.

- Administering medication correctly will ensure that the medicine is absorbed properly. While you are in hospital, a member of your specialist care team and a children's pharmacist will review your child's medicines so you know which port to use for each medicine.
- Where medicines are being given through the jejunal port, the speed of administration should not exceed 2-3mls per minute. (There is no limit regarding speed of administration through the gastric port). This is to increase the chances of the medicine being absorbed.
- Administering medication correctly will avoid the tube becoming blocked.
- Request that your child's medication is provided in a liquid form.
- Some liquid medications are known to be associated with tube blockages and so need to be further diluted with water (same volume of water as medicine) before being given. Ask a member of your specialist care team if you are unsure.
- If medication is only available in tablet form, seek advice from your GP, pharmacist or nurse specialist. Some tablets can be crushed or mixed with water but others cannot as their particles can lead to tube blockages.
- The tube must be flushed before and after each medicine. If more than one medicine is being given, flush in between as well. The water used should have been boiled and then allowed to cool. For your child, flush withmls before the medicine,mls between each medicine andmls after all medicines have been given.
- Please note, **Clarithromycin** will block your child's tube and so should never be given through the tube. This is an antibiotic commonly used for chest infections. Other antibiotics which sound similar (for example **Erthromycin**) do not block tubes.

Procedure:

1. Wash hands.
2. Unscrew the cap from the relevant (gastric/jejunal) port.
3. Connect syringe with flush in.
4. Release clamp.
5. Administer flush.
6. Apply clamp.
7. Disconnect flush syringe and connect syringe containing medication.
8. Release clamp.
9. Administer medication.
10. Apply clamp.
11. Disconnect medication and connect syringe containing the flush.
12. Release clamp.
13. Administer flush.

14. Repeat steps 6 to 13 for each medication.
15. Reapply the clamp and screw the cap back on.

Decompression through the gastric access port on the PEG J tube

What is decompression?

Some (but not all) children suffer from symptoms of trapped wind (also known as 'gas bloat') such as abdominal pain and/or abdominal distension. The trapped wind can be released by 'gastric decompression.' This is when the air is released through a syringe which is attached to the end of the gastric port of the PEG J tube. Gastric decompression may be required only occasionally or many times per day depending on the severity of the symptoms.

It is preferred that gastric decompression usually takes place via gravity (see procedure below). However, where this fails to resolve the symptoms, gastric decompression may be performed via aspiration (see note eight below).

Procedure:

1. Wash hands.
2. Remove the plunger from inside the 60 ml syringe (the plunger is not required for gastric decompression).
3. Connect the empty barrel of the syringe to the gastric port on the PEG J tube.
4. Hold the syringe approximately 10cms above the height of your child's stomach.
5. Release the clamp.
6. Hold the syringe still for two minutes. You may be able to see bubbles of air coming up into the syringe. If there is a lot of air in the stomach you may also see some stomach secretions (and occasionally small amounts of milk feed) coming up into the syringe. These secretions will travel back down the tube and back into the stomach when all the air has been cleared.
7. Once all the air has been cleared, apply the clamp and disconnect the syringe.
8. If you do not feel that all of the air is being cleared, try holding the syringe at a lower level. If this fails to help, the air can be aspirated out under gentle pressure. To do this, connect a syringe that has the plunger inside and gently pull the plunger out until resistance is felt. If you feel that gastric decompression can only be achieved in your child when it is performed by the aspiration method you should inform your community nurse or nurse specialist.

PEG J tube care and maintenance

How long will the PEG J tube last?

A PEG J tube will last for approximately two to three years after which it will require changing.

How is the tube changed?

- Your child will need to have a short general anaesthetic.
- Whilst asleep under the anaesthetic a special camera (called a 'gastroscope') is passed through your child's mouth, down their oesophagus (food pipe) and into the stomach. A special instrument is passed down the gastroscope which grabs hold of the old tube so that it can be pulled up and out through the child's mouth.
- A new replacement gastric tube can then be threaded through in the same way. Once the gastric tube is in place within the stomach, the jejunal tube can be threaded down inside it. To ensure that the jejunal part is passing through into the correct place, x rays are taken at the same time.
- Once the child has woken and fully recovered from the anaesthetic they can return to their normal feeding regimen.

Cleaning and general skin care:

- The area where the tube goes through the skin is called the stoma site. You may experience a discharge at the stoma site for the first few days (7-10 days) until the stoma heals.
- Daily care of the stoma site will reduce the possibility of soreness or infections.
- Always ensure that you wash your hands before and after caring for your child's tube.
- The stoma site should be cleaned daily with warm soapy water.
- Always avoid using creams/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 skin irritation.
- If you notice that the skin is becoming sore or there is oozing from the stoma site you should contact a member of your care team.
- Dressings around the stoma site are usually not required.
- Redness or soreness around the stoma may be the result of gastric leakage so it may be necessary to clean the site more than once per day. Your community nurse will be able to advise you.

PEG J tube 'problem solving'

Jejunal tube displacement:

Although it is highly unlikely for the gastric part of the PEG J tube to come out, it is possible for the jejunal part to dislodge. This most commonly occurs when the child is being lifted or when the tubing gets caught on the wheel of a buggy/wheel chair. Ensure care is taken to prevent accidental pulling that can lead to dislodgement. In order to help prevent dislodgement, the connecting parts will have been glued together.

It is possible to identify the position of the tip of the jejunal tube by aspirating a small amount of fluid and testing its level of acidity (called pH) on special paper. If the tip is in the correct position, the pH should be six to eight. If the tip has moved into the stomach the pH will be one to five. You may also be able to aspirate feed from the stomach where previously you had been unable to do so.

If the jejunal tube has displaced or you suspect that it may have done so, apply the clamp, tape the tubing to your child's skin to prevent any further dislodgement and call your nurse specialist/community nurse. Your child will, in most cases, need to come to Addenbrooke's hospital where an x ray may be taken to confirm the tube's position and further intervention to resolve the problem may be required under general anaesthetic.

Overgranulation and its management:

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 care team for advice as treatment may be required.

Tube blockage and its management:

To prevent tube blockage the tube should be flushed regularly and medications administered in a way that limits the chances of tube blockage occurring (see sections on 'flushing' and 'administering medications').

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

1. Ensure the clamps are released.
2. Ensure the tube does not have any twists/kinks.
3. Massage the tube around the area of blockage if it is obviously visible.
4. Try to flush with warm water using a 'pumping action' with the plunger on the syringe.

5. Connect a 60 ml syringe to the end of the tube and try to draw back ('aspirate').
6. 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 tube for two hours and then try to flush it through with warm water.
7. Contact a member of your care team for advice.

Do not:

- Try to administer fruit juices/fizzy drinks down the tube in an attempt to unblock it.
- Attempt to unblock the tube by inserting objects down it.
- Use excessive force.

If the tube is irreparably blocked it will require changing in theatre under a general anaesthetic.

Discharge from the stoma site and its management:

It is usual to experience a discharge from the stoma site until the stoma heals (usually 7 to 10 days after placement). It is important to clean the area carefully during this time.

If the discharge is spoiling clothing, a small dressing can be applied but this should be changed regularly/removed when no longer needed.

Feed leakage from the stoma site and related management:

If feed is observed coming from the stoma site you should contact your community nurse or nurse specialist as this may indicate that the jejunal tube is no longer in the correct position.

Managing the child with a vomiting/diarrhoea:

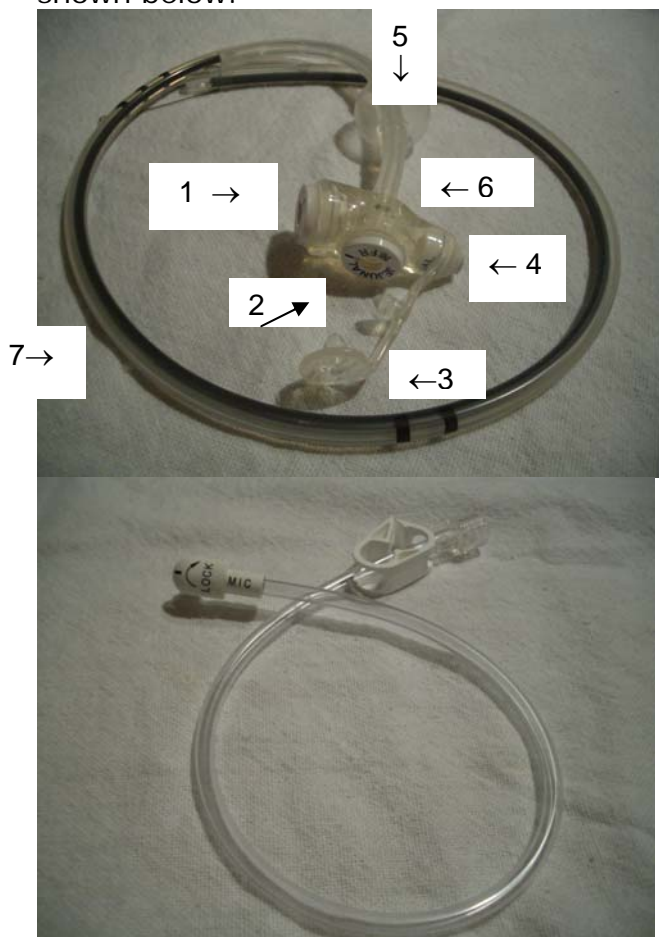
- Always check expiry dates of the feed.
- Ensure the feed is brought up to room temperature before administering it. Feed straight from the fridge may be too cold.
- The rate (speed) of the feed may need to be reduced, contact your nurse specialist/community nurse or dietician.
- The speed at which medications are given may need to be reduced, contact your nurse specialist or community nurse.

Part 4:

How to care for and use a MIC J tube (Low Profile Balloon Retained Transgastric-Jejunal Feeding Tube):

What is a Low Profile Balloon Retained Transgastric-Jejunal Feeding Tube (MIC J)?

A MIC J tube (also called a Low Profile Balloon Retained Transgastric-Jejunal Feeding Tube) combines both a gastric and jejunal feeding tube. The tube is held in place by an inflatable balloon which is situated inside the stomach (labelled externally as BAL on the tube) and a 'low profile bolster' which sits externally next to the skin. The external bolster contains two access ports, one for the stomach (labelled gastric) and one for the jejunum (labelled jejunal). Each access port has a one way valve within it. The valve is opened by attaching an extension set. Pictures of the MIC J tube and extension set are shown below:



MIC J tube

Extension Set

External part (i.e. visible at skin level)

- 1 = Gastric port (to side of device)
- 2 = Jejunal port (on top of device)
- 3 = Feeding port cover
- 4 = Balloon inflation port

Internal part (i.e. inside the child's stomach/jejunum)

- 5 = retaining balloon
- 6 = Internal gastric part of the tube
- 7 = Internal jejunal part of the tube

How is a MIC J tube inserted?

If your child already has a 16Fr Low Profile Balloon Retained Gastrostomy tube, your child will usually be able to have the MIC J tube inserted in the x-ray department whilst your child is fully awake. In the x-ray department, the gastrostomy tube is removed and the MIC J tube is inserted through the same hole ('stoma'). This is watched on a monitor to make sure that the jejunal part is correctly positioned.

If your child does not have a 16Fr Low Profile Balloon Retained Gastrostomy tube, your child will usually have the MIC J tube inserted in the operating theatre under general anaesthetic.

Your nurse specialist will explain which procedure is planned for your child and why.

Caring for your MIC J tube**Tube rotation:**

- Unlike gastrostomy tubes, Transgastric jejunal tubes **must not** be rotated. This is because the rotation of the tube would cause a twist (kink) to occur in the jejunal tube.

Flushing:

- To prevent blocking, both the jejunal and gastric ports need to be flushed regularly.
- The tubes should be flushed with cooled, boiled water.
- Flushes should take place before a continuous feed is started and when it is stopped. In addition, a flush should be given before and after a medicine is put down the tube. If more than one medicine is being given, a flush should also be given between each medicine (see section on administration of medicines).
- Your dietician will specify the amount of water to be used to flush the tube.

- If the gastric access ports is not being routinely used, flush every 24 hours with 10 mls of water.
- If the jejunal access port is not being routinely used, flush every 6-12 hours with 5-10 mls of sterile water.

Using an extension set:



- It is not appropriate to insert a syringe directly into the device (as it can break the inner valve). Therefore, every time that the MIC J tube is accessed, whether this is to give medicines, feed, flushes or for decompression, an extension set must be used.
- The extension set should be changed once per week.
- Between each use the extension set should be cleaned with hot soapy water and then left laying to dry on a clean, flat surface (if the child is under one year or is immune compromised the extension set should be sterilised).

How to connect the extension set to the access port:

1. Wash hands.
2. Place a finger and thumb on either side of the bolster and open the feeding port cover (see diagram above).
3. Line up the black mark on the extension set with the black mark on the access port.
4. Push the extension set downwards into the access port.
5. Rotate the extension set in the direction marked with the arrow (i.e. clockwise) until you feel resistance (this will be felt after a three quarter turn). This locks the extension set in place.

How to remove the extension set from the access port:

1. Wash hands.
2. Place a finger and thumb on either side of the bolster.
3. Rotate the extension set in the direction opposite to that marked by the arrow (i.e. Counter/anti clockwise) until the black mark on the extension set is in line with the black mark on the access port.
4. Gently pull the extension set upwards and out of the access port.
5. Cover the access port with the feeding port cover.

Administering fluid/feed via a MIC J tube:

- It is important to always wash your hands carefully before and after using the tube.
- Your child's dietician will recommend a feeding plan suitable for your child's needs.
- Because your child will need to have their feed delivered slowly over the course of many hours, it will be given via a feeding pump (machine). Your children's nutrition nurse specialist will teach you how to use this pump. The pump will be fully portable for ease of use at home. Information leaflets about the actual pump itself will be provided for you.
- It is not necessary to check the position of the tube before starting the feed unless you are concerned that the tube does not have its normal appearance, for example looks like it may be falling out.
- Before the feed is started and when it finishes, water needs to be given to prevent the tube from blocking. This is normally at least 20 mls but your dietician will advise you on the exact amount for your child. If the water is being given from a syringe, it must be pushed in very slowly (2 to 3 mls per minute). The water used should have been boiled and then allowed to cool.

Procedure:

1. Wash hands.
2. Set up the pump as shown by the children's nutrition nurse specialist.
3. Apply the clamp and then connect the extension set as described in section 'How to connect the extension set' above.
4. Flush the tube with cooled boiled water with.....mls of water (remember to unclamp the extension set).
5. Connect the feed as shown by the children's nutrition nurse specialist.
6. Once the feed has been completed, wash your hands and flush the tube with mls of water.
7. Apply the clamp and then disconnect the extension set as described in the section 'How to remove the extension set.'

Replacing feeding sets:

- Feeding sets need to be changed every 24 hours.

Administration of medications through the gastric/jejunal access port on a Low Profile Balloon Retained Transgastric-Jejunal Feeding Tube (MIC J)

- It is important to always wash your hands carefully before and after using the tube.
- Ideally your child's medication should be given into the stomach through the gastrostomy port. Where this is not possible the jejunal port may be used but this must be in discussion with your specialist care team and children's pharmacist. Reasons for this include the fact that some medicines need to mix with the acid in the stomach (that is not present in the jejunum) to work.
- Administering medication correctly will ensure that the medicine is absorbed properly. While you are in hospital, a member of your specialist care team and a children's pharmacist will review your child's medicines so you know which port to use for each medicine.
- Where medicines are being given through the jejunal port, the speed of administration should not exceed 2-3mls per minute. (There is no limit regarding speed of administration through the gastric port). This is to increase the chances of the medicine being absorbed.
- Administering medication correctly will avoid the tube becoming blocked.
- Request that your child's medication is provided in a liquid form.
- Some liquid medications are known to be associated with tube blockages and so need to be further diluted with water (same volume of water as medicine) before being given. Ask a member of your specialist care team if you are unsure.
- If medication is only available in tablet form, seek advice from your GP, pharmacist or nurse specialist. Some tablets can be crushed or mixed with water but others cannot as their particles can lead to tube blockages.
- The tube must be flushed before and after each medicine. If more than one medicine is being given, flush in between as well. The water used should have been boiled and then allowed to cool. For your child, flush withmls before the medicine,mls between each medicine andmls after all medicines have been given.
- Please note, **Clarithromycin** will block your child's tube and so should never be given through the tube. This is an antibiotic commonly used for chest infections. Other antibiotics which sound similar (for example, **Erthromycin**) do not block tubes.

Procedure:

1. Wash hands.
2. Apply the clamp on the extension set.
3. Connect the extension set (see section above).
4. Connect syringe with flush in.
5. Release clamp.
6. Administer flush.
7. Apply clamp.
8. Disconnect flush syringe and connect syringe containing medication.
9. Release clamp.
10. Administer medication.
11. Apply clamp.
12. Disconnect medication and connect syringe containing the flush.
13. Release clamp.
14. Administer flush.
15. Repeat steps 6 to 13 for each medication.
16. Reapply the clamp and remove the extension set (see section above).

Decompression through the gastric access port of MIC J tube:

What is decompression?

Some (but not all) children suffer from symptoms of trapped wind (also known as 'gas bloat') such as abdominal pain and/or abdominal distension. The trapped wind can be released by 'gastric decompression.' This is when the air is released through a syringe which is attached to the end of the gastric port of the MIC J tube. Gastric decompression may be required only occasionally or many times per day depending on the severity of the symptoms.

It is preferred that gastric decompression usually takes place via gravity (see procedure below). However, where this fails to resolve the symptoms, gastric decompression may be performed via aspiration (see note nine below).

Procedure:

1. Wash hands.
2. Remove the plunger from inside the 60 ml syringe (the plunger is not required for gastric decompression).
3. Apply the clamp to the extension set and then connect the extension set onto the gastric port of the MIC J tube.
4. Connect the empty barrel of the syringe to the extension set.

5. Hold the syringe approximately 10cms above the height of your child's stomach
6. Release the clamp on the extension set.
7. Hold the syringe still for two minutes. You may be able to see bubbles of air coming up into the syringe. If there is a lot of air in the stomach you may also see some stomach secretions (and occasionally small amounts of milk feed) coming up into the syringe. These secretions will travel back down the tube and back into the stomach when all the air has been cleared.
8. Once all the air has been cleared, apply the clamp and disconnect the extension set.
9. If you do not feel that all of the air is being cleared, try holding the syringe at a lower level. If this fails to help, the air can be aspirated out under gentle pressure. To do this, connect a syringe that has the plunger inside and gently pull the plunger out until resistance is felt. If you feel that gastric decompression can only be achieved in your child when it is performed by the aspiration method you should inform your community nurse or nurse specialist.

MIC J Tube care and maintenance:

How long will the MIC J tube last?

The MIC J tube usually lasts for six months after which it requires changing. The MIC J tube should be changed earlier if signs of balloon perforation occur (see section: 'changing water in the internal balloon'.)

The tube may require changing as your child grows. You will know that a change of size is required as the tube will appear too tight or too loose. If you are concerned that the current tube that your child has is not of an appropriate size, inform your nurse specialist.

How is the tube changed?

The MIC J tube is changed as an outpatient in the specialist x-ray department. You will need to bring your child's new tube with you (supplied via your community nurse/home delivery service).

A guidewire is inserted through your child's existing MIC J tube and, whilst the guidewire remains in place, the balloon is deflated and the old tube is removed. The new tube is then threaded over the guidewire into its correct position. The balloon is inflated and the guidewire is then removed. This whole procedure is watched on a screen (monitor).

This process is not painful but your child will need to lay still. You can stay with your child whilst the tube is changed (as long as you are not pregnant).

Once the new tube is in place your child can go home and can recommence feeds straight away.

Cleaning and general skin care:

- The area where the tube goes through the skin is called the stoma site. You may experience a discharge at the stoma site for the first few days (7-10 days) until the stoma heals.
- Daily care of the stoma site will reduce the possibility of soreness or infections.
- Always ensure that you wash your hands before and after caring for your child's tube.
- The stoma site should be cleaned daily with warm soapy water.
- Always avoid using creams/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 skin irritation.
- If you notice that the skin is becoming sore or there is oozing from the stoma site you should contact a member of your care team.
- Dressings around the stoma site are usually not required.
- Redness or soreness around the stoma may be the result of gastric leakage so it may be necessary to clean the site more than once per day. Your community nurse will be able to advise you.

Changing the water in the internal balloon:

The water in the retaining balloon needs to be changed once per week.

The purpose of changing the water is to ascertain the condition of the balloon. If the balloon is beginning to perish, this will be indicated by either aspirating less water than expected **and/or** the water which is aspirated being discoloured. If either of these signs are observed you should contact your community nurse or nurse specialist within 24 hours. If these signs are ignored the balloon is at risk of rupturing and the tube may then fall out.

Procedure for changing the water in the balloon:

1. Collect together the equipment required:
 - Two syringes (5mls)
 - Sterile (cooled boiled) water
2. Wash hands.
3. Draw up 5 mls of the water into one of the syringes.
4. Hold the external bolster by placing a finger and thumb on either side.
5. Insert the empty syringe into the balloon valve (labelled 'BAL').
6. Allow the water to be expelled into the syringe.
7. Check the aspirated water in the syringe for volume and colour.

8. Discard this old water.
9. Pick up the syringe containing the new water, push the syringe into the balloon valve and let go of the syringe. If the syringe has been inserted correctly it will stay connected to the tube on release. Inject the water.
10. Once all the water has been injected, remove the syringe using a slight twisting motion. It is important to keep your thumb on the end of the syringe whilst removing it to prevent water being expelled back into the syringe spontaneously.

MIC J tube 'problem solving'

Emergency action to take if the tube falls out:

It is possible for a MIC J tube to be pulled out if sufficient force is exerted on the tubing. It is therefore important to ensure that the tubing is not allowed to get caught, for example whilst lifting your child or while pushing your child in their buggy/wheelchair.

If the tube does get pulled out, the gastrostomy stoma can close within one to two hours and therefore it is essential that immediate action is taken. Your care team will organise for you to have a low profile balloon retained ('gastrostomy button') which you can insert in an emergency situation to prevent the tract from closing (you will be taught how to do this by your community nurses and/or nurse specialists). You should then contact your community nurse or nurse specialist who will arrange for your child to have a new tube inserted.

Balloon will not deflate:

If you cannot extract water from the balloon with the syringe:

1. Ensure the syringe has been inserted correctly. If the syringe has been pushed in too far **or** not far enough, water will not be expelled from the balloon.
2. Ensure the recess in the balloon valve is clean. Occasionally this recess can trap spills of feed or other material. Clean inside the recess with warm water (cotton buds are useful for this) then try to insert the syringe again by pushing it firmly into the valve with a push and twist motion.
3. If the balloon will still not deflate you should contact your community nurse or nurse specialist.

Tube blockage and its management:

To prevent tube blockage the tube should be flushed regularly and medications administered in a way that limits the chances of tube blockage occurring (see sections on 'flushing' and 'administering medications').

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

1. Ensure the clamps are released.
2. Ensure the tube does not have any twists/kinks.
3. Try to flush with warm water using a 'pumping action' with the plunger on the syringe.
4. Connect a 60 ml syringe to the end of the tube and try to draw back ('aspirate').
5. 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 tube for two hours and then try to flush it through with warm water.

6. Contact a member of your care team for advice.

Do not:

- Try to administer fruit juices/fizzy drinks down the tube in an attempt to unblock it.
- Attempt to unblock the tube by inserting objects down it.
- Use excessive force.

If the MIC J tube is irreparably blocked it will require changing. This may be in the x-ray department or in the operating theatre.

Overgranulation and its management:

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 care team for advice as treatment may be required.

Discharge from the stoma site and its management:

It is usual to experience a discharge from the stoma site until the stoma heals (usually 7 to 10 days after placement). It is important to clean the area carefully during this time.

If the discharge is spoiling clothing, a small dressing can be applied but this should be changed regularly/removed when no longer needed.

Feed leakage from the stoma site and related management:

If feed is observed coming from the stoma site you should contact your community nurse or nurse specialist as this may indicate that the jejunal tube is no longer in the correct position.

Leakage from the feed valve:

The feed valve is designed as a valve which closes each time the extension set is disconnected. This prevents stomach/jejunal contents from coming out when the extension set is disconnected.

Using a syringe directly into the feed valve or a non-approved extension set can break this valve. Ask your community nurse or nurse specialist if you have concerns relating to the feed valve.

Managing the child with a vomiting/diarrhoea illness:

- Always check expiry dates of the feed.
- Ensure the feed is brought up to room temperature before administering it. Feed straight from the fridge may be too cold.
- The rate (speed) of the feed may need to be reduced, contact your nurse specialist/community nurse or dietician.
- The speed at which medications are given may need to be reduced, contact your nurse specialist or community nurse.

If you have any queries or need further information:

Your community nurse:	
Your nurse specialist:	



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Help with this leaflet:



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Document history

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