## Guidelines for Home Enteral Tube Feeding (Adults)

<table>
<thead>
<tr>
<th>Version:</th>
<th>2</th>
</tr>
</thead>
</table>
| Ratified by: | Medicines Policy Review Committee  
East Sussex Health Economy Medicines Committee  
Community Clinical Governance Committee |
| Date Ratified: | September 2008 |
| Name of Organisation / Author: | Department of Nutrition and Dietetics |
| Name of Responsible Committee / Individual: | Community Nutrition Support Dietitians |
| Date Issued: | July 2008 |
| Review Date: | July 2012 |
| Target Audience: | GPs, Community Matrons, District Nurses, Speech and Language Therapists, Dietitians, Nursing Home Staff, Specialist Nurses, Liaison Nurses and any other healthcare professionals involved in enteral feeding. |

---

East Sussex Downs and Weald PCT  
Hastings and Rother PCT
Policy Validity Statement

This Document is due for review in 2012

After this date, the Organisation-wide Guidelines for Home Enteral Tube Feeding (Adults) may become invalid.

Users should ensure they are consulting the current, valid version of the document.

Change Control Details:

<table>
<thead>
<tr>
<th>Date</th>
<th>Change:</th>
<th>Reason for changes:</th>
</tr>
</thead>
<tbody>
<tr>
<td>May 2008</td>
<td>Review of guidelines</td>
<td>To ensure the guidelines are relevant to both East Sussex Downs and Weald PCT and Hastings and Rother PCT.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>To ensure guidelines comply with recent NPSA guidance.</td>
</tr>
</tbody>
</table>
# Table of Contents

1 Introduction .......................................................................................................................... 1  
1.1 Purpose ............................................................................................................................ 1  
1.2 An Introduction to Enteral Tube Feeding ....................................................................... 1  
2 Indications for Enteral Feeding .......................................................................................... 3  
3 Enteral Feeding Routes ....................................................................................................... 5  
3.1 Naso-Gastric (NG) ......................................................................................................... 5  
3.2 Naso-Jejunal (NJ) ......................................................................................................... 5  
3.3 Percutaneous Endoscopic Gastrostomy (PEG) ............................................................. 5  
3.4 Surgically Placed Gastrostomy .................................................................................... 5  
3.5 Radiologically Inserted Gastrostomy (RIG) ................................................................. 6  
3.6 Balloon Gastrostomy .................................................................................................... 6  
3.7 Low Profile Gastrostomy Device (LPGD) .................................................................. 6  
3.8 Jejunostomy .................................................................................................................. 6  
3.9 PEG – J .......................................................................................................................... 6  
4 Methods of Administrating Enteral Tube Feeds ................................................................ 7  
4.1 Pump Feeding ................................................................................................................ 7  
4.2 Bolus Feeding ................................................................................................................ 7  
5 Types of Enteral Feeding Tubes Commonly Seen in the Area .......................................... 8  
5.1 Naso-Gastric Tubes ....................................................................................................... 8  
5.2 PEG Tubes .................................................................................................................... 8  
5.3 RIG Tubes ..................................................................................................................... 8  
5.4 Low Profile Gastrostomy Devices (LPGD) ................................................................ 8  
6 Referral for Gastrostomy Tube Insertion .......................................................................... 8  
7 Patient Care Pathway ......................................................................................................... 9  
8 Responsibilities of Healthcare Professionals, Patients and Carers ................................... 10  
8.2 Responsibility of Consultant Led Team ...................................................................... 10  
8.3 Responsibility of Ward Nursing Staff / Endoscopy Nurse ............................................. 10  
8.4 Responsibility of Hospital Dietitian ............................................................................. 11  
8.5 Responsibility of Community Liaison Staff at Eastbourne District General Hospital / Hospital Dietitians at The Conquest ................................................................................. 11  
8.6 Responsibility of Community Dietetic Team ................................................................ 12  
8.7 Responsibilities of Community Nursing Staff ............................................................... 12  
8.8 Responsibilities of Feed Company Nurse .................................................................... 13  
8.9 Responsibilities of GP .................................................................................................. 13  
8.10 Responsibilities of Patient / Carer ............................................................................. 13  
8.11 Responsibilities of Budget Holder .............................................................................. 13  
8.12 Responsibilities of Feed Delivery Company ............................................................... 13  
9 Management of Enterally Fed Patients in the Community .............................................. 15  
10 Monitoring and Follow Up .............................................................................................. 15  
11 Dietetic Monitoring and Follow Up in the Community ................................................... 19  
12 Home Care Feeding Companies ...................................................................................... 20  
13 Feed Regimens ............................................................................................................... 21  
14 Confirming Enteral Feeding Tube Position ................................................................... 22
1 Introduction

1.1 Purpose

1.1.1 These Guidelines have been developed by the Community Nutrition Support Dietitians of East Sussex Downs and Weald PCT and Hastings and Rother PCT.

1.1.2 The Guidelines have been developed by reviewing current literature to develop evidence based and best practice guidelines for administering an enteral feed to a patient in the community; ensuring equality of care and standard advice across both PCTs.

1.1.3 This document applies to any healthcare professional involved in the care of a patient who is receiving their nutritional requirements via an enteral tube feed.

1.1.4 These Guidelines are intended to:

- Ensure a smooth transition from the hospital to home setting for the patients being enterally fed.
- Clarify the roles of all professionals involved in their care.
- Recommend regular monitoring procedures for these patients, particularly those fed long term within the Community setting.

1.1.5 These Guidelines have been in development since 2003. During this time the following stakeholders have had an opportunity to comment on this document:

- Speech and Language Therapy
- Dietetic Service Manager (Brighton)
- Consultant Nurse in Endoscopy
- Clinical Governance
- Oral Health Advisors
- Consultant Gastroenterologists Eastbourne District General Hospital
- Intermediate Care Manager
- PALs Manager
- Community Liaison District Nursing Team
- Community Pharmacy Lead
- Macmillan Team
- Clinical Lead for District Nursing
- Continuing Care Team
- Department of Nutrition and Dietetics
- GPs at Green Street Clinic

1.1.6 ‘Home’ could be the patients’ home, a nursing home or residential care. These Guidelines are to be developed at a local level and are specific to East Sussex Downs and Weald PCT and Hastings and Rother PCT.
1.1.7 These Guidelines should be used in conjunction with the following guidelines from East Sussex Hospitals NHS Trust and NICE:

- Guideline 2a – Placement of a Nasogastric Tube for Artificial Nutrition Support in Adults
- Guideline 2b – Guideline for Setting up of an Energy Feed via NG/PEG Tube
- Guideline 3 – Gastrostomy Feeding in Adults
- Administration of drugs to patient unable to swallow solid oral dosage forms.
- Guideline in progress - Guideline for Removal and Insertion of a Balloon Replacement Gastrostomy tube within the Hospital and Community Setting’,

1.1.8 Compliance with these Guidelines will be assessed by monitoring the clinical condition, nutritional status and quality of life of the patients involved. This will primarily be conducted by The Department of Nutrition and Dietetics in line with the recommendations for follow up and monitoring described in these Guidelines.

1.1.9 The effectiveness of these Guidelines will be audited one year prior to the planned review date by The Department of Nutrition and Dietetics.

1.1.10 Failure to comply with these Guidelines may result in:

- Increased risk of malnutrition and associated complications.
- Increased risk of drug nutrient interactions.
- Increased risk of infection.
- Increased risk of stoma site complications, including inappropriate and accidental removal gastrostomies.
- Inappropriate use of enteral feeding ancillaries.

1.1.11 These Guidelines will be launched with training events for interested parties to attend. This will include a presentation on the guidelines. Further training will be provided on request and tailored to individual needs. The Department of Nutrition and Dietetics will liaise with Learning and Development to develop long term training opportunities for all Trust staff.

1.1.12 Paper copies of these Guidelines will be provided to nursing homes and each community nursing base. The Guidelines will be available on the extranet. Additional paper copies can be obtained on request from The Department of Nutrition and Dietetics.

1.2 **An Introduction to Enteral Tube Feeding**

1.2.1 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). Enteral feeding can be used as a sole source of nutrition or to supplement a poor oral intake.

1.2.2 Long term tube feeding is an integral part of the management of many patients
with chronic disease, for example with cancer, post stroke, dementia, Crohn’s
disease and for patients recovering from complicated surgery (S. Healy et al
2002).

1.2.3 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).

1.2.4 The number of patients who are receiving home enteral tube feeding (HETF)
continues to grow (BAPEN 2005, C. Glencorse 2003). 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. In 2003 BANS recorded 6585 new adult registrations for
HETF (BAPEN 2005) and that during 2003 a total of 21028 adult patients
received HETF during the year (a growth of 8% on 2002) (BAPEN 2005). 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).

2 Indications for Enteral Feeding

2.1.1 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. A booklet to help patients and carers
make an informed decision about having a gastrostomy placed can be found in
Appendix A.

2.1.2 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:

2.1.3 Malnourished, defined as:

• A Body Mass Index (BMI) of less than 18.5 kgm\(^2\).
• Unintentional weight loss greater than 10% within the last 3 – 6 months.
• A BMI of less than 20.0 kgm\(^2\) and unintentional weight loss greater than 5%
within the last 3 – 6 months.

2.1.4 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)
2.1.5 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).

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

2.1.7 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 Primary Health Care Team is involved in the decision, and that all concerned are satisfied that PEG feeding is in the patient’s best interests.

2.1.8 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). Guidance on consent can be found in the Department of Health document – Reference Guide to Consent for Examination or Treatment (2001).

2.1.9 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 patients wishes.

2.1.10 Contra-indications to PEG / enteral feeding are:

- 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 gastric surgery
- Severely delayed gastric emptying
- Significant liver disease
- Surgery requiring complete bowel rest
3 Enteral Feeding Routes

3.1 Naso-Gastric (NG)

3.1.1 A fine bore tube (5 – 8 French Gauge) is passed down the patient's nose into the stomach.

3.1.2 This is normally a short term feeding option for up to four weeks.

3.1.3 NG tube position should always be confirmed prior to every use, as these tubes easily dislodge (M. Stroud et al 2003). See page 22 for further information on confirming enteral feeding tube position.

3.1.4 NG feeding is not considered to be suitable for HETF in most cases.

3.2 Naso-Jejunal (NJ)

3.2.1 A fine bore tube (6 – 10 French Gauge) is passed down the patient's nose into the jejunum (upper section of the small intestine).

3.2.2 This is used in patients who need to be fed below the stomach.

3.2.3 May require endoscopic placement.

Patients who require long term NG or NJ feeding should have their feeding tubes replaced every 4 – 6 weeks and alternate nostrils should be used.
(M. Stroud et al 2003).

3.3 Percutaneous Endoscopic Gastrostomy (PEG)

3.3.1 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.

3.3.2 This is normally for longer term feeding. Tubes should be replaced as required or as indicated by the manufacturer.

3.4 Surgically Placed Gastrostomy

3.4.1 A gastrostomy feeding tube is inserted surgically under general anaesthetic.

3.4.2 This is often used when a patient is unable to tolerate an endoscopy or an endoscope cannot be passed.

3.4.3 A balloon gastrostomy can replace these feeding tubes once the stoma tract is formed.

3.4.4 These tubes may or may not be held in place by sutures – check with the technician who inserted the gastrostomy before removing any sutures.
3.5 **Radiologically Inserted Gastrostomy (RIG)**

3.5.1 A gastrostomy tube is inserted under X-Ray (fluoroscopy or ultrasound) guidance.

3.5.2 Often conducted in those patients who are unable to tolerate an endoscopic procedure.

3.5.3 Can be replaced by balloon gastrostomies once the stoma site has healed.

3.6 **Balloon Gastrostomy**

3.6.1 The gastrostomy is held in place by a balloon filled with either air or sterile water.

3.6.2 The volume of the balloon should be checked daily to ensure it is inflated sufficiently to prevent tube displacement. See Appendix B for a practical approach.

3.7 **Low Profile Gastrostomy Device (LPGD)**

3.7.1 LPGDs are small devices that sit close to the skin and are usually held in by a balloon.

3.7.2 Extension sets are connected onto the “button” part to enable water, feed, or medications to be administered. Once completed, the extension set is removed.

3.7.3 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.

3.7.4 LPGDs can be inserted into most patients once a stoma tract is established

3.8 **Jejunostomy**

3.8.1 A feeding tube is inserted directly into the jejunum during surgery or endoscopically. This route of feeding is rare.

3.9 **PEG – J**

3.9.1 This is a PEG which has been extended into the jejunum for patients who require feeding below the stomach.

*Please note that some patients who receive enteral nutritional support can continue to eat and drink normally. Unless oral intake has been deemed unsafe for the patient by the multi-disciplinary team (MDT) and they have therefore been placed Nil By Mouth (NBM).*
4 Methods of Administrating 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.

4.1 Pump Feeding

4.1.1 Feeding pumps are used to control the amount of feed delivered over a specific period of time.

4.1.2 Pumps are provided on loan from the feed companies.

4.1.3 Pumps should be kept clean by daily cleansing with a mild detergent and water solution.

4.1.4 See Appendix C for a practical approach of administrating a feed via a pump.

4.1.5 Portable pumps can be arranged through the feed companies. Some pumps can be used as a static and mobile pump.

4.2 Bolus Feeding

4.2.1 This is where the feed is infused via a 50ml syringe. See Appendix D for practical approach.

4.2.2 This can be useful for patients who are restless, agitated or mobile, as they are not attached to a pump for long periods of time.

4.2.3 Bolus feeding may reduce the risk of aspiration.

4.2.4 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 medic looking after the patient.

4.2.5 The bolus should be infused over a period of 15 -60 minutes (M. Stroud et al 2003).

4.2.6 This method of feeding is unsuitable for patients who are being fed into the small intestine, for example NJ or PEG-J tubes, as it may cause dumping syndrome.

4.2.7 This method of feeding may cause bloating and diarrhoea.
5 Types of Enteral Feeding Tubes Commonly Seen in the Area

5.1 Naso-Gastric Tubes

5.1.1 Freka (Fresenius) tubes
(for further information see http://www.fresenius-kabi.com/)

5.2 PEG Tubes

5.2.1 Vygon 20 French Gauge tubes
(for further information see http://www.vygon.co.uk/)

5.2.2 Flexiflo (Abbott)
(for further information see http://www.abbottnutritionuk.com/)

5.2.3 Merck Corflo Gastrostomy
(for further information see http://www.merckge.co.uk/index.html)

5.2.4 Fresenius Freka Gastrostomy
(for further information see http://www.fresenius-kabi.com/)

5.3 RIG Tubes

5.3.1 12 French Gauge Wills-Oglesby Gastrostomy
(for further information see http://www.cookmedical.com/home.do)

5.4 Low Profile Gastrostomy Devices (LPGD)

5.4.1 Corflo Cubby Button
(for further information see http://www.merckge.co.uk/index.html)

5.4.2 Kimberley-Clark MIC-KEY
(for further information see http://www.kchealthcare.com/productpromosite/mickey/www/Index.asp?action=Mai)

6 Referral for Gastrostomy Tube Insertion

6.1.1 The indications given on Pages 3 and 4 should have been met.

6.1.2 A referral form or letter from the Consultant or GP 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 recommended reasons for PEG insertion.

6.1.3 See Appendix A for “Gastrostomy - Your Questions Answered” leaflet for pre-placement advice for patients and carers.
7 Patient Care Pathway

Initial referral

Referral to Consultant Gastroenterologist and multidisciplinary team for assessment for enteral feeding tube placement. To include Dietetic assessment, Speech and Language Therapy assessment, and clinical assessment.

Inform Community/Paediatric Liaison Nurses who contact GP, budget holder, District Nursing Service, Community Matron as appropriate

Enteral feeding tube placed

Feeding regimen established by Hospital Dietitian

Patient/Carer training on ward Liaison Nurse (Eastbourne)/Hospital Dietitian (Hastings) to register patient with the feed home delivery service.

Discharge date set

Hospital Dietitian to contact Community Dietitian

Patient discharged from hospital with 7 days supply of feed, plastics etc.

Telephone contact / home visit from Community Dietitian

Additional training from feed company nurse (if required)

Community Dietitian monitor as per guidelines
8 Responsibilities of Healthcare Professionals, Patients and Carers

8.1.1 To ensure a smooth transition from hospital to home, each person involved has certain responsibilities. Good communication between those involved is essential.

8.1.2 Each of the following has a part to play in the treatment of this patient group:

- Consultant Led Team
- Hospital Dietitian
- Ward Nursing Staff
- Community Liaison Staff at Eastbourne District General Hospital
- Community Dietitian
- Community Nursing Staff (Community Matron / District Nurse / Macmillan Nurse / Health Visitor)
- GP
- Feed Company
- Patient / Carer
- Speech and Language Therapists, Specialist Nurses, Oral Health Advisors / Dental Team, Speech and Language Therapists and Physiotherapists may also be involved in the care of tube fed patients.

8.2 Responsibility of Consultant Led Team

8.2.1 Refer patient to the Hospital Dietitian.

8.2.2 Lead multidisciplinary assessment and agree the method of enteral feeding.

8.2.3 Inform patients' GP on discharge - provide information on type of feed and feeding tube, feed rate and any other information relating to the feeding regimen.

8.3 Responsibility of Ward Nursing Staff / Endoscopy Nurse

8.3.1 Refer to Hospital Dietitian.

8.3.2 Refer the patient to the Community Liaison Nursing team at Eastbourne District General Hospital.

8.3.3 Initiate feeding regimen under guidance of Hospital Dietitian.

8.3.4 Ensure the patient is trained in enteral feeding tube care and skincare.

8.3.5 If the patient is being discharged to their own home, ensure the patient is trained in the use of the feeding pump before discharge.

8.3.6 Keep Dietitian informed of potential discharge date.

8.3.7 Provide syringes and other necessary plastics for discharge.
8.3.8 Provide sufficient feed for discharge *(minimum one week’s supply)*.

8.4 **Responsibility of Hospital Dietitian**

8.4.1 On receipt of referral, the Hospital 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.

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

8.4.3 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.

8.4.4 Monitor regimen until established.

8.4.5 Contact Community Dietitian with potential discharge date.

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

8.4.7 Request weight from ward on discharge.

8.4.8 To register the patient with the contracted feed delivery company (note: completed by Liaison Team at Eastbourne District General Hospital).

8.4.9 Complete Dietetic Handover Sheet *(Appendix E)* and send to the appropriate Community Dietitian; or complete Transfer of Care Discharge Summary for patients being discharged out of area *(Appendix F)*.

8.4.10 To inform the patients’ GP 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.

8.5 **Responsibility of Community Liaison Staff at Eastbourne District General Hospital / Hospital Dietitians at The Conquest.**

8.5.1 Contact GP to inform of decision to HETF.

8.5.2 Contact budget holder for provision of plastics.

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

8.5.4 To register patient with the contracted feed delivery company and forward a copy of the registration form to the patients’ GP, and Hospital Dietitian (who will include this information in the HETF Dietetic Hospital Discharge Summary for the Community Dietitian).
8.6 Responsibility of Community Dietetic Team

8.6.1 Receives patient details from Hospital Dietitian (Dietetic Handover Sheet, Appendix E).

8.6.2 Liaison with Community Nursing staff as appropriate.

8.6.3 Arrange home visit with newly discharged patient if appropriate.

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

8.6.5 Monitor patients as per guidelines.

8.6.6 Deal with any queries from the patient or carers.

8.6.7 Basic trouble shooting.

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

8.6.9 Keep GP informed of any concerns regarding condition or any changes in feed regimen.

8.6.10 Contact feeding company with any change in feeding status.

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

8.6.12 Complete Transfer of Care Discharge Summary for patients being discharged or transferred out of area (Appendix F).

8.7 Responsibilities of Community Nursing Staff

8.7.1 Become involved with feed administration if patient / carer is unable to manage.

8.7.2 Give advice on care of gastrostomy site and monitor condition of any feeding tube and stoma site as indicated.

8.7.3 Initiate process of PEG replacement when necessary by communicating with Community Dietitian and the patient’s GP.

8.7.4 Replace gastrostomy tubes if urgent, seeking advice as required from the Feed Company Nurse and appropriate Endoscopy Department.

8.7.5 Replace gastrostomy tube parts if urgent, e.g. ‘y’ connectors, seeking advice as required from the Feed Company Nurse and appropriate Endoscopy Department.

8.7.6 Regular weighing and blood tests.

8.7.7 Contact GP or Community Dietitian with concerns.
8.8 Responsibilities of Feed Company Nurse
8.8.1 To provide training for pump use within patient's home.
8.8.2 To arrange servicing of pump within company guidelines.
8.8.3 To provide six monthly report to Community Dietitian.
8.8.4 To provide the Community Dietitian with a written summary of all visits to HETF patients.
8.8.5 Initiate process of PEG replacement when necessary, in consultation with the Community Nursing Staff and the patient’s GP.
8.8.6 To advise the Community Dietitian of the need for replacement of gastrostomy tube parts and conduct simple repairs in the patients home.

8.9 Responsibilities of GP
8.9.1 The overall clinical responsibility of HETF patient.
8.9.2 To provide feed on prescription and forward these to feed company once a month, when requested.
8.9.3 To inform Community Dietitian of any change of condition (e.g. Diabetes, Death, Admission to Hospital).
8.9.4 To carry out blood test monitoring as recommended.

8.10 Responsibilities of Patient / Carer
8.10.1 Contact Community Nurse or Community Dietitian if any concerns or problems regarding HETF feeding.
8.10.2 To inform Community Health Care Professionals if appointments with them are unable to be kept.
8.10.3 To care for the gastrostomy tube and administer feed as directed by the Health Care Professionals involved in the patients care.

8.11 Responsibilities of Budget Holder
8.11.1 Allow patient to be registered with Homecare system.
8.11.2 Arrange for delivery of associated plastics to home (if not on Homecare system).
8.11.3 Allow replacement of feeding tube at suitable time.

8.12 Responsibilities of Feed Delivery Company
8.12.1 To deliver feed, plastics and ancillaries to the patient in a timely manner to ensure patients can receive the prescribed feed.
8.12.2 To provide the Community Dietitian with regular reports concerning the amount and type of equipment delivered to each patient.

8.12.3 To liaise with the GP for appropriate prescriptions and notify the appropriate Community Dietitian if queries concerning any feed prescription.

8.12.4 To make the Community Dietitian aware when deliveries are declined.

8.12.5 To provide a 24 hour helpline for patients, carers and healthcare professionals to answer queries.

8.12.6 To provide a timely collection service for patients who are no longer receiving HETF.

Adapted from *Community Healthcare Bolton NHS Trust Dietitians Gastrostomy Guidelines (1998).*
9 Management of Enterally Fed Patients in the Community

9.1.1 The Hospital Dietitian will complete a referral (Appendix E and Hospital to Home registration form) to the Community Dietitian detailing the patient’s requirements.

9.1.2 The Consultant responsible will write to the patient’s GP on discharge from hospital, informing the GP of the patients enteral feeding regimen, feed type and position / type of tube inserted.

9.1.3 The GP will have clinical responsibility for the patient, with additional input from the Community Nurse, Community Dietitian and Feed Company Nurse as appropriate.

9.1.4 The Community Dietitian will be responsible for assessing the patient’s nutritional needs, monitoring feeding and basic troubleshooting as per these guidelines.

9.1.5 If the patient subsequently moves out of area, the Community Dietitian will complete the Transfer of Care Discharge Summary (Appendix F) and forward it to the out of area Dietitian.

10 Monitoring and Follow Up

10.1.1 Whilst patients receiving HETF might receive hospital follow up by virtue of their underlying pathology, not all HETF patients require routine hospital review. The medical management of these patients is therefore the responsibility of the General Practitioner.

10.1.2 Provided the patient remains well, the following nutritional, anthropometric and clinical monitoring should be conducted for patients receiving HETF as recommended by NICE 2006 (see following page):
<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 HETF</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>Monthly</td>
<td></td>
<td>Community Dietitian</td>
</tr>
<tr>
<td>Mid Arm Circumference (*)</td>
<td>Monthly</td>
<td></td>
<td>Community Dietitian</td>
</tr>
<tr>
<td>Waist Circumference (*)</td>
<td>Monthly</td>
<td></td>
<td>Patient / Carer</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 diarrhoea and assess feed tolerance.</td>
<td>Patient / Carer</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>Parameter</td>
<td>Frequency</td>
<td>Rationale</td>
<td>Conducted By</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>-----------------</td>
<td>---------------------------------------------------------------------------</td>
<td>----------------</td>
</tr>
<tr>
<td><strong>Gastrointestinal Function Continued:</strong></td>
<td></td>
<td></td>
<td></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 is 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 (is it kinked or blocked?)?</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 (check with the technician who inserted the tube)</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 (balloon retained gastrostomies only)</td>
<td>Weekly</td>
<td>To prevent the tube falling out.</td>
<td>Patient / Carer</td>
</tr>
<tr>
<td>Parameter</td>
<td>Frequency</td>
<td>Rationale</td>
<td>Conducted By</td>
</tr>
<tr>
<td>-----------</td>
<td>-----------</td>
<td>-----------</td>
<td>--------------</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 feeding and route continue to be appropriate.</td>
<td>Patient / Carer</td>
</tr>
<tr>
<td>Drug therapy</td>
<td>Monthly (or more often if prescription changes)</td>
<td>To ensure appropriate preparation of drug. To prevent / reduce drug nutrient interactions.</td>
<td>GP / Pharmacist</td>
</tr>
<tr>
<td>Blood Pressure and Temperature (particularly for those in nursing homes)</td>
<td>Daily</td>
<td>To aid early identification of infection and hydration problems</td>
<td>Nurse / Carer</td>
</tr>
<tr>
<td><strong>Long / Short Term Goals:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are goals being met?</td>
<td>Every 3 – 6 months once the patient is established on HETF</td>
<td>To ensure feeding regimen is appropriate to overall care of patient</td>
<td>Community Dietitian</td>
</tr>
<tr>
<td>Are goals still appropriate?</td>
<td>Every 3 – 6 months once the patient is established on HETF</td>
<td></td>
<td>Community Dietitian</td>
</tr>
</tbody>
</table>
10.1.3 Provided the patient remains well, the following blood tests should be arranged and reviewed by the GP 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).

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

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

11 Dietetic Monitoring and Follow Up in the Community

11.1.1 Dietetic follow up is arranged according to individual patients’ requirements and clinical condition.

11.1.2 Contact should be made on 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.

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

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

11.1.5 Stable patients should be reviewed every six months.

12 Home Care Feeding Companies

12.1.1 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.

12.1.2 They will request the prescription from the GP.

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

12.1.4 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.

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

Contacts

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

Novartis Medical Nutrition
Dietetic Helpline 01403 324135
Novartis Consumer Health UK Ltd
Medical Nutrition Division, Wimblehurst Road, Horsham, West Sussex, RH12 5AB
www.novartisnutrition.com

Nestle Clinical Nutrition
Telephone 020 8667 5130
St George’s House, Croydon, Surrey CR9 1NR.
www.nestleclinical.co.u
13 Feed Regimens

13.1.1 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.

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

13.1.3 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.

13.1.4 Jejunal feeding may require a slower feeding rate as the stomach is bypassed; 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.

13.1.5 The feed should be administered at room temperature.

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

13.1.7 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.

13.1.8 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).

13.1.9 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.

13.1.10 Feed regimens should not be changed without consulting the patient’s Dietitian first.

13.1.11 See Appendix G for a example feeding regimen, which can be photocopied and used for individual patients. See Appendix H for a list of commonly used tube feeds.
14 Conferring Enteral Feeding Tube Position

14.1 NG Tubes

14.1.1 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).

14.1.2 X-Ray confirmation, especially for Naso-Jejunal tubes, as aspirating gastrointestinal tract contents is inconclusive.

14.1.3 Please note that if the patient is on acid suppression medication then monitoring the pH of aspirated gastric contents is NOT a reliable method of confirming NG tube position.

14.1.4 The following methods are not suitable for confirming NG tube position:

- Testing the pH of the gastric aspirate using blue litmus paper (MDA 2004) (See Appendix I for full MDA bulletin).
- 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 bororygami with a stethoscope over the stomach.

14.1.5 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.


See Appendix J for the National Patient Safety Agency Alert flow chart for correctly confirming the position of Nasogastric feeding tubes in adults.

14.2 Gastrostomies

14.2.1 Monitor the length of the external feeding tube to judge whether tube has been displaced.

14.2.2 For balloon gastrostomies, monitor the volume of water in the internal balloon. See Appendix B for a practical approach.
15 Flushing Enteral Feeding Tubes

15.1.1 Cooled, boiled tap water should be used. Sterile water may only be required in specific cases, for example with immuno-compromised patients (A. Torrance 2000).

15.1.2 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.

15.1.3 Bottled / mineral water should not be used as this can become a reservoir for the development and multiplication of bacteria.

15.1.4 Flush with at least 20ml cooled, boiled water before and after a feed or medication.

15.1.5 Always use a 50ml syringe to give water flushes.

15.1.6 Always flush the feeding tube if the feed has to be stopped for any reason.

15.1.7 Flush the feeding tube every six to eight hours with at least 30ml cooled boiled water during rest periods to prevent tube blockages (C. McAtear 1999).

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

15.1.9 Do not force water through the tubes.

15.1.10 **Do not** use fruit juice or cola to flush or unblock tubes.
16 Care of the Gastrostomy Stoma Site

16.1.1 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 disconnect the feed and flush with 50ml cooled, boiled water, 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.

16.1.2 After two weeks check the position of the external fixation device daily to ensure the gastrostomy 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.

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

16.1.4 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.

16.1.5 Always wash hands with soap and dry them before attaching feed, flushing and cleaning the feeding tube.

16.1.6 Check the skin around the stoma site for redness, soreness, irritation or swelling daily.

16.1.7 Check daily for stoma leakage and tube displacement.

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

16.1.9 Normal cooled, boiled 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.

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

16.1.11 The gastrostomy tube should be rotated once a day (one full turn - 360°). 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.

16.1.12 Care with the use of talcum powders and creams around the stoma site as they may cause irritation.
16.1.13 Ensure all caps are closed during bathing and cleaning.

17 **Infection Control**

17.1 **Importance of Infection Control**

17.1.1 Enteral feeding systems may be supplied as single-use or reusable items. The most appropriate system should be chosen following a risk assessment taking into account the clinical condition of the patient.

17.1.2 One of the main risks associated with enteral feeding is microbial contamination, which can cause serious 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 on acid inhibitor drugs
- Patients on antibiotics
- 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

17.1.3 Microbial contamination can occur from inappropriate handling and cleaning of the feed and delivery system, extended hanging times (outside that recommended by the manufacturer or local policy) and poor hygiene practice.

17.1.4 MDA have published advice on the implications and consequences of reuse of single use devices in MDA DB2000(04). In summary the key points are:

1. Devices designated for ‘single-use’ must not be reused under any circumstances.
2. The reuse of ‘single-use’ devices can affect their safety, performance and effectiveness, exposing patients and staff to unnecessary risk.
3. The reuse of ‘single-use’ devices has legal implications.

17.1.5 See **Appendix K** for the full MDA bulletin
17.2 Good Hygiene Practices to Minimise the Risk of Microbial Contamination

17.2.1 Ensure feed and giving sets are stored in a clean environment.

17.2.2 Ensure feeding equipment (including feed containers) is clean prior to use, ideally the equipment should be sterilised or disinfected.

17.2.3 Hanging times for feeds (NICE 2003):
- Sterile feeds (i.e. ready to hang preparations): no more than 24 hours.
- Non-Sterile feeds (i.e. feeds made up / diluted by carers): no more than 4 hours.

17.2.4 Ensure minimal handling of all feeding equipment. Use a no touch aseptic technique.

17.2.5 Prior to handling the feeding equipment, hands should be washed, dried and disinfected. Where possible, wear disposable gloves.

17.2.6 Extra care should be taken if the person setting up the feed / giving the feed has a respiratory tract infection – a mask should be worn.

17.2.7 Prevent the feeding equipment coming into contact with work surfaces, bed clothes etc.

17.2.8 Only use cooled, boiled or sterile water to flush the feeding tube (NICE 2003).

17.2.9 Do not reuse feed containers or giving sets once the sterile system has been opened. Administration sets and feed containers are for single use and must be discarded after each feeding session (NICE 2003 and MDA Safety Notice 2001).

17.2.10 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.

17.2.11 Extension sets for the LPGD’s should be discarded and a new one used weekly. The Community Dietitian will order 4 extension sets for each patient per calendar month.

17.2.12 Employ Hazard Analysis and Critical Control Point (HACCP), which is a system to identify potential hazards in HETF (NICE 2003).

17.2.13 Where possible avoid using feeds which need to be decanted, diluted or reconstituted – always use ready to use feeds.

17.2.14 If feeds have to be reconstituted, ensure this process occurs in a dedicated area, which is regularly cleaned and disinfected. Only cooled, boiled water or sterile water should be used to make up the feed (NICE 2003).
18  **Storage of Enteral Feeds**

18.1.1 The enteral feeds are long – life and therefore do not need to be stored in a fridge if they are unopened.

18.1.2 They should be stored at room temperature out of direct sunlight.

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

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

18.1.5 Feeds that require reconstitution can be made 24 hours in advance. They should be stored in a fridge (temperature no greater than 4°C) and used within 24 hours (NICE 2003).

19  **Syringes**

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

19.1.2 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).

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

19.1.4 Syringes for flushing the feeding tube, administering bolus feeds and administering medication will be ordered from the Feed Delivery Company by the Community Dietitian.

19.1.5 BAXA reusable syringes will be ordered, unless contraindicated. These are designed to be washed and reused up to 30 uses for a single patient.

19.1.6 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.

19.1.7 Catheter tip or female luer syringes will be ordered, depending on the type of gastrostomy the patient has in situ.

19.1.8 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.

19.1.9 The decision to use BAXA reusable syringes is based on a survey carried out by the Community Dietitians. Please contact the Department for a copy of this audit.
20  Mouthcare for Patients on Enteral Feeding

Oral stimulation 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.

20.1  Oral Hygiene

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

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

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

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

20.2  Dry Mouth

20.2.1 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.

20.2.2 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.

20.2.3 The following advice is recommended:

20.2.4 Sugar free gum may be helpful.

20.2.5 Water based gels can be used to lubricate the tongue and inside the mouth.

20.2.6 Saliva substitutes, saliva stimulating tablets and gels are available for purchase and on prescription.

20.2.7 To prevent cracked lips, soft paraffin and commercial lip salves are recommended.

20.2.8 Lemon and glycerine swabs are not recommended.

20.2.9 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.

Advice provided by Sarah Benwell, Oral Health Promotion Manager, East Sussex Special Care Dental Service (May 2008)
21 Basic Trouble Shooting Guide for HETF

21.1 Diarrhoea

21.1.1 Feed may be 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.

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

21.1.3 Possibly hyperosmolar formula. Consider change to iso-osmolar formula e.g. Osmolite.

21.1.4 Check temperature of formula (too cold can cause diarrhoea).

21.1.5 Ensure fluid and electrolyte losses are replaced.

21.1.6 Try a fibre supplement such as Resource Benefibre (or a feed containing fibre).

21.1.7 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.

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

21.1.9 Avoid feed microbial contamination.

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

21.1.11 Low serum albumin may lead to osmotic pressure in the bowel and more water in the bowel. This can lead to diarrhoea.

21.1.12 Surgical causes - contact GP.

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

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

21.1.15 Review medication:

- \( H_2 \) Antagonists increase gastric pH and may allow enteropathic 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-diarrhoeal’s if the patient is not suffering from infective diarrhoea.
• Proton Pump Inhibitors (PPI’s), Anti-arrhythmics, Anti-hypertensives and Non-Steroidal Anti-inflammatories can also cause diarrhoea in enterally fed patients.
• Liaise with the patients’ pharmacist to see if medication can be adapted.

21.2 Blocked Tube

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

21.2.2 Avoid the likelihood of the tube blocking by flushing with cooled, boiled tap water or sterile water before and after feeding. A minimum of 20ml water should be used.

21.3 To Unblock an Enteral Feeding Tube

21.3.1 Flush with warm water (hand temperature) in a 50ml syringe using a gentle pumping action to dislodge any blockage (Edwards 2003). This may take some time, so perseverance is required.

21.3.2 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.

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

21.3.4 Consider use of commercially available clog removers, such as Pancreatic Enzyme Solution, which is available on prescription (CREST 2004).

21.3.5 Do not:

× Use carbonated drinks, pineapple juice or sodium bicarbonate to unblock tubes as this may cause tube degradation (M. Stroud et al 2003, CREST 2004).
× Use force to flush any tube or use a syringe smaller than 50ml as this may cause the tube rupture (CREST 2004).
× Use solid items e.g. a guide wire to unblock the tube.

21.4 To Prevent Tube Blockages

21.4.1 Give medication separately from feed to prevent feed curdling and causing a blockage. Always attempt to provide medications in a liquid form – liaise with the patient’s pharmacist.
21.4.2 Avoid very slow feeding rates.

21.4.3 Gastrostomies may block / occlude due to gastric mucosal overgrowth (buried bumper syndrome). Avoid this by rotating the gastrostomy 360° everyday (check with the technician who inserted the tube first).

21.4.4 During office hours, contact your Community Dietitian or Feed Company Nurse if you are unable to unblock a tube using the advice above. Out of hours, contact the Endoscopy Unit at the Hospital – if the tube cannot be unblocked, it will need replacing. The patients GP should also be informed.

21.5 **Constipation**

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

21.5.2 Check fluid intake - increasing this may help.

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

21.5.4 Check medication - certain drugs may cause constipation, such as Codeine Phosphate.

21.5.5 Check to see if the patient is on Anti-diarrhoeal medication.

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

21.5.7 Consider using a fibre supplement, for example Resource Benefibre.

21.5.8 Laxatives / enemas may be required.

21.6 **Dehydration**

21.6.1 Monitor fluid balance, U & E’s.

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

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

21.7 **Nausea and Vomiting**

21.7.1 Try a reduced feeding rate.

21.7.2 Check the volume and osmolarity of feed.

21.7.3 Medication can cause nausea, for example chemotherapy.

21.7.4 Consider anti-emetic medication, for example Metoclopramide, Domperidone, Haloperidol, Ondansetron.

21.7.5 Increasing mobility can help.
21.7.6 Anxiety can cause feelings of nausea.
21.7.7 Medical / surgical causes - contact GP.
21.7.8 Ensure feed does not become contaminated.
21.7.9 Consider use of ginger containing products, if oral intake permits.
21.7.10 Ensure patient is in a well ventilated room, which is free from unpleasant smells.
21.7.11 With prolonged and severe nausea and vomiting, post pyloric (i.e. jejunal) feeding should be considered.

21.8 **Bloating and Distension**

21.8.1 May be caused by reduced gastric emptying or motility. Consider use of prokinetics, such as Metoclopramide and Domperidone.
21.8.2 Feed may be pooling in stomach – try a reduced feed rate.
21.8.3 Bolus feeding can cause bloating and distension – consider changing to a continuous feed (liaise with the patients Community Dietitian).
21.8.4 Check medication. Drugs such as Morphine and Dopamine can reduce gastric emptying causing bloating and distension.
21.8.5 Iso-osmotic feeds do not slow gastric emptying so much (e.g. Nutrison Standard / Osmolite).

21.9 **Positioning**

21.9.1 Patients should be at an angle of 30 - 40 degrees during feeding and for at least 30 minutes afterwards (M. Stroud et al 2003).
21.9.2 Positioning the patient on their right side may help to promote gastric emptying.
21.9.3 Do not allow patients to lie flat during the feeding period.

21.10 **Regurgitation and Aspiration**

21.10.1 Increases the risk of developing respiratory chest infections, such as pneumonia.
21.10.2 This can occur silently, with no cough or vomiting, so careful monitoring is required in high risk patients.
21.10.3 Patients who are at risk of aspiration should not be continuously fed overnight.
21.10.4 Position wrong - see above.
21.10.5 Could be a function of the disease process and its management, for example gastroparesis of diabetic neuropathy.
21.10.6 Try a reduced feed rate.
21.10.7 Consider use of prokinetics, such as Metoclopramide, Cyclazine, Domperidone, Erythromycin.

21.10.8 Consider use of post pyloric feeding for example Naso-Jejunal, PEG-J if problem persists to reduce the risk of aspiration.

21.10.9 Monitor the position of the tube with pH paper.

21.10.10 A higher fat feed may delay gastric emptying - switching to a lower fat formula may help.

21.10.11 Medical / surgical cause, for example obstruction, contact GP.

22 Drugs Administered via Enteral Feeding Tubes

22.1 Introduction

22.1.1 With the increases in the number of patients being fed using HETF, 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. Evidence based guidelines have been developed by the British Association for Parenteral and Enteral Nutrition (BAPEN) and the British Pharmaceutical Nutrition Group (BPNG) to provide guidance when administering drugs via an enteral feeding tube.

22.1.2 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. Other alternative formulations of medications include injections, suppositories, pessaries, inhalations and creams.

22.1.3 It is important to know the type of enteral feeding tube and the material it is made of. Some medications can affect the integrity of the feeding tube and cause the tube to rupture. It is also important to know where the tip of the feeding tube lies (is it Naso-Gastric, PEG, Naso-Jejunal?) so the site where the drug will be administered is known. The position of the feeding tube tip can affect the absorption and bioavailability of some drugs. 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.

22.1.4 Enteral feeds can bind with drugs and prevent their absorption, for example phenytoin which requires a 2 hour rest from feeding before and after the dose is given. It is important to note that adding drugs to enteral feeding containers is a source of contamination and can destabilise both the feed and the drug. If medicines are needed during feeding, the feed should be stopped, the tube flushed with water, medicine given, tube flushed again with water and the feed re-started. If medicines are directed to be taken on an empty stomach, then the feed should be stopped at least one hour before and after each dose.

22.1.5 It is important to consider the osmolality, sorbitol and magnesium content of
drugs administered via an enteral feeding tube as excessive amounts can cause diarrhoea, which will compromise the patient’s nutritional status and reduce the absorption of the drug.

22.2 Drug Interactions

22.2.1 Drugs and nutrients can and do interact with each other.

22.2.2 Always give medication doses during feeding rest periods where possible.

22.2.3 Extra care needs to be taken with the following:

- **Phenytoin, Digoxin, Carbamazepine** – blood levels may be affected by feeds and should therefore be monitored.
- **Antacids** – can bind with the protein in the feed and block the tube.
- **Penicillins** – absorption can be reduced by feeds. Dose should preferably be given with 2 hours pre and post feeding rest.
- **Antibiotics** (e.g. Ciprofloxacin, Tetracyclines and Rifampcin) – feeding can affect blood levels. Can also react with feeds to form blockages.

*The above list is not exhaustive. Always consult a pharmacist before administering a drug via an enteral feeding tube.*

*Adapted from ‘Administering Drugs via Enteral Feeding Tubes – A Practical Guide’ (BAPEN and BPNG 2003).*

22.3 Techniques for Administering Drugs via Enteral Feeding Tubes

22.3.1 Before giving the medication via an enteral feeding tube, consider:

- Can the patient take it orally?
- Is the medication necessary?
- Can another route be used?
- Crushing tablets and opening capsules should be considered as a last resort.
- Always consult a pharmacist before administering a drug via an enteral feeding tube. Never crush tablets without consulting a pharmacist first.

1. Wash hands and wear gloves for all procedures.
2. Stop the feed and flush with cooled, boiled or sterile water (minimum 20ml).
3. Check whether a rest from feeding is required before giving the medications (for example with Phenytoin, Penicillins)
4. Collect together all the equipment required to administer the medication. Each drug should be given separately.
5. **Soluble Tablets** should be dissolved in 10-15ml cooled, boiled or sterile water.
6. **Liquids** – shake the bottle well and dilute viscous liquids with an equal amount of cooled boiled or sterile water immediately before administration.
7. **Tablets** – uncoated and sugar coated ones should be crushed using a tablet crusher and added to 10-15ml cooled, boiled or sterile water. Suspensions may have to be made for more insoluble tablets.

8. **Capsules** – open and tip powder into medicine pot and mix with 10-15ml cooled, boiled or sterile water.

9. Do not crush or open the following and seek advice from a pharmacist / medic:
   a) Enteric coated medicines
   b) Modified release medicines
   c) Hormone Preparations
   d) Cytotoxic drugs

11. Rinse out tablet crushers / medicine pots with cooled, boiled water or sterile water and flush washings down the tube to ensure the whole dose is given.
12. If more than one medication is being given flush the enteral feeding tube between drugs with 10ml cooled, boiled or sterile water.
13. Once all medications are given, flush the feeding tube with at least 30ml cooled, boiled or sterile water.
14. Check whether a break from feeding is required after the medication has been given.
15. Re-start the feed.

---

### 22.4 Medications suitable for administration via Enteral Feeding Tubes

- **22.4.1** Liquid preparations (diluted with cooled, boiled or sterile water if viscous)
- **22.4.2** Soluble, dispersible or effervescent tablets
- **22.4.3** Film or sugar coated tablets (ensure adequate flushing and crushing to avoid tube blockages)
- **22.4.4** Capsule contents (ensure adequate flushing and crushing to avoid tube blockages)

### 22.5 Medications not suitable for administering via Enteral Feeding Tubes

- **22.5.1** Buccal or sublingual tablets
- **22.5.2** Chewable tablets
- **22.5.3** Cytotoxic preparations
- **22.5.4** Enteric coated tablets
- **22.5.5** Hormonal or teratogenic drugs
- **22.5.6** Modified release preparations
22.5.7 Pancreatic enzymes

Adapted from ‘Administering Drugs via Enteral Feeding Tubes – A Practical Guide’, (BAPEN and BPNG 2003) and ‘Guidelines for the Administration of Drugs to Patients Unable to Swallow Solid Oral Dosage Forms’ (Partington 2003).

For further information see http://www.bapen.org.uk/ and http://www.bpng.co.uk/

Always consult the patients’ pharmacist about giving medications via enteral feeding tubes.

23 Enteral Feeding and Diabetes Mellitus

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

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

23.1.3 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 guidelines). This applies to all patients who are overweight and enterally fed.

23.1.4 A review of diabetic medication, 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.

23.1.5 The target levels for blood glucose are 5.5 – 8.5 mmol/l for stable patients (V. Todorovic and A. Micklewright 2004).

23.1.6 People with diabetes who are receiving enteral feeding should have their blood sugars monitored at least 4 times per day, i.e. before and after feeding (L. Vaughan 2004). This will need to be increased if there is a change in the feed regimen, medication and clinical status of the patient to ensure that good glycaemic control is maintained.

23.1.7 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.

23.1.8 Oral hypoglycaemic agents may be administered via the enteral feeding tube – check with the patients’ pharmacist first.

23.1.9 Many people with Diabetes who receive enteral feeding are managed with insulin, either by infusion or injection.

23.1.10 The enteral feeding rate should not be increased if the patient’s blood glucose level is above 11mmol/l. If blood glucose levels are persistently higher than this a review of diabetic medication will be required.

23.1.11 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.

23.2 Hyperglycaemia

23.2.1 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.

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

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

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

23.3 Hypoglycaemia

23.3.1 Careful monitoring is required to avoid hypoglycaemia.

23.3.2 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 IV dextrose may be required.

23.3.3 Hypoglycaemia can be caused by unplanned interruptions or stoppages of the enteral feed, as well as excessive does of diabetic medication, 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.

23.4 Treatment of Hypoglycaemia

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

23.4.2 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
- 60ml Lucozade

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

23.4.4 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 cooled, boiled water.
afterwards.

23.4.5 In situations where the above liquids are not available, IM glucagon (or IV glucose if IM glucagon is not available) should be given.

23.4.6 ‘GlucoGel, is a glucose gel available on prescription. It can be administered by:

- Squeezing inside the cheek and the outside of the cheek and gently rubbed in to aid absorption.
- Squeezing into the mouth and swallow.

23.4.7 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.

23.4.8 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 glucose may be required.


23.5 Diabetic Gastroparesis

23.5.1 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.

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

23.5.3 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).

23.6 Feed Regimens and Insulin

23.6.1 Should be tailored to the patients individual requirements and preferences to minimise the risk of hypoglycaemia during the rest period.

23.6.2 Overnight feeds should be avoided if possible as these can make it more difficult to attain good glycaemic control.

23.6.3 If the feed is being delivered slowly over a number of hours, medium and long acting insulin treatment is preferable (L. Vaughan 2004).

23.6.4 If the feed is delivered rapidly a mixed insulin is preferable (L. Vaughan 2004).

23.6.5 For bolus feeding quick acting insulin prior to each bolus with overnight long acting insulin is preferable (L. Vaughan 2004).
23.7 Special Enteral Feeds for People with Diabetes

23.7.1 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)).

23.7.2 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.

24 Psychological Aspects of Enteral Feeding

24.1.1 HETF 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.

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

24.1.3 Commencing on HETF will cause changes in lifestyle, as well as affecting family and social life.

24.1.4 It may affect the patient's libido.

24.1.5 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 HETF.

24.1.6 We need to help patients develop coping strategies and help them come to terms with their current situation by helping them to understand the rational for their current nutritional treatment.
25 Enteral Feeding Tube Removal

25.1.1 Gastrostomies should not be removed for at least 14 days after placement (M. Stroud et al 2003).

25.1.2 Gastrostomy removal may or may not require endoscopic removal.

25.1.3 Patients should be referred back to the Community Dietitian and Consultant Nurse in Gastroenterology for re-assessment.

25.1.4 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.

25.1.5 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.

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

25.1.7 If an accidentally removed feeding tube is not re-inserted immediately, contact the patients’ GP, Consultant or Accident and Emergency Department for medical advice; subcutaneous fluids may be required.
26.1 Appendix A - Gastrostomy Tube Feeding: Your Questions Answered

This booklet aims to provide you with information about feeding via gastrostomy tubes and answer some commonly asked questions.

If you have any additional questions, please contact your Dietitian, Speech and Language Therapist, Doctor or Nurse.

April 2008 Draft
(for review September 2008)
What is a Gastrostomy Tube?
A gastrostomy tube is a specially designed tube which is inserted through the abdominal wall directly into the stomach. Once in place, this tube can be used to give you nutritionally complete liquid food as well as fluid directly into your stomach to provide nutrition and hydration.
Placement of a gastrostomy tube takes place in hospital and usually requires a short admission.

What is a PEG?
A Percutaneous Endoscopic Gastrostomy (PEG) is a gastrostomy tube that is placed using a camera on a flexible tube (endoscope) which goes down your throat and into your stomach. The gastrostomy tube is then pulled through a small incision in your abdomen and secured in place using a soft plate which rests against your skin.

What is a RIG?
A Radiologically Inserted Gastrostomy (RIG) is a gastrostomy tube that is placed using X-ray guidance (radiology) to help locate the stomach. A fine tube is passed through your nose and into the stomach. Air is then used to inflate your stomach and the gastrostomy tube is passed through a small incision in your abdomen into your stomach and secured using a soft rubber plate and/or stitches which are later removed.

Does it hurt having a gastrostomy tube placed?
All procedures are carried out using local anaesthetic and sedation if required. There will be some discomfort around the site where the tube is placed, but this will disappear as the skin heals. You will be offered pain killers to ease this.

Will I be able to have a bath or take a shower?
Once the gastrostomy site (stoma) has healed, usually 2 weeks after placement, you can take a bath. For the first 2 weeks it is advisable to shower or wash without immersing the stoma in water.

Can medications go down the tube?
Your current medications will need to be reviewed and changed to liquid forms where possible. Some tablets can be crushed or dispersed in water to go down your tube. Your Doctor or Pharmacist should be able to advise you on this.

Will I gain weight?
Your Dietitian will calculate the amount of feed you will need and monitor your feed and weight. Your feed volume or type of feed may be changed to maintain your weight, or help you gain weight.
Will I still be able to eat?
The gastrostomy tube will not prevent you from eating and drinking. The gastrostomy tube is there to support your nutritional intake, by providing fluids for hydration, extra nutrients if you are unable to eat adequate amounts orally, or complete nutrition and hydration if you are unable to swallow.

If you have any swallowing difficulties, you will be assessed by a Speech and Language Therapist who will advise on techniques for swallowing, modified texture diets and thickened fluids if required. If your swallow has deteriorated to a point where it is no longer safe to take food or fluids orally, the Speech and Language Therapist may advise that you stop eating and drinking.

How will I be fed?
Your feed will be prescribed by the Doctor as advised by your Dietitian. This feed is a specially prepared liquid feed which contains carbohydrate, protein, fat, vitamins, minerals and fibre. The feed is usually delivered to your home, along with any other equipment required for feeding.

The method of administering your feed depends on your lifestyle and personal preference. There are 2 methods which can be used to administer your feed:

1. Via a small electric pump which connects your feed and your gastrostomy tube and pumps feed into the gastrostomy tube. You can feed during the day, or overnight, depending on personal preference. This pump can run on its own battery power or mains power, therefore you can be mobile whilst feeding. Special carry packs are available to carry your pump and feed if you want to go out whilst taking your feed.

2. By bolus method, where small volumes are administered into your gastrostomy tube using a syringe.

What are the risks of having a gastrostomy tube placed?
Having a gastrostomy tube placed is a fairly low risk procedure. Doctors aim to minimise risk by assessing you prior to placing a gastrostomy tube.

Some of the risks are related to the use of sedatives. There is a small risk of internal bleeding or puncturing the bowel. You will be carefully monitored during and after the procedure.

What are the benefits of having a gastrostomy tube placed?
A gastrostomy tube enables you to have a good nutritional intake, either as your only source of nutrition, or together with your oral intake. This helps to maintain your weight and mobility and helps your body fight off infections. Using a gastrostomy tube for nutrition and hydration can help to reduce the anxiety related to being unable to eat or drink well during the day.
When should I have a gastrostomy tube placed?
The decision to have a gastrostomy tube placed should be made after discussions with your Dietitian, Speech and Language Therapist and Doctor. It is advisable to make your decision before you lose large amounts of weight and before you suffer any chest infections due to aspiration (inhalation) of food into your airway. Once you have had a tube placed, you do not have to use it for feed or fluids until you need to, however the tube will need to be flushed with some water each day to keep the tube in good working order.

Is it my decision whether I have a gastrostomy placed?
Yes. The decision to have a gastrostomy tube is yours. This booklet was designed to provide you with information to help you make that decision. Ask questions of the professional staff to help you make the decision and discuss it with your family if you like.

You may find after time that you wish to change your decision, at this time it would be advisable to discuss this with your Dietitian, Speech and Language Therapist or Doctor.

Produced by the Departments of Nutrition and Dietetics from East Sussex Downs and Weald PCT, Hastings and Rother PCT and East Sussex Hospitals NHS Trust.

Avenue House
The Avenue
Eastbourne
BN21 3XY
Tel. 01323 444167

Uckfield Hospital
Framfield Road
Uckfield
TN22 5AW
Tel. 01825 745003

District General Hospital
Kings Drive
Eastbourne
BN21 2UD
Tel. 01323 417400
Extension 4172

The Conquest Hospital
The Ridge
St. Leonards on Sea
TN37 7RD
Tel. 01424 757035

Notes

Please contact the above departments for copies of this leaflet.
26.2 Appendix B - Method of Checking Balloon Inflation

1. Collect together all the equipment required (sterile 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 technician 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 – does this match the volume of water recommended to keep the balloon inflated?

   **YES:** Gently reinsert the recommended volume 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.

7. The water in the balloon should be changed weekly (NHS 2003) or according to the technicians instructions.

Adapted from ‘Nasogastric and Gastrostomy Tube Feeding for Children Being Cared for in the Community, Best Practice Statement' NHS Quality Improvement Scotland, 2003.
26.3 **Appendix C - Method of Administering an Enteral Feed Via a Pump**

1. Collect together all the equipment required (pump, feed, cooled, boiled 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 cooled, boiled water using a 50ml syringe (refer to patients feed regimen for amount of water required).

6. Close clamp and attach pump giving set.

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

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

9. Flush the tube with cooled, boiled (as step 5) and replace the cap on the enteral feeding tube.

10. Safely dispose of and clean all equipment used.

    Please refer to the pump manufacturers instructions for further information.
26.4 Appendix D - Method of Administering an Enteral Feed via a Bolus

1. Collect together all the equipment required to give the Bolus feed (syringes, feed, cooled, boiled 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 cooled, boiled water using a 50ml 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).

12. Safely dispose of and clean all equipment used.
### Personal Details

<table>
<thead>
<tr>
<th>Field</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Patient Name:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>DOB:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Sex:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Permanent Address:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Postcode:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Tel. Number:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Consultant:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>GP Name:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>GP Address:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>GP Tel:</strong></td>
<td></td>
</tr>
</tbody>
</table>

### Referral Details

<table>
<thead>
<tr>
<th>Field</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Patient Discharged To:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Date of Discharge:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Diagnosis / Reason for Admission:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Date of Admission:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Past Medical History:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Medication:</strong></td>
<td></td>
</tr>
</tbody>
</table>

### Social Situation

<table>
<thead>
<tr>
<th>Accommodation</th>
<th>Own Home (Alone)</th>
<th>Own Home (Family)</th>
<th>Nursing Home</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Sheltered Accommodation</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Carer:</strong></td>
<td>Self</td>
<td>Partner</td>
<td>Parents</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Children</td>
</tr>
<tr>
<td><strong>Carer’s Name:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Carer’s Contact Tel.:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Other AHP’s involved:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Nutritional Assessment

**Weight on Admission:**

**Weight on Discharge:**

**Weight History (if known):**

**Height:**

**BMI:**

**Nutritional Requirements:**

**Nutritional Intake:**

**Relevant Problems affecting oral intake:**

### Details of Dietetic Intervention:

**Aims of Dietetic Input:**

**Education / Literature Provided:**

**Diet Required:**

**Supplements Tried:**

**Supplements Discharged on:**

### Enteral Feeding

**Tube Type & Size:**

**Pump Type:**

**Tube Inserted:**

**Feeding Started:**

**Feed Name:**

**Rate / Bolus:**

**Duration:**

**Water Flushes:**

**Problems Encountered:**

### Referring Dietitian:

**Receiving Community Dietitian:**

**Tel.:**

**Date:**

**Signed:**
### Appendix F - Transfer of Care Discharge Summary for Patients Being Discharged Out of Area

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Date</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Name</strong></td>
<td></td>
</tr>
<tr>
<td><strong>DOB</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Current Address</strong></td>
<td></td>
</tr>
<tr>
<td><strong>New Address</strong></td>
<td>(if applicable)</td>
</tr>
<tr>
<td><strong>Current GP</strong></td>
<td></td>
</tr>
<tr>
<td><strong>New GP</strong></td>
<td>(if applicable)</td>
</tr>
<tr>
<td><strong>Diagnosis</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Medication</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Date Enteral feeding Commenced</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Reason for Commencing Enteral Nutrition</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td></td>
</tr>
<tr>
<td>Estimated Nutritional Requirements</td>
<td></td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>---</td>
</tr>
<tr>
<td>Feed Company Registered With (please attach a copy of the registration form)</td>
<td></td>
</tr>
<tr>
<td>Current Feed</td>
<td></td>
</tr>
<tr>
<td>Current Rate</td>
<td></td>
</tr>
<tr>
<td>Rest Period</td>
<td></td>
</tr>
<tr>
<td>Oral Intake</td>
<td></td>
</tr>
<tr>
<td>Significant Problems Experienced</td>
<td></td>
</tr>
<tr>
<td>Other Comments</td>
<td></td>
</tr>
<tr>
<td>Referring Dietitian</td>
<td></td>
</tr>
<tr>
<td>Receiving Dietitian</td>
<td></td>
</tr>
</tbody>
</table>

Contact Details for East Sussex Downs and Weald and Hastings and Rother PCT Dietitians

Avenue House
The Avenue
Eastbourne
BN21 3XY
Tel. 01323 444167

District General Hospital
Kings Drive
Eastbourne
BN21 2UD
Tel. 01323 417400

Uckfield Hospital
Framfield Road
Uckfield
TN22 5AW
Tel. 01825 745003

The Conquest Hospital
The Ridge
St. Leonards on Sea
TN37 7RD
Tel. 01424 757035
# Appendix G - Example Enteral Feed Regimen

## Enteral Feed Review

<table>
<thead>
<tr>
<th>Patient:</th>
<th>DOB:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight:</td>
<td>Height:</td>
</tr>
<tr>
<td>BMI:</td>
<td></td>
</tr>
</tbody>
</table>

### Estimated Daily Nutritional Requirements:

- **Calories**: kcal
- **Protein**: g
- **Fluid**: ml

### Weight Change:

### Aim of Dietetic Intervention:

### Feed Regimen:

<table>
<thead>
<tr>
<th>Feed Name</th>
<th>Daily Feed Volume</th>
<th>Feed Rate / Bolus</th>
<th>Timing / Number of Boluses</th>
<th>Water Flushes</th>
<th>Energy (kcal)</th>
<th>Protein (g)</th>
</tr>
</thead>
</table>

### Daily Totals

### Notes:

- Wash hands with soap and water (and disinfect) before manipulating the feeding apparatus.
- Check name of feed required.
- Check expiry date on feed.
- Check rate or bolus required.
- Check rest period required.
- Confirm tube position by checking pH is less than 5.
- Flush (see above for amount) feeding tube prior to administrating feed.
- Discard unused feed after 24 hours.
- Change giving sets every 24 hours
- Ensure Patients upper body elevated to 30 – 40 ° during
- Use cooled, boiled water for all water flushes.

---

Dietitian Name
Dietitian Contact Number
DATE
## Appendix H - Commonly Used Tube Feeds

*Please note other feeds are available. Please refer to the most recent edition of the BNF for further information.*

<table>
<thead>
<tr>
<th>Feed</th>
<th>Calories per ml</th>
<th>Protein (g) per ml</th>
<th>Added Fibre?</th>
<th>Nutritionally Complete?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nutrison Standard</td>
<td>1.0</td>
<td>0.04</td>
<td>X</td>
<td>✓</td>
</tr>
<tr>
<td>Nutrison Multifibre</td>
<td>1.0</td>
<td>0.04</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Nutrison Energy</td>
<td>1.5</td>
<td>0.06</td>
<td>X</td>
<td>✓</td>
</tr>
<tr>
<td>Nutrison Energy Multifibre</td>
<td>1.5</td>
<td>0.06</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Nutrison 1000 Complete Multifibre</td>
<td>1.00</td>
<td>0.055</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Nutrison 1200 Complete Multifibre</td>
<td>1.2</td>
<td>0.055</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Peptisorb</td>
<td>1.00</td>
<td>0.04</td>
<td>X</td>
<td>✓</td>
</tr>
<tr>
<td>Nutrison Concentrated</td>
<td>2.0</td>
<td>0.075</td>
<td>X</td>
<td>✓</td>
</tr>
<tr>
<td>Ensure Plus</td>
<td>1.51</td>
<td>0.0627</td>
<td>X</td>
<td>✓</td>
</tr>
<tr>
<td>Jevity</td>
<td>1.05</td>
<td>0.04</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Jevity Plus</td>
<td>1.2</td>
<td>0.055</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Jevity Promote</td>
<td>1.01</td>
<td>0.055</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Jevity 1.5 kcal</td>
<td>1.52</td>
<td>0.0638</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Osmolite</td>
<td>1.01</td>
<td>0.04</td>
<td>X</td>
<td>✓</td>
</tr>
<tr>
<td>Osmolite Plus</td>
<td>1.21</td>
<td>0.055</td>
<td>X</td>
<td>✓</td>
</tr>
<tr>
<td>Feed</td>
<td>Calories per ml</td>
<td>Protein (g) per ml</td>
<td>Added Fibre?</td>
<td>Nutritionally Complete?</td>
</tr>
<tr>
<td>----------------------</td>
<td>-----------------</td>
<td>-------------------</td>
<td>--------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>Fresubin Energy</td>
<td>1.5</td>
<td>0.056</td>
<td>X</td>
<td>✓</td>
</tr>
<tr>
<td>(contains EPA &amp; DHA)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fresubin Energy Fibre</td>
<td>1.5</td>
<td>0.056</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>(contains EPA &amp; DHA)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fresubin Original</td>
<td>1.0</td>
<td>0.038</td>
<td>X</td>
<td>✓</td>
</tr>
<tr>
<td>(contains EPA &amp; DHA)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fresubin Original Fibre</td>
<td>1.0</td>
<td>0.038</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>(contains EPA &amp; DHA)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fresubin 1000 Complete</td>
<td>1.0</td>
<td>0.055</td>
<td>✓</td>
<td>In 1000kcal / 1000ml</td>
</tr>
<tr>
<td>Fresubin 1200 Complete</td>
<td>0.8</td>
<td>0.04</td>
<td>✓</td>
<td>In 1200kcal / 1500ml, Contains EPA &amp; DHA</td>
</tr>
<tr>
<td>Isosource Energy</td>
<td>1.59</td>
<td>0.057</td>
<td>X</td>
<td>✓</td>
</tr>
<tr>
<td>Isosource Energy Fibre</td>
<td>1.50</td>
<td>0.049</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Isosource Fibre</td>
<td>1.0</td>
<td>0.038</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Isosource Standard</td>
<td>1.05</td>
<td>0.041</td>
<td>X</td>
<td>✓</td>
</tr>
<tr>
<td>Novasource GI Control</td>
<td>1.06</td>
<td>0.041</td>
<td>✓</td>
<td>Contains Resource Benifibre</td>
</tr>
<tr>
<td>Novasource GI Forte</td>
<td>1.5</td>
<td>0.06</td>
<td>✓</td>
<td>Contains Resource Benifibre</td>
</tr>
<tr>
<td>Novasource Start</td>
<td>0.75</td>
<td>0.05</td>
<td>✓</td>
<td>Nutritionally complete in 1200kcal /1500ml, Contains Resource Benifibre</td>
</tr>
</tbody>
</table>
**Appendix I - Medical Devices Agency Safety Notice**

**MDA/2004/026 - Enteral feeding tubes (nasogastric)**

Last Modified: 06/07/2004

Ref. MDA/2004/026
Issued: 14 June 2004

For:

<table>
<thead>
<tr>
<th>IMMEDIATE ACTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACTION ✓</td>
</tr>
<tr>
<td>UPDATE</td>
</tr>
<tr>
<td>INFORMATION REQUEST</td>
</tr>
</tbody>
</table>

**DEVICE:**
Enteral feeding tubes (nasogastric)

**PROBLEM:**
There are a number of methods, used singly or in combination, to check the position of nasogastric tubes. One of these methods is testing of aspirate.

There is a potential for a malpositioned nasogastric tube to go undetected if blue litmus paper is used to test the aspirate to confirm placement of the tube in the stomach. Blue litmus paper may not distinguish between the acidic pH of gastric contents and other fluids.

**ACTION BY:**
All staff responsible for placement of nasogastric tubes and administration of fluids via these tubes.

**ACTION:**
Do not use blue litmus paper for checking nasogastric tube placement. Use pH indicator paper/strips covering the appropriate range, and follow the advice contained overleaf when implementing the change.

**DISTRIBUTED to:**
NHS Trusts (England) - Chief Executives
Commission for Social Care Inspection (CSCI) - Headquarters
Healthcare Commission (CHAI) - Headquarters
Primary Care Trusts (England) - Chief Executives

**CONTACTS:**
Details of MHRA contacts for technical and clinical aspects. Details of NNNG contact for clinical guidance.
Change of address or removal from address list for services registered under the Care Standards Act 2000.

**FEEDBACK REQUIREMENTS:**
Please report malposition of nasogastric feeding tubes to the MHRA.

*Further information supplied in the following pages.*

The full text of this notice is on our web site: http://www.mhra.gov.uk
PROBLEM:
Testing of the aspirate is one of a combination of methods used to check nasogastric tube placement. There is a potential for a malpositioned nasogastric tube to go undetected if blue litmus paper is used to test the aspirate taken from the tube. MHRA is aware of one incident where this had occurred and contributed to the death of a patient.

Blue litmus paper will turn pink in the presence of acid regardless of the level of acidity (i.e. pH<7). Therefore, this paper is not sufficiently sensitive to distinguish between the pH of different fluids, specifically between bronchial and gastric secretions.

When performing an aspirate test, the use of pH indicator paper instead of litmus paper is supported by several papers.\textsuperscript{1,2} Guidelines published by NHS Quality Improvement Scotland, \textsuperscript{3} Northern Ireland Clinical Resource Efficiency Support Team (CREST) \textsuperscript{4} and forthcoming guidelines on adult enteral feeding by The National Nurses Nutritional Group (NNNG) recommend that pH indicator paper be used to test the aspirate.


ACTION:

- Define expected pH range for secretions to be tested such as gastric and bronchial secretions, giving consideration to variables such as the use of antacids and proton pump inhibitors.

- Select the appropriate paper for your requirements (pH indicator paper is available in several ranges and graduations of pH).

- Follow the instructions for use provided by the manufacturer of the pH indicator paper and the nasogastric tube.

- Ensure all staff are appropriately trained in the use of the pH indicator paper and the interpretation of the results.

\begin{center}
\textbf{DEADLINES FOR THE SAFETY ALERT BROADCAST SYSTEM}
\end{center}

\textbf{Deadline (Action underway): 26 July 2004}

Action plan to be agreed and actions started.

\textbf{Deadline (Action complete): 04 October 2004}

All actions to be completed.

\begin{center}
\textbf{DISTRIBUTION:}
Please bring this notice to the attention of all who need to know or be aware of it. This will include distribution by:
\end{center}

\begin{center}
\textbf{TRUSTS to:}
\end{center}

- Liaison officers (for onward distribution)
- Accident & emergency departments
- Adult & paediatric intensive care units
- All wards
- Clinical governance leads
- Directors of anaesthetics
- Health & safety officers
• Medical directors
• Nursing executive directors
• Respiratory care nurse specialists
• Risk managers
• Special care baby units
• Theatre managers

COMMISSION FOR SOCIAL CARE INSPECTION to:
• Headquarters (for onward distribution)
• Care homes providing nursing care
• Care homes providing personal care
• Domiciliary care providers

HEALTHCARE COMMISSION (CHAI) to:
• Headquarters (for onward distribution)
• Clinics
• Hospices
• Hospitals in the independent sector
• Mental health hospitals
• Private medical practitioners

PRIMARY CARE TRUSTS to:
• Liaison officers (for onward distribution)
• Clinical governance leads
• Community children’s nurses
• Community hospitals
• Directors of public health
• District nurses
• General medical practitioners
• Lead nurses
• Palliative care nurses
• Specialist home enteral feeding nurses
CONTACTS:
Clinical guidance enquiries to the National Nurses Nutritional Group should be addressed to:

Mrs Lynne Colagiovanni
Nutrition Nurse Specialist
Queen Elizabeth Hospital
Dept. of Nursing
University Hospitals
Edgebaston
Birmingham B15 2TH

Tel: 0121 627 2094
E-mail: lynne.colagiovanni@uhb.nhs.uk

Enquiries to the MHRA should quote reference number 20030829.999-007 and be addressed to:

Technical aspects:
Nicole Toyick or Dr Catriona McNie
Medicines & Healthcare products Regulatory Agency
Hannibal House
Elephant and Castle
London
SE1 6TQ

Tel: 020 7972 8310/ 8219
Fax: 020 7972 8113
E-mail: nicole[to]toyick[ot]mhra[dot]gsi[dot]gov[dot]uk

Clinical aspects:
Mr Jonathan Plumb
Medicines & Healthcare products Regulatory Agency
Hannibal House
Elephant and Castle
London
SE1 6TQ

Tel: 020 7972 8128
Fax: 020 7972 8103
E-mail: jonathan[dot]plumb[ot]mhra[dot]gsi[dot]gov[dot]uk

Change of address or removal from list for services registered under the Care Standards Act 2000.

CSCI Customer Service Unit
St Nicholas Building
St Nicholas Street
Newcastle-upon-Tyne
NE1 1NB

Tel: 0191 233 3556
E-mail: enquiries[c]csci[dot]gsi[dot]gov[dot]uk

© Crown Copyright 2004
CAUTION: If there is ANY query about position and/or the clarity of the colour change on the pH strip, particularly between ranges 5 and 6, then feeding should not commence.

The information in this document was originally developed by the National Nurses Nutrition Group (NNNG) and further developed in collaboration with the Medicines and Healthcare products Regulatory Agency (MHRA), the National Patient Safety Agency (NPSA), NHS clinicians, risk managers and other leading experts in the field. The Patient Safety Research Programme at the University of Birmingham has commissioned additional research to assess these methods further. This advice may therefore be revised following the outcome of this work.

Source: Reducing the Harm Caused by Misplaced Nasogastric Feeding Tubes (National Patient Safety Agency 2005)
26.11 Appendix K - Medical Devices Agency Safety Notice

SN 2000(27) - Enteral Feeding Systems

MANUFACTURER/ SUPPLIER
Various

PROBLEM
Enteral feeding systems are susceptible to microbial contamination, which may result in systemic infection, especially in vulnerable or immuno-compromised patients.

For attention by:
Health Authorities (England) - Chief Executives
NHS Trusts (England) - Chief Executives
Primary Care Trusts (England) - Chief Executives
Social Services (England) – Directors

ACTION
• Review the practices employed for enteral feeding of patients taking account of the advice contained in this notice.
• Select feeding systems appropriate to the needs of each individual patient taking account of the risk of microbial contamination.
• Use sterile, single-use systems for vulnerable patients or those with compromised immune systems.
• Do not reprocess feeding system components designated for single-use only.
• Always follow manufacturers’ instructions for reprocessing re-usable feeding system components.
• Minimize the number of connections in the system.
• Ensure all staff are fully trained in the preparation and administration of enteral feeding.
• Ensure personal hygiene when handling feeding system components: wear gloves and, if appropriate, masks and wash hands meticulously.
• Use ready-made full strength feed and avoid decanting where possible.
• Ensure that feed reconstituted or diluted prior to use is prepared under suitably controlled conditions in order to minimize contamination prior to use.
• Ensure feed is used before its expiry date and within permissible hanging times.
• Ensure the feeding system is labelled with the patient’s name, the date and the time that the feed was set up.
DISTRIBUTION REQUIRED
Please bring this notice to the attention of all who need to know or be aware of it. This will include distribution by:

**TRUSTS to:**
- Liaison Officers (for onward distribution)
- Medical Directors
- Nurse Executive Directors of NHS Trusts
- Pharmacists
- Dieticians
- Supplies Departments
- ITU
- HDU
- Neonatal Units
- Paediatric Units
- Geriatric Units
- Sterile service departments
- Risk Managers
- Infection Control Nurses
- Consultant Microbiologists
- Control of Infection Doctors
- Radiotherapy
- Medical Oncology Units
- Community Nurses
- All areas where Enteral Feeding may be used

**HEALTH AUTHORITIES to:**
- Liaison Officers (for onward distribution)
- Chairs of Primary Care Groups
- Registration Inspection Units
- General Medical Practitioners
- Practice Nurses
- Nursing Homes
- Hospices
- Hospitals in the Independent Sector
- Risk Managers
- Infection Control Nurses
- Consultant Microbiologists
- Consultants in Communicable Disease Control
- Public Health Nurses and Doctors

**PRIMARY CARE TRUSTS to:**
- Chief Executives (for onward distribution)

**SOCIAL SERVICES to:**
- Liaison Officers (for onward distribution)
- Registration Inspection Units
- Residential Care Homes
**BACKGROUND**

Enteral feeding systems may be supplied as single-use or reusable items. The most appropriate system should 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 serious infection. This is especially significant for vulnerable patients (e.g. neonates, patients with burns) or those with compromised immune systems. Microbial contamination can occur from inappropriate handling and cleaning of the feed and delivery system, extended hanging times (outside that recommended by the manufacturer or local policy) and poor hygiene practice.

This Notice has been produced to address concerns raised about variations in clinical practice involving the choice and management of enteral feeding systems. This information takes into account advice provided by the Medical Devices Agency’s Microbiology Advisory Committee.

MDA have published updated advice on the implications and consequences of reuse in MDA DB 2000(04). In summary the key points are:

1. Devices designated for ‘single-use’ must not be reused under any circumstances.
2. The reuse of ‘single-use’ devices can affect their safety, performance and effectiveness, exposing patients and staff to unnecessary risk.
3. The reuse of ‘single-use’ devices has legal implications.

Adverse incidents involving enteral feeding systems should be reported to the Adverse Incident Centre at MDA in accordance with Safety Notice SN 2000(01).

**ENQUIRIES**

Enquiries to the MDA should be addressed to:

MDA Adverse Incident Centre,  
Medical Devices Agency, Hannibal House,  
Elephant & Castle, London. SE1 6TQ  
Tel: 020 972 8080 or Fax: 020 7972 8109  
or E-mail: mb-mds-aic@doh.gsi.gov.uk

© Crown Copyright 2000
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Full Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>AHP</td>
<td>Allied Health Professional</td>
</tr>
<tr>
<td>AIDS</td>
<td>Acquired Immunodeficiency Syndrome</td>
</tr>
<tr>
<td>BANS</td>
<td>British Artificial Nutrition Survey</td>
</tr>
<tr>
<td>BAPEN</td>
<td>British Association for Parenteral and Enteral Nutrition</td>
</tr>
<tr>
<td>BDA</td>
<td>British Dietetic Association</td>
</tr>
<tr>
<td>BMI</td>
<td>Body Mass Index</td>
</tr>
<tr>
<td>BPNG</td>
<td>British Pharmaceutical Nutrition Group</td>
</tr>
<tr>
<td>CRP</td>
<td>C-Reactive Protein</td>
</tr>
<tr>
<td>CVA</td>
<td>Cerebral Vascular Accident</td>
</tr>
<tr>
<td>DN</td>
<td>District Nurse</td>
</tr>
<tr>
<td>DOB</td>
<td>Date of Birth</td>
</tr>
<tr>
<td>FOS</td>
<td>Fructo-oligosaccharide</td>
</tr>
<tr>
<td>GP</td>
<td>General Practitioner</td>
</tr>
<tr>
<td>HACCP</td>
<td>Hazard Analysis and Critical Control Point</td>
</tr>
<tr>
<td>HDU</td>
<td>High Dependency Unit</td>
</tr>
<tr>
<td>HETF</td>
<td>Home Enteral Tube Feeding</td>
</tr>
<tr>
<td>HIV</td>
<td>Human Immunodeficiency Virus</td>
</tr>
<tr>
<td>HV</td>
<td>Health Visitor</td>
</tr>
<tr>
<td>IM</td>
<td>Intramuscular</td>
</tr>
<tr>
<td>ITU</td>
<td>Intensive Care Unit</td>
</tr>
<tr>
<td>IV</td>
<td>Intravenous</td>
</tr>
<tr>
<td>LFTs</td>
<td>Liver Function Tests</td>
</tr>
<tr>
<td>MAC</td>
<td>Mid Arm Circumference</td>
</tr>
<tr>
<td>MDA</td>
<td>Medical Devices Agency</td>
</tr>
<tr>
<td>MDT</td>
<td>Multi-Disciplinary Team</td>
</tr>
<tr>
<td>NG Tube</td>
<td>Naso-Gastric Tube</td>
</tr>
<tr>
<td>NH</td>
<td>Nursing Home</td>
</tr>
<tr>
<td>NJ Tube</td>
<td>Naso-Jejunal Tube</td>
</tr>
<tr>
<td>NPSA</td>
<td>National Patient Safety Agency</td>
</tr>
<tr>
<td>PCT</td>
<td>Primary Care Trust</td>
</tr>
<tr>
<td>PEG</td>
<td>Percutaneous Endoscopic Gastrostomy</td>
</tr>
<tr>
<td>PEG-J</td>
<td>Percutaneous Endoscopic Gastrostomy with a Jejunal extension</td>
</tr>
<tr>
<td>PENG</td>
<td>Parenteral and Enteral Nutrition Specialist Group of the British Dietetic Association</td>
</tr>
<tr>
<td>PINNNT</td>
<td>Patients on Intravenous and Naso-Gastric Nutrition</td>
</tr>
<tr>
<td>PPIs</td>
<td>Proton Pump Inhibitors</td>
</tr>
<tr>
<td>RD</td>
<td>Registered Dietitian</td>
</tr>
<tr>
<td>RH</td>
<td>Residential Home</td>
</tr>
<tr>
<td>RIG</td>
<td>Radiologically Inserted Gastrostomy</td>
</tr>
<tr>
<td>SALT</td>
<td>Speech and Language Therapist</td>
</tr>
<tr>
<td>U &amp; Es</td>
<td>Urea and Electrolytes (biochemistry)</td>
</tr>
<tr>
<td>WCF</td>
<td>Warden Controlled Flat</td>
</tr>
</tbody>
</table>
References

1. BAPEN (2003), Administering Drugs Via Enteral Feeding Tubes – A Practical Guide, BAPEN and BPNG.

2. BAPEN (2003), Drug Administration Via Enteral Feeding Tubes – A Guide for General Practitioners and Community Pharmacists, BAPEN and BPNG.


10. Linden, N (2005), Quick Acting Carbohydrate for Hypoglycaemia, Eastbourne Downs PCT Department of Nutrition and Dietetics.


18. NHS Quality Improvement Scotland (2003) Nasogastric and Gastrostomy Tube Feeding for Children in the Community, Best Practice Statement


30 Useful Contact Numbers

- Avenue House Community Dietitians: Tel: 01323 444167
  Fax: 01323 430472
- Eastbourne DGH Hospital Dietitians: 01323 417400 (Extension 4172)
- Uckfield Hospital Dietitians: 01825 745003
- Conquest Hospital Dietitians: 01424 757035
  Fax: 01424 757035
- Hastings and Rother PCT Community Dietitian: 01424 758177
- Eastbourne District General Hospital: 01323 440022 (Endoscopy Unit Extension 4476)
- The Conquest Hospital (Hastings): 01424 755255 (Endoscopy Unit Extension 7548)
- The Royal Sussex County Hospital (Brighton): 01273 696955
- Princess Royal Hospital (Haywoods Heath): 01444 441881
- Hurstwood Park Neurological Centre (Haywoods Heath): 01444 441881
- Kent and Sussex Hospital (Tunbridge Wells): 01892 526111
- Pembury Hospital (Tunbridge Wells): 01892 823535
- Eastbourne District General Hospital Community Liaison Nurses: 01323 413823
- Patients on Intravenous and Naso-Gastric Nutrition (PINNT) Support Group
  POBOX 3126, Christchurch, Dorset, BH23 2XS, 01202 481625