Name of Policy: Enteral Feeding Policy

Effective From: 09/05/2012

<table>
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<th>Date Ratified</th>
<th>10/08/2011</th>
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<td>Review Date</td>
<td>01/08/2013</td>
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<td>Sponsor</td>
<td>Director of Finance and Information</td>
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This policy supersedes all previous issues.
## Version Control

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<td>1.0</td>
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1. **INTRODUCTION**

To maintain or improve certain patients’ nutritional status, it maybe necessary that the patient may require nutritional support.

Patients who require enteral feeding are those who will not or cannot eat food in adequate amounts to maintain their health and whose gastro-intestinal tract is functioning.

The most common route for enteral feeding is via a fine bore nasogastric tube (used in those requiring short term nutritional support), but it can be administered via a gastrostomy tube (used in those requiring long term nutritional support). In those who are unable to tolerate nasogastric or gastrostomy feeding, a nasojejunal or jejunostomy tube can be passed and used for enteral feeding.

Medical and nursing staff who are involved in the placement of tubes and administration of feed require appropriate training and support to ensure that safety and best practice is maintained.

2. **POLICY SCOPE**

This policy is aimed at all clinical staff both qualified and unqualified who are involved in the care of patients receiving enteral nutrition within Gateshead Health NHS Foundation Trust.

3. **AIM OF ENTERAL FEEDING POLICY**

The aim of the enteral feed policy is to ensure that patient's nutritional and fluid requirements are met, to prevent and treat disease-related malnutrition and complications induced by poor nutritional status.

The policy aims to ensure that the safe practice of administration of enteral feed is maintained. The effectiveness of the policy will be monitored by the nutrition & dietetics service. In addition correct use of enteral syringes, as described in section 9, will be an integral part of the Trust’s annual medicines management audit programme.

4. **DUTIES (ROLES AND RESPONSIBILITIES)**

**Nursing staff**

Ward nurses have a responsibility to assess all patients’ nutritional status on admission, weekly and if a patients clinical condition changes e.g. post-operatively (Appendix 1)

**Medical staff**

Medical staff have a responsibility to consider patients for enteral feeding if they are unable to maintain or improve their nutritional status. Patients with complex nutritional needs should be referred to the nutrition team (appendix 2).
Dietitian
Patients who are identified as being at moderate or high risk of malnutrition should be referred to the Dietitian immediately. The dietitian has a responsibility of ensuring that each patient receives adequate and appropriate nutritional support. The Dietitians in collaboration with the nutrition nurse specialist are responsible for providing support and training on methods of enteral feeding and will ensure that policies and guidelines are up to date in accordance with national guidelines to ensure best practice.

Nutrition Nurses
Nutrition Nurses will provide training for all staff involved in the placement and management of enteral feed tubes/equipment. Where trained medical or nursing staff are unavailable to site enteral feeding tubes, or tube placement is complex, the Nutrition Nurses will place the tube if appropriate.

Nutrition Nurses will ensure that all policies and procedures for the placement and management of enteral feed equipment are up to date and evidence based.

5. DEFINITIONS

Enteral Nutrition
The delivery of nutrition (macro and micronutrients) via the digestive tract.

Fine bore Naso gastric tube
A tube passed through the nose into the stomach, used to deliver enteral feed into the gut. Used where short term feeding is indicated e.g. 30-90 days.

Gastrostomy
An opening made into the stomach to allow feeding directly into the gut. Indicated where long term enteral feeding is required.

Naso jejunal tube
A tube passed through the nose into the stomach, used to deliver enteral feed beyond the gut (post pyloric). Used where short term feeding is indicated i.e. 30-90 days

Jejunostomy tube
An opening made into the jejunum to allow direct feeding beyond the gut. Indicated where long term enteral feeding is required and where gastrostomy feeding is contraindicated.

PEJ Percutaneous Gastro Jejunostomy
An opening on the abdomen through to the jejunum, where a feeding device is placed to allowing direct feeding into the small bowel

Nutricia Homeward
Nutricia Homeward are an enteral feeding support and delivery service, provided to patients requiring enteral feeding at home
6. POLICY CONTENT

6.1 Nutrition Support Team

This is a multidisciplinary team led by the Nutrition Nurse Specialist. The team will accept referrals from medical teams, to advice on the management of patients with complicated nutritional issues. (Nutrition Support Team Terms of Reference, (Appendix 3).

6.2 Indications for Enteral Feeding

Patients who are malnourished or at risk of malnutrition, who have an inadequate or unsafe oral intake and have a functional accessible GI tract. This may occur in patients with the following diseases:

- Neurological conditions causing poor oral motor skills and swallowing difficulties, eg CVA, MND.
- Where an increase in nutrient intake is required, eg burns, Cystic Fibrosis.
- Gastrointestinal disease leading to reduced absorption, eg obstruction, Crohns, Short Bowel Syndrome, gastro-intestinal fistulae.
- Oral surgery.
- Anorexia Nervosa.
- Pre-operative preparation of patient.
- Cancer cachexia.
- Hypermetabolism, eg sepsis, trauma, major surgery.
- Organ system failure.
- Patients who cannot meet their nutritional needs alone through the oral route
- Patients who require sedation for a long period of time

6.3 Routes of Enteral Feeding

The most common route for enteral feeding is via a fine bore nasogastric feeding tube. Medical and Nursing Staff who place these tubes need to have had the necessary training to insert the tube correctly in order to minimise risk to the patient (refer to the nasogastric feeding policy).

Fine bore nasogastric tubes should be made of polyurethane as these tubes can be used for 30-60 days and are comfortable for the patient. The tube should have a male luer end which is compatible with purple enteral syringes (female luer).
Occasionally wide bore/short term Ryles tubes are used for nasogastric feeding. These should only be used in the Critical Care Department where it may be necessary to empty the stomach quickly, which is difficult to do through a fine bore tube. The Ryles tubes have a “funnel” end which are compatible with purple enteral 60ml catheter tip syringes.

The Ryles tube tends to be uncomfortable for the patient therefore should be changed to a fine bore tube as soon as the patient’s condition permits or on discharge from CCD.

**Nasojejunal feeding**

Some patients are unable to tolerate feeding into the stomach and require a nasojejunal tube which bypasses the stomach. This may be useful to avoid parenteral nutrition. These tubes are more difficult to insert, therefore insertion usually takes place during surgery or in the x-ray department. Confirmation of placement is determined by x-ray, after which the guidewire is removed and feeding may commence. These tubes are compatible with the purple enteral female luer syringe. There are a small number of patients in the community who are fed via a nasojejunal tube. The type of nasojejunal tube inserted will be at the discretion of the clinician.

Nasojejunal tubes may be placed at the bed side within the critical care department using Tiger tubes. These are self advancing nasojejunal tubes that use peristalsis to pull it safely into the small bowel. These must only be used on critical care and are useful to avoid parenteral nutrition where nasogastric feeding is poorly tolerated.

As the nasojejunal tube feeds beyond the stomach, PH testing is not required.

**Gastrostomy feeding**

For patients who require long-term enteral feeding a gastrostomy device is the route of choice. Insertion takes place either endoscopically called a percutaneous endoscopic gastrostomy (PEG) or radiologically, called a radiologically inserted gastrostomy (RIG). These tubes are more secure and more acceptable than nasogastric tubes.

All gastrostomy devices or extension sets that attach to the PEG for feeding MUST have a “funnel” end or a male luer end. These are compatible with purple enteral catheter tip syringes or purple enteral female luer syringes.

**Jejunostomy Feeding**

Some patients who require feeding that bypasses the stomach may have a surgical jejunostomy device. These are usually placed at the end of the operation, just before wound closure. Jejunostomy tubes can also be placed endoscopically. The jejunostomy tube may need to remain insitu after the period of enteral feed is ended – always check with the surgical team before removal.
As the motility of the small bowel returns quite quickly after surgery, feeding via the jejunostomy can be commenced within 12 hours of placement.

Often jejunostomies are used for short term feeding in the acute setting, eg post gastrectomy or oesophagectomy.

A whole protein feed should be well tolerated in the jejunostomy however if pancreatic or biliary insufficiency occurs or depending on how far down the small bowel the jejunostomy is placed a Peptide feed may be used, the most appropriate feed will be recommended by the Dietitian.

It is uncommon for community patient to be fed via a jejunostomy.

**Percutaneous Endoscopic Jejunostomy (PEJ)**
This procedure is usually preformed at Newcastle for Patients who need to have longer term feeding straight into the small bowel. A PEJ is suitable for community. The tube used is often the same as that for a PEG.
6.4 Assesment of patients needs

There should be a multidisciplinary team approach to the assessment of the patient’s needs, ie doctor, nurse, dietitian. All patients who are being assessed for enteral feeding should be referred to the Nutrition and Dietetic Service.

The assessment will be carried out by the Dietitian and will include:

- An analysis of the nutritional score upon admission (NRS – Nutrition Risk score) (See appendix 1) this is repeated on a weekly basis and/or if the patients clinical condition changes. The ward nurses are responsible for carrying out the nutritional screening.
- Current dietary history (including food diaries/charts)
- Sex, age, height, weight, recent weight loss
- Medical, psychiatric and surgical history
- Patient’s biochemistry
- Drug history
- The appropriate route, i.e. nasogastric, gastrostomy, nasojejunal, jejunostomy
- The appropriate delivery method, eg pump assisted continuous feed, bolus
- Patient’s religion

6.5 Enteral feeds used in the trust

The Dietitian selects the most appropriate feed based on nutritional requirements and the medical staff prescribe the enteral feed. The choice of feed and the period of feeding will be determined by the patient’s clinical condition, nutritional requirements, their ability to eat and also their religious beliefs ie Orthodox Jews will need to use a Kosher feed.

Wide ranges of nutritionally complete proprietary feeds are available. Gateshead Health NHS Trust uses the Nutrison range of enteral feeds (manufactured by Nutricia). The feeds are gluten and lactose free.

Patients and staff should **NOT** put puréed meals down the feeding tube.

The Nutricia range is provided in ‘pack’ form and comes in a variety of volumes, e.g. 500ml, 1000ml, 1500ml.

ITU and Paediatrics may use different specialised feeds.
The following feeds are used regularly in the Trust:

<table>
<thead>
<tr>
<th>Feed</th>
<th>Calories/ml</th>
<th>Description</th>
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<tbody>
<tr>
<td>Nutricia Nutrison</td>
<td>1kcal/ml</td>
<td>Standard feed suitable to begin feeding.</td>
</tr>
<tr>
<td>Nutricia Nutrison Energy</td>
<td>1.5kcal/ml</td>
<td>High protein high Calorie feed for increased nutritional requirements in a lower volume.</td>
</tr>
<tr>
<td>Nutricia Nutrison Multifibre</td>
<td>1kcal/ml</td>
<td>To maintain healthy bowel function.</td>
</tr>
<tr>
<td>Nutricia Nutrison Energy Multifibre</td>
<td>1.5kcal/ml</td>
<td>High protein High Calorie feed for increased nutritional requirements in a lower volume. To maintain healthy bowel function.</td>
</tr>
<tr>
<td>Nutrison Low Sodium</td>
<td>1kcal/ml</td>
<td>Low sodium content</td>
</tr>
<tr>
<td>Nutrison Peptisorb</td>
<td>1kcal/ml</td>
<td>Peptide based feed for malabsorption and/or maldigestion</td>
</tr>
<tr>
<td>Nutrison Protein Plus</td>
<td>1.25kcal/ml</td>
<td>Protein rich for increased protein requirements</td>
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Storage of feed

1. It is not necessary to store unopened feed in the fridge. However, once feed has been opened it can be stored in a refrigerator for 24 hours providing it has not been attached to an extension set. When administrating feed, it should be given at room temperature.

2. Once sterile bags of feed are punctured by the giving set, they can be hung for a maximum of 24 hours.

3. In the event of a break in feeding, disconnect giving set from feeding tube, clamp giving set and replace cover on giving set.
   - Flush tube with 30mls water
   - Keep cover of giving set clean and try to avoid contamination.
   - Keep feed at room temperature.
   - Use within 24 hours.
   - Discard any unused feed after 24 hours.

4. Opened feed can be stored for 24 hours in fridge (community only).
6.6 Feeding Equipment

To comply with the National Patient Safety Alert No 19, dedicated clearly labelled, enteral/oral syringes MUST be used to flush enteral feeding tubes, administer enteral feed or administer enteral/oral medication. These syringes are not compatible with IV devices, therefore reducing the risk of incorrect intravenous administration of oral liquid medicines. The syringes identified for this use by the Trust will be PENTA/Medicina purple catheter tip syringes or purple female luer lock tip syringes. In hospital these are sterile packed singly and are single use only. These syringes are all clearly labelled “ENTERAL” by the manufacturer in a large font.

In the community, patients will have re-usable enteral syringes, one per week. Patients, who may be immunosuppressed for example if undergoing chemotherapy, will be given daily syringes for the duration of their treatment.

Giving sets used to deliver enteral feed via a feeding pump MUST not have an end port that can be connected to IV canula.

3 way taps with IV ports MUST not be used with any enteral feeding equipment.

The equipment required will be determined by choice of route, delivery method and type of feed. Enteral feeding pumps are to be used to control the rate of delivery of feed. The Trust uses Nutricia Infinity pumps and giving sets. Giving sets must be replaced every 24 hours. The giving sets are compatible with nasogastric, gastrostomy and jejunostomy tubes. Each set has a stepped connector that may be needed to connect to some tubes.

Extension sets used for gastrostomy feeding may be used for up to one week whilst in hospital. In the community, patients are supplied with two extension sets per month, to be changed every two weeks. Extension sets will exclude any ports that are compatible with IV syringes. Extension sets should be washed in hot soapy water and flushed with water until the flush runs clear, then left to drain dry.

Feed, giving sets and nasogastric tubes are obtained through the Nutrition and Dietetic Service. Pumps are obtained from the medical device library. Enteral syringes are obtained at ward level via supplies. Extension sets are obtained from the Nutrition Nurses. Replacement gastrostomy tubes are available through the Nutrition Nurses and the A & E Department, MAU, Ward 22 and Margaret Dryborough Ward.

The hospital pumps are not to be sent home with a patient. They are the property of the Nutrition and Dietetic Service and are stored in the medical devices library. The Nutrition Nurses will provide a pump for home. Pump training will be delivered by either the nutrition nurses or (Nutricia) Homeward nurses.

An emergency stock of feed, giving sets and NG tubes are kept on Jubilee 22 or wards 9 or 10, QEH.
Starter regimens for all enteral feeds can be found on the Trust Intranet for initiation of feeds at weekends and bank holidays (see Appendix 4-6), otherwise the Dietitian will prescribe a feeding regimen (see Appendix 8).

6.7 Delivery of Feed

Position of patient

- Never feed with patient lying flat.
- Feed sitting up or elevated to 45° during feed and for 30 minutes after.
- Ensure head is propped on pillows over night.

Pump Feeding

It is recommended that enteral feeding pumps are used to deliver enteral feed. The rate, volume and timing of feed will be determined by the dietitian.

The enteral feeding pumps are obtained from the Medical Devices Library for hospital in patients.

Staff must have attended training and achieved competencies to use the device.

Bolus Feeding

This is not common practice within the Trust but may be used in specific cases or with patients transferred from other Trusts.

Bolus feeding involves the delivery of a specific quantity of feed via gravity (usually 200-400 mls) using an enteral syringe several times per day, over 15-20 minutes.

This method may be preferable to continuous feeding for some groups of patients.

Bolus feeding can:
- Release mobile patients from long periods attached to feeding equipment.
- Allow individuals to take part in “normal meal times”.
- Help regulate appetite.
- Help the transition to oral feeding.

However, not all patients are able to tolerate boluses of feed. The Dietitian will discuss the choice of pump versus bolus feeding with the patient when appropriate.

Bolus feeding is only suitable for patients with a gastrostomy tube and should not be used in patients who have a nasojejunal or jejunostomy tube. Bolus feeding via a fine bore nasogastric tube is a more difficult and time-consuming procedure.
Equipment Required

Sterile enteral feeding syringe, sterile water, extension set (if required, ie for button gastrostomy tubes).

Method

1. Wash hands and put on gloves. Check the label of the feed to ensure it is correct product and in date. The bag will be checked by 2 qualified nurses, batch number and expire date will be recorded for patients in hospital.

2. Open bag and pierce cap.

3. Ideally sit patient in upright position.

4. Remove plunger from syringe and attach to wide end of feeding tube.

5. Pour in 30mls sterile water (or amount prescribed by dietitian) to flush tube.

6. Pour prescribed quantity of feed slowly into syringe and holding the syringe at a comfortable height above the feeding tube allow the feed to run in by gravity. Never attempt to rush bolus feeding.

7. Only if the feed is running very slow put the plunger back into the syringe and gently push the feed down the tube.

8. When the feed is complete, pour another 30mls sterile water (or amount prescribed by the dietitian) into the syringe to flush tube.

9. Remove syringe from feeding tube and replace cap. If a patient has a button gastrostomy device a feeding extension set is required. This will need to be connected prior to feeding. After feeding remove the extension set and clean according to hospital policy.

Bolus Feeding

When bolus feeding, hold the syringe UPRIGHT and allow the feed to run through via GRAVITY.
Psychological Considerations during feeding

Eating and drinking are pleasurable, social experiences that play a significant part in everyday life, family celebrations and national or religious holidays. Enteral feeding may therefore cause isolation or a sense of exclusion and distress at meal times.

It is important that provision is made for the patient to receive their feed in relaxed, comfortable surroundings. This issue should be discussed with relatives/carers.

Some patients enjoy being at the table at meal times, whilst others may prefer to have their meals in private.

Relatives/carers should be encouraged to remember that non-edible treats, eg flowers, magazines, toiletries can replace edible treats, and may help to compensate for being unable to eat.

**NB Never be tempted to offer ‘tasters’ to a patient who is unable to eat unless this has been agreed with the patient’s health team ie Speech and Language Therapist, Dietitian, Nutrition Nurse Specialist.**
If a patient has been assessed as ‘nil by mouth’ this must be strictly adhered to, unless a Speech and Language Therapist/Dysphagia Practitioner has reassessed and advised otherwise.

6.8 Monitoring a Patient on Enteral Feed

Methods used to monitor patients on enteral feed

This may include:
- Oral intake and enteral feed delivered
- Fluid balance
- GI function/tolerance of feed – bowels, nausea and vomiting
- Weight / Body mass index
- Other anthropometry
- Patient’s general condition
- Biochemical/haematological investigations
- Wound sites, i.e. following jejunostomy
- Position of feeding tube
- Drug nutrient interaction
- Temperature
- Nutrition Risk Score (recorded weekly or if the patient’s condition changes)

For guidance as to frequency of monitoring during hospital stay please refer to appendix 9 and 10.

Upon discharge into the community, the patient’s named dietitian will monitor the patient as required. If stable this will be reviewed every six months as a minimum, however more frequently where indicated.

6.9 Complications Associated with Enteral Feeding

Familiarity with potential complications is important in helping to prevent them from developing.

Misplaced/Displacement of the tube

If there is any suspicion that this has occurred, the feed must be stopped and the position of the tube should be checked.

Blockage of the tube

Make sure there are no kinks in tube. Try to flush the tube with 25-50 ml warm water. Allow up to 30 minutes for the tube to clear then flush again. If this fails try using soda water or fresh pineapple juice (not UHT) instead of tap water.

Please refer to appendix 12 for complications related to PEG, blockage, displacement and accidental removal.

Note: Never push any guide wire into the tube
Nausea and Vomiting
- Avoid giving the feed too quickly or in too large a volume. Seek advice of dietitian with regards to rate of feed or frequency of bolus feeds.
- Introduce the feed slowly (continuous or slow gravity bolus) as per dietitians advice
- Ensure the patient is not lying flat
- If the patient has a nasogastric tube and if vomiting occurs, check tube position
- Consider the use of antiemetics or gastric motility agents
- If symptoms are severe contact the managing dietitian. If out of working hours, do not feed for 12 hours then restart feeding regime from the initial rate.

Diarrhoea
In the majority of cases, the cause of diarrhoea is not related to the feed.

In some instances, diarrhoea may be induced by other causes:
- Medications e.g. antibiotics
- Infection - a stool sample should be sent to microbiology immediately
- Anxiety
- Clinical condition

Anti diarrhoeal agents should be considered i.e. Codeine phosphate or Loperamide.

If feed is suspected of causing the diarrhoea contact the managing dietitian. The dietitian will consider the amount and type of feed, its composition, osmolarity and the way it is administered. If out of hours, revert back to the last stage of the regimen that was tolerated.

Make sure feed is administered at room temperature.

Constipation
Ensure patient has an adequate fluid intake and that all prescribed flushes of water are delivered. Contact Dietitian to ensure adequate fluids and fibre are prescribed. Medical staff may prescribe laxatives. Refer to Trust guideline on the treatment of constipation.

Acid reflux
Ensure patient’s positioning is as upright as possible, ie head and shoulders above at least 45° and for 30 minutes post feed. If heartburn and reflux continues, appropriate medication should be given.

Aspiration
To reduce aspiration risk ensure correct positioning during feeding, ensuring the patient’s head and shoulders are elevated to at least 45°, and for at least 30 minutes post feeding. If at high risk of aspiration (e.g. unconscious patients, neurological diseases or swallowing problems), patients should be fed via a feeding pump rather than bolus feeds. Feeding rate will be advised by the dietitian.
**Glycaemic control**
Routine monitoring of the blood glucose levels should be undertaken if a patient is diabetic and in critically ill patients. The method and timing of the feed will be advised by the dietitian. Consider review of diabetic medications and involvement of diabetic specialist team.

**Drug Compatibility**
Please refer to the Trust policy for the administration of medication via enteral tubes.

6.10 **Phasing Out or Discontinuing Enteral Feed**

There should be a multidisciplinary approach to phasing out enteral feed. The Team should contain medical, nursing and dietetic staff. It is essential that the managing dietitian is aware of and involved in the phasing out or discontinuing of the enteral feed.

The multidisciplinary team should consider the following points:

- Medical / treatment plan
- The transition from enteral to oral feeding needs to be titrated.
- The daily nutritional and fluid requirements of the patient should be monitored at each stage of the change to ensure no deficit in meeting nutritional requirements.

6.11 **Enteral Feeding at Home**

Patients discharged home on enteral feeding who have a Gateshead GP and live within the Gateshead boundary, have their feed, pump, drip stand and plastics supplied and delivered through the Homeward Service. In order to ensure a seamless discharge please contact the Nutrition and Dietetic Service. Where possible 5 days notice should be given to ensure:

- That the patient and carers are adequately trained in the management of the feeding regime and equipment. Arrange training for community team as required
- To initiate the Homeward Service
- Provide a 7-day supply of plastics and feed and contact the GP to prescribe feed in the community
- Provide a contact name for the patient/carers from the Nutrition and Dietetic Service.
- Make arrangements for the insertion of subsequent tubes
- Arrange appropriate follow-up appointments

For all enterally fed patients discharged home please refer to appendix 11 for discharge procedure.

There are different arrangements for patients living outside the Gateshead boundaries. Please contact the Nutrition and Dietetic Service for further details.
6.12 The Nutricia Homeward Service

Patients registered with Homeward will receive regular deliveries of feed and ancillaries. The dietitian will liaise with Homeward and outside agencies.

It is common to receive a patient from other areas who are on an enteral feeding regimen. During admission, most patients may be temporarily transferred to an equivalent Nutricia feed as advised by the dietitian. Upon discharge the managing dietitian will assess the feeding regimen and type of feed required in the community.

Liaise with the dietitian and nutrition nurses regarding the ancillaries required at home.

The Nutrition Nurses will provide extra support and care for the patients/carers and community teams.

7. TRAINING

Training is provided by the Nutrition & Dietetic Team for all grades and professions in relation to Enteral Feeding

The Nutrition nurses are involved within the following education programmes:

- Health Care Assistant Development Programme 3 times a year
- Organisation of House keepers training quarterly
- PEG care training days twice yearly for qualified nurses
- NG training twice yearly for qualified Nurses
- F1 & F2 training for Enteral feeding with Nutrition Team
- Ad Hoc training on one to one basis as requested by staff
- Sign posting for enteral nutrition on Induction once a month

8. EQUALITY AND DIVERSITY

The Trust is committed to ensuring that, as far as is reasonably practicable, the way we provide services to the public and the way we treat our staff reflects their individual needs and does not discriminate against individuals or groups on any grounds.
9. **MONITORING COMPLIANCE WITH THE POLICY**

<table>
<thead>
<tr>
<th>Standard/process/issue</th>
<th>Monitoring and audit</th>
<th>Method</th>
<th>By</th>
<th>Committee</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>NPSA alerts regarding Enteral feeding</td>
<td>Check all documentation related to enteral feeding</td>
<td>Nutrition &amp; Dietetics</td>
<td>Nutrition team</td>
<td>Annually</td>
<td></td>
</tr>
<tr>
<td>Enteral policy compliance exceptions</td>
<td>All exceptions to be Datix</td>
<td>By staff who identify exception</td>
<td>Correlated by Risk Management Department</td>
<td>As it happens</td>
<td></td>
</tr>
<tr>
<td>Nutrition Risk score is completed</td>
<td>Dash board nutrition audit</td>
<td>Essence of Care Nutrition leads</td>
<td>Essence of care Nutrition meetings</td>
<td>monthly</td>
<td></td>
</tr>
</tbody>
</table>

10. **CONSULTATION AND REVIEW**

This policy will be reviewed every two years. Consultation will include dietitians, nutrition nurses as well as multidisciplinary members of the nutrition support team.

11. **IMPLEMENTATION OF POLICY**

The contents of this policy will be shared with the following:
- Nutrition Team
- F1 & F2 training sessions
- All Essence of Care Nutrition Leads
- All staff attending Enteral training sessions within the Trust
- Modern Matrons and Ward Managers.
- Band 6 clinical leads meetings

12. **REFERENCES**


CREST, 2004, Guidelines for the management of enteral tube feeding in adults


Gateshead Health NHS Trust. Enteral Feeding Policy.


National Patient Safety Agency. Reducing the harm caused by misplaced Naso Gastric Tubes march 2011

National Institute of Clinical Excellence, 2006 Nutrition support in adults: Clinical guideline 32


13. ASSOCIATED DOCUMENTATION

RM 55 Nasogastric Feeding Policy
RM 60 Parenteral Nutrition Policy
RM61 Nutrition Policy
Nutrition Risk Score
Care Standard 22 Fine bore Feeding
Care Standard 32 Jejunal Feeding
Care Standard 34 Nutrition Risk Score
Care standard 52 Management of New PEG tube
Care Standard 53 Preparation of a patient prior to PEG insertion

14. APPENDICES

1. Nutrition risk score
2. Nutrition support team referral form
3. Terms of reference
4. Starter naso gastric feeding regimen for weekends/bank holidays
5. Starter nasojejunal/jejunostomy feeding regimen for weekends/bank holidays
6. Starter PEG feeding regimen for weekends/bank holidays
7. Percutaneous endoscopic gastrostomy (PEG) referral form
8. Blank Enteral feeding regimen
9. Monitoring of enteral nutrition support
10. Protocol for laboratory monitoring of nutrition support
11. Discharge procedure for adult enterally fed patients
12. Problems that can occur with PEG tubes when nutrition nurse is not available
13. Enteral feeding guidelines for paediatric services
APPENDIX 1

# NUTRITION RISK SCORE

**Gateshead Health NHS Foundation Trust**

**Patients Name:** ..................................................  **DOB:** ......................  **Height:** ......................

**Ward:** ......................  **Hospital no:** ......................

- Complete on admission and repeat weekly or if patient's condition has changed
- Circle relevant score
- Only select one score from each section
- Select the highest score that applies in each section
- Total the scores and take appropriate action, see below

<table>
<thead>
<tr>
<th><strong>WEIGHT LOSS IN LAST 3 MONTHS (Unintentional)</strong></th>
<th><strong>SCORE</strong></th>
<th><strong>On admission</strong></th>
<th><strong>Reassessment</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>No weight loss</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>0 – 3 kg (0 - 6lb) weight loss – slow weight loss</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>&gt; 3 – 6 kg (&gt;6 – 13lb) weight loss – rapid weight loss</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>6 kg (13lb) or more – drastic weight loss</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>BMI (Body Mass Index) – calculated from weight and height using BMI chart on ward</strong></th>
<th><strong>SCORE</strong></th>
<th><strong>Date</strong></th>
<th><strong>Signature</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>20 or more (normal weight or above)</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>18 or 19 (slightly underweight)</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>15 – 17 (moderately underweight)</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Less than 15 (severely underweight)</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>APPETITE</strong></th>
<th><strong>SCORE</strong></th>
<th><strong>On admission</strong></th>
<th><strong>Reassessment</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Good appetite, manages most of 3 meals/day (or equivalent)</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Poor appetite, poor intake – leaving &gt; half of meals provided (or equivalent)</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Appetite nil or virtually nil, unable to eat, NBM (for &gt; 4 meals)</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>ABILITY TO EAT/RETAIN FOOD/STATE OF HYDRATION</strong></th>
<th><strong>SCORE</strong></th>
<th><strong>On admission</strong></th>
<th><strong>Reassessment</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>No difficulties eating, able to eat independently/tolerating enteral feeds</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>No diarrhoea or vomiting/well hydrated</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Problems handling food, eg needs special cutlery</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Vomiting/frequent regurgitation/mild diarrhoea</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Difficulty swallowing, requires modified consistency</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Problems with dentures, affecting food intake</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Problems with chewing, affecting food intake</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Problems tolerating enteral feeds</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moderate vomiting and/or diarrhoea (1-2/day)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Needs help with feeding (eg physical handicap)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uncooperative (eg refuses meals)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unable to take food orally. Unable to swallow (complete dysphagia)</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Severe vomiting and/or diarrhoea (&gt;2/day). Malabsorption. Dehydrated</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>STRESS FACTOR</strong></th>
<th><strong>SCORE</strong></th>
<th><strong>On admission</strong></th>
<th><strong>Reassessment</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>No Stress Factor (includes admission for investigation only)</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mild</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minor surgery. Minor infection. CVA</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Moderate</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chronic disease. Major Surgery. Infections</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Fractures. Pressure sores/ulcers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inflammatory bowel disease. Other gastrointestinal disease</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Severe</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multiple injuries. Multiple fractures/burns</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Multiple deep pressure sores/ulcers. Severe sepsis Carcino/malignant disease</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>SCORE</strong></th>
<th><strong>ACTION</strong></th>
<th><strong>TOTAL</strong></th>
<th><strong>Additional referrals to the Dietetic Department</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>0 – 3</td>
<td>LOW RISK</td>
<td></td>
<td>1 If someone has a low/moderate score but needs to see a dietitian for another reason, eg diabetes.</td>
</tr>
<tr>
<td>4 – 5</td>
<td>MODERATE RISK</td>
<td></td>
<td>2 If BMI is greater than 30 and patient agrees to a referral.</td>
</tr>
<tr>
<td>6 – 15</td>
<td>HIGH RISK</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Consider referral to DNS/Speech & Language Therapy if: the patient has swallowing problems

Enteral Feeding Policy v2 22
Gateshead Health NHS Foundation Trust
Nutrition and Dietetic Service

Nutrition Support Team Referral Form

Date of referral: ..................................................
Patient’s name: ..................................................
Address: ..........................................................

Hospital No: ..................................................
DOA: ..........................................................

Contact number: ...............................................

Ward: ..................... Directorate: ...................... Consultant: .............
DOB: ..................... Age: ..............................

Medical History: .................................................................................................
.................................................................................................................................
.................................................................................................................................

Social History: ........................................................................................................
.................................................................................................................................
.................................................................................................................................

Reason for referral to NST: ...................................................................................
.................................................................................................................................
.................................................................................................................................

Medication: ............................................................................................................
.................................................................................................................................
.................................................................................................................................

Weight: ............. NRS: ...............  

Current nutritional support: Y/N  If Y: date started: .............................................

- Naso-gastric feeding
- Sub cut fluids
- Oral nutrition
- IV fluids
- Other

Please specify: ..........................................................

Note: Please complete page two if referring for PEG

Referred by: ................................ Signed: ..............................................

(Print) ..........................................................
The Nutrition Team has been developed as recommended by “Nutrition Support in Adults (NICE, February 2006)

Aims

To develop a practical, mobile service for providing safe, appropriate, evidence based nutrition support in a timely manner.

Objectives

• To advise on the management of patients with complicated nutritional issues, e.g. decisions to implement artificial enteral/parenteral nutrition support, poor feed tolerance (aspiration, vomiting, diarrhoea).
• To implement, manage and monitor adult patients needing nutrition support together with the referring team.
• To ensure timely instigation of nutritional support.
• To ensure referrals for PEG are appropriate and acted upon in a timely manner.
• To ensure patients (and when appropriate their carers), referred for tube feeding, receive appropriate counselling and information.
• To prepare patients for safe timely discharge.
• To provide evidence based education/advice to staff/patients both formally and informally.
• To audit outcome of referrals to the nutrition team.

Core Membership

Madeleine Lee (Chair) Nutrition Nurse Specialist
Joanna Cooper Senior Dietitian
Dr Emma Johns Consultant Gastroenterologist
Fiona Simpson Dysphagia Practitioner
Michael Bowe Pharmacist

Advisory membership

Consultant Surgeon, Mr R Farrell
Nutrition and Dietetic Service
Infection Control, Viv Atkinson

Linked Groups

Essence of Care Group
Nutrition Steering Group
APPENDIX 4

Gateshead Health NHS Foundation Trust

Nutrition and Dietetic Service

STARTER NASOGASTRIC FEEDING REGIMEN FOR WEEKENDS/BANK HOLIDAYS

Contact the Nutrition and Dietetic Department as soon as possible on Ext 2074 for a formal regimen

Feed: Nutrison (1kcal/ml)

<table>
<thead>
<tr>
<th>Day</th>
<th>Rate (ml/hr)</th>
<th>Time (hrs)</th>
<th>Rest (hrs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>30</td>
<td>16</td>
<td>8</td>
</tr>
<tr>
<td>2</td>
<td>60</td>
<td>16</td>
<td>8</td>
</tr>
<tr>
<td>3</td>
<td>90</td>
<td>16</td>
<td>8</td>
</tr>
</tbody>
</table>

- Continue as Day 3 until reviewed by Dietitian. This will provide 1440kcal, 58g protein, 1440mls per day.
- Additional flushes: provide 30ml flushes of sterile water before and after each feed.
- This may not meet fluid requirements; discuss IV fluid requirements with medical team.
- Ensure that the patients head and shoulders are elevated to at least 30° during feeding and for 1 hour afterwards.
- Observe for any nausea, reflux, vomiting, diarrhoea, bloating, aspiration.
- Only increase feed if tolerated.

Precautions

- Please check U&E’s, phosphate and magnesium if patient is at risk of refeeding syndrome (see refeeding syndrome guidelines).
- For patients with a high risk of aspiration, recommend daytime feeding only.
- If a patient is on oral phenytoin, the feed must be stopped for 2 hours either side of the phenytoin dose.
- If a patient is diabetic, oral hypoglycaemic agents and/or insulin may need adjusted to suit NG feeding, please discuss this with the medical team.
- Ward 3, Queen Elizabeth Hospital have an emergency stock of feed and giving sets for weekend use.
Gateshead Health NHS Foundation Trust

Nutrition and Dietetic Service

STARTER NASOJEJUNAL/JEJUNOSTOMY FEEDING REGIMEN FOR
WEEKENDS/BANK HOLIDAYS

Contact the Nutrition and Dietetic Department as soon as possible
on Ext 2074 for a formal regimen

Feed: Nutrison (1 kcal/ml)

<table>
<thead>
<tr>
<th>Day</th>
<th>Rate (ml/hr)</th>
<th>Time (hrs)</th>
<th>Rest (hrs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>20</td>
<td>20</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>40</td>
<td>20</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>70</td>
<td>20</td>
<td>4</td>
</tr>
</tbody>
</table>

- Continue as Day 3 until reviewed by Dietitian. This will provide 1440kcal, 56g protein, 1440mls per day.
- Additional flushes: provide 30ml flushes of sterile water before and after each feed.
- This may not meet fluid requirements; discuss IV fluid requirements with medical team.
- Ensure that the patient's head and shoulders are elevated to at least 30° during feeding and for 1 hour afterwards.
- Observe for any nausea, reflux, vomiting, diarrhoea, bloating, aspiration.
- Only increase feed if tolerated.

Precautions

- Please check U&E's, phosphate and magnesium if patient is at risk of refeeding syndrome (see refeeding syndrome guidelines).
- If a patient is on oral phenytoin, the feed must be stopped for 2 hours either side of the phenytoin dose.
- If a patient is diabetic, oral hypoglycaemic agents and/or insulin may need adjusted to suit NJ feeding, please discuss this with the medical team.
- Ward 3, Queen Elizabeth Hospital have an emergency stock of feed and giving sets for weekend use.
Following placement of PEG follow protocol for immediate aftercare. If there is no abdominal pain pyrexia or tachycardia 4 hours after PEG insertion commence water via PEG at 25ml/hr for 6 hours. If no problems increase to 50ml/hr. Commence feeding the following morning.

Feed: Nutrison (1 kcal/ml)

<table>
<thead>
<tr>
<th>Day</th>
<th>Rate (ml/hr)</th>
<th>Time (hrs)</th>
<th>Rest (hrs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>30</td>
<td>16</td>
<td>8</td>
</tr>
<tr>
<td>2</td>
<td>60</td>
<td>16</td>
<td>8</td>
</tr>
<tr>
<td>3</td>
<td>90</td>
<td>16</td>
<td>8</td>
</tr>
</tbody>
</table>

• Continue as Day 3 until reviewed by Dietitian. This will provide 1440kcal, 58g protein, 1440mls per day.

• Additional flushes: provide 30ml flushes of sterile water before and after each feed.

• This may not meet fluid requirements; discuss IV fluid requirements with medical team.

• Ensure that the patients head and shoulders are elevated to at least 30° during feeding and for 1 hour afterwards.

• Observe for any nausea, reflux, vomiting, diarrhoea, bloating, aspiration.

• Only increase feed if tolerated.

Precautions

- Please check U&E’s, phosphate and magnesium if patient is at risk of refeeding syndrome (see refeeding syndrome guidelines).

- For patients with a high risk of aspiration, recommend daytime feeding only.

- If a patient is on oral phenytoin, the feed must be stopped for 2 hours either side of the phenytoin dose.

- If a patient is diabetic, oral hypoglycaemic agents and/or insulin may need adjusted to suit PEG feeding, please discuss this with the medical team.

- Ward 3, Queen Elizabeth Hospital have an emergency stock of feed and giving sets for weekend use.
APPENDIX 7

Gateshead Health NHS Foundation Trust
Nutrition and Dietetic Service

Percutaneous Endoscopic Gastrostomy (PEG) Referral Form

Patient’s name: ………………………………..   Hospital no: ………………………………..
Address: ………………………………………..  DOB: ……/……/…………
……………………………………………………  ……………………………………………………
……………………………………………………  ……………………………………………………
Age:  ………………… years                     M/F
Date of admission:  ……/……/…………  Date of referral for PEG:  ……/……/………

Indications for PEG

- Stroke related dysphagia
- Post-trauma neurosurgical
- Anorexia or cachexia
- Obstructive lesion pharynx
- Dementia
- Other

CT Scan findings (if relevant) _______________________________________________

Co-morbidity (tick all that apply)

- Cardiovascular
- Diabetes
- Malignancy
- Other
- Abdominal surgery
- Abdominal aortic aneurysm

Respiratory
Renal
Specify site:  ________________________
Please state:  ________________________
Specify:  ________________________
INR/APPT result: ___________________

Previous nutritional support  YES/NO If Yes, date started:  ……/……/………

- Naso-gastric feeding
- Sub cut fluids

- IV fluids
- Other

Unsafe swallow with all consistencies  Yes/No

Poor prognosis for swallow  Yes/No
Seen by Dietitian: Yes/No

Seen by Speech and Language Therapies: Yes/No/Not applicable

Barthel score (0-20): ________________  AMT (mini-mental score 0-10): __________

Referring doctor: ____________________  Signature: ____________________________

Bleep no: ____________________________

NB  PEG is a surgical procedure and if any patient succumbs within 30 days, a post-mortem examination should be considered.

Please fax completed form to: Madeline Lee, Clinical Nurse Specialist in Nutrition Support, Nutrition and Dietetic Service
Fax: 445 6125
Gateshead Health NHS Foundation Trust
Nutrition and Dietetic Service

ENTERAL FEEDING REGIMEN

NAME: 

DATE OF BIRTH: 

WEIGHT: 

ENERGY (Kcals): 

PROTEIN (g): 

FLUID (ml): 

FEED: 

<table>
<thead>
<tr>
<th>Day</th>
<th>Rate (ml/hour)</th>
<th>Hours on Feed</th>
<th>Rest (hours)</th>
<th>Provides per 24 hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>kcal</td>
</tr>
</tbody>
</table>

Continue as Day ………………… of regimen

Flushes: …………………………………………………………………………………………………………………
………………………………………………………………………………………………………………

*Change giving set every 24 hours.
*Observe for nausea, reflux, vomiting, diarrhoea, bloating, aspiration
*Ensure patient’s head and shoulders are elevated to 30° during feeding and for one hour afterwards.

Dietitian …………………………………….           Date …../……/……
## Appendix 9 – Monitoring of Enteral Nutrition support

(To be undertaken jointly by dietitian and ward staff)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Frequency</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Nutritional</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nutrient intake from oral and/or enteral nutrition, including any change in condition which may affect intake</td>
<td>Daily initially, reducing to twice weekly when stable</td>
<td>To ensure that nutritional requirements are being met and that current method of feeding is still the most appropriate. To allow alteration of enteral regimen as needed. To ensure the patient is receiving the correct volume of feed.</td>
</tr>
<tr>
<td>Actual volume of feed delivered</td>
<td>Daily initially, reducing to twice weekly when stable</td>
<td>To ensure the patient is not becoming over/under hydrated</td>
</tr>
<tr>
<td>Fluid balance charts</td>
<td>Daily initially, reducing to twice weekly when stable</td>
<td>To ensure the patient is not becoming over/under hydrated</td>
</tr>
<tr>
<td><strong>Anthropometric</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight</td>
<td>Daily if concerns regarding fluid balance, otherwise weekly reducing to monthly</td>
<td>To assess ongoing nutritional status, determine whether nutritional goals are being achieved and take into account both fat and muscle</td>
</tr>
<tr>
<td>BMI</td>
<td>Start of feeding and then monthly</td>
<td></td>
</tr>
<tr>
<td>Mid arm circumference</td>
<td>Monthly if weight cannot be obtained or is difficult to interpret</td>
<td></td>
</tr>
<tr>
<td>Tricept skinfold thickness</td>
<td>Monthly if weight cannot be obtained or is difficult to interpret</td>
<td></td>
</tr>
<tr>
<td><strong>GI Function</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nausea/vomiting</td>
<td>Daily initially, reducing to twice weekly when stable</td>
<td>To ensure tolerance of feed</td>
</tr>
<tr>
<td>Diarrhoea</td>
<td>Daily initially, reducing to twice weekly</td>
<td>To rule out other causes of diarrhoea and assess tolerance of feed</td>
</tr>
<tr>
<td>Constipation</td>
<td>Daily initially, reducing to twice weekly</td>
<td>To rule out other causes of constipation and assess tolerance of feed</td>
</tr>
<tr>
<td>Abdominal distension</td>
<td>As necessary</td>
<td>Assess tolerance of feed</td>
</tr>
<tr>
<td><strong>Enteral Tube – naso gastric</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tube position (ph of less that or equal to 5.0 using ph indicator paper)</td>
<td>Before each feed begins</td>
<td>To ensure tube is in correct position</td>
</tr>
<tr>
<td>Nasal erosion</td>
<td>Daily</td>
<td>To ensure tolerance of the tube</td>
</tr>
<tr>
<td>Fixation (is it secure?)</td>
<td>Daily</td>
<td>To help prevent the tube from becoming dislodged</td>
</tr>
<tr>
<td>Is tube in working order? (tube intact and not blocked)</td>
<td>Daily</td>
<td>To ensure tube is in working order</td>
</tr>
<tr>
<td>Parameter</td>
<td>Frequency</td>
<td>Rationale</td>
</tr>
<tr>
<td>-----------</td>
<td>-----------</td>
<td>-----------</td>
</tr>
<tr>
<td>Gastrostomy or Jejunostomy Stoma site</td>
<td>Daily</td>
<td>To ensure site not infected/red, no signs of gastric leakage</td>
</tr>
<tr>
<td>Tube position (length at external fixation)</td>
<td>Daily</td>
<td>To ensure tube has not migrated from/into stomach and external over granulation</td>
</tr>
<tr>
<td>Tube insertion and rotation (gastrostomy without jejunal extension only)</td>
<td>Weekly</td>
<td>Prevent internal over granulation/prevention of buried bumper syndrome</td>
</tr>
<tr>
<td>Balloon water volume (balloon retained gastrostomies only)</td>
<td>Weekly</td>
<td>To prevent tube from falling out</td>
</tr>
<tr>
<td>Jejunostomy tube position by noting position of external markers</td>
<td>Daily</td>
<td>Confirmation of position</td>
</tr>
<tr>
<td>Clinical Condition</td>
<td></td>
<td></td>
</tr>
<tr>
<td>General condition</td>
<td>Daily</td>
<td>To ensure that patient is tolerating feed and that feeding and route continue to be appropriate</td>
</tr>
<tr>
<td>Temperature/blood pressure</td>
<td>Daily initially, then as needed</td>
<td>Sign on infection/fluid balance</td>
</tr>
<tr>
<td>Drug therapy</td>
<td>Daily initially, reducing to monthly when stable</td>
<td>Appropriate preparation of drug) to reduce incidence of tube blockage). To prevent/reduce drug nutrient interactions</td>
</tr>
<tr>
<td>Long/Short term goals</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are goals being met?</td>
<td>Daily initially, reducing to twice weekly and then progressively to 3-6 monthly unless clinical condition changes</td>
<td>To ensure that feeding is appropriate to overall care of patient</td>
</tr>
<tr>
<td>Are goals still appropriate?</td>
<td>Daily initially, reducing to twice weekly and then progressively to 3-6 monthly unless clinical condition changes</td>
<td>To ensure that feeding is appropriate to overall care of patient</td>
</tr>
</tbody>
</table>

## Appendix 10 – Protocol for laboratory monitoring of nutrition support

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Frequency</th>
<th>Rationale</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium, potassium, urea, and creatinine</td>
<td>Baseline, daily until stable then 1-2 times per week</td>
<td>Assessment of renal function, fluid status and NA and K status</td>
<td>Interpret with knowledge of fluid balance and medication. Urinary sodium may be helpful in complex cases with gastrointestinal fluid loss</td>
</tr>
<tr>
<td>Glucose</td>
<td>Baseline 1 or 2 times a day (pr more if needed) until stable, then weekly</td>
<td>Glucose intolerance is common</td>
<td>Good glyceamic control is necessary</td>
</tr>
<tr>
<td>Magnesium, phosphate</td>
<td>Baseline, daily if at risk of refeeding syndrome Three times per week until stable, then weekly</td>
<td>Depletion is common and under recognised</td>
<td>Low concentrations indicate poor status</td>
</tr>
<tr>
<td>Calcium, albumin</td>
<td>Baseline then weekly</td>
<td>Hypocalcaemia or hypercalcaemia may occur</td>
<td>Correct measured serum calcium concentration for albumin</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Hypocalcaemia may be secondary to Mg deficiency. Low albumin reflects disease not protein status</td>
</tr>
<tr>
<td>C reactive protein</td>
<td>Baseline then 2 or 3 times a week until stable</td>
<td>Assists interpretation of protein, trace element and vitamin results</td>
<td>To assess the presence of an acute phase reaction (APR). The trend of results is important</td>
</tr>
<tr>
<td>Zinc, copper</td>
<td>Baseline, then every 2-4 weeks depending on results</td>
<td>Deficiency common, especially when increased losses</td>
<td>People most at risk when anabolic. APR causes Zn ↓ and Cu ↑</td>
</tr>
<tr>
<td>Full blood count and MCV</td>
<td>Baseline 1 or 2 times a week until stable then weekly</td>
<td>Anaemia due to iron or folate deficiency is common</td>
<td>Effect of sepsis may be important</td>
</tr>
<tr>
<td>Iron, ferritin</td>
<td>Baseline then every 3-6 months</td>
<td>To assess iron deficiency</td>
<td>Iron status difficult if APR (Fe ↓, Ferritin ↑)</td>
</tr>
<tr>
<td>Folate, B12</td>
<td>Baseline then every 2-4 weeks</td>
<td>Iron deficiency is common</td>
<td>Serum folate/B12 sufficient, with full blood count</td>
</tr>
</tbody>
</table>

Appendix 11

Discharge Procedure for Adult Enterally Fed Patients
Gateshead Health NHS Foundation Trust

- Dietitian and Nutrition Nurses need to be aware of patients pending discharge from the ward as soon as possible. If possible five days notice, as there may be training to be carried out on equipment.

- Liaison with the ward and destination, eg nursing home, patients family, regarding specific feeding requirements on discharge.

- An up to date yellow dietetic sheet regimen for patient.

- Letter for GP on discharge (dietitian). Homeward letter (confirms enteral feed and plastic required).

Nasogastric Tube Patients

- Ward to supply 7 days:
  - Enteral Feed (on discharge script)
  - Enteral Syringes (60ml leur lock)
  - Flocare Infinity Feed Pump and Stand (from Dietetic Department Serial no for E-Reg)
  - Flocare Infinity Giving Sets
  - May require 5ml/10ml enteral syringes for giving medications

- Dietitian to register patient on Homeward E-Reg system, day of discharge
  - Patient demographics
  - GP details
  - NOK details
  - Monthly supply/delivery: Enteral feed (28 day)
    - Enteral Syringes (1 per week)
    - Flocare Infinity giving set (1 per day)
    - pH indicator strips

PEG Patients

- Ward to supply 7 day:
  - Enteral feed (on discharge script)
  - Enteral syringes (60ml leur lock or catheter tip – depends on PEG device, bolus or continuous feed)
  - Flocare Infinity pump and stand (from Dietetic Department serial no for E-Reg)
  - Flocare Infinity Giving Sets
  - Extension sets for PEGs/buttons/G-tube
  - May require 5ml/10ml enteral syringes for giving medication
- Bolus feed will only require enteral syringes

- Dietitian to register patient on Homeward E-Reg:
  - Patient demographics
  - GP details
  - NOK details
  - Monthly supply/delivery
  - Enteral feed (28 day)
  - Enteral syringes (1 per week)
  - Flocare Infinity giving set (1 per day)
  - Extension set for PEG (2 per month)
  - May require enteral 5ml/10ml for medications (1 per day)

Patients who are immuno-suppressed may require daily syringe changes, eg whilst on chemotherapy treatment.

If patients have their PEG device replaced and the type of PEG changes they will require a change of regimen on E-Reg for their extension sets. The Nutrition Nurse will inform the relevant dietitian of any changes.

**Nutricia Homeward Files**

Files are kept in the Band 5 office and should be filed in alphabetical order. All E-reg documentation and amendments to be kept in the file.

- If patients taken off system eg death, all paperwork to be transferred to former Homeward patient’s file.
- If patient hospitalised for significant amount of time – may need to go on hold on Homeward.
- PEG/NG patient list on wall in Nutrition Nurse office to be kept up to date by dietitian.
Problems that can occur with PEG tubes
When nutrition nurse is not available

Establish if the tube is an original corflo PEG tube or a replacement balloon Gastrostomy tube.

**Main problems**
1. Tube blockage
2. Displacement
3. Y Connector broken
4. Infected site
5. Tube removed accidently

1. **Tube blockage**
   a. Staff to flush tube with warm water, soda water or pineapple juice

2. **Displacement of tube** *(Tube stuck in tract)*
   a. This would be confirmed if the PEG tube cannot be rotated or advanced in the tract.
   b. Gastric content leakage from peg site.
   c. Contact Gastroenterologist on call

3. **Y connector broken**
   a. This will need to be changed by a member of medical or nursing staff. Instruction in packet

4. **Infected site**
   a. Swab site and send to microbiology for culture & sensitivity and also candida
   b. 4 Hourly cleaning of site with normal saline and sterile gauze

5. **Accidental removal of PEG**
   See flow chart on next page
PROTOCOL FOR PEG TUBE REPLACEMENT

Endoscopically placed PEG tubes can remain in place for 18 months. These will be routinely changed by the Nutrition Nurse, with an appropriate replacement device. PEG tubes very rarely become displaced: it is more likely to be a balloon gastrostomy tube. However, it is important to follow the advice below should any tube that has been accidently removed.

**ACTION TO BE TAKEN IF PEG TUBE IN FOR LESS THAN 6 WEEKS**

1. Replacement must not be attempted (this can be harmful and lead to peritonitis).

2. Apply sterile dry dressing over the PEG site.

3. Seek medical advice from the gastroenterology team on call

4. Consider another method of hydration until feeding problem is resolved

5. Patient may require repeat endoscopy to replace tube.

**ACTION TO BE TAKEN IF TUBE IN FOR MORE THAN 6 WEEKS**

1. It is essential to insert a tube as soon as possible. The stoma tract can close within hours

2. Contact Nutrition Nurse (bleep 2372) or suitability trained medical / nursing staff who can follow the replacement protocol

3. Replacement balloon Gastrostomy tube should be the same size as the one removed, if possible. See following information for location of G tubes within QE

4. If patient is stable and the tube was re-inserted without problems, normal feeding regime can be resumed.

5. Please ensure the nutrition nurse is updated on next working day of any actions taken, to review patient
Storage Arrangements and Guidelines for the Replacement of Gastrostomy Feeding Tubes when the Nutrition Nurses are Not Available

Location of stores of Gastrostomy Tubes

Balloon inflated replacement gastrostomy tubes sizes 12, 14, 16, 18, 20 and 1 spare ‘Y’ connector for PEG tubes will be stored in the following areas:

MEDICAL SERVICES
- Accident and Emergency Department
  - MAU, Queen Elizabeth Hospital
STROKE MEDICINE
- Ward 22, Jubilee Wing, Queen Elizabeth Hospital
  - Ward 11, Queen Elizabeth Hospital
DUNSTON HOSPITAL
- Margaret Dryburgh Ward
SURGICAL SERVICES
- Ward 9, Queen Elizabeth Hospital

Stock item codes

<table>
<thead>
<tr>
<th>Item</th>
<th>Size</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corflo G Tube</td>
<td>12 x 2</td>
<td>090120030</td>
</tr>
<tr>
<td>Corflo G Tube</td>
<td>14 x 2</td>
<td>090120032</td>
</tr>
<tr>
<td>Corflo G Tube</td>
<td>16 x 2</td>
<td>090120033</td>
</tr>
<tr>
<td>Corflo G Tube</td>
<td>18 x 2</td>
<td>090120034</td>
</tr>
<tr>
<td>Corflo G Tube</td>
<td>20 x 2</td>
<td>090120031</td>
</tr>
<tr>
<td>Corflo Y Adaptor Repair Kit (20FR)</td>
<td>x 2</td>
<td>090120051</td>
</tr>
<tr>
<td>Corflo Y Adaptor Repair Kit (16FR)</td>
<td>x 2</td>
<td>090120058</td>
</tr>
<tr>
<td>Corflo Y Extension set x 2</td>
<td></td>
<td>090120037</td>
</tr>
</tbody>
</table>

Community patients who attend out of hours

Some community patients may bring their spare device from home. Unless you are trained to put that type of device in, a balloon gastrostomy tube should be used. The Accident and Emergency Department will store replacement tubes for any patients who may attend as an emergency.

CORFLO Replacement Gastrostomy Tube Kit

Directions for Removal
1. Completely deflate the balloon with a leur tip syringe.
2. Apply gentle pressure to pull the tube until it exits the stoma.

Directions for Tube Replacement – If tube is new (within 6 weeks of insertion) refer to Nutrition Nurse Specialist/Gastroenterologist for replacement before proceeding. If more than 6 weeks:
1. Choose a replacement gastrostomy tube of similar FR size to the one being replaced.
2 Inspect the tube prior to use.
   a) Fill the balloon with water as indicated on balloon inflation device prior to placement. If necessary, roll the inflated balloon gently between the thumb and index finger to achieve uniform shape.
   b) Deflate the balloon after inspection.
   c) Check the retention bolster to see that it slides up and down the shaft of the tube.
3 Lubricate the tip with water-based lubricant or at least moisten the tip with water.

NOTE: DO NOT USE A PETROLEUM-BASED OIL OR JELLY.

4 Guide the lubricated tip through the stoma and into the stomach until the entire balloon has passed through the tract.
5 Inflate the balloon with water. (Balloon volume is printed on the inflation valve).

NOTE: NEVER INFLATE BALLOON WITH AIR.

6 After balloon inflation, the tube is withdrawn until tension is felt from the balloon contacting the stomach wall.
7 Slide the retention bolster down the shaft of the tube until there is a space of 1 or 2mm between the stoma and the bolster.

NOTE: EXCESSIVE TENSION SHOULD NOT BE APPLIED NOR SHOULD THE RETENTION BOLSTER BE SUTURED IN PLACE.

Maintenance

The Tube

1 The tube should be irrigated with 20ml of water (5 or 10ml for infants or children) when feeding formula is interrupted, and before and after each medication administration. Tubes should be irrigated routinely every 4 hours. The exit port of the tube has been designed to lessen the possibility of clogging with formula; however, vigorous pressure should never be used during irrigation.
2 The feeding port should be kept clean of feeding materials by using a swab or soft cloth.
3 Clean and dry the outer surface of the tube and retention bolster as necessary. The retention bolster can be cleaned in place or by carefully sliding it up the tube.
4 CHECK BALLOON VOLUME EVERY 7 TO 10 DAYS, TO VALIDATE BALLOON INTEGRITY. It is normal for small amounts of water to evaporate from the balloon over time.
   a) Discontinue feeding prior to checking balloon volume.
   b) While tube is in place, use a luer tip syringe to completely evacuate water from balloon
   c) Discard evacuated water.
   d) Reinflate balloon with water (balloon volume is printed on inflation valve).
   e) Document per institution protocol.
5 It is generally recommended that the gastrostomy tube be replaced every 2-3 months although it may remain in the patient as long as it remains functional and free of damage.

The Stoma

1 The stoma should be routinely inspected for cleanliness.
2 To clean the skin around the stoma, lift the edges of the retention bolster and gently wash the stoma with soap and water applied to a soft washcloth.
3 The stoma should be dried properly and the retention bolster should be returned to its original position if it was moved.

NOTE: CONSULT A CLINICIAN IF THE STOMA APPEARS RED OR IRRITATED.
INFLATION VALVE COLOUR CODE

<table>
<thead>
<tr>
<th>COLOUR</th>
<th>FR. SIZE</th>
<th>WATER VOLUME</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>12Fr</td>
<td>5</td>
</tr>
<tr>
<td>Green</td>
<td>14Fr</td>
<td>5</td>
</tr>
<tr>
<td>Orange</td>
<td>16Fr</td>
<td>5</td>
</tr>
<tr>
<td>Yellow</td>
<td>20Fr</td>
<td>20ml</td>
</tr>
</tbody>
</table>

DIRECTIONS FOR USING THE ENTERAL Y EXTENSION SET

1. Insert Y set connector firmly into gastrostomy tube feeding port.
2. For feeding, cap Y access port. Attach enteral administration set connector.
3. To irrigate aspirate or administer medications, stop formula administration. The administration set tubing must be closed off before opening access port.
   a) Close roller clamp, or
   b) Pinch administration set tubing closed.
4. To use a 60ml purple enteral female leur syringe: Remove cap from access port and insert leur syringe tip into port.
5. To use a 60ml purple enteral catheter tip syringe: Remove syringe adaptor from cath tip access port and insert cath tip syringe into port.

NOTE: If disconnecting the administration set, CAP THE MALE LEUR (MAIN PORT), PRIOR TO ACESS PORT USE.

6. After irrigation, close access port and open administration set tubing to allow formula flow. Restart formula administration. Proceed with feeding.

The Y extension set and gastrostomy tube should be irrigated with 20ml of water (5 or 10ml for infants or children) when feeding formula is interrupted, and before and after each medication administration. Vigorous pressure **should not** be used during irrigation.
APPENDIX 13

Gateshead Health NHS Foundation Trust
Nutrition and Dietetic Service

Enteral Feeding Guidelines for Paediatric Services

Introduction

The indications for children who require Enteral Feeding are the same as that of adults. Enteral Feeding is usually decided in collaboration with the consultant, dietitian and care teams either as an in-patient or an outpatient. Parental consent must be obtained prior to Enteral Feeding.

Following the decision of Enteral Feeding a number of other medical professions may be involved or become involved:

1  Consultant
2  Dietitian
3  Senior Nurse
4  Children’s Nurse Specialist
5  Speech and Language Therapist

Assessment

All children requiring Enteral Feeding must be referred to the Nutrition and Dietetic Department, where a detailed nutritional assessment will be carried out by a dietitian. The assessment will be the same as that of an adult but will also have to take into account the parental/carers ability.

Insertion of a Nasogastric Tube

Some parents or carers are often trained in the correct procedure to pass NG tubes (without the guide wire) and they should also be aware of the attached checklist.

Paediatric tubes will usually be used in children but the length and type of tube will depend on each individual case. Some older children may require an adult tube to be inserted. Each time a Nasogastric tube is inserted, it will be measured to ensure that the correct size for the child is used

There are 2 types of tubes that can be used [PVC and Polyurethane (UPC), PVC tubes tend to be used for short term feeding and should be used for no longer than 10 days. The Polyurethane tubes (silk tubes) should be used according to the hospital guidelines and can remain in situ for up to 1 month. The Polyurethane tubes can also be re-inserted if it accidentally becomes dislodged].
Procedure for insertion of Nasogastric tubes

Equipment

- Nasogastric feeding tubes (5FG, 6FG, 7FG – depends on individual cases as an adult tube can be used in some cases)
- 60ml enteral feeding syringes
- pH indicator strips
- non-sterile gloves
- Apron
- Extra thin hypafix duoderm
- Tape
- Tissues
- Water

Procedure for insertion of Nasogastric feeding tube with Guide wire (no sutures)
[Note: the procedure below is the same for nasogastric tubes without guide wire less the need to remove guide wire].

1 Wash hands and wear gloves

2 Passing a tube is not a very pleasant procedure, but it is soon over and it is important to stress this to both the child and the parents/carers. Children should be reassured and appropriate explanation given where possible.

3 Ensure the child is adequately secure; a baby should be wrapped in a blanket with his/her arms inside to prevent them from grabbing at the tube. If the child is older, they should be sat on a parent’s knee, with the parents holding the child’s hands away from the tube.

4 Ensure all equipment is at hand before starting. Cut the required price of extra thin Duoderm, to apply to the cheek on the side that the Nasogastric tube will be passed.

5 Measure the length of the tube to be inserted – it must be placed in the stomach. Place the tip of tube at the bottom of the sternum ‘rib cage’ and extend it to the tip of the child’s nose and then extend to the ear lobe.

   It is important that the length of tubing is correct. If too much is inserted it may kink. Never force the tube down. If resistance is met, stop and seek advice.

6 Dip the end of the tube in water (cool boiled/sterile water). This helps the tube to be passed more easily and quickly.

7 Pass the tube slowly up the nostril, eventually reaching the top of the nose (nasal septum). Angle the tube slightly so that the tube goes down the back of the child’s throat. Allow the tip to seek its own passage. Older children can be encouraged to have a drink, a baby may be encouraged to suck a bottle or dummy. As the child takes sips, advance the tube down the food pipe (oesophageal) into the stomach.

   If the child becomes blue around the lips (cyanosed), the tube should be removed immediately (blueness around the lips would indicate that the tube is in the windpipe)
instead of the oesophagus). If excessive coughing occurs during insertion, remove and try the procedure again.

8 DO NOT PUT anything down the child’s tube unless certain that it is in the correct position in the stomach. The contents of the child’s stomach should be of acid by nature. Uncap the end of the tube and attach a 60ml syringe, gently draw back on the barrel so that a small amount of fluid from the child’s stomach is obtained. Place this fluid onto pH strip. The pH should be 5 or less if not, check correct amount of tube has been passed, ie not too much, not too little. Remove the guide wire if pH is 5 or less otherwise re-position and try again. If pH is inconclusive the child may require a chest xray.

| Never give the feed unless you are sure that the tube is in the correct position - pH indicator should be 5 or less |

9 Secure the tube in place using appropriate tape and reassure/comfort the child.

Feeding Equipment

Nutricia Infinity Feeding Pumps are used wherever possible, however, mobile Kangaroo pumps/Novartis Mobile Pump can be used if necessary.

Naso-gastric extension sets should be washed out after each use and sterilised, a sterile enteral syringe must be used for each feed/flush on the ward.

Milk and milk substitutes are available on the Paediatric Unit. Nutritionally complete liquid feeds, e.g. Infatrini, are also available upon referral to Nutrition and Dietetic Service.

Gastrostomy Tubes

The preferred type of gastrostomy for children is a mini button gastrostomy. The mini button is flush to the abdominal wall and is less likely to be dislodged by a child. The original PEG will be placed by a Paediatric Gastroenterologist at the RVI, Newcastle, and is usually in situ for up to 3-6 months and then is replaced by a mini button gastrostomy. Ward 20 holds a number of spare gastrostomy tubes for use in an emergency.

Routine Care of Gastrostomies

1 Wash the gastrostomy area daily with warm tap water and dry thoroughly with a clean towel or a clean piece of kitchen roll.

2 Check the stoma site daily for signs of redness and swelling.

3 Turn the gastrostomy tube in a full circle (360 degrees) once a day.

4 Flush the tube, using 20mls of water in a clean enteral syringe, before and after each feed and medicines. If the tube is not being used, it should be flushed once a day with 20mls of water. This prevents blockages.
5  Gastrostomy extension sets should not be sterilised as this erodes the plastic used in these sets. These sets should be washed after each use in hot soapy water, rinsed and left to drain dry. The sets should be changed every 7 days.

**Administration of Feed**

Method of administration will be decided depending on the child’s age and condition, ie bolus or continuous or top up feeding.

In hospital sterile water should be used to flush the child’s tube, cooled boiled water may be used at home. In the case of a fluid restricted child, a minimum of 5ml can be used to flush the tube.

It is not necessary to store unopened feed in the fridge. However, once feed has been opened it can be stored in a refrigerator for 24 hours providing it has not been attached to an extension set. When administrating feed, it should be given at room temperature.

**When discharging a child home please use the following checklist**

All families should be aware of the following if they are learning to insert a Nasogastric tube.

1  Basic understanding of the reason for inserting a Nasogastric tube.
2  Be able to identify the equipment needed to safely pass a Nasogastric tube.
3  Be able to demonstrate how to determine the length of the Nasogastric tube to be inserted.
4  Ability to safely secure the child when passing the Nasogastric tube.
5  Able to explain when and how to test that the Nasogastric tube is in the stomach.
6  A basic understanding of desired position of an inserted Nasogastric tube.
7  Be aware of signs of the Nasogastric tube being inserted into the airway and not the stomach.
8  Be aware of what to do if they think that the Nasogastric tube has been placed into the airway.
9  Be able to demonstrate how to secure the Nasogastric tube is in place once it has been inserted.
10  Be aware of what to do if unsuccessful at inserting the Nasogastric tube after 2-3 attempts.
11  Be aware of the Homeward Services and delivery systems.

**Problem and Problem Solving**

- Unable to get any liquid back from child’s tube.
This does not necessarily mean that the tube is not in the right place. It could be that the child’s stomach is empty, the tube is resting against the stomach wall or medication may be reducing stomach activity. If safe, give the child a drink of fluid, wait a few minutes, then try to draw back again.

If this does not work, then turn the child on their left side and try drawing back the fluid again.

If this does not help – seek help!