Leicestershire Partnership NHS Trust

Enteral Nutrition Policy

This policy describes the placement and management of enteral feeding devices (enteral tubes), and the administration of enteral nutrition (enteral feeds) in the community and community hospital settings.

Key words: Enteral nutrition, enteral tube, enteral feeding, nasogastric, NG, nasojejunal, NJ, gastrostomy, PEG, RIG, jejunostomy, PEGJ, button, gastrostomy.

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Contents

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SUMMARY & AIM

This document provides clinical guidelines for all LPT staff who are involved in the placementof enteral feeding tubes, or the management or administration of nutrition, fluid or medication via an enteral feeding tube, or who are training/supervising other individuals undertaking these tasks.

While not requiring mandatory compliance, staff must have sound reasons for not implementing standards or practices set out within the guideline, or for variance in practice.

KEY REQUIREMENTS

Aim

The aim of the guideline is to promote safe practice related to enteral tube feeding. This includes the placement of enteral feeding devices in the community (where applicable), ongoing management of devices, and the administration of feeds and medication.
The guidelines impact on all staff who have involvement with patients receiving enteral nutrition in inpatient and community settings. This involves a diverse range of registered and unregistered staff.

Outcomes

The insertion and subsequent management of enteral feeding devices and the administration of enteral feeds, fluids and medication via the devices should be safe, effective and comfortable for the patient:

- Staff will be aware of best practice related to enteral tube feeding.
- Staff will be able to administer enteral feeds, medication and fluid for patients with enteralfeeding devices, using appropriate procedures.
- Relevant staff will be aware of the procedure for placement, replacement and removal ofenteral feeding devices.
- Staff will be aware of the infection prevention and control requirements relevant to enteralnutrition.
- The potential for incidents relating to enteral tube feeding will be minimised.

TARGET AUDIENCE:

All staff who have involvement with patients receiving enteral nutrition in inpatient and community settings

TRAINING

HENS care provider training for new staff. Online pump refresher training from Nutricia. Local training and competency assessment.

1.0 Quick look summary

This Policy provides guidance for staff involved in the management of enteral feeding and enteral tubes both within the community and hospital settings within Leicestershire Partnership Trust. Information is provided around caring for the enteral tubes as well as using these to provide nutrition to the enterally fed population. It covers the different tube types and feeding methods commonly used as well as the various equipment that will be needed.

1.1 Version control and summary of changes

Version number	Date	Comments (description change and amendments)
1.0	May 2024	Transfer from clinical guidelines to Policy
2.0	March 25	Addition on patients passing own tubes (3.4)

For Further Information Contact:

1.2 Key individuals involved in developing and consulting on the document

Name	Designation
Accountable Director	Director for Nursing, AHP and Quality
Author(s): Claire Blakeman	Clinical Dietetic Manager HENS
Implementation Lead	
Core policy reviewer group	
Wider consultation:	Nutrition and Hydration Steering Group

1.3 Governance

Level 2 or 3 approving delivery group – Nutrition and Hydration Steering group

Level 1 Committee to ratify policy – Quality Forum

1.4 Equality Statement

Leicestershire Partnership NHS Trust (LPT) aims to design and implement policy documents that meet the diverse needs of our service, population and workforce, ensuring that none are placed at a disadvantage over others. It takes into account the provisions of the Equality Act 2010 and promotes equal opportunities for all. This document has been assessed to ensure that no one receives less favourable treatment on the protected characteristics of their age, disability, sex (gender), gender reassignment, sexual orientation, marriage and civil partnership, race, religion or belief, pregnancy and maternity.

If you would like a copy of this document in any other format, please contact lpt.corporateaffairs@nhs.net

1.5 Due Regard

LPT will ensure that due regard for equality is taken and as such will undertake an analysis of equality (assessment of impact) on existing and new policies in line with the Equality Act 2010. This process will help to ensure that:

- Strategies, policies and procedures and services are free from discrimination.
- LPT complies with current equality legislation.
- Due regard is given to equality in decision making and subsequent processes.
- Opportunities for promoting equality are identified.

Please refer to due regard assessment (Appendix 4) of this policy

1.6 Definitions that apply to this policy.

Consent: a patient's agreement for a health professional to provide care. Patients may indicate consent non-verbally (for example by presenting their arm for their pulse to be taken), orally, or in writing. For the consent to be valid, the patient must:

- be competent to take the particular decision;
- have received sufficient information to take it and not be acting under duress.

Due Regard: Having due regard for advancing equality involves:

- Removing or minimising disadvantages suffered by people due to their protected characteristics.
- Taking steps to meet the needs of people from protected groups where these are different from the needs of other people. Encouraging people from protected groups to participate in public life or in other activities where their participation is disproportionately low.

Aspiration	Withdrawal of fluid by suction using a syringe
Buried bumper	This occurs if the internal fixation device on a gastrostomy tube becomesembedded in the tissue, which prevents the tube from moving in and out within the tract. The tissue overgrowth can occlude the internal surface ofthe tube necessitating its replacement.
Button	A Gastrostomy feeding device, usually made of silicone, which lies flush with the skin and is held in place by a balloon or dome within the stomach
Cleaning	The process of washing equipment for re-use, using hot water containing detergent
Cooled boiled water	Water that has been freshly drawn from a drinking tap, boiled, and allowed to cool prior to use in a clean covered container.
Disinfection	The process by which micro-organisms are reduced to a safe level
Flushing	Passing defined amounts of sterile, cooled boiled, or freshly drawn drinking tap water down an enteral feeding tube using a syringe, to maintain tube patency, and contribute to a patient's fluid requirements.
Freshly	Water from a tap that has been allowed to run briefly before

drawn drinking tap water	sufficient is collected for the procedure.
Gastrostomy feeding	Feeding via a tube or device that passes directly through the abdominal wall into the stomach
Jejunostomy feeding	Feeding via a tube that passes directly through the abdominal wall into a loop of the jejunum
Nasogastric feeding	Feeding via a tube that passes via the nostril and oesphagus into the stomach
Percutaneous Endoscopic Gastrostomy (PEG)	A tube placed through the abdominal wall into the stomach using an endoscope
pH indicator paper/stick	Paper or stick designed to measure the acidity of a liquid i.e. gastric aspirate. They should be CE marked and intended for human gastric aspirate.
Port	An aperture on an enteral feeding device
Radiologically Inserted Gastrostomy (RIG)	A tube placed through the abdominal wall into the stomach using radiological guidance

2.0 Purpose and Introduction/Why we need this policy

Introduction

This policy has been developed to support staff and patients/carers within LPT in the safe placement of enteral feeding tubes/devices, and safe delivery of enteral nutrition.

Enteral nutrition refers to the delivery of a liquid enteral feed, which will normally contain protein, carbohydrate, fat, water, minerals and vitamins, directly into the stomach, duodenum or jejunum (NICE 2006) via an enteral feeding tube or device.

In most cases, enteral feeds are prescribable,nutritionally complete products that are obtained in liquid or powder form, but in a small number of cases patients or carers choose to use liquidised food.

Enteral feeding devices include tubes and low profile devices (buttons). Enteral feeding devices maybe placed non-surgically via the nostril (nasogastric) or percutaneously, through a surgical, radiological or endoscopic procedure into the stomach or jejunum.

The terms ‘enteral nutrition’ and ‘enteral tube feeding’ are synonymous and used interchangeably in this document.

Parenteral nutrition (intravenous feeding) is outside the scope of these guidelines.
Administration of Liquidised food is covered in the LPT’s Use of Blended Diets with Enteral Feeding Tubes Policy

Aim

The aim of this policy is to promote safe practice related to enteral tube feeding. This includes the placement of enteral feeding devices in the community (where applicable), ongoing management of devices, and the administration of feeds and medication.

This policy will impact on all staff who have involvement with patients receiving enteral nutrition in inpatient and community settings. This involves a diverse range of registered and unregistered staff.

Outcomes

The insertion and subsequent management of enteral feeding devices and the administration of enteral feeds, fluids and medication via the devices should be safe, effective and comfortable for the patient

- Staff will be aware of best practice related to enteral tube feeding.
- Staff will be able to administer enteral feeds, medication and fluid for patients with enteral feeding devices, using appropriate procedures.
- Relevant staff will be aware of the procedure for placement, replacement and removal of enteral feeding devices.
- Staff will be aware of the infection prevention and control requirements relevant to enteral nutrition
- The potential for incidents relating to enteral tube feeding will be minimised.

3.0 Policy Requirements

3.1 Enteral Feeding Devices

The most commonly used feeding tubes are nasogastric (NG) and gastrostomy tubes/devices, and these deliver nutrition to the stomach. NG tubes are recommended for short term use, while gastrostomy feeding may be preferable for patients who require enteral tube feeding for longer periods of time (Fogg, 2008). Some patients may, however, choose to continue to have a nasogastric tube.

Enteral feeds may also be delivered to the small bowel (jejunum) in certain clinical situations, via a jejunostomy feeding tube or a trans gastric device.

Feeding routes should be considered on an individual basis by the relevant multi-professional team. For patients with Learning Disabilities the LPT Learning Disability services Safe Eating and Drinking Care Pathway should be referred to.

3.1.1 Nasogastric tubes

Nasogastric (NG) tubes are available in different lengths and lumen diameters (French Gauge, FR or FG), which are selected as appropriate to the individual patient.

The majority of adult patients will require a tube of around 90cm length, whereas shorter tubes are available for infants and children, and optimal length for practicality should be assessed on an individual basis.

Fine bore tubes (FR 5, 6 or 8) are generally more comfortable than wide bore tubes and should therefore be used where possible. Neonates and small children are likely to require a 5 or 6 FR tube, whereas an 8FR is appropriate for the majority of young people and adults.

The main type of fine bore tubes available:
Polyurethane (PUR) – long term use (greater than 10 days) for enteral feeding.

NG tubes should have measurement markings at 1cm intervals and be radio-opaque (NPSA 2011). X-ray confirmation of placement is not applicable in community hospitals or in the community but may be undertaken if the patient is admitted to an acute hospital. Internal guidewires/ stylets should NOT be lubricated before gastric placement has been confirmed (NPSA 2012).

Individual manufacturers provide guidance regarding the length of time their devices can remain in situ, generally 1-6 months if functioning well, and staff should refer to the relevant manufacturer's information. However, it may be desirable to replace NG tubes every 6 – 8 weeks in order to change from left to right nostril (or vice versa) to prevent irritation, if possible.

Placement of NG tubes may take place in an inpatient setting, or in certain circumstances (in the absence of contraindications) at the patient's home. For placement and management of NG tubes see sections 4 and 6.

3.1.2 Naso-jejunal tubes

These may be placed under endoscopic or radiological guidance and are of a longer length than NG tubes in order that they extend beyond the stomach into the jejunum. They are normally placed in an acute hospital setting, and may be used for patients experiencing persistent vomiting, or gastroparesis.

3.1.3 Gastrostomy tubes and devices

Gastrostomy tubes are normally made from PUR or silicone, and last for varying lengths of time depending on their construction and factors relating to individual patient.

A range of device types and placement options exists. Initial placement of a gastrostomy device is undertaken in a hospital setting endoscopically, radiologically, or surgically.

Gastrostomy devices are secured in the stomach either by the presence of a disc or an inflated balloon. Percutaneous Endoscopic Gastrostomy tubes (PEG) have an internal disc, and a length of external tubing to which feeding equipment is attached. An external fixation device prevents excessive inward movement. These devices may be in place from 6 months to several years, depending on manufacturer's recommendations and individual circumstances.

Balloon retained gastrostomy (BRG) devices are secured by a balloon which is inflated with sterile or cooled boiled water, and will either have external tubing, as for a PEG, or can be 'low profile' devices (buttons) which are flush with the abdomen. BRGs usually need replacing on a 3-6 monthly basis as the balloon is likely to fail after this time. Replacement of a BRG can be undertaken in the patient's home once the tract is fully healed. If an individual is experiencing issues with their 'low profile' device (button), please refer to the flow chart in Appendix 8.

Percutaneous Endoscopic Gastrostomy Tube (PEG) placement

PEGs are placed using an endoscopic procedure carried out under general anaesthetic for children, or sedation for adult patients.

Radiologically Inserted Gastrostomy (RIG) placement.
This may be used when an endoscopic procedure is not possible, and commonly utilises a balloon-retained gastrostomy (BRG) device

Surgical gastrostomy placement
Surgical placement is likely to be undertaken alongside other abdominal surgery, and a PEG or BRG-type devices can be utilised.

3.1.4 Jejunostomy or jejunal tubes

Jejunostomy tubes are placed surgically, directly into the jejunum. These tubes enter the jejunum directly, normally beyond the ligament of Treitz, and may be sutured into place externally.
Jejunal extensions to gastric tubes may be placed by:

- passing a jejunal extension via an existing PEG tube of adequate diameter. This is referred to as a PEG-J
- utilising a balloon-retained gastrostomy device (button or tube) with trans-gastric tubing extending into the jejunum

3.2. Methods of Enteral Tube Feeding

Enteral feeds may be administered either as a continuous pump assisted feed (for up to 20 hours per day) or as intermittent boluses which may be carried out using an enteral feeding pump, or manually using a syringe. Decisions relating to the preferred feeding method(s) should be made on an individual basis, but unsupervised overnight feeding via nasogastric tube is not recommended. Bolus and pump feeding may be used in combination.

Liquidised food would be given via bolus feeding using a syringe, as intermittent or continuous pump feeding is unsuitable in this situation.

Overnight pump feeding is sometimes recommended where patients would prefer to be mobile during the day, or where there are issues around deprivation of liberty. However, bolus feeding may be more acceptable if the patient misses the routine of daily mealtimes, or where overnight feeding means they need to get out of bed several times to pass urine at night. Overnight feeding sometimes causes heartburn or acid reflux and an increased need to pass urine due to the fluid input. Patients' upper bodies should be elevated to an angle of 30-45 degrees to avoid heartburn or acid reflux, if possible to do so. Consideration should be given to the use of a profiling bed particularly if the person is fed overnight or if there are issues with tissue viability.

Potential advantages and disadvantages of feeding methods

Pump assisted feeding

Advantages	**Disadvantages**
Accurate control of flow rate	Feeding for prolonged periods may limit mobility

May improve tolerance if bolus feeds are poorly tolerated	Prolonged feeding may make personal care more difficult
More flexibility with feeding regimen	Deprivation of Liberty
Assurance that presented volume of feed is delivered to patient within the recommended time	Reduces nurse / patient interaction time so alternative contact time may need to be planned into the day
	Potential for equipment failure or malfunction

Bolus feeding

Advantages	**Disadvantages**
Bolus feeding can mimicmeal and snack times	More staff time involved
Less 'high tech'	If large feed volumes are required bolusesmay be poorly tolerated
Promotes the normal appetite and hunger response for return to normal eating.	
Stomach pH can return to normalperiodically during the day	
Promotes nurse/patient interaction. The extra time spent with the patient can be used to assess mental state on a regularbasis	
Paranoid patients should not suspect contamination as the supplement can be opened in front of them	

3.3. General Principles when undertaking Tube Feeding

3.3.1 Infection control

Microbial contamination of enteral feeds can be a cause of infection for the recipients of enteral nutrition, with potentially serious consequences which may include diarrhoea, vomiting, abdominal distension, colonisation of the gastro-intestinal tract and sepsis. The main routes via which contamination might occur include poor hand hygiene practice when handling fees and feeding systems inappropriate cleaning or storage of reusable equipment, or exceeding hanging times for feeds (Anderton 2001)

Cleaning equipment
Enteral nutrition does not normally require sterile procedures. For the majority of patients, the

processes require equipment to be clean. For most equipment items the following is required: Immediately after use -

- Wash all equipment items (separately from other household items) in warm water containing domestic washing up liquid
- Rinse in clean water
- Shake excess water from the equipment and air dry on clean paper towel
- Store in a clean container, separately from other household items Manufacturer's instructions should be referred to for specific details.

Certain items can be cleaned in a domestic dishwasher, in accordance with manufacturer's information.

In certain situations, disinfection or sterilising of equipment is required. These include equipment used for

- All infants up to the age of at least 6 months
- Certain infants from 6-12 months of age, where they are deemed susceptible to infection. However, the requirement to disinfect or sterilise equipment should be considered in the contact of the 'lifestyle' of the infant, whether or not they are eating solid food, drinking un- boiled tap water etc.
- Patients receiving feeds into the jejunum.

Refer to manufacturer's information for appropriate disinfecting or sterilising methods.

Hand Hygiene
Hand hygiene is the single most important procedure in the prevention and control of infection (CREST 2004). Effective hand hygiene is therefore crucial in preventing contamination of enteral feeds. Prior to handling enteral feeds or related equipment, hands should be washed thoroughly with liquid soap and water. Patients or family members should dry their hands on a clean towel or paper towels. Staff members should use paper towels.

Staff and carers should put on non-sterile disposable nitrile gloves and aprons before preparing feeds, assembling feeding systems and undertaking any subsequent handling of the system. Refer to LPT Infection Prevention and Control Policy

Family members in the patient's own home do not require gloves and aprons.

3.3.2 Storage of feeds

Sterile feeds
Sterile, liquid ready to hang, unopened feeds should be stored in a cool dry place, (5 – 24^{0}C) out of sunlight and away from sources of heat. If used for continuous feeding, once attached to a feed administration (giving) set, it can remain at room temperature for up to 24 hours. Otherwise, once opened, any feed not used immediately should be refrigerated in a sealed container and used within 24 hours of opening.

Non sterile feeds
The ingredients (liquid or powder) from which non-sterile feeds are made should be stored in accordance with manufacturers' guidelines, both before and after opening. Refer to individual manufacturers' guidelines for the length of time a product can be kept once opened. Discard any opened product not used within this time.

Once mixed, non-sterile feed (e.g. infant formula or modular feeds) should be stored refrigerated in a sealed container, and used within 24 hours of mixing. Any feed not used within this time must be discarded (NICE 2003).

In care homes, schools, respite organisations etc., feed should be labelled with the client's name, and the date and time of opening or mixing, to ensure it is not kept in excess of 24 hours.

3.3.3 Assembling equipment and preparing feeds

Preparation of feeds and feeding equipment should take place on a designated clean surface, away from food items, pets, insects etc. (Anderton 2001). Surfaces should be cleaned as per hospital policy in inpatient areas or using hot water containing domestic washing up liquid in patients' homes.

Where possible, the use of a sterile, ready to hang feed is recommended to avoid decanting feeds. If decanting to an empty reservoir is needed, a 'no touch' technique is required to avoid contamination. Care must also be taken not to touch any parts of the feeding equipment that will come into contact with the enteral feed, and that equipment does not come into contact with the floor, clothing or other surfaces.

Packs or bottles of feed should be checked before opening and discarded if there are signs of damage, or if the expiry date (on the outer casing of the individual pack) has passed.

For modular feeds (i.e. those made up from separate ingredients where no 'ready to hang' option is available), ingredients should be mixed using cooled boiled water. Utensils, jugs etc. used for mixing feeds should be washed thoroughly in hot water containing domestic washing up liquid or cleaned in a domestic dishwasher, rinsed in clean water, air dried on clean paper towel, and stored (inverted where appropriate, without stacking). Disinfecting or sterilising of utensils is also required for infants up to 6 months of age, and in certain other circumstances (See 3.1). A no touch technique is required for decanting modular feeds into enteral feeding reservoirs, if this is necessary.

3.3.4 Feed hanging times

Where feed is administered as a continuous feed, the time over which this can be hung at room temperature will vary depending on whether it is a sterile or non-sterile feed.

Sterile feeds (including both 'ready to hang' and decanted sterile feeds) These can be hung at room temperature for 24 hours

Non-sterile feeds
The recommended hanging time for non-sterile feeds in the hospital environment is 4 hours. Minimising hanging times reduces the risk of bacterial growth if any contamination has occurred during mixing. However it is recognised that this is not socially acceptable or practical in the home environment, particularly where a feed is administered overnight, and for this reason it is common practice to extend the hanging time to a maximum of 12 hours. Staff should consider individual circumstances and recommend hanging times shorter than 12 hours if feasible.

3.3.5 Warming feeds prior to administration

Warming feed is not generally recommended. However, if patients or families choose to warm feeds prior to bolus administration, the feed must be discarded if not used immediately – never retained for later administration.

Feed for continuous administration must not be warmed.

Feeds may be warmed, if required, by standing the container in a jug of warm water and checking the temperature (as for a baby bottle) before administering. Caution is required if a microwave is used, due to the potential for uneven heating.

3.3.6 Water for flushing tubes

Enteral feeding tubes should be flushed before and after administration of feed or medication, using sterile water, freshly drawn drinking tap water, or cooled boiled drinking tap water. Sterile or cooled boiled drinking tap water should be used for:

- Infants up to 6 months of age. As a general principle, the use of cooled boiled water for flushing tubes is no longer needed once they are drinking un-boiled water, and parents are no longer disinfecting any feeding equipment other than bottles and teats.
- Certain infants from 6-12 months of age. It may be desirable to continue to boil water for flushing tubes for some infants who may be susceptible to infection. However where parents are no longer boiling water for drinking, and the infant is taking solid food, the use of boiled water in preference to freshly drawn drinking tap water is at variance with this.
- Immuno-compromised patients (NICE 2012) – applies to patients with a T cell loss, or neutrophil count less than 1000. Advice to be taken from medical staff. These patients should also use ‘single use’ syringes.
- Patients receiving feeds into the jejunum

Bottled mineral water is not recommended for making up feeds or flushing feeding tubes particularly in the case of infants, as concentrations of electrolytes may be unsuitable.

If using cooled boiled water – sufficient water may be boiled to use over a 24-hour period. This must be kept in a clean, covered container, and any remaining water discarded after 24 hours. In care home, school or respite settings, the container should be labelled with the date and time of filling.
Containers should be washed daily in hot water containing domestic washing up liquid and rinsed.

3.3.7 Equipment ENFit

A new international standard (ISO80369-3) for the design of enteral feeding tubes and the feed administration sets, syringes and extension sets which attach to them is being introduced during 2016-2017.

The new design, known as ENFit, is intended to achieve global standardisation of enteral feeding equipment, and ensure incompatibility with all other systems.
There will be a prolonged period when both ENFit and non-ENFit equipment is in use, and adaptors

have been made available to enable connection of ENFit ancillary items to non-ENFit tubes, and vice

versa. ENFit applies both to single use and single patient use.

All staff involved with ordering, managing or administering enteral nutrition will need to be aware of the differences between ENFit and non-ENFit equipment, in order to avoid problems with incompatibility of equipment items and interruption to the administration of feed, fluid and medication.

The expiry date of all equipment should be checked before each use.

Duration of use
Manufacturers' information should be referred to, to determine whether items are for 'single use' or 'single patient use', and if the latter, the acceptable time over which use may continue.

3.3.8 Position of patients receiving an enteral feed

Whenever possible the patient should be in an upright position whilst having their feed and remain in this position for at least 30 minutes afterwards unless their individual care plan states otherwise. If unable to sit upright, the upper body should be elevated to an angle of at least 30 degrees to reduce the risk of aspiration.

3.3.9 Oral hygiene

It is particularly important that oral hygiene is not overlooked where clients who are nil by mouth. They are more prone to bacterial overgrowth, as lack of saliva and reduced swallowing has been shown to increase gastric pH (O'May et al.,2003), also oral colonisation per se may increase risk of pneumonia in people who are already prone to aspiration and chest infections (Heyland, 1998).

3.4. Enteral Feeding Device Placement and Removal

Nasogastric tube placement and confirmation of position

NPSA/2011/PSA002 states that a misplaced nasogastric or orogastric tube, not detected prior to feeding, is a 'never event'. It is essential that all practitioners undertaking nasogastric tube feeding or the placement of nasogastric tubes are competent to check the correct placement of the tube in accordance with the procedure laid out below.

Procedure for the insertion of nasogastric tubes – See Appendix 9

Confirmation of correct placement of nasogastric tube – See Appendix 10

Procedure for the removal of a nasogastric tube – See Appendix 11

Replacing a Balloon Retained Gastrostomy Device – Appendix 12

Nasogastric tubes and balloon retained gastrostomy tubes may be (in certain circumstances) changed by the patient, family, or carer if they wish and it is felt appropriate by the managing team. In this instance the individual wishing to take on this role should be trained by an appropriate member of staff (e.g. LCAT assessor or equivalent). There should be an appropriate risk assessment undertaken, involving the patient, family or carer who is to be changing the tube, and include a Mental Capacity

Assessment/best interest decision where required. If they are an inpatient, then this also needs to be linked to the discharge planning process. This should all be clearly documented in the patient records.

3.5. Administering feeds via an enteral feeding tube/device

Bolus Feed – See Appendix 13a
Pump Feed – See Appendix 13b

3.6. Care requirements relating to enteral feeding devices/tubes

General Care
Aims of enteral feeding tube care are:

- to maintain correct position of the tube/device,
- maintain patency of the tube/device,
- promote healing of the tract and integrity of the skin around the tube where applicable
- to prevent 'buried bumper', (in the case of PEG tubes) where the internal retention device becomes embedded in the stomach wall.
- To prevent infection

On discharge from an acute hospital, staff receiving a patient with an enteral feeding tube should be provided with details of the tube/device type, date of insertion, and any other relevant information. For newly placed tubes, there are specific management requirements. The majority of patients in the community or community hospitals are discharged from UHL. UHL post placement guidance for new devices can be found on the UHL policy Library. Within LPT inpatient settings the patient, family or carer if they wish, may be considered to undertake some elements of enteral nutrition care and management if it is felt appropriate by the managing team. In this instance the individual wishing to take on this role should be trained by an appropriate member of staff (e.g. LCAT assessor or equivalent). There should be an appropriate risk assessment undertaken, involving the patient, family or carer who is to be undertaking this role, and include a Mental Capacity Assessment/best interest decision where required. This should all be clearly documented in the patient records.

Tube and stoma Care – See appendix 14

- All tube and device types – See Appendix 14a
- PEG – See Appendix 14b
- BRG - See Appendix 14c
- PEG-J - See Appendix 14d
- Jej - See Appendix 14e

3.7. Use and re-use of equipment

Ensure that the expiry date on all equipment used is checked before each use.

3.7.1 Giving sets

Giving sets are single use for up to 24 hours

If used with a sterile feed (ready to hang or decanted) – use for up to 24 hours.

If the patient requires more than one pack of feed during a 24-hour period, a second pack can be connected to the existing giving set, observing the usual ‘no touch’ precautions. If there is a break in the feeding period, disconnect the giving set from the patient’s tube and cover the end with the cap provided. Leave the other end connected to the empty pack until the second pack is required.

If used with non-sterile feeds – a new giving set is required for each feeding period.

3.7.2 Reservoirs

Reservoirs manufactured for enteral feeding are for single use, for up to 24 hours.

If used with sterile feeds, decant sufficient volume to avoid opening the reservoir during the feeding period, and use for up to 24 hours.

If used with non-sterile feeds, use a new reservoir for each feeding period.

The use of baby bottles for smaller volumes of sterile or non-sterile feed is common practice, and these may be washed (and disinfected if necessary) using normal infant feeding guidelines.

3.7.3 Enteral syringes

Enteral syringes used in hospital inpatient settings are ‘single use’ and therefore unsuitable for cleaning, whereas those in the home environment are for ‘single patient use’ and should be cleaned using hot water containing domestic washing up liquid, in accordance with manufactures’ instructions.

For infants under 6-12 months (depending on individual circumstances) enteral syringes should also be disinfected using either a disinfectant solution or steam sterilising, as per manufacturers’ instructions. Disinfecting is also required for patients feeding into the jejunum.

3.7.4 Connectors

Connectors should be used only when essential and cleaned/stored between uses (where appropriate) using hot water containing domestic washing up liquid, rinsed and stored as for ‘single patient use’ syringes.

For infants under 6-12 months (depending on individual circumstances) connectors should also be disinfected using either a disinfectant solution or steam sterilising, as per manufacturers’ instructions. Disinfecting is also required for patients feeding into the jejunum.

3.7.5 Extension sets

These are typically ‘single patient use’ and should be washed using hot water containing domestic washing up liquid, rinsed and stored as for ‘single patient use’ syringes. Both ends of the extension set should be thoroughly cleaned, and any excess water shaken from the tubing prior to storage. Refer to manufacturer’s information.

For infants under 6-12 months (depending on individual circumstances) extension sets should also be

disinfected using either a disinfectant solution or steam sterilising, as per manufacturers' instructions. Disinfecting is also required for patients feeding into the jejunum.

3.7.6 Equipment in other care settings

Where single patient use equipment is used in settings such as care homes, schools, respite settings etc., care must be taken to adhere to the 'single patient use' requirement. This will necessitate cleaning each client's equipment separately from that used for other clients, and potentially labelling syringes with an indelible pen, and/or storing each client's equipment in a clean labelled container designated for that individual.

3.7.7 Retrieval of equipment from patients' homes

When a patient discontinues enteral feeding at home, some items may be retrieved and returned to the HENS equipment supplies. Others require disposal. All stock will have expiry dates checked and any out of date will be removed and discarded.

Enteral feed pumps and stands
These are the property of the contracted home delivery company, and should be collected by the company directly from the family where possible, not returned to the HENS office. The company is responsible for cleaning all pumps in accordance with agreed protocol, prior to re- issue. If it is necessary to return these items to the HENS office, put the pump and stand in a large carrier bag to avoid contamination of car or office surfaces.

Ancillary items
The sealed, clean contents of unopened boxes of ancillaries may be returned to the HENS office for use, following the procedure below:

a) Prior to bringing items into the office: Open a carrier bag,
Put on gloves,
Fully open the box of ancillaries,
Remove gloves and transfer the contents of the box to the carrier bag, without touching the outside of the box,
Transport ancillaries to the office in the carrier bag

b) Once in the office,
Remove the supplies from the carrier bag, and store. Discard the carrier bag

3.8 Administration of medication via enteral feeding tubes

This section must be read in conjunction with the Leicestershire Medicines Code, including sections on the Administration of medicines, and Covert Administration of Medicines

Additional information can be obtained from BAPEN guidelines – Administering Medications via Enteral Feeding Tubes (2016):

The vast majority of medicines are not licensed for administration via an enteral feeding tube. However, for some individuals this is the only route that they can safely receive medicines. In the first instance advice should be sought from the pharmacist to ensure that the correct preparation is available to

administer via an enteral tube. See the ‘Selection ladder’ below. It may be possible to obtain liquid preparations for enteral administration.

If the patient is prescribed more than one medication, there should be a separate flush of cooled boiled drinking tap/sterile water or freshly drawn drinking tap water between each medication in addition to a flush before and after medication.

It is important to check drug/feed interactions before commencing drug administration as the actions of some drugs are affected by feed. It may be necessary to cease a feed 30 minutes prior to the administration of certain drugs. For further information, contact the pharmacist.

Principles for the administration of medication via enteral feeding tubes

1 Carry out a comprehensive medication review to ensure that only essential medications are given.
2 Check the medication is available in a suitable preparation for administration via enteral feeding tube.
3 An Enteral syringe of appropriate size for the dose of medication must be used. IV syringes must not be used for this purpose.
4 If a suitable preparation is unavailable, refer to the selection ladder below.
5 Follow the LMC chapter on administration of medicines in community.
6 Ensure that a flush of cooled boiled water, freshly drawn drinking tap water or sterile water as indicated on nutritional plan is administered before and after each mediation to be given via enteral feeding tube.
7 Medicines must not be added to feed.
8 Where an enteral feeding device has more than one port, ensure the correct port for medication administration is identified. Caution is needed where a patient has a PEGJ (which has both a gastric and jejunal port).
9 Where a patient has a jejunostomy tube, check with a pharmacist that medication is suitable for administration directly into the small bowel.
10 Some viscous medication may need dilution to facilitate administration.

Selection ladder

1. Use commercially formulated liquids where available – formulation studies will have been done to maximise stability
2. If not available use soluble/dispersible tablets
3. If neither of the above are available, seek pharmaceutical advice on whether the tablets may be safely crushed, or the capsule opened and the contents dissolved.

Do not crush the following formulations:

- Coated tablets – The coatings can cause the suspension to be ‘gritty’ and may lead to tube blockages
- Sustained release tablets (labelled S/R or M/R) – The slow-release characteristics may be lost and toxic level of medication may result
- Hard gelatine capsules – The capsule shell will not form a suspension and is likely to block the tube.
- ‘Spansules’- sustained release capsules – The slow-release characteristics may be lost

A recommended reference guide is the Handbook of Drug Administration via Enteral Feeding Tubes by

3.9 Trouble Shooting

Complication	Potential causes	Suggested actions
Blocked tube **Note; Repeated attempts may be required up to 30 minutes to unblock a tube.**	Inadequate flushing causing feed or medication to become 'clogged' in tube - Flush tube regularly to prevent this, before and after all feeds and medications, and between medication if multiple medications are required at the sametime - Follow guidelinesfor giving medicationvia tubes, to avoid this For consistent blocking contactseek advice regarding possible cause of blockage	- Check tube not trapped or clamps closed - Attempt to instill 10-15mls water as used for flushes using a 60ml oral / enteral syringe. Leave for a few minutes before trying to flush the tubeagain - If this fails, instill 10-15mls soda water or 1 teaspoon of bicarbonate of soda in15ml of water (as used to flush tube). Leave for a few minutes before trying the tube again. - Massage the blockage to help it disperse by gently rolling the tubebetween thumb and forefinger. - Instill a solution of pancreatic enzymes (contact pharmacy for advice) - Try unblocking the tube by flushingwith warmed water as used for flushes, using a gentle push / pull motion on the plunger of a 60ml oral / enteral syringe to help dislodge the blockage (White & Bradnam 2007). Do not use a smaller size syringe as this will exert too muchpressure and could cause the tube to rupture. **Do not**: - use acidic solutions e.g. cola or juice,as this may lead to further

		feed coagulation. - use excessive force as this canrupture the tube. - use a guide wire to attempt to unblocka blocked tube **If unsuccessful**, contact HENS, dietitian, Diana Service, UHL children's Daycare or Emergency Department, as appropriate to the age of the patient.
Balloon failure in a balloon retained gastrostomy	- Age of tube - Excessive volume of water in the balloon - Medications Persistent retching, vomitingor coughing	Leave tube in situ until replacement tube available. Tape in place to retainin stoma. Contact HENS, Diana Service (if patient is in their care) or Emergency Department If balloon failure leads to tube falling out: • If appropriately trained, insert replacement balloon retained gastrostomy tube, • If not trained to replace the tube, insert temporary tube if this has been provided, and contact Diana Service/ HENS, attend Hospital, or contact carer to have new tube inserted. • If neither of the above possible,apply a dry dressing to stoma site and contact Diana Service or HENS, attend hospital or contact carer. **This is not a medical emergency butprompt action is required to avoid closure of the stoma, which may occur within 2 – 4 hours.**
Bleeding, soreness or ulceration visible in	Nasogastric tube trauma, pressure damage from tube	Review position of tube and fixation tape,and seek medical

the nasal cavity (NG tubes)	onnostril	advice
Constipation	Inadequate fluid/dehydration Inadequate fibre Medications Motility disorders	- Ask dietitian / HENS to review feed/fluid regime. - Administer laxatives as prescribed. - Consider medication as a cause - Start a Bristol stool chart. Give extra water as flushes (liaise withdietitians / HENS) providing that the patient is not on restricted fluids.
Damage to replaceable adapter, fixation plates	Poor technique whenapplying syringes, inaccurate syringe use, patient / carer 'pulling' at connections	- If trained, replace relevant connections – If not appropriately trained or replaceable parts not available contactHENS / dietitian
Dehydration	Inadequate fluidintake Increased fluid losses e.g. diarrhoea,stoma losses, vomiting	- Ensure that all prescribed fluids aregiven and documented. - Discuss with GP / doctor /ANP. - Liaise with dietitians / HENS regarding fluid requirement calculations to determine if there is aneed for additional fluid. Monitor fluid balance.
Diarrhoea (Some patients who are enterallyfed may have looser stools dueto a liquid diet)	Antibiotics, Laxatives Sorbitol content of drugs Bolus feeding or too rapid infusion rate Malabsorption Overflow diarrhoea (as a result of constipation) Bacterialor viral infection Poor hygiene procedures Hyperosmolarity offeed	- Review antibiotic therapy. - Stop laxatives, if appropriate. - Ask GP / doctor / ANP to review drugs. - Ask dietitian / HENS to review feedingrate and feed type - Start a Bristol stool chart.

		- Liaise with infection control nurse, if appropriate. - Review hygiene procedures Provide reassurance to patient and usebarrier cream.
Dry mouth	Inadequate / infrequent mouth care	- Soft paraffin, commercial lip salvescan be used on lips. - Water based gels or sterile lubricatingjelly can be used to lubricate tongue and inside of the mouth – caution in patients who are nil by mouth. - Crushed ice, ice cubes, sugar-free gum can be suggested if there is norisk of aspiration. - Artificial saliva may be prescribed by adoctor or dentist. **Not recommended:** - Lemon and glycerin swabs – lemon isacidic which harms soft tissues and teeth. Sucking sweets as this can lead to dental decay.
Difficulty in managing oralsecretions	Poor swallowPoor lip seal Disease progression	- Seek medical advice if necessary
Feed pump alarming	See manufacturer's instructions	See manufacturer's instructions
Leakage around gastrostomy or jejunostomy stoma	Tube displaced Stoma site enlargedDelayed gastric emptying	• If balloon retained gastrostomy,check balloon water volume N.B. Follow manufacturer's guidelines, i.e.maximum volume in balloon If continual leakage occurs, seek advicefrom HENS/Diana service • Check the position of fixation deviceensuring good fit to

		skin. • Assess the effect on stoma site i.e. irritationand treat accordingly. • Check the tube has not become displaced into the fistula tract (thiscan be done by checking that it is moving freely in/out and around inthe tract). • Contact dietitian / HENS Diana Service / GP / doctor / Tissue Viability for advice on appropriate creams and dressings. A barrier cream may be beneficial in protecting the skin from the effect ofacid fluid leakage. Note: occasional slight leakage is notclinically significant. If the tube is newly placed, please refer back to the clinician who placed the tube.
Nausea, bloating, vomiting	Too rapid infusionrate Constipation Delayed gastric emptying Hyper/ hypoglycaemia.Other causes unrelated to enteral feeds	• Reduce feed rate or discontinue feed and refer to GP / doctor / ANP. • Ask dietitian / HENS to review. feeding regimen. • Treat constipation. • Administer anti-emetics as prescribed. / use of prokinetic drugs. • Ensure head of bed is elevatedby 30 degrees. Check blood glucose when nauseous.
Pain and discomfort around stoma	Acute pain could result from tube displacement, External fixation disc is too tight,	• Check that external fixation disc is notover tightened. Do not loosen a device in a

	Infection at site,abscess, Poor hygiene, Leakage of acidic stomach contents onto the skin.	newly formed stoma without first consulting the dietitian. • Obtain swab for microbiology culture and sensitivity 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 three weeks, check the tube moves freelyin and out of the tract. • Regular cleaning of the stoma site. • Ensure external fixation device ispositioned correctly.
Regurgitation Pulmonary aspiration	Patient lying flat Delayed gastricemptying Tube displacement	- Monitor for breathlessness and temperature, which may indicate feed inthe lung – if evident discontinue feed and refer to GP / doctor - Slow feed rate - Check tube position. - Elevate head of bed by 30 degrees. (Bed should already beelevated) - Check for constipation - Refer to GP / doctor - Other measures to improve gastric motility such as pro-kinetic agents (e.g. Metoclopramide) may be useful.
Respiratory changes	Nasogastric tubehas become	Stop feed and seek urgent

(with NG tube) cyanosis, unexplained confusion, hypoxia, respiratory distress, or chest infection	displaced	medical adviceMonitor for tachycardia, tachypnea or dyspnea, and pyrexia Check NG tube position
Skin integrity compromised (NG tube) by adhesive or tube pressure	Nasogastric tube taped to tightly to nostril causing pressure damage. Overuse of tape tosecure nasogastric tube to face.	- Check tape and consider replacingtype of tape used - Consider whether NG should bechanged to other nostril to allowhealing - Consider the use of a Hydrocolloid dressing under the tube to reduce therisk of pressure
Stoma site sore/red	Over-granulation Infection Irritation due to leakage of gastric fluid External fixation device not correctly positioned Poor fitting tube	- Review skin hygiene procedures. - Ensure external fixation device is in thecorrect position. See ‘leakage around stoma site - If exudates present swab and contactGP / doctor for appropriate medical advice. Contact dietitian / HENS / Diana service/GP
Stoma site sore/red	Over-granulation Infection Irritation due to leakage of gastric fluid. External fixation device not correctly positioned. Poor fitting tube	- Review skin hygiene procedures. - Ensure external fixation device is in thecorrect position. See ‘leakage around stoma site - If exudates present swab and contactGP / doctor for appropriate medical advice. Contact dietitian / HENS / Diana service/
Stoma site sore/red	Over-granulationInfection Irritation due to leakage of gastric fluid	- Review skin hygiene procedures.

	External fixation device not correctly positioned Poor fitting tube	- Ensure external fixation device is in thecorrect position. See 'leakage around stoma site - If exudates present swab and contactGP / doctor for appropriate medical advice. Contact dietitian / HENS / Diana service/
Stoma site sore/red	Over-granulationInfection Irritation due to leakage of gastric fluid External fixation device not correctly positioned Poor fitting tube	- Review skin hygiene procedures. - Ensure external fixation device is in thecorrect position. See 'leakage around stoma site - If exudates present swab and contactGP / doctor for appropriate medical advice. Contact dietitian / HENS / Diana service/
Tube splits	Excessive force in useor unblocking Age of tube Repeated use of clamp	- For PEGs it may be possible to shorten the tube and replace the adaptor – see manufacturers guidelines. - For balloon gastrostomy, the tube may need replacing. Contact HENS, ED or person identified as competent. to replace the gastrostomy.
Unable to aspirate gastric content for NG tube	Tube may not be correctly positioned	See section 4.2
Vomiting of blood / blood stained fluid	Possible gastric irritation caused by pressure from the tipof the tube in the stomach NG tube trauma Other cause unassociated withenteral feeding	**Do not use the tube Seek medical advice.**

3.10 Monitoring

3.10.1 Monitoring of inpatients on enteral tube feeding

Monitoring is important to ensure administration of nutrition support is effective and safe, and to detect and treat any complications. Individual monitoring plans will take into consideration the underlying diagnosis of the patient and route of feeding.
In addition to the monitoring required which is specific to the route of feeding (e.g. confirming position of the nasogastric tubes prior to use), the following general monitoring is required for all patients on enteral tube feeds. This only refers to inpatients not short break care unless there are clinical indications that there are problems with tolerance.

Parameter	Frequency	Rationale	Responsibility
1 . Hydration status - assess by the following:	Dependingon clinical condition:	To monitor hydration status	Nurse
a) Urine output - colour/frequency	Daily		Nurse
b) Thirst	Daily		Nurse
c) Skin turgor	Daily		Nurse
d) Mucous membranes	Daily		Nurse
e) Fluid balance charts	Daily		
f) Blood biochemistry (urea, creatinine, sodium, potassium)	As indicated by clinical assessment		Doctor
2. Nutrient intake from oral and enteral nutrition, 2.1 fluid balance charts 2.2 oral fluid/food charts as appropriate	Daily	To ascertain whether nutritional requirements are being met, and allow alteration of feed/diet as indicated	Nurse and dietitian
3. Nutritional status 3.1Weight/BMI 3.2 Proxy measure if Unable to weigh	On admission, and weekly thereafter, or as requested by the dietitian	To assess nutritional status and see if nutritional needsare being met. Revision of nutrition plan if required.	Nurse (Dietitian for proxy measures e.g. mid upper arm circumference)
4. Gastrointestinal (GI) function (nausea, diarrhoea, constipation, abdominal distension) (establish frequency and consistency of stools using Bristol stool chart)	Daily	To assess feed tolerance	Nurse/Dietitian

5. Medication 5.1 Medicationchart	Daily / when medications are reviewed/changed	To ensure preparation and route of absorption is appropriate for tube type. To ensure no drug/nutrient interactions.(please see BAPEN guidelines 2004, referenced in section 8) To ensure medication is not contributing to any complications such as diarrhea	Doctor/ Pharmacist/ Dietitian
6. Patient's appearance / basic observations such as: Temperature,pulse, respiration In accordancewith nursing protocol	Depending on clinical condition as per clinical assessment	To help assess overall condition To observe for changes in clinical condition which may relate to route and type of feed	Nurse
7 Enteral feeding tube –parameters as relevant to the specificdevice, may include position, insertion site,tube integrity, balloon water volume, fixation device position, rotating tube etc	As relevant to specific device	To maintain safety, comfort, and tube /skin integrity, as applicable	Nurse

Other parameters/more intensive monitoring may be required for individual patients (particularly new patients commencing enteral feeds). The Dietitian will liaise with the ward medical/nursing teams to discuss monitoring on an individual basis.

Further information is available from NICE - Nutrition support in adults CG32 (2006), and BAPEN

3.10.2 Monitoring patients at home on enteral tube feeding

The HENS team is responsible for ongoing nutritional monitoring for patients receiving enteral tube feeding at home.
Monitoring will be undertaken as a combination of telephone contact and visits, and frequency will vary according to individual circumstances, but may range from weekly to a maximum of 6 monthly.
The following will be monitored at routine contacts:

- Anthropometry as applicable to age and individual circumstances
- Nutritional and fluid requirements and current intake (oral and enteral if applicable)
- Appropriateness of current feed method(s) to individual circumstances
- Gastro-intestinal function and feed tolerance
- Tube management (and stoma care where relevant), identifying and advising appropriate interventions if needed
- Equipment and enteral feed supplies – requirements and arrangements
- Changes in social situation that may necessitate involvement of different carers, or regimen changes

(BAPEN)

The HENS team will liaise with other agencies involved with feed administration, to ensure ongoing communication regarding enteral nutrition regimen and requirements

3.11 Initiating Enteral Tube Feeds in community hospitals and the community

All patients due to commence enteral tube feeding within LPT hospitals should be referred to the dietitian for assessment of requirements and design of a feeding regimen. The dietitian will review the patient within 2 working days from date of referral. Ideally enteral tube feeding should not commence until the dietitian has assessed the patient.

When selecting the type of feed to be given, consideration should be made to the patient's beliefs and cultural needs to avoid causing distress.

The following information will be required:
Weight (if possible)
Height
BMI (kg/m2)
Record of dietary intake (if applicable)
Weight history (i.e. weight change over the past 3-6 months)

The above information will enable calculation of fluid and nutritional requirements and determine risk of re-feeding problems on initiating feeding.

3.12 Refeeding Syndrome

3.12.1 Background information

Re-feeding syndrome is defined by Solomon and Kirby (1990) as severe fluid and electrolyte shifts and related metabolic complications in malnourished patients undergoing re-feeding.

Re-feeding problems encompass life-threatening acute micronutrient deficiencies, fluid and electrolyte imbalance, and disturbance of organ function and metabolic regulation that may result from over-rapid or unbalanced nutrition support. They can occur in any severely malnourished individuals, but are particularly common in those who have had very little or no food intake, including overweight patients who have eaten nothing for protracted periods.

Enteral tube feeding can precipitate re-feeding problems, which can be exacerbated if the products do not include adequate vitamins, phosphate or electrolytes (NICE, 2006).

Prior to initial feeding tube insertion, the risk of re-feeding syndrome should be assessed as per local guidelines. For more information on re-feeding syndrome see NICE Guidelines 32.

Refer to LPT Prevention of Refeeding Syndrome Guidelines in Adults

3.12.2 Identification of re-feeding risk

Any individual, who has had little or no food for 5 days or more, has a history of weight loss, low BMI, history of alcohol abuse or requires certain drugs will be at risk of re-feeding problems on starting enteral feeds.

The following guidance may be utilised, or in specific circumstances the Management of Really Sick Patients with Anorexia Nervosa (MARSIPAN) guidance may be deemed more appropriate for inpatients under the care of the Adult Eating Disorders Service.

Refer to joint medical and nursing checklist for identifying potential risk factors for development of re-feeding problems - Appendix 6.

3.12.3 Criteria for identifying adult patients at risk of developing re- feeding problems

Level of risk	Criteria to determine risk	Commencing feeds
At risk	Little or no food for more than 5 days (but does not fall into the high risk category)	Nutrition support should be introduced at no more than 50% of requirements for the first two days, before increasing feed rates to meet full needs if clinical and biochemical monitoring reveal no re-feeding problems. Refer to Dietitian prior to commencing feeds. If Dietitian unavailable use the starter regimen for patients at risk of re-feeding problems see 3.13.2
At Highrisk	**ONE or more of the following:** BMI less than 16 kg/m^2 unintentional weight loss greater than 15%within the last 3-6 months little or no nutritional intake for more than 10days low levels of potassium,phosphate or magnesium prior to feeding **Or TWO or more of the following:** BMI less than 18.5 kg/m^2 unintentional weight loss greater than 10% within the last 3-6 months little or no nutritional intake for more than 5 days a history of alcohol abuse drugs including insulin,	**Patients at high risk require:** Provision of oral Thiamine 200 – 300mg daily, vitamin B compound strong1 or 2 tablets, three times a day (or full dose daily intravenous vitamin B preparation, if necessary), and a multivitamin and trace element supplement once daily Supplementation of potassium, phosphate and magnesium from the onset of feeding, according to blood levels. Initiation of enteral feeds at 10kcal/kg, increasing intake slowlyover 4-7 days Regular biochemical monitoring with further supplementation of potassium, phosphate and magnesium as determined by blood levels Refer to Dietitian prior to commencing feeds. The dietitian can advise on re-

	chemotherapy, antacids or diuretics	feeding risk but cannot initiate the inpatient prescription (except some dietitians covering the stroke units). The medical team and Advanced NursePractitioners will need to monitor blood biochemistry. If Dietitian unavailable use the guidelines for patients at high risk of re-feeding problems (see 3.13.3) Agree with medical staff if the patient can be safely managed in a community hospital. The patient will need to be referred back to UHL/acutehospital if unsafe to manage in the community and this needs recommending by medical staff.
Not atrisk	patients who do not fall into the 'at risk' or 'high risk' categories	Introduce feeds in accordance with information in the ward nutrition resource folder

NICE 2006, UHL 2016, PEN Group 2011

3.13 Commencing enteral tube feeds for adult inpatients

3.13.1 Adult patients not at risk of re-feeding problems

- Refer to ward Dietitian
- Commence Nutrison 1.0 feed at 25ml/hour for 10 hours

Observe for diarrhoea, nausea or vomiting, or signs of abdominal distension.
- If tolerating feeds, increase rate to 50ml/hour for 10 hours
- Consider total fluid requirements; adjust IV fluids if necessary if the person is receiving IV fluids
- Observe for diarrhoea, nausea or vomiting, or signs of abdominal distension.
- Give 4 hour break from feed
- If tolerating feeds, continue at 50ml/hour for 20 hours
- Give a 4 hour break from feeds
- Continue feeds as per regimen from relevant dietitian

3.13.2 Adult inpatients at risk of re-feeding problems (i.e. has not eaten for 5 days or had enteral feed for 5 days)

Initiating feeds in this situation may be undertaken in LPT and community hospitals only where appropriate medical input is available

- Refer to ward Dietitian
- Check urea and electrolytes, including magnesium and phosphate to identify low levels of potassium, magnesium and phosphate. If depressed refer to Appendix 6. If, with medical input it is decided to continue to treat in community hospitals, bloods should be checked daily until normalised and the following will need to be prescribed immediately before and during the first 10 days of feeding: oral thiamine, vitamin B compound strong and a balanced multivitamin /

trace element supplement.
- Commence feed at 25ml per hour for 20 hours
- Consider total fluid requirements; adjust IV fluids if necessary
- Observe for diarrhoea, nausea or vomiting, or signs of abdominal distension.
- Give 4 hour break from feed
- If tolerating feeds, recommence at 25mls per hour for 20 hours
- Check serum biochemistry 24 - 48 hours after commencing feeds, for levels of potassium, phosphate and magnesium. If the levels are depressed, the relevant medical practitioner should be contacted and asked to correct. Potassium, magnesium and phosphate should be monitored every 24 hours until corrected.
- Give 4 hour break from feed
- Increase feeds as per regimen from ward Dietitian if biochemistry normal (Review biochemistry as clinically indicated) (UHL, 2016)

3.13.3. Adult inpatients at high risk of re-feeding problems (see 3.12.3)

Commencing feeds for patients at high risk of refeeding syndrome in LPT must not take place in the absence of facilities for regular biochemical monitoring, and appropriately qualified individuals to interpret results and arrange corrective medication in a timely way, if required.

A medical decision is required, based on clinical condition, to determine if the patient should be referred back to UHL/acute hospital to initiate enteral feed safely. This is strongly advised if the patient has other clinical symptoms e.g. cardiac failure, pulmonary oedema or dysrhythmias. The patient should only be transferred back to the LPT settings when their bloods have normalised.

If a decision is taken to commence feeds in LPT inpatient settings:

- Refer to ward Dietitian.
- Check urea and electrolytes, including magnesium and phosphate to identify low levels of potassium, magnesium and phosphate. If depressed refer to Appendix 6. If, with medical input it is decided to continue to treat in community hospitals, bloods should be checked daily until normalised and the following will need to be prescribed immediately before and during the first 10 days of feeding: oral thiamine, vitamin B compound strong and a balanced multivitamin / trace element supplement.
- Commence feed to provide a total of 10kcal/kg, over a 20 hour period.
- Consider total fluid requirements; adjust IV fluids if necessary.
- Observe for diarrhoea, nausea or vomiting, or signs of abdominal distension.
- Give 4 hour break from feed.
- Check serum biochemistry 24 hours after commencing feeds, for levels of potassium, phosphate and magnesium. If the levels are depressed, the relevant medical practitioner should be contacted and asked to correct. Potassium, magnesium and phosphate should be monitored every
- 24 hours until normalised and stable, and any increase in feeds should be dependent on trends in biochemistry.

3.14 Commencing enteral tube feeds in the community

In certain circumstances it is desirable to commence enteral tube feeds for patients at home. These patients should be referred to the HENS team, and a decision made regarding appropriateness of this in liaison with the relevant medical team and the other agencies involved.

Actions and considerations required where there is risk of re-feeding syndrome are as for inpatient settings.

A nutritional regimen will be individually calculated by the managing dietitian.

3.15 Re-establishing oral feeding/stopping enteral tube feeds

The decision to attempt oral feeding for an individual who has previously been nil by mouth should be made as a Multi-disciplinary team involving Speech and Language therapy to ensure that the patient is safe to swallow. Not all patients will be able to return to oral nutritional intake. Information is available from Speech and Language Therapy about oral tastes.

It is vital that the Dietitian is contacted before tube feeding is reduced / ceased so that an assessment of the adequacy of oral food and fluid can be obtained.

The transfer from enteral tube feeding to oral feeding should ideally be a ‘weaning process’. The following measures can be taken:

1. Nursing staff should record all oral dietary and fluid intakes to enable the dietitian to reassess this regularly.

2. The patient should be encouraged to take prescribed supplements regularly.

3 Once enteral tube feeds have been stopped, monitoring of weight and oral intake should continue to ensure nutritional status does not deteriorate.

4 An enteral feeding tube should only be removed once the multi-professional team members are confident that it is no longer required

3.16 Discharging patients on enteral tube feeding

Patients who are on an established enteral feed and are being discharged to their own home or a care home need to be referred to the Home Enteral Nutrition Service (HENS) for pre-discharge arrangements and ongoing management and monitoring of their enteral feed. Children may also require referral to the Diana Service.

Patients should be referred to the HENS at least 5 working days before discharge using the HENS referral form (see appendix 7). The HENS team will arrange training for the patient or their carer if needed, and ensure arrangements are made for provision of a pump (if required), enteral feeds and equipment for use at home. For the majority of patients, this will involve a 3rd party home delivery company.

Once home, it is important that enteral feeding regimens are compatible with individual circumstances, taking into account the patient's daily routine, their ability to manage and any support needed, in addition to nutritional aims.

Where a patient is no longer using their gastrostomy tube but is discharged prior to its removal, a referral to the HENS is still required to ensure the patient is provided with appropriate syringes to flush the tube daily and has a contact telephone number in case of any problems with the tube.

Communication should take place to ensure all teams are aware of arrangements for remove of the tube.

3.17 Use of bile drainage bags

There may be individuals who require enteral tube feeding who require the use of a bile drainage system. It is important to recognise that bile is necessary to maintain a healthy body and that it may be necessary to replace the bile that has been drained.

A protocol for use of such a system will be written in conjunction with Dietetic and medical staff and will require a detailed care plan. The reintroduction of bile into the body that has been drained off will be the responsibility of the qualified nurse in accordance with the individuals care plan.

4.0 Duties within the Organisation

Policy, Guideline or Procedure / Protocol Author

Responsibility for ensuring the nutrition and Hydration Steering Group identify learning and best practice to inform this Policy and update accordingly.

To ensure the policy is reviewed in accordance with identified timescale and implementation of monitoring and effectiveness has been planned and is reviewed by the Directorates and appropriate governance group.

Lead Director

Responsible for ensuring that this policy is carried out effectively and enteral feeding is addressed and managed effectively across the organisation.

Will communicate, disseminate, and ensure Directorates commence implementation of the policy and provide assurance through the Trust's Quality Governance Framework.

Directors, Heads of Service

Responsible for ensuring all relevant staff are aware of the policy and adhere to the principles and guidelines contained within it.

Ensuring that effective systems are in place to support appropriate risk assessment and care planning to manage those patients at risk as far as is reasonably practicable

Senior Managers, Matrons and Team Leads

Are responsible for ensuring implementation within their area, and for ensuring all staff who work within the area adhere to the principles at all times. Any deficits identified will be addressed

Clinical Staff

Each individual member of staff, substantive and temporary worker within the Trust is responsible for complying with this policy.

Clinical staff involved in enteral nutrition will ensure they are familiar with the content of the policy and associated procedural guidelines, and work in accordance with these.

Ensure to provide support and education to the patient, carer, family where appropriate.

Be a source of knowledge and skill for colleagues where appropriate.

Ensure to remain to date with training in line with relevant competencies for job role

5.0 Consent

Clinical staff must ensure that consent has been sought and obtained before any care, intervention or treatment described in this policy is delivered. Consent can be given orally and/ or in writing. Someone could also give non-verbal consent if they understand the treatment or care about to take place. Consent must be voluntary and informed and the person consenting must have the capacity to make the decision.

In the event that the patient's capacity to consent is in doubt, clinical staff must ensure that a mental capacity assessment is completed and recorded. Someone with an impairment of or a disturbance in the functioning of the mind or brain is thought to lack the mental capacity to give informed consent if they cannot do one of the following:

- Understand information about the decision
- Remember that information
- Use the information to make the decision
- Communicate the decision

If a person's ability to make a decision regarding nutrition and hydration is doubted, a capacity assessment should be undertaken. If the person lacks capacity and they have made an advance decision to refuse treatment (ADRT) which is valid and applicable in relation to nutrition and hydration, then treatment should not be provided.

If the patient does not have an ADRT then the decision will need to be made in the person's best interest under the MCA, unless they have a registered lasting power of attorney for health and welfare then consent should be sought from the appointed attorney.

Providing nutrition and hydration under the Mental Health Act 1983 is only appropriate for detained patients who are refusing to eat, not for patients who are unable to meet nutrition and hydration needs orally due to a physical illness

6.0 Monitoring Compliance and Effectiveness

Monitoring is important to ensure administration of nutrition support is effective and safe, and to detect and treat any complications. Individual monitoring plans will take into consideration the underlying diagnosis of the patient and route of feeding.

In addition to the monitoring required which is specific to the route of feeding (e.g. confirming position of the nasogastric tubes prior to use), the following general monitoring is required for all patients on enteral tube feeds. This only refers to inpatients not short break care unless there are clinical indications that there are problems with tolerance.

Parameter	Frequency	Rationale	Responsibility

1.Hydration status - assess by the following: g) Urine output - colour/frequency h) Thirst i) Skin turgor j) Mucous membranes k) Fluid balance charts l) Blood biochemistry (urea, creatinine, sodium, potassium)	Depending on clinical condition: Daily Daily Daily Daily Daily As indicated by clinical assessment	To monitor hydration status	 Nurse Nurse Nurse Nurse Nurse Doctor
3. Nutrient intake from oral and enteral nutrition, 3.1 fluid balance charts 3.2 oral fluid/food charts as appropriate	Daily	To ascertain whether nutritional requirements are being met, and allow alteration of feed/diet as indicated	Nurse and dietitian
3. Nutritional status 3.1Weight/BMI 3.2 Proxy measure if Unable to weigh	On admission, and weekly thereafter, or as requested by the dietitian	To assess nutritional status and see if nutritional needs are being met. Revision of nutrition plan if required.	Nurse (Dietitian for proxy measures e.g. mid upper arm circumference)
4. Gastrointestinal (GI) function (nausea, diarrhoea, constipation, abdominal distension) (establish frequency and consistency of stools using Bristol stool chart)	Daily	To assess feed tolerance	Nurse/Dietitian
6. Medication 6.1 Medication chart	Daily / when medications are	To ensure preparation and route of absorption is appropriate for tube type. To ensure no drug/nutrient	Doctor/ Pharmacist/ Dietitian

	reviewed/changed	interactions. (please see BAPEN guidelines 2004, referenced in section 8) To ensure medication is not contributing to any complications such as diarrhea	
6. Patient's appearance / basic observations such as: Temperature, pulse, respiration In accordance with nursing protocol	Depending on clinical condition as per clinical assessment	To help assess overall condition To observe for changes in clinical condition which may relate to route and type of feed	Nurse
7 Enteral feeding tube – parameters as relevant to the specific device, may include position, insertion site, tube integrity, balloon water volume, fixation device position, rotating tube etc	As relevant to specific device	To maintain safety, comfort, and tube /skin integrity, as applicable	Nurse

7.0 References and Bibliography

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8.0 Fraud, Bribery and Corruption consideration

The Trust has a zero-tolerance approach to fraud, bribery and corruption in all areas of our work and it is important that this is reflected through all policies and procedures to mitigate these risks.

Fraud relates to a dishonest representation, failure to disclose information or abuse of position in order to make a gain or cause a loss. Bribery involves the giving or receiving of gifts or money in return for improper performance. Corruption relates to dishonest or fraudulent conduct by those in power.

Any procedure incurring costs or fees or involving the procurement or provision of goods or service, may be susceptible to fraud, bribery, or corruption so provision should be made within the policy to safeguard against these.

If there is a potential that the policy being written, amended or updated controls a procedure for which there is a potential of fraud, bribery, or corruption to occur you should contact the Trusts Local Counter Fraud Specialist (LCFS) for assistance.

Appendix 1 Training Needs Analysis

Training topic:	Enteral Tube feeding and care	
Type of training: (see study leave policy)		
Directorate to which the training is applicable:	Adult Mental Health* Community Health Services * Families Young People Children / Learning Disability/ Autism Services	
Staff groups who require the training:	Registered Nurses, Registered Nursing Associates, Senior HCSW, Dieticians	
Regularity of Update requirement:	1 year	
Who is responsible for delivery of this training?	Locally delivered	
Have resources been identified?		
Has a training plan been agreed?		
Where will completion of this training be recorded?	ULearn * Other (please specify) *	
How is this training going to be monitored?		
Signed by Learning and Development Approval name and date	Alison O Donnell	Date: 5 March 2025

Appendix 2: The NHS Constitution

- The NHS will provide a universal service for all based on clinical need, not ability to pay.
- The NHS will provide a comprehensive range of services.

Shape its services around the needs and preferences of individual patients, their families and their carers Answer yes/no to all

Respond to different needs of different sectors of the population yes

Work continuously to improve quality services and to minimise errors yes

Support and value its staff yes

Work together with others to ensure a seamless service for patients yes

Help keep people healthy and work to reduce health inequalities yes

Respect the confidentiality of individual patients and provide open access to information about services, treatment and performance yes

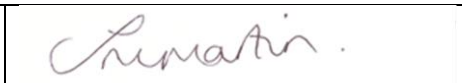
Appendix 3 Due Regard Screening Template

Section 1	
Name of activity/proposal	Enteral Nutrition Policy
Date Screening commenced	29.05.24
Directorate / Service carrying out the assessment	Enabling
Name and role of person undertaking this Due Regard (Equality Analysis)	Claire Blakeman
Give an overview of the aims, objectives and purpose of the proposal:	
AIMS: The aim of this policy is to promote safe practice related to enteral tube feeding. This includes the placement of enteral feeding devices in the community (where applicable), ongoing management of devices, and the administration of feeds and medication.	
OBJECTIVES: The insertion and subsequent management of enteral feeding devices and the administration of enteral feeds, fluids and medication via the devices should be safe, effective and comfortable for the patient • Staff will be aware of best practice related to enteral tube feeding. • Staff will be able to administer enteral feeds, medication and fluid for patients with enteral feeding devices, using appropriate procedures. • Relevant staff will be aware of the procedure for placement, replacement and removal of enteral feeding devices. • Staff will be aware of the infection prevention and control requirements relevant to enteral nutrition • The potential for incidents relating to enteral tube feeding will be minimised.	

Section 2	
Protected Characteristic	If the proposal/s have a positive or negative impact please give brief details
Age	Positive
Disability	Positive
Gender reassignment	Positive
Marriage & Civil Partnership	Positive
Pregnancy & Maternity	Positive
Race	Positive
Religion and Belief	Positive
Sex	Positive
Sexual Orientation	Positive
Other equality groups?	

Section 3	
Does this activity propose major changes in terms of scale or significance for LPT? For example, is there a clear indication that, although the proposal is minor it is likely to have a major affect for people from an equality group/s? Please tick appropriate box below.	
Yes	**No**
High risk: Complete a full EIA starting click here to proceed to Part B	Low risk: Go to Section 4.

Section 4			
If this proposal is low risk please give evidence or justification for how you reached this decision:			
This policy replaces previous clinical guidelines.			
Signed by reviewer/assessor		Date	29.05.24
Sign off that this proposal is low risk and does not require a full Equality Analysis			

Head of Service Signed		Date	29.05.24

Appendix 4 Data Privacy Impact Assessment Screening

Data Privacy impact assessment (DPIAs) are a tool which can help organisations identify the most effective way to comply with their data protection obligations and meet Individual's expectations of privacy.
The following screening questions will help the Trust determine if there are any privacy issues associated with the implementation of the Policy. Answering 'yes' to any of these questions is an indication that a DPIA may be a useful exercise. An explanation for the answers will assist with the determination as to whether a full DPIA is required which will require senior management support, at this stage the Head of Data Privacy must be involved.

Name of Document:	Enteral Nutrition Policy	
Completed by:	Claire Blakeman	
Job title	Clinical Dietetic Manager HENS	**Date** 28.05.24

Screening Questions	**Yes / No**	**Explanatory Note**
1. Will the process described in the document involve the collection of new information about individuals? This is information in excess of what is required to carry out the process described within the document.	No	
2. Will the process described in the document compel individuals to provide information about them? This is information in excess of what is required to carry out the process described within the document.	No	
3. Will information about individuals be disclosed to organisations or people who have not previously had routine access to the information as part of the process described in this document?	No	
4. Are you using information about individuals for a purpose it is not currently used for, or in a way it is not currently used?	No	
5. Does the process outlined in this document involve the use of new technology which might be perceived as being privacy intrusive? For example, the use of biometrics.	No	
6. Will the process outlined in this document result in decisions being made or action taken against individuals in ways which can have a significant impact on them?	No	
7. As part of the process outlined in this document, is the information about individuals of a kind particularly likely to raise privacy concerns or expectations? For examples, health records, criminal records or other information that people would consider to be particularly private.	No	
8. Will the process require you to contact individuals in ways which they may find intrusive?	**No**	

If the answer to any of these questions is 'Yes' please contact the Data Privacy Team via Lpt-dataprivacy@leicspart.secure.nhs.uk
In this case, ratification of a procedural document will not take place until review by the Head of Data Privacy.

Data Privacy approval name:	**N/A**
Date of approval	

Acknowledgement: This is based on the work of Princess Alexandra Hospital NHS Trust

Appendix 5: Documenting the Placement of Nasogastric Tubes

Form to document placement of nasogastric tube (also available on SystmOne as a Dietetic Questionnaire)

(NPSA/2011/PSA002)

Name…….. Date of birth……

NHS no……

Manufacturer and Type of device……

Date ……Time ……

Replaced by ……..

Consent obtained: Yes/No

Document details of device below or attach sticker

Reference…… Tube passed to ……. cm Right/left nostril (delete)

LOT……

Expiry……

Length……

FR……

Aspirate obtained Yes/No

pH of aspirate ……..

Comments

Name…….

Signature

……

Date……

Retain form with Dietetic or nursing record

Appendix 6 - Joint medical and nursing checklist for assessing if patient at risk of re-feeding problems

To be filed in medical notes
To be used in conjunction with guidelines for commencing enteral feeds

Nursing Assessment

Weight Height

BMI		less than 18.5	→	**RISK**
Weight loss in last 6 months? No	yes	More than 10%	→	**RISK**
When did the patient last eat?		More than 5 days	→	**RISK**

Medical Assessment (tick boxes)

Pre-feeding biochemistry

Is potassium less than 3.0?	no	yes	→	**RISK**
Is phosphate less than 0.8?	no	yes	→	**RISK**
Is magnesium less than 0.7?	no	yes	→	**RISK**
Is patient on Insulin?	no	yes	→	**RISK**
Is patient on diuretic?	no	yes	→	**RISK**
Is patient on antacid?	no	yes	→	**RISK**
Does patient consume excess alcohol?	no	yes	→	**RISK**

If yes to any risk factors, 3.12.3 to identify risk level

Not at risk → Follow guidelines 3.13.1
At risk → Follow guidelines 3.13.2
At High risk → Follow guidelines 3.13.3

Appendix 7 Referral form – Home Enteral Nutrition Service (HENS)

Leicestershire Nutrition and Dietetic Service
Leicestershire Home Enteral Nutrition Service (HENS)

HENS REFERRAL FORM

Please complete the details below and return this referral form to the Home Enteral Nutrition Team (HENS)

PLEASE NOTE: Incomplete forms may be returned

Hospital:	Ward:	Ward Ext No:	Ward Dietitian:	Ward Dietitian Tel No:

Patient Sticker: ☐ Male ☐ Female NHS Number: Surname: Forename: Address: Postcode: Lives alone: ☐ Yes ☐ No Date of Birth: Landline Telephone Number: ☐ Preferred Number? Mobile Telephone Number: ☐ Preferred Number?	Hospital Consultant (**Include** initials & speciality): GP Details (**Include** initials, address, post code & telephone number):
Discharge Destination: Name of Carer/Care Agency/Care Home: Telephone Number: Confirm patient has agreed to be contacted about enteral feeding at home: **Yes / No** Any safety concerns with a lone home visit? **Yes / No** (list below):	Communication Difficulties: Preferred language: Interpreter needed: **Yes / No**
Any safeguarding concerns: **Yes / No** (please state):	
Name/s & relationship/s of person/s that need training by HENS (include telephone number/s): Have they agreed to be trained: **Yes / No**	Date Tube Sited: Enteral Feeding Route (**please tick**): ☐ PEG ☐ RIG ☐ NG ☐ NJ ☐ Jejunostomy ☐ Other (**list below**) Manufacturer/Size: Length of time patient has been tube fed:
Weight History (include dates): Height: Current BMI:	Allergies:

PLEASE TURN OVER

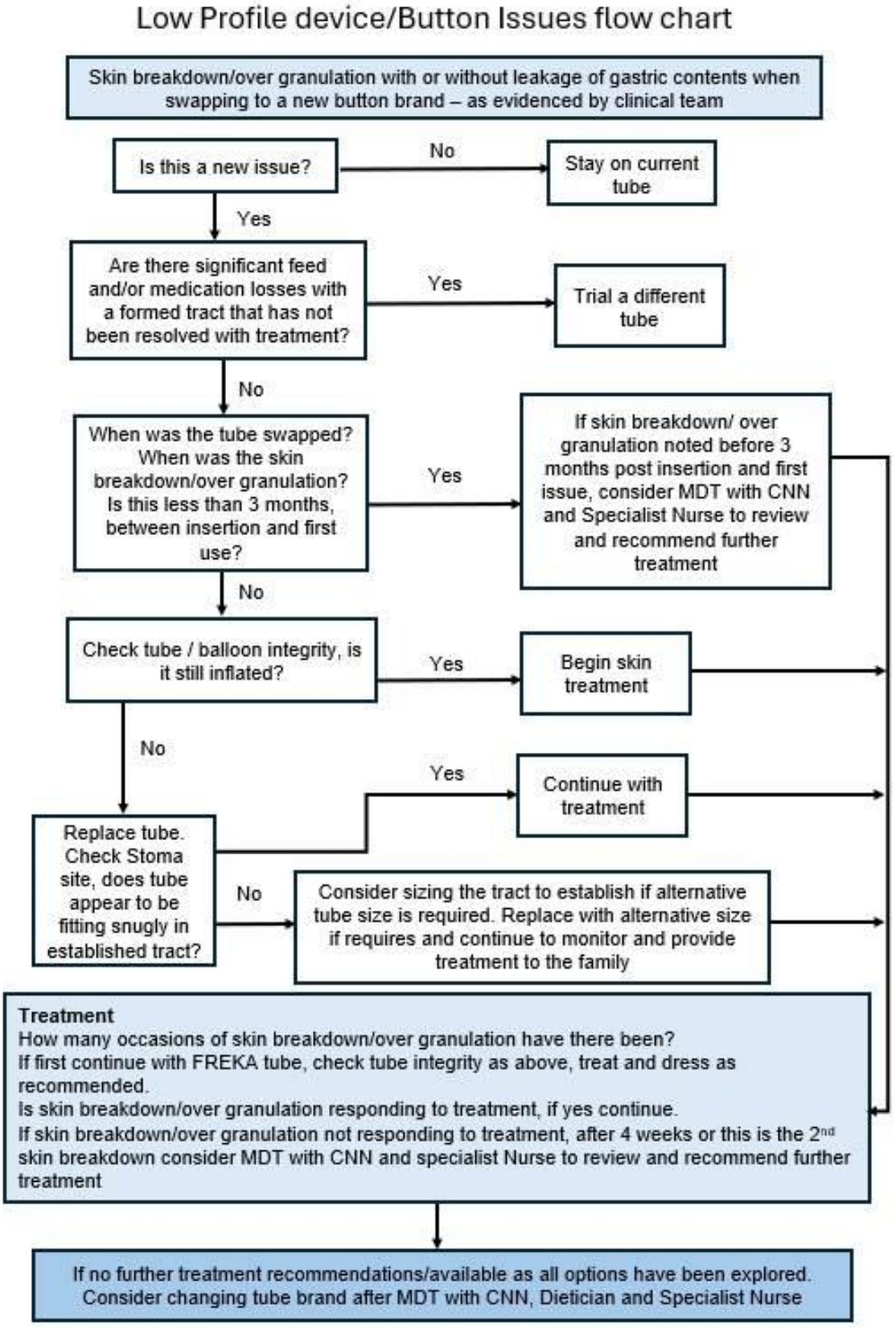
Diagnosis/Treatment:	
Past medical history:	
Infection Prevention Alert (e.g. CRO, C-DIF, MRSA):	
Aim of Dietetic Treatment (e.g. Pre Operation Build Up):	
Current Feeding Regimen/Method of feeding:	◻ Bolus ◻ Pump ◻ Both
Bowel habits:	Feed tolerance issues:
Swallowing ability, oral intake, SALT involvement:	**NBM** ◻ YES ◻ NO
Relevant Medications:	
Other relevant information:	
Proposed date of discharge:	Date of referral:
Print name:	
PLEASE update the HENS team regarding any significant changes to the information on this form by email (NOT by sending a second referral form).	

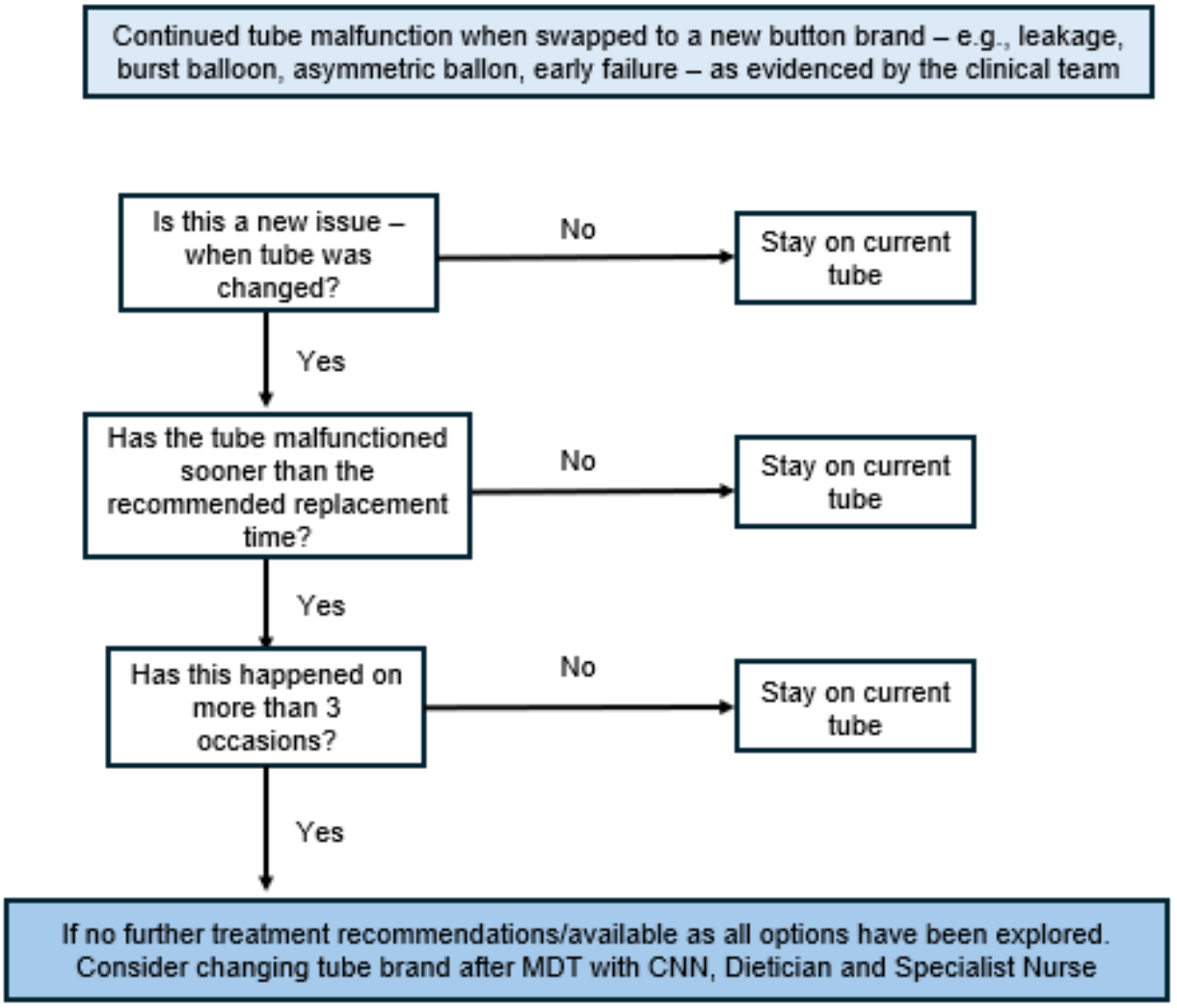
By post: Leicestershire Nutrition and Dietetic Service, Home Enteral Nutrition Service (HENS), OSL House, East Link, Meridian Business Park, Leicester LE19 1XU Tel: (0116) 2227161

By email: Hens.Team@nhs.net

Updated: August 2022

Appendix 8 – Low profile device / button issues flow chart (new charts in draft)




Continued tube malfunction when swapped to a new button brand – e.g., leakage, burst balloon, asymmetric ballon, early failure – as evidenced by the clinical team
Is this a new issue – when tube was changed?
No
Stay on current tube
Yes
Has the tube malfunctioned sooner than the recommended replacement time?
No
Stay on current tube
Yes
Has this happened on more than 3 occasions?
No
Stay on current tube
Yes
If no further treatment recommendations/available as all options have been explored. Consider changing tube brand after MDT with CNN, Dietician and Specialist Nurse

Appendix 9 - Procedure for the insertion of nasogastric tubes

The term ‘patient’ within this document is used to denote child, young person or adult.

Nasogastric tubes may be placed by:
Qualified and competent staff who have undergone training and competency assessment in certain community hospitals
Home Enteral nutrition service dietitians for adult patients in their own homes
The Diana Childrens community nursing service for children in their own homes
Adult Eating Disorders Unit
Add Beacon Unit

Resources required for the insertion of a nasogastric tube

- Personal Protective Equipment (PPE) if patient is being barrier nursed due to infection
- Non sterile powder-free nitrile gloves and disposable plastic apron
- Nasogastric Tube (Radio – opaque with externally visible length markings).
- Polyurethane (for long term use)
- Adhesive tape – hypoallergenic or other appropriate fixing devices
- pH indicator paper, CE marked and intended by the manufacturer for human gastric aspirate, (with colour measuring result scale for that paper).
- Syringes – ENFit type 5ml, 10ml, 20ml, or 60ml (depending on the tube type/individual patient)
- Water - sterile, cool boiled or freshly drawn drinking tap (this can be a carers/parent’s preference in the home setting, though for infants, cool boiled water or sterile water should be used)
- Clinical waste facilities, may be household waste within the patient’s home.
- Tissues
- Clean surface, J tray or bowl
- Alcohol wipes within inpatient settings
- Glass of water and straw if the individual is not nil-by-mouth (and age-appropriate). For young children, a dummy may be appropriate.

Process for passing a Nasogastric Tube by appropriately trained staff

For initial insertion ensure there is support and documentation of agreement from the relevant
medical professional or Advanced Nurse Practitioner (ANP). This should be revisited in the
event of tube displacement for patients in community hospitals.

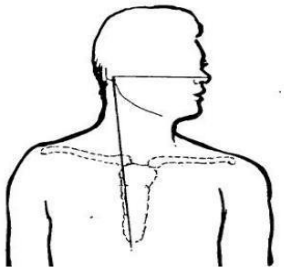
Check there are no contra-indications to passing a nasogastric tube.
Contraindications include:
- Anatomical deformity

- Trauma
- Patients with maxillofacial disorders, surgery or trauma
- Oropharyngeal or Oesophageal tumours or surgery
- Oesophageal varices
- Laryngectomy
- Clotting disorders or problems which may cause bleeding
- Cervical spine injuries

Nasogastric tubes may be inserted by:
- A registered health care professional who has undergone appropriate training and is deemed competent.
- A healthcare practitioner in training under supervision by a Registered competent healthcare professional.
- Family members may also be trained to place nasogastric tubes for patients at home

Process

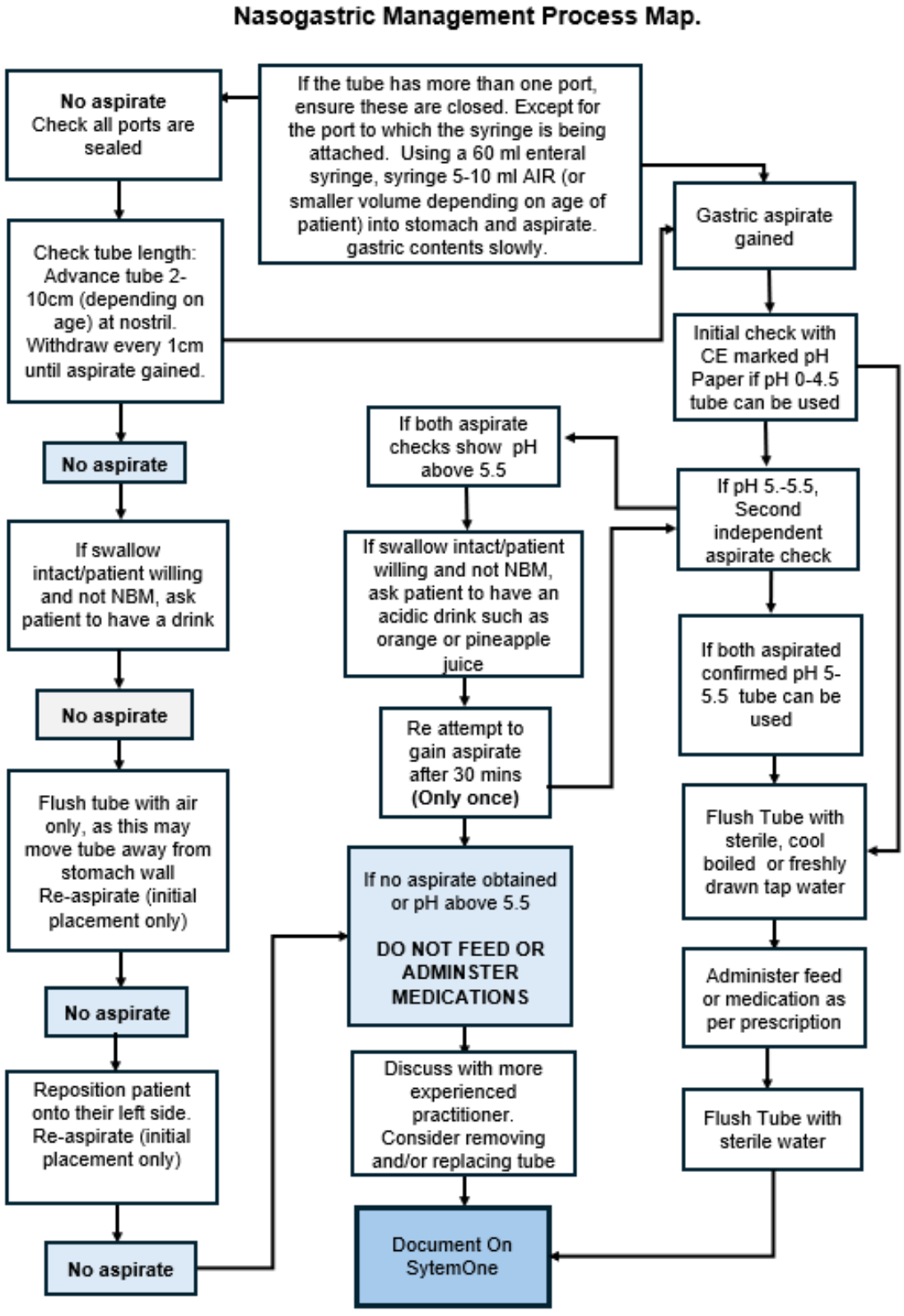
1	Check the patient's ability to consent If there is any doubt, a mental capacity assessment will be required. If the patient is unable to consent, 'best interests' must be explored, involving the medical team, next of kin, and staff involved in the patients care
2	Explain the procedure to patient/carer providing appropriate information about the procedure and potential risks involved, ensure informed consent and reduce anxiety. Verbal consent should be documented in the notes.
3	Preparation for the procedure a) A suitable environment should be identified b) Arrange a signal by which the patient can communicate if he or she wishes the procedure to stop, to enable them to have some control over the procedure and reduce anxiety. c) Arrange for appropriate monitoring for respiratory distress or pallor to take place throughout the procedure, to ensure early detection of problems or complications d) Choose an appropriate size and type of tube e) Determine the most appropriate position for the patient depending on the age and ability to co-operate. Adults and older children may sit upright with support to the back of the head. Young children and infants can lay down, wrapped in a sheet or a blanket. Promotes compliance, holds the child/infant still and prevents child pulling tube out. RCN (2010), **Note: the head should not be tilted backwards** If the patient is unconscious, place into a safe position by laying them on their side. f) If appropriate, ask the patient if they have a preferred nostril for tube placement. Ensure that the chosen nostril is free of debris

4	Preparation of equipment a) Wash hands with liquid soap and running water. Dry hands thoroughly, with single use disposable paper towel. Put on single use non-powdered nitrile gloves and disposable plastic apron. b) Assemble all required equipment on a clean surface, checking the expiry date of all equipment before use. c) If passing a tube with a guidewire, ensure the guide wire moves freely within the tube and it is not kinked or protruding from the end of the tube. This will help ensure easy withdrawal of the guide wire once the tube is in-situ, and to avoid any damage which may be caused by a protruding guidewire. d) Measure the length of the tube to be inserted using the NEX measurement (place exit port of tube tip at nose. Extend the tube to the earlobe, and then to the xiphisternum (or vice versa), as per the illustration below) Note the length of the tube required using the markings on the tube, to obtain an indication of the length of tubing that will be needed to reach the stomach  NEX - Nose to Ear to Xiphoid [23] *Reproduced from: Patient Safety Alert NPSA/2011/PSA002: Reducing the harm caused by misplaced nasogastric feeding tubes in adults, children and infants March 2011* e) Lubricate the tip of the tube with water, if manufacturers information recommends this, to assist the easy passage of the tube and prevent trauma
5	Tube placement a) Ask, or assist the patient to adopt the position agreed as above, with head tilted slightly forwards b) Insert the rounded end of the tube into identified nostril and slide it backwards along the floor of the nasopharynx. c) Advance the tube gently via the nasopharynx to the oesophagus, asking the patient (if able) to swallow. If appropriate offer a drink to aid this process. Continue to advance the tube gently each time the patient swallows, until the anticipated required length of tube has been inserted. Infants could be encouraged to swallow by using a dummy if appropriate. Swallowing action facilitates passage of the tube through the oesophagus, and closes the glottis, helping avoid inadvertent placement of the tube in the bronchus. d) Hold, or lightly secure the tube in place with tape until its position has been confirmed. Adjustment of tube position may be needed.

6	Confirmation of correct tube position Confirmation of correct tube position is undertaken by aspiration of stomach contents and measurement of pH using pH indicator paper. Tube position must be confirmed on placement and at the time of using the tube, on every occasion. pH in the 'safe range' or x-ray are the only acceptable methods of confirming initial placement of a nasogastric tube *Stomach contents are acidic and (if unaffected by medication or the presence of food/enteral feed) have a pH of around 3-4. Bronchial secretions (from healthy lungs) are expected to have a pH of 7.38 – 7.42.* **Never confirm correct tube position by** • **auscultation (the 'whoosh' test)** • **use of litmus paper** • **referring to results of a previous x-ray carried out in an acute hospital** **These are not reliable methods of confirmation of position** Process for confirmation of correct tube position: a) Gently push 5-10ml (or for children: 4-5fr tubes = 1ml or 6-8fr tubes = 2ml) of air down the free feeding port of the tube using an appropriately sized syringe, to ensure no fluid (water, feed, mucus or debris) accumulated during tube placement is present, which may give a false reading. b) Withdraw the syringe plunger, to aspirate fluid for testing (2-5ml is adequate). If no fluid is obtained, try advancing the tube by a few cm, and then withdrawing in 2cm increments, re-trying to aspirate at each step c) Place the aspirate onto the pH indicator strip or paper on a clean dry surface and check for an acidic reaction. A pH of 5.5 or below is required to confirm a correct placement of the tip of the tube.
7	If the tube has a guidewire, remove this by applying gentle traction, while supporting the tube to ensure it does not move. Some manufacturers recommend flushing the tube with water (to activate a lubricant in the inner lumen of the tube) prior to this, to facilitate guidewire removal. **It is essential that flushing is not carried out until position of the tube has been correctly confirmed. NPSA/2012/RRR001** If resistance is felt while removing the guidewire, try withdrawing the tube a few centimeters and then repositioning it. If the guidewire cannot be withdrawn, the tube will need to be removed
8	Secure the tube in place after confirmation of correct position, using a suitable dressing or tape
9	If the tube is licensed for repassing on the same patient, store the guidewire in the original tube packaging

10	Remove gloves and apron and dispose of all waste appropriately
11	Wash and dry hands thoroughly.
12	Complete documentation in patient's record to include: Date and time of insertion / reinsertion. NEX measurement. Nostril used on insertion / reinsertion. External length (using cm marking) at nostril once secured. Aspirate obtained yes/no pH of aspirate obtained Name of person inserting tube Appendix 1 provides a proforma, if required
13	**Note** – any unused tube identified as being in the lung must be removed immediately

Appendix 10 Confirmation of correct placement of nasogastric tube



If difficulties are experienced in confirming tube position by aspiration, try the following:

Problem - Unable to withdraw any fluid via the tube: DO NOT USE THE TUBE

Action/check	**Rationale**
Check the length of tube visible is the same as usual.	If more tubing is visible than normal the tip of the tube may not be in the stomach and the tube may need replacing.
If the tube appears to be taped in the usual place, try the following, as appropriate. - change the position of the person onto his/her left side, or encourage activity, and try again - if the person requiring feed is able to drink safely, and not 'nil by mouth' offer a drink to increase the volume of fluid in the stomach (an acidic drink e.g. pure orange or pineapple juice will also assist with lowering the pH) and try again. If, despite repeated attempts, the above are unsuccessful, it may be necessary to change the tube. Contact the person responsible for the tube replacement.	

Problem - The pH of the fluid is above 5.5: DO NOT USE THE TUBE

Action/check	**Rationale**
If the person with the tube has recently had a meal or a feed, wait for up to an hour if time permits, and try again. If the pH is still above 5.5, seek advice.	Recent food, drinks or feeds may have altered the gastric pH
Check medication regime. Is the patient receiving antacid medication? If so, check with the pharmacist to ascertain whether the timings of the medication can be altered to assist with obtaining an acidic aspirate at the required times If the medication has recently been given, wait up to an hour if time permits, and try again. If the pH is still above 5.5, seek advice	Certain medications e.g. some antacids may increase the pH of the stomach contents (i.e. make them less acidic). If you have any queries, please discuss this with dietitian or your pharmacist. Antacid medications have times of 'peak' action which it may be possible to alter

If the patient can safely eat and drink, offer a drink which has an acidic pH e.g. orange or pineapple juice, if age appropriate	This will temporarily lower the overall pH of the stomach contents
If the patient is 'nil by mouth', offer mouth care or dummy as age appropriate	This may stimulate the production of gastric acid
Consider changing the tube, or contact the person responsible for changing the tube	
In individual circumstances only, and by agreement of the relevant senior/medical staff, undertake a risk assessment before using the tube. **THIS IS NOT APPLICABLE ON INITIAL TUBE PLACEMENT**	Certain individuals regularly have a gastric pH higher than 5.5, particularly where feeds are continuous and the patient requires antacid medication

IMPORTANT – NEVER USE THE TUBE IF YOU ARE UNSURE OF THE POSITION

Problem – air, not fluid, is drawn into the syringe

Action/check	**Rationale**
Check that the tube is not 'looped' at the nostril and that it is correctly secured to the face	If the tip of the tube is not far enough into the stomach, air may be drawn into the syringe
Check that all ports on the tube are closed securely (where there is more than one port)	Air may be drawn into the syringe via the second port
Change the patient's position e.g. lie on left side	By lying on the left side, this may 'pool' gastric secretions which may improve chance of aspiration.
If the patient is able to eat and drink safely, offer a drink (e.g. orange or pineapple juice)	To increase the volume of stomach contents and facilitate aspiration
Advance the tube beyond the usual measurement marking, then withdraw, re-aspirating at 1-2 cm intervals	This may facilitate repositioning of the tip of the tube in the pool of gastric contents

Problem – resistance is felt when attempting to aspirate via the tube

Action/check	Rationale
Check that the tube is secured with the usual measurement marking at the nostril, and withdraw to the usual position if necessary	If the tube has been advanced too far, this may cause it to kink or coil in the stomach, or pass into the small bowel
'Flush' tube with air (5-10ml for adults, or as appropriate to age)	If the tip of the tube is adjacent to the stomach wall, this may move the tube to aid aspiration

Risk assessment where pH is above 5.5

Some patients, despite appropriate actions above, regularly have a gastric pH higher than 5.5 (e.g. those having regular medication which affects gastric pH). If they are unable to eat or drink (and a temporary reduction in pH therefore cannot be achieved through provision of an acidic drink), a risk assessment may be appropriate in individual circumstances, to determine whether or not to feed via the tube. This should be agreed with relevant senior/medical staff, **and is not applicable on initial tube placement**. The NPSA state that 'in circumstances where the initial placement was appropriately confirmed, and there is no reason to suspect displacement since, the only practical method of determining if the tube remains correctly placed prior to each administration of medications or feed may be through external observation of the tube'

The following factors may also be considered if the pH is routinely above 5.5:

- Is there any reason to suspect the tube may not be correctly positioned (e.g. vomiting, vigorous coughing, length of visible tubing not the same as usual)?
- is the pH reading comparable with the usual readings for the individual patient?
- has the patient recently had antacid medication (if so, is it possible to change the timings of these in future)?
- does the aspirate resemble gastric contents? **Note** – appearance of aspirate should not be interpreted as an indication of correct positioning
- What is the volume of aspirate obtained? (If very small, this could be residual fluid from the tube)
- are there any signs of respiratory distress? **Note** – absence of respiratory distress is not an indicator of correct positioning

If a decision is made to proceed with feeding based on the knowledge acquired from the above enquires, seek a second opinion from an experienced colleague before progressing, and document the rationale for the decision in the patient's notes. A small volume of water (5-10mls) should initially be given cautiously via the tube, prior to administering the normal pre-feed 'flush' or enteral feed, observing the patient throughout.

Stop immediately if there are any signs of coughing or respiratory distress, though it should be noted that the absence of these symptoms does not confirm correct tube positioning. If there are no problems, proceed to administer the feed as planned.

If reassurance is not gained from the enquiries above, consider replacing the tube, or re-aspirate the tube after 15-20 minutes.

Appendix 11 Procedure for the removal of a nasogastric tube

Resources required for the removal of a nasogastric tube.
Personal protective equipment as per IPC compliance for patients who are infectious

1	Explain the procedure to the patient to obtain consent and reduce anxiety.
2	Wash and dry hands and put on PPE in accordance with agreed procedures and as per IPC policy.
3	Gently remove the fixation tape and withdraw the tube outwards through the nostril. Ensure the tube is intact and document the removal.
4	The tube should be disposed of in accordance with LPT Policy Refer to manufacturer's guideline for the appropriate duration of use
5	Dispose of all waste in accordance with LPT policy, and wash hands
6	Complete documentation in patient's records- see naso -gastric care plans

Appendix 12 Replacing a balloon retained gastrostomy device

Resources:

- Appropriate sized gastrostomy tube or button
- Cooled boiled drinking tap water or sterile water for balloon inflation
- Water for flushing the device – sterile, freshly drawn or cooled boiled drinking tap water
- Extension set if required
- Appropriate sized syringes to fit balloon port and feeding port of the device or extension set
- pH indicator strip or paper, and colour match chart
- Water soluble lubricating gel
- Hand washing equipment
- Sterile dressing pack containing sterile gloves, apron, gauze, waste bag and sheet to create sterile field
- Sterile water or saline for cleaning stoma area, if required

Process

1	Explain the procedure to the patient as relevant to the individual, to obtain consent and cooperation. If the patient is a child, the parent should be involved as appropriate to their age and development, and the involvement of a play specialist may be beneficial.
2	Gather all equipment required for the procedure and prepare the environment. Ensure all equipment is in date.
3.	If the patient has a button device, assess the length of the indwelling device in a standing/lying and sitting position (If there has been a significant change in weight, a longer or shorter button may be needed to avoid damage to the skin from a tight device, or excessive movement if the device is too long. This can be judged visually, orthe stoma can be re-measured to gauge the length required) If the patient has a tube, check the cm marking adjacent to skin level or above the external fixation device. This knowledge is required to ensure that when the new device is placed, sufficient length of tubing is passed to avoid balloon inflation withinthe tract.
4.	Establish the position which will be adopted for the device to be changed (usually lyingflat if possible), to facilitate replacement of the device
5.	Wash hands with liquid soap and water, and dry thoroughly using disposable papertowels.
6.	Open the sterile dressing pack, and open out the sterile sheet, to create a sterilefield. Using the waste disposal bag to pick up the individual contents of the pack,separate these on the field.
7.	Place the tray from the pack on a separate surface, to use for non-sterile items
8.	Put a piece of pH indicator paper on the tray, ensuring the colour match chart isvisible, but not on the tray, to avoid contamination of the chart

9.	Position the waste bag in a suitable place, separate to the sterile field
10.	Open the outer packaging containing the balloon retained device and tip the deviceonto the sterile field using a no touch technique, to avoid contamination
11.	Open the syringe packaging and tip the syringe onto the sterile field using a no touch technique, to avoid contamination
12.	Tear open the pack of water soluble lubricating gel and squirt the gel onto one of thepieces of sterile gauze, in preparation for lubricating the end of the device or tube
13.	Put on the apron and gloves from the sterile pack
14.	Draw up the appropriate amount of cooled boiled drinking tap water or sterile waterin a syringe (as per manufacturer's instructions, appropriate to the balloon size). Insert the syringe into the balloon port and inflate the balloon, checking for leakage, to ensure balloon inflates without leaking. If using a gastrostomy tube, ensure the external fixation device moves freely along the length of the tube, and position it temporarily nearer to the distal end of the tube than will ultimately be required, to facilitate correct positioning of the new tube and fixation device
15.	Lubricate the tip of the device using the water soluble gel, to minimise discomfort during placement, and place it on the sterile field
16.	Assess the stoma site for any redness, soreness, leakage or signs of infection, to provide appropriate advice on management of the stoma if necessary
17.	Using an appropriate syringe, remove the water from the balloon of the indwelling gastrostomy device, to enable removal. Ensure that all the water is withdrawn as failure to fully deflate the balloon would cause pain and discomfort.
18.	Apply gentle pressure to remove the old gastrostomy device. Inspect the balloon to check that it has been removed intact and then dispose of the device into the waste bag.
19.	Clean the stoma if necessary using sterile water and gauze
20.	Insert the new device into the stoma site. Do not use force to insert the tube If the device is a tube, insert the tube further into the stoma than required, based on the measurement noted prior to removal of the old tube, to avoid inflation of the balloon within the stoma If force is required to insert a new device, trauma can result. There is a potential to penetrate the abdominal cavity. If feeding is resumed, peritonitis can result. It is essential to check correct placement of the balloon retained gastrostomy. (NPSA signal 1329) (NNNG 2016) Monitor for bleeding, pain or leakage from the stoma site following the procedure, to ensure prompt identification of any complications. Advise the patient, parent or carer that they

	should seek medical advice in the event of the above after tube changes.
21.	Hold the gastrostomy tube in place and inflate the balloon with an appropriate syringe containing cooled boiled drinking tap water or sterile water, to prevent it falling out. Water volume required is usually 5mls but refer to manufacturer's instructions. Do not use air. If using a gastrostomy tube, gently withdraw this until the balloon can be felt to come into contact with the stomach wall, and slide the external fixation device into a comfortable position against the patient's skin. Check that the cm marking against the abdomen is as anticipated, when compared with the tube that has been removed. Adjustment may be needed once the patient is in a sitting position.
22.	Confirm correct position of the device within the stomach: Aspirate 2 – 5mls of gastric fluid from the feeding port (using an extension set if required) using a 50ml enteral syringe, and place the fluid on to a pH indicator strip or paper. A value of 5.5 or less is required to confirm correct placement If no aspirate obtained, try the following: - Alter the position of the patient, to achieve a position where the tip of the device is within the pool of gastric secretions. If using a tube, try advancing the tube further into the stomach to achieve the above • If able to drink safely, offer an acidic drink e.g. fresh orange juice to increase the volume of fluid in the stomach • Advance the tube temporarily within the stoma (withdrawing it to the correct position as above once an aspirate has been obtained) If aspirate obtained but pH is too high, try the following: • If able to drink safely, offer an acidic drink e.g. fresh orange juice to achieve a temporary reduction in pH of stomach contents • Re-try later (Note – antacid medications or recent administration of enteral feed increase the pH of the stomach contents. For planned changes, consider timings of medication doses and feeds when arranging the tube change) Do not use the tube for feeds, medication or water until correct placement has been confirmed
23.	Once placement confirmed, flush the device with sterile, freshly drawn, or cooled boiled drinking tap water (using an extension set if required) to prevent stomach contents remaining in the device
24.	Put all waste into the waste bag.
25.	Remove gloves and aprons and dispose of them into the waste bag. This can be disposed of in the domestic waste, in the home situation.

26.	Wash hands with liquid soap and water, dry thoroughly with disposable paper towels.
27.	Document device details, position confirmation, and any further relevant information in patient records

Appendix 13a Administration of bolus feed and/or fluid via an enteral feeding tube

Resources

- Enteral syringe(s) of appropriate size(s)
- (Bolus gravity sets may be required for specific patients)
- Supply of feed
- pH indicator paper or strip (for nasogastric tubes only) and colour match chart
- Water in accordance with feed plan
- Personal protective equipment non sterile powder free nitrile gloves, disposable plastic apron
- Nutritional plan from dietitian
- Appropriately trained carer

1	Check Dietitian's information for type of feed and feed requirements. Collect and prepare all equipment required in clean area. Check feed type and expiry date – if feed expired or has been open for longer than 24 hours then discard. Shake the feedto disperse any sediment. Check expiry date of all equipment.
2	Explain the process to the patient and obtain consent. If the patient is unable to givevalid consent refer to their care plan for 'consent'
3	Wash hands with liquid soap and running water. Dry hands thoroughly, with disposable paper towel. Put on powder-free disposable nitrile gloves and plastic apron
4	Check the tube • Nasogastric tubes should be secured correctly and there should be no pressure damage to the nostril. If it is not secured adequately consider cleaning the skin with an alcohol wipe (note patient's allergies) to removegrease from the skin before replacing the dressing/tape • Gastrostomy devices may have more than one port. The carer must ensurethey are aware of the correct port for administering feed or fluid.
5	Confirm correct position of the tube - Nasogastric tubes only: **Administering feed through a misplaced nasogastric tube is defined asa 'never event' – See NPSA/2011/PSA002 and NPSA/2012/RRR001.** Ensure all equipment including pH strips are in date. Confirm correct position of tube, to ensure it has not become misplaced sinceprevious use. a) Undertake a visual check of the tube position by comparing the length ofvisible tube with details from the patient's records b) Aspirate 2-3mls***** of gastric contents using a 60ml enteral syringe and testingon pH paper. The result should be pH 5.5****** or below. ***** unless otherwise specified in patient's care plan **** Note** In some individuals it is recognised that there will always be a reading greater than pH 5.5 as a result of their condition. In these cases a risk assessment may be done if agreed appropriate (not on initial tube placement), and the rationale for continuing to administer feeds or other fluids will be documented in the patient's record.

	c) Document results of aspirate testing in notes Once it has been safely determined that the tube is in the correct position feeding may Commence, following feed plan. During feed administration, the position of the tube should be re-checked • On recommencement of feeds following an interruption, • Following episodes of vomiting, retching or coughing spasms (the absence of coughing does not rule out misplacement or migration); • Where there is suggestion of tube displacement (for example, loose tape or portion of visible tube appears longer); In the presence of any new or unexplained respiratory symptoms or reduction in oxygen saturation.
6	Ensure the patient is positioned correctly for feeding, in an upright position or with the upper body elevated to a minimum of 30º angle, to reduce the risk of reflux, regurgitation and aspiration
7	Flush the tube with sterile, freshly drawn drinking tap water or cooled boiled drinking tap water (type and amount as advised by the dietitian)
8	If feeding using a syringe with a plunger: • Draw up the required amount of feed in to the syringe and attach the syringe to the tube. • Gently push the plunger to administer the feed slowly. • Repeat as necessary to complete the feed If gravity feeding using a syringe: • Using an appropriate sized syringe (e.g. 60ml), remove the plunger from the syringe and attach the 'chamber' to the tube. • Pour an appropriate quantity of feed into the syringe. • Hold the syringe and allow the feed to run through the tube. If the feed is running too slowly, raise the syringe a little. If running too quickly, hold the syringe at a lower level. • Repeat as necessary to complete the feed If using a syringe and the feed does not run through the tube, try using the plunger gently to administer the feed (see above) In specific situations, if using a bolus gravity set: • Close the roller clamp on the tubing • Pour an appropriate quantity of feed into the syringe • 'Prime' the tubing to remove air, by opening the roller clamp until the feed has reached the end of the tubing • Attach the tubing to the tube • Open the roller clamp again, and allow the feed to run through the tube. If the feed is running too quickly, hold the syringe at a lower level, or partially close the roller clamp
	Ensure that feed does not run in too quickly. A complete feed should usually take at least 20 minutes (e.g. for adults: 50ml feed should be given over 5 minutes, and for children, please discuss timings of feeds with your dietitian)
9	Once the prescribed quantity of feed has been given, flush the tube as above. Record amounts given (if appropriate).

10	Remove the syringe and replace the cap on the feeding tube.
11	Store any unused feed in the refrigerator. Label with date and time and use within 24 hours or discard. Clean and store equipment items as per manufacturer's information, and dispose of waste in accordance with Trust Policy. Wash hands thoroughly

Appendix 13b Administration of a pump assisted feed via an enteral feeding tube

Resources

- Supply of appropriate giving sets
- Supply of feed
- pH indicator strips or paper (nasogastric tubes only)
- Enteral syringe(s) of appropriate sizes
- Water in accordance with feed plan
- Nutritional plan from dietitian
- Personal protective equipment non sterile powder free nitrile gloves disposable plastic apron
- Pump and stand
- Appropriately trained carer

1	Check Dietitians prescription for type of feed and feed requirements. Collect and prepare allequipment required in clean area. Check feed type and expiry date – if feed expired or has been open for longer than 24 hours then discard. Shake the feed to disperse any sediment. Check expiry date of all equipment.
2	Explain the process to the patient and obtain consent. If the patient is unable to give validconsent refer to their care plan for 'consent'
3	Wash hands with liquid soap and running water. Dry hands thoroughly, with disposablepaper towel. Put on powder-free disposable nitrile gloves and plastic apron
4	Check the tube • Nasogastric tubes and naso-jejunal tubes should be secured correctly and there should be no pressure damage to the nostril. If it is not secured adequately consider cleaning the skin with an alcohol wipe (note patient's allergies) to remove grease from the skin before replacing the dressing/tape • Gastrostomy devices and PEGJ devices may have more than one port. The carermust ensure they are aware of the correct port for administering feed or fluid.
5	Confirm correct position of the tube - Nasogastric tubes only: **Administering feed through a misplaced nasogastric tube is defined as a'never event' – See NPSA/2011/PSA002 and NPSA/2012/RRR001** Ensure all equipment including pH strips are in date. Confirm correct position of tube, to ensure it has not become misplaced since previoususe. a) Undertake a visual check of the tube position by comparing the length of visibletube with details from the patient's records b) Aspirate 2-3mls***** of gastric contents using a 60ml enteral syringe and testing on pHpaper. The result should be pH 5.5****** or below. ***** unless otherwise specified in patient's care plan **** Note** In some individuals it is recognised that there will always be a reading greater

	than pH 5.5 as a result of their condition. In these cases a risk assessment may be doneif agreed as appropriate (**not on initial tube placement)**, and the rationale for continuing to administer feeds or other fluids will be documented in the patient's record. c) Document results of aspirate testing in notes Once it has been safely determined that the tube is in the correct position feeding mayCommence, following feed plan. **During feed administration, the position of the tube should be re-checked** • On recommencement of feeds following an interruption, • Following episodes of vomiting, retching or coughing spasms (the absenceof coughing does not rule out misplacement or migration); • Where there is suggestion of tube displacement (for example, loose tapeor portion of visible tube appears longer); In the presence of any new or unexplained respiratory symptoms or reduction in oxygensaturation.
6	Ensure the patient is positioned correctly for feeding, in an upright position or with the upper body elevated to a minimum of 30º angle, to reduce the risk of reflux, regurgitationand aspiration
7	Flush the tube with sterile, freshly drawn drinking tap water or cooled boiled drinking tapwater (type and amount as advised by the dietitian)
8	Connect the giving set to the pack or reservoir of feed, and insert the giving set into thepump
9	Prime (expel air from) the giving set
10	Programme the pump to deliver feed at the rate documented on the nutritional plan, andprogramme a total volume if required
11	Attach the giving set to the patient's enteral feeding tube, and commence feeding
12	Monitor the patient throughout the feeding period. If patient is left unattended at any time, ensure they are within ear-shot at all times (e.g. via baby monitor). Overnight feeding via anasogastric tube is not recommended.

13	On completion of the feed, flush the tube with sterile, freshly drawn drinking tap water or cooled boiled drinking tap water (type and amount as advised by the dietitian). Replace thecap on the enteral feeding tube
14	Record the volume of feed given if appropriate
15	Store any unused feed in the refrigerator, or leave the pack of feed connected to the giving set at room temperature with the end cap replaced. If disconnected, label with date and timeof opening. Use feed within 24 hours of opening, or discard. Clean and store equipment items as per manufacturer's information, and dispose of waste in accordance with Trust Policy. Wash hands thoroughly

Appendix 14 Tube and Stoma Care

6a – All tube and device types

1	**Consent:** Explain all processes to the patient and obtain consent. If the patient is unable to givevalid consent refer to their care plan for 'consent'
2	**Infection prevention and control:** Before any procedure, Wash hands and dry using clean paper towel. Put onpowder-free nitrile disposable gloves and disposable plastic apron. On completion of procedures, after ensuring that the patient is comfortable, remove gloves and apron, dispose of in accordance with Infection Prevention and Control Policy, and wash hands.
3	**'Flushing' tubes:** To maintain patency, tubes should always be flushed using cooled boiled drinking tap water, freshly drawn drinking tap water or sterile water in accordance with the nutritional plan, before and after feed/medication administration (and between medicines if more than one is needed), or daily if the tube is not in use.
4	**Use of clamps:** Ensure that any clamping devices are left unclamped between use, as repeated clamping in the same place will cause indentation and may ultimately damage the tube. If clamping is essential, ensure the position of the clamp is changed regularly.
5	**Oral hygiene:** Ensure that oral hygiene is maintained. Plaque deposits can build up even if all nutrition is being administered via the Percutaneous Endoscopic Gastrostomy tube

6b – PEG

Care requirements for an established percutaneous endoscopic gastrostomy (e.g. Freka or Corpak) (2 weeks post insertion or as directed by the discharging hospital)

For care requirements of a newly placed PEG, the care regimen provided by the discharging hospital must be followed.

In the first 3 days after insertion of a new gastrostomy, if there is leakage of fluid around the tube, pain on feeding, or new bleeding STOP THE FEED IMMEDIATELY and contact the hospital where the tube was placed

In the event of a traumatic removal of an enteral feeding tube there is always the potential for feed to leak into the peritoneal cavity. It is essential to seek urgent medical advice. See NPSA Signal reference number 1329.

In addition to the general requirements above (6.2) there are specific daily care requirements for PEG tubes, as follows:

1	**Prevention of buried bumper:** For the first 2 weeks post placement, see link to UHL policy in 6.1, or refer toguidance from relevant discharging hospital

	After the PEG has been in situ for the length of time specified by the discharginghospital the following should be undertaken: Loosen the external fixation device, and free the tubing from the device. Gentlyadvance the tube by approximately 2cm, and rotate it through 360 degrees Withdraw the tubing gently, until the internal fixation device can be felt against the stomach wall, then re-secure the external fixation device onto the tubing, leaving approximately 5mm between the fixation device and the skin. Correct positioning is important to prevent both leakage and buried bumper, in addition to minimising discomfort and the potential for skin breakdown.
2	**Stoma care:** While the fixation device is moved away from the skin as above, clean around the stoma site with non-perfumed hypoallergenic soap and fresh tap water, using a cloth that is kept for this purpose only, or gauze that does not shed fibres. (NNNG 2013). Dispose of waste in accordance with LPT Infection Prevention and Control Policy overarching Policy July 2015 It is important also to clean the back of the external fixation device to prevent soreness and infection. Dry thoroughly Check stoma site for signs of swelling, leakage, redness, irritation, skin erosion or soreness. If present, consider reporting to medical staff / GP. Swab the site and send for culture and sensitivity if bacterial/fungal infection is suspected. Do not use creams/ointments or powders around the tube or stoma, unless medically prescribed Some creams will cause the tube to deteriorate, and powders may accumulate in the stoma
3	**Maintaining patency:** Gastric tubes can usually be flushed with sterile, freshly drawn drinking tap water or cooled boiled drinking tap water, type and volume as per the nutritional plan.
4	**Comfort:** If patient complains of pain at tube site, check that the external fixation device has not been positioned too tightly against the skin. Seek advice from the discharge contact from acute hospital or GP in the absence of an obvious cause of discomfort

6c – BRG

Care requirements related to an established balloon retained gastrostomy tube (2 weeks post insertion or as directed by the discharging hospital)

For care requirements of a newly placed balloon retained gastrostomy device, the care regimen provided by the discharging hospital must be followed.

Where abdominal traction sutures (or T fasteners) are used, these should be removed at day 14 post placement (UHL June 2016)

In addition to the general requirements above (6.2) there are specific daily care requirements for balloon retained devices, as follows:

1	**Tube care:** Once the gastrostomy device has been in situ for the length of time stated by the discharging hospital, and any T fasteners have been removed, it is important to checkthe volume of water in the balloon on a weekly basis. Correct inflation of the balloon prevents the tube falling out. Ideally this process should be carried out using a two person technique, in order that a second person ensures the tube is not dislodged during the procedure • Check the volume of water required • Move the external fixation disc away from the skin, and advance the tubing by approximately 2cm. This helps to avoid accidental displacement when the balloon is deflated • Using an empty IV 5ml syringe, withdraw all the water from the balloon, notingthe volume • Using a second syringe pre-filled with the required volume of sterile, or cooledboiled water, re-inflate the balloon • Withdraw the tube until the balloon can be felt in contact with the stomach wall • Slide the fixation disc until it is positioned comfortably against the skin
2	**Stoma care:** While the fixation device is moved away from the skin as above, clean around the stoma site with non-perfumed hypoallergenic soap and fresh tap water, using a cloththat is kept for this purpose only, or gauze that does not shed fibres. (NNNG 2013). Dispose of waste in accordance with LPT Infection Prevention and Control Policy It is important also to clean the back of the external fixation device to prevent sorenessand infection. Dry thoroughly. Rotate the tube through 360 degrees within the stoma on a daily basis, to prevent itadhering to the skin Check stoma site for signs of swelling, leakage, redness, irritation, skin erosion or soreness. If present, consider reporting to medical staff / GP. Swab the site and sendfor culture and sensitivity if bacterial/fungal infection is suspected. Do not use creams/ointments or powders around the tube or stoma, unless medically Prescribed. Some creams will cause the tube to deteriorate, and powders may accumulate in the stoma.
3	**Maintaining patency:** Gastric tubes can usually be flushed with sterile, freshly drawn drinking tap water orcooled boiled drinking tap water, type and volume as per the nutritional plan.

4	**Comfort:** If patient complains of pain at the site, refer to the discharge contact from the acute hospital or GP in the absence of an obvious cause of discomfort

6d – PEG-J

Care requirements related to an established percutaneous endoscopic gastrostomy with jejunal extension tube (PEGJ tube) (2 weeks post Insertion or as directed by the discharging hospital)

For care requirements of a newly placed PEGJ, the care regimen provided by the discharging hospital must be followed.
In addition to the general requirements above (6.2) there are specific daily care requirements for PEGJ devices, as follows:

1	**Prevention of buried bumper:** Loosen base plate/external fixation device. Push the tube in 1 - 2cm. **Do not rotate the tube** Pull the tube back until internal fixation device can be felt on the stomach wall then re-fix the external fixation device on the skin leaving approximately 5mm of movement
2	**Stoma care:** Clean around the stoma site with non-perfumed hypoallergenic soap and fresh tapwater, using a cloth that is kept for this purpose only, or gauze that does not shed fibres. (NNNG 2013). Dispose of waste in accordance with LPT Trust Infection Prevention and Control Policy It is important to clean the back of the external fixation device to prevent soreness and infection Dry thoroughly
3	**Maintaining patency:** The jejunal tube within this device must be flushed with sterile, or cooled boiled water. Freshly drawn drinking tap water may be used for the gastric port, if preferred. Refer to the nutritional plan for the type and volume of water
4	**Comfort:** If patient complains of pain at site, check that the external fixation device has not been positioned too tightly, but refer to the discharge contact from acute hospital or GP in the absence of an obvious cause of discomfort.

6e – Jej

Daily care process for an established jejunostomy tube (2 weeks post insertion or as directed by the discharging hospital)

For care requirements of a newly placed jejunostomy tube, the care regimen provided by the discharging hospital must be followed.
In addition to the general requirements above (6.2), there are specific daily care requirements for jejunostomies, as follows:

1	**Tube care:** Jejunostomy tubes must not be rotated Follow manufacturer's guidance relating to the external fixation device
2	**Stoma care:** Clean around the stoma site with non-perfumed hypoallergenic soap and fresh tapwater, using a cloth that is kept for this purpose only, or gauze that does not shed fibres. (NNNG 2013). Dispose of waste in accordance with LPT Infection Preventionand Control Policy. If the tube is secured using tape this will need replacing on a daily basis. It is important to clean the back of the external fixation device, if presentGently dry thoroughly and allow to 'air' dry for a few minutes
3	**Maintaining patency:** Flush the tube with sterile, or cooled boiled water as per the nutritional plan providedby the dietitian
4	**Comfort:** Any sutures at the stoma site and the external fixation device should be checkedregularly. If patient complains of pain at the site, refer to the discharge contact from the acutehospital or GP in the absence of an obvious cause of discomfort.