

# GASTROSTOMY MANAGEMENT PROCEDURE<sup>®</sup>

## DOCUMENT SUMMARY/KEY POINTS

- This document provides instructions for the general care of gastrostomy tube/button.
- Common problems encountered with gastrostomy tube/button.
- Ordering and replacing a gastrostomy tube/button.

### **Gastrostomy Homecare Guidelines:**

- <http://webapps.schn.health.nsw.gov.au/epolicy/policy/3576>

### **Home Enteral Nutrition Factsheets:**

- <http://kidshealth.schn.health.nsw.gov.au/fact-sheets#Home%20Enteral%20Nutrition>

## CHANGE SUMMARY

- Links updated.
- Minor practice change.

## READ ACKNOWLEDGEMENT

- All nursing staff caring for patients with a gastrostomy must read and acknowledge they understand the contents of this document.
- All Medical and Surgical staff caring for patients with a gastrostomy must read and acknowledge they understand the contents of this document.

This document reflects what is currently regarded as safe practice. However, as in any clinical situation, there may be factors which cannot be covered by a single set of guidelines. This document does not replace the need for the application of clinical judgement to each individual presentation.

<b>Approved by:</b>	SCHN Policy, Procedure and Guideline Committee	
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<b>Team Leader:</b>	Clinical Nurse Consultant	<b>Area/Dept:</b> Stomal Therapy - Surgical

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## 1 Introduction

Gastrostomy feeding is one of the methods used in providing nutrition to children with a medical or surgical problem that prevents them from achieving adequate caloric intake orally. Gastrostomy feeding is done in order to meet daily nutritional requirements.

Medical or surgical conditions that may require gastrostomy feeding include:

- congenital conditions affecting the upper gastrointestinal tract
- dysphagia
- children with chronic illness such as cerebral palsy, cystic fibrosis and chronic renal failure

Initial insertion of the tube is done under general anaesthesia. Subsequent replacement may be done in Day Surgery, Accident & Emergency Department, Outpatient Department or the ward area where patients are given appropriate pain relief.

Low profile gastrostomy devices (also known as gastrostomy buttons) are the most commonly used gastrostomy device used in the hospital. These may be balloon, capsule or non-balloon type devices. Some surgeons may prefer to place a gastrostomy tube/ catheter (PEG tube) initially before placement of a low profile device.

## 2 General Principles

- Standard universal precautions apply.
- Dietician needs to be consulted for all patients in order to determine the appropriate formula and dietary requirements.
- The Clinical Nurse Consultant of Stomal Therapy will provide educational support and organise discharge supplies for families. Teaching routine procedures such as feeding and use of a Feeding Pump will be done by nursing staff at ward level. Education of families/carers should start as soon as feeding through the gastrostomy is allowed.
- Displaced gastrostomy tubes/buttons must be replaced as soon as possible.
- Feeds given by syringe (gravity, bolus feeds) are delivered for at least 20-30 minutes. Children who have a Fundoplication may need to have their initial feeds delivered slowly through the Feeding Pump. The decision regarding the use of the feeding pump will be in accordance with the surgeon's assessment as well as the child's tolerance with the prescribed volume.
- Feed the child in the position they are most comfortable with. Generally, children are best fed with their head slightly propped up. Some children may benefit from lying on their right side after feeding to facilitate gastric emptying.

## 3 General Care of Gastrostomy Tube / Button

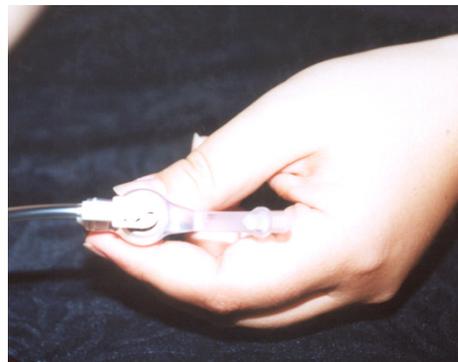
1. The initial dressing on the gastrostomy site is to remain in place. This may only be removed according to the surgeon's preference and by CNC or Registered Nurse. The

gastrostomy tube/button will be on free drainage for at least 24 hours (longer if the child had a fundoplication):

- During this time, medications such as anticonvulsants may be given via the tube/button when prescribed accordingly.
  - The tube is clamped for at least an hour after giving medications.
  - If a Retention suture is used it remains in place for up to 10 days. This is determined by the surgeon. If a Percutaneous Endoscopic Gastrostomy tube was inserted the flange measurement indicating length of the tube is documented in the Operation Notes. Flange measurement needs to be checked.
2. Turn the gastrostomy button or tube around in full circle daily after the retention suture is removed to prevent the device from adhering to the skin and to facilitate removal of device when required. The gastrostomy device should turn smoothly without hurting the skin after the suture is removed.
  3. At the completion of feeding and after giving medications, **flush** the gastrostomy tube/button with approximately 10 mls of water (or as recommended for neonates). In the case of a continuous feed flush every 4 hours to prevent blockage of the tube.
    - Ensure that medications in tablet form are crushed finely and diluted well with water to prevent blockage.
    - **Do not** syringe the medications directly into the gastrostomy button (without the extension tube) as this may damage the anti-reflux valve mechanism found on the top of the device. This also ensures that medication does not get administered into the balloon.
  4. When the child appears to be restless, unsettled, retching and gagging (particularly those that have undergone fundoplication) before or during the feed, gastric decompression is required to help relieve the discomfort. These problems are usually associated with bloating, a common problem after fundoplication. The process of venting involves clamping the gastrostomy tube, attaching a 10 or 20mL syringe (with plunger removed) and raising the syringe above the level of the patient. Unclamp the tube to allow the release of air or fluid. Wait until the child settles before commencing a feed.
  5. Children with a gastrostomy button can be decompressed by simply connecting the feeding tube to the device (see section 3.2). By connecting the feeding tube, it opens up the anti-reflux valve mechanism from the device allowing gas and residual gastric content to come out.
  6. For children with a PEG tube ensure appropriate length of tube is inside the stomach by checking the documented measurement and gently 'tugging' the gastrostomy tube until resistance is felt. Ensure that the gastrostomy kit /box is taken to the ward area when the child is transferred from Operating Theatre or ICU.
  7. Feeding tubes for babies should be treated as per teats and bottles by soaking in Milton for 1 hour after cleaning.

### 3.1 Connecting/Disconnecting the feeding tubes to the Gastrostomy Button

1. Open the port cover from the top of the device.
2. Insert the feeding tube by aligning the lock and key connector. Match the alignment line on the set with the alignment line on the feeding tube.
3. Lock the set into place by pushing in and turning the connector (feeding tube) clockwise until you feel a slight resistance. Note: Do not turn the connector past the stop point.
4. To remove the feeding tube, rotate it counter - clockwise until the black line on the set aligns with the black line on the feeding tube. Remove the tube straight up and replace / cap the button with the attached port cover.



### 3.2 To Decompress / Degas

- Attach the feeding tube to the button.
- Open the end of the decompression tube / feeding port cover and drain the stomach contents into a container.
- When decompression is finished, flush the tube with at least 5mL of water.

**Note:** Do not use the Balloon port of the device (labelled as BAL) located at the side of the device for administration of feeding/medications.

## 4 Problems and Recommendations

### 4.1 Leakage around the tube/button

- Check the volume of water in the balloon (if using a balloon type device) as a deflated or burst balloon can cause leakage to occur.
- Ascertain whether the tube has degenerated. It may need changing.
- Granulation tissue that develops around the tube/button can become a problem particularly if growing as it can bleed easily. It can often produce an exudate that can be irritating to the child's skin. Excessive tube or gastrostomy button movement can cause or exacerbate granulation tissue formation. The gastrostomy device should be secured well underneath the child's clothes to prevent them from constant pulling or irritating the skin. Management of hypergranulation tissue usually involves cauterisation with silver nitrate or

Copper Sulphate Crystal. Contact the CNC Stomal Therapy who will give advice on treatment.

- Check for any cause of increased intra-abdominal pressure (constipation, vomiting, retching, coughing, presence of excessive gas in the stomach or bowel) and attempt to address the problem. Any build-up of intra-abdominal pressure can push the gastric content out around the stoma.
- Ensure that the child has the appropriate length of the gastrostomy by turning the device in full circle. The device should turn smoothly without hurting. If there is any difficulty in turning the device and it appears to be sitting tightly on the abdomen, the child may have outgrown the device (eg. have put on weight).
- Similarly, if the child has lost some weight, the device will be protruding out from the skin and leakage may occur during feeding because the balloon blocking the exit of the gastrostomy device from the stomach falls back leaving the exit from the stomach wall open. Notify the CNC Stomal Therapy who will assess the child and change the device when required.
- Protect the child's skin around the gastrostomy from the leaking gastric content by application of a barrier cream or film.

## 4.2 Leakage from the gastrostomy device

- Leakage usually occurs when the anti-reflux mechanism/valve (found on the top part of the device) becomes faulty or degenerates.
- Build-up of milk curds below the anti-reflux mechanism can cause the valve to become floppy and can result in leakage. Flushing the device through the feeding tube with warm water may help remove these deposits.
- Only the appropriate feeding tubes are to be used to access the gastrostomy device (medications and feeding). Using a syringe directly into the device for example can damage the anti-reflux mechanism/valve.
- If flushing does not solve the problem, the device needs changing.

## 4.3 Tube is blocked

(Common with PEG tubes)

- If the tube is blocked, try flushing with warm water.
- If unsuccessful, fill a large syringe 10 or 20mL with warm water and work at the blockage by gently pushing and pulling on the plunger of the syringe. This creates a wave-like action which works at breaking down hard milk deposits.
- If the above is unsuccessful, try flushing the tube with 5-10mL of a carbonated water, as the 'fizziness' may dilute hard milk deposits.
- If it remains blocked after doing the above, the tube needs changing.

## 4.4 If the gastrostomy device is accidentally pulled out or falls out

If the gastrostomy is less than 4-6 weeks post-operatively immediately notify the Surgical Registrar on call and/or the CNC.

**Correct position of reinserted device needs to be checked in Radiology by injecting contrast into the button/device via the extension tube**

- As soon as the problem is discovered, check what type of gastrostomy device the patient has displaced.

If it is a balloon type gastrostomy button, check balloon by inflating it with water (out of the patient's abdomen). If the balloon is still intact, lubricate the device with KY jelly and reinsert the device gently into the stoma.

- If it is a non-balloon type button or tube gastrostomy, insert a **Foley catheter** with the appropriate size corresponding to the size of the displaced gastrostomy.

*For example*, for a **size 16 non-balloon type button** insert a size 16 Foley catheter into the stoma to prevent the tract closing over (3-5cm is usually far enough). The gastric aspirate must be tested for gastric fluid by testing with Litmus paper to ensure that the new tube is in the stomach. Do not inflate the balloon until correct placement is confirmed. The Foley catheter can be used for feeding purposes, after the balloon is inflated.

- Tape the Foley catheter securely in position until a new tube/button can be reinserted by the CNC Stomal Therapy or Surgical Registrar.

**Note:** non-balloon or capsule types of gastrostomy buttons are replaced by the surgeon or surgical registrar or CNC Stomal Therapy. Surgeons will decide whether device is changed as a Day Stay procedure or at the clinical area.

- If the gastrostomy tube/button needs replacement in the ward area, collect the following equipment from Stores:
  - 1 foleys tube (appropriate size)
  - 1 introducer ( from CSSD)
  - 1 lubricating jelly
  - 1 dressing pack
  - pair of gloves

All gastrostomy buttons are only available from CSSD during office hours.

## 4.5 Replacement of displaced gastrostomy button.

### 4.5.1 Procedure for Ordering a Gastrostomy Device

- The ordering and supply of a gastrostomy device is through the Central Sterilising Department (CSSD) Manager.
- Some patients having this procedure may be eligible to obtain the gastrostomy device (button) under Health Support Services NSW (ENABLE) policy. Refer to <http://webapps.schn.health.nsw.gov.au/epolicy/policy/3576>
- The CNC Stomal Therapy will assist families for application to ENABLE

#### **4.5.2 Procedure for Gastrostomy Device (Button) Replacement**

Initial insertion of gastrostomy devices is performed in the Operating Theatres. However, subsequent replacements can be performed in the Surgical Outpatient Clinic as an elective procedure with appropriate pain relief. Some gastrostomies may need replacement in the Emergency Department particularly if the child is losing their medications due to a faulty or broken anti-reflux mechanism.

A button is commonly replaced for the following reasons:

- the button is not correctly placed
- the button is completely out
- it is not possible to feed the child through the button (i.e. blocked or leaking significantly)
- malfunction of the device anti reflux valve or of the balloon

#### **When this occurs:**

1. When a child with a malfunctioning non-balloon type gastrostomy device presents to the Emergency Department, the patient should be appropriately triaged and the surgical registrar on call notified. In the first instance parents should be advised that this may involve a considerable delay and that there is no guarantee that the device will be changed that day.
2. After assessment by the on call surgical registrar and consultation with the respective consultant, the feeding device is either changed or referred for elective care as the consultant deems appropriate.
3. If the attending consultant is not contactable a Foley catheter is to be inserted and arrangements made to contact the consultant at another time.
4. Gastrostomy Low Profile Devices (buttons) are only available during office hours (Monday – Friday). CSSD has a master copy of the list of children with a gastrostomy.
5. Where appropriate, the feeding device may be changed by the CNC Stomal Therapy, her representative or Emergency Department staff trained to undertake the procedure. It is recommended that balloon type gastrostomy buttons (appropriate size and length) if available are to be reinserted rather than a Foley catheter. Any problems or concerns should be directed to the respective consultants for advice.
6. Patients should not be referred to the Emergency Department for urgent management without prior consultation with the surgical registrar. The surgical registrar can then advise whether urgent management is required in the Emergency Department or a semi-elective booking is to be made in the Surgical Outpatient Clinic.
7. If parents cannot wait to be assessed by the surgical registrar, the gastrostomy device may be replaced with a Foley catheter by the Emergency Department staff and the patient referred for elective care or to the relevant surgical clinic.
8. If the child is an inpatient or attending the Outpatients Department at the time the button becomes dislodged steps 2 - 4 of this procedure should be followed.

## 4.6 Pain Relief

Changing a displaced or faulty gastrostomy button can be a traumatic and painful procedure for children. This is particularly evident with the non-balloon type gastrostomy device which has a hard internal retention bolster that needs to be straightened by an obturator during removal.

- Only well established gastrostomy can be changed in the Emergency Department, Outpatient Department and ward areas.
- Ward staff to liaise/organise with the surgical registrar and Pain Team (if required) to ensure appropriate timing is linked with the administration of the premedication.

### Pain relief recommended are as follows:

- Pre-medication of:
  - Oral Oxycodone 0.1 - 0.2 mg/Kg or
  - Paracetamol (PR) 15mg/Kg, or
  - Ibuprofen 5 – 10mg/Kg
- Oral premedication is to be given at least an hour prior to procedure.
- Nitrous Oxide is administered by the appropriate staff. Children are fasted for at least 2 hours prior to procedure.

## 5 Care of Trans-gastric Jejunal Feeding Tube

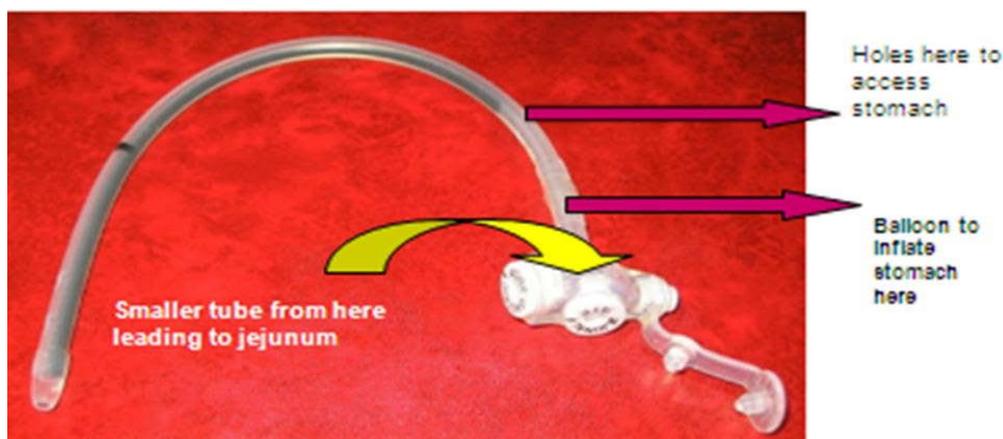
### Purpose:

- To enable jejunal feeding and gastric decompression

### Indications:

- Patients who have severe gastric reflux
- Patients at risk of aspiration
- Patients not tolerating gastric feeds

### 5.1.1 Transgastric Jejunal Feeding Tube



**The tube has 2 ports (jejunal and gastric) and a balloon port.**

- The jejunal lumen travels the entire length of the tube which allows delivery of feeds past the stomach and into the jejunum thus eliminating reflux and aspiration
- The gastric lumen travels halfway and stops within the region of the stomach. This allows for gastric decompression to relieve symptoms of pain due to gas build - up.
- The balloon port is for inflating the balloon on the inside of the stomach wall. This balloon should be filled with no more than 10mL of water for older children (about 4mL - 5mL for small children). The balloon should be checked every 4-6 weeks and reinflated to the original volume if required.
- This button must never be turned. This may cause the tube to migrate back into the stomach.

### **5.1.2 Using the tube**

- The jejunal lumen is only for continuous feeding (via pump). Continuous feeding may be up to but not always 24 hours a day. The Tube must be flushed before and after feeds and at regular 4<sup>th</sup> hourly intervals (eg. during the day when not feeding).
- The gastric lumen is for decompression and administering medications. Decompression when required is done by simply opening the cap at the end of the feeding tube. Gas will automatically come out if present. Crushed tablets finely and mixed with at least 10mL of water to prevent blocking the tube. It is not recommended to administer Losec (granules will adhere to tube wall and will block the tube) through this device.

### **5.1.3 Care of tube and stoma**

- Cleanse skin with warm soapy water and dry well.
- Flush the **jejunal** lumen with water
  - before and after feeds at least every 4 hours during continuous feeds (10mL water)
  - at regular intervals (at least 4 hourly when not using)
- Flush the **gastric** lumen with water
  - after decompression,
  - after giving medications
  - at least 4 hourly when not using.

### **5.1.4 Securing the Tube**

The device is held in place by a balloon inflated with water (located in stomach). It needs to be checked every 4-6 weeks to ensure it remains inflated.

## **5.2 Managing Accidental Displacement of the Transgastric Device**

The stoma (opening in the skin where tube enters) will start to close over approximately an hour after the tube is dislodged. It is important to take the child back to the hospital as soon as possible when this occurs.

If the device has not completely come out, tape it in place in order to keep the stoma open.

If the device has completely come out and you have the previous Gastrostomy device ( the gastrostomy button that was used prior to the change into the transgastric device ), insert the

gastrostomy button as an interim measure to keep the stoma open until another transgastric device can be reinserted in Radiology Department of the hospital.

**Please note** that there are only limited numbers of devices available in the Hospital and it may take some time for a replacement device to be available. Contact the Nursing Unit Manager in Radiology Department or CNC Stomal Therapy as soon as possible so a replacement can be arranged.

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