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Title:	**Gastrostomy and Jejunostomy Care (CFHD-SOP004)**	
Document Author:	Service Lead	
Applicability:	For Children & Family Health Devon Specialist Community Nurses And For Healthcare Professionals Employed by Children & Family Health Devon	

Protocol Statement

This protocol is intended to outline Children & Family Health Devon local procedures, and links to the following policy documents: Children & Family Health Devon Enteral Feeding Policy

This policy/procedure applies to the following group(s) of colleagues:

Contents

1. Background

Children & Family Health Devon care for children who may require nutritional support or medicines via an enteral tube. All children who require nutritional support via an enteral tube will have been assessed by the multi-disciplinary team and in conjunction with the parents. Feeding via an enteral tube may be undertaken by a registered practitioner or a nonregistered practitioner who has been delegated the task and have achieved the required competencies in all aspects of the care. Training will be provided by the registered practitioner to non-registered practitioners employed within Children & Family Health Devon services and to direct carers. Training may also be provided by the acute trust or nutrition team. Only enteral feeds or regimes suggested by a dietician should be administered via an enteral tube. There are many different enteral feeding tubes available. This SOP will aim to provide guidance around the care of each tube.

A gastrostomy is a feeding tube that is inserted directly into the stomach either surgically under direct vision, endoscopically (with a camera), or radiologically (x-ray guidance). A gastrostomy tube allows delivery of supplemental nutrition and medications directly into the stomach. It also provides a mechanism to drain gastric contents if required.
In order for gastrostomy feeding to be successful the child or young person must have a functioning gastrointestinal tract.
Enteral feeding is a good method of ensuring adequate intake of nutrients in patients who, for a variety of reasons are unable to use the oral route, or are unable to take sufficient nutrients to maintain growth and development.

2. Definitions

For the purpose of this document child will mean child and young person.
Parent - parent/carer
PEG - Percutaneous Endoscopic Gastrostomy
Red Flag Symptoms – Post operative symptoms which can indicate tube misplacement
G-tube – balloon gastrostomy tube.
Low profile device – Refers to mini/mic-key/entristar/nutriport
Dysphagia – swallowing difficulties.
Granuloma - A granuloma is a nodule of granulation tissue at the stoma site and is an immune response by the body to a foreign body that it is unable to eliminate.
Buried bumper syndrome - Buried bumper syndrome is caused by the external fixation plate of a PEG being placed too tightly against the patient's skin, which causes the internal bumper to erode into the lining of the stomach.
Jejunal feeding tube- A jejunal feeding tube is a small feeding tube which is placed into the jejunum (small intestine) so that you can have feed, fluid and medication without swallowing. It will provide you with a safe and long-term method of obtaining nutrition. [Fresenius Kabi 2012]

NJT - Nasojejunal Tube- These are long term tubes with or without a weighted end of a longer length that is passed under fluoroscopic guidance into the jejunum, passed via the nasal passage and stomach into the jejunum.
PEJ -Percutaneous Endoscopic Jejunostomy- These are percutaneous endoscopic jejunostomy tubes, inserted directly into the jejunum.
Balloon Jejunostomy -This is a low profile device which is inserted directly into the jejunum and held in place with a balloon.

Transgastric devices

PEG-J - These are Percutaneous Endoscopic Gastrostomy tube with a jejunal extension, passed endoscopically or radiologically through the pylorus and duodenum into the jejunum. Inserting a PEG-J is done while the child in under anaesthetic, a larger gastrostomy tube is inserted, then a thinner jejunal tube is inserted through the inside.

Balloon GJ - Low profile balloon button gastrojejunostomy- All GJ devices have two ports one which ends in the jejunum and one in the stomach. These are clearly labelled so you know which is which. The advantages of having two ports are that some medicines or fluids can be given into the stomach and/or the jejunum as directed. Balloon GJ insertion can be done when the child is awake, a low profile gastrostomy device is inserted, the balloon GJ device is then threaded through and positioned into the jejunum. The position of both is confirmed with contrast and x-rays prior to use.
All tubes can stay in place according to manufacturer's guidance

3. Care of feeding devices

PEG Tube
Beware of 'red flag' symptoms for the first 72 hours post insertion –
Parents/carers should be instructed to STOP feeding and seek urgent medical advice immediately if the child experiences the following:
• Pain on feeding
• Prolonged or severe pain post-procedure
• Fresh bleeding
• External leakage of gastric
• Vomiting

First 24 hours post insertion

- Observe the stoma site for signs of leakage, redness, swelling, irritation. Some straw/clear coloured fluid may be present, this is normal.
- If a keyhole dressing has been applied this should be removed after 24 hrs. Thereafter no dressing is necessary
- It is important that the area is dried gently but thoroughly
  If the external fixator requires adjusting, this should be undertaken by the children's community nurse

- Confirm the correct placement of the PEG using gastric aspiration, using certified pH indicator strips. pH level should be less than 5.5 – See appendix 5 for guidance

Day 1 – Day 14 post PEG insertion

- Clean the stoma site daily using sterile water. Pat dry with gauze to help minimise irritation and reduce risk of infection. Observe for signs of infection; swab site and send for MC&S if concerned.
- Until the stoma site is fully healed, usually 14 days, do not immerse the site in water. The patient should take showers instead of baths. The helps prevent infection and promote wound healing.
- If necessary, tape the tube to the skin to reduce accidental pulling. A small amount of natural rotation of the tube in the stoma site is not a concern
- Before each use of the tube, check the length of tubing from the exit site to the cap is the same. If you are worried about the tube position of the PEG do not feed and seek medical advice.

Day 14-28 post PEG insertion

- For gastrostomy tubes not stitched in place, gentle rotation in the site can be carried out from 14 days (without removing the retention device - do not advance or fully rotate a GT until 4 weeks post insertion)
- Continue with daily cleaning and observation of the stoma site

1 month post PEG insertion – daily care

- Before cleaning the site, check for any signs of the following: leakage; swelling; irritation; redness; skin breakdown; soreness or excessive (more than 1cm) movement of the tube in or out of the patient's stomach.
- If the site presents as red, this can be a part of the normal healing process.
- Clean the skin around the stoma site using mild soap (if needed) and warm water.
- Continue to ensure the area is dried gently but thoroughly.

1 month post PEG insertion – weekly care

- Continue to clean site daily and monitor for signs of infection.
- The fixation device cover can be separated from the base to allow further cleaning of this part of the tube. Unclip the fixation device and flush the tube in a straightened position. Clean inside the fixation device with water and soap, if required.
  The tube should be gently moved into the stomach and rotated 360 degrees to prevent adherence, gently pull the tube back until the internal bumper is against the stomach wall. Refasten the fixation device, which should sit comfortably on the patient's abdomen.

Length of insertion

- A PEG tube will generally last 18 months-2 years but manufacturer's guidelines should be followed accordingly.

FREKA retention device

- To loosen device, pull the coloured clip to one side (colour relates to the PEG size)

Corflo retention device

- To loosen device, pull both sections apart, remove the tube from the device and clean

Advance and rotate

- Do not perform if site is not fully healed - The tube should be advanced and rotated on a weekly basis to avoid buried bumper syndrome (where the internal disc of the PEG tube becomes buried and the stomach lining grows around it). To perform this:
- Clean hands thoroughly with soap and water
- Check the position of the retention device
- Loosen the retention device
- Examine stoma site to ensure it is intact, clean and dry if necessary

- Advance the tube 3-4cm into the stomach
- Return the tube to the original position as noted at the beginning
- Pull gently to ensure the internal bumper is against the stomach wall
- Secure retention device
- When the external fixation device is clipped into place, there should be no more than 1cm of movement between the fixator and the abdomen.

Swimming/bathing
If the stoma tract has healed, bathing and swimming can be enjoyed. Dressings can be used to protect the site whilst swimming if desired eg. C-View

Gastrostomy accessories

- **PEG tubes –** Retention devices, clamps and PEG ends are all replaceable

- To clean the **FREKA PEG** end – clean/soak in warm, soapy water and dry well
- To change the **FREKA PEG** end –
- Clamp the tube to avoid leakage
- Unscrew the coloured end from the end of the PEG
- Unthread the bottom of the PEG end from the tube and discard
- Apply the new end to the PEG tube
- Thread the PEG onto the new coloured end and screw in
- If the new end is difficult to thread onto the tube, trim the end slightly with clean scissors to ensure a good fit
- Do not cut the tube too short

To clean the **CORFLO PEG** end –

- Clean/soak with warm water and soap (if required)
- Dry thoroughly

To replace **CORFLO PEG** end –

- Clamp the tube to avoid leakage
- Unscrew the clear cap from the Y-adapter so that it is loose on the PEG tube.
- Remove the Y-adapter from the tube and discard
- Unthread the clear cap from the tube and discard
- Thread the new clear cap onto the tube
- Insert the Y-adapter into the PEG tube and screw the two together

Clamps

Clamps should be regularly moved along the length of the tube This avoids continued clamping in the same position and potential breakdown of the tube. To change the clamp-

- Remove the PEG end as described above
- Beware that stomach contents may leak once clamp is removed; it is advisable to kink the tube with your hand whilst changing the clamp to avoid this happening
- Remove and discard the old clamp
- Thread the new clamp onto the PEG tube
- Replace the PEG end

Retention devices

- Retention devices can be replaced by removing the PEG end and clamp as detailed above.

Extension sets

- Extension sets should be replaced fortnightly unless otherwise indicated (jejunostomy fed patients should replce extension sets weekly)
- Wash in warm, soapy water, rinse well and allow to air dry with clamps open

Syringe – Single patient Use

Syringes for gastrosotmy feeding, flushing or admsintration of medication can be cleaned between use.

- Immediately after use clean with hot water and washing up liquid
- With the tip of the syringe in the water, draw the plunger in and out several times to remove all traces of feed or medications from inside the tip
- Separate the chamber and plunger. Wash both thoroughly in hot soapy water
- Rinse both parts of the syringe in clean water
- Shake off excess water then leave to air dry on a clean paper towel or surface
- Store in a clean, dry container and reassemble when required i.e. for next feed
- Only GBUK 60ml syringes may be washed in a dishwasher approved with the tip of the chamber upright
- Patient should sterilise syringes if under 6mths or for jejunal feeding due to the higher risk of infection
- Completely submerge both parts of the syringe in cold water sterilising solution according to manufacturer instructions to steralise

Patients should be advised that enteral syringes must be discarded in line with manufacturer's advice, or if the syringe parts are damaged, markings have worn off or the syringe becomes too stiff to use

4. Low profile device and g-tubes

- Always wash hands with soap and water before and after handling the button
- Use fresh drinking water and gauze to clean the stoma site (cooled boiled water if < 1 year or immune compromised)
- Clean carefully around and under the button device and dry thoroughly
- This must be done daily and more often if there is any oozing onto the skin
- Observe the skin around the stoma site for redness, swelling, tenderness, or leakage on the skin that does not resolve. Refer to troubleshooting guidance below.
- The button device must be rotated 360 degrees daily to allow for air circulation

Changing the water in the low profile balloon gastrostomy device

The water in a balloon gastrostomy device should be changed once a week. Due to osmotic pressure water can be lost through the membrane of the balloon.

Equipment required –
2x luer slip syringes, cooled boiled water, extension set, ph strips

Procedure-

- Prepare equipment and wash/dry hands.
- Apply clean gloves.
- Draw up required amount of cooled boiled water in a syringe (according to manufacturer's instruction). Usually between 3-5mls are required.
- Holding the device securely in place, attach another syringe to the balloon valve and withdraw the water.
- Observe the amount of water removed and discard.
- Attach the prepared syringe and push in the water, whilst holding the device.
- Remove the syringe from the valve, holding the plunger to avoid back-flow.
- Attach an extension set and aspirate a small amount to check the PH using PH indicator strip. It should be 5.5 or below.

5. Placement of a low profile balloon gastrostomy device (button) or a g-tube

Equipment Required

New low profile device/g-tube, 2 x luer slip syringes, lubricant, cooled boiled water, gloves, ph strips, extension set, 50ml syringe. (introducer if using a mini device)

Procedure

- Prepare the equipment required and wash/dry hands. According to infection control procedures.
- Explain and gain consent for the procedure from the child, if possible
- Position the child is the most appropriate position. This should be as flat as possible but consideration needs to be taken for each individual child's needs.
- Assess if the current device is the correct fitting. If the child has had any significant changes in weight/growth then the stoma tract may need to be re-measured.
- Inflate the balloon of the new device with air to ensure it is intact. Then deflate, removing all the air.
- Put on clean gloves.
- Draw up correct amount of water to inflate the new device according to manufacturer's guidelines. This can be found on the device.
- Insert introducer into new device if required (mini device)
- Lignocaine can be applied to the stoma site to assist with the change if indicated/prescribed. Apply this 10 minutes prior to changing the button.

- Attach syringe to the balloon port of the existing device in situ.
- Deflate the balloon of the current device by removing all of the water. Observe the amount of water removed and discard.
- Gently, but firmly remove the current device from the stoma, maintaining pressure on the abdomen surrounding the device.
- Clean the stoma site with water and gauze.
- Lubricate the tip of the new device with a water based lubricant and gently insert into the stoma. Apply pressure until securely in place.
- If inserting a g-tube insert the device 1cm further than the child's measured tract size.
- Attach the clean syringe to the balloon port and inflate the balloon with the correct volume of water.
- Remove the syringe from the valve whilst holding the plunger to avoid back-flow.
- If inserting a g-tube, gently pull back on the device until resistance is felt. Slide the retention device to the stomach wall.
- Attach an extension set to the button or syringe directly to the g-tube and aspirate enough to check the PH using PH indicator strip. The reading must be 5.5 or below.

Flushing gastrostomy tubes

Flushes with water are required:

- After confirming the correct position of device
- Before and after each medication administration.
- Before and after feeding.
- Daily if the enteral device is not currently in use.
- During continuous feeds - the tube should be flushed every 4-6 hours to maintain patency.
- A push/pause technique should be practiced when flushing to promote a turbulence effect within the tube.This ensures adequate flushing of device and will help to prevent any blockages, promote patency of the tube and maintain the patients hydration status
- 60ml enteral syringe should be used for flushing. It is important to always use the largest size of enteral syringe. This is because the larger the syringe, the less pressure delivered to enteral device which avoids potential damage to internal tubing of the enteral device. Small syringes have been linked with tube rupture and trauma (NPSA 2005, 2007)
- Freshly drawn tap water can be used for children who are receiving gastrostomy feeds and are not immuno-compromised.
- Cooled freshly boiled water or sterile water from a freshly opened container should be used for children who are immune-compromised, including those under 1 year of age.
- The volume of flush will be advised by the dietician and indicated on the child's feed plan.
- Volumes of flushes administered should be recorded on child's feed plan or fluid chart.

Measuring stoma site

Equipment required –

Stoma measuring device
Luer slip syringe x 2 – 1 to remove water from current device and 1 to insert water into measuring device
Cooled boiled water
Non-sterile gloves

It is advisable to complete this procedure with the patient lying down then repeat in a seated position. Take the largest measurement from these to ensure the most comfortable fit.

- Ensure the patient is comfortable
- Remove the patient's current device as per guidance
- Insert stoma measuring device into the tract
- Fill balloon with specified amount of water/air according to manufacturer's guidelines
- Move the retention device so that it is against the stomach wall
- Check the position of the retention device against the measurement on the tube
- Deflate measuring device by attaching syringe to balloon port
- Insert new device as per guidelines
- Ensure the patient is comfortable

6. Trouble Shooting

Unable to insert new device

- Try using lubricant if not previously used.
- Ask the child to change position, take deep breaths or to cough, if able.
- Insert a g-tube into the stoma instead. This will keep the stoma patent and the child will be able to continue receiving nutrition and medication.
- Insert ENPLUG device either the same size or a smaller size French
- Wait 5-10 minutes and try the next ENPLUG size up
- Seek urgent medical advice – from the acute nutrition team or via Emergency department.

Unable to obtain an aspirate or unable to obtain an acceptable PH

- Try turning child onto their left side.
- Give the child a small drink if it is safe for the child to take fluid orally.
- You may need to wait up to half an hour, before retesting.
- If still unable to confirm tube position seek advice.
- Some medicines will affect PH readings, this should be discussed the child's Doctor
- DO NOT use the device until an acceptable aspirate has been obtained.

Less water removed from balloon than expected

- Some water loss from a balloon over time is normal and can be expected.
- If the volume is much reduced the balloon integrity should be considered.

Blocked tube
Unblocking of a gastrostomy tube can take a long time and any of the following may need to be repeated.

- Using a 60ml syringe with a least 10mls of warm water, gently flush the tube using a push/pull technique. Leave for up to 30 mins before repeating. It may take several attempts.
- Try changing the extension set as the block may be in the connection.
- Gently squeeze the tube between fingers along the length.
- If still unable to unblock the tube, consider changing the device. If it is a PEG device – seek medical attention.
- DO NOT insert anything down the tube in an attempt to unblock it as it may damage the tube or cause injury to the child.

Accidental removal

- The stoma will start to close very quickly after the device comes out, within 1-2 hours. The device needs replacing as soon as possible.
- If the child has a fully formed stoma and has a balloon gastrostomy device then it can be replaced by a person who has been assessed as competent to carry out the procedure. Re-check position after insertion by testing the PH.
- Children with a Low profile device should also have been provided with a g-tube, this can be inserted if a spare button is not available. Re-check position after insertion by testing the ph.
- Patients are carers may be taught to insert an ENPLUG device following a care plan
- Children with a PEG need to seek medical attention at the local acute hospital, as soon as possible to ensure the stoma doesn't close.

Site is sore, red and inflamed –
Causes of this can include – movement, blockage, bacterial infection, fungal infection, or general illness in the child. Some soreness and inflammation can be common when a new gastrostomy device is inserted. If the soreness persists or the site become inflamed when it previously was clear, then action may be required to rule out a bacterial infection requiring antibiotics. Consider if there is any leaking from the stoma causing the sore site. If there is oozing from the site, a swab should be taken and sent for Microbiology, Culture and Sensitivity investigations. An antimicrobial dressing such as AMD Kendall can be used. Steroid creams can be obtained from the G.P. Regular hygiene measures should be advised. The site should be cleaned with gauze and water twice a day. Reviewed daily by parents/carers. Any concerns to be escalated to CCN for further review. If the inflammation

doesn't improve with basic intervention, as above, then further medical review may be required.

Leaking –
Leaking of stomach contents from the stoma site can make the skin around the stoma sore and red and cause breakdown of the skin. Acidic contents of the stomach can burn the skin. Check the volume of water in the balloon. If significantly less than inserted, then the device may need to be replaced. If the volume is the same to that inserted then the water volume could be increased by 1-2mls. The skin can be protected by a dressing or barrier cream or spray. Leakage can be caused by constipation. Consider treatment for this. Leakage can also be causes by an autoimmune response if the child is unwell. This would initiate a wound healing process of the stoma. Check the size of button to ensure correct sizing is not the cause of leakage.

Overgranulation-

Overgranulation is when the skin around the stoma has excess growth around and is wet, sore and may bleed easily. There are several reasons this can occur including infection, the incorrect size device, trauma and the use of inappropriate creams.

- Ensure the device is correctly fitted to reduce excessive friction from the device.
- A foam dressing can be used to place around the site to soak up any excess discharge and
- provide pressure to reduce the size of the granuloma.
- A swab may need to be taken if there are clinical signs of an infection
- A steroid cream may be prescribed to shrink the granuloma and/or treat infection.
- Reduce friction by securing the device or feeding set to minimise movement.

Unable to push and rotate the PEG/rotate the button-

Recheck the position of the tube by aspirating and testing the PH.
Seek medical attention to exclude buried bumper syndrome. This may include contacting the acute nutrition team.

Vomiting and diarrhoea

- Re-test the PH of the tube to confirm position
- Seek medical attention as this could be due to infection or feed intolerance. Discuss with dietician if appropriate.

7. Administering feeds via gastrostomy tube

Considerations

- Children requiring enteral feeding should not be isolated at family meal times or when they are having their tube feed. Where possible appropriate eating utensils should be provided for the child to use whilst being given the tube feed. Guidance can be sought from either the child's dietician or speech and language therapist if required
- The enteral feeding device should be flushed before and after completion of the feed as per the child's feed plan
- It is important that the child is established on a feeding regimen which meets their nutritional and dietary requirements.
- The feeding method and prescription is indicated by the dietician/ consultant in consultation with the child and family.
- Accurate record keeping should be completed in hospitals/ respite settings and schools. This should include the pH value (for devices that need their position checked before use), date and time of the feed, volume and type of feed being administrated, if the feed was tolerated
- The responsibility for ensuring correct tube placement lies with the carer, nurse (or parent) caring for that child and he/she must be satisfied that the tube is correctly placed before commencing or continuing with feeding or medicine administration via the tube.
- Before each feed, the gastrostomy tube can be 'vented' to allow wind to escape from the stomach:
- Attach the barrel of a 60ml purple enteral syringe to the end of the gastrostomy.
- Unclip the clamp on the tube and hold the syringe 5-6 inches above the patient's stomach
- Wait for a few seconds to allow any wind to escape

Infection control

- Aseptic Non Touch Technique (ANNT) must be practiced throughout any procedure relating to enteral feeding.
- Regardless of the route of administration adopted, there are risks of bacterial contamination of the feed and gastrostomy site, which can lead to infection and associated complications.
- Healthcare workers must be aware of these risks (NICE, 2003) and it is important to prevent contamination and infection by adhering to standard (universal) infection control precautions.
- Maintain good hand hygiene.
- Ensure appropriate personal protective equipment is available.
- Ensure safe disposal of clinical waste and other equipment used.
- The environment and equipment should be clean.
- Minimal handling and an aseptic non-touch technique should be used to connect the feed administration system and enteral feeding tube.

Storage of feeds

- Feeds should be stored according to manufacturers' instruction and standard food hygiene regulations. These include checking use by date on feed. Sterile feeds to be disposed of after 24 hours of opening and made up feeds disposed of after 4 hours (unless refridgerated).
- If home prepared formula is used, careful consideration needs to be given to appropriate preparation, storage and reheating according to food hygiene principles and regulations.
- Allow refrigerated feeds to reach room temperature, before feeding (up to 30 minutes) to avoid stomach cramps.

Positioning

- Ensure that the child is nursed at least a 30-40 degree angle; ensuring that their head is above the level of their stomach during feeding to avoid nausea, vomiting and reflux. Maintain this position for 30-60 minutes post feeding.
- Stop the feed and seek medical attention if there are any signs of shortness of breath, paleness, vomiting or persistent coughing as the child may have aspirated.

Bolus feeds

- Gather equipment, wash hands and ensure a clean environment
- The correct volume of feed and flush should be prepared at the beginning of the feed.
- The enteral feeding device should be flushed before and after completion of the feed as per the child's care plan
- Bolus feeding which can be given by the gravity method or feeding pump (Intermittent)

- Although there is no definitive research stating that a slow push feed via syringe as a bolus is dangerous, this should be considered as an option if gravity or feeding pump is not viable or available. A risk assessment and feeding plan should be devised with strict criteria of how long the feed should be given over per pushed bolus. Feed should be pushed slowly with careful attention paid to the condition and comfort of the child.
- Always check the expiry date on the feed and gently shake the contents before use.
- Gain consent from the child and explain that they are going to have their feed.
- If giving feed via a newly formed gastrostomy tube always check the position of tube before administering anything via the tube
- For powder feeds, follow dietician's instructions regarding reconstituting the feed
- Ensure the child is positioned correctly for feeding.
- Attach syringe without the plunger to the extension set
- Prime extension set with water ensuring all the air is removed from the tube.
- Flush the feeding tube (or extension tube if used) with the recommended amount of tap water (or sterile water if child is immune-compromised or an infant).
- Where clamps are provided on the feeding tube or extension tube, these should be opened/closed during the whole feeding process as appropriate.
- Connect the extension feeding tube to gastrostomy device
- Slowly pour the amount of feed required into the syringe.
- If the feed is running too quickly or slowly, alter the height of the syringe slightly, a feed should take between 15-30 minutes to complete.
- When the feed is finished, flush the feeding tube with recommended amount of tap water (or sterile water if the child is immune-compromised or an infant). This should be administered using a push pause technique to create turbulence to clean the tube.
- Remove the syringe barrel and secure the tube cap or valve (if a button device)
- Dispose of equipment as per Waste Management Policy.
- Clean reusable equipment in hot soapy water, rinse in fresh warm water and air dry.
- Document the feed in the child's record including volumes of water and feed given.

Pump feeding

- Continuous feeding: Continuous feeds are the administration of a feed at a slower rate over a prolonged period of time. This is indicated when a longer, slower feeding time is more appropriate for the child.
- If oral feeds are tolerated these should be offered. Guidance can be sought from either the child's dietician or speech and language therapist if required

Equipment:

Prescribed enteral feed (at room temperature)
Pump and drip stand
Pump power cable
Giving set

Sterile water
Purple enteral syringe (largest size possible i.e. 60ml or 20ml neonates)
PH indicator strips (if newly formed gastrostomy)
Feeding extension set / adaptor (if required)
Apron, gloves

Procedure:

- Wash hands as per Trust hand hygiene policy
- Take the equipment to the patient or appropriate private space
- Explain the procedure to the patient or carer, gain consent and encourage them to assist where possible
- Ensure the child is positioned correctly for feeding.
- Check expiry date and time of the feed
- Close the clamp on the giving set
- Shake the bag or bottle, twist off the cap, and without touching the spike tightly screw onto the giving set to break the foil seal (hold bag with the cap upwards to prevent leakingWhere necessary decant the required volume of sterile feeds (i.e. pre packed feeds) at the beginning of a pump feed and do not top up feed containers.
- Hang the bag on the drip stand and prime the giving set to ensure there are no air bubbles
- Uncap end of tube – connect adaptor or extension set if using a low profile button device
- Prime extension set (if using) with water ensuring all the air is removed from the tube
- Check pH of stomach contents if it is a newly formed gastrostomy
- Flush the enteral tube before feeding (refer to each specific tube clinical guideline).
- Connect the giving set to the feeding tube and open the clamp
- Document date and time of changing the giving set and container
- Set administration rate as instructed by the dietician on the care plan and press start
- Ensure the patient is comfortable and observe for signs feeding intolerance (refer to troubleshooting guide in each tube clinical guideline)
- Once feeding is complete, flush the enteral tube again using the push/pause technique
- Remove extension set or adaptor if used and replace the tube cap / clamp the tube.
- Wash the extension set in warm soapy water, rinse well and allow to air dry with clamps open.
- Dispose of equipment safely according to the Trusts waste management policy
- Document feed volume given, feeding rate and flush volumes on the fluid balance chart
- Do not put any other liquids down the tube not recommended by the dietician (exception water flushes and medications).

Liquidised/blended feed

- The administration of liquidised food via an enteral feeding tube is not currently recommended by the British Dietetics Association due to the risk to nutritional inadequacy.
- Use of liquidised food also increases the likelihood of feeding tube blockage and the risk of gastric infection. It could pose particular risks to infants less than six months, jejunal fed patients or those who are immuno-compromised.
- There is limited evidence which suggests that a blended diet can help improve the food intake of those with chronic diarrhoea and those who have fundoplication surgery.
- Research suggests that a blended diet has a wider social benefit, improving the relationship between child and parent and allowing families to become involved with tube feeding.
- The emotional needs and preferences of parents/ carers considering the use of liquidised/ blended food should be taken into account alongside the clinical needs of the child. However, parents/carers need to be made aware of the potential risks to health and the viability of the child's feeding tube.
- Practitioners should ensure that a full risk assessment is carried out and that they work within their employers' clinical governance guidance and risk management frameworks. Seek Dietetic advice if blended/liquidised food is being considered by the family/child.
- CFHD staff can only take part or support the process when a clear written dietetic plan is available fully supported by the Consultant responsible for the childs care.
- A full dynamic risk assessment will be completed and regularly monitored with family. Dietician and medical team.

Oral Hygiene

- If the patient is not able to take any oral fluids, give mouth care every 2-4 hours to help prevent their mouth getting very dry and brush their teeth as usual.
- Additional oral hygiene such as mouthwash or artificial saliva maybe required to keep the mouth moist to prevent gum disease and stimulate saliva and gastric secretions. The child should be registered with a dentist.
- Oral stimulation should be encouraged during feeds where appropriate to do so due to underlying conditions. This should be discussed with the dietician and agreed upon with parents/carers or the young person, prior to commencing.

8. Administering medications

- Parents/carers/health professionals should be aware of the risks associated with administration of medicines via enteral feeding devices.
- Medicines prescribed for administration via the enteral route should be in a suitable formulation e.g. liquids or soluble tablets. If a medicine is not available in a liquid or soluble form, it may be necessary to crush a tablet or open a capsule.

- Always refer to a Pharmacist for guidance on suitable formulations and suitability of crushing tablets or opening capsules.
- A very limited number of medicines are licensed for administration via enteral feeding devices and most administration of medicines via this route falls outside the product license for that medicine, as does crushing tablets and opening capsules not specifically designed for this purpose. However, this may be the only option for administration of a particular drug.
- If medicines are to be administered via an enteral feeding device and this is outside of the medicines product license, it is important everyone involved in the prescription, supply and administration of the medicine is aware, in the event of any adverse effects resulting from administration via this route.
- A structured medicines review should be carried out on an individual basis for each patient prior to administration of medicines via an enteral feeding device.
- Any unnecessary medicines should be discontinued and where possible, drug therapy should be kept to a minimum and alternative licensed routes of administration used if appropriate.
- Nurses should always follow NMC (Nursing and Midwifery Council) Code (2015) and NMC Standards for medicines management (2015) in addition to local Trust medicines code and policies.

Equipment required
Extension set (if required)
Water flush
Prescribed medications drawn up in appropriately sized syringes

- Inform the child that they are going to receive their medication and gain consent
- Prime extension set (if required)
- Administer water flush
- Administer medications
- It is acceptable to administer small amounts directly from a syringe less than 60mls
- Otherwise medications can be dispensed into the 60ml syringe and administered via gravity
- Administer water flush in between each medication if multiple medications are being given; this helps avoid drug interactions and tube blockage
- Administer water flush following administration of medications.

9. Care of Jejunal tubes

For daily and routine care and management of jejunul tubes please refer to SOP for gastrostomy tubes. For jejunal tubes please note the following in addition to gastrostomy care:

- Jejunostomy feeding and tube replacement is a non touch technique procedure as opposed to the ‘clean technique’ of the gastric feeds. This is due to the higher risk of

infection as the feed bypasses the stomach acid and therefore also the natural bacterial protection.

- All jejunal tubes need to be flushed every 4-6 hours to maintain patency when not is use.
- DO NOT rotate gastro-jejunostomy tubes unless instructed to do so by the consultant.
- For individual jejunal devices please see manufacturers guidance on care and maintenance of the device.
- Jejunal tubes must flush with either cooled freshly boiled water or sterile water from a freshly opened container. [NICE 2012] .
- Due to the restricted jejunal cavity large volume bolus feeds may not be tolerated and continuous feeds may be indicated.

Jejunal feeding

Sterile syringes should be used for jejunal feeding as there is a higher risk of infection when feeding into the jejunum. Single patient use syrignes should be used or patietns should e avised to follow the cleaning advoce above with the addition of:
Completely submerge both parts of the syringe in cold water sterilising solution according to manufacturer instructions

Checking the position of a jejunal tube

For checking the position of a jejunul tube please refer to SOP for gastrostomy tubes.
For jejunal tubes please note the following in addition to gastrostomy care:

- The responsibility for ensuring correct tube placement lies with the nurse, carer or parent delivering care
- Tube placement in the community should be confirmed by testing the PH of the aspirate which must range PH 6-8.
- Aspirated fluid is tested using only PH strips that must be CE marked and manufactured specifically for the purpose of checking the PH of human gastric aspirates.
- The position of the jejunal tube must be checked:
- On insertion if replaced in the community
- Before administering each feed or water flush
- Before giving medication if not during a feed
- Following episodes of vomiting, retching, coughing or other potential causes of tube displacement.

10. Complications and Trouble shooting of jejunal tubes

Displacement- Tube displacement or migration should be considered if the child has:

- Vomiting
- Increased signs of gastric oesophageal reflux
- Abdominal distension
- Worsening diarrhoea
- The tube is measuring different at the nostril from placement.
- If there are any concerns of displacement the child must be referred to acute hospital nutritional team to check tube position.

Problems with checking placement
PH aspiration is testing outside of acceptable parameters (not between 6-8) or no aspirate obtained. Do not use the tube- change the child's position and re check PH aspirate in one hour. See NG SOP for further guidance on obtaining an aspirate. If there is still no aspirate or remains outside of acceptable PH contact acute hospital nutritional team for advice.

Leakage
Leakage of feed/gastric contents around the tube and onto the skin at the stoma site will cause skin redness, excoriation and breakdown as the gastric acid contents irritate the skin. Refer to the gastrostomy SOP for advice on leakage.
Check balloon is properly inflated. Care must be taken in jejunostomy balloon devices not to increase the volume in the balloon due to restricted jejunal cavity.

Infection
See SOP for gastrostomy

Tube blockage
See Gastrostomy SOP. For repeated blockage during continuous feeding seek advice from dietician as piggy back flushing feed administration set may be indicated.

11. Linked policies, procedures and guidance

- Clinical waste disposal TSDFT Clinical Waste Disposal and TSDFT Waste Management Policy
- Control of infection policy Ref 0782 and 0783
- NMC (2015) Standards for Medicines Management
- NMC (2015) The Code for Nurses and Midwives
- Ref 0239 – Hand Hygiene Policy.

12. References

- British Dietetics Association (BDA) (2013) Use of liquidised food with enteral feeding tubes
- Canterbury District Health Board (2016) Adult Gastrostomy and Jejunostomy feeding tube management
- Cornwall Partnership NHS Foundation Trust (2013) Paediatric Community Services- Enteral feeding policy and procedures for Children in the Community.
- Corpack Medical Systems - Post insertion Care of the Corflo PEG
- Devon ICS – (2016) Devon ICS Standard Operating Procedure for Enteral Feeding in the Community
- Freseniuis Kabi LTD (2012) Jejunal Feeding: Care Guidelines for Patients and Carers, CHESHIRE
- Fresenius Kabi (2012) Freka PEG After Care Booklet,
- GAIN (2015) Guidelines for caring for an infant, child, or young person who requires enteral feeding
- GOSH NHS Foundation Trust (2016) Living with a transgastric jejunal feeding device. LONDON
- Great Ormond Street Hospital clincial guidelines – Gastrostomy management.
- http://www.gosh.nhs.uk/health-professionals/clinical-guidelines/nasojejunal-nj-and-orojejunal-oj-management accessed 01/06/17
- http://www.tofs.org.uk/jejunostomy-tubes.aspx [accessed 01/06/17]
  https://www.ncbi.nlm.nih.gov/books/NBK115259/ accessed 01/06/17
- Malhi H, Thompson R (2014) PEG tubes: dealing with complications. Nursing Times; 110: 45, 18-21
- National Institute for Health and Care Excellence (NICE) (2003) Infection control: prevention of healthcare-associated infection in primary and community care. London: NICE
- NICE (2012) https://www.nice.org.uk/guidance/cg139/ifp/chapter/enteral-feeding accessed 06/06/2017
- University Hospital Bristol (2016) Enteral Feeding Equipment Management

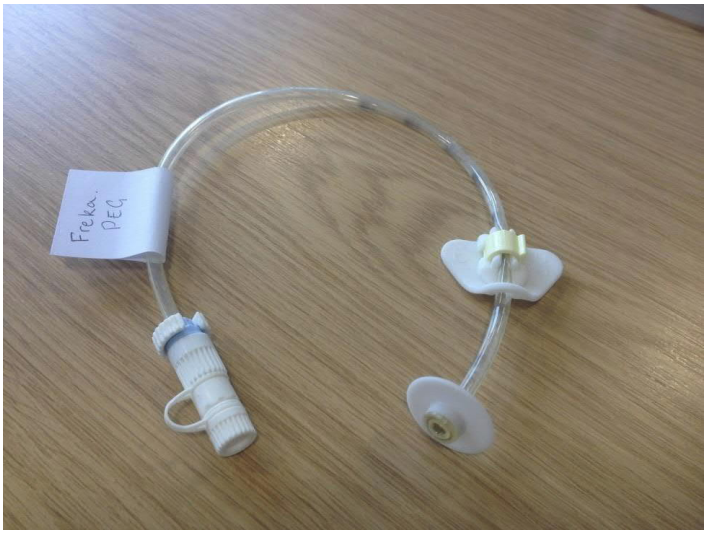
Appendix A

Feeding devices

PEG Tubes

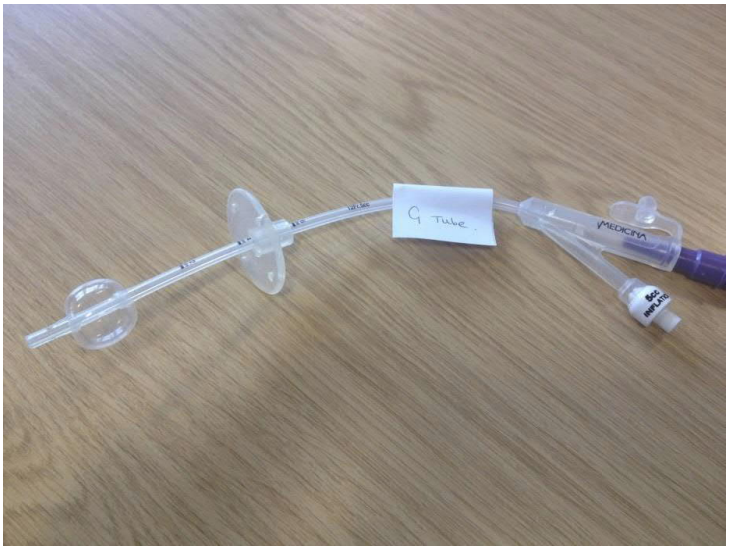
Corflo PEG Tube

Freka PEG Tube



Balloon Gastrostomy Tubes

G-Tube



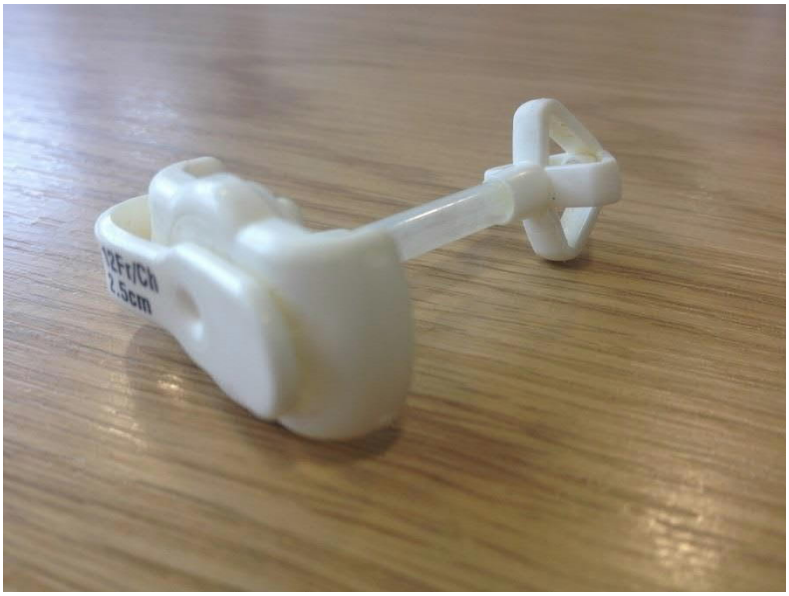
Mic-Key Button

Mini Button

Nutriport

Non balloon gastrostomy Tubes

Entristar



Mini One Capsule

Appendix B

Checking the PH when using gastrostomy devices for –

• New gastrostomy devices – tract less than 4 weeks old
• Replacement of device
• Any concerns of device displacement

Attach extension set to the low profile device or syringe directly to the g-tube/PEG

Slowly aspirate 1-2mls

Using PH paper check aspirate

PH 5.5 or below – proceed to feed

PH 6 or above or no aspirate obtained – DO NOT FEED – follow trouble shooting guidance.

Still unable to achieve an aspirate 5.5 or below – seek medical attention. DO NOT USE THE DEVICE

Appendix C

Version Control Sheet

Legislation/ National	Version	Date	Main Author(s)	Individuals/Groups Consulted	Significant Changes/Best Practice Reflected
Bristol Children's Hospital.	1	31/03/2017	Laura Alexander	Paul Leach	Care of Devices, Ormond St, BDA Pictorial Appendix, Virgin Policies.
Great Ormond St	2	31/03/2017	Clare Luffman		Troubleshooting, Insertion of Devices, Gastronomy, Bristol Children's accessories
Great Ormond St	3	31/05/2017	Laura Alexander		Bolus and pump feeding, Virgin Liquidised Feed, Oral care policies.
	4	06/06/2017	Laura Alexander/Clare Luffman	Stoma measuring PH and Testing Flowchart	

Document Control Information

This is a controlled document and should not be altered in any way without the express permission of the author or their representative.

Please note this document is only valid from the date approved below, and checks should be made that it is the most up to date version available.

If printed, this document is only valid for the day of printing.

This guidance has been registered with the Trust. The interpretation and application of guidance will remain the responsibility of the individual clinician. If in doubt contact a senior colleague or expert. Caution is advised when using clinical guidance after the review date, or outside of the Trust.

Ref No:	2443		
Document title:	Gastrostomy and Jejunostomy Care		
Purpose of document:			
Date of issue:	15 November 2019	**Next review date:**	15 November 2022
Version:	1	**Last review date:**	
Author:	Service Lead		
Directorate:	Child Health		
Equality Impact:	The guidance contained in this document is intended to be inclusive for all patients within the clinical group specified, regardless of age, disability, gender, gender identity, sexual orientation, race and ethnicity & religion or belief		
Committee(s) approving the document:	Head of Services of Children with Additional Needs		
Date approved:	14 November 2019		
Links or overlaps with other policies:	0239 - Hand Hygiene Policy 0782 - Infection Control Surveillance Policy 0783 – Infection Control Operational Policy		

Have you identified any issues on the Rapid (E)quality Impact Assessment. If so please detail on Rapid (E)QIA form.	Yes ☐	
	Please select *Yes*	*No*
Does this document have implications regarding the Care Act? *If yes please state:*	☐	☐
Does this document have training implications? *If yes please state:*	☐	☐

Does this document have financial implications? *If yes please state:*	☐	☐
Is this document a direct replacement for another? *If yes please state which documents are being replaced:*	☐	☐

Document Amendment History

Date	Version no.	Amendment summary	Ratified by:
15 November 2019	1	New	Head of Service, Children with Additional Needs

The Mental Capacity Act 2005

The Mental Capacity Act provides a statutory framework for people who lack capacity to make decisions for themselves, or who have capacity and want to make preparations for a time when they lack capacity in the future. It sets out who can take decisions, in which situations, and how they should go about this. It covers a wide range of decision making from health and welfare decisions to finance and property decisions

Enshrined in the Mental Capacity Act is the principle that people must be assumed to have capacity unless it is established that they do not. This is an important aspect of law that all health and social care practitioners must implement when proposing to undertake any act in connection with care and treatment that requires consent. In circumstances where there is an element of doubt about a person's ability to make a decision due to 'an impairment of or disturbance in the functioning of the mind or brain' the practitioner must implement the Mental Capacity Act.

The legal framework provided by the Mental Capacity Act 2005 is supported by a Code of Practice, which provides guidance and information about how the Act works in practice. The Code of Practice has statutory force which means that health and social care practitioners have a legal duty to have regard to it when working with or caring for adults who may lack capacity to make decisions for themselves.

"The Act is intended to assist and support people who may lack capacity and to discourage anyone who is involved in caring for someone who lacks capacity from being overly restrictive or controlling. It aims to balance an individual's right to make decisions for themselves with their right to be protected from harm if they lack the capacity to make decisions to protect themselves". (3)

All Trust workers can access the Code of Practice, Mental Capacity Act 2005 Policy, Mental Capacity Act 2005 Practice Guidance, information booklets and all assessment, checklists and Independent Mental Capacity Advocate referral forms on iCare

http://icare/Operations/mental_capacity_act/Pages/default.aspx

Infection Control

All staff will have access to Infection Control Policies and comply with the standards within them in the work place. All staff will attend Infection Control Training annually as part of their mandatory training programme.

Rapid (E)quality Impact Assessment (EqIA) *(for use when writing policies)*

Policy Title (and number)	Gastrostomy and jenunostomy	Version and Date	06/11/19
Policy Author	Service Lead		

An (e)quality impact assessment is a process designed to ensure that policies do not discriminate or disadvantage people whilst advancing equality. Consider the nature and extent of the impact, not the number of people affected.

Who may be affected by this document?

Patients/ Service Users ☒	Staff ☐	Other, please state… ☐

Could the policy treat people from protected groups less favourably than the general population?
PLEASE NOTE: Any 'Yes' answers may trigger a full EIA and must be referred to the equality leads below

Age	Yes ☐ No☒	Gender Reassignment	Yes ☐ No☒	Sexual Orientation	Yes ☐ No☒
Race	Yes ☐ No☒	Disability	Yes ☐ No☒	Religion/Belief (non)	Yes ☐ No☒
Gender	Yes ☐ No☒	Pregnancy/Maternity	Yes ☐ No☒	Marriage/ Civil Partnership	Yes ☐ No☒
Is it likely that the policy could affect particular 'Inclusion Health' groups less favourably than the general population? (substance misuse; teenage mums; carers[1]; travellers[2]; homeless[3]; convictions; social isolation[4]; refugees)					Yes ☐ No☒

Please provide details for each protected group where you have indicated 'Yes'.

VISION AND VALUES: Policies must aim to remove unintentional barriers and promote inclusion

Is inclusive language[5] used throughout?	Yes ☒ No☐ NA ☐
Are the services outlined in the policy fully accessible[6]?	Yes ☒ No☐ NA ☐
Does the policy encourage individualised and person-centred care?	Yes ☒ No☐ NA ☐
Could there be an adverse impact on an individual's independence or autonomy[7]?	Yes ☐ No☒ NA ☐

EXTERNAL FACTORS

Is the policy a result of national legislation which cannot be modified in any way?	Yes ☐ No☒

What is the reason for writing this policy? (Is it a result in a change of legislation/ national research?)

Support clinical practice

Who was consulted when drafting this policy?

Patients/ Service Users ☐	Trade Unions ☐	Protected Groups (including Trust Equality Groups) ☐
Staff ☐	General Public ☐	Other, please state… ☐

What were the recommendations/suggestions?

Does this document require a service redesign or substantial amendments to an existing process? PLEASE NOTE: 'Yes' may trigger a full EIA, please refer to the equality leads below	Yes ☐ No☐

ACTION PLAN: Please list all actions identified to address any impacts

Action	Person responsible	Completion date

AUTHORISATION:
By signing below, I confirm that the named person responsible above is aware of the actions assigned to them

Name of person completing the form	Service Lead	Signature	
Validated by (line manager)		Signature	

Please contact the Equalities team for guidance:
For South Devon & Torbay CCG, please call 01803 652476 or email marisa.cockfield@nhs.net
For Torbay and South Devon NHS Trusts, please call 01803 656676 or email pfd.sdhct@nhs.net
This form should be published with the policy and a signed copy sent to your relevant organisation

Consider any additional needs of carers/ parents/ advocates etc, in addition to the service user
[2] Travelers may not be registered with a GP - consider how they may access/ be aware of services available to them
[3] Consider any provisions for those with no fixed abode, particularly relating to impact on discharge
[4] Consider how someone will be aware of (or access) a service if socially or geographically isolated
[5] Language must be relevant and appropriate, for example referring to partners, not husbands or wives
[6] Consider both physical access to services and how information/ communication in available in an accessible format
[7] Example: a telephone-based service may discriminate against people who are d/Deaf. Whilst someone may be able to act on their behalf, this does not promote independence or autonomy

Clinical and Non-Clinical Policies – Data Protection

Torbay and South Devon NHS Foundation Trust (TSDFT) has a commitment to ensure that all policies and procedures developed act in accordance with all relevant data protection regulations and guidance. This policy has been designed with the EU General Data Protection Regulation (GDPR) and Data Protection Act 2018 (DPA 18) in mind, and therefore provides the reader with assurance of effective information governance practice.

The UK data protection regime intends to strengthen and unify data protection for all persons; consequently, the rights of individuals have changed. It is assured that these rights have been considered throughout the development of this policy. Furthermore, data protection legislation requires that the Trust is open and transparent with its personal identifiable processing activities and this has a considerable effect on the way TSDFT holds, uses, and shares personal identifiable data.

Does this policy impact on how personal data is used, stored, shared or processed in your department? Yes ☐ No ☐

If yes has been ticked above it is assured that you must complete a data mapping exercise and possibly a Data Protection Impact Assessment (DPIA). You can find more information on our GDPR page on ICON (intranet)

For more information:

- Contact the Data Access and Disclosure Office on dataprotection.tsdft@nhs.net,
- See TSDFT's Data Protection & Access Policy,
- Visit our Data Protection site on the public internet.