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### Consultation Table

This document has been developed in consultation with the groups and/or individuals in this table:

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<thead>
<tr>
<th>Name of Individual or group</th>
<th>Title</th>
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<tbody>
<tr>
<td>Nutrition Steering Group and former Clinical Artificial Nutrition Subgroup of the NSG</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nutrition and Dietetic Dept</td>
<td></td>
<td>August 2014</td>
</tr>
<tr>
<td>Dr Umasankar Subramaniam</td>
<td>Consultant Microbiologist</td>
<td>Sept 13</td>
</tr>
<tr>
<td>Sheila O'Brien</td>
<td>Assistant Head of Service</td>
<td>Sept 13</td>
</tr>
<tr>
<td></td>
<td>Special Care Dental Service</td>
<td></td>
</tr>
<tr>
<td>Erwin Castro</td>
<td>Diabetes Specialist Nurse</td>
<td>Aug 13</td>
</tr>
<tr>
<td>Tini Maher</td>
<td>Community Services Pharmacist</td>
<td>Aug 13</td>
</tr>
<tr>
<td>Blessing Maunganidze</td>
<td>Divisional Pharmacist, Planned Care</td>
<td>Sept 13</td>
</tr>
</tbody>
</table>

This information may be made available in alternative languages and formats, such as large print, upon request. Please contact the document author to discuss.
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1. Introduction

These Guidelines have been developed by East Sussex Healthcare NHS Trust for all adult patients who receive enteral feeding and are managed by this Trust.

The Guidelines have been developed by reviewing current literature and manufacturer guidelines to develop evidence based and best practice guidelines for administering an enteral feed to a patient; ensuring equality of care and standard advice throughout the Trust.

These Guidelines should be used in conjunction with the following guidelines from East Sussex Healthcare NHS Trust and NICE:

- Nutrition Policy for Adults
- Clinical Guideline for parenteral nutrition in adults
- Clinical Guideline for the placement of nasogastric tubes and nasal retaining loops in adults.
- Clinical Guideline for managing adults at risk of refeeding syndrome
- Guidance for Staff on the Implementation of the Mental Capacity Act (MCA)
- Guidance for Staff on the Implementation of the Deprivation of Liberty Safeguards
- Clinical Guidelines for the Administration of Drugs to Patients Unable to Swallow Solid Oral Dosage Forms

2. Rationale

These Guidelines are intended to ensure enteral feeding is delivered in line with the Trust aims and objectives:

Aims are to:

- Ensure that enteral feeding is patient centred and safe.
- Use enteral feeding resources efficiently and effectively for the benefit of our patients and their care.
- Enhance enterally fed patients’ experiences and clinical outcomes.
- Work in partnership to meet the needs of the enterally fed patient.

Our Objectives are to:

Provide high quality, innovative and accessible emergency and elective enteral feeding care.
- Deliver the right enteral feeding care in the right place at the right time by working in clinical networks and other partnerships
- Communicate effectively regarding enteral feeding.
- Maintain and develop staff that are skilled and motivated in enteral feeding.

3. Scope

This document applies to any healthcare professional involved in the care of a patient who is receiving some/all of their nutritional requirements/medications/hydration needs via an enteral feeding tube. These Guidelines have been developed to be specific to East Sussex Healthcare NHS Trust; both acute and community settings.
4. Definitions

Enteral feeding

Enteral feeding is the provision of nutrients straight into the gastrointestinal tract via a feeding tube. Enteral feeding can be used as a sole source of nutrition or to supplement a poor oral intake.

HE(T)F
Home Enteral (Tube) Feeding

HDU
High dependency Unit

ITU
Intensive care unit

Jejunostomy
A feeding tube inserted directly into the jejunum.

LFT’s
Liver Function Tests

Nasogastric (NG) tube
Tube that goes down the nose, oesophagus, then into the stomach

Nasojejunal (NJ) tube
A tube that goes down the nose, oesophagus, through the stomach, with its tip in the jejunum

NBM
Nil by mouth; deemed unsafe to have anything via oral route

Percutaneous Endoscopic Gastrostomy (PEG)
A feeding tube placed using an endoscope

PINNT
Patients on Intravenous and Naso-Gastric Nutrition

RD
Registered Dietitian

Radiologically Inserted Gastrostomy (RIG)
A feeding tube inserted in radiology.

U & E’s
Urea and Electrolytes (biochemistry)

5. Accountabilities and responsibilities

Enterally fed patients can be present in all sectors of ESHT including Acute Hospitals; Community (own home/care home/nursing home); Community inpatient units. Members of the MDT (Multi-Disciplinary Team) that may be involved are:

(NB: this is not an exhaustive list)
Clinical Guidelines for Enteral Feeding (Adults)

- Consultant Led Medical/Surgical Team
- Acute Dietitian
- Ward Nursing Staff
- Endoscopy Nurse
- Pharmacist
- Community Dietitian
- Community Nursing Staff (e.g. Advanced Community Nurse Practitioners / Community and District Nurses / Nurses)
- G.P.
- Homecare Company
- Homecare Company Nurses
- Patient / Carer
- Specialist Nurses (e.g. Macmillan, Diabetes, MS, Parkinsons, MND, Stroke, Dementia),
- Oral Health Advisors / Dental Team
- AHPs - Speech and Language Therapists, Occupational Therapists and Physiotherapists.
- Tissue Viability Nurses
- Infection Control Teams

Below are the key responsibilities/expectations of the core members of the MDT involved in enteral feeding, though there may be overlap in these and detailed communication and documentation will be essential:

5.1. Responsibility of Consultant Led Team

- Ensure the patient is referred to the Acute Dietitian.
- Lead multidisciplinary assessment and agree the appropriateness and method of enteral feeding, including arranging best interest meetings where appropriate and keeping carers and relatives informed.
- Refer and comply with Trust Guidance for Staff on implementing Mental Capacity Act and Deprivation of Liberty Safeguards where appropriate.
- Monitor nutrition, hydration and medications for the patient appropriately as per Trust guidelines, once enteral nutrition support commenced and liaise with the relevant members of the MDT.
- Coordinate the patients’ discharge with all relevant members of the MDT
- Coordinate a full and detailed discharge summary to the patients’ G.P.
- If a patient is to be discharged with a nasogastric feeding tube, to agree on how, and who will have the responsibility for:
  - The tube management
  - Monitoring that it is in situ correctly
  - Tube replacement

5.2. Responsibility of Nursing Staff (both Acute and Community Hospitals)

- Ensure referral made to the Dietitian as soon as possible, as these patients are high priority.
• If an NG tube, the nurse may be responsible for (re)placement if they are competent and no contraindications.

• Initiate and monitor feeding regimen, including inputs and outputs, in partnership with the Dietitian and medical/surgical team responsible for the patient.

• Ensure the ward is adequately stocked for feed and supplies for the patient.

• Ensure the patient/carer(s) are kept fully informed.

• If the patient is being discharged with an enteral feeding tube, ensure the patient/carer(s) are trained in all aspects of enteral feeding required for a safe discharge (refer to the Discharge Checklist).

• Keep the Dietitian informed of potential discharge plans.

• Provide syringes and other necessary equipment (ancillaries) for discharge.

• Provide sufficient feed for discharge (minimum 10 days’ supply).

• Provide training on the appropriate care of the tube after discharge; consulting with Endoscopy/Radiology/Homecare Company Nurses if any clarification required.

• If the patient is to be discharged with a nasogastric tube, to ensure that the patient/carer or person who is replacing the tube is signed off as competent to do this, or if this is not appropriate that arrangements are made for how the tube can be replaced.

5.3. Responsibility of Acute Dietitian/Dietitian covering Community Hospital

• On receipt of referral, the Dietitian will assess and advise, working in liaison with Medical / Nursing team and other professionals involved in the patients care over progress of the procedure.

• Calculate and initiate feeding regimen, based on assessment of nutritional requirements.

• Assess and monitor relevant medications and biochemistry (U and E’s, Liver Function Tests, Full Blood Count, CRP) and consider the risk of re-feeding syndrome in accordance with Trust Guidelines.

• Monitor regimen until established on an appropriate regimen for discharge.

• Liaise with Community Dietitian regarding discharge plans.

• Provide written instructions regarding the feeding regimen to all relevant parties.

• Request weight from ward on discharge.

• Register patient with the contracted feed delivery company and forward a copy of the registration form to the Community Dietitian and Dietetic Administrator responsible for invoicing.
Complete Discharge Checklist and Dietetic Handover Sheet and send to the appropriate Community Dietitian; or complete Transfer of Care Discharge Summary for patients being discharged out of area (See appendices for documentation).

Inform the patients’ G.P. on discharge that the patient has been discharged on an enteral feed and that a prescription for the feed should be sent to the contracted feed delivery company. Information concerning the type of feed, feeding tube, feed rate and any other information relating to the feeding regimen and proposed Dietetic follow up should also be provided.

Contact Community Nursing staff and feeding delivery company nurse as appropriate.

If the patient is being discharged with an enteral feeding tube, ensure the patient/carer(s) are trained in all aspects of enteral feeding required for a safe discharge (refer to the Discharge Checklist), in liaison with the ward nursing staff and the Homecare Company nurse.

5.4. Responsibility of Community Dietetic Team

Receives patient details from Acute Dietitian or Dietitian covering Community Hospitals.

Liaison with Community Nursing staff as appropriate.

Contact patient on discharge in accordance with departmental referral protocol. Arrange appointment, either face to face (clinic or home visit) or by telephone, depending on the individual patient’s preference and requirements.

Arrange with feed company nurse for additional pump training within home if necessary.

Monitor patients as per guidelines.

Deal with any queries from the patient or carers.

Basic trouble shooting, escalating issues to the feed company nurse, GP, endoscopy, gastroenterology or surgeons as required.

Monitor nutritional status, weight and oral intake (if appropriate).

Keep G.P. informed of any concerns regarding condition or any changes in feed regimen.

Contact feeding company with any change in feeding status.

Routine ordering of replacement gastrostomies and enteral feeding ancillaries from the Feed Company on advice of Community Nursing Staff or Feed Company Nurse.

Complete Transfer of Care Discharge Summary for patients being discharged or transferred out of area.
5.5. Responsibilities of Community Nursing Staff

- Become involved with feed administration if patient / carer is unable to manage.
- Give advice on care of gastrostomy site and monitor condition of any feeding tube and stoma site as indicated.
- Initiate process of tube replacement when necessary by communicating with Community Dietitian and the patient’s G.P.
- Regular blood tests (see monitoring section).
- Contact G.P. or Community Dietitian with concerns.
- Support and coordinate the care of patients with all types of enteral feeding tubes.

5.6. Responsibilities of Feed Company Nurse

- To provide training of pump use within patients home.
- To support servicing of pump/equipment within company guidelines.
- To provide the Community Dietitian with a written summary of all visits to enterally fed patients.
- Initiate process of tube replacement when necessary, in consultation with the Community Dietitian, patient’s G.P. and Endoscopy/Radiology Units.
- To conduct routine balloon, RIG and low profile device changes in the patients home, in accordance with company guidelines/manufacturer guidelines/local guidelines or agreements.
- To advise the Community Dietitian of the need for replacement of gastrostomy tube parts and conduct simple repairs in the patients home.
- Highlight when tube changes are required in Endoscopy.

5.7. Responsibilities of G.P.

- To assess patients that may require enteral feeding and refer to the appropriate members of the MDT.
- The overall clinical responsibility of enterally fed patient in the Community.
- To provide feed on prescription and forward these to feed company once a month, when requested.
- To inform Community Dietitian of any change of condition (e.g. Diabetes, Death, Admission to Hospital).
- To carry out blood test monitoring as recommended and initiate appropriate treatment, review or investigations.
- To refer on for investigations or procedures if indicated.
5.8. Responsibilities of Patient / Carer

- They ensure that they are content and competent with all aspects, prior to discharge.
- Contact Homecare Company Nurse, GP, Community Nurse or Dietitian if any concerns or problems regarding to their enteral feeding.
- To care for the enteral feeding tube and administer feed as directed by the Healthcare Professionals involved in the patients care.

5.9. Responsibilities of Feed Delivery Company

- To deliver feed, plastics and ancillaries to the patient in a timely manner to ensure patients can administer the prescribed feed.
- To provide the Community Dietitian with regular reports concerning the amount and type of equipment delivered to each patient.
- To liaise with the GP for appropriate prescriptions and notify the appropriate Community Dietitian if queries concerning any feed prescription.
- To make the Community Dietitian aware when deliveries are declined.
- To provide a 24 hour helpline for patients, carers and healthcare professionals to answer queries.
- To provide a timely collection service for patients who are no longer receiving enteral feeding.
- Arrange servicing of and replace feeding pumps.

5.10. Responsibilities of Pharmacists

- Review the medications that they are in the optimal form for administration via enteral feeding tube and that there are no contraindications and/or interactions.
- Suggest suitable alternatives where required.
- Communicate these issues with other members of the MDT.
- Assist in sourcing feeds, especially if there are stock issues.

6. Process

6.1. An Introduction to Enteral Tube Feeding

Enteral feeding is the provision of nutrients straight into the gastrointestinal tract via a feeding tube, for example a Naso-Gastric (NG) tube or a Percutaneous Endoscopic Gastrostomy (PEG) or jejunostomy. Enteral feeding can be used as a sole source of nutrition or to supplement a poor oral intake.
Long term tube feeding is an integral part of the management of many patients with chronic disease, for example with cancer, post stroke, neurological conditions, Crohn’s disease and for patients recovering from complicated surgery (S. Healy et al 2002).

Enteral tube feeding has become more common in primary care over the last few years due to advances in technology, development of the percutaneous endoscopic gastrostomy placement technique and increased pressure to transfer the care of stable patients from the acute setting into primary care (S. Madigan et al 2002).

The number of patients who are receiving home enteral tube feeding (HETF) continues to grow. The number of people receiving HETF is monitored by the British Association for Parenteral and Enteral Nutrition (BAPEN) via the British Artificial Nutrition Survey (BANS), which is a voluntary register (www.bapen.org.uk).

As well as this steady growth in the number of people receiving HETF, there has also been a rise in the number of patients being started on HETF who are over 60 years old, which will have implications on the cost of caring for this age group (C. Glencorse 2003).

6.2. Indications for Enteral feeding

Enteral Feeding has considerable implications for the patient and their carers. The decision making process should be multidisciplinary, patient-centred and in the patients best interests. It should involve the patient (if possible), relatives, carers and the Primary Health Care Team.

Enteral feeding should be considered in patients who have a functional, tube accessible gastrointestinal tract and who despite the use of oral interventions still have an inadequate or unsafe oral intake and are:

- Malnourished, defined as:
  - A Body Mass Index (BMI) of less than 18.5kg/m².
  - Unintentional weight loss greater than 10% within the last 3-6 months.
  - A BMI of less than 20.0kg/m² and unintentional weight loss greater than 5% within the last 3-6 months.

At risk of malnutrition, defined as:

- Have eaten little or nothing for more than 5 days and/or are likely to eat little or nothing for the next 5 days or longer.
- Have a poor absorptive capacity, and/or have high nutrient losses and/or have increased nutritional needs from causes, such as catabolism. (NICE 2006)

Gastrostomy or jejunostomy feeding should be considered for those patients who are expected to require artificial nutritional support for greater than four to six weeks (M. Stroud et al 2003).

Enteral tube feeding may not be appropriate if the patient is suffering from a condition likely to cause death in the short term.

PEG feeding is acceptable to the patient (if competent or prior wish expressed, for example in a Living Will), the family and carers. It is essential that the MDT is involved in the
decision, and that all concerned are satisfied that PEG feeding is in the patient’s best interests.

Consent has been obtained if the patient is a competent adult, after full consultation and explanation of the rationale for the procedure; the procedure itself and long term follow up. If the patient is not competent, an enteral feeding tube may be inserted if this is deemed to be in the patient’s best interests in line with guidance from the Mental Capacity Act (2005). Refer to Trust guidelines on Capacity and Consent. It may be beneficial to agree a period of time limited trial feeding to assess the potential benefits.

Enteral tube feeding is a medical treatment in the eyes of the law. Starting, stopping or withholding such treatment is a medical decision, which should always consider the patient’s wishes.

Possible contra-indications to enteral feeding:

- Ascites
- Bleeding disorders
- Extensive Gastric Ulceration
- Gastro-oesophageal reflux with significant risk of aspiration
- Intestinal obstruction
- Late Pregnancy
- Malabsorption
- Morbid obesity
- Neoplastic / infiltrative disease of the stomach
- Oesophageal or gastrointestinal fistulae
- Paralytic ileus
- Peritoneal Dialysis
- Peritonitis
- Persistent / intractable vomiting
- Previous gastrointestinal surgery
- Severely delayed gastrointestinal emptying
- Significant liver disease
- Surgery requiring complete bowel rest
- Myocardial infarction

6.3. Enteral Feeding Routes

6.3.1. Naso-Gastric (NG) - Refer to Clinical Guideline for the placement of a Nasogastric Tube for Artificial Nutrition Support in adults

- A fine bore tube (5-8 French Gauge) is passed down the patient’s nose into the stomach.
- This is normally a short term feeding option for up to four weeks.
- NG tube position should always be confirmed prior to every use, as these tubes easily dislodge.
- NG feeding is not considered to be suitable for long term feeding in most cases, due to the high risk of tube displacement.
Patients who require long term NG feeding should have their feeding tubes replaced every 4 – 6 weeks and alternate nostrils should be used.

6.3.2. Naso- jejunol (NJ)

- A fine bore tube (6 – 10 French Gauge) is passed down the patient’s nose into the jejunum (upper section of the small intestine).
- This is used in patients who need to be fed below the stomach.
- May require endoscopic placement.
- NJ feeding is not considered to be suitable for long term feeding in most cases, due to the high risk of tube displacement.
- Patients who require long term NJ feeding should have their feeding tubes replaced every 4 – 6 weeks and alternate nostrils should be used.
- Checking pH is not suitable for confirming the position for these types of tubes (as they do not sit in the acid environment of the stomach).

6.3.3. Percutaneous Endoscopic Gastrostomy (PEG)

- A tract is made into the stomach via endoscopy under local anaesthetic and a feeding tube is inserted.
- It is held in place by an external fixation device and a soft plastic bumper internally.
- This is normally for longer term feeding.
- Tubes should be replaced as required or as indicated by the manufacturer.

6.3.4. Surgically Placed Gastrostomy

- A gastrostomy feeding tube is inserted surgically under general anaesthetic.
- This is often used when a patient is unable to tolerate an endoscopy or an endoscope cannot be passed.
- A balloon gastrostomy can replace these feeding tubes once the stoma tract is formed.
- These tubes may or may not be held in place by sutures – check with the technician who inserted the gastrostomy before removing any sutures.

6.3.5. Radiologically Inserted Gastrostomy (RIG)

- A gastrostomy tube is inserted under X-Ray (fluoroscopy or ultrasound) guidance.
- Often conducted in those patients who are unable to tolerate an endoscopic procedure.
- Can be replaced by balloon gastrostomies once the stoma site has healed.

6.3.6. Balloon Gastrostomy

- The gastrostomy is held in place by a balloon filled with water.
- The volume of the balloon should be checked weekly to ensure it is inflated sufficiently to prevent tube displacement. See appendices for guidance.
6.3.7. Low Profile Gastrostomy Device (LPGD)

- LPGDs are small devices that sit close to the skin and are usually held in by a balloon. Often also called "buttons" or "MIC-KEYs" after the leading brands.
- Extension sets are connected onto the “button” part to enable water, feed, or medications to be administered. Once completed, the extension set is removed.
- These devices are less cumbersome than other gastrostomies, so are easier to conceal, less obtrusive and may be useful for those patients that pull at their gastrostomy.
- However, they are more expensive and have a fixed length, so careful consideration should be taken as to whether it is essential to have one placed.
- LPGD’s can be inserted into most patients once a stoma tract is established.

6.3.8. Jejunostomy

- A feeding tube is inserted directly into the jejunum during surgery or endoscopically.
- Replacement should be carried out in hospital.
- **Checking pH is not suitable for confirming the position for these types of tubes (as they do not sit in the acid environment of the stomach).**

6.3.9. PEG – J

- This is a PEG which has an extension passing into the jejunum for patients who require feeding below the stomach.
- **Checking pH is not suitable for confirming the position for the extension part (as they do not sit in the acid environment of the stomach).** However, an acidic pH may be a strong indicator that the extension has migrated back up into the stomach.

6.4. Methods of Administering Enteral Tube Feeds

An enteral tube feed can be administrated in two different ways, either by pump or by regular bolus flushing. Each method should be explained to the patient so that they can make an informed decision about the most appropriate administration method for them. Different methods are often used in combination or alternated between, depending on the patient’s condition/lifestyle/preference.

6.4.1. Pump Feeding

- Feeding pumps are used to control the amount of feed/fluid delivered over a specific period of time.
- Pumps are provided on loan from the feed companies.
- Pumps should be kept clean by daily cleansing with a mild detergent and water solution, as per manufacturer guidance.
- Most pumps can be set up to be mobile, with a back pack if desired.
6.4.2. Bolus Feeding

- This is where the feed is infused via an enteral feeding 60ml syringe, either via syringe or with the plunger removed and the barrel connected to the feeding tube and gravity used to administer the feed/fluid.

- This can be useful for patients who are restless, agitated or mobile, as they may not tolerate being attached to a pump for long periods of time, and it may reduce the risk of aspiration.

- A “bolus” can also be given using a feeding pump running at a very high rate. This is sometimes referred to as “pump-bolus feeding”. This may free up carers to do other tasks.

- No more than 200 – 400ml of total fluid (feed plus water flush) should be administered at one time (M. Stroud et al 2003), unless advised otherwise by the Dietitian or medical team looking after the patient.

- The bolus should be infused slowly, ideally over a period of 15-60 minutes (M. Stroud et al 2003), or as tolerated by the patient.

- This method of feeding may be unsuitable for patients who are being fed into the small intestine, for example NJ or PEG-J tubes, as it may cause dumping syndrome, though it may be necessary/tolerated by some individuals.

- The main complication of this form of feeding is nausea, vomiting, bloating and/or diarrhoea.

6.5. Enteral Feeding Tube Manufacturers

The websites of the lead manufacturers of enteral feeding tubes are listed below, correct at the time of ratification. Please note that contracts may exist meaning that there are preferred providers for the Trust.

http://www.nutriciaflocare.com/
www.fresenius-kabi.com
www.abbottnutritionuk.com
www.merckge.co.uk
www.vygon.co.uk
http://www.medicina.co.uk/
http://www.gbukenteral.com/

6.6. Referral for Gastrostomy Tube Insertion

A referral form or letter from the Consultant or G.P. responsible for the patient must be sent to the Consultant Gastroenterologist at the appropriate hospital (Eastbourne District General Hospital or The Conquest). This will give the patient’s details, nutritional history...
and reasons for requesting gastrostomy insertion, and confirmation that the relevant MDT members have been involved.

6.7. Summary of Enterally Fed Patient Care Pathway

1. Patient to be considered for enteral feeding due to inadequate intake/NBM
   - Patient assessed by relevant members of the MDT including Dietitian, Nursing and Speech and Language Therapy if indicated
   - Assessed by Consultant Gastroenterologist if required
   - Deemed to be in patient’s best interests and consent obtained
   - Patient has viable and accessible GI tract
   - Decision regarding route of access
   - Feeding tube passed/placed
2. Monitor observations as per guidelines, site of access and enteral feeding tube post placement
3. Implement feeding regimen and ensure patient is stable on regimen
4. Re-evaluate feeding regimen, route of access and overall aims of nutritional intervention
5. Discharge planning with members of MDT and agree responsibilities
6. Patient/Carer training in preparation for discharge by Nursing staff, Dietitian, Homecare Company Nurse
7. Dietitian registers patient with the feed home delivery service
8. Hospital Dietitian handovers to Community Dietitian
9. Hospital Nurse handovers to Community/District Nurse or Care Home
10. Medical team handover to GP
11. Patient discharged from hospital with 10 days supply of feed, plastics etc.
12. Telephone contact / home visit from Community Dietitian
13. Additional training from feed company nurse (if required)
14. Community Dietitian monitor as per guidelines, in collaboration with the Primary Healthcare Team and GP
15. Re-referral made to Acute Hospital, as required, to manage initial tube changes/complications.

6.8. Management of Enteraly Fed Patients in the Community

- The Hospital Dietitian will complete a referral (see appendices) to the Community Dietitian detailing the patient’s requirements.
- The Consultant responsible will write to the patient’s G.P. on discharge from hospital, informing the G.P. of the patients enteral feeding regimen, feed type and position / type of tube inserted.
- The G.P. will have clinical responsibility for the patient, with additional input from the Community Nurse, Community Dietitian and Feed Company Nurse as appropriate.
- The Community Dietitian will be responsible for assessing the patient’s nutritional needs, monitoring feeding and basic troubleshooting as per these guidelines.
- If the patient subsequently moves out of area, the Community Dietitian will complete the Transfer of Care Discharge Summary and forward it to the out of area Dietitian.

6.9. Monitoring and Follow Up in the Community

Whilst patients receiving enteral feeding might receive hospital follow up by virtue of their
underlying pathology, not all enterally fed patients require routine hospital review. The medical management of these patients is therefore the responsibility of the GP.

Provided the patient remains well, the following nutritional, anthropometric and clinical monitoring should be conducted for patients receiving enteral feeding as recommended by NICE 2006:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Frequency</th>
<th>Rationale</th>
<th>Conducted By</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Nutritional:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nutritional intake (oral and enteral, and assess any change in condition that is affecting intake)</td>
<td>Every 3 – 6 months once the patient is established on home enteral feeding</td>
<td>To ensure that nutritional requirements are being met and to ensure that the current method of feeding is the most appropriate.</td>
<td>Community Dietitian</td>
</tr>
<tr>
<td>Actual volume of feed and fluid flushes delivered</td>
<td>Daily</td>
<td>To ensure the patient is receiving the correct volume of feed and fluid and to identify any problems with the feed or hydration.</td>
<td>Patient / Carer</td>
</tr>
<tr>
<td><strong>Anthropometric:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight (*)</td>
<td>Monthly</td>
<td>To assess ongoing nutritional status, determine whether nutritional goals are being achieved and take into account both body fat and muscle.</td>
<td>Patient / Carer</td>
</tr>
<tr>
<td>BMI</td>
<td>Every 3 – 6 months once the patient is established on home enteral feeding (HEF)</td>
<td></td>
<td>Dietitian</td>
</tr>
<tr>
<td>Mid Arm Circumference (*)</td>
<td>Every 3 – 6 months once the patient is established on HEF</td>
<td></td>
<td>Dietitian</td>
</tr>
<tr>
<td>Waist Circumference (*)</td>
<td>Every 3 – 6 months once the patient is established on HEF</td>
<td></td>
<td>Dietitian</td>
</tr>
<tr>
<td><strong>Gastrointestinal Function:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nausea / Vomiting</td>
<td>Twice a week</td>
<td>To assess tolerance to the feed.</td>
<td>Patient / Carer</td>
</tr>
<tr>
<td>Diarrhoea</td>
<td>Twice a week</td>
<td>To rule out other causes of</td>
<td>Patient /</td>
</tr>
<tr>
<td>Condition</td>
<td>Frequency</td>
<td>Action</td>
<td>Responsible Party</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>-----------------</td>
<td>------------------------------------------------------------------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>Constipation</td>
<td>Twice a week</td>
<td>To rule out other causes of constipation and assess feed tolerance.</td>
<td>Patient / Carer</td>
</tr>
<tr>
<td>Abdominal Distension</td>
<td>As required</td>
<td>To assess feed tolerance.</td>
<td>Patient / Carer</td>
</tr>
<tr>
<td><strong>NG Tubes:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tube Position</td>
<td>Before each feed started</td>
<td>To ensure the tube is in the correct position</td>
<td>Patient / Carer</td>
</tr>
<tr>
<td>Nasal Erosion</td>
<td>Daily</td>
<td>To assess tolerance to the tube</td>
<td>Patient / Carer</td>
</tr>
<tr>
<td>Fixation</td>
<td>Daily</td>
<td>To prevent accidental tube removal</td>
<td>Patient / Carer</td>
</tr>
<tr>
<td>Is the tube in working order?</td>
<td>Daily</td>
<td>To ensure the tube is intact with no kinks and that it is in proper working order.</td>
<td>Patient / Carer</td>
</tr>
<tr>
<td><strong>Gastrostomy / Jejunostomy</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stoma Site</td>
<td>Daily</td>
<td>To ensure site is not infected / red and no signs of gastric leakage.</td>
<td>Patient / Carer</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 that there is no external over granulation.</td>
<td>Patient / Carer</td>
</tr>
<tr>
<td>Tube Rotation</td>
<td>Weekly</td>
<td>To prevent internal over granulation and buried bumper syndrome.</td>
<td>Patient / Carer</td>
</tr>
<tr>
<td>Balloon water volume</td>
<td>Weekly</td>
<td>To prevent the tube falling out.</td>
<td>Patient / Carer</td>
</tr>
<tr>
<td><strong>Clinical Condition:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General condition (including skin)</td>
<td>Daily</td>
<td>To ensure that the patient is tolerating the feed and that</td>
<td>Patient / Carer</td>
</tr>
</tbody>
</table>
Drug therapy

Blood Pressure and Temperature (particularly for those in nursing homes)

<table>
<thead>
<tr>
<th>Monthly (or more often if prescription changes)</th>
<th>Daily</th>
</tr>
</thead>
<tbody>
<tr>
<td>To ensure appropriate preparation of drug. To prevent / reduce drug nutrient interactions.</td>
<td>To aid early identification of infection and hydration problems</td>
</tr>
</tbody>
</table>

G.P. / Pharmacist

Nurse / Carer

Long / Short Term Goals:

Are goals being met?

Every 3 – 6 months once the patient is established on HEF

Are goals still appropriate?

Every 3 – 6 months once the patient is established on HEF

Dietitian

Dietitian

Provided the patient remains well, the following blood tests should be arranged and reviewed by the G.P. every three to six months:

Full blood count and red cell indices;

- Glucose
- Sodium, Potassium, Urea, Creatinine
- Magnesium, Phosphate
- Liver function and plasma proteins (C-Reactive protein, Calcium, Albumin).

Adapted from 'Nutrition Support in Adults: Oral Supplements, Enteral and Parenteral Feeding' (NICE 2006)

(*) Please note, it may not be appropriate to weigh some patients, please liaise with the patients Community Dietitian to discuss other monitoring techniques (such as Mid Arm Muscle Circumference, waist circumference).

Copies of all the blood results should be sent to the Community Dietitian. Abnormal results should be followed up by the G.P.

Problems with feeding should be referred initially to the Community Dietitian, who may request help from the Endoscopy staff or G.P. If necessary the G.P. may refer the patient to the Consultant Gastroenterologist.

6.10. Dietetic Monitoring and Follow Up in the Community

- Dietetic follow up is arranged according to individual patients’ requirements and clinical condition.
• Contact should be made soon after discharge to introduce the Community Dietetic Service and check for initial problems. A contact name and telephone number should be provided in the event of problems.

• The patient’s progress should be reviewed 2 – 6 weeks after the initial contact. This may be by telephone.

• The patients’ progress should then be reviewed every three to six months, depending on the patients’ needs and underlying clinical condition.

• Stable patients should be reviewed every 6-12 months, or on request by the patient/carer/other healthcare professionals.

6.11. Home Care Feeding Companies

• Most of the feed companies operate a Hospital to Home delivery system where they deliver feed and feeding ancillaries direct to the patient’s home, on a monthly basis.

• They will request the prescription from the G.P.

• The company is responsible for pump maintenance and will provide replacement pumps in the case of a fault.

• They will only usually deliver the feed associated with their own company; however most will also deliver other feeds if requested, if they do not have an equivalent product – check with the individual companies for availability.

• Patients on specialist feeds may have to arrange their own prescriptions and feed collection, via their G.P. in conjunction with their Community Dietitian. The feed company would still provide the feeding sets and pump.

Contacts of market leader feed companies (correct at time of ratification; confirm via internet searches at time required. Please note this list is non-exhaustive):

Nutricia Clinical Care
Helpline 01225 711688
Newmarket Avenue, White Horse Business Park, Trowbridge, Wiltshire BA14 0XQ
www.nutricia-clinical-care.co.uk

Abbott Nutrition
Hospital to Home Helpline: 0800 0183799
Abbott House, Norden Road, Maidenhead, Berkshire SL6 4XE
Nutrition Helpline: 0800 252882
www.abbottnutritionuk.com

Fresenius Kabi Ltd
Homecare 01928 533533
Hampton Court, Tudor Road, Manor Park, Runcorn, Cheshire, WA7 1UF
Helpline 0808 100 1990
www.fresenius-kabi.com
6.12. Feed Regimens

- Are calculated by the Dietitian to meet the patient’s individual nutritional requirements (including energy, protein, fluid, electrolytes, micronutrients and fibre), taking into account any oral intake, physical activity level and the patient's clinical condition.

- Extra fluid (other than the enteral feed) will be required to meet the patient’s fluid requirements and maintain their hydration.

- Patients fed into the stomach (i.e. NG, PEG, RIG or LPGD) should not be fed for greater than 20 hours. A minimum four hour rest is required to allow the stomach pH to drop back to its normal level to prevent the build-up of enteropathic bacteria.

- Jejunal feeding may require a slower feeding rate as the stomach is by-passed; so there is no stomach for the feed to be held in. Patients can be fed for a full 24 hours, this is because the stomach is by-passed, and so you do not need to allow time for the gastric pH to drop.

- The feed should be administered at room temperature.

- Separate containers should be used to administer the feed and water to prevent microbial contamination.

- Once opened, the containers of feed should be used within 24 hours. If there is feed left after this time it should be discarded to prevent microbial contamination.

- Enteral feeds should not be diluted. This is a source of microbial contamination and can change the osmolality of the feed, both of which can cause diarrhoea (M. Stroud et al. 2003).

- Only commercially prepared feeds should be administered via an enteral feeding tube. Do not flush through pureed food as this will block the tube and be a source of microbial contamination.

- Feed regimens should not be changed without consulting the patients’ Dietitian first.

- See appendices for an example feeding regimen and for a list of commonly used tube feeds.

6.13. Confirming Enteral Feeding Tube Position

6.13.1. NG Tubes/balloon gastrostomies/low profile devices

Aspirate liquid from the tube and check pH is acidic with pH paper. The pH should be less than 5.5 if the tube is in the stomach (National Patient Safety Agency 2005). Locally it is recommended to obtain a pH of less than 4 as pH paper colour differences can be difficult to distinguish for pH’s around 5.5.

Naso-Jejunal tube placement should be confirmed by X-ray, as aspirating gastrointestinal tract contents is inconclusive.

The pH of aspirated gastric contents may be affected by:
Clinical Guidelines for Enteral Feeding (Adults)

- Acid suppression medication
- Oral diet/food/liquid

Prior to confirming tube position ensure the patient has not had acid suppression medication for at least 2 hours and has not eaten for at least 2 hours.

Document baseline pH reading for that individual.

The following methods are not suitable for confirming tube position:

- Testing the pH of the gastric aspirate using blue litmus paper (MDA 2004)
- Auscultation of air insufflated through the feeding tube – the ‘whoosh’ test.
- Interpreting the absence of respiratory distress as an indicator of correct position.
- Monitoring bubbling at the end of the tube.
- Observing the appearance of feeding tube aspirate.
- Injecting air into the stomach and listening for bororygmi with a stethoscope over the stomach.

NG tube position should be checked:

- Before administrating each feed.
- Before giving medication.
- After violent coughing and vomiting episodes or after potential causes of tube displacement.
- Following evidence of tube displacement, such as loose tape or the tube appears to be longer.

BGT/LPGD position should be checked:

- After a tube change.
- After violent coughing and vomiting episodes or after potential causes of tube displacement.
- Following evidence of tube displacement, such as the tube appears to be longer.


See also ESHT Clinical Guideline for the placement of a Nasogastric Tube for Artificial Nutrition Support in adults

6.14. Flushing Enteral Feeding Tubes

- Freshly run tap water, held in a clean container, should be used. Sterile water may be required in specific cases, for example with immuno-compromised patients (Infection Control Guidelines 2013).

- More fluid will be required if the patient is suffering from diarrhoea, vomiting, has an infection, large blood losses or has burns. More will also be required in hot weather. Monitor for signs of dehydration. This should be calculated on an individual patient basis.
- Bottled / mineral water should not be used as this can become a reservoir for the development and multiplication of bacteria.

- Flush with at least 20ml water before and after a feed or medication or according to feed regimen and ensure the tube is visibly clear of any feed/medication.

- Always use an enteral feeding 60ml syringe to give water/medication flushes.

- Always flush the feeding tube if the feed has to be stopped for any reason, as feed residue can quickly block the tube.

- Flush the feeding tube every six to eight hours with at least 30ml water during rest periods to prevent tube blockages.

- Jejunal feeding tubes need to be flushed more regularly to prevent tube blockage, as they tend to run at slower feeding rates.

- Do not force water through the tubes.

- Do not use fruit juice or cola to flush or unblock tubes.

- No other liquid (for example, tea, coffee, squash, alcohol etc) should be administered through the feeding tube, as this can cause blockages or tube erosion.

### 6.15. Care of the Gastrostomy Stoma Site

- The formation of a stoma will normally take up to two weeks (this can be longer in patients with poor wound healing). During this time extra care should be taken with cleaning. The external fixation plate should not be moved or loosened and the patient should avoid immersing it in water (i.e. swimming and bathing). Having a shower is fine, remind the patient to close the ends of the gastrostomy tube before showering and to dry it thoroughly afterwards. A loose non-woven gauze dressing may be required during this period if the stoma site is weeping or infected.

- After two weeks check the position of the external fixation device daily to ensure the gastrostomy tube is secured in the correct position (monitor the length of the external tube). Tighten or loosen it to ensure correct position. Always return the external fixation device to the correct position after cleaning. Ensure that the external fixation plate is not too tight against the abdominal wall as this can promote skin breakdown and tissue over granulation. If the external fixation device is too slack, the gastrostomy tube could migrate into the stomach and cause leakage of gastric contents.

- Once the stoma site has healed and a tract formed, dressings should not be required.

- The stoma site needs to be kept clean to avoid the development of infections. All suspected infections should be investigated and treated accordingly to prevent the development of peritonitis, which can be a life threatening condition.

- Always wash hands with soap and dry them before attaching feed, flushing and cleaning the feeding tube. At home, gloves are not required.
Check the skin around the stoma site for redness, soreness, irritation or swelling daily.

Check daily for stoma leakage and tube displacement.

All minor problems should be treated to prevent the development of infection.

Water and mild soap should be adequate to keep the stoma clean. Clean using circular movements moving out from the stoma site. Also clean the skin disc.

Dry the stoma site after cleaning, with a lint-free cloth or paper towel and leave to air dry fully.

The gastrostomy tube should be rotated once a day (one full turn – 360 degrees). Some gastrostomy tubes do not need to be rotated (e.g. radiologically inserted gastrostomies and some Jejunostomies held in with sutures) – check with the tube manufacturer or the technician who inserted the enteral feeding tube.

Care with the use of talcum powders and creams around the stoma site as they may cause irritation.

Ensure all caps are closed during bathing and cleaning.

Initially, all problems concerning stoma sites should be referred to the feed company nurse for assessment and advice. Complex cases should be escalated to tissue viability nurse, endoscopy and gastroenterology as required.

6.16. Infection Control

Enteral feeding systems may be supplied as single-use or reusable items. Currently, reusable items are recommended in the community. Single use items may be chosen following a risk assessment taking into account the clinical condition of the patient.

One of the main risks associated with enteral feeding is microbial contamination, which can cause infection. This is especially significant for vulnerable patients or those with compromised immune systems, such as:

- ITU / HDU patients
- Malnourished patients
- Neonates
- Neutropenic patients
- Patients receiving chemotherapy or immuno suppressive treatment
- Patients who are fed below the stomach
- Patients with burns
- Patients with HIV / AIDS
- Transplant patients
- Trauma patients on long term feeding

Preparation and storage of feeds:

- Wherever possible pre-packaged, ready to use feeds should be used in preference to feeds requiring decanting, reconstitution or dilution.
The system selected should require minimal handling to assemble, and to be compatible with the patient’s enteral feeding tube.

Effective hand decontamination must be carried out before starting feed preparation.

When decanting, reconstituting or diluting feeds, a clean working area should be prepared and equipment dedicated for enteral feed use only should be used.

Feeds should be mixed using freshly drawn tap water and a no-touch-technique, or as per manufacturer guidelines.

Feeds should be stored according to the manufacturer’s instructions and, where applicable, food hygiene legislation.

Ready mixed enteral feeds are long–life and therefore do not need to be stored in a fridge if they are unopened. Where ready-to-use feeds are not available, feeds may be prepared in advance, stored in a refrigerator, and used within 24 hours.

Ready mixed feeds should be stored at room temperature out of direct sunlight.

In very hot weather, consider moving feeds to a cooler area/refrigerator.

Feeds should always be used before the ‘best before’ date and stored according to the manufacturer’s instructions.

Once opened, the enteral feed should be used within 24 hours and any remaining should be discarded.

**Administration of feeds:**

- Use minimal handling and an aseptic technique to connect the administration system to the enteral feeding tube.
- Ready to use feeds may be given for a whole administration session, up to a maximum of 24 hours. Reconstituted feeds should be administered over a maximum of 4-hour period.
- Administration sets and feed container are for single use and must be discarded after each feeding session.
- For administration of Enteral feed in ITU/HDU please refer to Appendix F-Commencing Enteral Feeding Flow Diagram for ITU/HDU.
- For community patients, if there is a break in feeds, keep the giving set attached to the pack and store in a refrigerator. Bring back to room temperature for ~30mins prior to reconnecting. Discard any remaining feed unused in the 24 hour period.

**Care of insertion site and enteral feeding tube:**

- The stoma should be washed daily with water and dried thoroughly.
- To prevent blockages, flush enteral feeding tube before and after feeding or administering medications, using freshly drawn tap water for patients who are not immunosuppressed.

### 6.17. Good Hygiene Practices to Minimise the Risk of Microbial Contamination

- Ensure feed and giving sets are stored in a clean environment.
- Ensure feeding equipment (including feed containers) are clean prior to use as per manufacturer’s guidelines.
- MDA (Medical Devices Agency) have published advice on the implications and consequences of reuse of single use devices in MDA DB2000(04). In summary the key points are:
Devices designated for ‘single-use’ must not be reused under any circumstances.

The reuse of ‘single-use’ devices can affect their safety, performance and effectiveness, exposing patients and staff to unnecessary risk.

The reuse of ‘single-use’ devices has legal implications.

Extension sets for LPGD’s are designed to be reused. They should be detached and washed thoroughly in warm, soapy water and rinsed after each feed or at least daily and left to air dry. Advice should be sought from the infection control team for inpatients, as the patient may be immunocompromised.

Extension sets for the LPGD’s should be discarded and a new one used fortnightly, or if significant residues are accumulating in the tube.

6.18. Syringes

- Only syringes designed for oral / enteral use should be used to flush enteral feeding tubes (National Patient Safety Agency 2007).

- Male luer lock or male luer slip syringes should not be used, as this increases the risk of wrong route errors (National Patient Safety Agency 2007).

- Syringes designed for use with intravenous systems must not be used for any enteral administration (National Patient Safety Agency 2007).

- For community patients, syringes for flushing the feeding tube, administering bolus feeds and administering medication can be ordered from the Feed Delivery Company by the Community Dietitian.

- Reusable syringes will be ordered, unless contraindicated. These are designed to be washed and reused for up to one week for a single patient.

- The syringes should be cleaned after each use in warm, soapy water, dried using a paper towel and stored in a clean, dry container. Each syringe comes with instructions on how to care for them.

- Catheter tip or female luer syringes will be ordered, depending on the type of enteral feeding tube the patient has in situ.

- The Community Dietitian is able to order other syringes based on individual patient clinical need in consultation with the patient’s Pharmacist, Community Nurse and Feed Company Nurse in accordance with Trust recommendations.

6.19. Ordering Equipment and Feeds

- The Dietitian will arrange for delivery of ancillary supplies (e.g. giving sets, extension sets, syringes, containers, spare/replacement balloon gastrostomy, pH paper, replacement pumps, drip stands, back packs).

- These are usually delivered by the contracted Homecare Company/Companies.
Feeds can also be delivered via this route; the company will request prescriptions from the patients GP.

Please note if changes to supplies are required, this may take 5 working days for the company to deliver, upon receipt of prescription, so in exceptional cases, equipment/feed may need to be sourced locally via alternative routes.

6.20. Mouth Care for Patients on Enteral Feeding

For further information please refer to BSDH Guidelines Guidelines for the development of local standards for dependent, dysphagic, critically and terminally ill patients.

http://wwwbsdh.org.uk/guidelines/depend.pdf

Patients on enteral feeds often have limited or no oral intake. Oral stimulation from food and fluids is necessary to maintain a certain amount of salivary flow without which rampant tooth decay, rapid tooth destruction, dryness and cracking of the lips, crusting of the tongue and build-up of calculus on the teeth is likely to occur. Particular attention should be paid to the oral hygiene and oral hydration of these patients.

6.20.1. Oral Hygiene

- Plaque (bacteria) should be thoroughly removed in tube-fed patients as tartar (calculus) tends to form significantly faster in these patients.

- Teeth should be brushed twice a day, preferably morning and night, using a small headed toothbrush and a small amount of fluoride toothpaste.

- A gentle scrub method is recommended, particularly concentrating on brushing at the gumline.

- If the gums bleed, it is a sign of gum disease and more thorough brushing to remove the plaque is needed.

6.20.2. Dry Mouth

Tube-fed patients may experience a dry mouth. Patients may also experience dental erosion (erosion of the enamel of the teeth) related to gastro-oesophageal reflux and reduced saliva production.

Frequent sips of water, crushed ice and water sprays should provide short-term relief and should be administered as often as required, oral intake permitting and the patient has not been placed Nil By Mouth – liaise with the MDT.

The following advice is recommended:

- Sugar free gum may be helpful.
- Water based gels can be used to lubricate the tongue and inside the mouth.
- Saliva substitutes, saliva stimulating tablets and gels are available for purchase and on prescription; opt for ones that are pH neutral and sugar free.
- To prevent cracked lips, soft paraffin and commercial lip salves are recommended.
- Lemon and glycerine swabs are not recommended.
- High fluoride toothpastes can be useful.
People who have natural teeth and are able to eat orally should be discouraged from sucking sweets and drinking sugary and flavoured drinks due to their sugar and acid content. This will lead to rampant tooth decay and erosion of the teeth.

Regular massage of the perioral area should be done to reduce the risk of it becoming hypersensitive.

Original advice provided by Sarah Benwell, Oral Health Promotion Manager (May 2008) and reviewed by Sheila O'Brien, Assistant Head of Service, Special Care Dental Service (Sept 13).


Please liaise with the patient’s Dietitian if problems are encountered.

6.21.1. Diarrhoea

- Feed may be being administered too rapidly, especially if diarrhoea is present with nausea, vomiting and bloating. Try reducing the feeding rate - lower to 50ml/hour until diarrhoea resolved then increasing by 10ml increments every 4 hours to toleration.

- Bolus volume may be too great - reduce volume or change to a continuous feed.

- The feed may be hyperosmolar. Consider change to iso-osmolar formula e.g. Nutrison/Osmolite.

- Check temperature of feed (too cold can cause diarrhoea).

- Ensure fluid and electrolyte losses are replaced.

- Try a fibre supplement such as Nestle Resource Optifibre (or a feed containing fibre).

- Antibiotics:
  - Especially oral and broad spectrum can cause diarrhoea.
  - Diarrhoea worsens or begins on introduction and can last up to 2 weeks after discontinuation.
  - Specific, well absorbed or IV antibiotics could be tried.

- Consider the use of fibre containing feeds to stimulate colonic production of short chain fatty acids; probiotics or a prebiotic such as Fructooligosaccharide (FOS).

- Avoid feed microbial contamination.

- Consider the possibility of a gastrointestinal infection – a stool sample should be sent for analysis and patient treated accordingly – check temperature.

- Low serum albumin may lead to osmotic pressure in the bowel and more water in the bowel. his can lead to diarrhoea.
Surgical causes - contact G.P/medical/surgical team.

Bowel management plans may need to be reviewed.

With prolonged diarrhoea, consider a short term trial with semi / elemental formula.

Consider fat malabsorption, especially with pancreatic deficiency, biliary obstruction or extensive ileal resection. Consider using feeds containing Medium Chain Triglycerides in this situation.

Review medication:

- H₂ Antagonists increase gastric pH and may allow enteropathogenic bacteria to survive in the duodenum allowing gastrointestinal infections to develop.
- Excessive consumption of sorbitol and magnesium containing medications may lead to diarrhoea.
- Liquid medications may have a high osmolality, which may cause diarrhoea.
- Review use of laxatives.
- Consider use of anti-diarrhoeals if the patient is not suffering from infective diarrhoea.
- Proton Pump Inhibitors (PPI’s), Anti-arrhythmics, Anti-hypertensives and Non-Steroidal Anti-inflammatory agents can also cause diarrhoea in enterally fed patients.
- Liaise with the patients’ pharmacist to see if medication can be adapted.

Once all other causes have been excluded, then adjusting the regimen fibre content and/or trialling a soya based feed, or a probiotic could be considered on a patient by patient basis.

6.21.2. Blocked Tube

- The most common cause of tube blockage is inadequate flushing with water before and after feed and medication.

- Avoid the likelihood of the tube blocking by flushing before and after feeding. A minimum of 20ml water should be used.

6.21.3. To Unblock an Enteral Feeding Tube

- Flush with warm water (hand temperature) in a 60ml enteral syringe using a gentle pumping action to dislodge any blockage. This may take some time, so perseverance is required.

- If the blockage is in a visible part of the tube, try rolling it gently between the fingers to dislodge the blockage. Care is required to ensure that the tube is not pulled out.

- Investigate the cause of the blockage - check to see if the tube is kinked or displaced or whether a clamp has been left on.

- Flush the tube with a teaspoon of bicarbonate of soda in 50ml warm water.
• Consider use of commercially available clog removers, such as Pancreatic Enzyme Solution, which is available on prescription, though if the tube is blocked often it is not possible to get any of the solution to enter the tube.

Do not:

• Use carbonated drinks, pineapple juice or sodium bicarbonate to unblock tubes as this may cause tube degradation.
• Use force to flush any tube or use a syringe smaller than 50ml as this may cause the tube rupture.
• Use solid items e.g. a guide wire to unblock the tube.

If the blockage persists, contact the Homecare Company Nurses who may be able to change the tube, or may recommend an admission to A&E or Endoscopy, depending on the urgency of resolving the blockage.

6.21.4. To Prevent Tube Blockages

• Ensure the tube is flushed with adequate water as soon as feed or medication has been given.

• Avoid leaving the giving set connected for long periods after feed administration is completed.

• Give medication separately from feed to prevent feed curdling and causing a blockage.

• Always aim to provide medications in a liquid form – liaise with the patient’s pharmacist.

• Avoid very slow feeding rates.

• Gastrostomies may block / occlude due to gastric mucosal overgrowth (buried bumper syndrome). Avoid this by rotating the gastrostomy 360degrees everyday, providing there are no sutures in situ nor is there a jejunal extension (check with the technician who inserted the tube first).

6.21.5. Constipation

• Exclude clinical causes, e.g. acute bowel obstruction.

• If any food is taken orally then higher fibre foods could be suggested.

• Check fluid intake - increasing this may help.

• If the patient is mobile, encouraging as much activity as possible will help.

• Check medication - certain drugs may cause constipation, such as Codeine Phosphate. Liaise with the Pharmacist.

• Check to see if the patient is on Anti-diarrhoeal medication.
Clinical Guidelines for Enteral Feeding (Adults)

- Try changing to a higher fibre feed (e.g. Nutrison Multifibre / Jevity) – liaise with the patients Community Dietitian.

- Consider using a fibre supplement, for example Nestle Resource Optifibre.

- Laxatives / enemas may be required in liaison with medical team/Pharmacist.

6.21.6. Dehydration

- Monitor fluid balance (fluid input vs output), U & E's.

- Ensure fluid flushes are given to meet estimated fluid requirements, as recommended on the patients feeding regimen.

- The enteral tube feed may not provide all of the patient’s fluids requirements, so extra fluid flushes will be required throughout the day.

- Additional fluid may be required in hot weather, diarrhoea and vomiting, patient has a high temperature, or with certain medical conditions, or high losses (e.g. stoma output/wound exudate). Please liaise with the managing Dietitian or clinician if you have concerns regarding someone’s hydration.

6.21.7. Nausea and Vomiting

- Ascertain clinical causes.

- Try a reduced feeding rate.

- Check the volume and osmolarity of feed.

- Contact the GP/medical team to consider a medication review in case medication(s) have nausea or vomiting as a side effect.

- Contact the GP/medical team to consider anti-emetic medication.

- Increasing mobility can help.

- Anxiety can cause feelings of nausea.

- Ensure feed does not become contaminated.

- Ensure patient is in a well ventilated room, which is free from unpleasant smells.

- With prolonged and severe nausea and vomiting, post pyloric (i.e. jejunal) feeding should be considered.

- Check for severe constipation.

- Avoid moving a bedbound patient for ideally ~2 hours post feeding.

- Once all other causes have been excluded, consider changing the volume, concentration, fat content, protein type, and fibre content of the feed in conjunction with the managing Dietitian.
6.21.8. Bloating and Distension

- Ascertain clinical cause(s).
- May be caused by reduced gastric emptying or motility. Consider use of prokinetic medications in liaison with GP/medical team/pharmacist.
- Feed may be pooling in stomach – try a reduced feed rate and/or volume.
- Bolus feeding can cause bloating and distension – consider changing to a continuous feed (liaise with the patients Dietitian).
- Consider asking the GP/medical team for a medication review as many medications can cause bloating and distension.
- Once all other causes have been excluded, consider changing the volume, concentration, fat content, protein type, and fibre content of the feed in conjunction with the managing Dietitian.

6.21.9. Positioning

- Patients should be at an angle of 30 - 40 degrees during feeding and for at least 60 minutes afterwards.
- Positioning the patient on their right side may help to promote gastric emptying.
- Do not allow patients to lie flat during the feeding period.

6.21.10. Regurgitation and Aspiration

- Ascertain and treat clinical cause where possible.
- Increases the risk of developing respiratory chest infections, such as pneumonia. If the patient has a temperature and wet voice, and chest infection suspected, consider stopping the feed and seeking medical advice.
- This can occur silently, with no cough or vomiting, so careful monitoring is required in high risk patients.
- Patients who are at risk of aspiration should not be continuously fed overnight.
- Position wrong - see above.
- Could be a function of the disease process and its management, for example gastroparesis of diabetic neuropathy.
- Try a reduced feed rate.
- Consider use of prokinetics.
- Consider use of post pyloric feeding for example Naso-Jejunal, PEG-J if problem persists to reduce the risk of aspiration.
- Monitor the position of the tube with pH paper.
6.21.11. Pump Issues

- If the pump is failing to flow, please check the alarm code on the machine and refer to the manufacturer’s guidance on how to remedy. Common issues are occlusions—check for clamps being released, kinks and blockages in the tube/giving sets.

6.21.12. Refeeding Syndrome

Ensure monitoring is carried out as per Clinical Guideline for Managing Patients at Risk of Refeeding Syndrome and regimen followed as per dietetic advice. This is essential to prevent complications occurring and to ensure appropriate treatment is given.

6.22. Drugs Administered via Enteral Feeding Tubes

With the increases in the number of patients being fed using enteral feeding, the risks associated with administering drugs via an enteral feeding tube also increase. Many patients come to rely on their feeding tubes for the consumption of their essential medications.

Administering drugs in this way can be dangerous as tubes are becoming narrower, and are therefore more likely to block; and most medications are not licensed to be administered in this way. Feeding tubes should only be used to administer drugs when there is no alternative route.

It should never be assumed that a drug can be administered via an enteral feeding tube and a pharmacist should always be consulted to ensure that the appropriate form and dose of a drug is administered.

Further details about the administration of drugs can be found in the ESHT Guidelines for the administration of drugs to patients unable to swallow solid oral dosage form available on the Extranet.

A comprehensive book is also available: Handbook of Drug Administration via Enteral Feeding Tubes (2nd edition); White and Bradnam, Nov 10; ISBN-10: 0853699283

6.23. Enteral Feeding and Diabetes Mellitus

People with Diabetes Mellitus can be enterally fed using the same feeds as other patients.

People with diabetes do not have different nutritional requirements from the rest of the population (L. Vaughan 2004).

For people with diabetes who are overweight, nutritional requirements should be calculated according to V. Todorovic and A. Micklewright 2004 (i.e. according to the PENG (Parenteral and Enteral Nutrition Specialist Group of the British Dietetic Association) guidelines). This applies to all patients who are overweight and enterally fed.
A review of medication for diabetes, especially if they are on an overnight feed and receiving insulin, will be required. This may also result in change in feeding regimen to promote good glycaemic control.

The following are adapted from the Joint British Diabetes Societies Glycaemic management during the inpatient enteral feeding of stroke patients with diabetes, 2012:

For inpatients at Acute Hospitals:

- 4-6 hourly capillary blood glucose (CBG) monitoring of all patients presenting with stroke and diabetes or newly diagnosed hyperglycaemia
- Refer patient to diabetes inpatient specialist nurse (DISN/ diabetes inpatient team (DIT) at earliest opportunity for individual assessment
- Patients with Type 1 diabetes should continue their basal insulin at all times - whether receiving insulin via the subcutaneous or intravenous route- and should not have insulin omitted
- Continue subcutaneous basal analogue (Glargine or Detemir) if patient treated with basal analogue insulin on admission
- Target CBG 6-12 mmol/l during enteral feeding of people with diabetes
- Early involvement of the Dietitian to determine an appropriate feed regimen
- Aim to minimise use of intravenous insulin infusion as far as possible – aim to establish patient on subcutaneous insulin or glucose lowering agents administered via the nasogastric tube (NGT) at the earliest opportunity
- Premixed human insulin at start and midpoint of feed, or isophane insulin at start, and if necessary, the midpoint of feed are recommended first line options for glycaemic management of patients with poorly controlled type 2 diabetes during enteral feeding
- Administration of soluble human insulin at the time of the feed commencement is recommended for a bolus feeding regimen. For those patients prescribed Glargine or Detemir on admission to hospital and receiving continuous feeding with CBG >12 mmol/l, soluble human insulin may be administered at the start and, if necessary, midpoint of the feed
- Re-suspension of metformin powder administered via NGT may be useful as a sole treatment, or adjunct, for people with type 2 diabetes
- Crushing of oral tablet medications for administration via the NGT is not recommended
- Monitor capillary glucose pre-feed and then 4-6 hourly when feed running; monitor hourly if feed unexpectedly switched off
- Involve DISN/DIT immediately in event of hypoglycaemia or recurrent hyperglycaemia

Enteral feeds have been shown to increase blood glucose levels faster than an equivalent solid meal, however as most feeds are delivered at a relatively slow rate over a period of time it is easy to manage. Bolus feeding can cause more of a problem and will require different management.

The enteral feeding rate should not be increased if the patient's blood glucose level is above 12 mmol/l. If blood glucose levels are persistently higher than this a review of medications for diabetes will be required.

Glycaemic control will be influenced by the person's tolerance to the feed, the timing of the feed, the method of delivery (bolus vs continuous delivery) and the amount of carbohydrate provided.
6.23.1. Hyperglycaemia

The main concern with enteral feeding is to avoid over feeding as this will induce hyperglycaemia, hypertriglyceridaemia, disturbances to fluid balance and impair the immune system (V. Todorovic and A. Micklewright 2004). It can also increase the risk of hyperosmolar non-ketotic coma and ketosis.

If hyperglycaemia persists in people with Type 1 Diabetes their urine or blood should be checked for ketones.

This will exacerbate any acute illness the patient is suffering from and does not promote good glycaemic control in the long term.

Hyperglycaemia can also be caused by insufficient or missed doses of medications for diabetes, infection and illness or be a side effect of some medications.

6.23.2. Hypoglycaemia

Careful monitoring is required to avoid hypoglycaemia.

Increased blood glucose monitoring is required if a feed is suddenly stopped to prevent hypoglycaemia. If the feed is to be stopped for a period of time, monitor the blood sugars 4 hourly and in the acute setting IV dextrose may be required.

Hypoglycaemia can be caused by unplanned interruptions or stoppages of the enteral feed, as well as excessive doses of medications or diabetes, vomiting, diabetic gastroparesis, deterioration in renal function, recovery from illness or infection or a change in medication. Unexpected increases in activity may also cause hypoglycaemia.

6.23.3. Treatment of Hypoglycaemia

If a patient’s blood glucose level is under 4 mmol/l 10g of quick acting carbohydrate should be taken immediately.

If the patient is able to swallow safely and has a functioning gastrointestinal tract, oral glucose should be given immediately. For example:

- 3-4 dextrose tablets
- One bottle of Glucojuice
- One tube of Glucogel

Other suitable treatments include 100ml normal fizzy drink (e.g. coke or lemonade), or 60 ml of Lucozade, 2-3 jelly babies, 7 jelly beans, 2 cubes or 2 teaspoons of sugar in a drink.

If oral administration is not possible, 60ml Lucozade or 100ml of a fizzy drink could be flushed through the enteral feeding tube. This is the only occasion when it is appropriate to flush such liquids down an enteral feeding tube and it should be followed by flushing the tube with 20ml of water afterwards.

In situations where the above liquids are not available, IM glucagon (or IV 20% Dextrose 100 mls if IM glucagon is not available) should be given.
The patients' blood glucose level should be rechecked 10 minutes after this initial dose of quick acting carbohydrate. If their blood glucose level is still below 4 mmol/l a further 10g of quick acting carbohydrate (see above) should be given. Re-test their blood sugar levels again after 10 minutes.

Once the blood glucose level has returned to the normal range, extra carbohydrate will be required to keep it within the normal range. The enteral feed should therefore be restarted. If this is not possible IV 10% Dextrose at 100 mls/hr may be required.

Refer to the clinical guideline for the diagnosis and management of hypoglycaemia for inpatients with diabetes in East Sussex Healthcare NHS Trust

6.23.4. Diabetic Gastroparesis

This is delayed gastric emptying which occurs when the nerves to the stomach are damaged or stop working. It is a long term complication associated with poor glycaemic control.

Reduced gastric emptying is associated with bloating, abdominal distension, early satiety and vomiting. This will affect a person’s tolerance to the enteral feed.

It can be managed by gradually increasing the feed rate over a period of time, the use of prokinetic drugs (such as metoclopramide) or post-pyloric feeding (for example naso-jejunal tube feeding or a jejunostomy).

6.23.5. Special Enteral Feeds for People with Diabetes

The use of low carbohydrate and high monounsaturated fat enteral tube feeds has been associated with improved insulin sensitivity and lipid levels in short term trials in people with Type 2 Diabetes. They typically provide 35% total energy from carbohydrate and 35% total energy from monounsaturated fats (standard formulas tend to provide 49% total energy from carbohydrate and 21% from monounsaturated fats (V. Todorovic and A. Micklewright 2004).

There is limited evidence to show that added fibre feeds improve glycaemic control, however fibre is important to promote bowel health and to reduce to risk of developing hypertriglyceridaemia.

6.24. Psychological Effects of Enteral Feeding

- Enteral feeding can cause feelings of fear, anxiety, frustration, loss of control, dependence and altered body image. Ensuring that the patient is kept well informed about their treatment and that all procedures are explained thoroughly can reduce these negative feelings. If someone lacks capacity to make decisions, careful consideration will be required to ensure that undue distress and anxiety are not caused to the patient and MCA guidance is followed.

- The feed regimen should be adapted to fit in with the patient's daily routines and social life.

- Commencing on enteral feeding will cause changes in lifestyle, as well as affecting family and social life.

- It may affect the patient’s libido.
As health care professionals we need to be aware of and be sensitive to the problems and stresses patients may suffer as a consequence of commencing enteral feeding.

We need to help patients develop coping strategies and help them come to terms with their current situation by helping them to understand the rationale for their current nutritional treatment.

6.25. **Enteral Feeding Tube Removal (see appendices for further details)**

- Gastrostomies should not be removed for at least 6 weeks after placement, until the stoma tract is fully formed and providing there is no significant infection/granulation to the stoma (unless changing the tube may resolve this).

- Gastrostomy removal may or may not require endoscopic removal.

- Patients should be referred back to the Homecare Company Nurses, Community Dietitian and Lead Endoscopy Nurse for re-assessment.

- Enteral tube feeding can be stopped once the patient has recovered their swallow, gastrointestinal or general function sufficiently to permit an oral intake which maintains their weight and nutritional status and allows for adequate hydration and oral intake of any medications. Tubes should only be removed after a period of time, e.g. 3 months, of managing without their use.

- If a gastrostomy tube is removed accidentally, it should be replaced as soon as possible to prevent the tract from closing up. If the patient has a balloon gastrostomy, then they should have a spare that should be inserted immediately. If the patient does not have a spare balloon gastrostomy, please contact the Community Dietitian.

- A Foley Catheter can be used as a temporary measure to keep the tract open. Do not feed using a Foley Catheter. In this situation, contact the Endoscopy Suite at Eastbourne DGH or Conquest Hospital for help and advice immediately. If out of hours, contact the nearest Accident and Emergency Department.

- If a Naso-Gastric tube is accidentally removed, an experienced competent practitioner should replace it as soon as possible so that the feeding regimen can be continued.

- If an accidentally removed feeding tube is not re-inserted immediately, contact the patients’ G.P., Consultant or Accident and Emergency Department for medical advice; subcutaneous fluids may be required.

6.26. **Discharging enteral feeds from acute hospitals**

- As per previous sections, prior to discharging feeds care should be taken to ensure the patient is established on a suitable regimen for discharge; the patient/carer(s) are competent to manage the enteral feed; and all documentation and onward referrals have been made.

- Please see Appendices for suggested documentation.
6.27. Documentation for enterally fed patients

- All aspects of enteral feeding care should be documented clearly by all members of the MDT.
- The decision to enterally feed a patient should include capacity and consent documents, and rationale for the decision.
- Day to day, tube position confirmation should be documented.
- Food intake, fluid balance, stool chart, observation charts should all be in place to aid comprehensive monitoring of the enterally fed patient.
- When tubes are changed the tube type, date, person changing the tube, pH of aspirates, should all be clearly documented.
- Upon discharge/transfer of care, the necessary checklists and documentation should be completed and signed to ensure smooth-running and safe nature of the transfer.
- Consider getting patients/relatives/carers to sign competency checklists to evidence that the necessary training has been undertaken and understood.

6.28. End of life care and enteral feeding

When patients are reaching the end of life stage of care, special considerations are required with regards commencing, continuing, modifying or the cessation of enteral feeding. These considerations are too extensive to cover in full in this document. Each person should be considered and discussed on a case-by-case basis and in close consultation with the patient (considering capacity), their relatives/advocates, the managing physician(s) and the MDT.

Useful guidelines to refer to:

- ESHT PEACE Policy (Proactive Elderly persons' Advisory CarE (PEACE) Planning Tool)
- The PEACE plan - information for families and carers
- ESHT End of Life Care guidance

7. Special Considerations

Complying with these Guidelines will result in:

- Patients receiving safe and appropriate enteral feeding care.
- Reduced risk of malnutrition and associated complications.
- Reduced risk of dehydration and associated complications.
- Reduced risk of drug nutrient interactions.
- Reduced risk of infection.
- Reduced risk of stoma site complications, including inappropriate and accidental removal gastrostomies.
- Appropriate use of enteral feeding ancillaries.

8. Evidence Base/References


• BAPEN: Ethical and Legal Aspects of Clinical Hydration and Nutritional Support. 2012.


• CREST (2004) Guidelines for the Management of Enteral Tube Feeding in Adults

• ESPEN guidelines on enteral feeding and PEG available at http://www.espen.org/education/espen-guidelines


• How do the different types of enteral feeding tubes available affect drug administration? UK Medicines Information (UKMi) pharmacists for NHS healthcare professionals. January 2012

• National Patient Safety Agency (2007) Promoting safer measurement and administration of liquid medicines via oral and other enteral routes


• NHS Diabetes - Glycaemic management during the inpatient enteral feeding of stroke patients with diabetes Joint British Diabetes Societies (JBDS) for inpatient care June 2012 www.diabetes.nhs.uk

• NHS Quality Improvement Scotland (2008) Gastrostomy Tube Insertion and Aftercare: for adults being cared for in hospital or in the community


• NICE Pathways Nutrition Support in Adults overview 2013

9. Competencies and Training Requirements

Clinical Leads and Line Managers are responsible for ensuring their staff are competent with the care and provision of enteral tube feeding where required.

All staff involved in enteral feeding must be appropriately trained or supervised by an appropriately trained member of staff.

Feeding Company Nurse is available to provide additional training for staff within ESHT at required on request.
10. Monitoring Arrangements

Compliance with this policy will be monitored by audit on an annual basis by a sub group on the ESHT Nutrition Steering Group. Improvements identified from these audits will be formulated into an action plan and the progress monitored by the ESHT Nutrition Steering Group.

Audit reports will be circulated to the Trust Clinical Quality and Patient Safety Committee (CQPSC) and Trust Nursing, Midwifery and AHP Group (TNMAG) via the Nutrition Steering Group.

The Care Quality Commission also has the power to audit ESHT compliance with PCA Outcome 5 Meeting Nutritional Needs. This policy forms part of ESHT evidence showing our compliance.

11. Equality and Human Rights Statement

This guideline is covered by the Equality and Human Rights Assessment made for the Nutrition Policy for Adults.
Appendix A – Method of Checking Balloon Inflation in a Balloon Retained Tube

1. Collect together all the equipment required (cooled, boiled water, syringes etc.).

2. Wash hands with soap and water and dry well. Ensure the area surrounding the patient is clean to work in.

3. Check the volume of water recommended to keep the balloon fully inflated. This should be stated on the inflation valve or in the documentation provided on discharge (if unsure check with the person who inserted the tube).

4. Attach a syringe onto the inflation valve of the balloon gastrostomy, whilst keeping hold of the tube to prevent it from being pulled out.

5. **Gently** draw back the plunger on the syringe until no more water comes out from the internal balloon.

6. Read off the volume of water contained in the syringe and document – does this match the volume of water recommended to keep the balloon inflated?

   **YES:** Dispose of the water and gently reinsert the recommended volume of fresh water through the inflation valve to re-inflate the balloon.

   **NO:** Dispose of the water in the syringe. Re-fill the syringe with the volume of water recommended to keep the balloon inflated. Then gently reinsert the recommended volume through the inflation valve to re-inflate the balloon. Recheck the same day, to ensure the balloon is holding the water and does not have a leak. If a leak suspected consider replacing the tube.

7. The water in the balloon should be changed weekly or according to the manufacturers instructions.
Appendix B – Method of Administering an Enteral Feed via a Pump

Please refer to the pump manufacturer’s instructions for further information.

1. Collect together all the equipment required (pump, feed, water, giving sets, syringes etc.).

2. Ensure the patient is in a comfortable position, with upper body supported at an angle of 30 – 40 °.

3. Wash hands with soap and water and dry well. Ensure the area surrounding the patient is clean to work in.

4. Check the type and volume of feed required (refer to patients feeding regimen). Check feed is in ‘use by date’.

5. Remove cap on the end of the enteral tube. Flush the tube with water using a 60ml syringe (refer to patients feed regimen for amount of water required).

6. Connect the giving set to the feed pack/container and fill the giving set (most pumps now have a “fill set” or similar option).

7. Close clamp and attach pump giving set to the tube. Be careful to not over tighten the giving set as this may damage the tube connector.

8. Set the pump to the desired rate and volume (refer to manufacturers guidelines and patients feeding regimen). Open all clamps and commence feed.

9. Once all feed has run though, close all clamps, disconnect and discard the pump giving set (unless feed is only being stopped temporarily).

10. Flush the tube with water (as step 5) and replace the cap on the enteral feeding tube.

11. Safely dispose of/clean all equipment used.
Appendix C – Method of Administering an Enteral Feed via a Bolus

1. Collect together all the equipment required to give the Bolus feed (syringes, feed, water, feed regimen etc.).

2. Ensure the patient is in a comfortable position, with upper body supported at an angle of 30-40°.

3. Wash hands with soap and water and dry well. Ensure the area surrounding the patient is clean to work in.

4. Check the type and volume of feed required (refer to patients feeding regimen). Check feed is in ‘use by date’.

5. Remove cap on the end of the enteral tube. Flush the tube with water using a 60ml syringe (refer to patients feed regimen for amount of water required).

6. Take a new syringe and remove the plunger. Connect it to the enteral feeding tube (a connector and extension tube may be required). Gently fill with feed and replace the plunger.

7. Hold the syringe and allow the feed to run through. Apply gentle pressure to the plunger to aid the movement of the feed. Do not allow the feed to be administered too quickly (each bolus should take at least 15 minutes).

8. Repeat step 7 until the full bolus dose has been given.

9. Once the full dose has been given flush the tube again. See step 5.

10. Remove the syringe and replace the cap on the enteral feeding tube.

11. Any unused feed may be stored in the fridge for up to 24 hours (ensure it is covered).
Appendix D - Guidelines for Removal and Insertion of a Balloon Replacement Gastrostomy Tube

Applicable to:

- Registered nurses or named carers who have been trained in the procedure and are frequently involved in balloon tube management, who have had training and been deemed competent from a qualified healthcare professional regarding this procedure.

- Carers within the patients home environment who are involved in the daily care of the tube and who have had training and been deemed competent from a qualified healthcare professional regarding this procedure.

- Practice nurses within community surgeries, who have had training and been deemed competent from a qualified healthcare professional regarding this procedure.

Purpose of guidance:

- To provide a sound support base for registered nurses/carers and home carers, to enable them to confidently and safely replace a balloon gastrostomy tube, or remove one where necessary.

- These are guidelines only for a qualified nurse or named carer trained in these procedures to help promote patient safety and the quality of care given to them. Also to aid the qualified nurse to work confidently within their own scope of professional practice. If there is any doubt then the Homecare Company Nurse and/or Endoscopy team should be involved.

- These guidelines do not replace formal training, observed practice, and competency.

What to do if a tube falls out:

- If the tube falls out/is pulled out within 6 weeks then NO ATTEMPT should be made to replace it as this tract may not yet be formed. Endoscopy should be contacted.

- It takes approximately 2-6 weeks for a stoma tract to form following initial placement of a gastrostomy tube.

- If the tube falls out/is pulled out after the 6 weeks then a balloon replacement tube needs to be inserted.

- If a balloon replacement is not readily available, it is important to keep the tract patent as it will start to heal.

- If in a hospital or nursing/residential home setting, gently insert a small foley catheter and contact Homecare Company Nurse/Endoscopy straight away. The size of the catheter is not important at this stage as the priority is to keep the stoma tract patent.

- The catheter is only to be used as a temporary measure until a balloon replacement can be inserted. Do not use the catheter for feed/medication/fluid administration, unless deemed essential by the medical practitioner.
• If in a homecare setting and neither of these are available, contact Endoscopy straight away or if it is out of working hours contact the Accident and Emergency as replacement tubes are kept in these departments.

**Removal of a balloon replacement tube:**

Equipment needed:
- Sterile dressing pack
- Sterile swabs
- Sterile saline
- Balloon replacement tube (if replacement is needed)
- Gloves
- Apron
- (10ml syringe – if removing tube – to deflate balloon)

→ A full explanation must be given to the patient before the procedure is undertaken.

→ The patient must consent to it being done.

→ Once the patient is lying in a comfortable position in a clean environment, the nurse/carer should wash their hands thoroughly and put on personal protective equipment i.e. gloves and apron if available.

→ A dressing pack (where available) should be opened onto a clean surface, close to the patient, to provide a sterile field from which to work from.

→ Deflate the balloon currently in situ in the patient, using a 10 ml syringe and taking it from the port marked for this.

→ Expect to draw back 3-5 mls of water. (Some water may have evaporated from the initial 5mls that was put in. This is quite normal). Draw back on the port a second time just to ensure the balloon is fully deflated.

→ Remove the gastrostomy tube by gently pulling it out through the stoma.

→ Clean the site with sterile saline and swabs from the dressing pack and then dry the area.

**Insertion of a balloon replacement tube:**

→ If not already done so, a full explanation must be given to the patient before the procedure is undertaken and consent obtained for it to be done.

→ The patient should be lying in a comfortable position in a clean environment.

→ Once the nurse/carer has washed their hands thoroughly, put on their personal protective equipment (where available) and prepared a dressing pack (where available) on a clean surface close to the patient, the balloon replacement pack can be opened.

→ The size of the replacement tube should be the same as the original tube or a size smaller if necessary (some shrinkage of the stoma tract may have occurred).

→ Inspect the tube prior to use to ensure it is fully functioning:
Clinical Guidelines for Enteral Feeding (Adults)

- Fill the balloon with 5 cc of water or the amount indicated on the inflation valve or on the side of the pre filled syringe.

- Completely deflate the balloon after inspection.

- Check that the bolster slides up and down the shaft of the tube.

  - Lubricate the tip with the lubricant supplied or moisten the tip with saline. DO NOT USE PETROLEUM BASED OIL OR JELLY as these can alter the pH.

  - If not already done so after removal of the tube, clean the stoma site with saline.

  - Guide the tip through the stoma and into the stomach until the entire balloon has passed through the tract.

  - Inflate the balloon with 5ml (cc) of water or the amount indicated on the inflation port.

  - NEVER INFLATE WITH AIR AND DO NOT ADD MORE WATER THAN INDICATED.

  - Withdraw the tube until tension is felt as the balloon touches the stomach wall.

  - Slide the bolster down the shaft of the tube leaving a space of approximately 1-2 mm between the abdomen and the bolster.

  - Check correct positioning of the tube by withdrawing stomach contents from the tube and testing it on pH paper.
Appendix E - Venting a gastrostomy

As well as being used to deliver feed, medication and fluid into the body, a gastrostomy can also be used to remove substances from the body. This may be excess secretions, gas, unabsorbed feeds/fluids.

This technique is sometimes used in people with bowel obstructions or severe discomfort, especially in palliative care to optimise comfort and quality of life, where more intensive treatment or surgery is not indicated.

If regular venting is required, also consider if any aspects of the feeding regimen may need to be reviewed, e.g. does the patient need a different type of feed to improve absorption/reduce gas production, some prokinetic medications, or a medication review.

There are limited documented guidelines on how to vent, so the patient or carer may have to trial different methods to find one that suits them. The following is a suggested starting point:

→ Lay the patient down, in a position that they are relaxed and comfortable.

→ Open the caps/bungs to the tube (and/or extension set connected if a low profile device) keeping the clamp on.

→ Take a 60ml syringe and remove the plunger.

→ Attach the barrel of the syringe to the tube, keeping the tube vertical, away from the body.

→ Open the clamp, and air/secretions may be released, especially as the tube is gently lowered downward towards the horizontal.

→ If no secretions/gas are released, you may need to attach an empty 60ml syringe and gently pull back the plunger, to create a negative pressure to allow any gas/secretions to begin to come back through the tube.
Appendix F - Commencing Enteral feeding flow diagram for ITU/HDU

Start feed at 30 mls/h or as per Dietitians advice

YES

Replace 300 ml and maintain rate

After feeding for 4 hours aspirate as per dietitians advice
Is vol > 300 mls*

NO

Replace aspirate and increase rate as prescribed by dietitian.

YES

Has prescribed rate been achieved?

NO

Replace 300ml. Consider gastric motility agent and reduce rate to 20 ml/h to minimum of 10 ml/h

YES

After feeding for 4 hours
Aspirate as per dietitians advice.
Is vol > 200ml*

NO

Replace 300 ml and reduce rate to 10 ml/h

If aspirate after 4 hours >300mls, consider alternative feeding- discuss with medical / dietetic staff.

YES

Aspirate every 4 hours. Any aspirate > 300mls

NO

If Ryles tube/large bore tube in situ, discuss placement of fine bore tube once on established

*if aspirates >500mls the feed should be stopped. Only recommence feeding on instruction from medical team. After 4 hours aspirate from the NG/PEG tube, if <200mls restart feed, as specified.
(Adapted from Raper S & Maynard N)
### Appendix G – An “at a glance” guide to enteral feeding monitoring

#### Enteral Monitoring

<table>
<thead>
<tr>
<th></th>
<th>Serum Sodium</th>
<th>Serum Urea</th>
<th>Serum Phosphate</th>
<th>Serum Calcium</th>
<th>Magnesium</th>
<th>Trace element profile BMI &lt;16 + malnourished</th>
<th>Fluid balance</th>
<th>Blood glucose 4 hourly in diabetic/stressed patients</th>
<th>Temperature</th>
<th>NG/PEG Tubes check</th>
<th>Weight</th>
<th>Full blood count &amp; MCV</th>
<th>BP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prior to Starting</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✗</td>
<td>✓</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td></td>
</tr>
<tr>
<td>Day 1</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✗ daily until stable</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td></td>
</tr>
<tr>
<td>2</td>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
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<td>✓</td>
<td>✓</td>
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<td>3</td>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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<td>✗</td>
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<tr>
<td>4</td>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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<td>✗</td>
<td>✗</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td></td>
</tr>
<tr>
<td>Daily</td>
<td>✓ Until stable</td>
<td>✓ Until Stable</td>
<td></td>
<td></td>
<td>✓ Until stable</td>
<td>✓ until stable</td>
<td>✓</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Twice a week</td>
<td>✓ Once stable</td>
<td>✓ Once stable</td>
<td></td>
<td></td>
<td>✓ Until stable</td>
<td>✓ until stable</td>
<td>✓</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Three times a week</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✓ Until stable</td>
<td>✓ Until stable</td>
<td>✓</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weekly</td>
<td></td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
<td>✓ Once stable</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monthly</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**In addition**
- Take a baseline Albumin and then recheck weekly.
- Take a baseline C reactive protein and then check 3 times a week until stable.
- If patient at risk of refeeding syndrome, magnesium and phosphate will need to be checked daily initially.
- All levels must be corrected appropriately, refer to Medical / Nutrition Team / Dietitian.
### Appendix H – Summary of different types of enteral feeds

<table>
<thead>
<tr>
<th>Feed</th>
<th>Indications</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standards 1 kcal / ml</td>
<td>Standard feed for those with no special nutrient requirements or that do not tolerate higher concentration feeds.</td>
<td></td>
</tr>
<tr>
<td>Fibre feed varying energy range</td>
<td>Feeds with mixed fibre sources may improve bowel function.</td>
<td>Soluble fibre is fermented in the colon SCFA are produced which help reabsorb water which may reduce diarrhoea (Sapan 01)</td>
</tr>
<tr>
<td>High energy 1.2 – 2 kcal/ml</td>
<td>Fluid restriction / high energy requirements</td>
<td>May be useful in patients with high energy requirements who do not tolerate the full volume of standard feed.</td>
</tr>
<tr>
<td>Low sodium</td>
<td>Hypernatraemia when extra fluid cannot be given e.g. head injured patients with high intra cranial pressures who are kept very dry</td>
<td>Need to ascertain correct cause of hypernatraemia.</td>
</tr>
<tr>
<td>Low electrolyte, high energy</td>
<td>Those requiring low volume feeds and low sodium or potassium, e.g. renal patients not receiving continuous renal replacement therapy</td>
<td></td>
</tr>
<tr>
<td>Elemental e.g. Elemental O28 Extra / Emsogen</td>
<td>Pancreatic insufficiency / malabsorption</td>
<td></td>
</tr>
<tr>
<td>High fat, low carbohydrate</td>
<td>Refractory hypercapnia</td>
<td>Overfeeding is more likely to cause an increase in pCO2, therefore reassess energy requirements before using a low carbohydrate feed (Talpers 92)</td>
</tr>
<tr>
<td>Enriched with arginine, omega 3 fatty acids and in some cases RNA and/or glutamine e.g. Impact “Immune modulating feeds”</td>
<td>May be beneficial to help reduce infectious complications in patients undergoing GI surgery and trauma patients (US concensus)</td>
<td>In order to be beneficial needs to be given early (preferably pre op in elective surgical patients) and in adequate volumes. Should be used with caution in septic patients as may increase mortality. (Heyland)</td>
</tr>
<tr>
<td>Peptide feed</td>
<td>Malabsorption</td>
<td>Alternatively a peptide or elemental feed could be used especially if it is not known whether soya protein is tolerated.</td>
</tr>
<tr>
<td>Soya Feed</td>
<td>Soya protein instead of milk protein for those with cows milk protein allergy</td>
<td></td>
</tr>
<tr>
<td>Low carbohydrate, high fat rich in eicosapentanoic + y linolenic (EPA &amp; GLA) and antioxidants e.g. Oxepa</td>
<td>Acute Respiratory Distress Syndrome</td>
<td>One multicentre trial has shown reductions in length of stay and number of days on the ventilator when used in those at risk of ARDS (Gadek 99). The ratio of fatty acids is important therefore the effect is neutralized when n-6 fat is given e.g. propofol</td>
</tr>
<tr>
<td>Glutamine enriched e.g. Alitraq</td>
<td>To help reduce the incidence of infections. (houdjiki 98)</td>
<td>Some feeds are enriched with glutamine, or glutamine and other immunonutrients or glutamine can be added separately.</td>
</tr>
</tbody>
</table>

*Adapted from a Pocket Guide to Clinical Nutrition PENG 2012*
Enteral Nutrition Starter Regimen
NG/PEG/RIG

Please refer patient to Dietitian and refer to Refeeding guidelines if required.

Check position of tube by aspirating before commencing feed (NG tube).
- The patient's head and shoulders should be elevated to at least 30° - 40° (i.e. raised) during feed and 1 hour after feeding to reduce risk of reflux.

<table>
<thead>
<tr>
<th>DAY 1 Or use</th>
<th>Feed</th>
<th>Pump flow rate</th>
<th>Total volume of feed in 24hrs (mls)</th>
<th>Energy (kcal)</th>
<th>Protein (g)</th>
<th>Na+ (mmol)</th>
<th>K+ (mmol)</th>
<th>Sterile water flushes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Nutrison Multifibre</td>
<td>15mls X 20hrs Break 4 hours</td>
<td>300</td>
<td>309</td>
<td>12</td>
<td>12.9</td>
<td>11.4</td>
<td>Flush NG tube with 100mls of water pre and post feed and with medications</td>
</tr>
</tbody>
</table>

Post PEG/RIG insertion patient NBM and nil by PEG/RIG for 6 hours, then flush gastrostomy with 50ml water and if no complications proceed to use regime above and follow the gastrostomy feeding in adults guidelines.

Please continue with day 1 if tolerated until dietetic review
- Extra fluid may be needed for hydration but check fluid balance daily to ensure patient receives adequate fluid but is not overfilled.
- If not tolerating feed follow NG/Gastrostomy FEEDING FLOW DIAGRAM on reverse.

Discuss with medical team need for extra IV fluids
### Enteral Nutrition Starter Regimen

#### Jejunal

**Please refer patient to Dietitian and refer to Refeeding guidelines if required.**

The patient’s head and shoulders should be elevated to at least 30° - 40° (i.e. raised) during feed and 1 hour after feeding to reduce risk of reflux.

<table>
<thead>
<tr>
<th></th>
<th>Feed</th>
<th>Pump flow rate</th>
<th>Total volume of feed in 24hrs (mls)</th>
<th>Energy (kcal)</th>
<th>Protein (g)</th>
<th>Na⁺ (mmol)</th>
<th>K⁺ (mmol)</th>
<th>Sterile water flushes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DAY 1</strong></td>
<td>Sterile water</td>
<td>10mls x 6hrs</td>
<td>60</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td></td>
</tr>
<tr>
<td></td>
<td>then</td>
<td>Nutrison</td>
<td>17mls x 18hrs</td>
<td>306</td>
<td>12.2</td>
<td>13.2</td>
<td>11.6</td>
<td>Flush jejunal tube with 30mls sterile water every 6hrs. Aspirate tube via gastric port every 6 hours.</td>
</tr>
<tr>
<td><strong>DAY 2</strong></td>
<td>Nutrison</td>
<td>13mls x 24hrs</td>
<td>312</td>
<td>312</td>
<td>12.5</td>
<td>13.4</td>
<td>11.8</td>
<td>Flush jejunal tube with 30mls sterile water every 6 hrs. Aspirate tube via gastric port every 6 hours.</td>
</tr>
</tbody>
</table>

**Please continue with day 1 if tolerated until dietetic review**

- Flush tube with a minimum of 30-50mls before and after feed and drugs to keep tube patent.
- Extra fluid may be needed for hydration but check fluid balance daily to ensure patient receives adequate fluid but is not overfilled.
  - **Discuss with medical team need to prescribe IV fluids**
Appendix K – Process to follow for PEG/RIG placement

- Refer to and complete the PEG referral form

- Verbal consent must be obtained in accordance with the Mental Capacity Act (MCA) 2005. If patient is assessed as not having mental capacity to consent, the ‘decision maker’ must follow the ‘best interest checklist’ in consultation with relevant others in accordance with MCA 2005.

- The gastrostomy referral should be sent by the patient’s managing Acute Team or GP to a Consultant Gastroenterologist.

- The Consultant Gastroenterologist will assess the most appropriate insertion route for a gastrostomy tube. If a RIG insertion is indicated a referral should be sent by the patient’s managing Acute Team or GP to a Consultant Radiologist.

- The Endoscopy / Radiology department should inform the patient/ carer(s) and managing Acute Team or GP of the date and time of the gastrostomy insertion.

- The Consultant Gastroenterologist will request that the patient has been screened for MRSA 2 weeks prior to PEG insertion. If patient is MRSA positive then appropriate treatment protocol should be followed prior to PEG insertion.

<table>
<thead>
<tr>
<th>Procedure for insertion of PEG or RIG</th>
<th>Action</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The managing doctor/team need to explain the procedure to the patient/patient’s carer(s)</td>
<td>To obtain the patient’s consent and allay any anxieties</td>
<td></td>
</tr>
<tr>
<td>2. If the patient lacks capacity to consent then consent needs to be obtained as per MCA guidance above</td>
<td>To enable the procedure to be undertaken</td>
<td></td>
</tr>
<tr>
<td>3. Ensure any abdominal subcutaneous fluids have been stopped 24 hours before gastrostomy tube insertion</td>
<td>To reduce risk of infection</td>
<td></td>
</tr>
<tr>
<td>4. The patient should be given prophylactic antibiotics as per ESHT antibiotic policy</td>
<td>To reduce risk of infection</td>
<td></td>
</tr>
<tr>
<td>5. The medical notes and drug charts need to be sent to Endoscopy/Radiology with the patient</td>
<td>To enable assessment of patient suitability prior to gastrostomy tube insertion</td>
<td></td>
</tr>
<tr>
<td>6. PEG inserted in Endoscopy or RIG inserted in Radiology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Patient transferred to ward with appropriate post gastrostomy placement guidance completed by Endoscopy / Radiology Nurse or Consultant</td>
<td>To ensure ward staff are aware of safe post gastrostomy placement care</td>
<td></td>
</tr>
<tr>
<td>8. Check temperature, pulse, respiratory rate and blood pressure every 15 minutes for first hour, every 30 minutes for next 2 hours, hourly for 4 hours &amp; then 4 hourly until following day</td>
<td>To detect any complications early such as hypotension and respiratory depression</td>
<td></td>
</tr>
<tr>
<td>9. Patient kept nil by mouth and nil by gastrostomy for a minimum of 4 hours (in an uncomplicated patient). The gastrostomy should then be flushed with 50mls sterile water.</td>
<td>To ensure no perforation with gastrostomy. Ensure gastrostomy is patent. The gastrostomy procedure will delay gastric emptying. Until sedation has worn off swallowing may be affected</td>
<td></td>
</tr>
</tbody>
</table>
10. Check the length of the tube up to the flange (usually about 4cm for PEG, 1-2cm for RIG) to ensure that gastrostomy is not too tight | To prevent necrosis

11. Check under gastrostomy site for any blood or serous leakage. If bleeding occurs inform medical / gastro / radiology staff. | To detect bleeding post procedure and ensure that it is monitored. Dressing / suturing may be required

12. Do not cover gastrostomy site with any new dressings unless managing doctor / team / endoscopy or radiology advise to do so | Increases risk of infection

13. Observe exit site for redness daily | To detect infection

14. If infection seen take swab for microbiological investigation | To confirm infection

15. Ensure mouth care is given to patients who are unable to do this independently or who are nil by mouth | To provide comfort and to reduce the risk of mouth infections such as candida

16. Always close the caps on the gastrostomy tube when not in use | To ensure no leakage

16. Flush the gastrostomy with 30-50mls water with a 60ml syringe, before and after feed & medication | To prevent blockage

17. Provide feed and water flushes as per Dietitian’s advice | To ensure appropriate nutrition and hydration given

18. If gastrostomy falls/pulled out within 6 weeks of insertion contact Endoscopy / Radiology within normal working hours. Out of hours, if an inpatient, then contact Medical Registrar on call. Out of hours if an outpatient present to A&E for review by Medical Registrar on call. | To enable reinsertion since a formal stoma tract will not have formed

20. Rotate the PEG tube 360° daily once tract is formed (this can take up to 4 weeks). Rotate the RIG tube as above but only when the sutures are not in situ and tract is formed (this usually takes 2-6 weeks). If sutures are still in situ after week 6 please contact Ward/District Nurse as these will need to be removed | To prevent Buried Bumper Syndrome when the gastrostomy tube becomes buried and stomach lining grows around it

21. Clean gastrostomy site twice daily with normal saline for first 48 hours. After 48 hours clean gastrostomy twice daily with soap and water. Let the skin air dry. Dressings and bandages are not recommended | To allow healing and reduce risk of infection

22. For home advice sheet refer to gastrostomy Manufacturers patient care manual which is given to each patient after gastrostomy insertion | To enable patient/carer(s) to understand how their gastrostomy needs to be looked after

23. Prior to discharge ensure appropriate gastrostomy care is safely in place within community setting - Dietitian to confirm patient is safe for discharge | To ensure safe discharge of patient requiring long term enteral feeding in community setting
Appendix L – Dietetic Enteral Feeding Transfer of Care

Dietetic Enteral Feeding Transfer of Care - for GP and Dietetic action

GP
Address

Department of Nutrition and Dietetics
Eastbourne District General Hospital
Kings Drive
Eastbourne
East Sussex
BN21 2UD

Tel: (01323) 417400 Ext 4172

<table>
<thead>
<tr>
<th>Patient Information</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Name</strong></td>
</tr>
<tr>
<td><strong>DOB</strong></td>
</tr>
<tr>
<td><strong>NHS no</strong></td>
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</table>

<table>
<thead>
<tr>
<th>Admission details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Date of admission</strong></td>
</tr>
<tr>
<td><strong>Date of discharge</strong></td>
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<table>
<thead>
<tr>
<th>Anthropometry</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Weight on admission (kg)</strong></td>
</tr>
<tr>
<td><strong>Height (m)</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Medical</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Diagnosis / reason for admission</strong></td>
</tr>
<tr>
<td><strong>Past medical history</strong></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Enteral Feeding Tube Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Date tube inserted</strong></td>
</tr>
</tbody>
</table>
### Enteral Feed

<table>
<thead>
<tr>
<th>Feed Name and Volume</th>
<th>Feed rate/Bolus</th>
<th>Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>□ Overnight □ Day time</td>
</tr>
</tbody>
</table>

|Flushes| Date feed commenced| Feeds trialled whilst an inpatient |

- Any problems with feed tolerance?
- Feeds trialled whilst an inpatient

### Oral Supplements Prescription Request

- Please continue as previous □
- Please see below prescription □
- Not applicable □

<table>
<thead>
<tr>
<th>Supplement</th>
<th>Flavours</th>
<th>Frequency</th>
<th>Duration</th>
<th>Number required for 28 days</th>
</tr>
</thead>
</table>

(FP10/ACBS)

### Nutritional Information

- Oral Intake
- Problems affecting oral intake
- Quantity of oral nutritional intake
- Nutritional assessment and requirements
- Any bowel problems whilst an inpatient?

| Stool type and frequency |

### Social

- Accommodation
- Carer

<table>
<thead>
<tr>
<th>Carers Name</th>
<th>Contact telephone number</th>
</tr>
</thead>
</table>

| Other AHPs involved |

### Enteral Feed Prescription Request

<table>
<thead>
<tr>
<th>Feed</th>
<th>Bolus/Rate</th>
<th>Frequency/Duration</th>
<th>Amount required for 28 days</th>
</tr>
</thead>
</table>

(FP10/ACBS)
## Dietetic Recommendations

- Patient’s care will be handed over to the Community Nutrition Support Dietitians
- Continue with current feed regimen until reviewed by the Community Nutrition Support Dietitians
- **Please forward all prescriptions by fax to Homeward Clinical Support Services on 08704 437552 and send the original in the post for the attention of Accounts Team, Homeward, Freepost (SWB 10322), Trowbridge, Wiltshire, BA14 0XQ**

## Dietetic Goal

- To design a feed regimen to promote weight maintenance / prevent further weight loss and to ensure all the patient’s nutritional requirements (including vitamins and minerals) are being met.

## Written information provided

- The care home/patient has been provided with an updated enteral feed regimen.

<table>
<thead>
<tr>
<th>Patient Seen by:</th>
<th>BSc. RD. (Acute Dietitian)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signed:</td>
<td></td>
</tr>
<tr>
<td>Date:</td>
<td></td>
</tr>
<tr>
<td>CC:</td>
<td>Community Nutrition Support Dietitian, Avenue House</td>
</tr>
</tbody>
</table>

If you have any questions regarding the dietetic management of this patient then please contact the Department of Nutrition and Dietetics on 01323 444167
Appendix M – Checklist for discharging enteral feeds

ESHT Checklist for Dietitians Discharging Enteral Feeds

<table>
<thead>
<tr>
<th>How to use this document</th>
</tr>
</thead>
<tbody>
<tr>
<td>- It contains key information and a checklist of tasks to complete.</td>
</tr>
<tr>
<td>- Please ensure that all sections are checked off as complete/ incomplete/ not applicable.</td>
</tr>
<tr>
<td>- It is responsibility of the discharging healthcare professional to register the patient with the appropriate Homecare Company, as this person has assessed the patient’s requirements and will have access to the information required.</td>
</tr>
<tr>
<td>- The discharging healthcare professional should include a copy of the completed checklist with their handover to the Community Dietitian.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Contract details</th>
<th>Dietitian Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Current provider</strong></td>
<td>Adults</td>
</tr>
<tr>
<td>Nutricia Advanced Medical Nutrition/ Nutricia Homeward</td>
<td></td>
</tr>
<tr>
<td><strong>Budget Codes</strong></td>
<td>Eastbourne / Havens area:</td>
</tr>
<tr>
<td>C6550 - Hastings &amp; Rother Adults</td>
<td></td>
</tr>
<tr>
<td>C6552 - Hastings &amp; Rother Paeds</td>
<td></td>
</tr>
<tr>
<td>I007 - Eastbourne, Hailsham &amp; Seaford Adults</td>
<td></td>
</tr>
<tr>
<td>I008 - Eastbourne, Hailsham &amp; Seaford Paeds</td>
<td></td>
</tr>
<tr>
<td>I009 - High Weald, Lewes &amp; Havens Adults</td>
<td></td>
</tr>
<tr>
<td>I010 - High Weald, Lewes &amp; Havens Paeds</td>
<td></td>
</tr>
<tr>
<td><strong>Address for invoices</strong></td>
<td>Uckfield/ Lewes area:</td>
</tr>
<tr>
<td>Accounts Payable, East Sussex Healthcare NHS Trust, St. Anne’s House, 729 The Ridge, St. Leonards on Sea, TN37 7PT</td>
<td></td>
</tr>
<tr>
<td><strong>Product sourcing for community hospitals</strong></td>
<td>Hastings and Rother area:</td>
</tr>
<tr>
<td>Community Hospital</td>
<td>Nutrition Support Dietitian</td>
</tr>
<tr>
<td>Lewes/ Meadow Lodge</td>
<td>Conquest Hospital, St Leonards on Sea</td>
</tr>
<tr>
<td>Firwood House</td>
<td>01424 758147</td>
</tr>
<tr>
<td>Uckfield Hospital</td>
<td>Hastings and Rother area:</td>
</tr>
<tr>
<td>Crowborough Hospital</td>
<td>Nutrition Support Dietitian</td>
</tr>
<tr>
<td>Bexhill Irvine Unit</td>
<td>Uckfield Hospital, Uckfield</td>
</tr>
<tr>
<td></td>
<td>07500 993768</td>
</tr>
<tr>
<td></td>
<td>Hastings and Rother area:</td>
</tr>
<tr>
<td></td>
<td>Nutrition Support Dietitian</td>
</tr>
<tr>
<td></td>
<td>Conquest Hospital, St Leonards on Sea</td>
</tr>
<tr>
<td></td>
<td>01424 758177</td>
</tr>
<tr>
<td></td>
<td>Eastbourne, Uckfield, Havens area:</td>
</tr>
<tr>
<td></td>
<td>Conquest Hospital, St Leonards on Sea</td>
</tr>
<tr>
<td></td>
<td>01424 758147</td>
</tr>
<tr>
<td></td>
<td>Hastings and Rother area:</td>
</tr>
<tr>
<td></td>
<td>Nutrition Support Dietitian</td>
</tr>
<tr>
<td></td>
<td>Conquest Hospital, St Leonards on Sea</td>
</tr>
<tr>
<td></td>
<td>01424 758147</td>
</tr>
</tbody>
</table>

Paediatrics

| Hastings and Rother area: |
| Conquest Hospital, St Leonards on Sea |
| 01424 758147 |

| | Eastbourne, Uckfield, Havens area: |
| | Conquest Hospital, St Leonards on Sea |
| | 01424 758147 |

<table>
<thead>
<tr>
<th>Product sourcing for community hospitals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community Hospital</td>
</tr>
<tr>
<td>Lewes/ Meadow Lodge</td>
</tr>
<tr>
<td>Firwood House</td>
</tr>
<tr>
<td>Uckfield Hospital</td>
</tr>
<tr>
<td>Crowborough Hospital</td>
</tr>
<tr>
<td>Bexhill Irvine Unit</td>
</tr>
</tbody>
</table>
### Patient Information

<table>
<thead>
<tr>
<th>Patient Name</th>
<th>Date of Birth</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Title</th>
<th>Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NHS Number</th>
<th>Hospital Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Patient’s discharge address</th>
<th>Telephone Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Patient’s email address (for Homeward Online Stock-checking)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
</tr>
</tbody>
</table>

Rye Memorial Care Centre

---

### Task

<table>
<thead>
<tr>
<th>Task</th>
<th>Complete</th>
<th>Unable to Complete</th>
<th>Not Applicable</th>
<th>Comments/ Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explain the process of the Homecare Company registration and deliveries (supporting documentation is available from the Homecare Company).</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Obtain consent to register the patient with Homecare Company and to pass their details on to the Homecare Company.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Obtain consent to allow the Homecare Company to dispense and deliver the feed and feeding equipment to the patients home.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Obtain consent to allow the Homecare Company to contact the patient’s GP to obtain the feed prescription.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Register the patient with the Homecare Company (Please complete a registration form and fax it to Nutricia on 08704 437552 or use Nutricia Connect).</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### On discharge please provide the patient with:

<table>
<thead>
<tr>
<th>Task</th>
<th>Complete</th>
<th>Unable to Complete</th>
<th>Not Applicable</th>
<th>Comments/ Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide an up to date feed regimen which is signed and dated (to both Dietitian and patient).</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Provide at least a 7 days supply</strong> of feed and ancillaries (10 days on a bank holiday period).</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guidance on care of the tube.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guidance on what to do if the tube blocks or falls out.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A Flocare Infinity pump</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Record serial number of pump provided on discharge on Homecare registration form</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provide Z stand (MK3ZSTAND)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Request pump and stand be delivered by Homecare Company to hospital to replenish hospital stocks</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
For patients living in their own home/ care home:

<table>
<thead>
<tr>
<th>Task</th>
<th>Complete</th>
<th>Unable to Complete</th>
<th>Not Applicable</th>
<th>Comments/ Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Request that a feed prescription is forwarded to Homecare Company from patient’s GP</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Notify Nutricia Nurse on 08704 201468 to arrange pump training/support if required.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>For paediatric patients please notify Community Children’s Nurses on: 01323 417400 x3849 (Eastbourne) 01424 755255 x8504 (Hastings)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For patients going to Community Hospitals:

<table>
<thead>
<tr>
<th>Task</th>
<th>Complete</th>
<th>Unable to Complete</th>
<th>Not Applicable</th>
<th>Comments/ Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Register with Homecare Company with only patient details, destination and pump serial number (for pump tracking and to allow the Company Nurse to be insured to assess/ train the patient if required).</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Post, Fax or email (only secure nhs.net to nhs.net) and post original copies of the following documents to the new managing Community Dietitian:

<table>
<thead>
<tr>
<th>Task</th>
<th>Complete</th>
<th>Unable to Complete</th>
<th>Not Applicable</th>
<th>Comments/ Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dietitian handover form/ copy of comprehensive GP letter</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Copy of Homecare Company registration form</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feed regimen</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>This completed checklist</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Tube information**

<table>
<thead>
<tr>
<th>Date tube inserted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tube make (e.g. Corflo/MIC-KEY/Freka)</td>
</tr>
<tr>
<td>Tube size (16Fr / 12Fr etc)</td>
</tr>
<tr>
<td>Tube type (PEG / RIG / Balloon / Button etc.)</td>
</tr>
<tr>
<td>If the tube is a RIG, is it sutured in place and does it require turning? When is the tube due to be changed?</td>
</tr>
<tr>
<td>If the patient has an NG/NJ tube, details of who to contact in case of tube displacement or if tube needs to be changed should be given</td>
</tr>
</tbody>
</table>

Any additional information
If you have any questions regarding the dietetic management of this patient then please contact the Department of Nutrition and Dietetics on 01323 444167

<table>
<thead>
<tr>
<th>Checklist Completed by</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
</tr>
<tr>
<td>Job Title</td>
</tr>
<tr>
<td>Address</td>
</tr>
<tr>
<td>Date Completed</td>
</tr>
</tbody>
</table>
Appendix N – Background to changes to community enteral feed supplies

This section summarises changes in recommendations for home enterally fed patients within East Sussex Healthcare NHS Trust. It is applicable to adult and paediatric patients. It covers the following topics:

- Jejunal feeding tubes
- Use of sterile water
- Water for flushes and balloon inflation
- Single use ancillaries
- Paper towels

**Aim:**
To ensure practices are consistent in both adult and paediatric settings across East Sussex Healthcare NHS Trust, based on most recent evidence and guidelines:

- Manufacturers’ recommendations
- Current practices across the Trust where no adverse problems have been reported

**New recommendations in NICE 2012:**
1.3.3.1 Use minimal handling and an aseptic technique to connect the administration system to the enteral feeding tube.

1.3.4.2 To prevent blockages, flush the enteral feeding tube before and after feeding or administering medications using single-use syringes or single-patient-use (reusable) syringes according to the manufacturer’s instructions. Use:

- freshly drawn tap water for patients who are not immunosuppressed
- either cooled freshly boiled water or sterile water from a freshly opened container for patients who are immunosuppressed.

There is no specific separate guidance for jejunal feeding. We previously advised that all adult patients with jejunal feeding tubes should be offered single use syringes and sterile water. This was based on CREST (2004) Guidelines for the Management of Enteral Tube Feeding in Adults. References for the advice in this guidance are not clear.

**Local implementation/recommendations:**
- ✓ Sterile water and single use items are not required routinely for jejunal feeding.
- ✓ Continue to use a minimal handling, clean procedure when administering enteral feeds.
- ✓ Advise use of freshly drawn tap water for community patients.
- ✓ Where a patient may be deemed to be severely immunocompromised, opt for sterile water.
- ✓ For infants under the age of 1 year use freshly cooled-boiled water.
- ✓ Use freshly cooled-boiled water for the inflation of all balloon devices (unless severely immunocompromised).
- ✓ The former PCT “Guidelines for home enteral tube feeding (adults)” (2006) recommend the use of paper towels for drying syringes and the stoma site. Patients and institutions should supply their own paper towels for these purposes; domestic kitchen paper towel is suitable.

References:
- Vygon manufacturers statement “Balloon Checks and Inflation Media” November 2012
- Manufacturers recommendations: Medicina, Vygon, Corpak

Produced by Nutrition and Dietetics Department - December 2012
### Appendix O – Ancillary Supplies Guidance for Enteral Feeding

#### Ancillary Supplies Guidance for PEG (Percutaneous Endoscopic Gastrostomy)

<table>
<thead>
<tr>
<th>Ancillary Item</th>
<th>Destination &amp; quantity/frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Items required</strong></td>
<td><strong>Comments</strong></td>
</tr>
</tbody>
</table>
| Flocare Infinity Giving sets | **Use ‘no medication port’ where possible** to encourage disconnection & flushing before giving meds | Static:  
- 50562 (no med port)  
- 50563 (with med port)  
Mobile:  
- 40632 (med port)  
- 75027 (no med port) | 1 set per feed pack or container | 1 set per feed pack or container | 1 set per feed pack or container | 1 set per feed pack or container |
| 60ml syringes | Luer lock if “screw-type” luer connection available, catheter (bladder) tip if not. 7 day re-useable syringes. | 64349 (reverse female luer lock)  
64350 (catheter tip) | 4pcm  
(8pcm if bolus feeding) | 4pcm  
(8pcm if bolus feeding) | 4pcm  
(8pcm if bolus feeding) | 4pcm  
(8pcm if bolus feeding) |
| Smaller syringes for medications | One per week, per medication. 7 day re-useable syringes | Use Enteralok brand where possible* | One per week, per medication | One per week, per medication | Nursing home should self source | Use standard hospital supplies |
| Back pack and “Go Frame” | Where patient is mobile in day and requires to be pump fed. Best to use mobile giving sets with these. | 43247 (Go Frame)  
64432 (Go Frame Back Pack) | If required | If required | If required | If required |
| Reservoir containers | Where additional fluids are required by pump or feed needs to be mixed or decanted (avoid wherever possible due to increased contamination risks). Each container will require a giving set. | 40441 (500ml Flocare container)  
40455 (1000ml Flocare container) | As many as required pcm for single use | As many as required pcm for single use | As many as required pcm for single use | As many as required pcm for single use |

- Use freshly drawn tap water for flushes and additional water – exceptions:  
  - Severely immunocompromised patients: sterile water  
  - Balloon inflation: freshly, cooled-boiled water  
  - Infants under 1 year of age: freshly, cooled-boiled water  
- Syringes: Use reusable unless the patient is severely immunocompromised or there are hygiene concerns.  
- Reconstituted/decanted feeds can only be hung for 4 hours; new container & giving set will be required every 4 hours  
- * Enteralok syringes for medications:  
  - 64344 ENTERALOK 1ML 7 DAY SYRINGE  
  - 64345 ENTERALOK 2.5ML 7 DAY SYRINGE  
  - 64346 ENTERALOK 5ML 7 DAY SYRINGE  
  - 64347 ENTERALOK 10ML 7 DAY SYRINGE  
  - 64348 ENTERALOK 20ML 7 DAY SYRINGE
<table>
<thead>
<tr>
<th>Items required</th>
<th>Comments</th>
<th>Nutricia Order code</th>
<th>Quantity/frequency by destination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flocare Infinity Giving sets</td>
<td>Use ‘no medication port’ where possible to encourage disconnection &amp; flushing before giving meds</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Static:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 50562 (no med port)</td>
<td>1 set per feed pack or container</td>
<td>Home (adults and paeds)</td>
</tr>
<tr>
<td></td>
<td>• 50563 (with med port)</td>
<td>1 set per feed pack or container</td>
<td>Care Home</td>
</tr>
<tr>
<td></td>
<td>Mobile:</td>
<td>1 set per feed pack or container</td>
<td>Nursing Home</td>
</tr>
<tr>
<td></td>
<td>• 40632 (med port)</td>
<td></td>
<td>Community Hospital</td>
</tr>
<tr>
<td></td>
<td>• 75027 (no med port)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>60ml syringes</td>
<td>Luer lock if “screw-type” luer connection available, catheter (bladder) tip if not. 7 day re-useable syringes</td>
<td>64349 (reverse female luer lock)</td>
<td>4pcm</td>
</tr>
<tr>
<td></td>
<td>64350 (catheter tip)</td>
<td>(8pcm if bolus feeding)</td>
<td></td>
</tr>
<tr>
<td>10ml luer slip syringes</td>
<td>If balloon holds tube in situ, syringes are required to empty and refill balloon with water once a week</td>
<td>64857 (Terumo)</td>
<td>8pcm</td>
</tr>
<tr>
<td>Smaller syringes for medications</td>
<td>One per week, per medication. 7 day re-useable syringes</td>
<td>Use Enteralok brand where possible*</td>
<td></td>
</tr>
<tr>
<td>pH paper</td>
<td>For checking aspirate to confirm position when tube changed/dislodged</td>
<td>63786 Merck pH 2-9 Indicator Strips (non-bleeding)</td>
<td>1 pack every 12 months</td>
</tr>
<tr>
<td>Spare replacement tube</td>
<td>If a ‘balloon’ is inserted a replacement will be required. Ensure size is same as initial tube placed</td>
<td>Check with Community Dietitian</td>
<td>1 on discharge and then 1 every 4 months</td>
</tr>
<tr>
<td>Back pack and “Go Frame”</td>
<td>Where patient is mobile in day and requires to be pump fed</td>
<td>43247 (Go Frame)</td>
<td>If required</td>
</tr>
<tr>
<td></td>
<td></td>
<td>64432 (Go Frame Back Pack)</td>
<td>If required</td>
</tr>
<tr>
<td>Reservoir containers</td>
<td>Where additional fluids are required by pump or feed needs to be mixed or decanted (avoid wherever possible due to increased contamination risks). Each container will require a giving set.</td>
<td>40441 (500ml Flocare container)</td>
<td>As many as required pcm for single use</td>
</tr>
<tr>
<td></td>
<td></td>
<td>40455 (1000ml Flocare container)</td>
<td>As many as required pcm for single use</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>As many as required pcm for single use</td>
</tr>
</tbody>
</table>
Use freshly drawn tap water for flushes and additional water – exceptions:
  - Severely immunocompromised patients: sterile water
  - Balloon inflation: freshly, cooled-boiled water
  - Infants under 1 year of age: freshly, cooled-boiled water

- Syringes: Use reusable unless the patient is severely immunocompromised or there are hygiene concerns.
- Reconstituted/decanted feeds can only be hung for 4 hours; new container & giving set will be required every 4 hours

* Enteralok syringes for medications:
  - 64344 ENTERALOK 1ML 7 DAY SYRINGE
  - 64345 ENTERALOK 2.5ML 7 DAY SYRINGE
  - 64346 ENTERALOK 5ML 7 DAY SYRINGE
  - 64347 ENTERALOK 10ML 7 DAY SYRINGE
  - 64348 ENTERALOK 20ML 7 DAY SYRINGE
Ancillary Supply Guidance for Jejunal Tubes (e.g. PEG-J / Jejunostomy / NJ)

<table>
<thead>
<tr>
<th>Ancillary Item</th>
<th>Destination &amp; quantity/frequency</th>
<th>Nutricia Order code</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Flocare Infinity Giving sets</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use ‘no medication port’ where possible to encourage disconnection &amp; flushing before giving meds</td>
<td>50562 (no med port) 50563 (with med port)</td>
<td>1 set per feed pack or container</td>
<td>1 set per feed pack or container</td>
</tr>
<tr>
<td><strong>60ml syringes</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Luer lock if “screw-type” luer connection available, catheter (bladder) tip if not. 7 day re-useable syringes</td>
<td>64349 (reverse female luer lock) 64350 (catheter tip)</td>
<td>4pcm (8pcm if bolus feeding)</td>
<td>4pcm (8pcm if bolus feeding)</td>
</tr>
<tr>
<td><strong>10ml luer slip syringes</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>If balloon holds tube in situ, syringes are required to empty and refill balloon with water weekly</td>
<td>64857 (Terumo)</td>
<td>8pcm</td>
<td>8pcm</td>
</tr>
<tr>
<td><strong>Smaller syringes for medications</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>One per week, per medication. 7 day re-useable syringes</td>
<td>Use Enteralok brand where possible*</td>
<td>One per week, per medication</td>
<td>One per week, per medication</td>
</tr>
<tr>
<td><strong>Back pack and “Go Frame”</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Where patient is mobile in day and requires to be pump fed</td>
<td>43247 (Go Frame) 64432 (Go Frame Back Pack)</td>
<td>If required</td>
<td>If required</td>
</tr>
<tr>
<td><strong>Reservoir containers</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Where additional fluids are required by pump or feed needs to be mixed or decanted (avoid wherever possible due to increased contamination risks). Each container will require a giving set.</td>
<td>40441 (500ml Flocare container) 40455 (1000ml Flocare container)</td>
<td>As many as required pcm for single use</td>
<td>As many as required pcm for single use</td>
</tr>
</tbody>
</table>

- Use freshly drawn tap water for flushes and additional water – exceptions:
  - Severely immunocompromised patients: sterile water
  - Balloon inflation: freshly, cooled-boiled water
  - Infants under 1 year of age: freshly, cooled-boiled water
- Syringes: Use reusable unless the patient is severely immunocompromised or there are hygiene concerns.
- Reconstituted/decanted feeds can only be hung for 4 hours; new container & giving set will be required every 4 hours
- * Enteralok syringes for medications: 64344 ENTERALOK 1ML 7 DAY SYRINGE 64345 ENTERALOK 2.5ML 7 DAY SYRINGE 64346 ENTERALOK 5ML 7 DAY SYRINGE 64347 ENTERALOK 10ML 7 DAY SYRINGE 64348 ENTERALOK 20ML 7 DAY SYRINGE
### Ancillary Supplies Guidance for Nasogastric (NG) Tube

**Ancillary Item** | **Nutricia Order code** | **Comments** | **Home (adults and paeds)** | **Care Home** | **Nursing Home** | **Community Hospital** |
<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Flocare Infinity</strong>&lt;br&gt;Giving sets</td>
<td>Static: 50562 (no med port)&lt;br&gt;50563 (with med port)&lt;br&gt;Mobile: 40632 (med port)&lt;br&gt;75027 (no med port)</td>
<td>Use 'no medication port' where possible to encourage disconnection &amp; flushing before giving meds</td>
<td>1 set per feed pack or container</td>
<td>1 set per feed pack or container</td>
<td>1 set per feed pack or container</td>
<td>1 set per feed pack or container</td>
</tr>
<tr>
<td><strong>60ml syringes</strong>&lt;br&gt;Mobile</td>
<td>64349 (reverse female luer lock)&lt;br&gt;64350 (catheter tip)</td>
<td>Luer lock if &quot;screw-type&quot; luer connection available, catheter (bladder) tip if not. 7 day re-useable syringes.</td>
<td>4pcm (8pcm if bolus feeding)</td>
<td>4pcm (8pcm if bolus feeding)</td>
<td>4pcm (8pcm if bolus feeding)</td>
<td>4pcm (8pcm if bolus feeding)</td>
</tr>
<tr>
<td><strong>pH paper</strong>&lt;br&gt;Static</td>
<td>63786 Merck pH 2-9 Indicator Strips (non-bleeding)</td>
<td>For checking aspirate to confirm position when tube changed/dislodged</td>
<td>1 pack every 12 months</td>
<td>1 pack every 12 months</td>
<td>1 pack every 12 months</td>
<td>Use standard hospital supplies</td>
</tr>
<tr>
<td><strong>Smaller syringes for medications</strong>&lt;br&gt;Mobile</td>
<td>Use Enteralok brand where possible*&lt;br&gt;One per week, per medication&lt;br&gt;7 day re-useable syringes</td>
<td></td>
<td>1 pack every 12 months</td>
<td>1 pack every 12 months</td>
<td>1 pack every 12 months</td>
<td>Use standard hospital supplies</td>
</tr>
<tr>
<td><strong>Back pack and “Go Frame”</strong>&lt;br&gt;Mobile</td>
<td>43247 (Go Frame)&lt;br&gt;64432 (Go Frame Back Pack)</td>
<td>Where patient is mobile in day and requires to be pump fed</td>
<td>If required</td>
<td>If required</td>
<td>If required</td>
<td>If required</td>
</tr>
<tr>
<td><strong>Reservoir containers</strong>&lt;br&gt;Static</td>
<td>40441 (500ml Flocare container)&lt;br&gt;40455 (1000ml Flocare container)</td>
<td>Where additional fluids are required by pump or feed needs to be mixed or decanted (avoid wherever possible due to increased contamination risks). Each container will require a giving set.</td>
<td>As many as required pcm for single use</td>
<td>As many as required pcm for single use</td>
<td>As many as required pcm for single use</td>
<td>As many as required pcm for single use</td>
</tr>
<tr>
<td><strong>Replacement / spare tube</strong>&lt;br&gt;Mobile</td>
<td>1 spare and then 1 per month</td>
<td></td>
<td>1 spare and then 1 per month</td>
<td>1 spare and then 1 per month</td>
<td>1 spare and then 1 per month</td>
<td>1 spare and then 1 per month</td>
</tr>
</tbody>
</table>

- Use freshly drawn tap water for flushes and additional water – exceptions:
  - Severe immunocompromised patients: sterile water
  - Ballon inflation: freshly, cooled-boiled water
  - Infant under 1 year of age: freshly, cooled-boiled water
- Syringes: Use reusable unless the patient is severely immunocompromised or there are hygiene concerns.
- Reconstituted/decanted feeds can only be hung for 4 hours; new container & giving set will be required every 4 hours
- * Enteralok syringes for medications:
  - 64344 ENTERALOK 1ML 7 DAY SYRINGE
  - 64345 ENTERALOK 2.5ML 7 DAY SYRINGE
  - 64346 ENTERALOK 5ML 7 DAY SYRINGE
  - 64347 ENTERALOK 10ML 7 DAY SYRINGE
  - 64348 ENTERALOK 20ML 7 DAY SYRINGE
# Ancillary Supplies Guidance for Low Profile Gastrostomy Devices

**e.g. Mic-Key/Cubby**

<table>
<thead>
<tr>
<th>Ancillary Item</th>
<th>Destination &amp; quantity/frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Items required</strong></td>
<td><strong>Comments</strong></td>
</tr>
</tbody>
</table>
| Flocare Infinity Giving sets | Use ‘no medication port’ where possible to encourage disconnection & flushing before giving meds | Static:  
- 50562 (no med port)  
- 50563 (with med port)  
Mobile:  
- 40632 (med port)  
- 75027 (no med port) | | 1 set per feed pack or container | 1 set per feed pack or container | 1 set per feed pack or container | 1 set per feed pack or container |
| Extension sets | Connected to device to allow admin of feeds/meds/water | Order same brand as brand of tube | 2pcm (1 every 14 days) | 2pcm (1 every 14 days) | 2pcm (1 every 14 days) | 2pcm (1 every 14 days) |
| 60ml syringes | Luer lock if “screw-type” luer connection available, catheter (bladder) tip if not. 7 day re-useable syringes. | | 4pcm (8pcm if bolus feeding) | 4pcm (8pcm if bolus feeding) | 4pcm (8pcm if bolus feeding) | 4pcm (8pcm if bolus feeding) |
| 10ml luer slip syringes | If balloon holds tube in situ, syringes are required to empty and refill balloon with water weekly | | 8pcm | 8pcm | 8pcm | Use standard hospital supplies |
| pH paper | For checking aspirate to confirm position when tube changed/dislodged | 63786 (Merck pH 2.9 Indicator Strips (non-bleeding)) | 1 pack every 12 months | 1 pack every 12 months | 1 pack every 12 months | Use standard hospital supplies |
| Smaller syringes for medications | One per week, per medication. 7 day re-useable syringes | Use Enteralok brand where possible* | One per week, per medication | One per week, per medication | Nursing home should self source | Use standard hospital supplies |
| Spare replacement tube | If a ‘balloon’ is inserted a replacement will be required. Ensure size is same as initial tube placed | Check with Community Dietitian | 1 on discharge and then 1 every 4 months | 1 on discharge and then 1 every 4 months | 1 on discharge and then 1 every 4 months | 1 on discharge and then 1 every 4 months |
| Back pack and “Go Frame” | Where patient is mobile in day and requires to be pump fed | | If required | If required | If required | If required |
| Reservoir containers | Where additional fluids are required by pump or feed needs to be mixed or decanted (avoid wherever possible due to increased contamination risks). Each container will require a giving set. | 40441 (500ml Flocare container) | As many as required pcm for single use | As many as required pcm for single use | As many as required pcm for single use | As many as required pcm for single use |
| | | 40455 (1000ml Flocare container) | | | | |

### Comments

- **Enteralok syringes for medications:**
  - 64344 ENTERALOK 1ML 7 DAY SYRINGE  
  - 64345 ENTERALOK 2.5ML 7 DAY SYRINGE  
  - 64346 ENTERALOK 5ML 7 DAY SYRINGE  
  - 64347 ENTERALOK 10ML 7 DAY SYRINGE  
  - 64348 ENTERALOK 20ML 7 DAY SYRINGE

### Key Points

- **Use freshly drawn tap water for flushes and additional water – exceptions:**
  - Severe immunocompromised patients: sterile water  
  - Balloon inflation: freshly, cooled-boiled water  
  - Infants under 1 year of age: freshly, cooled-boiled water

- **Syringes:** Use reusable unless the patient is severely immunocompromised or there are hygiene concerns.

- **Reconstituted/decanted feeds can only be hung for 4 hours; new container & giving set will be required every 4 hours**

*Use 'no medication port' where possible to encourage disconnection & flushing before giving meds*
Appendix P - PEG – Diagnosis of Buried Bumper Syndrome – Decision Tree (BAPEN)

Percutaneous Endoscopic Gastrostomy Diagnosis of Buried Bumper Syndrome – Decision Tree

Are symptoms suggestive of buried bumper? (pain and tenderness at PEG site, pain on feeding, tube blockage, extravasation of feed, site breakdown, peristomal infection)

Seek advice from your local nutrition team

Yes

No

Have you confirmed that this is a PEG tube (not a jejunostomy tube or PEG-J)?

Seek advice from your local nutrition team

Yes

No

Is it possible to push the PEG tube into the stomach?

Buried bumper unlikely – consider alternative explanation for symptoms eg infection

Yes

No

Consider imaging if diagnosis unclear (CT scan, contrast study, abdominal ultrasound or EUS)

Gastroscopy

Is diagnosis of buried bumper confirmed?

Yes

No

See “Management of buried bumper” Decision Tree

Consider alternative explanation for symptoms eg infection

The BAPEN Principles of Good Nutritional Practice Decision Trees have been prepared to assist health care professionals in the decision making processes surrounding nutritional care. Users of these materials may only do so on the condition that they exercise their own professional judgement and skills. BAPEN does not give any advice of care and does not accept liability to anyone using these Decision Trees.
Percutaneous Endoscopic Gastrostomy
Diagnosis of Buried Bumper Syndrome –
Key Points

1. Definition of buried bumper
Buried bumper is the partial or complete growth of gastric mucosa over the internal bumper. The bumper may migrate through the gastric wall and may lodge anywhere along the gastrostomy tract. It usually occurs months to years after PEG placement, but has been reported as early as 6 days after PEG insertion.

2. Incidence of buried bumper
0.3%–2.4% of patients with a gastrostomy (may be reduced in recent years with improvements in the design of tubes).1–4

3. Risk factors for a buried bumper5,6
- Excessive tension between the internal and external bumpers
- Failure to adjust the position of the external bumper as the patient’s nutritional state improves
- PEG tube characteristics
  - Small inner bumper
  - Sharp tapered flange
  - Stiff (polyurethane) tubes
  - Silicon internal retention disc
- Malnutrition and poor wound healing

4. Diagnosis of buried bumper
- Endoscopy**
At endoscopy the appearances of a buried bumper can vary from heaped up mucosa around the inner bumper partly covering it to a heaped mound in which it can be very difficult to see the bumper at all. There may be pus oozing from a pimple in the mound to give a clue, or it may be possible to see fluid appearing from a crevice in the mucosa when the tube is flushed.

- Developing a buried bumper

- Completely buried bumper – bumper not visible at all at endoscopy

- Abdominal ultrasound
- Endoscopic ultrasound8–12
- Contrast studies
- CT scan

Both abdominal ultrasound and CT scans may be used to determine the position of the bumper in the abdominal wall and to visualise any associated abscesses. Some authors have suggested that bumpers that are located in an extramural position should be removed surgically.9–12
Percutaneous Endoscopic Gastrostomy Diagnosis of Buried Bumper Syndrome –

References


Further Reading

Percutaneous Endoscopic Gastrostomy Management of Buried Bumper Syndrome – Key Points

1. Leaving the bumper in situ
   - In a small series of 7 patients with buried bumper syndrome and significant comorbidities, leaving the buried bumper in situ and feeding via a new PEG tube at a different site, or jejunal extension through the old PEG tube was not associated with any complications from the buried bumper over a median follow up of 18 months (range 1–65 months)⁴.
   - It may be necessary to open up the overgrown mucosa with a dilatation balloon to be able to pass the jejunal extension into the stomach⁵.

2. Endoscopic removal of buried bumper
   - The case should be discussed in light of any available imaging to ensure optimal management.
   - If imaging shows part of the bumper outside of the gastric wall, then a surgical approach may be preferable⁶.
   - Complications of endoscopic removal of a buried bumper include sepsis, which can be serious, and perforation.

3. Needle knife removal
   - Either a needle knife or the tip of a snare is used to incise the mucosa radially down to the central dome of the bumper (the inner bumper of the PEG tube protecting the muscular layers of the gastric wall)⁷.
   - Other authors have used argon plasma coagulation to destroy the tissue overlying the buried bumper⁸.
   - These methods are usually used in conjunction with one of the other techniques described below. An algorithm for deciding the most appropriate method of treatment has been described⁹.

4. Balloon push technique⁶
   - An oesophageal balloon is passed through the PEG tube from the outside, until it can be seen emerging into the stomach by the endoscopist. The balloon is partly inflated whilst still in the PEG tube, dilating the passage through the over grown mucosa and stiffening the PEG tube so that it can be pushed back into the stomach.

5. Balloon pull technique⁵
   - Under endoscopic control an oesophageal balloon is passed into the PEG tube from the gastric side via the endoscope and then inflated partially within the PEG tube so that traction can be applied to pull the PEG tube back into the stomach.

6. Snare technique
   - Push-pull T technique: The PEG tube is cut leaving about 3 cm above the abdominal wall. A short piece (about 2cm long) of the PEG tube is retained. Forceps are passed through the PEG tube from the outside and used to grab an endoscopically placed snare, bringing this through the cut PEG tube to the outside. The snare is then placed around the retained cut piece of the PEG tube to form a T against the cut end of the tube. A standard Kelly clamp is placed across the T shaped tube. The snare is then pulled back into the stomach by the endoscopist whilst a second person pushes the clamp and PEG tube gently towards the gastric cavity. Once the bumper is in the gastric lumen, the PEG tube can then be removed through the mouth with the snare as usual¹⁰.

   - Pull technique: The PEG tube is cut leaving about 5 cm above the abdominal wall. A pair of grasping forceps is passed through the PEG tube into the gastric lumen and used to grasp a snare that has been passed via the endoscope. The snare is brought out through the PEG tube. The tube is split using scissors as deeply as possible into the PEG site and the closed snare is led out through the split tube as and then closed around the tube as close to the bumper as possible. Gentle traction on the snare will pull the bumper back into the gastric lumen so that it can be removed through the mouth as usual¹¹.
7. External traction as a method of removing the buried bumper has also been described, but may be traumatic resulting in tissue disruption. It may however be appropriate if the PEG tube in situ has a collapsible internal bolster (traction-removable).6,9,12

8. Radiological Removal of a Buried Bumper
A radiological version of the balloon push method has been described, but has not been widely used.6

9. Surgical Removal of a Buried Bumper
Surgical removal of a buried bumper may be required in a minority of cases. Laparoscopic methods have been described.6,12

10. Replacement of the PEG tube
It is possible to replace the PEG tube with another tube at the same site. However, if there is evidence of an abdominal wall abscess, it may be necessary to treat with antibiotics and replace the PEG tube at another site once the original site has healed. The decision about the timing of a replacement tube and the use of a different site will depend both on the condition of the original site and the overall condition of the patient.6,12,18

11. Prevention of Buried Bumper6,19
- Check the position of the external fixator regularly to ensure it is not too tight and adjust as necessary
- Maintain at all times a 1 cm degree of ‘play’ between the external fixator and the skin site
- Rotate and push in the PEG tube gently once a week (unless a jejunal extension is fitted)
Percutaneous Endoscopic Gastrostomy Management of Buried Bumper Syndrome – References


Further Reading