

Pre and Post Insertion Management of Gastrostomy and Jejunostomy enteral feeding tubes in Adults:

Policy and Procedures

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CONTENTS

Section		Page
1	Introduction and Overview	4
2	Policy Scope	5
3	Definitions and Abbreviations	5
4	Roles	6
5	Policy Implementation and Associated Documents	7
6	Education and Training	8
7	Process for Monitoring Compliance	9
8	Equality Impact Assessment	9
9	Supporting References, Evidence Base and Related Policies	9
10	Process for Version Control, Document Archiving and Review	10
Appendices		Page
<i>Selection and pre procedural care</i>		
1	Referral for consideration of a long term enteral feeding tube	11
2	Selection and pre-procedural care for Adult patients requiring a percutaneous endoscopic gastrostomy tube (PEG), including PEG with jejunal extension (PEG-J)	14
3	Selection and pre-procedural care for Adult patients requiring a radiologically inserted gastrostomy tube (RIG)	18
4	Selection and pre-procedural care for Adult patients requiring a surgical jejunostomy tube (JEJ)	21
<i>Post procedural care</i>		
5	Post-procedural care of a PEG in an Adult Patient – Nursing Care Plan	23
6	Post-procedural care of a PEG-J in an Adult Patient – Nursing Care Plan	25
7	Post-procedural care of a RIG in an Adult patient – Nursing Care Plan	27
8	Balloon Retained Gastrostomy Tube (BGT) Replacement in an Adult Patient	29
8a	Care Plan for changing the water in a BGT in an Adult patient	33
9	Post-procedural care of a JEJ in an Adult patient	35
<i>Managing Gastrostomy or Jejunostomy complications</i>		
10	Management of common complications post gastrostomy or jejunostomy insertion	36
11	Identification of Type of Enteral Feeding Tube and Referral Guidance for Management of an urgent Complication (such as tube displacement)	38
<i>Gastrostomy / Jejunostomy Tube removal</i>		
12	Removal of Percutaneous Enteral Feeding Tubes	42
13	Removal of percutaneous endoscopic gastrostomy tubes (PEG's) using a 'cut and push' technique	44

REVIEW DATES AND DETAILS OF CHANGES MADE DURING THE REVIEW

Specific changes to the content of this policy:

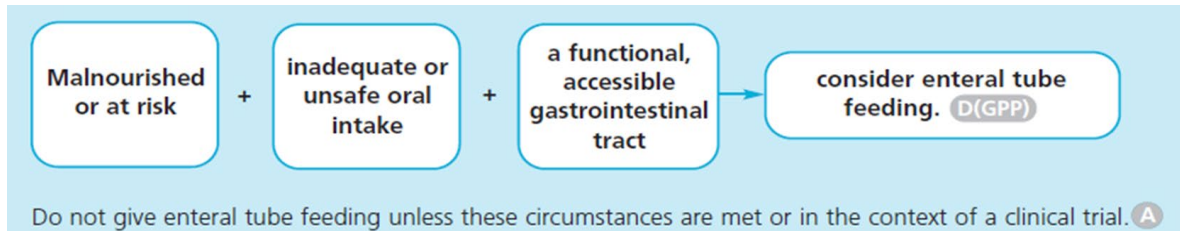
- Addition of type of PEG used for specific patients
- Appendix added to outline removal of PEG tubes if Endoscopic procedure is not possible.
- Addition to appendix outlining how CORFLO PEG tubes can be removed.

KEY WORDS

Enteral, ETF, Gastrostomy, PEG, RIG, Jejunostomy, JEJ, PEG-J, feeding tube,

1. INTRODUCTION AND OVERVIEW

- 1.1. This document sets out the University Hospitals of Leicester (UHL) NHS Trusts policy and procedures for the pre and post procedural management of gastrostomy and jejunostomy enteral feeding tubes in adult patients.
- 1.2. Artificial nutritional support can be given via an Enteral Feeding Tube (EFT). An EFT may be placed in a patient who is either unable to take any nutrition orally or who is unable to take sufficient nutrition orally to meet their full nutritional requirements, and has a functioning gastrointestinal tract.



NICE 2017

- 1.3. Gastrostomy and Jejunostomy EFTs are used when enteral nutrition, fluid and/or medication is indicated long term (for more than 4 weeks).
- 1.4. The decision to place an enteral feeding tube must consider indications, contraindications, patient's clinical condition, overall treatment plan, risk and benefits, and have goals/outcomes defined. These tubes require an invasive technique to insert them and are associated with complications related to the procedure and subsequent use.
- 1.5. The provision of artificial nutritional support is not always indicated. Decisions to withhold or withdraw nutritional support require consideration of both ethical and legal principals. Healthcare professionals must act in a patient's best interest.
- 1.6. The most appropriate access route should be determined after a multidisciplinary (MDT) assessment on an individual patient basis.
- 1.7. Gastrostomy tubes are the most common type of long term EFT used. First line choice is a percutaneous endoscopy gastrostomy (PEG). For some patients an endoscopy is not appropriate and a radiological inserted gastrostomy (RIG) is required.
- 1.8. For some patients feeding into the stomach is contraindicated and post pyloric access is required, for example intestinal motility problems such as gastroparesis. This may be via a gastrostomy tube, such as a PEG-J where the jejunal extension is placed within the gastrostomy. In other situations direct jejunal access is needed. A surgically placed Jejunostomy tube (JEJ) may be used after upper gastrointestinal surgery to allow enteral feeding until oral intake can be resumed.
- 1.9. The aim of this policy and associated procedures is to standardise the pre and post insertion care of gastrostomy or jejunostomy tubes in line with national guidance and best practice, and minimise the risks associated with these enteral feeding tubes.

2. POLICY SCOPE

- 2.1. This policy applies to all registered and non-registered healthcare staff who care for an adult patient being considered for, or with, an existing EFT.
- 2.2. This policy applies to pre-registration student nurses and midwives caring for these patients whilst under the supervision of their mentor / assessor.
- 2.3. Patients may be transferred out of UHL NHS Trust with an EFT insitu. Post discharge the responsibility of on-going care-planning, moving forward, lies with the provider Trust.
- 2.4. This policy recognises the definition of an adult as a person over the age of 16 years. A person in special education will be an adult over the age of 19 years.
- 2.5. This policy does not cover patients with a non-functioning gastrointestinal tract who need Parenteral Nutrition. Please refer to the policy for Administration of Parenteral Nutrition in Adults B21/2003.
- 2.6. This policy does not cover management of shorter term enteral feeding tubes. Please refer to the Nasogastric and Orogastric tubes in adults policy and procedures B39/2005 and Management of Nasojejunal tubes in adults policy & procedures B6/2019.

3. DEFINITIONS AND ABBREVIATIONS

Enteral Feeding Tube (EFT): A tube placed directly into the gastrointestinal tract for the administration of nutrition, fluid and/or medication.

Enteral Nutrition (EN): The delivery of nutrition via the gastrointestinal tract involving an enteral feeding tube.

Gastrostomy: Enteral Feeding tube directly entering the stomach.

Percutaneous Endoscopy Gastrostomy (**PEG**): Gastrostomy tube placed via endoscopy.

Radiological Inserted Gastrostomy (**RIG**): Gastrostomy tube placed using radiology guidance.

Balloon Retained Gastrostomy (**BGT**) either placed as a RIG at first placement or as a replacement gastrostomy once the tract has been formed.

Jejunal extension to a gastrostomy tube: An inner tube inserted via the gastrostomy tube into the jejunum to allow small bowel feeding.

Percutaneous Endoscopic Gastrostomy with jejunal extension (**PEG-J**)

RIG with jejunal extension (**RIG-J**)

Jejunostomy: Enteral Feeding tube directly entering the small bowel (jejunum) even as a surgical procedure (**JEJ**) or radiological procedure (**RIJ**).

Leicestershire Intestinal Failure Team (LIFT): Nutrition Support team (Nutrition Specialist Nurses, Specialist Dietitians) supported by Gastroenterology Consultants for Nutrition and Intestinal Failure.

Nasogastric tube (NGT): A tube passed through the nose into the stomach.

Nasojejunal Tube (NJT): A tube passed through the nose into the stomach and then advanced into the small bowel, to allow post-pyloric feeding.

Nil by Mouth (NBM)

Nutrition Specialist Nurse (NSN)

Multidisciplinary Team (MDT)

4. ROLES

- 4.1. The **Executive Leads** are the Chief Nurse and Medical Director.
- 4.2. **CMG Heads of Nursing, Deputy Heads of Nursing and Matrons alongside Head of Service** are responsible for ensuring adequate staffing levels of competent nurses within their clinical areas to care of a patient with an enteral feeding tube.
- 4.3. **Medical Staff / Competent Clinician** are overall responsible for the management of a patient requiring a gastrostomy or jejunostomy. Junior doctors who do not feel they have this level of expertise should seek guidance from Senior Colleagues, the ward Dietitian or Leicester Intestinal Failure Team (LIFT). In particular they are responsible for:
- Identifying suitable patients for gastrostomy or jejunostomy insertion and referring patients in line with this policy.
 - When long term enteral nutrition is being considered, ensuring the decision is based on the patient's nutritional status, clinical condition and goals of overall therapy. The rationale must be documented in the medical notes.
- 4.4. **Radiologists** where gastrostomy/jejunostomy placement is integral to their job role, take responsibility for the selection and insertion of EFT at the request of the primary Consultant and management of complications.
- 4.5. **Endoscopists** where gastrostomy placement is integral to their job role, are JAG (Joint Advisory Group on Gastrointestinal Endoscopy) accredited to carry out endoscopic procedures for the placement of EFT.
- 4.6. **Leicester Intestinal Failure Team (LIFT)** is a multidisciplinary team consisting of Nutrition Support team (Nutrition Specialist Nurses, Specialist Dietitians) supported by Gastroenterology Consultants for Nutrition and Intestinal Failure. LIFT is responsible for offering expert advice on the care and management of patients requiring all forms of artificial nutrition, including via an EFT. It is the responsibility of the UHL Chief Executive that the LIFT team exists within UHL. This responsibility is delegated to the Head of Nursing CSI and Head of Service for CSI and CHUGGS.
- a) Nutrition Specialist Nurses (NSN)** are responsible for:
- Providing expert advice, support and clinical input on an individual patient basis to patients requiring pre-placement assessment or care of an EFT, in line with this policy.
 - Education and training to ensure nursing staff caring for patients with an EFT can demonstrate and maintain competency.
 - Undertaking enteral feeding tube procedures such as BGT replacement and CORFLO PEG Removal following a local competency training package.
- b) LIFT Consultant Gastroenterologists**, are responsible for supporting the NSN and primary medical teams in decision making regarding placement of an EFT, insertion and management of post procedural complications.
- 4.7. **Ward Sisters / Charge Nurses** are responsible for ensuring development on the ward or unit of appropriate numbers of competent staff and responsible for on-going monitoring to ensure staff are maintaining competency.

4.8. All Registered Nurses, midwives and registered nursing associates caring for patients with an EFT are responsible for:

- a) Ensuring that the care they provide to these patient groups is in line with UHL policies and procedures and are appropriately trained as per section 7.
- b) Liaising with the medical team and onward referral to NSN if there are problems or clinical concerns with the EFT
- c) In the event that a patient requires EN and the ward is not competent with the care of the EN patient the nurse is responsible for escalating this as an incident to the senior nurses in the Clinical management Group (CMG).

4.9. Student Nurses are responsible for reporting any patient changes or problems with the EFT to the registered nurse

4.10. The Dietitian is responsible for:

- a) Nutritional assessment, care planning and monitoring of a patient on an EFT
- b) Providing EFT management in line with this policy and in some specific cases such as Senior Specialist Oncology Dietitians, undertaking pre procedure assessments for a longterm EFT, in line with this policy
- c) Providing an individual EN feeding regimen to meet the patients nutritional, fluid and electrolyte requirements and adjusting this as needed.
- d) Liaising with community services and agencies if a patient is to be discharged from UHL with an EFT insitu, for ongoing care in the community.

4.11. Patients and/or Informal Carers can provide management of an EFT in line with this policy if they have previously received appropriate competency training, are self-caring in the community and currently are able to continue to undertake the procedure. The current clinical situation and reason for admission needs to be considered. The Dietetic department can be contacted to confirm ability to self-care for the EFT.

5. POLICY IMPLEMENTATION AND ASSOCIATED DOCUMENTS

5.1. This policy is supported by the following associated policies and guidelines for Adult patients which must be used in conjunction with this policy:

Policy	Trust Reference
Anticoagulation bridging therapy for elective surgery and procedures UHL guideline	B30/2016
Mental Capacity Act UHL Policy	B23/2007
The Deprivation of Liberty Safeguards (DOLS) Policy & Procedures	B15/2009
Policy to consent to examination or treatment	A16/2002

Nutrition & Dietetic Standard Operating Procedures	
Procedure for Dietetic and Nutrition Specialist Nurse Assessment of an Adult patient requiring an Endoscopic or Radiological Enteral Feeding Tube Placement	V1. 2019

5.2 This policy is supported by the following procedures:

Appendices		Page
	<i>Selection and pre procedural care</i>	
1	Referral for consideration of a long term enteral feeding tube	11
2	Selection and pre-procedural care for Adult patients requiring a percutaneous endoscopic gastrostomy tube (PEG), including PEG with jejunal extension (PEG-J)	14
3	Selection and pre-procedural care for Adult patients requiring a radiologically inserted gastrostomy tube (RIG)	18
4	Selection and pre-procedural care for Adult patients requiring a surgical jejunostomy tube (JEJ)	21
	<i>Post procedural care</i>	
5	Post-procedural care of a PEG in an Adult Patient – Nursing Care Plan	23
6	Post-procedural care of a PEG-J in an Adult Patient – Nursing Care Plan	25
7	Post-procedural care of a RIG in an Adult patient – Nursing Care Plan	27
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	<i>Managing Gastrostomy or Jejunostomy complications</i>	
10	Management of common complications post gastrostomy or jejunostomy insertion	36
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	<i>Gastrostomy / Jejunostomy Tube removal</i>	
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6. EDUCATION AND TRAINING REQUIREMENTS

6.1. It is the responsibility for all UHL staff involved in care of patients with EFT to update their practice to maintain competence and skills. Any education or training issues should be highlighted at appraisal and addressed through the personal development plan. Training will be provided by the NSN team as required.

6.2. The Nutrition & Dietetic service has specific competency based assessments for NSN performing EFT procedures such as Ballon Gastrostomy Tube replacement.

7. PROCESS FOR MONITORING COMPLIANCE

Element to be monitored	Lead	Tool	Frequency	Reporting
Care provided in line with policy	Clinical Lead, Nutrition Support Team	Review of datix	Annually	UHL Nutrition & Hydration Assurance Committee
Referral and outcomes	Lead Nutrition Nurse Specialist	Audit Proforma	Bianually	UHL Nutrition & Hydration Assurance Committee

8. EQUALITY IMPACT ASSESSMENT

8.1. The Trust recognises the diversity of the local community it serves. Our aim therefore is to provide a safe environment free from discrimination and treat all individuals fairly with dignity and appropriately according to their needs.

8.2. As part of its development, this policy and its impact on equality have been reviewed and no detriment was identified.

9. SUPPORTING REFERENCES, EVIDENCE BASE AND RELATED POLICIES

NATIONAL CONFIDENTIAL ENQUIRY INTO PATIENT OUTCOME AND Death (NCEPOD), 2004 Scoping our practice. Available from: <https://www.ncepod.org.uk/2004sop.html>

LORD, L.M, 2018 Enteral Access Devices: Type, Function, Care and Challenges. *Nutrition in Clinical Practice* vol. 33, pp 16-38 Available from: doi:[10.1002/ncp.10019](https://doi.org/10.1002/ncp.10019)

NATIONAL INSTITUTE FOR CLINICAL EXCELLENCE (NICE) 2006. Nutrition support in adults: Oral nutrition support, enteral tube feeding & parenteral nutrition. [Viewed 26/01/2019]. Available from: <http://www.nice.org.uk/guidance/cg32>

NATIONAL SAFETY PATIENTS AGENCY (NPSA) 2010. Early detection of complications after gastrostomy. **Alert** NPSA/2010/RRR010 Available from: <https://webarchive.nationalarchives.gov.uk/20171030124654/http://www.nrls.npsa.nhs.uk/resources/type/alerts/?entryid45=73457>

STROUD M, DUNCAN H, NIGHTINGALE J, 2003 Guidelines for enteral feeding in adult hospital patients. *Gut*. 52(Suppl VII):vii1-vii12.

Related UHL policies & guidelines:

Policy	Trust Reference
Administration of Medicines to Adult Patients who cannot swallow tablets or capsules – Guidelines for Practice	B16/2004
Insertion and Management of Nasogastric and Orogastric tubes in Adults Policy & Procedures	B39/2005

10. PROCESS FOR VERSION CONTROL, DOCUMENT ARCHIVING AND REVIEW

- 10.1. The updated version of the Policy will be uploaded and available through INsite Documents and the Trust's externally-accessible Freedom of Information publication scheme. It will be archived through the Trusts SharePoint system.
- 10.2. This Policy will be reviewed every three years or sooner in response to clinical risks /incidents identified.

Referral for Consideration of a Long Term Enteral Feeding Tube

Introduction and Scope

This procedure details the referral process for a patient who requires consideration of a long term enteral feeding tube.

1	Patient selection <p>The patient's primary Consultant is responsible for identifying suitable patients for consideration of a long term EFT.</p> <p>Full consideration must be given to the ethical issues related to the provision of artificial nutritional support. Placement of an EFT and its subsequent use must be in the best interest of the patient.</p> <p>The access route should be decided on an individual basis according to the patient's clinical condition, treatment plan and nutritional status of the patient, taking into account any contraindications for route of access.</p>
2	Patient Assessment <p>The patient assessment should encompass indications for EFT, appropriate access route, contraindications and an informed discussion regarding risks and benefits.</p> <p>The patient assessment should be performed by an expert in artificial nutritional support.</p> <p>This will either be performed by a:</p> <ul style="list-style-type: none">• Nutrition Nurse Specialist on behalf of the Leicester Intestinal Failure Team (LIFT), Consultant Gastroenterologist or Consultant Radiologist.• Senior Specialist Dietitian as part of the MDT (such as Head & Neck Cancer, Upper Gastrointestinal Surgery cancer and non cancer cases and Bone Marrow Transplant)• Consultant undertaking the procedure – Consultant Upper Gastrointestinal Surgeon performing a surgical JEJ as part of a larger surgical procedure such as a Oesophagectomy.• Leicestershire Partnership Trust (LPT) Stroke Consultants or LOROS Motor Neuron Disease MDT via direct referral into Gastroenterology or imaging. <p>Patients referred to the Nutrition & Dietetic service (NSN or Oncology Dietitian) will have a proforma completed and placed in the patient's medical notes which is carried out following the department SOP (Procedure for Dietetic and Nutrition Specialist Nurse Assessment of an Adult patient requiring placement of a long-term Enteral Feeding Tube). This information will also be provided to the service – Imaging, Gastroenterology or Surgeon who is performing the procedure.</p>
3	Enteral Feeding Tube Options and referral process <p>First line choice for a long term EFT is a gastrostomy placed as part of an endoscopic procedure (PEG). A radiological placed EFT in imaging radiology may be required if an endoscope is contraindicated (see appendix 3).</p> <p>Jejunal feeding maybe required when post pyloric feeding is indicated, such as patients with intestinal motility such as gastroparesis. This may be via an EFT placed directly via the jejunum such as a surgical jejunostomy (JEJ) placed during upper gastrointestinal surgery, or an jejunal extension placed via a gastrostomy.</p>

	Please refer to table one for the referral Process for each EFT. If initial advice is required regarding the most appropriate route of EFT refer to the NSN (LIFT on ICE).		
	Table 1: Referral Process for Types of Long Term Enteral Feeding Tubes		
Type of Enteral Feeding Tube	Technique (Summary)	Insertion Process	Referral Process
Percutaneous endoscopic gastrostomy (PEG)	Placed in endoscopy using a pull through technique. An internal flange and external fixation plate secures the tube. PEGs can be removed via traction by NSN or endoscopically, depending on type of tube and reason for insertion .	Endoscopy	Refer to Nutrition Specialist Nurse (NSN) via ICE (LIFT EN Referral) who will refer directly to Endoscopy if the procedure is suitable. (Head & Neck Oncology patients under Senior Specialist Dietitian as part of MDT will be assessed by Dietitian)
Radiologically Inserted Gastrostomy (RIG)	A RIG is placed in intervention radiology using x-ray guidance to site the tube and a nasogastric tube is placed prior to the procedure to inflate the stomach. A balloon retained device (BGT) is usually sited.	Interventional Radiology	Refer to NSN via ICE (LIFT EN Referral) If RIG suitable they will request the medical team refer to Radiology on ICE (Oncology patients as above)
Balloon retained Gastrostomy (BGT)	A BGT is secured in the stomach by a balloon that is inflated with a small volume of water (3-5mls). This can be deflated and the tube removed/changed by the NSN when required	As per RIG for initial placement. Bedside replacement after 6 weeks	Refer to NSN via ICE (LIFT EN Referral) For new (RIG) or BGT where the tract is < 6 weeks old refer to Radiology
Low profile gastrostomy devices – balloon retained such as a MIC-KEY	This is normally used as a replacement tube. The feeding tube has a removable extension set and therefore there is minimal protrusion of the tube from the stomach when not in use.	Bedside replacement	Refer to NSN via ICE (LIFT EN Referral) For new or if the tract is < 6 weeks old refer to Radiology
PEG or RIG with jejunal extension (PEG-J or RIG-J)	Placed via established gastrostomy stoma site. The tube is then inserted by the push technique into stomach via the gastrostomy and then fed into jejunum by endoscopy or radiological guidance.	Endoscopy or Radiology	Refer to NSN via ICE (LIFT EN Referral) (Oncology patients as above)
Surgical Jejunostomy (JEJ)	Open direct access between the jejunum and the surface of the abdominal wall. This is most frequently performed when a patient is already undergoing laparotomy. A feeding tube is tunnelled along the jejunal wall and situated in the lumen of the proximal jejunum. The tube is secured with external sutures or occasionally a decron cuff.	Upper Gastrointestinal (UGI) Surgeons	Refer to UGI Surgeons
Radiological Inserted Jejunostomy (RIJ)	Direct jejunostomy is performed under fluoroscopic guidance. The tube is secured with external sutures.	Radiology	Refer to NSN via ICE (LIFT EN Referral) and Radiology via ICE

4

Consent

Where the patient has capacity, informed consent for an enteral feeding tube must be obtained, and the possible risks and benefits explained to the individual to facilitate making of an informed decision.

If there is a question about the patient's ability to give informed consent the managing clinical team are required to complete a mental capacity assessment. If the patient lacks capacity, the team are required to make a formal best interest decision and document this appropriately in the patients' medical notes using the specific paperwork available on Insite. This must be discussed with the patient's family or representative. If the patient has no-one appropriate to consult with (other than paid carers) then an IMCA must be instructed and consulted. Refer to UHL Mental Capacity Act Policy (Trust Ref B23/2007).

Selection and Pre-procedural Care For Adult Patients requiring a Percutaneous Endoscopic Gastrostomy (PEG) or PEG with Jejunal Extension (PEG-J)

1. Introduction

This procedure details the selection process for patients who are being considered for a Percutaneous Endoscopic Gastrostomy (PEG) and PEG with Jejunal Extension (PEG-J) and details the preparation required before the procedure.

2. Patient selection

There are risks of complications associated with insertion and maintenance of a PEG/PEG-J. These should be discussed with the patient enabling them to make an informed choice regarding feeding tube insertion. Consideration should also be given to whether they can be safely discharged home. The psychological impact of enteral feeding must also be considered.

Appropriate patient selection is essential. The decision to use a enteral feeding tube (EFT) requires an in-depth assessment of the potential risks and benefits to the individual. All patients being considered for PEG/PEG-J feeding must be reviewed by a multidisciplinary team and the decision made in conjunction with the patient and family or carers wherever possible.

3. Indications for PEG/PEG-J tube insertion

- a. Functioning gut.
- b. When a naso-gastric tube is likely to aggravate local problems
- c. Permanent / long term impairment of swallowing.
- d. Stroke with associated dysphagia. The patient must be more than six weeks post Stroke and have had an assessment by a Speech and Language Therapist (SLT). The patients primary Consultant and the SLT will confirm / document the patient will not be able to swallow for the foreseeable future.
- e. Multiple Sclerosis (MS), Motor Neurone Disease (MND), and other severe degenerative neurological impairment, with preserved respiratory function.
- f. Prophylactic PEG/PEG-J placement for those undergoing surgery/ chemotherapy/ radiotherapy to head and neck.
- g. Patients needing medium to long term intermittent nasogastric feeding.

The following must be taken in consideration when assessing for a PEG/PEG-J.

- a) Food avoidance alone is not an indication for an EFT.
- b) A patient will continue to be at risk of aspiration even if placed nil by mouth and fed via a gastrostomy (Finucane & Bynum, 1996)
- c) Enteral nutrition will not alter the prognosis from the underlying condition. e.g. advanced dementia
- d) The risk of complications is increased in immunocompromised patients so the timing of PEG/PEG-J insertion around oncological treatments must be carefully considered.

- e) PEG/PEG-J should not be placed solely to facilitate discharge from an acute hospital. If the patient is tolerating NG feeding or it is expected that enteral feeding will not be required long term then discharge with a NG tube is appropriate.

4. Contraindications for PEG tube insertion

4.1 Absolute contra-indications:

- a) Absence of informed consent or Absence of evidence of Mental Capacity Assessment process and consent form 4 in a patient who lacks capacity.
- b) Contraindication for an endoscopy such as inability to pass the scope through the oesophagus or within 6 weeks post myocardial infarction.
- c) Inadequate respiratory reserve to undergo sedation or endoscopy. i.e. oxygen saturation less than 90% on air after exertion. PEG will be delayed in patients with aspiration pneumonia and not inserted until the patient is medically stable.
- d) Impaired clotting - INR greater than 1.4, Platelets less than 50.
- e) Previous total gastrectomy.
- f) Diffuse peritonitis.
- g) Gross and re-current ascites.
- h) Gastric malignancy, gastric outlet obstruction, small bowel obstruction unless to be used as a decompression method for mechanical obstruction, gastroparesis.
- i) Limited expected lifespan.
- j) Patient moribund.
- k) Any other circumstances where the risks of the procedure outweigh the benefits.

4.2 Relative contra-indications

- a) Previous major upper abdominal surgery.
- b) Abdominal wall sepsis.
- c) Previous subtotal gastrectomy and neoplastic infiltrative and ulcerative diseases of the gastric wall.
- d) Large hiatus hernia.
- e) Known pharyngeal pouch.
- f) Gastric/ oesophageal varices or active ulcers.
- g) Oesophageal/ intestinal obstruction.
- h) Ventriculo-peritoneal shunt.
- i) Mild/moderate Ascites.
- j) Gastro-oesophageal reflux and aspiration.
- k) Peritoneal dialysis (may be considered after a period of peritoneal rest).
- l) Portal hypertension.
- m) Hepatomegaly.
- n) Appropriateness in morbidly obese patients should be assessed individually as ;
 - n.1. Weight may affect respiratory function.
 - n.2. Girth may make trans-illumination difficult.

- o) Chemotherapy, immunosuppressed state, timing in line with the chemotherapy +/- radiotherapy cycle.
- p) Coagulopathy. See trust bridging guidelines (Ref B30/2016)
- q) Advanced Dementia - (RCP 2010, ESPEN 2005)

4.3 Complications

Patients must be made aware of the possible complications following PEG/PEG-J tube insertion

- a) Pain
- b) Bleeding
- c) Peritonitis
- d) Infection at tube site
- e) Bowel perforation

5. Pre procedure and Insertion care

Once accepted for PEG/PEG-J insertion the patient's primary medical team is responsible for ensuring the following actions are checked / completed:

- a) Patient is consented as per UHL Policy to Consent to Examination or Treatment (A16/2002) and informed that the procedure will be performed in the Endoscopy Department
- b) Check INR and platelets result (within 48 hours for inpatients and 7 days for daycase prior to insertion). INR should be less than 1.4, Platelets greater than 50.
- c) If the patient is taking anticoagulation seek advice as a bridging plan may be required (see UHL anticoagulation bridging therapy or elective surgery and procedures guideline). If further specific information is required liaise Endoscopy or LIFT via NSN.
- d) Peripheral intravenous cannula is sited and checked for patency prior to the procedure.
- e) Prophylactic antibiotics:
 - a. a stat dose IV antibiotics needs to be prescribed - Co- Amoxiclav 1.2g (Amoxicillin 50mg/Clavulanic acid 125mg) IV as a stat dose 30 minutes prior to PEG/PEG-J insertion. See current UHL antimicrobial website
 - b. For Penicillin allergic patients: a stat dose Teicoplanin 400mg IV and 120mg Gentamicin 30 minutes prior to PEG insertion. See current UHL antimicrobial website.
- f) The Patient is Nil By Mouth / tube for 6 hours pre procedure.
- g) The patient can open their mouth wide enough on command to accommodate a mouth guard and the passing of the endoscope (the NSN will assess this when patient seen is).
- h) Medications can be taken up to 4 hours before endoscopy, using maximum of 30mls water to swallow/flush.
- i) If the patient is diabetic the necessity to stop oral/enteral intake will require close monitoring of blood glucose levels and titration of oral / enteral / IV glucose / carbohydrates. (Guideline for Management of Adults with Diabetes undergoing Surgery and Elective Procedures B3/2013)

6. Type of PEG used.

- 6.1** There are a variety of different PEG tubes in use within the trust and the type / size of tube used will be documented by the Gastroenterologist.
- 6.2** UHL tube preferences at present are Freka PEG/PEG-J or CORFLO which have an external fixation plate and internal flange to keep the tube in place. Other makes of PEG are available that may require different after care guidelines. Please contact the NSN if further advice is needed and refer to the manufacturers guidance if required.

1. Introduction

This procedure details the selection process for patients who are being considered for a Radiologically Inserted Gastrostomy (RIG) and the preparation required before the procedure.

3. Patient selection

- a) Appropriate patient selection is essential. The decision to use a enteral feeding tube (EFT) requires an in-depth assessment of the potential risks and benefits to the individual.
- b) All patients being considered for RIG feeding must be reviewed by a multidisciplinary team and the decision made in conjunction with the patient and family or carers wherever possible.
- c) RIG's are used in those patients who are unable to tolerate an endoscopic procedure. RIG may be the preferred method of EFT in patients who are unable to tolerate an endoscope due to their disease process e.g. head, neck, oesophageal cancers, Motor Neurone Disease (Lawrence et al 2003). RIG is never an emergency procedure, and should not be undertaken until a member of LIFT team (usually the NSN) or Consultant Radiologist performing the procedure has assessed the patient. Morbidity and mortality are similar to PEG tube insertion (Hicks et al 1990).

4. Indications for RIG tube insertion

Indications are the same as a PEG but where an endoscopy procedure is not possible due to the inability to pass the scope (such as Head & Neck Cancer) or with impaired respiratory function (such as MND).

5. Contraindications for RIG tube insertion

5.1 Absolute contraindications:

- a) Previous Gastrectomy.
- a) Absence of informed consent.
- b) Absence of evidence of Mental Capacity Assessment process and consent form 4 in a patient who lacks capacity.
- c) Impaired clotting- INR greater than 1.4, Platelets less than 50.
- d) Gastric malignancy, gastric outlet obstruction, small bowel obstruction unless to be used as a decompression method for mechanical obstruction, gastro-paresis.
- e) Diffuse peritonitis.
- f) Limited expected lifespan.
- g) Gross ascites.
- h) Patient moribund.
- i) Any other circumstances where the risks of the procedure outweigh the benefits of RIG.

5.2 Relative Contraindications

- a) Previous major upper abdominal surgery.
- b) Abdominal wall sepsis.
- c) Gastro-oesophageal reflux and aspiration. RIG will be delayed in patients with aspiration pneumonia and not inserted until the patient is medically stable.
- d) Appropriateness in morbidly obese patients should be assessed individually as weight
 - a. may affect respiratory function
 - b. girth may make trans-illumination difficult
- e) Peritoneal dialysis (may be considered after a period of peritoneal rest).
- f) Coagulopathy.
- g) Gastric varices or active ulcers.
- h) Portal hypertension.
- i) Large hiatus hernia.
- j) Hepatomegaly.
- k) Neoplastic infiltrative and ulcerative diseases of the gastric wall.
- l) Oesophageal / intestinal obstruction.
- m) Known pharyngeal pouch (for NG tube insertion prior to procedure).
- n) Chemotherapy, immunosuppressed state, timing in line with the chemotherapy +/- radiotherapy cycle.
- o) Advanced Dementia - (RCP 2010, ESPEN 2005).
- p) Ventriculo-peritoneal shunt.
- q) Immunocompromised.

5.3 Complications following RIG tube insertion

- a) Pain.
- b) Bleeding.
- c) Peritonitis.
- d) Failure of thread securing pigtail.
- e) Failure of 'balloon' device – leading to gastrostomy displacement.
- f) Infection at tube site.
- g) Bowel perforation.

6. Pre procedure and insertion care

6.1 After assessment by NSN or Senior Specialist Dietitian a referral via ICE should be made to Radiology for RIG insertion. Medical staff should discuss with Consultant interventional Radiologist prior to making ICE referral. .

6.2 Once accepted for RIG, the following are required:

- a) Check INR and platelets result (within 7 days prior to insertion (48hr for inpatients)). INR should be less than 1.4, Platelets greater than 50.
- b) Patient is consented as per UHL Policy to Consent to Examination or Treatment A16/2002
- c) Nasogastric tube placement (either fine bore feeding tube or Ryles type is acceptable)

prior to arrival in radiology if possible.

- d) Peripheral intravenous IV cannula to be sited and checked for patency prior to arrival in endoscopy.
- e) NBM/ tube for 6 hours pre procedure
- f) IV antibiotics are not routinely given unless the patient is considered high risk (immunocompromised). Radiology will confirm if antibiotic prophylaxis is required.
- g) The procedure is undertaken in the Radiology Department. Sedation (Midazolam) and muscle relaxant (Buscopan) may be given. B10/2005
- h) Gastropexy, (securing of the stomach to the anterior abdominal wall with a type of suture) is performed. This will be documented by the radiologist.

7. The procedure

- 7.1 The procedure is undertaken in the Radiology Department. Buscopan, Fentanyl and Midazolam are usually given as sedation.
- 7.2 On checking the consent has been obtained ensure the patient is aware of possible complications with the procedure.

8. Types of tubes

- 8.1 There are a variety of different RIG tubes in use within the trust and the type / size of tube used will be documented by the radiologist.
- 8.2 UHL tube preference at present is a balloon gastrostomy tube.
- 8.3 Problems can develop with the initial tube. Replacement tubes are available and NSN or radiology should be contacted for advice.

Selection and Pre-procedural Care for Adult Patients requiring a Surgical Jejunostomy (JEJ)

1. Introduction

- 1.1 This procedure details the selection process for patients who are being considered for a jejunostomy (JEJ) and the preparation required before the procedure.
- 1.2 There are various reasons for introducing feed straight into the jejunum, thereby bypassing the stomach and/or duodenum. One of the most common is after upper gastrointestinal surgery, when a JEJ may be placed at the time of surgery for early post-operative feeding. JJJ are also placed in patients requiring post pyloric feeding who have problems establishing this route via a gastrostomy (ie PEG with Jejunal extension where multiple reinsertions of the Jejunal extension are required due to displacement.)

2. Scope

This procedure applies to medical, nursing and dietetic staff caring for patients who may require a JEJ tube.

3. Patient selection

Appropriate patient selection is essential. The decision to use an enteral feeding tube (EFT) requires an in-depth assessment of the potential risks and benefits to the individual. All patients in whom JEJ is proposed must be reviewed by a multidisciplinary team and the decision made in conjunction with the patient and family or carers wherever possible.

4. Indications for jejunostomy tube insertion

- 4.1. Gastric surgery.
- 4.2. Gastric outlet obstruction.
- 4.3. Gastric dysmotility.

5. Contraindications for jejunostomy tube insertion

5.1. Absolute contraindications:

- a) Absence of informed consent.
- b) Absence of evidence of Mental Capacity Assessment process and consent form 4 in a patient who lacks capacity.
- c) Impaired clotting- INR greater than 1.4, Platelets less than 50.
- d) Unable to have an anaesthetic.
- e) Any other circumstances where the risks of the procedure outweigh the benefits of JEJ tube.

5.2 Relative contraindications:

- a) Immuno-compromised.
- b) Ascites.

5.3 Complications following JEJ insertion

- a) Pain.
- b) Bleeding.
- c) Peritonitis.
- d) Infection.
- e) Bowel perforation.
- f) Non occlusive small bowel necrosis

6. Pre procedure and insertion care

6.1. Patients should be referred to the Upper Gastrointestinal Surgeons. Once accepted for placement of a JEJ the patients' primary medical team is responsible for ensuring the pre theatre actions are completed.

7. The procedure

The procedure is undertaken in the Operating Department either as a standalone laparoscopy procedure or as part of operations (such as an Oesophagectomy).

8. Type of Jejunostomy tubes used.

- 8.1** There are a variety of different JEJ tubes in use within the trust and the type / size of tube used will be documented by the surgeon.
- 8.2** UHL tube preference at present is a Freka JEJ tube which has an external fixation plate that needs to be sutured in.
- 8.3** Other tubes are available such as those held in with a decron cuff.

Post Procedure Care of a Percutaneous Endoscopic Gastrostomy (PEG) in an Adult Patient

Nursing Care Plan

Introduction

This document details the post procedure care requirements of inpatients who have had a PEG tube inserted. Due to the risk of complications in the immediate 72 hours post gastrostomy insertion the National Patient Safety Agency issued an alert in 2010 to ensure patients are observed and seek urgent medical attention in the case of concern.

For further details see

<https://webarchive.nationalarchives.gov.uk/20171030124654/http://www.nrls.npsa.nhs.uk/resources/type/alerts/?entryid45=73457>

Nursing Care Plan for Adult Patients who have had a PEG inserted	
Day of Procedure:	
1	Nil by mouth for 4 hours
2	Nil by PEG for 4 hours, Unless otherwise stated on the procedure report water can be given via the tube after this time as follows: INPATIENTS: 50ml/hr sterile water via the enteral feeding pump for 6 hours (see enteral feeding regimen) DAYCASE: 60ml sterile or cooled boiled water flush daily until enteral feeding commenced (follow advice given by Dietetic team)
3	Length of tube post-procedure = _____ *(tube measurement marker) *To be completed by Endoscopy team**
4	The fixation plate should be firmly position onto the skin.
5	<ul style="list-style-type: none"> Pain score to be recorded on admission to Endoscopy recovery dept and before discharge from Endoscopy. Reassess on ward.
6	<ul style="list-style-type: none"> TPR and BP must be taken every 15 minutes for 1 hour and then hourly and on discharge from Endoscopy unless indicated clinically. On return to ward continue observations as per UHL Guideline for the Completion and Escalation of National Early Warning Scoring (NEWS2) Monitoring System in Adult Patients (Ref B25/2011).
7	Site must be checked on admission to the endoscopy recovery dept, hourly and before discharge from Endoscopy.
8	Site must be checked within 24 hours on ward or at home.
9	Nurse patient at 30-45° angle (approximately the height of two pillows) to reduce the risk of pulmonary aspiration and assist gastric emptying while the water and/or feed are running.

Nursing Care Plan for Adult Patients who have had a PEG inserted



IF THERE IS PAIN ON FEEDING, PROLONGED OR SEVERE PAIN POST-PROCEDURE, FRESH BLEEDING, OR EXTERNAL LEAKAGE OF GASTRIC CONTENTS, STOP FEED / MEDICATION DELIVERY IMMEDIATELY. OBTAIN SENIOR ADVICE URGENTLY AND CONSIDER CT SCAN, CONTRAST STUDY OR SURGICAL REVIEW.

IF PEG INSERTED AS DAYCASE PATIENT TO BE ADVISED TO CONTACT NHS 111 OR PRESENT AT THE EMERGENCY DEPARTMENT.

Day 2-7 (to be done every day):

10	For inpatients the Nurse should record tube length daily (NB Length of PEG to stay the same until Day 8, if patient complains of pain refer to LIFT team before loosening).
11	Clean site with saline.
12	After 48 hours, can be cleansed with soap and water.
13	Don't immerse the patient in the bath until the wound has fully healed.
14	If showering, cover with a waterproof dressing.
15	A dry dressing should remain for 24 - 48 hours, change daily if bleeding / exudates present.
16	Inspect stoma site daily. Any leakage, swelling, redness, irritation, skin erosion or soreness must be reported to the Doctors. Swab site and send for Microbiology for culture and sensitivity for bacteria and yeast if infection suspected.
17	To maintain patency if PEG tube not in use, flush at least once daily with 30 – 50ml water (sterile if inpatient)

Day 8-14 (to be done every day):

18	Record tube length daily.
19	Rotate and move tube in and out, daily, to prevent the bumper/ internal retention device becoming buried; <ul style="list-style-type: none"> • loosen base plate/ external fixation device • push in and rotate PEG tube 360 degrees • re-fix external fixation device on skin leaving approximately 1 cm of movement room
20	Nurse patient at a 30-45° angle (approximately the height of two pillows) to reduce the risk of pulmonary aspiration and assist gastric emptying while water and/or feed running.

Day 14 onwards

21	As for step 2 & 3 but also clamp fixation plate about 1cm from the patient to allow movement and weight gain. NB - stoma takes 2-3 weeks to heal so loosening the plate before this may cause the tract to leak and the patient may get peritonitis. In renal or immunocompromised patients they have increased risk of impaired healing so the stoma may take 3-4 weeks to heal. Do not loosen the plate until 3 – 4 weeks.
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Post Procedure Care of a PEG-J in an Adult Patient

Nursing Care Plan

Introduction

This document details the post procedure care requirements of inpatients who have had a percutaneous endoscopic gastrostomy with jejunal extension (PEG-J) inserted. Due to the risk of complications in the immediate 72 hours post gastrostomy insertion the National Patient Safety Agency issued an alert in 2010 to ensure patients are observed and seek urgent medical attention in the case of concern (see

<https://webarchive.nationalarchives.gov.uk/20171030124654/http://www.nrls.npsa.nhs.uk/resources/type/alerts/?entryid45=73457> for further details)

3. Nursing Care Plan for General Patients who have had a PEG(J) inserted

Day of Procedure:

1	Nil by mouth for 4 hours.
2	Nil by PEG-J for 4 hours. Unless otherwise stated on the procedure report water can be given via the tube after this time as follows: INPATIENTS: 50ml/hr sterile water via the enteral feeding pump for 6 hours (see enteral feeding regimen) DAYCASE: 60ml sterile or cooled boiled water flush daily until enteral feeding commenced (follow advice given by Dietetic team)
3	Length of tube post-procedure = _____ *(tube measurement marker) *To be completed by Endoscopy team**
4	The fixation plate should be firmly position onto the skin.
5	Pain score to be recorded on admission Endoscopy recovery dept and before discharge from Endoscopy Reassess on ward as required.
6	TPR and BP must be taken every 15 minutes for 1 hour and then hourly and on discharge from Endoscopy unless indicated clinically. On return to ward continue observations as per UHL Guideline for the Completion and Escalation of National Early Warning Scoring (NEWS2) Monitoring System in Adult Patients (Ref B25/2011).
7	Site must be checked on admission to the endoscopy recovery dept, hourly and before discharge from Endoscopy.
8	Site must be checked within 24 hours on ward or at home.
9	Nurse patient at a 30-45° angle (approximately the height of two pillows) to reduce the risk of pulmonary aspiration and assist gastric emptying while the water and/or feed are running.

3. Nursing Care Plan for General Patients who have had a PEG(J) inserted



IF THERE IS PAIN ON FEEDING, PROLONGED OR SEVERE PAIN POST-PROCEDURE, FRESH BLEEDING, OR EXTERNAL LEAKAGE OF GASTRIC CONTENTS, STOP FEED / MEDICATION DELIVERY IMMEDIATELY. OBTAIN SENIOR ADVICE URGENTLY AND CONSIDER CT SCAN, CONTRAST STUDY OR SURGICAL REVIEW.

Day 2-7 (to be done every day):	
10	Record tube length daily (NB Length of PEG to stay the same, if patient complains of pain refer to Nutrition Nurse before loosening).
11	Clean site with saline.
12	After 48 hours, site can be cleansed with soap and water.
13	Don't immerse the patient in the bath until the wound has fully healed
14	If showering, cover with a waterproof dressing
15	Dry dressing for 24 - 48 hours, change daily if bleeding / exudates present
16	Inspect stoma site daily. Any leakage, swelling, redness, irritation, skin erosion or soreness must be reported to the Doctors. Swab site and send for Microbiology for culture and sensitivity for bacteria and yeast if infection suspected
17	To remain patency flush the gastric port at least once daily with 30ml water (sterile if inpatient). If the jejunal extension is not in use for feeding also flush once daily.
Day 8-14 (to be done every day):	
18	Record tube length daily
19	Loosen the base plate/ external fixation device and re-fix external fixation device on skin leaving approximately 1 cm of movement room to prevent 'buried bumper' Please note: For PEG-J tubes the PEG IS NOT TO BE ROTATED, as this will move the jejunostomy extension part and risk displacement. To prevent buried bumper push PEG-J in and out approx. 2cm.
20	Nurse patient at a 30-45° angle (approximately the height of two pillows) to reduce the risk of pulmonary aspiration and assist gastric emptying while water and/or feed running.
Day 14 -21:	
21	Clamp fixation plate about 1cm from the patient to allow movement and weight gain NB - stoma takes 2-3 weeks to heal so if the base plate is loosened before this the tract may leak and the patient may get peritonitis. Renal / Immunocompromised patients have impaired healing so the stoma may take 3-4 weeks to heal so loosening the plate before this may cause the tract to leak and the patient may get peritonitis.

Post-Procedural Care of a Radiological Inserted Gastrostomy (RIG) in an Adult Patient

Nursing Care Plan

Introduction

This document details the post procedure care requirements of inpatients who have had a RIG tube inserted. Due to the risk of complications in the immediate 72 hours post gastrostomy insertion the National Patient Safety Agency issued an alert in 2010 to ensure patients are observed and seek urgent medical attention in the case of concern (see

<https://webarchive.nationalarchives.gov.uk/20171030124654/http://www.nrls.npsa.nhs.uk/resources/type/alerts/?entryid45=73457> for further details)

3. Nursing Care Plan for General Patients who have had a RIG tube inserted

Day of Procedure:

1	Nil by mouth Nil by NG tube for 6 hours.
2	Nil by RIG for 6 hours. Unless otherwise stated on the procedure report water can be given via the tube after this time as follows: INPATIENTS: 50ml/hr sterile water via the enteral feeding pump for 12 hours (see enteral feeding regimen) DAYCASE: 60ml sterile or cooled boiled water flush at least daily until enteral feeding commenced (follow advice given by Imaging)
3	Length of tube post-procedure = _____*(tube measurement marker) *To be completed by Interventional radiology team**
4	Firmly seat plate pushing on to skin (Balloon will hold tube from inside).
5	<ul style="list-style-type: none"> Pain score to be recorded on admission to Radiology recovery dept / ward and before discharge from Radiology. Reassess on ward.
6	<ul style="list-style-type: none"> TPR and BP must be taken every 15 minutes for 1 hour and then hourly and on discharge from Radiology unless indicated clinically. On return to ward continue observations as per UHL Guideline for the Completion and Escalation of National Early Warning Scoring (NEWS2) Monitoring System in Adult Patients (Ref B25/2011).
7	Site must be checked on admission to the Radiology recovery dept and before discharge from Radiology.
8	Site must be checked within 24 hours on ward or at home.
9	Nurse patient at a 30-45° angle (approximately the height of two pillows) to reduce the risk of pulmonary aspiration and assist gastric emptying while the water and/or feed are running.



IF THERE IS PAIN ON FEEDING, PROLONGED OR SEVERE PAIN POST-PROCEDURE, FRESH BLEEDING, OR EXTERNAL LEAKAGE OF GASTRIC CONTENTS, STOP FEED / MEDICATION DELIVERY IMMEDIATELY. OBTAIN SENIOR ADVICE URGENTLY AND CONSIDER CT SCAN, CONTRAST STUDY OR SURGICAL REVIEW.

Day 2-7 (to be done every day):	
10	Record tube length daily (NB Length of RIG to stay the same until Day 14, if patient complains of pain refer to NNS before loosening).
11	Clean site with saline.
12	After 48 hours, use soap and water.
13	Don't immerse the patient in the bath until the wound has fully healed.
14	If showering, cover with a waterproof dressing.
15	Dry dressing for 24 - 48 hours, change daily only if bleeding / exudates present.
16	Inspect stoma site daily. Any leakage, swelling, redness, irritation, skin erosion or soreness must be reported to the Doctors. Swab site and send for Microbiology for culture and sensitivity for bacteria and yeast if infection suspected.
Day 7 (to be done every 7 days)	
17	Change water in balloon in line with Appendix 8a.
18	To maintain patency of the RIG if not in regular use flush at least once daily with 30 – 50ml water (sterile if inpatient)
Day 8-14 (to be done every day):	
18	Record tube length daily.
19	Nurse patient at a 30-degree angle to reduce the risk of pulmonary aspiration and assist gastric emptying while water and/or feed running.
Day 14 Abdominal Traction Suture Removal	
20	Vygon SAF-T-Pexy – dissolvable – do not require removal, remove at day 14 if still in situ Medicina kit with BALT Harpoons – non dissolvable do need removal at day 14 Clean and dry wound and underside of plate. If unsure please contact interventional radiology on LRI x 5278 / LGH x 8222
Day 14 -21:	
21	Fixation plate can be moved away from skin to allow movement and weight gain.

Introduction

A balloon gastrostomy (BGT) is a tube that is placed directly through the abdomen into the stomach and held in place by an inflatable balloon containing water. It is usually made of silicone or polyurethane and range in size from 10-24 FG. Balloon volumes differ according to tube size and manufacturers recommendations.

Replacement

The life of a BGT varies according to manufacturers and can be between three to nine months however circumstances such as gastric pH and fungal infection may affect the longevity of the balloon.

BGT can be replaced at the bedside once the track is mature which is normally considered to be after 6 weeks. Prior to this patients should be referred to Imaging (radiology). Community replacement is possible after 3 months.

Scope

Within UHL only Qualified medical Staff and Nutrition Specialist Nurses NSN who have been trained and assessed as competent in Balloon Gastrostomy change should attempt to exchange a BGT.

Procedure for Balloon Gastrostomy Replacement					
1	<p>Referral</p> <p>Confirm date of initial placement where the tract was formed. The time interval will indicate which service to refer to:</p> <table border="1" style="width: 100%;"> <tr> <td style="width: 35%;">Within 6 weeks</td> <td>Refer to Radiology for replacement Refer to NSN for post placement review</td> </tr> <tr> <td>After 6 weeks</td> <td>Refer to NSN (NB Community replacement can be attempted after 3 months)</td> </tr> </table>	Within 6 weeks	Refer to Radiology for replacement Refer to NSN for post placement review	After 6 weeks	Refer to NSN (NB Community replacement can be attempted after 3 months)
Within 6 weeks	Refer to Radiology for replacement Refer to NSN for post placement review				
After 6 weeks	Refer to NSN (NB Community replacement can be attempted after 3 months)				
2	<p>Procedure</p> <p>Explain the procedure to the patient and confirm that they have capacity to consent. Their verbal agreement should be obtained. Where patients demonstrate a lack of capacity a Best Interest decision should be taken by the practitioner. Unless in an emergency this may necessitate further discussion with the wider multi-disciplinary team (MDT). In the event of an emergency situation i.e. missed critical medication administration; the procedure can be done in the patients Best Interests.</p>				
3	<p>Before undertaking the procedure confirm past medical history and previous procedures which may outline any considerations regarding the replacement procedure for that patient, i.e. a deviated tract, pH range of gastric aspirate, normal lifespan of gastrostomy tube.</p>				
4	<p>Gather all equipment prior to arriving to the patient's bedside. Check equipment is in date and undamaged.</p>				

	<p><u>Equipment required:</u></p> <ul style="list-style-type: none"> • Selection of appropriate manufacturers balloon gastrostomy tubes, one size smaller and one size larger than the tube previously used in case of stoma size change. • Basic dressing pack. • Non-sterile gloves and apron. • Lubricant. • 1 x 10mL sterile luer slip syringe to deflate balloon. • 5 mL Sterile water to inflate gastrostomy balloon. • pH indicator strips 0-6. • 2 x 50ml enteral syringe to check gastric placement. • Sterile water for flushing.
5	Explain the procedure to the patient and where they have capacity to consent, their agreement should be obtained.
6	<p>Ensure the patient has been nil by gastrostomy/nil by mouth, (as follows):</p> <ul style="list-style-type: none"> • Clear fluids: 2 hours • Oral food or enteral nutrition: 4 hours • Medication: Essential medication should be given and not omitted without the support of the prescribing clinician. It is advisable to omit medication that may affect the pH value of gastric aspirate e.g. proton pump inhibitors (PPIs) before undertaking a balloon gastrostomy tube change.
7	Ask the patient to lie in the semi-prone position.
8	Prepare equipment at the patient's bedside, ensuring universal precautions are used at all times. Balloon gastrostomy tube replacement is a procedure which should be conducted using standard aseptic non touch technique (ANTT).
9	Open dressing pack on a clean surface and empty all equipment on to it.
10	Prefill one 10ml luer slip syringe with the required amount of sterile water – this will differ by make of tube ready for balloon inflation.
11	<p>Check new gastrostomy tube is in working order before insertion:</p> <ul style="list-style-type: none"> • Check mobility of the fixation device by moving up and down the tube • Close the feeding end of the tube • Inflate and deflate balloon with sterile water • Lubricate the proximal end of tube using water based lubricant.
12	<p>Turning to the patient:</p> <ul style="list-style-type: none"> • Clean gastrostomy site with Chlorhexadine 3mls scrub. • Move the external fixation device of the existing tube away from the abdomen. • Lubricate the stoma site. • Mobilise the existing gastrostomy tube in and out of the tract. • Note measurement marker (if still visible) closest to the abdomen.
13	pH check before removal - Using the appropriate size ENfit syringe, aspirate a small amount of gastric secretion and test using CE marked pH indicator strips recommended by UHL. pH should be below 5.5. pH above this may infer the tube has migrated to small bowel and an abdominal X ray may be wise.

14	<p>Removal of the existing gastrostomy;</p> <ul style="list-style-type: none"> • Use the empty syringe to deflate the balloon fully in the existing gastrostomy. • Once all the fluid has been removed from the balloon disconnect the syringe from the gastrostomy and place it in your dirty area i.e. not on your clean dressing pack • Using one hand apply gentle counter traction to the skin around the tube entry site whilst gently withdrawing the existing gastrostomy tube with the other hand. <p>CAUTION: The National Patient Safety Agency (2010) reports trauma caused during balloon gastrostomy removal. Although there is a small risk of complications, normally associated when a balloon gastrostomy tube is removed with the balloon or flange inflated, it is important to be aware of the need to robustly check the position of a new tube as outlined in point 19.</p>
15	<p>Insertion of new gastrostomy tube</p> <ul style="list-style-type: none"> • Gently insert chosen and checked gastrostomy tube into stoma following the stoma tract. <i>Do not use force.</i> • If the passage of the gastrostomy is difficult because of deviated tract gently rotate the tube to encourage it to follow the established path. <i>Do not use force.</i> • Once inserted past the cm marker recorded on the previous tube, inflate the balloon (as per manufacturers instructions), using the pre-filled slip syringe in the inflation valve. • Monitor patient comfort during insertion. There have been reports of balloon inflation within the tract. <p>CAUTION: Monitor for potential problems including leakage of gastric contents, bleeding and pain.</p>
16	<p>In the event you are unable to place the new balloon gastrostomy tube place an appropriate size device into the tract (such as a corstop or 8 FG NG tube) to keep tract patent and contact on call interventional radiologist promptly.</p>
17	<p>Check pH of aspirate through new gastrostomy tube:</p> <ul style="list-style-type: none"> • Using the appropriate size enteral syringe aspirate a small amount of gastric secretion and test using CE marked pH indicator strips. • Measure against pH obtained through previous gastrostomy tube. • If aspirate is 5.0 continue, if > 5.5 then 2 people to check reading are required. Try again after 30 minutes this will still need 2 people to check reading. • If still high check if patient has had any medication that would raise the pH. • If still high refer to Radiology for water contrast study (TUBE-O-GRAM).
18	<p>If unable to collect aspirate:</p> <ul style="list-style-type: none"> • Move patient on to their left hand side if possible, air flush the tube with 5-10 mls of air, aspirate again.
19	<p>Clean site with gauze and saline, or soap and water as per local policy and environment. Remove any excess lubrication and discharged bodily fluids.</p>
20	<p>Secure new gastrostomy tube by sliding the external fixator down the length of the tube so it sits to 2- 3mm from the abdomen.</p>
21	<p>Ask the patient to sit upright and adjust fixation plate if necessary to ensure comfort.</p>
22	<p>If a clamp comes as part of the gastrostomy kit attach it onto the tube.</p>
23	<p>Open the feeding end of the gastrostomy tube and flush tube with water using a 60ml enteral syringe, as per local guidelines. Close feeding end following use.</p>

24	Dispose of all clinical waste, as per local policy.
25	Document procedure details; <ul style="list-style-type: none"> • Make and size of gastrostomy tube used (use label if present in pack) • Size of balloon inflated, • Tube measurement at the abdomen, • Tract deviation and patient toleration, • pH of aspirate obtained, • Any problems, encountered during tube change, • Who is responsible for future balloon checks .
26	Provide written documentation to the patient / carers outlining possible complications and clearly indicate what to do should these cited complications arise.
27	Inform community services where appropriate of the date and type, size of BGT placed.

Care Plan for Water Change in Balloon Gastrostomy Tube

Care plan for Water Change in Balloon Gastrostomy Tubes

Patient Details:		Ward	Site	Date of Procedure
Apply addressograph				
Type of Procedure (please circle)	Radiological / Surgical / Endoscopic / Other please state;			
Type of gastrostomy device (please circle) :	Balloon / Balloon with Jejunal extension / Low Profile ie MIC-KEY			
Make:				
Size:Fr	Measure at skin:cm	
Checking the Balloon				
<p>a) The volume of water in the balloon may seep out via osmosis over a 7 day period. Less water may come out than went in originally. This is to be expected.</p> <p>b) Due to this, weekly checks of the balloon volume should be made.</p> <p>c) Tubes typically last 3-6 months, however they may remain in-situ as long as they remain functional and free from damage.</p> <p>d) Equipment required: Two x 5ml Syringes, 5 ml sterile water ampoule, 1x dressing pack, Gloves, Apron</p>				
Step	Action			
1.	Wash hands and dry thoroughly.			
2.	Wear a disposable apron. Put on non-sterile gloves. Open a dressing pack and place equipment onto the sterile field.			
3.	Clean hands. Using a suitable sized luer slip/ lock syringe draw up volume of sterile water as stated on inflation valve.			
4.	Clean around the stoma with fresh warm tap water and dry, gently push tube into stomach to 6cm marking or as directed by Nutrition Nurse Specialist.			
3.	Attach a suitable sized luer lock syringe to the inflation valve securely – Deflate contents of balloon, record and discard.			
4.	Ensuring the tube remains in position fill the balloon with the correct volume of sterile water using the previously filled 5ml syringe. Once the balloon is re inflated pull back till you feel resistance and slide back the external fixator until it fits snugly to the skin.			
5.	Dispose of equipment safely.			

	Date	Tube size In-situ	Sterile water volume removed	Sterile water volume reinserted	Reason for change / Any Difficulties encountered	Signed Designation
1						
2						
3						
4						
5						
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Post-procedural care of the Adult patient following Surgical Jejunostomy (JEJ) insertion - Nursing Care Plan

Introduction


This procedure details the selection process for patients who are being considered for a surgical jejunostomy (JEJ) and the preparation required before the procedure.

3. Nursing Care Plan for General Patients who have had a jejunostomy tube inserted	
Day of Procedure:	
1	Length of tube post-procedure = _____ *(tube measurement marker)**to be documented by theatre staff**
2	Pain score to be recorded and on return to ward continue observations as per UHL policy.
3	On return to ward continue observations as per UHL EWS.
4	Site must be checked on return to the ward then hourly.
5	DO NOT ROTATE THE TUBE.
6	Refer to JEJ enteral feeding regimen regarding commencing sterile water (unless the medical team have indicated that JEJ use should be delayed.)
Day 1 onwards	
7	Record JEJ tube length daily (NB length of jejunostomy tube should <i>not</i> alter).
8	Observe for abdominal distension or pain.
9	Clean site with saline and apply a gauze based dressing should be applied to insertion site and changed daily.
10	Don't immerse the patient in the bath until the wound has fully healed.
11	If showering, cover with a waterproof dressing.
12	Inspect stoma site daily. Any leakage, swelling, redness, irritation, skin erosion or soreness must be reported to the Doctors. Swab site and send for Microbiology for culture and sensitivity for bacteria and yeast if infection suspected.
13	DO NOT ROTATE THE TUBE
14	DO NOT remove sutures from the external fixation plate unless advised to do this by the medical team.
15	Flush the tube 4-6 hourly, after each pack of feed or when feed time is complete with 30mls sterile water
16	To maintain patency ensure JEJ not in regular use are flushed at least daily with 30-50ml water (sterile if inpatient).

Introduction

This document details the management of common complications post gastrostomy or jejunostomy tube insertion

IMMEDIATE PROCEDURAL RELATED COMPLICATIONS

	IF THERE IS PAIN ON FEEDING, PROLONGED OR SEVERE PAIN POST-PROCEDURE, FRESH BLEEDING, OR EXTERNAL LEAKAGE STOP FEED / MEDICATION DELIVERY IMMEDIATELY. OBTAIN SENIOR MEDICAL ADVICE URGENTLY AND CONSIDER CT SCAN, CONTRAST STUDY OR SURGICAL REVIEW.
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COMPLICATIONS RELATED TO THE ENTERAL FEEDING TUBE

Management of Common Complications Post Gastrostomy or Jejunostomy Tube Insertion		
Complication	Possible causes	Action
<p>Regurgitation</p> <p>Pulmonary aspiration</p>	<ul style="list-style-type: none"> • Non enteral feeding tube related. • Patient lying flat. • Delayed gastric emptying. 	<ul style="list-style-type: none"> • Check tube position. • Elevate head of bed by 30-45° degree angle (approximately the height of two pillows). • Stop feed for 30mins before chest physiotherapy. • Administer prokinetic drugs as prescribed (e.g. Metoclopramide). • Check for constipation. • Consider lowering feed rate.
<p>Pain and discomfort around peristomal site</p>	<ul style="list-style-type: none"> • External fixation device too tight. • External fixation device too loose leading to excessive movement. • Infection at site; abscess. 	<ul style="list-style-type: none"> • Check that external fixation device is not over tightened. (this may be due to post-procedural swelling) or too loose. • Obtain swab for MC&S if red/oozing. • Administer analgesics, as prescribed. • Monitor temperature six hourly. • If the tube is a gastrostomy and has been in situ for at least 2 weeks, check the tube moves freely in and out of the tract.
<p>Leakage from peristomal site</p>	<ul style="list-style-type: none"> • Tube displaced. • Stomal site enlarged. • Delayed gastric emptying. 	<ul style="list-style-type: none"> • Check the tube has not become displaced in the fistula tract (this can be done by checking it is moving freely in/out and around in the tract). • Protect skin from excoriation by using barrier cream. • Dress regularly, if required using non-adherent dressing. • Check external fixation device is not too loose. • For balloon retention tubes, check tube is inflated to the correct volume. • Consider tissue viability nurse referral if skin around the site is not improving



IF THERE IS PAIN ON FEEDING, PROLONGED OR SEVERE PAIN POST-PROCEDURE, FRESH BLEEDING, OR EXTERNAL LEAKAGE STOP FEED / MEDICATION DELIVERY IMMEDIATELY. OBTAIN SENIOR MEDICAL ADVICE URGENTLY AND CONSIDER CT SCAN, CONTRAST STUDY OR SURGICAL REVIEW.

COMPLICATIONS RELATED TO THE ENTERAL FEEDING TUBE

Management of Common Complications Post Gastrostomy or Jejunostomy Tube Insertion		
Complication	Possible causes	Action
		Note: some leakage is to be expected and is not clinically significant.
Over-granulation	<ul style="list-style-type: none">External fixation device not correctly positionedPoor fitting tube	<ul style="list-style-type: none">Ensure external fixation device is in the correct position – 0.5-1cm away for the skin <p><i>1st Line</i></p> <ul style="list-style-type: none">Inadine <p><i>2nd Line</i></p> <ul style="list-style-type: none">Ask medical team to refer to Nutrition Nurse Specialist (ICE referral to LIFT)
Detachment of part of the enteral feeding tube such as the end of the tube	<ul style="list-style-type: none">Poor technique when applying syringes, inaccurate syringe use, patient /carer 'pulling' at connections	<ul style="list-style-type: none">Ask medical team to refer to Nutrition Nurse Specialist (ICE referral to LIFT)
Displaced enteral feeding tube	<ul style="list-style-type: none">Patient/carer "pulling at tube"Securing part of device such as the water balloon failure	<ul style="list-style-type: none">Confirm the type of enteral feeding tube and date of initial insertion.Refer following guidance in Appendix 11

Introduction




UHL has a number of enteral feeding products in use. This compendium is designed as a quick reference guide for those dealing with EFT.

If an EFT is displaced it must be replaced as soon as possible to prevent the tract from closing (so that another invasive procedure is not required to replace the EFT).

Emergency placement of a tube into the enteral feeding tube tract to kept patient (this should only be attempted for gastrostomy tubes, not Jejunostomy Tubes).

1	Insert a similar size device into the tract. Use a nasogastric tube, catheter or an enteral device (Corstop) If using a NG tube label "MUST NOT BE USED FOR ADMINISTRATION"
2	Do not inflate the balloon if presence. If the tube is in the stomach, inflating the balloon on a tube without an external fixation device could result in the balloon moving into the GI tract by peristalsis, causing a gastric outlet obstruction.
3	Do not use the tube – it is only placed in the tract to keep it patent until an appropriate enteral feeding tube can be placed. If the feeding tube is less than 3 months old, the track may not be fully formed. There is a risk of pushing the stomach away from the tract, and accidentally placing the tube in the peritoneum.
4	Referral for replacement of an enteral feeding tube as below
5	Take steps to determine why the tube was accidentally removed and take preventative measures.

Enteral feeding Tubes placed in Endoscopy


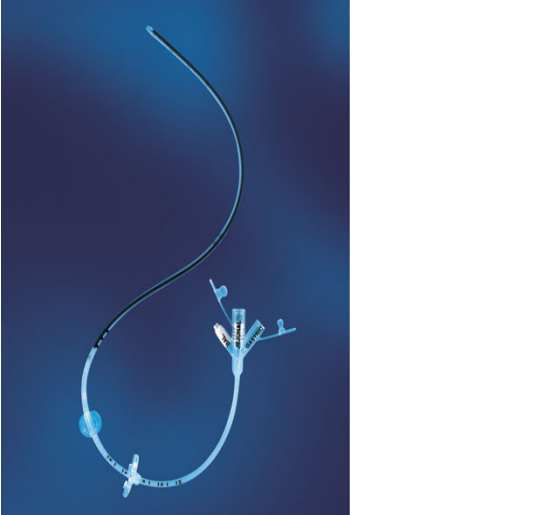
Type	Description	UHL products
<p>Percutaneous Endoscopic Gastrostomy (PEG)</p> <p>Is a method of placing a tube into the stomach percutaneously, aided by endoscopy.</p>	<p>Fresenius Freka 15 FG tube (blue connector) or 9 FG (yellow connector)</p> <p>Has an internal fixation plate and triangle external plate.</p>	
	<p>Merck Corflo (Traction removable) 16 FG tube</p>	
<p>Percutaneous endoscopic gastrostomy with jejunal extension (two pieces) (PEG-J)</p> <p>PEG tubes may also be extended into the small intestine by passing a jejunal extension tube through the PEG tube and into the jejunum,</p>	<p>Fresenius Freka 15 FG tube with Size 9 FG intestinal tube</p>	

In the event of the tube coming out please place a device (NG tube or Corstop into the tract to prevent tract closure and secure but do not administer anything down it.

A PEG require replacement in Endoscopy

If the PEG end or Jejunal extension only is displaced refer to Nutrition Specialist Nurse (LIFT referral on ICE) in hours (Monday – Friday 8.00 – 4.00pm). Out of hours contact the on call Gastroenterology) NB there is no routine out of hours replacement service.

Enteral Feeding Tubes Initially Placed in Radiology

<p>Radiologically Inserted Gastrostomy (RIG)</p> <p>Is a method of placing a tube into the stomach radiologically using x-ray scanning equipment.</p>	<p>Corflo Balloon Gastrostomy Tube 12ch or 14ch</p>	
<p>Radiologically Inserted Gastrostomy with jejunal extension (all one piece) (RIG-J)</p> <p>Is a method of placing a tube into the stomach radiologically using x-ray scanning equipment. This product has an extra long tail which sits in the jejunum.</p>	<p>AMT Capsule Monarch gastrostomy Tube</p>	

In the event of the tube coming out please place a device (catheter or corstop) into the tract to prevent tract closure, secure but do not use.

Confirm date of initial RIG insertion (new tract formed).

If less than 6 weeks old refer to Radiology.

If tract more than 6 weeks old refer to Nutrition Specialist Nurse (LIFT on ICE) in hours (Monday – Friday 8.00 – 4.00pm) Out of hours contact Interventional Radiology or Gastroenterology NB there is no routine on call replacement service

Surgically Placed Jejunostomy

Surgical Jejunostomy (JEJ)

A tube surgically inserted through the abdomen and into the jejunum

Fresenius Freka Enteral / intestinal tube

NB looks like a PEG tube but these are normally stitched in (as there is no internal flange). They are also a small width EFT



In the event of the tube coming out please refer to Upper GI surgeons or Radiology.

Introduction

This document details the procedure on removing a percutaneous enteral feeding tube that is no longer required. This should be determined after a MDT assessment. If the reason is due to the patient's ability to meet nutritional and fluid requirements orally, a trial period is recommended where the EFT remains insitu and is flushed to keep patent before removal.

Who can undertake this procedure:

Medical staff and Clinical Nurse Specialists who are familiar with the EFT type and management required.

Procedure

Removal of Percutaneous Endoscopic Gastrostomy Freka PEG

- 1 The Freka PEG needs to be removed in the endoscopy department.

Removal should not be before 28 days post initial insertion as a tract has not had time to develop and peritonitis may occur.

The site will require dressing and there should be careful observation until it is healed, as there is potential for a fistula to occur.



Removal of Percutaneous Endoscopic Gastrostomy Corflo PEG


- 2 The CORFLO PEG tubes are traction removable but all ends, clips and elbows should be removed to leave only the tube. The tube should be cut to release the small amount of air around the bumper. Local anaesthetic should be offered. The tube can then be removed by applying gentle pressure around the site of the PEG and pulling the tube out of the stoma. The patient should lie down for at least 30 minutes post removal.
The site will require dressing and there should be careful observation until it is healed, as there is potential for a fistula to occur.

The Corflo PEG tube should only be removed by qualified medical staff or Nutrition Specialist Nurses who have been trained and deemed competent in removing these devices.
Removal should not be before 28 days post initial insertion as a tract has not had time to



	<p>develop and peritonitis may occur.</p> <p>Refer to NSN (LIFT via ICE) for removal.</p>	
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Removal of Balloon Gastrostomy Tubes

<p>3</p>	<p>Balloon retained tubes (BGT) can be removed by deflating the balloon and gently pulling the tube.</p> <p>Removal should not be before 42 days (six weeks) post initial insertion as a tract has not had time to develop and peritonitis may occur.</p> <p>To remove apply a gentle traction to the tube.</p> <p>A dry dressing should be applied to the insertion site followed by careful observation until it is healed, as there is potential for a fistula to occur.</p>	
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Removal of Surgical Jejunostomy Tubes – Non Tunnelled

<p>4</p>	<p>Surgical Jejunostomy tubes are usually held in place with sutures.</p> <p>These should only be removed with the authorisation of the primary surgical team caring for the patient and not before 42 days (six weeks) following initial insertion.</p> <p>These are removed and then gentle traction applied to the tube.</p> <p>Check the end of the Surgical Jejunostomy looks intact – if in doubt discuss with the patients surgical team.</p> <p>Apply a dry dressing is applied to the insertion site.</p>
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Removal of Surgical Jejunostomy Tubes – Tunnelled

<p>5</p>	<p>Tunnelled Jejunostomy tubes will require referral to an Upper Gastrointestinal Surgeon from his/her Primary Consultant as the removal requires surgical intervention.</p>
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If it is not clear how the tube is held in place or which type it is ask medical / Surgical team to refer to Nutrition Nurse Specialist (LIFT referral via ICE) for clarification and advice.

1. Introduction

Currently the majority of Freka PEG's are removed endoscopically. Occasionally due to circumstances or patient's health it is deemed not in the patients best interests to have an endoscopic change of PEG tube and in this situation the alternative 'cut and push' technique can be considered. All 'cut and push' exchanges should be discussed with the Nutrition Gastroenterology Consultants to manage any rare complications.

The technique involves putting traction on the Freka PEG and cutting the PEG tube close to the abdominal wall. A Size 14fr Foley catheter is then advanced through the hole pushing the internal bumper into the stomach. A 14fr Balloon Gastrostomy tube can be inserted into the tract if enteral feeding is to continue or the stoma can be left to heal with a dressing applied.

The internal bumper of the PEG will pass through the gut in the patient's faeces being evacuated as the patient has their bowels open. Utilising this method of PEG removal will avoid the need for a repeat endoscopy and can be performed outside of the endoscopy department by the Nutrition Specialist Nurse.

An assessment tool which is included ensures that this method of PEG removal is used in groups of patients who are at low risk of complications occurring.

2. Who can undertake this procedure?

This guideline is for Nutrition Specialist Nurses who are deemed competent to undertake the said procedure and have the support of the Nutrition consultants.

3. Criteria for selection of patients for cut and push removal of PEG tubes

- The patient has a flange retained PEG, Freka15fg or smaller that is no longer required or is damaged and no longer usable.
- The PEG tube pushes in and rotates freely

Contraindications

- Patients under 18 years of age
- History of previous gastric surgery
- History of chronic constipation/gut motility disorders
- History of previous intestinal obstruction/pseudo-obstruction
- Cystic fibrosis (individual assessment required)
- Inflammatory bowel disease

- History of radiation therapy to abdominal/pelvic area
- Hernias
- Presence of a stoma
- Pyloric stenosis
- History of stricture/adhesions
- Anatomical disorders of the stomach

4. Procedure for removing PEG using the ‘cut and push’ method

Pre removal of PEG

- Ensure that the patient fulfils the criteria above
- Explain the procedure to the patient and give information leaflet
- Ensure that the patient is nil by mouth 6 hours prior to the procedure
- Establish that the patient isn’t allergic to any dressings that you will be using

Equipment required:

- Apron
- Dressing pack including sterile gloves
- Sterile / disinfected scissors
- Normal saline 0.9%
- Mepore tape

Procedure

Step	Action	Rationale
1.	Wash hands and dry thoroughly	To reduce risk of infection
2.	Wear a disposable apron. Open a dressing pack and place equipment onto the sterile field.	To protect clothing and to maintain clean working environment
3.	Clean the patients skin around the P.E.G. site to 10 cm radius using a 2% Chlorhexidine wipe.	To reduce risk of infection and comply with EPIC 2 guidelines
4.	Insert and rotate the PEG to ensure that it is free of the internal mucosa.	To ensure the internal bumper is not overgrown by gastric mucosa
3.	Apply traction to the PEG and cut as close to the stoma as	To reduce the length of PEG remnant that must travel via the gut

	possible.	
4.	Push in the remnant with a Foley catheter or Balloon gastrostomy tube if feeding is to continue.	To push the PEG remnant into the stomach
5.	Dispose of equipment safely	To maintain health and safety standards
6.	Apply dry gauze dressing to occlude the PEG site.	To stop gastric contents from leaking
7.	Advise the patient/carer to remove the dressing after 24 hours.	To ensure bathing is unrestricted
8.	Ensure patient has after care information and send letter to G.P. and referring consultant	To ensure MDT are aware of the procedure and possible complications
9	Advise if the patient develops abdominal pain or swelling prior to passing the bumper to contact LIFT or attend ED if problems occur outside working hours.	To ensure patient is aware of what to do if complications occur