University Hospitals of Leicester NHS
NHS Trust

Administration via an Enteral Feeding Tube in Adults:

Policy and Procedures

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CONTENTS

REVIEW DATES AND DETAILS OF CHANGES MADE DURING THE REVIEW

V2: Added sections on storage instructions and details of equipment cleaning

KEY WORDS

Enteral feed, ETF, feeding regimen, feed, bolus feed, enteral pump

1. INTRODUCTION AND OVERVIEW

1.1. This document sets out the University Hospitals of Leicester (UHL) NHS TrustPolicy and Procedures for Enteral Feeding Tube (EFT) Administration in adultpatients. This includes the administration of nutrition and fluid via all types of EFT: Naso-gastric, Naso-jejunal, Gastrostomy or Jejunostomy, and encompasses both pump controlled feeding and bolus administration of nutrition and fluid.

1.2. This policy also covers complications related to EFT administration and clarifies role and responsibilities around management.

1.3. The aim of this policy and associated procedures is to standardise the care of EFT administration in line with national guidance and best practice to minimise risk and complications.

2. POLICY SCOPE

2.1. This Policy applies to all registered and non-registered healthcare staff who care for an adult patient with an 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. This Policy applies to patients and informal carers i.e. those individuals who have received appropriate training by a competent qualified practitioner, to care for an EFT.

2.4. 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 receiving Trust.

2.5. 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.

2.6. This policy does not cover medication administered via EFT. Please consult the ward pharmacist for guidance and advice about suitable medication preparations and types that can be administered via an EFT.

2.7. 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 (Trust Ref B21/2003).

3. DEFINITIONS AND ABBREVIATIONS

Aseptic Non-Touch Technique (ANTT): Principals and procedure for protecting patients against infection.

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 (PEG, RIG, BGT): Enteral Feeding tube directly entering the stomach

PEG: Percutaneous Endoscopic Gastrostomy

RIG: Radiological Inserted Gastrostomy

BGT: Balloon retained Gastrostomy tube 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 (PEG-J, RIG-J): An inner tube inserted via the gastrostomy tube into the jejunum to allow small bowel feeding.

PEG-J: Percutaneous Endoscopic Gastrostomy with jejunal extension

Jejunostomy (JEJ, RIJ): Enteral Feeding tube directly entering the small bowel (jejunum)

JEJ: Surgically placed Jejunostomy

RIJ: Radiological Inserted Jejunostomy

Leicestershire Intestinal Failure Team (LIFT): Nutrition Support team (Nutrition Specialist Nurses, Specialist Dietitians) supported by Gastroenterology Consultants, Consultant Chemical Pathologist, Microbiology and Pharmacists.

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.

NBM: Nil by Mouth.

NSN: Nutrition Specialist Nurse**.**

Nutrition Support Team: Nutrition Specialist Nurses and Specialist Dietitians.

4. ROLES

4.1. The **Executive Lead** is the Chief Nurse.

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:** overall responsibility for management or a patient requiring EFT. Junior doctors who do not feel they have this level of expertise should seek guidance from Senior Colleagues or the ward Dietitian, Nutrition Specialist Nurses or Leicester Intestinal Failure Team (LIFT) Consultant Gastroenterologists.

4.4. **Dietitians** are responsible for:

a) Nutritional assessment, care planning and nutritional monitoring of a patient on an enteral tube feed.

b) Providing an individual EN feeding regimen to meet nutritional, fluids and electrolyte requirements.

c) Assess for potential medication and enteral nutrition interactions and liaise with pharmacy and medical staff as required.

d) Liaising with community staff and other agencies if a patient is to be discharged from UHL with an EFT insitu.

4.5. **Nutrition Specialist Nurses (NSN)** are responsible for:

a) Providing expert practice advice to limit and manage complications of EFT administration (such as maintaining patency of EFT), in line with this policy.

4.6. **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 that staff are maintaining competency. See Section 6 for training.

4.7. **All Registered Nurses, Midwives and 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 6.

b) Administering EN feed and associated fluid as per this policy.

c) Clinically monitoring the patient with an EFT i.e. fluid balance, tolerance to the enteral feeding regimen (such as bowel function), and nutritional status (such as body weight).

4.7.1. Liaising with the ward/unit Dietitian if there are problems or questions relating to EN or related medications or clinical concerns.

4.7.2. In the event that a patient requires EN and the ward is not familiar / competent with the care of the EN patient the nurse is responsible for escalatingthis as an incident to the senior nurses in the Clinical Management Group.

4.8. **Student Nurses** are responsible for:

4.8.1. Reporting any patient changes or problems with the EFT to the registered nurse.

4.8.2. Administering the EN feed and water flushes as per the Dietitian's regime and as per this policy's instructions under direct supervision of a Registered Nurse.

4.9. **Patients and/or Informal Carers** can provide management of an EFT in line with this policy if:

4.9.1. For those with existing EFT, 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.

4.9.2. For those with a newly placed EFT being trained, there is documentation that training has been received and they are able to start practicing the procedures (with support is necessary).

5. POLICY IMPLEMENTATION AND ASSOCIATED DOCUMENTS

5.1. This policy is supported by the following associated polices

Policy	Trust Reference
Out of Hours Enteral Tube Feeding (Nasogastric) UHL Guideline	B55/2006
Insertion and Management of Nasogastric and Orogastric tubes in Adults Policy & Procedures	B39/2005
Adult Nutrition and Dietetic Service Referral Policy	B30/2018
Policy for Nutrition and Diet Product Initiation and Adjustment of Dose by Registered Dietitians	B31/2018
Aseptic Non Touch Technique Policy	B20/2013

6. Education and Training Requirements

6.1. It is the responsibility for all UHL staff involved in care of patients with an EFT tubes 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. If specific training is required please contact the Nutrition Nurse Specialist Team (0116 258 6988).

6.2. Online training on use of the enteral feeding pump is available at https://www.nutriciaflocare.com/infinity_simulator.php

6.3. The enteral nutrition company Nutricia will also delivery ward based training on request (for details contact the ward/unit Dietitian).

7. Process for Monitoring Compliance

Element to be monitored	Lead	Tool	Frequency	Reported
Care provided in line with policy in relation to Administration via pump or bolus, storage of feeds	Clinical Lead Nutrition Support Team Nutrition & Dietetic Dept	Review of datix	Annually	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

LORD, L.M, 2018 Enteral Access Devices: Type, Function, Care and Challenges. *Nutrition in Clinical Practice* vol. 33, pp 16-38 doi: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

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 or a change in commercial supplier of enteral feeding pumps, equipment, and nutrition.

Introduction

An Enteral Feeding tube (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.

Type of EFT Used

There are a variety of different EFT used in adult patients in UHL. The choice of EFT depends on several factors including the indication for enteral administration, the patient's clinical condition and where in the gastrointestinal tract nutrition needs to be delivered.

Before using the EFT, the health care professional must ensure that the correct position has been confirmed and the EFT is functional. For Nasogastric feeding tubes (NGT) documentation must be recorded on the Nerve Centre NGT pathway. If the EFT has more than one lumen also confirm which one is to be used for administration (see relevant UHL policies for each EFT type).

Referral to Dietitian for assessment of enteral feeding regimen

Patients who require enteral nutrition support must be referred to the ward/unit Dietitian on ICE for individual assessment and an enteral feeding regimen to ensure the patient's nutritional, fluid and electrolyte requirements are met (see Adult Nutrition & Dietetic Service Referral Policy Trust REF B30/2018).

Storage of Enteral Nutrition

Enteral Nutrition is a specifically designed nutritional liquid that is licensed to be administered via an enteral feeding tube. There are a wide variety of different enteral nutrition feeds available to meet a patient's individual requirements.

Storage instructions should be adhered to. Sterile, unopened enteral feed packs should be stored in a cool dry place (5-25 degrees Celsius) away from direct sunlight, off the floor.

Feeds in sterile packs should be discarded after 24 hours once aseptically attached to the EFT.

Unused enteral feed packs (i.e. where only part of the enteral feed is used as a bolus), if aseptically handled, may be kept for 24 hours in the fridge, with any unused contents discarded after 24 hours.

Where an enteral feed is decanted from its original container, or a powdered supplement is mixed with water and then hung via a reservoir, should be used within 4hours.

UHL Trust does not currently support the use of non-commercial enteral nutrition solutions or non-sterile water being administered via a EF, i.e. the use of blended diets.

Administration Techniques

Enteral nutrition, medication and fluid can be administered via an enteral feedingpump or by using an enteral syringe.

Use of an enteral feeding pump allows a set amount of enteral feed to be delivered over a predetermined time frame. The feeding rate and duration will depend on the patient's clinical condition, gastrointestinal tolerance and modeof feeding (type of EFT). The feed can run continuously over 24 hours or run intermittently to suit a patient's needs.

Enteral nutrition and fluid can also be given via a syringe as a bolus. This method of providing enteral nutrition is referred to as bolus feeding can be used in combination with enteral pump feeding or instead of.

All equipment used to administer fluid, medication and enteral feed via the enteral route must be ENFit compliant (ISO 80369-3).

The largest functional syringe size should be used i.e. 50 – 60ml. Smaller syringes create high intraluminal pressure and may damage the EFT.

Contact the medical physics/medical equipment library if an enteral feeding pump is required and no stock is available in your ward area. The equipment libraries are located as follows:

- LGH - In outpatients 1 & 2 & X-ray clinic corridor as part of medial physics
- LRI - Victoria Basement as part of medical physics
- GH - Opposite main theatres on level 1 as part of medical physics

Between patients and also when returning to the medical equipment library pumps should be cleaned as per guidance https://www.nutricia.co.uk/hcp/resource-centre/flocare-infinity-pump-cleaning-guidelines.html

Administration of Enteral Nutrition via an Enteral Feeding Infusion pump	University Hospitals of Leicester NHS NHS Trust Appendix 2

Introduction

This procedure details the process for patients requiring an enteral feed administration via an enteral feeding pump. Where possible, complete packs of enteral feed should be used. If the required enteral feed is not available in this preparation the feed can be decanted into a container but note this increases the risk of infection.

The procedure should be undertaken following the principals of ANTT (See policy Trust Ref B20/2013).

Equipment

Cleaned feed pump (check pump review date has not expired)
Medication prescription chart
Enteral Feeding regime
Enteral Nutrition pack/bottle (must be checked against prescription and enteral feeding regime)
Enteral feed giving set
Sterile water
Alcohol hand sanitiser
Disposable apron
1 pair of gloves
50ml EnFIT enteral syringe
Clean cup
Sharps bin

1	Clean hands. Gloves only need to be worn if you are likely to come into contact with the patient's body fluids, e.g. aspirate fluid from the tube.
2	Put on apron and gloves and clean the trolley with Chlor-clean and allow to dry.
3	Remove gloves and apron and dispose of into clinical waste. Clean hands. Place equipment tidily on trolley.
3	Explain the procedure to the patient, ensuring privacy and comfort.
4	Observe enteral feeding tube for signs of displacement, blockage and/or fracture. If any concerns contact medical team or NSN prior to undertaking procedure **For NG: Confirm gastric position as per UHL policy Insertion and Management of Nasogastric and Orogastric tubes in Adults Policy & Procedures (Ref B39/2005)** if there has been a break in feeding administration
5	If the previous enteral nutrition pack is still hanging, switch off pump and close roller clamp on giving set and remove from pump.

6	Flush tube with the prescribed amount of sterile water prior to commencing feeding. See appendix 3
7	For all enteral feeds, shake the enteral nutrition pack/bottle. If a decanted enteral feed is required open the carton and decant required amount of feed into container
8	Unscrew the cap on the enteral feeding pack (Do not break foil seal).
9	Open the giving set and screw the end of the giving set firmly onto the feed bag.Hang the enteral nutrition pack onto the drip stand.
10	Prime the giving set ensuring all air is expelled from the line.
11	Connect the giving set to the feeding tube i.e. NGT, NJ, PEG, RIG or JEJ (firmly but not tightly).
12	Insert the giving set into feed pump. Set volume and rate of infusion as prescribed (see https://www.nutriciaflocare.com/infinity_simulator.php) Open roller clamp and clamp (if any) on the feeding tube and start the infusion pump.
13	Record feed volume and feed name on the fluid balance chart.
14	Complete two blank stickers with date and time commenced and attach to feed bag and giving set. **Feed must never hang for more than 24hours.** **The enteral nutrition pack and giving set must be changed every 24 hours.** **Feeds that are decanted should not be hung for more than 4 hours**
15	Dispose of gloves and waste into clinical waste bags. Discarded giving sets should be placed in a sharps bin
16	Clean hands on leaving patient bed space
17	Document all actions and findings in patient's record.

Administration of Enteral Nutrition via a Bolus "Bolus Feeding"	University Hospitals of Leicester NHS NHS Trust **Appendix 3**

Introduction

This procedure details the process for the bolus administration of an enteral feed via an EFT.

Bolus feeding mimics a normal pattern of eating and allows for greater mobility as the patient is not attached to the enteral feeding pump for long periods. It is more time consuming for nursing staff and not suitable for all patients, such as those jejunally fed (PEG-J, JEJ, NJ). There is a higher potential risk of infection as the feed is open to air thanwith a closed system normally used with pump feeding.

The procedure should be undertaken following the principals of ANTT (See policy Trust Ref B20/2013).

Equipment Required

Enteral Feeding Bolus regimen and appropriate enteral nutrition product
Functional enteral feeding tube
Sterile water
Clean plastic cup x2
Alcohol hand sanitiser

Procedure

	Nursing Action
1	Clean hands. Put on gloves and apron.
2	Observe EFT for signs of displacement, blockage and/or fracture. If any concerns contact medical team NSN prior to undertaking procedure **For NG: Confirm gastric position as per UHL policy Insertion and Management of Nasogastric and Orogastric tubes in Adults Policy & Procedures (Ref B39/2005)** if there has been a break in feeding administration.
3	Positioning: Patient should be well supported in the upright position (or at a minimum of 30 degrees) for feeding and for an hour after feed.
4	Flush the tube with 50ml sterile water prior to commencing feeding (check for patients on fluid restrictions) as per appendix 3.
5	Pour required amount of feed into clean disposable plastic drinking cup or draw up directly from the bottle. Feed should be at room temperature.
6	Draw up 50ml of prescribed feed using the 60ml ENfit syringe. Attach the

	ENfit syringe to the EFT and using gentle pressure on the plunger, slowly administer the feed. A rate of approximately 100ml over 1-3 minutes should be aimed for. e.g. 200mls feed should take a minimum of 2 – 9minutes (time can be reduced slowly on each subsequent bolus, monitoring for signs of intolerance).
7	Repeat until the prescribed amount has been administered. Do not administer the next bolus if the patient suddenly feels bloated or nauseous. Wait until patient is comfortable before administering the next bolus.
8	Pour 50ml of sterile water into the second clean disposable plastic drinking cup. Flush the tube with 50ml sterile water (check for patients on fluid restrictions).
9	Discard the enteral syringe and use a new one for the next bolus feed.
10	Remove gloves and apron and discard into clinical waste and clean hands.
11	Document all actions and findings in patient's record.

Administration of fluid via an Enteral Feeding Tube	University Hospitals of Leicester NHS NHS Trust Appendix 4

Introduction

This procedure details the process for administration of fluid (sterile water) via an enteral feeding tube. The procedure should be undertaken following the principals of ANTT (See policy Trust Ref B20/2013).

Equipment Required

Functional enteral feeding tube (EFT)
Sterile water
Clean plastic cup x2
Alcohol hand sanitiser
Gloves

Procedure

	Nursing Action
1	Clean hands. Put on gloves and apron.
2	Observe EFT for signs of displacement, blockage and/or fracture. If any concerns contact medical team or Nutrition Specialist Nurses (NSN) prior to undertaking procedure. **For NG: Confirm gastric position as per UHL policy Insertion and Management of Nasogastric and Orogastric tubes in Adults Policy & Procedures (Ref B39/2005)** if there has been a break in feeding administration
3	Positioning: Where possible the patient should be well supported in the upright position (or at a minimum of 30 degrees) during and for at least an hour after administration.
4	Confirm the amount of sterile water to administer on the enteral feeding regimen or prescription chart. A standard amount as a flush prior to administration of feed or medication is 50ml. Patient on a fluid restriction may require less than this (20 -30ml).
5	Open the sterile water and decant the required amount into a clean disposable cup.
6	Draw up the required volume of water. Attach the ENfit syringe to the EFT ensuring the correct lumen is used and all other ports are closed. Open the clamp if one is present.
7	Bolus the fluid into the EFT using a push-pause action. This causes turbulence of flow which may prevent the build-up of deposits with the EFT lumen.

8	Repeat until prescribed amount of fluid is given.
9	Do not administer the next bolus if the patient suddenly feels bloated or nauseous. Wait until patient is comfortable before administering the next bolus.
10	Once complete, either cap off the EFT or attach the enteral feed if required.
11	Remove gloves and apron and discard into clinical waste and clean hands.
12	Document all actions and findings in patient's record.

Management of Common Complications with enteral tube administration

University Hospitals of Leicester NHS
NHS Trust

Appendix 5

Introduction

This document details the management of common complications related to enteral feeding tube (EFT) administration. For complications related to the enteral feeding tube itself such as displacement please refer to the relevant policy (ie nasogastric or gastrostomy & Jejunostomy policy).

Complication	Possible causes	Action
Regurgitation **Pulmonary aspiration**	• Patient lying flat • Delayed gastric emptying • Tube displacement	• 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. • Monitor for breathlessness and temperature, which may indicate feed in the lung.
Nausea **Bloating** **Vomiting**	• Rapid infusion rate • Constipation • Delayed gastric emptying • Medication • Clinical condition • Hyper or hypo glycaemia	• Review enteral feeding regimen or increase time taken to administer fluid/feed bolus • Check for constipation. • Administer anti-emetics/ prokinetics as prescribed. • Elevate head of bed by 30-45° degree angle (approximately the height of two pillows). • Check blood glucose when nauseous.
Diarrhoea	• Antibiotics • Laxatives • Sorbitol content of drugs • Bolus feeding or too rapid infusion rate • Malabsorption • Overflow diarrhoea • Bacterial or viral infection	• Monitor bowel function. • Ask Dietitian to review feeding regimen. • Review antibiotic therapy. • Stop laxatives, if appropriate. • Ask pharmacy to review medication for possible causes. • Provide reassurance to patient and use barrier cream.
Constipation	• Inadequate fibre • Drug therapy • Dehydration • Motility disorders	• Ask Dietitian to review feeding regime. • Administer laxatives as prescribed. • Give extra water as flushes (liaise with Dietitians).

Complication	Possible causes	Action
	• Reduced mobility	
Dehydration	• Inadequate fluid intake • Increased losses e.g. from diarrhoea, stoma losses, sweating, vomiting	• Monitor fluid balance. • Ensure all prescribed fluids are given. • Discuss rehydration with Medical team. • Liaise with Dietitian regarding fluid requirement calculations and need for extra fluid.
Blocked tube	• Feed/medication clogged in tube • Inadequate flushing	• Follow pharmacy advice or see Medications (bapen.org.uk) • Flush tube regularly using a push-pause technique to reduce the risk of blockages. • Consider if it is appropriate to remove and replace the EFT. If this is not easy/possible attempt to unblock the tube by: • Flush with warm sterile water, using a gentle push/pull motion on the plunger of the syringe to help dislodge the blockage, and massaging the blockage to help it disperse. • Try a smaller volume syringe if a 50 – 60ml is not successful (be cautious as extra pressure could rupture the EFT). • **Do not** use acidic solutions e.g. coke, fizzy drinks or juice, as this may make the problem worse, or damage the tube. • **Do not** use a guide-wire to attempt to unblock a blocked tube (this may be carried out by Consultant Radiologist under screening or by NSN) • **Consider** use of ½ vitamin C dispersible tablet. Disperse ½ tablet in water and draw up and administer down the EFT whilst the tablet is still fizzing. • Contact your Nutrition Nurse Specialist for additional advice / support (Ext 16988)