PROCEDURE	
Gastrostomy device management	
Scope (Staff):	Community health staff
Scope (Area):	CAHS-CH, WACHS

Child Safe Organisation Statement of Commitment

The Child and Adolescent Health Service (CAHS) commits to being a child safe organisation by meeting the National Child Safe Principles and National Child Safe Standards. This is a commitment to a strong culture supported by robust policy documents to ensure the safety and wellbeing of children at CAHS.

This document should be read in conjunction with this DISCLAIMER

Aim

The aim of this procedure is to provide guidance to nurses working in schools on the management of gastrostomy devices being used for nutrition and medication. This includes supporting patency of the device and ensuring skin integrity is maintained.

Risk

Client safety may be compromised if correct gastrostomy device management is not followed.

Background

Gastrostomy devices are an established means of providing long term enteral nutrition when a medical, sensory or behavioural condition prevents a person from maintaining adequate hydration and nutrition through oral diet alone. A gastrostomy tube or device is inserted into the stomach through the abdominal wall, so that liquid nutrition, fluids and medication can be given.[1]

Identification of the **type of device** in use (percutaneous endoscopic gastrostomy (PEG) or transgastric-jejunostomy device) is essential as client care and safety may be compromised if device specific management protocol is not followed.[2]

Key points

- To be performed or supervised by staff with appropriate training in stoma care and management, feeding and device care.
- Each client requires an individualised nutrition care plan
    - The dietitian, parent or caregiver will provide a care plan detailing the client's feeding regime, including the enteral formula (type and volume), mode and frequency of nutrition delivery
    - Where detailed on a care plan, clients may receive blended, puréed and vitamised foods for enteral administration. Staff need be aware of the potential increased risk of tube or device blockage due to the higher viscosity of the feed.
- To prevent cross-infection between clients and their gastrostomy equipment,[2] each client's equipment; e.g. syringe and extension tube, must be labelled and kept in individual containers and stored in an appropriately maintained fridge during school hours or overnight.
- All formula should be stored as per manufacturer's guidelines.
    - In some instances, pre-prepared formula is supplied from home. This should be provided in a lunch box with cooler brick and refrigerated once onsite at the school. Only one day's worth of this type of formula should be provided at a time and any leftover should be sent home or discarded.[2]
- Stop the feed if the client experiences coughing, choking, vomiting or breathing difficulties and
    - contact parent/caregiver to seek advice or
    - call an ambulance if deemed appropriate .

- To reduce risk of aspiration or reflux during feeding, clients should be positioned at greater than 30-45 degree from horizontal or as per swallow management plan.
- Some clients may require venting before or after feeds. This is to assist removal of excess gas or wind in the stomach (see page 8).
- There are no definitive recommendations specifying an amount of time the client should wait to swim following a feed. The nurse should use discretion and be guided by parent/caregiver instructions where available, especially if the client is prone to vomiting or reflux.[2]
- All equipment must be cleaned and stored in accordance with the process on page 12.
- Community health nurses must follow the organisation's overarching Infection Control Policies and perform hand hygiene in accordance with WA Health guidelines at all appropriate stages of the procedure.
- Nurses can contact the Gastroenterology Liaison Nurse at Perth Children's Hospital (PCH.GastroenterologySpecialistNurses@health.wa.gov.au) for advice and clarification on a client's gastrostomy care plan or stoma care as required.

Initial percutaneous endoscopic gastrostomy

- The initial percutaneous endoscopic gastrostomy (PEG) is inserted and left in-situ until a stoma has formed. This usually takes three months.
- The disc prevents tubing from migrating back into the stomach.
- Check that the position of the skin retention disc is 2-3mm above the skin. Correct positioning will prevent undue tension against the abdomen and allow access for cleaning under the flange.
- The care plan may request nurse to rotate device 360 degrees once during school hours.
- This tubing does not require an extension set for feeds or flushes. The syringe is connected directly into the end of the tubing once cap is removed.[2]

Initial tube

Procedure

Initial tube gravity feed (prior to long-term gastrostomy insertion)	
Steps	**Additional information**
1. Preparation • Perform hand hygiene. • Check client identity. • Gain consent. • Refer to care plan for client specific information and instructions. • Position the client.	• Consent should be gained prior to all client procedures. • Check identification as per Client Identification procedure. • Explain the procedure to the client and position them as appropriate. This could be sitting, or lying with their head and chest raised greater than 30-45 degree from horizontal or as per care plan.
2. Perform hand hygiene and don gloves and other personal protective equipment (PPE) as required.	• Follow the principle of the 5 moments of hand hygiene.
3. Ensure the tube is clamped and remove the safety cap.	• Clamping the tube will prevent stomach contents from escaping.
4. Attach the syringe to the tube; add the desired amount of water, release clamp and flush. Reclamp.	• Use clamp to ensure tubing remains primed.
5. Administer the feed with specified amount of supplied formula. Reclamp.	• Adjust the rate of flow by raising or lowering the syringe. • The plunger may be used to accelerate a slow flow, but not to push the feed.
6. Flush the tube with water as per care plan instruction. Reclamp and remove syringe.	
7. Remove and dispose of PPE and perform hand hygiene.	

Low profile devices

- These devices are usually fitted 12 weeks after the PEG is inserted, once a stable tract has formed. They are anchored by a water filled balloon or collapsible dome.

- To administer feeds or medications attach the manufacturer supplied extension tubing to the device: **Never** attach a syringe directly to the device as this will damage the internal valve.
- If Bard™ device and Entristar® Skin level are accidentally displaced; these cannot be replaced by Community Health Staff. Parent/caregiver to be contacted. Advise parent/caregiver to seek follow up with a medical practitioner.
- Transgastric-jejunostomy devices have specific management processes.

Types of devices

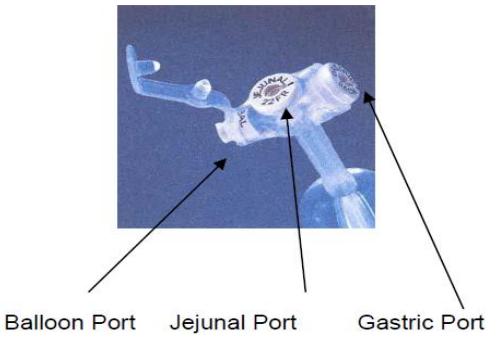
MIC-KEY™ device
(Balloon)

Nutriport™ skin level
(Balloon)

AMT-Mini™ device
(Balloon)

Bard™ device
(Collapsible mushroom)

Entristar® Skin level
(Collapsible star)



Transgastric-jejunostomy device

ENFit® Connection System[3]

- ENFit® is an enteral-specific connector that does not allow connection to any other type of medical device, such as intravenous lines.

- The ENFit system has been introduced across Australia in recent years and all enteral feeding equipment including gastrostomy tubes, nasogastric tubes, feeding sets and syringes is in transition to the ENFit only system.

Note: Until full transition to ENFit, there will be a number of clients with devices and / or feeding sets that do not have a distal ENFit connector.

- Adaptors are available for use in this instance to enable connection with ENFit equipment.

Transgastric-jejunostomy device

- These devices have separate access ports; one for the jejunal access and one for gastric access.
- **DO NOT** rotate gastro-jejunostomy device
  - The device does move by itself due to patient and bowel movement
  - If you believe the device has been manually rotated contact parent/caregiver and advise them to follow up with a medical practiitoner.
- Feeds administered via a gastro-jejunostomy should be delivered continuously via a feeding pump.
- Jejunal port should not be routinely used for administration of medication. The gastric port should be used instead. Check client care plan for details.
- Flushing of these devices is very important due to the risk of tube blockage. These devices may require regular flushing (e.g. minimum 4-6 hourly).[2] Refer to individual care plan for parent/caregiver instructions.

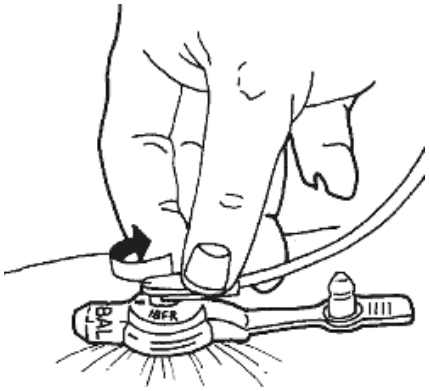
Feeding procedures

Equipment

- Client's own syringe (50 – 60 mL), with plunger removed
- Water
- Prepared feed at room temperature
- Appropriate manufacturer feeding extension tube attachment (Bard™ must match French size of device)

Procedure

Low profile (PEG) gravity feed	
Steps	**Additional information**
1. Preparation • Perform hand hygiene. • Check client identity. • Gain consent. • Refer to care plan for client specific information and instructions. • Position the client.	• Consent should be gained prior to all procedures. • Check identification as per Client Identification procedure. • Explain the procedure to the client and position them as appropriate. This could be sitting, or lying with their head and chest raised greater than 30-45 degree from horizontal or as per care plan. • Individuals have specific requirements

	regarding venting required, feed or volumes.
2. Perform hand hygiene and don gloves and other personal protective equipment (PPE) as required.	• Follow the principle of the 5 moments of hand hygiene.
3. Attach syringe to the supplied extension tube and prime with water.	• Priming the tube and then clamping will prevent excess air from entering the stomach.
4. Clamp tube to ensure tubing remains primed.	
5. Attach the tube to the feed port as per manufacturer's instructions, as outlined below. **For MIC-KEY™** a. Lift up the safety cap from the feeding port. b. Line up the black line on the extension set with the black line on top of the device. c. Gently push the extension tube into the feeding port. d. Turn the extension set clockwise until resistance is felt (usually ¾ turn). **Do not turn past this point.** e. Ensure locking mechanism is secure. **For Bard™, Nutriport & Entristar®** a. Lift up the safety cap from the feeding port. b. Gently push the extension tube directly into the feeding port.	• Grip the external stabiliser to prevent putting undue pressure on the client's abdomen. 
6. Pour water into syringe, release clamp to flush with required amount of water. Re-clamp.	• Flush may be given as a gentle push as this creates a whirlpool effect to assist clearing tube.
7. Pour supplied formula into syringe, release clamp and allow the feed to flow by gravity.	• Adjust the flow by raising or lowering the syringe. • Use the plunger (gently) to accelerate a slow flow. • Do not pull on the plunger as this will damage the one way valve.

	• Administer feed as tolerated.
8. Complete feed by flushing the tube or gastrostomy with water as per care plan instruction.	• Flush may be given as a gentle push as this creates a whirlpool effect to assist clearing tube.
9. Reclamp and remove syringe.	• Remove extension tube (if appropriate for the client).
10. Replace safety cap.	• Ensure stoma site is clean and dry.
11. Remove and dispose of PPE and perform hand hygiene.	

Procedure

Venting	
Steps	**Additional information**
Note: Venting may be performed on its own or before or after feeding.	
1. Preparation • Perform hand hygiene. • Check client identity. • Gain consent. • Refer to care plan for client specific information and instructions. • Position the client.	• Consent should be gained prior to all procedures. • Check identification as per Client Identification procedure. • Explain the procedure to the client and position them as appropriate. This could be sitting, or lying with their head and chest raised greater than 30-45 degree from horizontal or as per care.
2. Perform hand hygiene and don gloves and other personal protective equipment (PPE) as required.	• As per CAHS *Hand Hygiene* and *Standard and Transmission Based Precautions* policy.
3. Attach syringe to extension tube, prime extension tube with water. Clamp.	• The Bard™ device comes with a specific decompression extension tube. • MIC-KEY™ device and AMT-Mini™ devices have a separate feeding extension tube for bolus and continuous feeding. Both can be used for decompression. • Use only enough water to prime extension tube. Water in the syringe may cause overflow if large volumes of wind are present.

4. Connect tube to the device.	
5. Release clamp as you raise the syringe to above the level of the stomach.[2]	• A small amount of stomach content may flow into the syringe. • Clinical judgement to be used to assess need to adjust syringe height to enable adequate venting. • Check care plan for specific instructions, as required.
6. If wind is in stomach it should bubble through tubing or syringe.	
7. Once bubbles stop allow water to flush tubing.	
8. Add a small amount of extra water to flush if required.	
9. Reclamp.	• Remove extension tube (if appropriate for the client).
If feed required after venting, continue as per feed instructions.	
10. Remove and dispose of PPE and perform hand hygiene.	

Procedure

Gravity bag or flask feeds	
Steps	**Additional information**
1. Preparation • Perform hand hygiene. • Check client identity. • Gain consent. • Refer to care plan for client specific information and instructions. • Position the client.	• Consent should be gained prior to all procedures. • Check identification as per *Client Identification procedure.* • Explain the procedure to the client and position them as appropriate. This could be sitting, or lying with their head and chest raised greater than 30-45 degree from horizontal or as per care.
2. Perform hand hygiene and don gloves and other personal protective equipment (PPE) as required.	
3. Refer to care plan for client specific information and instructions.	• Individuals have specific requirements regarding venting required, feed or

	volumes.
4. Place supplied formula into bag or flask.	• Bag or flask will be supplied by parent.
5. For flasks attach giving set.	
6. Prime line and clamp.	• Adjust flow rate or clamp using wheeled roller.
7. Attach syringe to the supplied extension tube and prime with water.	• Use clamp to ensure tubing remains primed.
8. Attach the extension tube to the feed port.	
9. Pour water into syringe, release clamp to flush with required amount of water.	• Flush may be given as a gentle push as this creates a whirlpool effect to assist clearing tube.
10. Reclamp.	
11. Remove syringe and attach giving set to the extension tube.	
12. Release clamp and adjust flow rate with wheeled roller.	
13. Perform effective hand hygiene.	
14. When formula is complete, clamp tube, remove giving set and attach syringe to extension tube.	
15. Complete the feed by flushing the tube with water as per care plan instruction.	
16. Reclamp.	• Remove extension tube (if appropriate for the client).
17. Remove and dispose of PPE and perform hand hygiene.	
Pump, bag or flask feeds	
• No more than 4 hours of feed should be placed into feeding set.	

Trouble shooting procedures

<table>
<tr><th colspan="2">PEG Tube or device blockage</th></tr>
<tr><th>Steps</th><th>Additional information</th></tr>
<tr><td>1. Perform hand hygiene and don gloves and other personal protective equipment (PPE) as required.</td><td></td></tr>
<tr><td>2. Check clamps are released.</td><td rowspan="5">• Regular flushing prevents blockage.
• 20 mL is the minimum size syringe that can be used.</td></tr>
<tr><td>3. Inspect tube for blockage, flush and/or replace then reassess patency of PEG</td></tr>
<tr><td>4. Attempt to flush the PEG tube with warm water in a 20mL syringe using a “push/pull” motion.</td></tr>
<tr><td>5. Rotate and massage tube between fingers to try and dislodge the blockage.</td></tr>
<tr><td>6. If tube remains blocked, consider changing tube or device, in consultation with parent/caregiver.</td></tr>
<tr><th colspan="2">Transgastric Jejunostomy device blockage</th></tr>
<tr><td colspan="2">• Perform hand hygiene and don gloves and other personal protective equipment (PPE) as required.
• Attempt to push flush the tube with warm water in a 20mL syringe push/pull motion.
  ○ 20mL is the minimum size syringe that can be used.
• Some clients may be prescribed a ClogZapper. If this is the case liaise with parent/caregiver and PCH gastroenterology on appropriate use and care planning.</td></tr>
<tr><th colspan="2">Leakage around the device</th></tr>
<tr><th>Steps</th><th>Additional information</th></tr>
<tr><td>1. Perform hand hygiene and don gloves and other personal protective equipment (PPE) as required.</td><td>• As per 5 moments of hand hygiene. Risk of blood and body fluid exposure is to be assessed and appropriate PPE used where indicated.</td></tr>
<tr><td>2. Check the patency of the balloon. This is done by removing the water from the balloon with a syringe and checking aspirate volume compares with volume initially instilled, as noted on the clients</td><td>• Discard aspirate and reinflate the balloon with the recomended volume of water.
• Clean tap water can be used.</td></tr>
</table>

care plan.	
3. Consider if leakage is from excess air/gas.[2]	• Try venting the tube by attaching a feeding set and syringe open to air – hold above level of the stomach to allow gas to escape. [2]
4. Stabilise the device, as required, according to clients care plan.	• Stabilising the tube prevents migration which can cause leakage or blockage of device. Stabilise using clean, absorbent dressings and adhesive tape as per careplan. Inform parent/caregiver of actions.
5. Remove PPE and perform hand hygiene.	

Cleaning and storage of equipment

Steps	Additional information
1. Perform hand hygiene and don gloves and other personal protective equipment (PPE) as required.	
2. Ensure all tubing is removed from the client before cleaning.	• Perth Children's Hospital currently advise to wash the extension sets with washing up detergent initially then water using an ENFIT syringe.
3. Wash all feeding equipment individually in warm soapy water, rinse until clear and air dry.	• Equipment is client specific and can be reused given appropriate infection control standards are followed.
4. Inspect equipment regularly for signs of wear and tear.	• Check equipment regularly (e.g. once a term). • Replace equipment if signs of wear or tear are observed.
5. Store all equipment in an individual sealed, clean container (such as a lunch box) in the fridge.	• Containers and equipment (where appropriate) to be labelled with client's name.
6. Remove and dispose of PPE and perform hand hygiene.	

Administering Medications via a Gastrostomy

- Check identification as per *Client Identification procedure.*

- Refer to *Medication management in education support schools* for further guidance on administering medications in the Education Support school setting.
- Administer medication via the extension tube: never attach syringe directly into the device as this risks rupturing the valve.
- After administering medication(s), flush with sufficient water to clear the tubing and gastrostomy device
  - Flush volumes may differ between patients and manufacturer recommendations, as a guide:[2]
    - Infant: 5mL
    - Child: 10mL
    - Adolescent: 20mL
  - Consider patients requiring fluid restriction, additional hydration or problems with frequent blockage who may require variations to these volumes. Refer to the dietitian feeding plan and medical orders.[2]

Stoma Care

- Observe the site for leakage and abnormalities in skin integrity at every occasion of service.
- Ensure skin around PEG site is kept clean and dry, as part of normal daily hygiene needs. Warm, soapy water can be used.
  - Do not apply padding or dressings to stoma site, except if this is in the client's care plan or to be used to stabilise the device.
- Contact parent/caregiver to advise of any changes or abnormalities.

Replacing a displaced Gastrostomy Device Procedure

Replace immediately with an appropriate replacement device to prevent the stoma closing.

Important notes:

- A gastro-jejunostomy device cannot be replaced in the community setting. Maintain stoma patency by inserting a low profile device or catheter supplied by parent/caregiver, following the client's care plan. Contact parent/caregiver and advise them to follow up with a medical practiitoner.
- In the unlikely event that an initial PEG tube (less than eight weeks post surgery) is displaced at school, the wound should be covered with a dry dressing and the parent/caregiver contacted to take the client to hospital for immediate treatment.[2]
- For low level devices with a balloon that have been in place for 8 weeks or more, replacement should occur immediately to prevent the stoma closing by a nurse who has received appropriate training.[2]

Equipment

- Appropriate replacement device (parent supplied)
- Disposable wash cloth
- Syringe – to inflate the balloon

- Water – to inflate the balloon
- Water soluble lubricant (request to be supplied by the parent/caregiver)
- Tape, if needed
- Gloves
- PPE as needed.

Procedure

Steps	Additional information
1. Preparation • Perform hand hygiene. • Check client identity. • Gain consent. • Refer to care plan for client specific information and instructions. • Position the client.	• Consent should be gained prior to all procedures. • Check identification as per *Client Identification procedure.* • Explain the procedure to the client and position them as appropriate. This could be sitting or lying with their head and chest slightly raised.
2. Perform hand hygiene and don gloves and other personal protective equipment (PPE) as required.	• As per 5 moments of hand hygiene. Risk of blood and body fluid exposure is to be assessed and appropriate PPE used where indicated.
3. Clean the skin around the gastrostomy site using warm soapy water or sodium chloride 0.9%.	
4. Wash the displaced device with soap and water, then rinse well	• Alternatively, use a new device (same make and size as the old one). Following same process.
5. Remove PPE and perform hand hygiene.	
6. Test the balloon integrity prior to insertion; • Draw up the required volume of water to inflate the balloon into a syringe • Attach syringe to the balloon port of the tube and slowly inflate balloon with water • Check integrity and uniform shape of the balloon, then withdraw the water into the syringe.	• Follow manufacturer's instruction for amount required to inflate the balloon (usually 3-5 mL). • Overinflation of the balloon can cause damage and rupture. • **Note:** if balloon is not inflating it can still be inserted and taped in situ as a temporary measure to prevent the stoma closing if functioning

Steps	Additional information
	replacement is not available.
7. Moisten the end of the device with water-soluble lubricant, if required.	• To aid insertion. • Do not use an oil based lubricant eg. petroleum jelly.
8. Insert the device into the stoma.	• Minimal resistance should be felt.
9. Using balloon port inflate balloon with water.	• Use of tap water for inflation is acceptable.
10. Rotate through 360° until it feels snug against the stomach wall.	
11. Clean and dry the skin, using warm soapy water or 0.9% sodium chloride.	
12. Attach a syringe to appropriate extension tube.	
13. Attach the extension tube to the device.	• Do not insert syringe directly into the device, as this will damage the one way valve.
14. Check the placement of the device by allowing back flow of stomach contents.	• Lower the syringe below the level of the stomach.
15. Return this fluid into the stomach and flush with a small volume of water.	
If in any doubt, do not use the device. *Contact parents/caregiver and advise discussion with gastroenterology nursing team.*	
If device cannot be replaced:[2] • insert a catheter, if available, to approximately 5cm. • mark where the tube exits the abdomen and secure with adhesive tape. • Secure in place with tape and clean absorbent dressing.	• The depth of insertion may vary according to size of client. Follow client's individual procedure as per care plan. • Predominantly only inserted as a temporary measure to prevent the stoma closing.[2] • Absorbent dressings are used to keep area dry so that tape can adhere to the skin. • Assess to see if client has any

Steps	Additional information
	sensitivities to adhesives.
NOTE: If unable to maintain stoma patency with either device or catheter, cover site with dry dressing.	• It is recommended that a client attends hospital within one hour if unable to reinsert.
16. Remove and dispose of PPE and perform hand hygiene.	If used, remove and appropriately dispose of PPE prior to hand hygiene.
17. Contact parent/caregiver • advise of displacement of device and care provided.	

Documentation

Nurses maintain accurate, comprehensive and contemporaneous documentation of assessments, planning, decision making and evaluations according to CAHS-CH and WACHS processes.

References
1. Great Ormond Street Hospital for Children NHS Trust. Gastrostomy Care England: NHS; 2020 2. Perth Children's Hospital. Gastrostomy Device Management. Perth: Health Department of Western Australia; 2019. 3. GEDSA. Enteral Feeding Connectors (ENFit^{R}): GEDSA; 2021

Related policies, procedures and guidelines
The following documents can be accessed in the **Clinical Nursing Manual** via the HealthPoint link, Internet link or for WACHS staff in the WACHS Policy link
Student Health Care Plans
The following documents can be accessed in the CAHS Policy Manual
Infection Control Policies
Gastrostomy and Gastrojejunal Tube Management Clinical Practice Manual – Perth Children's Hospital.

The following documents can be accessed in the Department of Health Policy Frameworks
Clinical Handover Policy (MP0095)
Clinical Incident Management Policy (MP 0122/19)

Related external resources
Gastrostomy – common problems - The Royal Children's Hospital Melbourne
Gastrostomy acute replacement of displaced tubes – The Royal Children's Hospital Melbourne

This document can be made available in alternative formats on request for a person with a disability.

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Reviewer / Team:	Clinical Nursing Policy Team		
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Neonatology | Community Health | Mental Health | Perth Children's Hospital