

## About the Khoo Teck Puat – National University Children’s Medical Institute (KTP-NUCMI)

The KTP-NUCMI is the paediatric arm of the National University Hospital and comprises the Departments of Paediatrics, Paediatric Surgery and Neonatology. We provide comprehensive and specialised medical and surgical services for newborns, children and adolescents, and are the only public hospital in Singapore that offers paediatric kidney and liver transplant programmes. Through a generous gift from the Estate of Khoo Teck Puat, we have set up an integrated outpatient facility with medical, diagnostic and rehabilitation services.

For more information about us, visit [www.nuh.com.sg/nuhkids](http://www.nuh.com.sg/nuhkids).

### Contact Us

#### 24-hour Children’s Emergency

Location: NUH Main Building, Zone F, Level 1

General Enquiry: +65 6772 2555

#### KTP-NUCMI

Location: NUH Main Building, Zone E, Level 2

(Accessible via Kent Ridge Wing, Zone C, Level 2, Lift Lobby C)

Operating Hours: 8.30am – 5.30pm (Mon to Fri), 8.30am – 12.30pm (Sat)

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#### 9a Viva-University Children’s Cancer Centre

Location: NUH Medical Centre, Zone B, Level 9

Operating Hours: 8.30am – 5.30pm (Mon to Fri)

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#### NUH Children’s Urgent Care Clinic @ Bukit Panjang

Location: Junction 10, 1 Woodlands Road, #01-22, Singapore 677899

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General Enquiry: +65 6219 1538

Email: [childreucc@nuhs.edu.sg](mailto:childreucc@nuhs.edu.sg)

Website: [www.nuh.com.sg/ucc](http://www.nuh.com.sg/ucc)

#### NUH Child Development Unit @ JMC

Location: Jurong Medical Centre, 60 Jurong West Central 3, Level 2, Singapore 648346

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Fax: +65 6665 0158

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Website: [www.nuh.com.sg/cdu](http://www.nuh.com.sg/cdu)

#### NUH Child Development Unit @ Keat Hong

Location: Keat Hong Community Club, 2 Choa Chu Kang Loop, #03-01, Singapore 689687

Operating Hours: 8.30am – 5.30pm (Mon to Fri)

Appointment Line: +65 6769 4537/4637

Fax: +65 6665 0158

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Website: [www.nuh.com.sg/cdu](http://www.nuh.com.sg/cdu)

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# Caregiver’s Guide for Gastrostomy Care



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## Introduction

When a child is unable to get enough nutrition orally due to a medical condition or illness, a gastrostomy tube ensures that he/she will be able to receive sufficient nutrients and calories, which are delivered directly to the stomach.

This booklet provides information on how to care for your child with a gastrostomy tube.

### What is a gastrostomy tube?

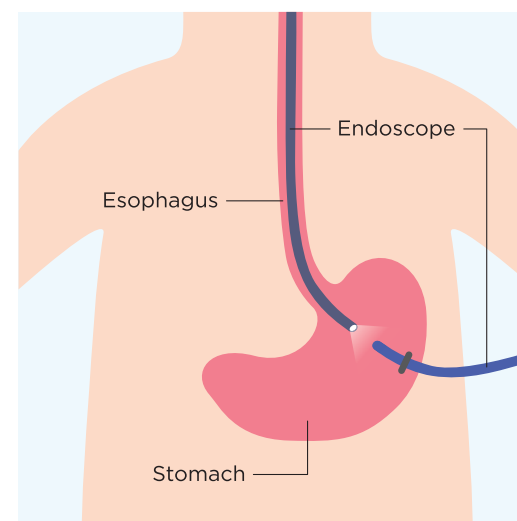
A gastrostomy (stoma) is a surgical opening made through the skin of the abdomen into the stomach. A gastrostomy tube, also known as feeding tube or g-tube, is placed through the opening which allows feeds and medications to be delivered directly into the stomach.

### What are the types of gastrostomy tubes?

There are many types of gastrostomy tubes available.

Your nurse will go through with you the type of device your child has and how to take care of it.

#### 1. Percutaneous Endoscopic Gastrostomy Tube



Percutaneous Endoscopic Gastrostomy (PEG) is a surgical procedure where a flexible endoscope is used to insert and position the PEG tube in the stomach.

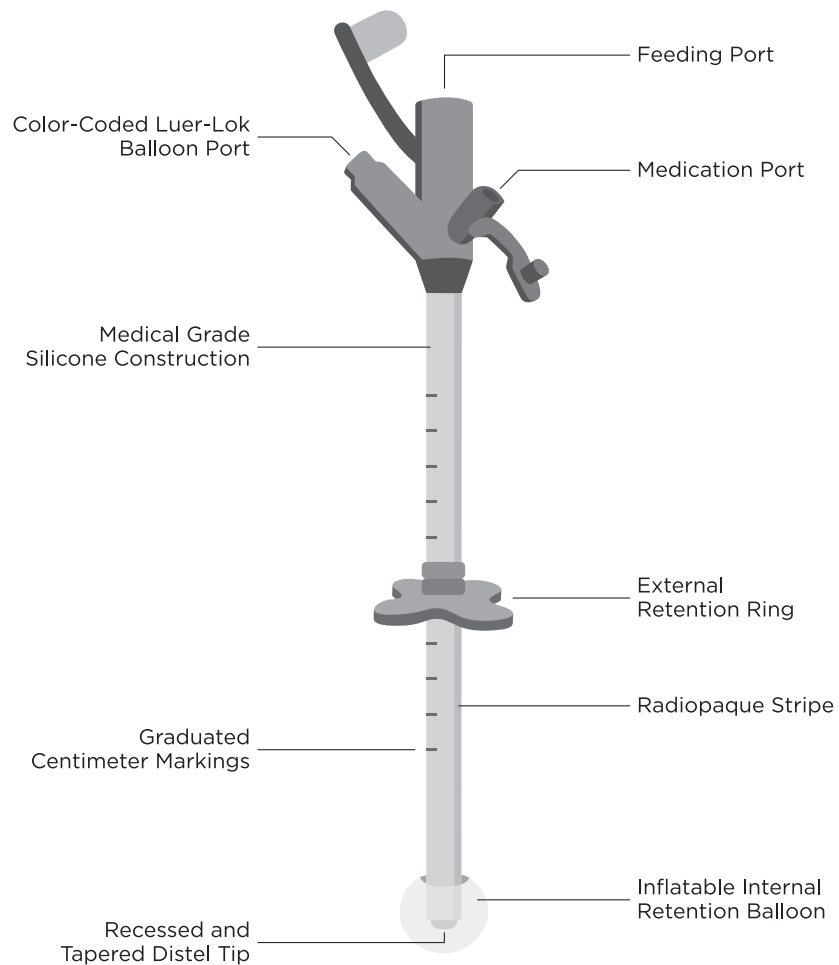
The silicon ring, which sits on the skin, helps to stabilise the PEG tube by preventing it from moving in and out of the stoma. The markings on the PEG tube indicates how much of the tube is inside the stomach. It is **important** to note the marking at skin level after insertion. The markings will help to **alert** you if the PEG tube has moved.

PEG tube does not require a feeding extension tube for feeding.

## 2. Gastrostomy Tube

The gastrostomy tube, or conventional gastrostomy tube, comes in different sizes. It is held in place in the stomach by a balloon filled with water. Your child will be fitted with a suitable tube size. Your nurse will teach you how to check and replace the water level in the balloon.

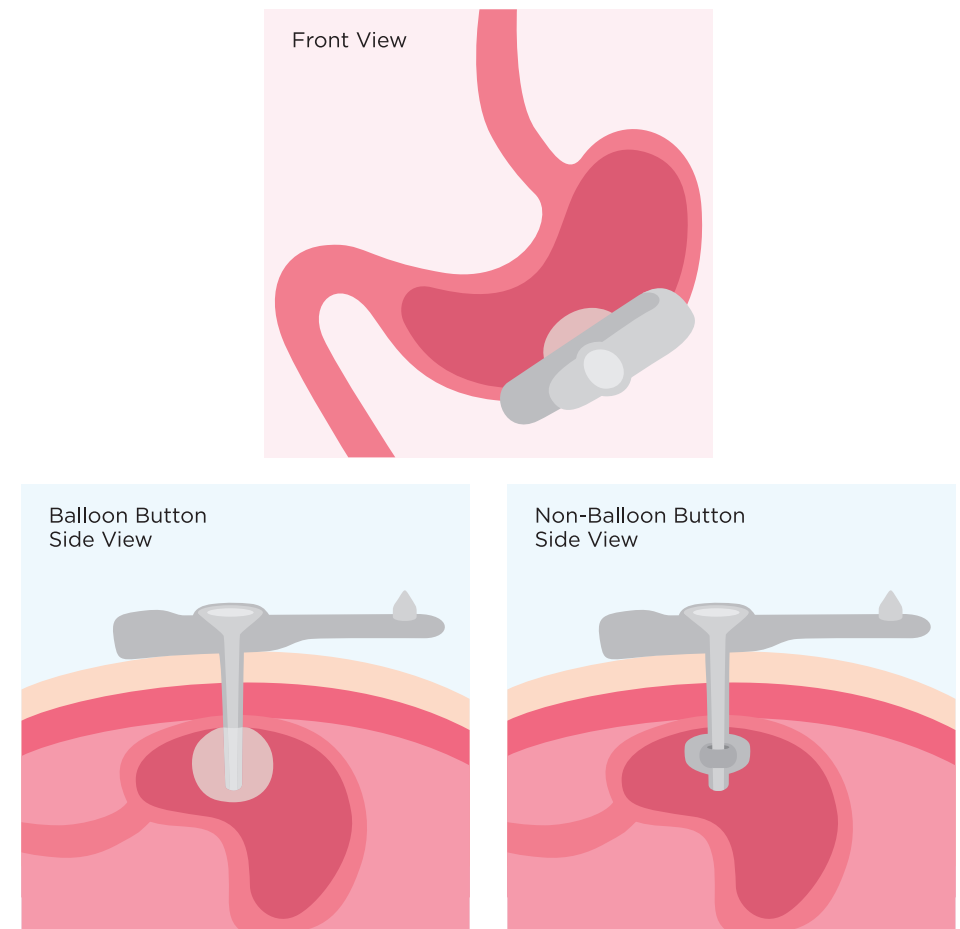
A gastrostomy tube does not require a feeding extension tube for feeding.



## 3. Low Profile Device (Gastrostomy Buttons)

There are two types of low profile gastrostomy buttons, balloon and non-balloon (or also known as capsule), and they come in different sizes and length. Your child's gastrostomy button can only be used by connecting it with the feeding extension tube.

Remember to keep your child's feeding extension tube with him/her at all times.



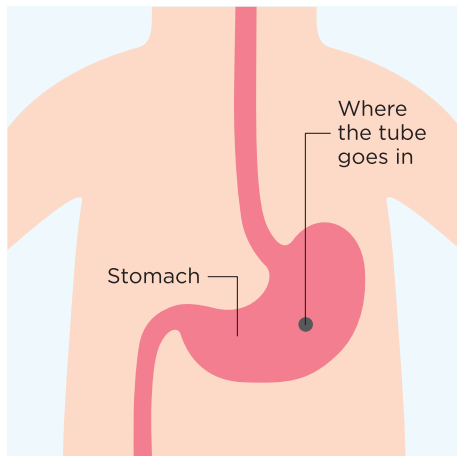
#### 4. Gastro-Jejunal Tube

The Gastro-Jejunal Tube (GJ tube) is placed through the abdomen directly into the stomach and then passed into the small intestine. It is used for children who are unable to tolerate feeding into their stomach. GJ tubes should be replaced every 6 months by a radiologist. GJ tube should **NEVER** be rotated.

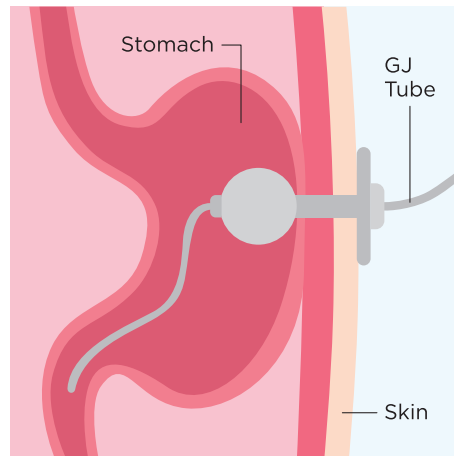
Depending on the GJ tube used, a feeding extension tube may be needed. Like the gastrostomy button, children with a Low Profile (skin level) GJ tube will need a feeding extension tube for feeding.

It is important to flush your child's GJ tube with water **before and after** giving medicines to prevent any blockage in the tube.

Front View



Side View



## Gastrostomy Feeding

There are three different methods of feeding your child using the gastrostomy tube:

### 1. Bolus feeds

A bolus feed is where feeding is given using gravity.

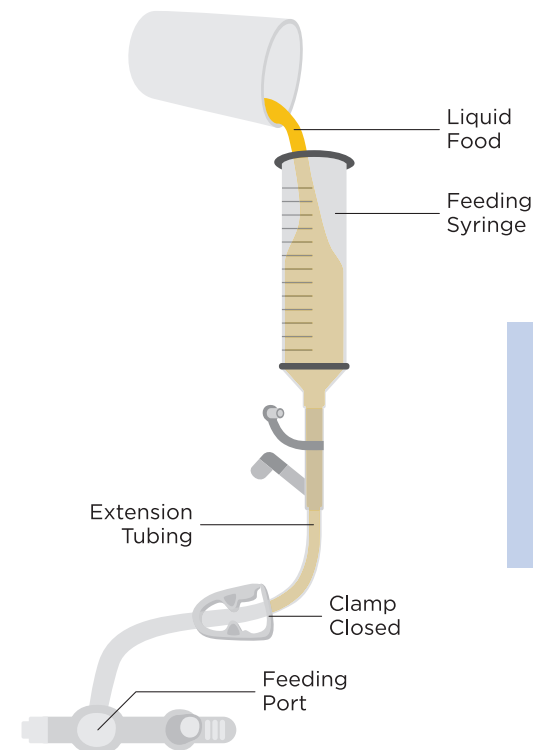
### 2. Continuous feeds

If your child requires continuous feeding, he/she will receive the feeds slowly over a number of hours through a feeding pump.

### 3. Combination of both bolus and continuous feeds

Your child requires bolus feeds during the day and a continuous feed overnight.

Some children may be able to eat by mouth and use the gastrostomy tube to supplement what is needed. Your doctor and/or dietitian will advise you if your child can have an oral diet.



#### Requisites for feeding

- 50ml catheter tip syringe
- Lukewarm water for flushing the tube
- Milk feeds in a bottle, can or jug
- Tissues

**Feeding Instructions**

1. Raise the head of the bed or sit your child up. An upright position will prevent any regurgitation.
  2. Wash your hands thoroughly.
  3. Connect the feeding extension tube (for patients using low profile feeding buttons).
  4. Ensure the tube is clamped properly. This will prevent excess air from entering the stomach.
  5. Connect the syringe to the tube.
  6. Pour \_\_\_ml of lukewarm water into the syringe to check for blockage. The water must be able to flow smoothly. Tilt the syringe slightly to allow air to escape if necessary.
  7. For feeding,
    - Fill the syringe with the feeds.
    - Hold the syringe upright to allow the feeds to flow into the stomach slowly. Do not tilt, raise or lower the syringe as it will disrupt the flow of the feeds. It is not advisable for the flow to be fast as this will distend the stomach quickly and cause some discomfort to your child.
- For giving of medicine,
- Give liquid medicines where possible through your child's gastrostomy tube. If the medicine is only available as tablets or capsules, ensure that the medication is crushed into powder or fully dissolved in water before feeding.
  - Give one type of medication at a time.
8. Feed and medicine should be given separately. Do not mix your child's medicine with their feed.
  9. Flush the tube with \_\_\_ml of lukewarm water through the tube after feeding or giving of medicine to prevent blockage in the tube.
  10. Unclamp the tube and disconnect the syringe from the tube.
  11. Remove the feeding extension tube, if any.

## Cleaning the equipment

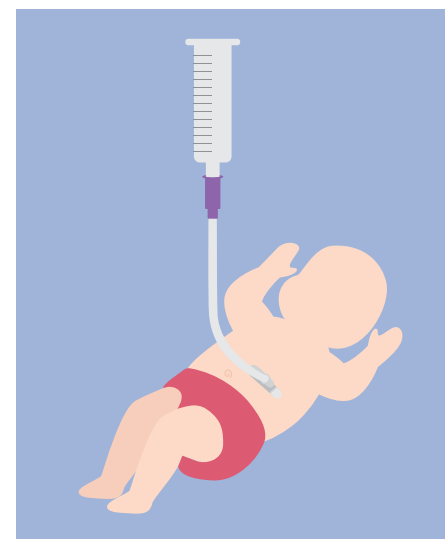
Wash the feeding extension tube and syringe with lukewarm water and dish soap immediately after use. Rinse well with water. Air dry the feeding extension tube on a clean surface. When it is completely dry, store it in clean covered container with the syringe. Do not sterilise the feeding extension tube and syringe.

## Caring for the skin around the gastrostomy site

Cleaning the stoma site should be done at least once a day or more frequently if required.

- Clean the stoma site with normal saline 0.9% for the first week and then subsequently with mild soap and water. Rinse with water and dry the area well.
- Use cotton buds to gently clean under the button or disc if applicable.
- Check the site for any increased redness or discharge.
- Apply gauze dressing or gastrostomy tube covers if required.

## Venting



Venting allows excess air to escape from the stomach, which is usually performed before feeding is done. It may help your child feel better when he/she seems uncomfortable, has stomach pain or bloatedness.

To vent a gastrostomy tube, connect a 50ml syringe to the feeding extension tube (if your child is on gastrostomy button) or directly to the tube (if your child is on PEG tube, gastrostomy tube or GJ tube).

Remove the plunger and let gravity drain and decompress the stomach of excess air.

## Tips for managing common gastrostomy tube problems

Problem	Action	Prevention
<b>Leaking</b>	<p>A small amount of leaking around the gastrostomy site is normal. Clean the site with a damp cloth and then pat dry.</p> <p>Troubleshoot to find out the cause of leaking.</p> <p>You can use a barrier cream or antacid powder to help protect the skin.</p> <p>Please inform our paediatric surgery nurse if:</p> <ul style="list-style-type: none"> <li>Leaking continues despite troubleshooting.</li> <li>There is yellow/green colour drainage.</li> <li>Skin around the site is irritated.</li> </ul> <p>Please arrange for an appointment with our paediatric surgery nurse to change the size of the gastrostomy tube if it has become unsuitable.</p>	<p>There are several reasons for leakage:</p> <ul style="list-style-type: none"> <li><b>Size of gastrostomy tube</b> A button that is too long allows the tube to move in and out of the stoma instead of sitting snugly against the skin.</li> <li><b>Insufficient balloon water</b> Ensure the balloon has the recommended amount of water and is changed weekly.</li> <li><b>Constipation</b> When your child is unable to empty his/her bowels properly, it may cause leakage around the gastrostomy tube. Make sure your child is having regular bowel motions.</li> <li><b>Illness</b> Your child is down with an illness which is related to the respiratory system or stomach. The leakage will usually stop when your child recovers.</li> </ul>

Problem	Action	Prevention
<b>Over Granulation Tissue</b>	<p>Over granulation is a common problem for a child with a gastrostomy tube. When there is too much movement around the gastrostomy site, extra tissue will grow.</p> <p>Over granulation may cause a small amount of bleeding, leakage or irritation around the gastrostomy site.</p> <p>Silver nitrate sticks or dressings are usually used to treat the granulation tissue.</p> <p>If you think your child has a granulation tissue, please contact our paediatric surgery nurse for advice.</p>	<p>Ensure your child's gastrostomy tube is secure to lower the risk of developing over granulation tissue.</p>
<b>Dislodged Tube</b>	<p>If dislodged, the gastrostomy tube should be replaced as soon as possible to prevent stoma from closing. Apply antacid powder to the stoma and cover the site with gauze. Inform our paediatric surgery nurse immediately.</p> <p>For gastrostomy button, most caregivers will be taught how to change the button within the first year. If you have been taught how, you can proceed to change the button yourself.</p>	<p>Keep the feeding tube safe by ensuring that it is secured well under the clothing.</p> <p>Remove the feeding extension tube (if any) when not in use.</p>

Problem	Action	Prevention
<b>Tube Blockage</b>	<p>The blockages are usually caused by:</p> <ul style="list-style-type: none"> <li>• Insufficient flushing</li> <li>• Lumpy milk powder when not prepared properly</li> <li>• Poorly crushed medications</li> </ul> <p>In the event the gastrostomy tube becomes blocked, try to clear it as soon as possible.</p> <p><b>Clearing the gastrostomy tube</b></p> <ul style="list-style-type: none"> <li>• Use a 30ml or larger syringe to flush the gastrostomy tube with lukewarm water slowly. Use a gentle push and pull motion to clear the gastrostomy tube.</li> <li>• Repeat if this does not work the first time.</li> <li>• Do not try to push an object into the gastrostomy tube to unblock it.</li> <li>• If lukewarm water does not clear the blockage, please contact our paediatric surgery nurse.</li> </ul>	<p><b>Always</b> remember to flush the gastrostomy tube before and after use, and between each medication, to prevent blockage.</p>
<b>Infection</b>	<p>Skin infections around the gastrostomy site may happen at times although it is not common.</p> <p>Symptoms of skin infection include redness, swelling, warmth, soreness when touched, or discharges around the gastrostomy site. If your child has any of these symptoms, please contact our paediatric surgery nurse.</p>	<p>Clean the gastrostomy site regularly and ensure that your child's skin around the gastrostomy site is always dry.</p>

## General Care

### • Activities

Your child should be able to resume normal activities once the wound heals. Remove the feeding extension tube (if any) when not in use.

If your child would like to go for a swim, first ensure that the gastrostomy site has healed completely. You may want to apply waterproof dressing over the gastrostomy site before the swim. Clean and dry the site well afterwards.

### • Oral care

Oral care is important even if your child is not eating or drinking orally. Regular brushing of teeth can reduce the build-up of tartar and plaque, which can cause gum disease, and provides valuable oral stimulation.

### • Bathing

Your child should avoid showering until the wound has healed completely, which will take around seven to ten days after the gastrostomy tube has been placed. In the meantime, he/she can be given a sponge bath.

Dry the skin around the gastrostomy tube after each bath.

### • Clothing

You can consider having your child wear one-piece outfits or shirts that can be tucked into pants if he/she is very young. This may help to prevent your child from touching or playing with the gastrostomy tube.

### • Travel

Bring a gastrostomy travel kit if your child is travelling with you.

The kit should contain:

- Extension set (for skin-level devices only)
- Standby gastrostomy set
- Feeding supplies
- Gauze
- Measuring container or feeding bottles
- Syringes
- Cleaning wipes

The quantity depends on the duration that you will be overseas.

## Contact Us

If you have any enquiries, please call the Paediatric Surgery Nurse Hotline at +65 9127 1648 (Monday to Friday, 9am to 5pm) or go to Children's Emergency (after office hours).





Patient's Gastrostomy Information

Date of Insertion	Brand	Type of gastrostomy tube (Balloon / Non Balloon)

French size (Fr)	Button length (cm)	Balloon fill volume (ml)	Skin level marking (cm)