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PEG Feeding

What is a Gastrostomy?

A tube is inserted through a surgically created opening into the stomach for the purpose of feeding when a person is unable to eat normally.

What is Gastrostomy Feeding?

Gastrostomy feeding is the administration of nutritional liquids and water given directly into the stomach via a gastrostomy tube. Commonly called:

- **PEG** (Percutaneous Endoscopic Gastrostomy)
- **Or, Button** (a low profile feeding tube)

The feeding tube stays in the person's stomach all the time. It can be placed there in several ways:

- Using an endoscope, a lighted instrument that is inserted into the stomach to help the doctor place the feeding tube in the correct position. This technique is called percutaneous endoscopic gastrostomy, or PEG
- In an operating room
- Using x-rays to guide the feeding tube into the correct position

Why do people need gastrostomy feeding?

People with the following medical conditions are likely to have some degree of swallowing difficulties (Dysphagia) and are therefore at risk of requiring a gastrostomy tube:

- | | |
|--|---|
| • Huntington's Disease | • Cerebral Vascular Accident (CVA/Stroke) |
| • Digestive Disorders | • Multiple Sclerosis |
| • Congenital abnormalities | • Dementia |
| • Parkinson's Disease | • Epilepsy |
| • Motor Neurone Disease | • Intellectual Disability |
| • Head Injury or Trauma (facial and/or oral) | |

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Meal Preparation and Planning

A mealtime preparation plan is developed with the involvement and input from the Customer/Client where possible. The plan is overseen by a health practitioner. The plan should include the appropriate actions when an incident occurs or any change to previous meals, including nausea, vomiting, tube blockage or tube partially or fully comes out. These issues are described and required actions are listed under the appropriate sections of this procedure.

Delivering PEG Feed

Only staff who have undertaken theoretical training by the Clinical Nurse Consultant/Registered Nurse followed by a practical assessment and sign off are allowed to deliver food, fluid or medications via a PEG. If at any time the customer/client feels nauseous, commences to vomit immediately stop the feed and seek advice from a medical practitioner or the Clinical Nurse.

Preferred position to deliver gastrostomy feeds

There are many variable positions people prefer a feed. The best practice is for a person to be no flatter than 45 degrees. Best position is well supported and upright if possible. There are exceptions as we need to follow specific requests.

There are three different ways to deliver tube feeding:

Bolus/Syringe feeding:

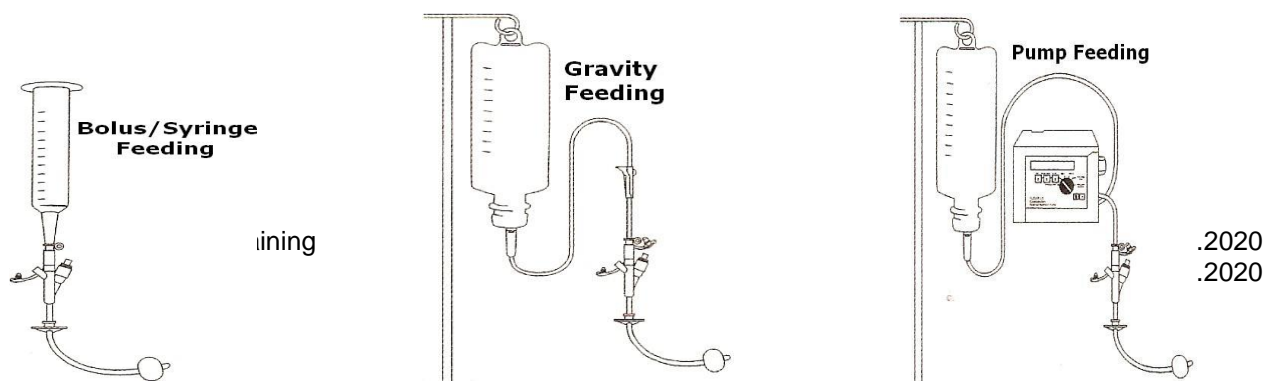
Formula is administered via a 60mL catheter tipped syringe. Larger amounts of the formula are given 3 to 8 times a day.

Gravity feeding:

Formula is administered from a container suspended above the person – the formula flows through the tubing due to the effect of gravity.

Continuous /Pump feeding:

Mechanical pump delivers the formula under pressure. The formula slowly drips



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through the feeding tube all day or night (or both).

Bolus or Syringe Method for PEG

Bolus feeding involves delivering a feed over a 10-15 minute period. Those who do not have any tolerance problems typically use this method of feeding. Feeds can be given using a large catheter tip syringe or a Mic-Key syringe.

Bolus feeding is given rapidly via a syringe.

Setting Up Bolus or Syringe Feeding

Note: Direct Care Workers to be mindful of safe body postures.

1. Wash hands with soap and warm water before and after feeding. Apply gloves prior to step 4 if required.
2. Check healthcare plan for formula and water amounts.
3. Position the person who is to have the formula.
4. Assemble equipment:
 - a. 60ml catheter tip syringe or Mic Key syringe
 - b. Formula/Prepared Food
 - c. Water container
 - d. Chair for direct care worker
 - e. Small towel to place under gastrostomy tube

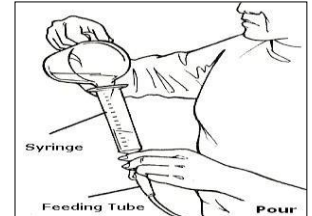
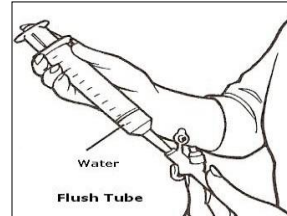
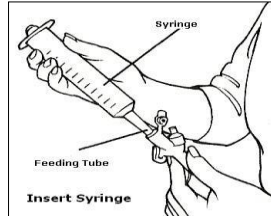
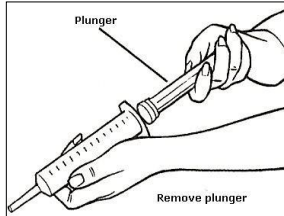
When using a new can of formula from storage box, prior to opening, thoroughly wipe top of the can to remove any dust

1. Remove plunger from syringe
2. Prepare formula as instructed on healthcare plan.
3. Clamp off the PEG gastrostomy tube to prevent air entering the stomach.
4. Remove cap from the PEG gastrostomy tube
5. Connect the tip of the syringe to the gastrostomy tube.
6. Venting: This allows for the stomach air to escape (similar to a burp).
7. By lowering the tube you can allow for air to escape.
8. Fill the syringe barrel with water first, followed by formula.
9. Hold the syringe and the top of the gastrostomy tube together in case they separate.
10. Position the syringe to adjust the rate of feed delivery. The rate will be faster if the syringe is held directly
11. above the gastrostomy tube and slowest if held horizontal to the gastrostomy tube.
12. Refill the syringe when 5-10 ml of formula remains to prevent air from entering the stomach.
13. At the completion of the feed, flush the gastrostomy tube with tap water as instructed.

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14. Place cap onto gastrostomy tube.
15. Wash equipment in cold water first, then in warm soapy water. Rinse thoroughly, drain and cover.



Gas Build Up

Some people receiving enteral feeding develop abdominal distension as a result of a build-up of gas in the stomach. Abdominal distension can be uncomfortable for the person and the increased pressure in the stomach may be transmitted up the tube which can cause the gastric contents to leak. It may also cause the protective cap to disconnect.

Venting the Tube

1. Hold the tube upright.
2. Protect the eyes and clothing from spray of gastric contents of both direct care worker and the person receiving the food.
3. Uncap the tube and allow the air to escape.
4. Replace the cap.

Note: This can be done prior to each feed or flush.

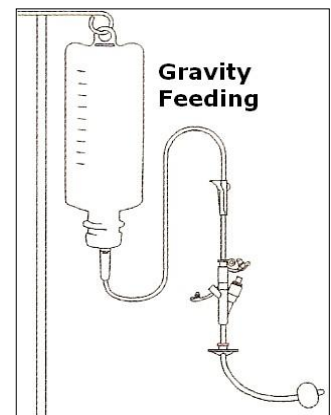
Flush Tube

- Regular flushing of the PEG will prevent blockage.

To flush tube use a 60ml syringe (using a smaller syringe may cause too much pressure in the tube) with warm tap water.

- Before and after feeds and when giving medication.
- Every 4 hours during continuous administration and at completion of feeding.
- If tube becomes blocked, aspirate or flush (according to the design of the device) with warm water.

DO NOT attempt to clear the tube by inserting any mechanical object into it (risk of injury to stomach wall). If the tube is removed accidentally cover the gastrostomy hole immediately with a clean cloth and seek assistance. The gastrostomy hole can close over within 1 hour. If a problem arises, seek assistance from Clinical Nurse.



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Care of Equipment:

- All feeding equipment (giving sets, syringes, and containers) must be washed in cold water first and then in warm soapy water, between each use.
- Equipment should then be rinsed well and drip-dried thoroughly before storing in a clean, dry container with a lid.
- It is recommended that you do not soak giving sets and containers in Milton solution as the plastic perishes. However, some people prefer this method of decontamination.
- Very hot water may cause plastic to perish.
- Store unopened formula in a cool, dry place.
- Opened cans of ready to feed formula must be refrigerated in plastic containers until required.
- Feeds in the refrigerator should be dated and used within 24 hours.
- Formula should be brought to room temperature before feeding; place on bench for 15mins prior to use or stand the formula in a bowl of hot water.

Gravity Method for PEG Gastrostomy Feeding

Usually given intermittently.

Setting Up Gravity Feeds

1. Wash hands with soap and warm water before and after feeding. Apply gloves prior to step 4 if required.
2. Check healthcare plan for formula and water amounts.
3. Position the service recipient.
4. Assemble equipment:
 - Formula
 - Gravity giving set
 - Feed container
 - Syringe
 - Small towel
 - An IV pole or wall hook
 - Can opener
 - Water for flushing
5. Fill container with the required amount of formula and connect to gravity giving set.
6. Clamp shut the roller on the giving set.
7. Squeeze the chamber until it is half filled with fluid.
8. Hang the container 1-2 feet above tube insertion point and prime the giving set with formula using the Clamp (i.e. run the formula through the line until almost at the end, then clamp off).
9. Connect the tip of the giving set to the gastrostomy tube.

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10. Release the clamp to the point where the desired rate is achieved. Fully open and it will run the formula through the fastest and as you clamp off the tube the rate will be reduced.
11. If there is some initial resistance for the feed to run, it may be the tube needs to be vented. (allows the air to escape from the stomach, similar to a burp).
12. At the completion of the feed, flush the gastrostomy tube with tap water.

Flush Tube and Care of Equipment

Refer above under Bolus/Syringe for instructions.

Continuous Method for Peg Gastrostomy Feeding

Continuous feeds are usually delivered through a feeding pump. This method of feeding is used when there are problems with managing a large volume of feed at one time, or when overnight feeds are required. The pump can be run intermittently, overnight or for 24 hours.

Advantages: Very well tolerated, time saving, easy to adjust rate, reliable/accurate flow

Setting Up the Pump

Note: Direct Care Workers to be mindful of safe body postures.

1. Wash hands with warm soapy water before and after feeding. Apply gloves prior to step 3 if required.
2. Check healthcare plan for formula and water amounts.
3. Assemble equipment:
 - Formula/Food
 - Pump
 - Pump set
 - Feed container
 - Catheter tip syringe/Mic-Key syringe
 - IV pole or wall hook
 - Can opener
 - Water for flushing
 - Small towel
4. Fill the container with the correct amount of formula and connect it to the pump set.
5. Clamp shut the roller on the giving set.
6. Prime the set with formula (ie run the formula through the line until it is almost at the end of the tubing) and hang the container.
7. Connect the pump set to the pump.
8. Set the desired rate on the pump and select RUN to commence feeding.
9. At the completion of each container of formula, wash hands and flush the gastrostomy tube with water from the syringe.

Although it is not advocated, some families give feeds while the person is lying flat.

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Flush Tube and Care of Equipment

Refer above under Bolus/Syringe for instructions.

Specific PEG Tube Care

Before beginning a feed, be sure the person and the feeding tube are positioned correctly:

- Record Management of the skin disc against the calibrations (number on the tube). If the numbers are not present, use a permanent pen to mark the tubes correct position. See what is documented in Healthcare Plan.
- Compare this figure with previous measurements. If the difference is more, check with the clinical nurse.
- Rotate the tube 360° and gently migrate the tube away from the abdominal wall, until you feel resistance. Then move the external skin disc 1-2 cms from the abdominal wall.
- The peg tube may have a skin disc to keep it in place. The skin disc should not be tight against the skin – this allows for slight in-and-out movement of the tube. If the flange is too close to the skin, wetness and excoriation may occur.
- The balloon which contains water and stops the tube from falling out, needs to be checked weekly. You need to be deemed competent by the nurse to do this. (In some situations, the family monitor this).

Every day check the disc against the markings on the tube. If it has changed, call the Coordinator and Clinical Nurse.

Potential Problems

Blocked tube

There are several causes for a blocked tube. Three of the most common are:

- Drugs in tablet form that have not been properly crushed and dissolved in water.
- Feeding that has stayed in the tube for a prolonged period.
- Formula too thick – to prevent this, shake the formula sufficiently prior to use, or add water to dilute formula.

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To Unblock Tube

1. Check for any kinks or unreleased clamps
2. Raise the height of the syringe or bag
3. Encourage the person to relax – with children distract
4. Rotate the tube
5. Reposition the person
6. Try milking or squeezing the tube
7. Last resort – warm water 10 to 20ml's

Tube Partially Out

- **Do Not Use** the feeding tube if it looks like it has come partway out of the tube site. Refer to the markings recorded.
- **Call** the Coordinator and Clinical Nurse immediately. You will be advised to call an ambulance and go to the Accident & Emergency Department of the nearest hospital.
- Until you get help from a doctor, **keep tube in place** by taping it to the skin.

Tube Completely Out

- If the tube comes completely out, **it must be replaced**. Otherwise, the opening into the stomach will begin to close within one to two hours.
- **Cover** the tube site with tape.
- **Go** to Accident & Emergency Department as soon as possible and **take** the spare new tube with you.

Mouth Care

Excessive amounts of harmful bacteria accumulate causing a dry mouth This may lead to gum swelling, bad breath, soreness, burning, and difficulty in chewing, swallowing and speaking.

- Even when a person is not eating or drinking, good mouth care is important.
- Cleansing and rinsing of the mouth helps maintain hydration of mucous membranes.
- Brush the teeth as if the person were using them to eat, cleaning all the surfaces of the teeth, gums and tongue at least twice a day.
- If unable to brush the teeth, mouth care can be done using a large cotton tip applicator (e.g. Jumbo Swabs) with salt and water or mouthwash.

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- Toothpaste, mouthwash and gel products containing salivary enzymes are available to reduce the harmful bacteria and help relieve dry mouth discomfort.
- Use of lip balm.

MIC-KEY Gastrostomy Tube

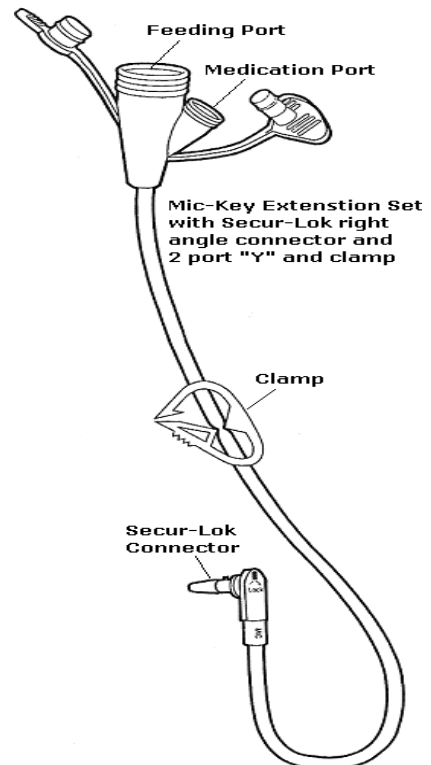
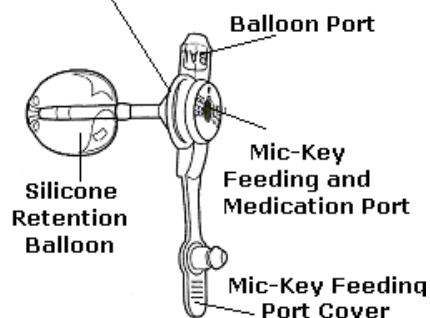
The MIC-KEY feeding tube has a balloon inside the stomach that has been inflated and filled with water or saline to hold the tube in place. The balloon volume needs to be checked once a week. Always check the balloon prior to a feed.

(This should be documented on Healthcare Plan).

The MIC-KEY kit contains a Bolus Extension set. As some people receive several feedings during the day the bolus tube is used to feed with a catheter tip syringe or feeding bag. It normally takes 20 to 40 minutes to bolus feed. This method resembles a normal feeding pattern.

The bolus set does not have a ninety-degree angle like the SECUR-LOK Extension Set, but because there is no right angle, and the lumen is larger, thicker feedings are easier to give and makes venting easy.

Mic-Key Low Profile Gastrostomy Feeding Tube



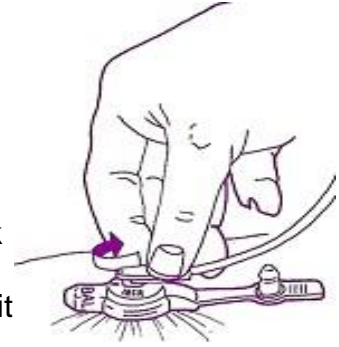
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Bolus and Gravity Feeding

Ensure the person is appropriately positioned.

1. Attach a water filled catheter tip syringe to the Bolus Extension Set. Prime by filling it with water.
2. Attach to the MIC-KEY feeding port by matching the black lines on the extension set and feeding port. Insert the locking adapter into the MIC-KEY feeding port and rotate it **CLOCKWISE** until you feel a slight resistance (approximately three-quarters turn). **DO NOT** turn the connector past the stop point.
3. Clamp the extension set.
4. Disconnect the syringe and remove the syringe plunger. Reattach the syringe.
5. Slowly pour the formula into the syringe and unclamp the tubing. Keep the syringe filled to prevent air entering the stomach. Adjust the flow rate by raising or lowering the syringe. The feeding should finish in 20 to 40 minutes.
6. When the syringe is nearly empty, add the prescribed amount of water to the syringe.
7. After the formula and water have been administered, clamp the tube and fill the syringe with 10-20 cc's of warm water. Reinsert the syringe plunger and unclamp the tube. Flush the bolus tube until the tube is clear. Proceed to Step 12.
8. To bolus feed with a gravity drip bag, fill with the desired amount of formula and evacuate the air from the bag's tubing. Attach the bolus tube to the feeding administration bag tubing, prime it and clamp the tubing. Attach to the MIC-KEY feeding port and open the clamp. Adjust the flow by opening or closing the clamp on the bag's tubing.
9. When the feeding is nearly finished, administer the prescribed amount of water by adding it to the feeding administration bag.
10. After the formula and water have been administered, disconnect the tube from the feeding administration bag tubing.
11. Flush the tubing with 10-20 cc's of warm water or until clear.
12. Disconnect the tube and wash in warm soapy water until clear.

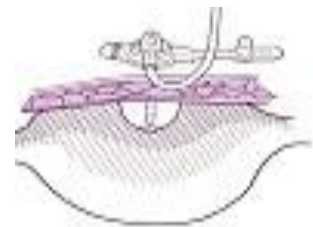


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Continuous Feeding

- Paediatric nutritional formulas are available in ready-to-feed form. Others require mixing.
- Clean the tops of formula cans and shake well. (If using powdered formula, it should be prepared fresh every day. Each formula batch should be labelled with the date and time it is prepared).
- Wash hands with soap and water and dry thoroughly. Apply gloves.
- Fill the feeding administration bag with formula.
- Connect the feeding administration bag tubing to the feeding port.
- Purge air from the tubing by allowing formula to run through the tubing. When the formula has reached the locking adapter clamp.
- Insert the SECUR-LOK Extension Set into the MIC-KEY Feeding Port by matching the black lines on the extension set and Feeding Port. Lock the extension set into place by turning the connector **CLOCKWISE** until you feel a slight resistance. (approximately three-quarters turn). **DO NOT** turn the connector past the stop point.
- Connect the feeding administration bag tubing to the pump. Set the pump rate according to the manufacturer's instructions. Unclamp the tubing and begin feeding.
- When the feeding is nearly finished, add the prescribed amount of water to the feeding bag.
- After the formula and water have been administered, disconnect the feeding administration bag tubing from the SECUR-LOK Extension Set.
- Flush the SECUR-LOK Extension Set with 10-20cc's of warm water or until the tubing is clear.
- Disconnect the extension set from the MIC-KEY by rotating it **COUNTER-CLOCKWISE** until the black line on the Feeding Port lines up with the black line on the extension set. Gently detach the extension set and cap the MIC-KEY securely with the attached Feeding Port Cover.
- Wash the extension set and feeding bag in warm soapy water immediately after each use. Rinse thoroughly and air dry.

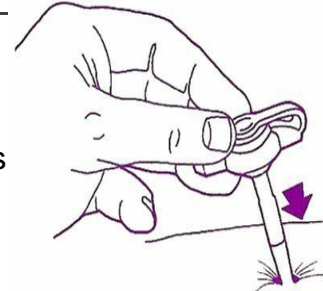


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What should I do if the button falls out?

- It is not uncommon for the button to fall out when the balloon develops a leak/hole
- It is important to replace the device as soon as possible as the stoma begins to contract and close over very quickly.



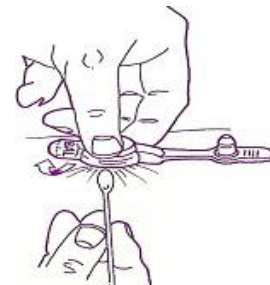
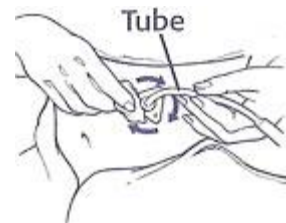
When you notice the button has fallen out you need to:

1. locate where the button has fallen
2. rinse button in warm water
3. place tape over site
4. call ambulance
5. obtain spare button for reinsertion by paramedic

General Care of the Tube Site

It is important to clean the tube site daily to prevent an infection. Care is simple and easy. Keep the tube and the skin around the tube (stoma) clean and dry.

1. Wash your hands. Apply gloves.
2. Gather the materials you need to clean the tube site:
 - Warm, soapy water
 - Cotton tipped swabs
 - Face washer/soft cloth
 - Split dressing and tape if required
 - Disposable luer slip tip syringe for Mic-Key
3. Wash the area under the tube flange with warm, soapy water using a cotton tipped swab or face washer/gauze. Dry well. A bath or shower is a good way to **clean** the area.
4. Rotate tube 360° every day to relieve pressure and prevent adherence to the skin.
5. Clean the MIC-KEY Feeding Port with a cotton tip applicator or soft cloth to remove oil or food.
6. A small split gauze dressing may be required to protect the clothing. Avoid a dressing in most cases; a maceration, breakdown and infection can occur. If a dressing is used, change immediately if it becomes wet.
7. A small amount of serous ooze around the tube site is normal and may make the skin red.
8. Granulation tissue (proud flesh) is often present. Unless it is painful there is no point in removing, as it will most likely grow back again.



Clean under disk

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9. **Contact the Coordinator and Clinical Nurse** if you notice any of the following: redness, pain or soreness, swelling, unusual drainage around the tube such as bloody, odorous, or formula-like drainage.
10. Do not apply cream or powder around the stoma site unless you have been given specific instructions from a Doctor or Clinical Nurse.

Avoid puncturing or tearing any part of the MIC-KEY Gastrostomy Tube.

Giving Medications through the Gastrostomy Tube

Most medications can be given safely through the feeding tube by following some simple rules:

- **Never** mix medication with the tube feeding formula. (Some families do this).
- **Never** crush enteric-coated or timed-release tablets or capsules
- Use liquid medication whenever possible. Thick medication can plug the MIC-KEY and is easier to give when diluted with water.
- Avoid administering non-liquid drugs via a narrow lumen tube.
- Check if medication should be given on a full or empty stomach.
- When a medication is only available in tablets or capsules, check with the pharmacist first to make sure it can be crushed and mixed with water.
- Be sure to crush tablets into fine powder and mix it well in 20-30mL of warm water (water must not be hot as medication may lose its effect).
- Always add the drug to the gastrostomy tube NEVER to the fluid container or giving set.
- Clear the feeding tube by flushing it with 20-30mL of warm water both **before** and **after** giving the medication.
- If more than one medication is to be given, give each separately and flush the tube with 5mL of warm water between medications.
- Medications should not be mixed together. However, if families have adopted this practice over a long period of time without complications then this practice is continued following advice from the person's specialist or pharmacist
- Any drug that should not be given with food should not be put through a gastrostomy feeding tube while the feeding solution remains in the stomach, or if the feeds are continuous.
- Small amounts of medication can be diluted with water in a luer tip syringe and injected directly into MIC-KEY's Feeding Port. This method eliminates the need for extension tubing. Flush with at least 10cc's of water after giving the medication.

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Troubleshooting:

Note: Contact the Clinical Nurse for advice before applying any creams.

Complications	Causes	Management
Skin Excoriation	Leakage/exudate from stoma	Regular baths, hygiene care Apply No Sting Barrier film Topical Mylanta (painted around site) Apply Critic Barrier cream to broken area Establish why leakage is present – fix it
	Skin consistently left wet	Dry thoroughly after bath/cleaning Expose site to air 2-3 mins before covering with clothing Clean site whenever leakage is noticed
Over granulation	Skin irritation from tube	Treat with silver nitrate stick; copper sulphate granules (cauterisation in OT) Treat with hydrocortisone or kenacomb cream if above measures unsuccessful Decrease irritation by decreasing tube movement
Feeding Tube Blockages	Undissolved medication	Use liquids medications wherever possible Crush/dissolve thoroughly Water flush pre-post administration
	Inadequate flushing	Flush with 30mls water pre/post feeds Regular flushing during continuous feeds Soda water flush may help dissolve obstruction
	Kinked tube	Check tubing to ensure clamps released Ensure child not lying on tubing
Reinsertion (Mic Key)	Balloon failure	Wash button in warm water and reinsert into stoma, tape into position until new button available May continue to feed until replaced
	Valve failure	Aspirate water from balloon, gently remove and replace with new button

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