Guidelines for caring for an infant, child, or young person who requires enteral feeding

CLPg006a

Adapted with Kind permission from: Gain Guidelines for caring for an infant, child, or young person who requires enteral feeding (1)
Table of Contents

Why we need this Guideline ........................................................................................................... 3
What the Guideline is trying to do................................................................................................ 4
Which stakeholders have been involved in the creation of this Guideline ................................ 5
Any required definitions/explanations .......................................................................................... 6
Key duties ...................................................................................................................................... 13
Guideline detail ............................................................................................................................ 9
Training requirements associated with this Guideline ................................................................. 32
How this Guideline will be monitored for compliance and effectiveness ................................. 34
For further information ................................................................................................................. 34
Equality considerations .................................................................................................................. 34
Document control details .............................................................................................................. 36
Why we need this Guideline

There are a number of children and young people in community settings such as hospitals, homes, schools, and respite facilities, who require various enteral feeding regimes to achieve effective nutrition. Enteral feeding can have a big impact not only on the child/young person but on family life resulting in both psychological and practical problems which should be addressed regularly. Multi professional teams provide support to ensure the safe and effective management of all aspects involved with enteral feeding. It is therefore essential that all staff, families and carers have the necessary knowledge and skills to provide safe, effective, person centred care.

Care for these children and young people cannot be met without a joined up approach between Acute and Community settings, this policy will be a guideline on how to ensure a seamless approach. The guideline will bring together up to date literature to ensure safe practice and recommend monitoring via audit to aid monitoring compliance.
What the Guideline is trying to do

Aims of Guidelines

The aims of this clinical guideline are to:
Ensure that all practices associated with the commencement, care, management and replacement of enteral feeding devices in infants, children and young people are based on the best current evidence.

Standardise practice both for the management of enteral feeding and replacement of enteral feeding devices across all Health, Social Care Trusts and Education to ensure a consistent approach for staff and families.

Provide a standardised approach to training for all staff and parents whose infants/children/young people require enteral feeding.

Improve communication and documentation processes between hospital and community for infant/children/young people that require enteral feeding.

Note:

This guideline excludes neonates/ pre-term babies because their physiology is different to that of an older baby. As a result, staff caring for such babies in the community from neonatal units should adhere to national, regional and local guidance.

Please note that throughout these guidelines the terminology ‘child’ will cover infant, child and young person.
Which stakeholders have been involved in the creation of this Guideline

- NHFT
- Children’s Community Nursing
- Special School Nursing
- Eating Disorders Service
- Pharmacy
- Dietetics
- Community Paediatrician
- Speech and Language Therapy
- Homeward
- Library Services
Any required definitions/explanations

Glossary

**Administration Set**
Plastic tubing used to connect the container to the feeding device

**Aseptic Non-Touch Technique (ANTT)**
A unique and contemporary practice to reduce Healthcare associated infections using an aseptic technique

**Aspiration**
A procedure used to determine the position of the end of the tube. Aspiration also refers to the accidental sucking in of food particles or fluids into the lungs

**Balloon**
A water filled balloon holds some gastrostomy devices securely in the stomach

**Bolus/Intermittent Feeding**
A prescribed volume of feed given slowly via a syringe at a specific time.

**Buried Bumper Syndrome**
A rare complication which occurs when the internal plate has become buried in stomach wall.

**Carer (caregiver)**
Someone other than a health professional who is involved in caring for a person with a medical condition.

**Continuous feeding**
Continuous feeds are the administration of a feed at a slower rate over a prolonged period.

**Decanting**
Pouring feed from the original container into the administration set container

**Enteral nutrition**

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CLPg006a Enteral Feeding Guidelines infant, child or young person (rev 27.04.2020)
The provision of safe and effective nutritional support through the use of an enteral feeding device.

**External Fixator**

A device that holds the enteral tube in place against the skin.

**Flush**

Administering a small volume of water through the tube to clean it after you have used it to deliver your feed or medications.

**Gastro-oesophageal reflux disease (GORD)**

A common condition where acid from the stomach leaks out of the stomach and up into the oesophagus.

**Gastrostomy Tube**

Feeding devices which allow liquid feed, fluids and/or medicines to be delivered directly into the stomach

**Gastrojejunostomy tube**

Enteral tube inserted through the abdominal wall which passes through the stomach into the jejunum for the purpose of nutrition support.

**Homeward**

A company called Nutricia Homeward who provide a service supporting children at home with enteral feeding – by delivery and training of equipment.

**Hypoallergenic**

Reduces the possibility of an allergic reaction

**Immuno-compromised**

Vulnerable to infection due to having an immune system that has been impaired by disease or a medical treatment

**Jejunostomy Tube**

A tube inserted directly into the jejunum (part of the small intestine)

**Naso-duodenal tube**

A polyurethane tube which is inserted via nose through the stomach and into either the duodenum or jejunum

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Naso-gastric

A narrow tube that is passed into the nose and down the oesophagus into the stomach which allows liquid feed/medication to be delivered directly into stomach.

Naso-jejunal tube

A tube passed through the nose and down into the jejunum (the second part of the small intestine), thus bypassing the stomach and the duodenum.

Orogastric (tube) feeding

Nutrition support provided by a tube inserted through the mouth via the oesophagus into the stomach

Over granulation

Granulation tissue (natural healing process) beyond the amount required to replace the tissue loss as a result of skin injury or wound

PH Indicator Strips

Used to confirm the feeding device is in the correct position by measuring the amount of acid in the stomach contents.

Push/Pause technique

A pulsatile flushing action to promote a turbulence effect within the tube.

Single Use

Use only once and then discard

Single child use

Can be used more than once on one specific child only.

Stoma

A surgical created opening into the body from outside the body.

Venting

Venting is letting the air (wind) out of the stomach.
GUIDELINE DETAIL

Enteral Feeding

Enteral nutrition is the provision of safe and effective nutritional support through the use of an enteral feeding device. It is generally required when a child is unable to meet their nutritional and/or hydration needs orally. The enteral device may also be used for aspiration purposes, venting and/or administration of medications. Enteral devices are situated in the gastrointestinal tract – stomach/jejunum/duodenum.

Enteral feeding aims to:

• Provide effective nutrition support.

• Empower the child and/or family to participate in nutritional care decisions.

• Enable provision of feeding in all hospital and community settings taking into account the unique needs of each child.
## Enteral Feeding Devices

The table below indicates the different routes and types of enteral devices currently being used with children. Also included are indications for use and potential risks.

<table>
<thead>
<tr>
<th>Type of enteral feeding device</th>
<th>Placement and Use</th>
<th>Indications</th>
<th>Potential Risks</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Orogastric Tube</strong></td>
<td>A feeding tube passed through the mouth directly into the stomach</td>
<td>More commonly used in neonates</td>
<td>Difficulty in obtaining aspirate to check position</td>
</tr>
<tr>
<td></td>
<td>Bolus/continuous feeds</td>
<td>Inability to maintain adequate oral intake of nutrition/medicines/liquids</td>
<td>Aspirate may have a pH reading above 5.5 due to medications</td>
</tr>
<tr>
<td></td>
<td>Fractured base of skull</td>
<td></td>
<td>Accidental dislodgement</td>
</tr>
<tr>
<td><strong>Radio Opaque (NPSA 2011) Nasogastric Tube</strong></td>
<td>A narrow tube that is passed into the nose and down the oesophagus into the stomach which allows liquid feed/medication to be delivered directly into stomach</td>
<td>Inability to maintain adequate oral intake of nutrition/medicines/liquids</td>
<td>Tube migration or misplacement into oesophagus/lung,</td>
</tr>
<tr>
<td><strong>2 Types: (GOSH 2014)</strong></td>
<td></td>
<td></td>
<td>Trauma to mucosa</td>
</tr>
<tr>
<td><strong>Weekly</strong></td>
<td></td>
<td></td>
<td>Blockage</td>
</tr>
<tr>
<td><strong>Short Term use</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Monthly</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Long Term use</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Gastrostomy devices</strong></td>
<td>Feeding devices which allow liquid feeds, fluids and/or medicines to be delivered directly into the stomach</td>
<td>Long-term inability to maintain oral intake</td>
<td>Accidental dislodgement</td>
</tr>
<tr>
<td><strong>Percutaneous Endoscopic Gastrostomy tube (PEG)</strong></td>
<td>Suitable for Bolus/continuous feeds</td>
<td></td>
<td>Tube migration</td>
</tr>
<tr>
<td></td>
<td>Venting and/or aspiration purposes</td>
<td></td>
<td>Granulation at stoma site</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Infection</td>
</tr>
<tr>
<td>Type of Enteral Feeding Device</td>
<td>Placement and Use</td>
<td>Indications</td>
<td>Potential Risks</td>
</tr>
<tr>
<td>-------------------------------</td>
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</tr>
<tr>
<td>Button/Low profile device</td>
<td></td>
<td></td>
<td>Buried bumper (internal plate has become buried in stomach wall)</td>
</tr>
<tr>
<td>Non-balloons gastrostomy tube</td>
<td></td>
<td></td>
<td>blockage</td>
</tr>
<tr>
<td>Balloon gastrostomy tube</td>
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<tr>
<td>Balloon gastrostomy tube (also called a replacement gastrostomy or G tube)</td>
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<tr>
<td>Nasoduodenal tube</td>
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</tr>
<tr>
<td>Nasojejunal tube</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A polyurethane tube which is inserted via nose through the stomach and into either the duodenum or jejunum</td>
<td>Inability to maintain adequate oral intake of nutrition/medicines/fluids</td>
<td>Trauma to entry site</td>
<td></td>
</tr>
<tr>
<td>Position confirmed radiologically</td>
<td></td>
<td></td>
<td>Infection</td>
</tr>
<tr>
<td>Continuous feeds only</td>
<td></td>
<td></td>
<td>Tube misplacement/migration</td>
</tr>
<tr>
<td>Transgastricjejunostom Tube (gastrojejuneostomy)</td>
<td>Long term use</td>
<td>Gastro-oesophageal reflex resulting in risk of aspiration</td>
<td>Accidental dislodgement of tube</td>
</tr>
<tr>
<td>Balloon type devices placed endoscopically or radiologically via an established gastric stoma</td>
<td>Intractable vomiting</td>
<td>Small bowel intussusception</td>
<td></td>
</tr>
<tr>
<td>Continuous feeds only</td>
<td></td>
<td></td>
<td>Tube blockage</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Electrolyte imbalance with large gastric losses</td>
</tr>
<tr>
<td>Jejunostomy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Balloon button device</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tube device</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G tube with external fixator</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Long term use</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enteral feeding device inserted surgically into jejunum</td>
<td>Continuous feeds only</td>
<td>Anatomical anoraly</td>
<td></td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>
LOCATIONS OF VARIOUS TYPES OF ENTERAL FEEDING TUBES

Nasoduodenal, nasojejunal, and percutaneous endoscopic jejunostomy tubes extend (dotted line) to the small intestine instead of ending in the stomach.

Illustration by © Taina Litwak 2008
Key duties

Dietician

Following assessment of their nutritional needs and in consultation with the family and the Paediatrician, the dietician will identify and order the feeds via Homeward.

Children’s Community Nursing Team (CCN)

The Childrens Community nursing team are commissioned to provide equipment and nursing support to families/children with enteral feeding requirements in the community, when a child is discharged home with an enteral feeding device we will discuss with parents level of competency and we encourage referrers to include this information in their referral paperwork.

The CCN team will liaise with Nutricia Homeward to create a care plan and offer training to support the child and family.

SALT

Prior to tube placement (or at the earliest possible opportunity) SALT can provide an oral assessment to explore the child’s needs and potential to have the tube removed.

Special School Nursing

Will liaise with the CCN to ensure a care plan is in place to share with education and provide competency training to education staff and hands on clinical support as and when required.

Once it has been decided a Child/Young person requires an enteral feeding device and it has been inserted at the Local (or tertiary) hospital the table below indicates the care needs: - Recommendations from the referring hospital must be adhered to.
## Post-insertion of enteral device

Before touching any enteral feeding device ensure the local Hand Washing policy is performed utilising any personal protective equipment, gloves and aprons are recommended. (Nice 2012)

<table>
<thead>
<tr>
<th><strong>Enteral device inserted via oral/nasal passage</strong></th>
<th><strong>Rationale</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ensure device is securely taped in position and always replace tape if it appears to be loose</td>
<td>To avoid displacement</td>
</tr>
<tr>
<td>Use a soft hypoallergenic dressing on face for securing device and check facial skin daily for any reactions to tape pressure.</td>
<td>To detect any tape allergy and skin breakdown</td>
</tr>
<tr>
<td>Avoid unnecessary pressure to nasal/oral passage when applying securing tape</td>
<td>Nasal/oral devices should be able to move freely when swallowing to avoid pressure necrosis</td>
</tr>
<tr>
<td>Use alternative nostrils on tube replacement where possible and document</td>
<td>To avoid trauma to one nasal passage</td>
</tr>
<tr>
<td>Nasogastric tube must only be only replaced by a competent trained person (following the NHFT competency) see appendix 1 and position confirmed before use. If a tube comes out it should be discarded and a new tube should be re-passed. Children with a Nasal Bridle follow the referring hospitals guidelines for all cares, if the tube is dislodged/displaced a new tube should be reinserted and secured with hypoallergenic dressing as above</td>
<td>Confirmation of placement must be determined via Ph Paper testing as per NPSA decision tree. See appendix 4.</td>
</tr>
<tr>
<td><strong>Nasojejunal/duodenal tube must only be replaced in hospital</strong></td>
<td>Nasal bridle only to be inserted in theatre.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Gastrostomy/jejunal devices</strong></th>
<th><strong>Rationale</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>If a child is discharged within 72 hours post insertion of device this information is to be highlighted to parents, GP and community staff and child’s notes clearly labelled.</strong></td>
<td>To detect any postoperative complications</td>
</tr>
<tr>
<td>Give regular analgesia as prescribed noting effect.</td>
<td>Ensure pain is effectively managed</td>
</tr>
<tr>
<td>Administration of need should commence as per Surgeons and Dietetic recommendations – every</td>
<td></td>
</tr>
</tbody>
</table>

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child is individually assessed.

**STOP FEED/MEDICATION DELIVERY IMMEDIATELY IF THERE IS:**

- PAIN ON FEEDING
- SIGNS OF DISTRESS/PHYSILOGICAL INSTABILITY
- PROLONGED OR SEVERE PAIN POST PROCEDURE
- FRESH BLEEDING
- EXTERNAL LEAKAGE OF GASTRIC CONTENTs
- SEEK MEDICAL ADVICE

Possible complications include chemical peritonitis, infection, bowel perforation and haemorrhage and aspiration pneumonia. Prompt recognition and early action reduces the risk of further complications.

<table>
<thead>
<tr>
<th>Care of stoma site</th>
<th>To reduce risk of infection, maintain healthy stoma and prevent skin breakdown.</th>
</tr>
</thead>
<tbody>
<tr>
<td>During the initial 24 hours the enteral device site should be covered with a non-occlusive sterile dressing. This should be placed under fixation plate if used. Extension plate should be placed to avoid pressure at stoma site.</td>
<td>Extension device should retain the tube but not exert any tension on the stoma canal</td>
</tr>
<tr>
<td>Record the number visible at the fixation plate in the child's notes/care plan.</td>
<td>Indication if tube has migrated.</td>
</tr>
<tr>
<td>On Day 1 dressings should be removed post-operatively and site left exposed unless exudate is present.</td>
<td>To remove debris from stoma site and device which may be a medium for bacterial growth</td>
</tr>
<tr>
<td>Clean daily using Clean Non Touch Technique with sterile water until stoma site has healed which can take at least two weeks. Gently dry thoroughly.</td>
<td>Loose fibres can become entangled in gastrostomy device causing trauma to the child and device</td>
</tr>
<tr>
<td>Use gauze that does not shed fibres when cleaning stoma site.</td>
<td>To minimise moisture in which infection/skin damage can develop.</td>
</tr>
<tr>
<td>Always ensure the stoma site if thoroughly dried.</td>
<td></td>
</tr>
<tr>
<td>Do not apply any creams or talcum powder.</td>
<td></td>
</tr>
<tr>
<td>The child may have a shower following discharge from hospital ensuring the enteral device is not submerged under water.</td>
<td></td>
</tr>
<tr>
<td>The stoma cannot be immersed in water until the site has healed (GOSH 2014)</td>
<td></td>
</tr>
</tbody>
</table>

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| **Once stoma site is healed the enteral device tubing, tube and surrounding skin should be cleaned and dried daily with non-perfumed hypoallergenic soap and fresh tap water.** |
| **Discuss with Health Professional if child is able to go to a swimming pool – stoma site must be healed.** |
| **Clean stoma site as previously advised following the swimming pool.** |
| **Always observe stoma site and surrounding skin for signs of inflammation, swelling, exudate and discomfort. If there are any concerns contact Community Team.** |
| **Chlorine may aggravate stoma site.** |
| **To prevent cross infection and promote discretion.** |
| **Indication of infection.** |

**Management of external fixation plate**

| **Do not move external fixation device until instructed to do so and training provided. Fixation plate is then adjusted on a weekly basis.** |
| **To allow traction to assist in the stoma formation.** |
| **To promote straight tract formation.** |
| **To ensure device remains in the correct position to avoid complications. Markings on the device over time can be difficult to identify therefore it assists child, parents, carers ensure correct positioning.** |

**Avoid taping tube to abdomen**

| **When the stoma tract is established – the position of the external fixation plate can be marked with an indelible marker – as the child gains weight it may be necessary to renew the indelible marking** |
| **Rotation of enteral device** |
| **Initial rotation/advancement of the gastrostomy device is dictated by the Surgeon and each child is individually assessed as to when this will commence. Thereafter the enteral device should be rotated 360 degrees on a daily basis. Contact community Children’s Nurse (CCN) if there are any concerns. **JEJUNAL DEVICES SHOULD NOT BE ROTATED**

| **Clamp on enteral device** |
| **When tube is not in use, the adapter end should be closed and the clamp left open or repositioned daily.** |
| **To prevent damage to the tubing.** |

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### Balloon enteral devices

Check and change the water (clean water or as recommended by the manufacturer (GOSH 2014)) in the balloon once a week or whatever is recommended by your specialist.

Replace the enteral device as per manufacturer’s advice and according to training provided. Always check device is in correct place before and after placement by aspirating contents and checking pH value. Gastric confirmation should be pH value 5.5 and below; small bowel confirmation should be pH value 6-8.

Measure stoma size annually or sooner if the child has gained or lost excessive weight.

| To ensure device is adequately in place and to maintain function of the enteral device. |
| To ensure functioning of device and ensuring device is in correct position to avoid complications for child |
| To ensure the correct size of device is being used to avoid complications |
**Disposables required for enteral feeding**

A risk assessment should be undertaken for each child taking into account susceptibility to infection and the care setting in order to establish if disposable products required are ‘Single Use’ or ‘Single Patient Use’.

Single use only - cannot be reused.
Single patient use i.e. can be reused only on the same child following cleaning. These should be replaced weekly or sooner if required based on Manufacturer’s recommendations.

Syringes used for enteral feeding are purple and marked for enteral use.
A 20/50ml* purple enteral syringe is recommended where possible because the larger the syringe the less pressure delivered to enteral device which prevents potential damage to internal tubing of enteral device.

In community, ‘Single patient use’ enteral syringes (purple in colour) are most generally used, unless the child’s risk assessment identifies the need for ‘single use only’.

Disposables required for feeding will vary depending on the Dietitian’s regimen for the individual child for e.g. bolus/intermittent/continuous feeding.

The enteral feeding system should be compatible with the child’s enteral feeding device.
Extension sets that are reusable may be required for administration of feed, for e.g. button gastrostomy.

*Reference to 50ml syringe includes 50/60ml syringe

**Enteral Feeds**

There are two types of feed:

Ready to use feeds which have been specially prepared and pre-packed. These are ideally administered with a closed system. In some cases these may have to be decanted. This is agreed with the Dietitian and family.
Reconstituted feeds are feeds which come in a powdered form and need to be prepared before use.

To minimise the risk of bacterial contamination:

Initial training (provided by the referring hospital) and on-going/annual training (provided by CCN team) will be provided to family and carers to maintain proficiency and prevent complications. This will include basic food hygiene principles, for example, hand washing and cleaning of the preparation area and utensils.

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Ready to use feeds are the preferred choice in preference to feeds that require decanting, reconstitution or dilution. The most appropriate feed will be prescribed for the child.

All feeds must be used within the marked expiry date.

Store ‘ready to use’ feeds in a cool, dry place out of direct sunlight. Avoid storing feeds in gardens sheds/garages and next to radiators.

Ready to use feeds may be given as a continuous feed, within a closed administration system, up to a maximum of 24 hours once opened.

Where a feed has been decanted into a feeding administration set, this should be administered with 4 hours, feeds should only be hung for a longer period of time following risk assessment and discussion with the dietician, this should all be documented in the child’s care plan.

Avoid wastage where possible; once opened, the remaining ‘ready to use’ feed should be labelled with date and time it was opened, refrigerate and dispose of after 24 hours if not used.

Reconstituted feeds should be made up with hot water of at least 70 degrees Celsius (to do this, boil the kettle and leave it to cool for no longer than 30 minutes).

Reconstituted feeds and feeds that have extra ingredients added should not be left in feeding administration set for longer than 4 hours – if feeding is required for a longer period, feed can be added freshly every 4 hours. Feeds should only be hung for a longer period of time following risk assessment and discussion with the dietician; this should all be documented in the child’s care plan.

Where the child is prescribed continuous feeding – the feeding set must be changed after 24 hours.

Certain specialised feeds may fall outside this guidance and it is important to check the individualised care plan for specific guidance. Always seek advice from the Dietitian.

Use of liquidised/blended food:

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 immunocompromised.

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, they 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/liquidized food is being considered by the family/child.
Checking position of enteral feeding devices

A naso-jejunal tube should be checked by recording the marking at the nostril and length of the jejunal tube left outside of the child’s body from the nose.

**ALWAYS** check, confirm and document the position of a nasogastric/naso-jejunal/ naso-duodenal tube following initial insertion and before administering each feed and before giving medications/flush and at least daily when not in use. If there are any difficulties in obtaining aspirate or the aspirate is above pH 5.5 from nasogastric tube refer to NPSA flow chart (Appendix 4)

The position of nasogastric/ naso-jejunal/ naso-duodenal tube must be rechecked following episodes of vomiting, retching or coughing spasms or when there is a suggestion of tube displacement. Position should also be checked if there are indications of any new or unexplained respiratory symptoms.

The position of gastrostomy/ jejunal devices must be checked if there is any evidence of dislodgement of the device. Indications of this include unusual leakage of stomach contents around site, unusual redness or swelling around site, excessive vomiting and/ or abdominal distension or pain.

Correct gastric tube position is confirmed with a gastric aspirate pH value between 1 and 5.5. **DO NOT USE THE DEVICE if pH value is above 5.5.**

N.B. Children taking antacids, H2 antagonists or proton pump inhibitors are likely to have a stomach pH greater than 5.5 in which case it may be difficult to confirm tube placement with the necessary accuracy. The need to continue this medicine should be reviewed by the prescriber against the need to feed via gastric tube. Additionally individual risk assessments on a case by case basis may be required. Careful planning of feeds and medication will be required.

Correct small bowel position (jejunum/duodenum) is confirmed with pH value 6-8.

**ALWAYS** check position of all newly inserted devices, and before and after changing a gastrostomy device to ensure the tip of the device is in the correct position.

Ensure pH strips are CE marked, and marked for Human use, stored correctly and within expiry date.

**Flushing enteral devices**

Flushes are required (after confirming the correct position of device):

- Before and after each medication administration.
- Before and after feeding.
- Daily if the enteral device not currently in use.

**During continuous feeds the tube should be flushed every 4-6 hours.**

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A pulsatile flushing action (‘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 of enteral device and promote patency of the tube.

A 20ml/50ml 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.

Freshly drawn tap water can be used for children who are receiving nasogastric or 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 immunocompromised, and babies under 6 months this includes children who require jejunal feeding or as agreed with the consultant/dietician.

The volume of flush will be advised by the Dietitian and indicated on the child’s care plan.

Volumes of flushes administered should be recorded on child’s care plan or fluid chart.

**Administration of enteral feeds**

Clean Non Touch Technique (CNTT) must be practiced throughout any procedure relating to enteral feeding.

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 Dietitian/Consultant in consultation with the child and family.

The correct volume of feed should be prepared at the beginning of the feed.

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.

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.

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 enteral feeding device should be flushed on completion of the feed as per the child’s care plan.

There are two methods of enteral feeding:

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Bolus feeding which can be given by the gravity method or feeding pump (Intermittent)

Continuous feeding using a feeding pump

Intermittent and or Bolus feeding:

Intermittent and or Bolus/gravity feeding is the administration of small frequent feeds at regular intervals. It is more physiological than continuous feeds as it stimulates a normal and enzymatic feeding response. This also enables a more ‘normal’ life for child’s family as it allows time lapse between feedings.

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.

Jejunal/Duodenal feeding:

Jejunal/ duodenal feeding are ALWAYS administered over a longer slower period of time.
### Risks assessment for continuous overnight enteral feeding

<table>
<thead>
<tr>
<th>Risk</th>
<th>Control measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aspiration of feed</td>
<td>Dietician/Consultant to identify the need for overnight feeding i.e. severe reflux, vomiting, a condition requiring a slower rate of feeding.</td>
</tr>
<tr>
<td></td>
<td>Discuss with parents the potential risks with overnight enteral feeding.</td>
</tr>
<tr>
<td>Dislodgement of feeding device</td>
<td>The child should sleep in the same room as the parents</td>
</tr>
<tr>
<td></td>
<td>Position the child at an angle of 30 degrees or more during enteral feeding.</td>
</tr>
<tr>
<td></td>
<td>Feed thickener/anti reflex medication should be prescribed if child has reflux</td>
</tr>
<tr>
<td>Strangulation/entanglement due to feed tubing</td>
<td>Child should never be left unattended if awake during the night</td>
</tr>
<tr>
<td></td>
<td>The feeding pump should be positioned at the side of the cot/bed with the administration set threaded through the bars rather than dangling over the top of the cot sides</td>
</tr>
<tr>
<td></td>
<td>The feed tubing should be threaded through the inside of the child’s pyjamas</td>
</tr>
<tr>
<td></td>
<td>Regular review should be carried out for the need for continued overnight feeding</td>
</tr>
<tr>
<td></td>
<td>Multidisciplinary Team assessment of the family’s home needs should be undertaken</td>
</tr>
</tbody>
</table>
**Oral Hygiene**

For children under 2 years mouth care should be recommended.

Tooth brushing should be performed twice daily.

If the child is not allowed oral fluids - additional oral hygiene 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.

**Administration of medications via an enteral feeding device**

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.


General guidance on administration of medicines via enteral feeding devices (Appendix 3).
Risk assessment chart for administration of medicines via an enteral device

<table>
<thead>
<tr>
<th>Risk</th>
<th>Control Measure</th>
</tr>
</thead>
</table>
| Medicines may become unlicensed when given via an enteral feeding device. Not all medicines are suitable for administration via an enteral device. | Undertake a structured medicines review  
Always refer to a Pharmacist to check that the medicine prescribed is appropriate for enteral administration  
Ensure that the Pharmacist has all the relevant information i.e. condition of the child, type of enteral feeding device, enteral feed, feeding regime and full medication list.  
Check with the Pharmacist/prescriber if the drug can be administered by any other method other than enteral device e.g. orally/topically/rectally.  
Prescribers must be informed that the medicine will be used outside the product license. |
| Drug interactions where more than one drug is prescribed             | Check with the Pharmacist if there are any interactions between drugs prescribed.  
Check with Dietician and Pharmacist how much flush needs to be given before, between and after medications.  
Be aware of fluid restriction and possible fluid overloading.          |
| Drug-patient interactions                                           | Check with a Pharmacist to ensure where the drug is absorbed and where the enteral feeding device is placed has been reviewed as this may have implications on how much of the drug is absorbed e.g. digoxin is absorbed in the stomach so should not be given via a jejunal route. The degree of clinical effect observed may be variable in this instance and the child’s condition must be monitored. |
| Drug-feed interactions                                               | Check with Dietician and Pharmacist that the drug can be given with enteral feed prescribed e.g. does the feed need to be stopped for any specific length of time before/after drug administration?  
How much flush needs to be given between feed and medication?           |
| Drug-tube interactions                                              | Check with Pharmacist how best to prepare medicine before administration e.g. does the medication need to be diluted to ensure the child receives the correct dose of medication? |
| Some medicines e.g. Baclofen, if not administered correctly may bind to the inner lumen of the tube which reduces amount of drug absorbed. | Use a pulsatile flushing action when flushing enteral device as it creates turbulence in the lumen of tube, removing debris and build-up of feed and medication.  
Ensure flushing with the recommended amount and type of water before/after each medication and feed.  
Will the drug likelihood of blockages e.g. medicines maybe thick in consistency or prepared from granular |
| Error in medication administration. | Check that the route of administration is clearly written on the medicine chart  
Ensure that the person administering the medicine is aware of the function of the enteral device i.e. DO NOT administer medicines via enteral devices that are used for aspiration or that are on free drainage  
Check type of enteral device. Some enteral feeding devices have two lumens to enable simultaneous gastric aspiration and jejunal feeding. Ensure that the correct dedicated lumen is used for administration of medicines  
Always check position of the enteral feeding device and do not use if there are concerns  
Nasogastric tubes should always have an aspirate of 5.5 or below before flush/medicines are administrated (see page ?? for further advice)  
Ensure an enteral syringe is used to measure the amount and dose of medicine. These are purple and marked for enteral use.  
Use the appropriate size of enteral syringe to accurately measure the dose prescribed.  
Independently double check any dose calculations to ensure the correct dose is given, for example when calculating the volume of liquid to be given for a particular dose. |
|---|---|

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### TROUBLE SHOOTING GUIDE FOR ENTERAL DEVICES

<table>
<thead>
<tr>
<th>PROBLEM</th>
<th>ACTION</th>
<th>RATIONALE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dislodgement of stoma enteral device due to:</td>
<td>Replace a new enteral device immediately if training has been provided.</td>
<td>Stoma opening may close quickly.</td>
</tr>
<tr>
<td>Accidental dislodgement</td>
<td>If not or unable to insert new enteral device – cover stoma with clean gauze and tape and go to hospital immediately</td>
<td>To keep stoma site clean.</td>
</tr>
<tr>
<td>Tube damaged/perished</td>
<td>Replace a new enteral device immediately.</td>
<td></td>
</tr>
<tr>
<td>Balloon type devices – the balloon has deflated or burst</td>
<td>If device is less than 4 weeks from the initial formation of stoma – ensure the position of confirmed in hospital.</td>
<td>Stoma tract is newly formed and there is a risk of misplacement of new device into peritoneum</td>
</tr>
<tr>
<td>Dislodgement of gastrojejunostomy device</td>
<td>If device is more than 4 weeks from the initial formation of the stoma; insert new device and check position by aspirating gastric contents to confirm the position</td>
<td>Any newly replaced device must have position confirmed in case of misplacement</td>
</tr>
<tr>
<td></td>
<td>If difficulty is experienced when inserting the new device, stop and cover the stoma site with gauze and tape – contact the hospital immediately for further advice</td>
<td>To avoid damage to stoma site</td>
</tr>
<tr>
<td></td>
<td>If no replacement device is readily available, cover the stoma site with gauze and tape – to to nearest hospital for further management</td>
<td></td>
</tr>
<tr>
<td></td>
<td>If dislodgement has caused trauma to stoma site – replace the device as trained and the child/young person MUST be brought to local hospital to have replacement device position checked. Keep dislodged device for inspection</td>
<td>If stoma tract is damaged there is a risk of feed leaking into abdomen causing peritonitis</td>
</tr>
<tr>
<td></td>
<td>Go immediately to hospital for replacement – cover stoma site with gauze and tape</td>
<td>To ensure the enteral device is complete</td>
</tr>
</tbody>
</table>

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CLPg006a Enteral Feeding Guidelines infant, child or young person (rev 27.04.2020)
<table>
<thead>
<tr>
<th>2</th>
<th>PROBLEM</th>
<th>ACTION</th>
<th>RATIONALE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Suspected infection of the stoma site</td>
<td>Identify possible cause and manage appropriately</td>
<td>To avoid further infections</td>
</tr>
<tr>
<td>Possible causes:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contamination of the tube/insertion site (e.g. poor hand hygiene)</td>
<td>Assess the child’s general condition and seek medical advice if indicated</td>
<td>To identify systemic infection</td>
<td></td>
</tr>
<tr>
<td>Child scratching site</td>
<td>Obtain a swab of exudate from the stoma site for organisms and sensitivity</td>
<td>To ensure effective treatment</td>
<td></td>
</tr>
<tr>
<td>Stoma leakage causing damage to surrounding skin</td>
<td>If an external fixator is present – check its position and adjust if necessary as per training</td>
<td>To ensure the fixation device is not too loose causing unnecessary movement or too tight causing pressure damage</td>
<td></td>
</tr>
<tr>
<td>Child is immune-compromised</td>
<td>Continue cleaning the stoma site as per training – the type of dressing will depend on condition of the wound</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Over-granulation tissue</td>
<td>Identity cause and advise parent accordingly, dressing maybe needed to help treat overgranulation refer to CCN</td>
<td>Correct underlying cause of over-granulation</td>
</tr>
<tr>
<td>Possible causes:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trauma from friction around the tube</td>
<td>Ensure the external fixator is positioned as per training</td>
<td>Minimize further development of granulation tissue by unnecessary movement of device and tubing</td>
<td></td>
</tr>
<tr>
<td>Poorly fitted tube</td>
<td>If a low profile device is sued – ensure the device fits correctly in the stoma tract and has minimal movement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Excess moisture</td>
<td>If a tube device is being used ensure the tube is looped and taped securely and positioned above the stoma – alternate the position of tube following each feed to prevent granulation – do not tape the device until formation of a stoma tract</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infection</td>
<td>If overgranulation tissue is exudating – obtain swab for organisms and sensitively if associated signs of infection</td>
<td>To identify cause of infection and treatment</td>
<td></td>
</tr>
<tr>
<td>Reaction to foreign body e.g. allergy or hypersensitivity to enteral device</td>
<td>Continue on going stoma site management as per training</td>
<td>To prevent further infections and complications</td>
<td></td>
</tr>
<tr>
<td>PROBLEM</td>
<td>ACTION</td>
<td>RATIONALE</td>
<td></td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Leakage at the stoma site after initial 72 hours post operatively</td>
<td>Identify and manage any underlying cause</td>
<td>To prevent any further leakage and further complications. Gastric contents are acidic which can irritate outer abdominal skin</td>
<td></td>
</tr>
<tr>
<td>Possible causes:</td>
<td>Test leakage for pH to determine if it is gastric contents</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stoma site stretched by the tube being pulled</td>
<td>Use a barrier film around the stoma site</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Occlusion within tube</td>
<td>If the enteral device has an internal bumper/flange – readjust to ensure its position as per training</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Buried bumper</td>
<td>Balloon type device – check the water in balloon is the recommended amount</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tube migration due to peristalsis</td>
<td>Avoid the device tubing being pulled accidently. Check the position of device</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increased intra-abdominal pressure due to excessive coughing, or straining at stool</td>
<td>Treat any excessive coughing spasms/constipation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Damage to the tube</td>
<td>Do not clamp the tube when not in use. If there are any signs of tube damage – contact CCN</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Balloon deflation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The rate of feed is delivered too fast</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Delayed gastric emptying</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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CLPg006a Enteral Feeding Guidelines infant, child or young person (rev 27.04.2020)
<table>
<thead>
<tr>
<th>5</th>
<th>PROBLEM</th>
<th>ACTION</th>
<th>RATIONALE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Buried bumper</td>
<td>Seek advice from CCN Team if there are any signs of:</td>
<td>Early detection of a possible buried bumper can avoid serious complications such as peritonitis</td>
</tr>
<tr>
<td></td>
<td>Possible causes:</td>
<td>Inability to infuse feeds with pump alarming</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Excessive tension between the inner and outer flange of the device</td>
<td>Abdominal Pain</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Non-compliance with care plan</td>
<td>Pertubular leakage, leakage around tube</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Stoma infection</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Inability to advance the internal bumper/flange and rotate device 360 degrees</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>6</th>
<th>PROBLEM</th>
<th>ACTION</th>
<th>RATIONALE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Blockage of enteral device</td>
<td>Identify and manage the cause of blockage</td>
<td>To prevent further blockages occurring</td>
</tr>
<tr>
<td></td>
<td>Possible causes:</td>
<td>Ensure compliance and technique of enteral device management with regards to flushing the device and medication administration – review if identified</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Non-compliance with care plan</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Medications</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Buried bumper</td>
<td>Flush with warm water, using a 50ml syringe with a push/pause technique</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>NB Do not use cola, lemon or pineapple juice</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Massage the tubing between the fingers and thump to help release the blockage</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>If unable to release the blockage, consider replacing with a new device as per training</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>If device is unsuitable for replacement contact the local hospital for further management</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

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<table>
<thead>
<tr>
<th>PROBLEM</th>
<th>ACTION</th>
<th>RATIONALE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nausea, bloating, vomiting</td>
<td>Check the child’s clinical condition</td>
<td>To ensure child is not acutely unwell</td>
</tr>
<tr>
<td></td>
<td>Check if the child is constipated – if so the child may require a</td>
<td>Constipation can cause symptoms of nausea and vomiting</td>
</tr>
<tr>
<td></td>
<td>change in diet/medications</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Review timing of medication and enteral feed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Discuss with the Dietician re rate of feed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>If the child with a jejunal device is vomiting milk feeds – check</td>
<td></td>
</tr>
<tr>
<td></td>
<td>position of device</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Consider slow gastric emptying</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Seek professional advice</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>To ensure child is not acutely unwell</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Constipation can cause symptoms of nausea and vomiting</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Child not able to tolerate amount of medications and enteral feed at</td>
<td></td>
</tr>
<tr>
<td></td>
<td>the same time</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Feed administered too quickly may cause nausea and vomiting</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Device may have become displaced</td>
<td></td>
</tr>
<tr>
<td>Diarrhoea</td>
<td>Obtain a stool sample for organism and sensitivity and virology if</td>
<td>Gastrointestinal infection may cause diarrhoea</td>
</tr>
<tr>
<td></td>
<td>appropriate</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Discuss with the dietician as they feed may need to be reviewed</td>
<td>Child could have feed intolerance</td>
</tr>
<tr>
<td></td>
<td>Review child’s medications</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Seek professional advice</td>
<td>Possible side effect of medication</td>
</tr>
<tr>
<td></td>
<td>Parental education re-managing diarrhoea and vomiting as part of</td>
<td></td>
</tr>
<tr>
<td></td>
<td>discharge plan</td>
<td></td>
</tr>
<tr>
<td>Constipation</td>
<td>Discuss with the Dietician with regards to the feed and amount of</td>
<td>Child may have feed intolerance, dehydration</td>
</tr>
<tr>
<td></td>
<td>flush</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Review medicines</td>
<td>Possible side effects to medication</td>
</tr>
<tr>
<td></td>
<td>Child may require medication</td>
<td>Relieve constipation</td>
</tr>
</tbody>
</table>
Training requirements associated with this Guideline

Enteral Device Essentials

In the interest of patient safety and professional liability, manufacturers’ recommendations and multi professional codes of practice such as the NMC code for nursing and the HCPC for Dieticians must be followed. Everyone involved in enteral feeding should receive initial training to obtain competencies and annual on-going training to maintain competencies. Records should document competencies achieved based on regional guidelines. (NPSA 2011) (Appendix 1 and 2)

The risk of complications developing can be reduced by adhering to guidance provided regarding management of the enteral device and stoma site, and being able to observe and recognise any arising complications.4

Before accessing an enteral feeding device it is essential the following is known:

Reason(s) for the enteral device e.g. feeding, medicines, aspiration, venting,5

When, where and how was the enteral device inserted

How the device is secured e.g. anchoring sutures

The type/size of enteral device used and how it is retained?

Where the tip of the enteral device is situated – stomach/small intestine

This information should be included in the individualised care plan for the child within the community setting (Appendix 1).

Discharging a child from hospital to home following insertion of an enteral feeding device

Parents/ carers should be enabled to be involved in the management of the child’s enteral feeding device as soon as possible following insertion. Where possible, the child should be empowered by staff and family, to contribute to the management of their enteral feeding.

The Child’s Community Nursing Team should be contacted as soon as the child has been identified as requiring enteral feeding support within the community.

If a child is discharged within 72 hours of gastrostomy insertion- a ‘red flag’ alert advice label is to be included in child’s hospital notes and discharge information and, parents/ carers should be instructed to STOP feeding and seek urgent medical advice immediately if the child experiences the following:

Pain on feeding

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Prolonged or severe pain post-procedure or Fresh bleeding

External leakage of gastric contents6 (Appendix 2)

The discharge checklist should be completed before the child’s discharge and copied to the CCN Team (Appendix 1).

The CCN Service should contact the family following discharge and arrange a home visit.

**Competency Based Training**

Before discharge, parents/ carers should ideally be trained and deemed competent in all aspects of their child’s enteral feeding device and feeding regimen. A record of competencies must be forwarded to the relevant Community Team and risk assessment (for Nasogastric tubes, (NPSA 2011)). An update of this training should be offered annually within the community setting and at any stage when there has been a change in the child’s enteral device and/or feeding regimen.

The training delivered to parents/ carers should be provided by a registered professional who is competent in all aspects of enteral tube feeding.

The training of parents/ carers should include:

Minimising the control and risk of infection e.g. hand washing, cleaning of equipment and food safety awareness.

Type, make and size of the enteral device

General management of the enteral device including:

Checking position.

Flushing.

Administration of feeds/fluids / medicines.

On-going care of stoma site.

Trouble shooting guidance, including the accidental dislodgement of device.

**Infection Prevention and Control in Enteral Feeding**

There are associated infection risks with enteral feeding due to potential contamination during feeding preparation and administration.

Aseptic Non-Touch Technique (ANTT) principles should be applied when preparing feeds and throughout the duration of enteral feeding.

Effective hand decontamination by the person preparing and administering the enteral feed should be adhered to. (Appendix 3)

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Personal protective equipment such as gloves and aprons should be used by Healthcare workers.

In order to minimise infection, all aspects of care relating to enteral feeding must be taught to parents/carers before the child is discharged from hospital.

Instructions regarding cleaning of reusable syringes, extension sets and feeding pump are to be discussed and provided to family.

All disposable items should be bagged and placed in the household bin. Enteral syringes cannot be put into the household recycling bin.

All children with an enteral feeding device who are commenced on enteral feeding require regular monitoring of their height and weight. This will ensure their growth can be monitored it is essential the team around the child have clearly identified who will be responsible for providing this information.

**How this Guideline will be monitored for compliance and effectiveness**

Audit as part of Team audit program

**For further information**

Contact the CCN to discuss.

North Northamptonshire
Katrina Allen – 01536 452232

South Northamptonshire
Amanda Perkins - 01604 523896

**Equality considerations**

The Trust has a duty under the Equality Act and the Public Sector Equality Duty to assess the impact of Policy changes for different groups within the community. In particular, the Trust is required to assess the impact (both positive and negative) for a number of ‘protected characteristics’ including:

- Age; This guideline will cover Children and Young People aged 0-19 transition to adult services will be supported by the CCN team from age 16 upwards.

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• Disability; Covered by guideline
• Gender reassignment; Covered by guideline
• Marriage and civil partnership; Not applicable
• Race; Covered by guideline
• Religion or belief; Covered by guideline
• Sexual orientation; Covered by guideline
• Pregnancy and maternity; not applicable
• Other excluded groups and/or those with multiple and social deprivation (for example carers, transient communities, ex-offenders, asylum seekers, sex-workers and homeless people). Covered by guideline

The author has taken into consideration the impact on these groups of the adoption of this guideline.

Reference Guide

# Appendix 1

## Nasogastric Tube Competency

**STATEMENTS OF COMPETENCY FOR NASO-GASTRIC TUBE FEEDING AND TUBE INSERTION**

<table>
<thead>
<tr>
<th>NAME:</th>
<th>TEAM:</th>
<th>QUALIFICATION:</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASSESSORS NAME:</td>
<td>BAND:</td>
<td>START DATE:</td>
</tr>
</tbody>
</table>

**DEMONSTRATE APPROPRIATE ATTITUDE, KNOWLEDGE AND SKILLS IN RELATION TO ASSESSMENT AND MANAGEMENT**

<table>
<thead>
<tr>
<th>COMPETENCE</th>
<th>TAUGHT DATE</th>
<th>WORK BOOK COMPLETE</th>
<th>PRACTICED DATE</th>
<th>COMPETENCE ACHIEVED</th>
<th>REVIEW DATE</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Can explain what a nasogastric tube is and reasons why individuals may require to be fed via bolus or pump</td>
<td></td>
<td>DATE:</td>
<td>DATE:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Can describe the different types of nasogastric tubes</td>
<td></td>
<td>DATE:</td>
<td>DATE:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Has an understanding of the anatomy and physiology of the gastrointestinal system</td>
<td></td>
<td>DATE:</td>
<td>DATE:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gathers the correct equipment to carry out feed procedure and ensures that equipment is suitable for intended purpose</td>
<td></td>
<td>DATE:</td>
<td>DATE:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Appropriately prepares the environment</td>
<td></td>
<td>DATE:</td>
<td>DATE:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Follows the correct procedure (NPSA) to check the tube placement every time it is accessed</td>
<td></td>
<td>DATE:</td>
<td>DATE:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Follows the correct procedure to administer feed/water</td>
<td></td>
<td>DATE:</td>
<td>DATE:</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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CLPg006a Enteral Feeding Guidelines infant, child or young person (rev 27.04.2020)
<table>
<thead>
<tr>
<th>Activity</th>
<th>DATE:</th>
<th>DATE:</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) via bolus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) via pump</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) to administer medication</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disposes of waste</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carries out hand hygiene</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Makes accurate records</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Can demonstrate the correct procedure to insert a nasogastric tube</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Can demonstrate what they need to know before they can access the nasogastric tube</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Can identify safety issues relating to PH testing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Can demonstrate safe troubleshooting when there is no aspirate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Can demonstrate knowledge of possible adverse effects of administering feeds water via bolus and who to report to</td>
<td>DATE:</td>
<td>DATE:</td>
</tr>
<tr>
<td>Can demonstrate knowledge of possible adverse effects of administering feed/water via pump and who to report to</td>
<td>DATE:</td>
<td></td>
</tr>
</tbody>
</table>

Record potentially how often the candidate will carry out this competency: Please Circle daily
KNOWLEDGE AND SKILLS GUIDELINES ON USING A BOLUS/PUMP VIA ENTERAL FEEDING

1. What is a naso-gasotric tube (NGT) and why individuals need it?

A NGT is a thin plastic tube that goes up a child nostril down the back of their throat into the oesophagus into their stomach. They can be used short term or long term.

Children with feeding difficulties can benefit from a NGT. There are many reasons why someone might have feeding difficulties including:

- Neurological disorders (nervous system)
- Gastrointestinal disorders
- Oncological disorders (tumours)
- Clinical conditions (i.e. Crohn's)
- Some people have difficulty in swallowing which increases the chance that they will breathe in food/drink (aspirate)
- An upcoming treatment that is known to cause difficulties eating and drinking
- Children failing to gain weight
- After surgery to drain stomach contents

2. What are the different types of naso-gastric tubes?

- There are wide bore (Ryles) tubes for drainage
- There are fine bore used for enteral feeding
- All these tubes come in different lengths and diameters
- Different makes will be kept in for anything from 7 days to 3 months
- Some tubes may have a double lumen

3. Anatomy and Physiology of Gastrointestinal System
4a. Equipment for bolus feeds

- Tray
- Disposable gloves and apron
- Bolus giving set – parents to provide
- Syringe
- Water
- Human aspirate pH test strips

4b. Equipment for pump feed

- Disposable gloves and apron
- Syringe
- Water
- Pump
- Giving Set
- Feed as prescribed in care plan

5 Prepare and position child

- Explain procedure in language appropriate to age and ability of child/young person
- Gain consent
- Ensure they are in a comfortable position

6 Prepare the environment

- Ensure that the young person is in an area where they feel comfortable having their feed
- Ensure privacy and dignity is maintained
### 7a Follow correct instructions to test NGT and give feed by bolus

**Hand hygiene**  
Ensure feed/water is prepared following manufactures instructions and care plan  
If the feed has been in the fridge ensure it is at room temperature  
Check feed against care plan and check expiry date  
Follow National Safety Agency (NPSA) decision tree for NGT placement checks

**EVERY TIME THE TUBE IS ACCESSED**  
On following the NPSA decision tree if aspirate is between 1 and 5 proceed to feed. Should aspirate present between 5 and 6.0 seek second checker. **DO NOT FEED if PH exceeds acceptable levels**

To feed prime the bolus feed with water  
Attach bolus feed set to NGT  
Release the clamps  
Poor feed slowly into feed set (volume in care plan)  
Keep bolus feed set topped up  
Adjust the rate of the feed by adjusting the height of the feed set. The time set for the feed to be administered will be in the care plan.  
When the feed is completed clamp, add water flush, and release clamp  
When water is complete, clamp.  
Disconnect feed set and wash all feeding equipment in hot soapy water and rinse well. Leave to air dry  
Feeding equipment to be replaced as per manufactures guidelines  
Any unused feed can be stored in fridge if it is sealed named and date/time of opening  
All feed should be discarded after 24 hours.

**Hand hygiene as per policy**  
Document feed

### 7b Follow correct instructions to test NGT and give feed from pump

**Hand hygiene**  
Ensure feed and water is prepared following manufactures instructions and care plan  
Check expiry dates and quantity  
If it has been in fridge ensure it is at room temperature  
Open a feed giving set  
Open a feed container  
Decant feed into a container  
Connect container with feed to giving set  
Mount the container onto stand or bag  
Insert giving set into feed pump as per manufactures guidelines  
Switch pump on and allow it to complete safety checks  
Prime giving set with pump as per manufacturer's instructions  
Set the administration rate and dose limit as per care plan  
Ensure the volume is at zero  
Follow National Safety Agency (NPSA) decision tree for NGT placement checks

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CLPg006a Enteral Feeding Guidelines infant, child or young person (rev 27.04.2020)
EVERY TIME THE TUBE IS ACCESSED
On following the NPSA decision tree if aspirate is between 1 and 5 proceed to feed. Should aspirate present between 5 and 6.0 seek second checker. **DO NOT FEED if PH exceeds acceptable levels**
Attach giving set to NGT
Commence feed
Dispose of any equipment that is no longer required
Hand hygiene
Document time of feed
If pump alarms before the end of feed follow training on troubleshooting on the Flowcare infinity website
Once feed has finished switch off pump
Hand hygiene
Gloves and apron
Clamp the tube. Flush NGT with water and close NGT
Dispose of all waste
Hand hygiene
Document

8 Possible adverse effects of feeds via NGT
NGT may become less secure and may move leading to feeds being aspirated into the lungs. **DO NOT FEED.**
NGT may be pulled out/removed by child/young person.
NGT maybe blocked – a new tube may will need to be passed
NGT may damage the skin on the face – suitable protection could be used like duoderm.
Risk that the tube may be incorrectly placed. Follow NPSA alert.

9 Prior to passing the Nasogastric tube
Ensure the child and parent/carer is prepared as appropriate for age/ability using books and DVD teaching materials.
Ideally fast child for a minimum of 2 hours.
Gather the appropriate equipment
Ensure you have the correct tube, size in French Gauge and externally visible length in cm every tube must have gradients along it so it can be observed at the nose it must be radio opaque
Check the manufacturer’s instructions.
Sterile water
20mls syringe
Appropriate tapes to secure the tube
Gloves
Apron
And something for the child to suck like a dummy.

10 To pass the nasogastric tube

Ensure the child is in a suitable position for a young child swaddling them in a blanket may help.

Wash hands as per local policy and apply apron and gloves.
Use a new tube each time you need to pass a nasogastric tube.
Identify which nostril you are going to use (alternate between each nostril if it is a repeat insertion)
Measure the tube if you do not have a documented measure, to measure go from ear to nose and nose to xiphisternum. Ensure this measurement forms part of your care plan.

Lubricate the Tip with Water only if required.
Insert the nasogastric tube up the chosen nostril
Advance the tube gradually encouraging the child to swallow if possible.
If the child becomes breathless remove the tube.
If you feel resistance try to insert via the other nostril.
When the tube is at the correct measurement at the nose secure the tube.
Test the tube using the NPSA decision tree.
Remove guidewire as per manufacturer’s instructions IF YOU ARE SATISFIED IT IS IN THE CORRECT POSITION.
Document in the child’s notes and careplan which tube has been length and French gauge used when it is due to be changed, also what ph recording was.

11 Care plan should include:
- Reason for the enteral device - ie feeding medication..
- When the tube was inserted
- How it is secured
- The tip of the device at the nostril and how much tube there is from the nose to end of the tube.
- Details of feeds and flushes and any special instructions for medications (some may require diluting prior to administration)

12 If the child is retching
Test the tube prior to each access or if the child has excessive coughing, retching or vomiting retest the tube.

13 DO NOT
- Put water down the tube before insertion
- Lubricate with ky jelly
- Preform the whoosh/bubble test this does not confirm the place of the tube
- Test with blue litmus paper it is not sensitive enough
- Interpret the absence of respiratory distress or the appearance of
aspirate as confirmation that the tube is in the correct place.

14 TESTING
The only safe ways of testing a Nasogastric tube placement are NPSA decision tree and xray.
Always follow the NPSA testing decision tree.
Always document each test and result.
Always document any failed tests.
PH paper is CE marked for use on human aspirate.

References

O’Kane C. 2015. Guidelines for caring for an infant, child, or young person who requires enteral feeding.
NHS improvement 2016 Resource set Initial placement checks for nasogastric and orogastric tubes.
Decision tree for nasogastric tube placement checks in **CHILDREN** and **INFANTS** (NOT NEONATES)

- Estimate NEX measurement (Place exit port of tube at tip of nose. Extend tube to earlobe, and then to xiphisternum)
- Insert fully radio-opaque nasogastric tube for feeding (follow manufacturer's instructions for insertion)
- Confirm and document secured NEX measurement
- Aspirate with a syringe using gentle suction

**Aspirate obtained?**

**NO**

Try each of these techniques to help gain aspirate:
- If possible, turn child/infant onto left side
- Inject 1-5ml air into the tube using a syringe
- Wait for 15-30 minutes before aspirating again
- Advance or withdraw tube by 1-2cm
- Give mouth care to patients who are nil by mouth (stimulates gastric secretion of acid)
- Do not use water to flush

**Test aspirate on CE marked pH indicator paper for use on human gastric aspirate**

**pH between 1 and 6.5**

**YES**

**Aspirate obtained?**

**NO**

**pH NOT between 1 and 6.5**

**NO**

**PROCEED TO FEED or USE TUBE**

- Record result in notes and subsequently on bedside documentation before each feed/medication/flush.

**YES**

**Competent clinician (with evidence of training) to document confirmation of nasogastric tube position in stomach**

**NO**

**DO NOT FEED or USE TUBE**

Consider re-siting tube or call for senior advice

A pH of between 1 and 5.5 is reliable confirmation that the tube is not in the lung, however it does not confirm gastric placement as there is a small chance the tube tip may sit in the oesophagus where it carries a higher risk of aspiration. If this is any concern, the patient should proceed to x-ray in order to confirm tube position.

Where pH readings fall between 5 and 6 it is recommended that a second competent person checks the reading or retests.

www.rpsa.nhs.uk/alerts
Naso-Gastric work book

Nurse to understand reason for naso-gastric feeding tube

Please label diagram below

List the functions of the areas you have labelled

a) ..........................................................................................................

b) ..........................................................................................................

c) ..........................................................................................................

d) ..........................................................................................................

e) ..........................................................................................................

f) ..........................................................................................................

g) ..........................................................................................................

h) ..........................................................................................................

What is a naso-gastric tube?
....................................................................................................................
....................................................................................................................

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Who decides when a child / young person requires enteral feeding?
Doctor    Nurse    Dietician    Parents

List 5 ways you think naso-gastric feeds will impact on the family?
a)....................................................................................................
b)....................................................................................................
c)....................................................................................................
d)....................................................................................................
e)....................................................................................................

List 5 things you need to check prior to every feed
a)............................................................................................
b)................................................................................
c) ......................................................................................
d) ......................................................................................
e) ......................................................................................

Prior to feeding what check is essential to the individual’s safety?
...........................................................................................................

How do you do this check?
...........................................................................................................

What equipment do you need to do this check?
...........................................................................................................

What should you do if you do not get the required result?
...........................................................................................................

Who would you contact?
...........................................................................................................

What must you not do?
...........................................................................................................

Can you change the tube?
Yes    No
Describe what position is should be fed in

List 3 reasons why acid reactions may not be obtained?
a)
b)
c)

What must the Ph paper read for it to be safe to feed?

What instructions should you follow if you don’t get any aspiration?

List 3 things you would record if you could not get an appropriate reaction?
a)
b)
c)

Where would you record it?

Would you record who you reported it to?
Yes   No

List all equipment you will require for naso-gastric feed for the individual

What is a flush?

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Does the individual have a flush
Before feed  After feed  Both
(please underline)

What must be observed very closely?

What are you looking for?

Who would report problems to?
Parents  CCN  Team Leader

What are potential hazards of naso-gastric feeds?

How can we prevent these problems?

If you cannot aspirate tube what might that lead you to suspect?
a) .................................................................
b) .................................................................
c) .................................................................

What should you do?
a) .................................................................
b) .................................................................
c) .................................................................

What would you do if tube becomes dislodged or you suspected if was dislodged?

List 3 ways that might lead you to suspect the tube was dislodged
a) .................................................................
b) .................................................................
c) .................................................................
What would you do if the child develops vomiting?

What would you do if the child develops abdominal pain?

a) .................................................................
b) .................................................................

Who can you call for advice? (in order please)
Parents ..........
CCN. ..........
Ward ........

Carer to show awareness of importance of record keeping

Questionnaire assessed by ________________________________ print

I certify I am currently registered with the NMC__________________ sign
Assessor

NB. Your responses to the questions in this document are used to assist in the assessment of your competency to undertake the particular procedures detailed in the accompanying competency document and satisfactory completion of this document is only part of the overall competency assessment. You may NOT carry out child or young persons care independently until the competency document has been signed by your assessor evidencing your competence, yourself, and your employer if you are a non NHS Trainee.
CHILD SPECIFIC WORKSHEET

NASO GASTRIC TUBE FEEDING

<table>
<thead>
<tr>
<th>NAME OF CHILD:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>DATE OF BIRTH:</td>
<td></td>
</tr>
<tr>
<td>DATE CREATED:</td>
<td></td>
</tr>
</tbody>
</table>

Before caring for a child with a naso gastric tube you will require a careplan, competency and child specific work sheet.

It has been recognised that the above individual requires enteral feeds. This individual has an infinity pump allocated to them or they will be bolus fed.

The individual’s care plan will identify a feeding regime.

**Parental responsibility**

To send equipment and enteral feeds into school
Ensure equipment is in date and fit for purpose and labelled with the child’s name

**Trouble Shooting**

If the pump stops working follow the instructions on the pump
Ensure there are no kinks in the tubing
Ensure all gate clips are open
Check for blockages; - reprime giving set
Flush naso gastric tube
## Appendix 2

### Gastrostomy Tube Competency

#### STATEMENTS OF COMPETENCY FOR BOLUS/PUMP VIA GASTROSTOMY

<table>
<thead>
<tr>
<th>NAME:</th>
<th>SCHOOL:</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASSESORS NAME:</td>
<td>BAND:</td>
</tr>
<tr>
<td></td>
<td>START DATE:</td>
</tr>
</tbody>
</table>

### DEMONSTRATE APPROPRIATE ATTITUDE, KNOWLEDGE AND SKILLS IN RELATION TO ASSESSMENT AND MANAGEMENT

<table>
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<th>PRACTICED DATE</th>
<th>COMPETENCE ACHIEVED DATE</th>
<th>REVIEW DATE</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Can explain what a gastrostomy is and reasons why individuals may require to be fed via bolus/pump</td>
<td></td>
<td></td>
<td>DATE:</td>
<td>DATE:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Can describe the different types of gastrostomy</td>
<td></td>
<td></td>
<td>DATE:</td>
<td>DATE:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>What is a jejunostomy and why might people require one</td>
<td></td>
<td></td>
<td>DATE:</td>
<td>DATE:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Has an understanding of the anatomy and physiology of the gastrointestinal system</td>
<td></td>
<td></td>
<td>DATE:</td>
<td>DATE:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gathers the correct equipment to carry out the procedure and ensures that equipment is suitable for its intended purpose</td>
<td></td>
<td></td>
<td>DATE:</td>
<td>DATE:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prepares and positions the individual appropriately</td>
<td></td>
<td></td>
<td>DATE:</td>
<td>DATE:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Appropriately prepares the environment. Privacy and dignity</td>
<td></td>
<td></td>
<td>DATE:</td>
<td>DATE:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Follow the correct procedure to administer feed/water via bolus</td>
<td></td>
<td></td>
<td>DATE:</td>
<td>DATE:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Follows the correct procedure to administer feed/water via pump</td>
<td></td>
<td></td>
<td>DATE:</td>
<td>DATE:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Follows correct procedure to administer medications</td>
<td></td>
<td></td>
<td>DATE:</td>
<td>DATE:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disposes of waste following health and safety policy</td>
<td></td>
<td></td>
<td>DATE:</td>
<td>DATE:</td>
<td></td>
<td></td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Competency</th>
<th>Date 1</th>
<th>Date 2</th>
<th>Date 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carries out hand hygiene</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accurately records the procedure in the individual's records</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Can demonstrate knowledge of possible adverse effects of administering feed/water via bolus and who to report these to</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Can demonstrate knowledge of possible adverse effects of administering feed/water by pump and who to report these to</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Record potentially how often the candidate will carry out this competency: Please Circle daily.
1. What is a gastrostomy and why individuals require one.

A gastrostomy is a surgical opening through the abdomen into the stomach. A feeding device is inserted through the opening into the stomach allowing individual to be fed directly to the stomach bypassing the mouth, throat and oesophagus.

People who have difficulties feeding can benefit from a gastrostomy. There are many reasons why someone might have difficulties feeding, including:

- Neurological (nervous system) disorders
- Gastrointestinal (digestive system) disorders.
- Oncological disorders (tumours)
- Clinical conditions (Crohn's disease)
- Some people have difficulty swallowing, which increases the chance that they will breathe in food (aspirate).
- An upcoming treatment that is known to cause difficulties with eating or drinking.
- Low weight infants and neonates

2. What are the different types of gastrostomy

PEG (percutaneous endoscopic gastrostomy)

- A flexible tube.
- Passed down the throat into the stomach.
- The end of the tube is brought out through a small incision in the abdomen.
- Held in place using a disk inside the stomach and external fixation device.
- Removed using an endoscope.
- Needs to be inserted, rotated and withdrawn to prevent Buried Bumper Syndrome.
Balloon type device tube or button

- A Gastrostomy tube or a button.
- The tube can stay in place for 3 months and the button for about 6 months to one year.
- Feeding adaptors may need to be attached to each.
- Removed by deflating the balloon.

Mic-key button

Malecot tube

- A flexible tube
- Inserted through an incision into the abdomen.
- Usually a temporary device, then replaced by a balloon device.
- Held in place using wide wings.
- May be temporarily stitched to the skin.
- Secured with tape and position tested before each feed.
3. What is a jejunostomy and why might individuals require one?

**Jejunostomy**
A jejunostomy is a feeding tube that is placed through the abdomen wall directly into the small intestine. Jejunostomy is a safe and effective way of giving people liquid nutrition, fluid or meds in a way that has to bypass the stomach.

People require a jejunostomy to bypass the stomach because they may be experiencing reflux, where there is a backflow of food from your stomach into your food pipe which may lead to problems with the lungs or chest. People who have pancreatic disease may require a jejunostomy.
4. **Anatomy and physiology of the gastrointestinal system.**

The gastro-intestinal system is essentially a long tube running right through the body, with specialized sections that are capable of digesting material put in at the top end and extracting any useful components from it, then expelling the waste products at the bottom end. The whole system is under hormonal control, with the presence of food in the mouth triggering off a cascade of hormonal actions; when there is food in the stomach, different hormones activate acid secretion, increased gut motility, enzyme release etc. etc.
5a. Equipment needed for bolus procedure.

- Tray/ trolley
- Disposable gloves and apron
- Feed/ water as per drug card
- Bolus giving set (appropriate to type of gastrostomy tube)
- Mic-key extension
- Water for flush (as per drug card/ care plan)

5b. Equipment needed for pump procedure

- Extension set (appropriate to type of gastrostomy tube)
- Water as per drug card (tap water)
- Feed (as per drug card)
- Disposable gloves and apron
- Tray/trolley
- Feed pump
- Giving set for feed pump

For assistance on how to use the pump refer to flocare infinity pump training tool, which can be found at: http://www.nutriciaflocare.com/pumptrain.php

6. Prepare and position individual.

Explain the procedure in language appropriate to the age and level of understanding of the individual. This will help prepare the person and minimise distress.
Gain consent for the procedure.
Ensure the individual is in a

7. Prepare the environment.

Ensure that the person is in an area where they feel comfortable having their feed (give them the choice if they are able to do so).
Ensure that privacy and dignity is maintained throughout the procedure.

8a. Follow the correct procedure to administer feed/ water via bolus.

- Carry out hand hygiene in accordance with School infection control policy.
- Prepare feed: if using a formula that’s ready to use, follow manufacturers and the service users care plan.
- If using a powdered formula, prepare and store in the refrigerator (follow manufacturers advice)
- Ensure feed is at room temperature
- Check feed type and quantity against patients regimen / drug chart
- Check expiry date of all products.
- Flush the tube according to the clients care plan with water using syringe with plunger in situ prior to commencing bolus feed
- Prime the bolus feeding set/60ml syringe with water (10-30mls depending on the size of the service user, using sterile water for jejunostomy)
- Attach bolus feeding set/60ml syringe to gastrostomy feeding port – use appropriate extension set as indicated. Ensure all clamps and clips are in the closed position.
- Release the clips and clamps and administer water via gastrostomy slowly.
- Slowly pour feed into bolus feeding set/60ml syringe as per dietician regime.
- Keep feeding set/syringe topped up.
- Adjust feeding rate by raising or lowering the feeding set/syringe. The feed will be at a set rate for the individual depending on tolerance and the type of feed being administered. Keep the set/syringe in line with the oesophagus.
- When feed has completed. Flush the tube according to the clients care plan with water using syringe with plunger in situ.
- Clamp tube and disconnect feeding set. Wash all feeding equipment with hot soapy water and rinse well. Dry and store in an airtight container.
- Feeding equipment should be replaced as per manufacturer’s guidelines.
- Store any unused feed in the refrigerator labelled with service users name and date/ time of opening upon it.
- All feed should be discarded after 24 hours.
- Carry out hand hygiene in accordance with School infection control policy. (Extra care to be taken when using a jejunostomy as there is an increased risk of infection as it bypasses the stomach and goes straight into the small intestine.)
- Document feed administered in clients records

8b. Follow the correct procedure to administer feed/water via pump
- Explain and discuss the procedure with the patient (if possible).
- Gain consent for procedure
- Check the date on the feed container and check med card to ensure correct feed and correct quantity of feed.
- Shake the feed container gently.
- Open a new feed reservoir and dispense feed into container (if necessary).
- Take a new giving set from the sealed package.
- Screw the giving set tightly to the feed container.
- Hang the container upside down on a drip/ feed stand or bag.
- Use the Fill Set feature of the pump to prime the giving set. (Follow instruction for individual pump).
- Feed the giving set into the pump as per manufacturer’s guidelines, and according to the individuals feeding regime.
- Set the administration rate of the feed as per manufacturer’s instruction and the individuals feeding regime.
- Set the dose of the feed as per manufacturer’s instruction and the
individuals feeding regime.

- Flush the feeding tube with a minimum of 30ml of water unless otherwise stated on care plan in an enteral syringe by attaching to the end of the feeding tube. Depress the plunger on the syringe slowly.
- Remove the end cover from the feeding tube and connect to the feeding tube,
- Commence administration of the feed.
- Document the time the feed commenced and the rate of administration.
- Dispose of any equipment that is no longer required, in a clinical waste bag or double wrap if in the community.
- Carry out hand hygiene in accordance with School infection control policy. (Extra care to be taken when using a jujenostomy as there is an increased risk of infection as it bypasses the stomach and goes straight into the small intestine.)
- Once feed completed
- Switch the pump off
- Wear non-sterile gloves and apron
- Disconnect the feed from clients feeding tube and remove from pump
  - Flush the feeding tube with a minimum of 30ml of water or sterile water in an enteral syringe by attaching to the end of the feeding tube. Depress the plunger on the syringe slowly.
- Dispose of all waste
- Document feed administered and time feed completed


Dispose of waste in accordance with School Infection Control Policy (Hand hygiene and standard infection control precautions policy) by placing the waste in a clinical waste bag or in the patients’ own home, double wrapping and disposing of the bag as per above policy.


Hand hygiene should be carried out in accordance with School Infection Control Policy (Hand hygiene and standard infection control precautions policy)

11. Accurately record the procedure.

Procedure and any actions taken should be recorded in the individual’s electronic record.

12. Possible adverse effects of administering feed/water via bolus.

Leakage from the stoma site

- the tube is damaged (replace tube)
- the tube is ok
Check stoma for signs of infection:
- Redness
- Inflammation
- Discharge (note type of discharge and inform parents and Children & Young Peoples Nurse (CYPN))

Keep stoma clean and dry

- **Granulation**
  Signs of bleeding and break down of the skin
  Signs of excessive tissue (granuloma) at stoma site
  Excess leakage may be associated with granulation tissue.
  If present inform parents and CYPN

- **Check gastric contents**
  Increased gastric pressure may cause leakage
  Attach bolus feeding set to the feeding port and decompress stomach (allow gas or feed to be released from stomach)
  **DO NOT INSERT A LARGER TUBE INTO THE STOMA SITE**

12a, Possible adverse effects when administering feed/water via pump

- **Pump alarms with ‘occlusion’ or ‘empty’**
  The feed may have finished: ensure the feed container was shaken well before feeding.
  Straighten any kinks in the giving set.
  There may be a blockage in the giving set or feeding tube: ensure the giving set was not bent when feeding was commenced.
  Ensure that the giving set is correctly around the rotor.
  Ensure that the roller clamp/tap is fully open.
  Flush the feeding tube as directed before commencing.
  Check that the feeding tube is not blocked. Disconnect from the feeding tube and run the feed into a container; if feed runs and there is no alarm, this indicates that the pump is working properly and the feeding tube is probably blocked.

- **Pump alarms with low battery**
  This indicates that the pump battery needs to be recharged and that there is approximately 30 minutes of power remaining.
  Keep pump plugged in and charged.
  Connect to the mains power and continue to feed.

- **Unable to prime giving set**
  The roller clamp/tap may not be fully open.

**Continuous audio alarm and all visual displays go blank**
  The pump may require servicing, send to equipment library or manufacturers.

Depending on the pump you are using this is a very incomplete list of alarms for either of the Nutricia Flocare pumps and I would suggest simply referring to the handbook or www.nutriciaflocare.com

**References:**
NHFT Infection Control Policy 001: Hand hygiene and standard infection control precautions policy
NHFT Infection Control Policy 002: standards precautions policy
NHFT Infection Control Policy 003: cleaning and disinfection policy
NHFT Infection Control Policy 011: Aseptic technique policy
NHFT clinical policy 009: medical devices management policy
NHFT clinical policy 042: privacy and dignity policy
The Pennine acute hospital, Having a jejunostomy tube (2011)
Gastrostomy Work book

Section 1

Worker to understand reason for enteral feeding tube

Diagram of digestive system

Describe in simple terms what a gastrostomy is
................................................................................................................................................................................
................................................................................................................................................................................

Can the individual eat orally as well?
................................................................................................................................................................................
................................................................................................................................................................................

Where is it sited?
........................................................................................................................................................................

Carer to understand psychological aspects of feeding child enterally

Is it appropriate for .................to have oral stimulation or use finger foods? (circle)       Yes        No

Does enteral feeding mean that ...........should not sit at the table with his/her family? (circle)       Yes        No

Is it safe to clean ...............teeth?       Yes        No
Is it important to clean …………………… teeth? Yes No

Carer to understand the psychological of feeding for the family

List four social occasions where food is important

a) .............................................................................................
b) .............................................................................................
c) .............................................................................................
d) .............................................................................................

How can we make the individual feel included in these celebrations?

Please give three ways of including them

a) .............................................................................................
b) .............................................................................................
c) .............................................................................................

Carer to understand the safety aspects of feeding

List four checks that are essential prior to feed being used

a) .............................................................................................
b) .............................................................................................
c) .............................................................................................
d) .............................................................................................

Prior to feeding button/tube site needs to be checked, which of the following describes how a button in situ should look?

a) Tight to skin causing a dent in skin to add to privacy
b) About 0.5 cms proud of stoma to prevent rubbing of skin
c) Nice and long for ease of manipulation
(please underline)

What position should the individual be in whilst being fed?

a) flat b) 180 degree c) at least 30 degrees d) other

List three appropriate and three inappropriate places to feed with reference to a clean environment

a) .................................................................b) .................................................................c) .................................................................
## CHILD SPECIFIC WORKSHEET

### GASTROSTOMY TUBE FEEDING

<table>
<thead>
<tr>
<th>NAME OF CHILD</th>
<th>DATE OF BIRTH</th>
<th>DATE CREATED</th>
</tr>
</thead>
</table>

**Before caring for a child with a gastrostomy or jejunostomy you will require a careplan, competency and child specific work sheet.**

**It has been recognised that the above individual requires enteral feeds. This individual has an infinity pump allocated to them or they will be bolus fed.**

**The individual’s care plan will identify a feeding regime.**

**Parental responsibility**

**To send equipment and enteral feeds into school**

Ensure equipment is in date and fit for purpose and labelled with the child’s name

**Trouble shooting**

**If the pump stops working follow the instructions on the pump**

**Ensure there are no kinks in the tubing**

**Ensure all gate clips are open**

**Check for blockages; re-prime giving set**

**Flush naso gastric tube**

[www.nutriciaflocare.com](http://www.nutriciaflocare.com)
Appendix 3

General guidance on administration of medicines via enteral feeding devices:

Liquids or soluble tablets are usually the preferred formulation for enteral feeding administration. Thick or viscous liquids may require further dilution with an equal amount of water immediately prior to administration.

Do not crush:

Buccal and sublingual tablets – these dosage forms are designed to allow the drug to avoid absorption via the stomach and break down by the liver. If these tablets are passed down an enteral feeding device, the drug effect will be decreased.

Sustained release tablets (identified often by the letters LA, XL, SR, MR) – these dosage forms are intended to release a drug gradually over time. If these tablets are crushed, the full amount of the drug will be released exposing the patient to higher than normal levels of the drug which may increase the chance of side effects.

Enteric coated (EC) tablets – these dosage forms have a special coating to prevent the drug dissolving in the stomach. If these tablets are crushed and passed down a enteral tube, there is an increased risk of side effects and possible decreased drug absorption.

Chewable tablets – these dosage forms are formulated to allow partial drug absorption in the mouth. If the tablet is crushed, decreased drug absorption will occur.

Cytotoxic tablets – there is risk of exposure to hazardous substances if crushed. Cytotoxics should be handled in accordance with local procedures.

Crush tablets or open capsules only after seeking advice from a Pharmacist. When advised to crush standard release tablets, ensure they are crushed well to prevent clogging of enteral tubes.

Never use boiling water to flush tubes following medicines administration as this may affect bioavailability of the drug.

Never leave medicines unattended in oral syringes.

Never administer any medicines via any route that you have not prepared yourself.

Never mix medicines together before administration as they may interact with each other and also you will be unable to determine how much of each medicine has been given if the tube subsequently blocks.

Never add medicines to feeds as you cannot predict the effect the medicine has on the physical stability of the feed and vice versa.

The NEWT Guidelines for administration of medication to patients with enteral feeding tubes or swallowing difficulties [www.newtguidelines.com](http://www.newtguidelines.com)
Appendix 4

Decision tree for nasogastric tube placement checks in CHILDREN and INFANTS (NOT NEONATES)

- Estimate NEX measurement (Place exit port of tube at tip of nose. Extend tube to earlobe, and then to xiphisternum)
- Insert fully radio-opaque nasogastric tube for feeding (follow manufacturer’s instructions for insertion)
- Confirm and document secured NEX measurement
- Aspirate with a syringe using gentle suction

Aspirate obtained?

YES

Try each of these techniques to help gain aspirate:
- If possible, turn child/infant onto left side
- Inject 1 Emi air into the tube using a syringe
- Wait for 15-30 minutes before aspirating again
- Advance or withdraw tube by 1-2cm.
- Give mouth care to patients who are nil by mouth (stimulates gastric secretion of acid)
- Do not use water to flush

Test aspirate on CE marked pH indicator paper for use on human gastric aspirate

pH between 1 and 5.5

PROCED TO FEED or USE TUBE
Record result in notes and subsequently on bedside documentation before each feed/medication/nurs

pH NOT between 1 and 5.5

Aspirate obtained?

YES

Proceed to x-ray: ensure reason for x-ray documented on request form

Competent clinician (with evidence of training) to document confirmation of nasogastric tube position in stomach

NO

DO NOT FEED or USE TUBE
Consider re-siting tube or call for senior advice

A pH of between 1 and 5.5 is reliable confirmation that the tube is not in the lung, however it does not confirm gastric placement as there is a small chance the tube tip may sit in the oesophagus where it carries a higher risk of aspiration. If this is any concern, the patient should proceed to x-ray in order to confirm tube position.

Where pH readings fall between 5 and 6 it is recommended that a second competent person checks the reading or retests.

www.npsa.nhs.uk/alerts

This document is uncontrolled once printed. Please refer to the Trust intranet for the current version.
CLPg006a Enteral Feeding Guidelines infant, child or young person (rev 27.04.2020)