Guideline

Adult Enteral Tube Feeding Guidelines for Clients in their own Homes or Care Homes

Classification :	Guideline		
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Departments/ Groups this Document Applies to:	**All staff employed by CNWL, all community dietitians employed by MKUH, all health care professionals and carers involved with clients on tube feeds**		
Date of Approval:	**CSU CIG 12.11.12**	**Review Date:**	**10/2019**
Approval Group:	**CSU CIG**	**Last Review:**	**10/2016**

Unique Identifier:	**Status:** Draft	**Version No:** 2
Scope: This guideline is designed to provide a consistent approach for all staff caring for those clients in Milton Keynes Health Economy who are on a tube feed		
To be read in conjunction with the following documents: Percutaneous Endoscopic Gastrostomy Tubes and Radiologically Inserted Tubes Guidelines		
CQC Fundamental standards: CQC Regulation 14		

Disclaimer

Since every patient's history is different, and even the most exhaustive sources of information cannot cover every possible eventuality, you should be aware that all information is provided in this document on the basis that the healthcare professionals responsible for patient care will retain full and sole responsibility for decisions relating to patient care; the document is intended to supplement, not substitute for, the expertise and judgment of physicians, pharmacists or other healthcare professionals and should not be taken as an indication of suitability of a particular treatment for a particular individual.

The ultimate responsibility for the use of the guideline, dosage of drugs and correct following of instructions as well as the interpretation of the published material **lies solely with you** as the medical practitioner.

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Guideline Statement

NICE clinical guideline 32 "Nutritional Support in Adults", produced in 2006 states that "Healthcare professionals should ensure that all people who need nutrition support receive coordinated care from a multidisciplinary team". This document aims to provide local guidance and operational procedures to promote best practice throughout Milton Keynes relating to all enterally fed patients.

Executive Summary

- Enteral tube feeding is classed as a medical treatment for which consent is required from competent patients.
- Not all patients will be suitable for enteral tube feeding.
- Placement of an enteral tube should be an MDT decision and include the patient where possible.
- A wide range of different enteral tubes will be used with patients – the care of the tube is dependent on the make and feeding route.
- All staff involved in enteral feeding will receive training from the Abbott Nurse Advisor.
- The dietitian will chose the most nutritionally appropriate feed for the patient.
- The patient will be offered a range of feeding methods to enable them to choose the most appropriate method for their lifestyle.
- Overnight feeding is not normally recommended. However it is recognised that in the community there are times when it will be appropriate for patients. A risk assessment will be carried out for these patients.
- Blenderised feeding through an enteral feeding tube is not recommended.
- All feeds should be stored according to the manufacturer's instructions.
- Fresh tap water should be used for flushing. Sterile water or cooled boiled water should be used for those who are immunosuppressed or where there are infection control concerns.
- It is good practice for nurses to ensure that the prescriber and/or pharmacist has authorised that the administration of the drug via the feeding tube is appropriate and this is documented in the patient's notes and on the patients drug chart.
- Patients with diabetes who require tube feeding can be fed with the same range of feeds used by the rest of the population.
- If the PEG tube becomes blocked, warm water may be used to un-block it.
- Manufacturer's guidance for care, replacement and removal of tubes must be followed.
- Dietitians will review all clients and adherence to this policy every 3-6 months.
- Milton Keynes University Hospital Foundation Trust Infection control policy and NICE guidance on infection control must be adhered to.
- Feed and equipment must be used in accordance to local guidance, namely the Nutrition Policy from Milton Keynes University Hospital Foundation Trust and national guidance, namely NICE Clinical Guideline 32.
- If a feeding tube comes out accidentally, a same brand clean spare tube should be placed in the site and medical advice sought. If a spare tube is not available, medical advice should be sought immediately.

1.0 Roles and Responsibilities:

Managers
Managers should ensure that all staff are aware of this guideline and its contents. A training plan for their area should be devised and implemented.

Staff
All staff involved with patients receiving enteral feeding have a responsibility to be aware of these guidelines and promote their use.

2.0 Implementation and dissemination of document

This document will be distributed to all relevant community nurses, care agency staff, Abbott Nurse Advisors and care home staff via an email distribution. The document will be available via the intranet pages of Milton Keynes University Hospital (MKUH) and Central and Northwest London NHS Foundation Trust (CNWL).

3.0 Processes and procedures

3.1 Indications for Enteral Tube Feeding

Some of the reasons why a client might be enterally fed include:

Cause	Example
Neuromuscular disorder that impairs swallowing	Motor Neurone disease, Multiple Sclerosis, following a CVA
Upper GI obstruction	Oesophageal stricture or tumour
Unconscious patient	Following a head injury, intensive care
Anorexia	Caused by an eating disorder or through disease e.g. cancer
GI malabsorption	Inflammatory bowel disease
Specific treatment	Upper head and neck cancer, Crohn's disease
Increased requirements	Burns, Cystic fibrosis

Please note this list is not exhaustive.

3.2 Ethical and Legal Considerations

The decision to initiate enteral tube feeding requires a multidisciplinary approach. Enteral tube feeding is classed as a medical treatment for which consent is required from competent patients. If it is not possible for the patient to give consent the doctor undertaking care is ultimately responsible in law for any decision. Full consultation with the family and the health care team is needed. A Lasting Power of Attorney for health and welfare or an Advanced Directive may be in place.

The main ethical debate that arises in enteral tube feeding concerns the withdrawal or withholding of nutrition and hydration. As enteral tube feeding is a medical treatment in the eyes of the law, starting, stopping or withholding feeding is a medical decision. It should always consider the

patient's wishes. If a client is not deemed to have capacity, a decision can be made in his/her best interests in line with the Mental Capacity Act.

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

(BAPEN, 1998)

3.3 Education of patients/carers

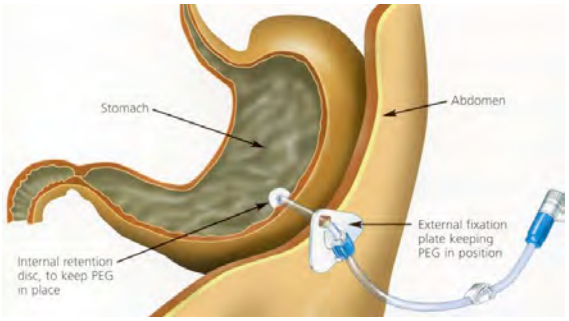
Patients and carers will be educated in hand decontamination and in the care and management of their enteral feeding regime and feeding tube prior to being discharged from hospital (NICE, 2012). They will receive ongoing support and advice on maintaining their enteral feeding system in the community.

3.4 Tube Selection

The most appropriate tube for the patient should be selected. This will depend on the estimated length of time feeding will be required, the environment in which the feed will be delivered and the wishes of the patient.

Naso-gastric tube feeding is primarily for short term feeding (< 4 weeks). It is not usual to have an adult who requires NG feeding in the community.

Gastrostomy feeding is generally used for longer term feeding.



(Courtesy of Fresenius Kabi)

Less common tube placement methods and types, including surgical gastrostomy may be encountered. It is the responsibility of the hospital where these tubes are placed to provide information about their use and care.

Jejunostomy tubes are primarily used when feeding into the stomach is not appropriate.

3.5 Enteral feeding routes commonly seen in Milton Keynes

PEG – percutaneous endoscopic gastrostomy

- A tract is made into the stomach via endoscopy under local anaesthetic and a feeding tube is inserted. It is held in place by an external fixation device and a soft plastic bumper internally.

- Tubes should be replaced as required or as indicated by the manufacturer.

RIG – radiologically inserted gastrostomy

- A tract is made into the stomach and a gastrostomy tube is inserted under x-ray guidance.
- This method is used when a client is not suitable for an endoscopic procedure.
- The first replacement is carried out by radiology in Milton Keynes. If this replacement occurs without any problems, then subsequent replacements can be done by the Abbott Nurse Advisor in the community.
- RIG tubes are held in place internally in a number of different ways e.g. a balloon, a pigtail RIG etc. – guidance should be sought from radiology as to what type of tube it is and the care needed.
- If the tube is held in internally with a balloon, the balloon will be inflated with sterile water. The volume of sterile water needs to be checked weekly and replaced. If this is not done the tube may fall out.

Surgically placed gastrostomy

- This type of tube is not often seen in Milton Keynes. The tube is placed into the stomach. The tract is formed and the gastrostomy is placed under general anaesthetic.

Low profile gastrostomy

- This is a small gastrostomy tube that sits close to the skin and as such can be more cosmetically pleasing to some clients. It feeds into the stomach.
- An extension set is attached to this tube in order to feed. The extension set is removed following the feed.
- This is also a balloon retained gastrostomy tube where the water in the balloon needs to be checked weekly.
- The tube is not placed as a first gastrostomy, but rather once the tract has fully formed.
- The width and length of the stoma site needs to be measured and the correct size low profile device ordered.
- These tubes can be useful for those that pull on their gastrostomy tube.

Surgical Jejunostomy

- This is a feeding tube that is inserted into the jejunum (a part of the small bowel).
- This tube is usually held in place by stitching it to the skin externally. These stiches should not be removed before discussion with the consultant as the tube can displace.
- This is a less common feeding route that is usually used when a client cannot tolerate feeding into the stomach.

PEG-J – Percutaneous endoscopic gastrostomy with jejunal extension

This involves placing a PEG into the stomach and internally attaching an extension tube that feeds into the jejunum.

3.6 Makes of enteral feeding tubes commonly seen in Milton Keynes

PEG tubes

Freka 9 french	www.fresenius-kabi.co.uk
Freka 15 french	www.fresenius-kabi.co.uk
Merck Corflo PEG	www.corpakmedsystems.com

RIG tubes

Wills-Oglesby tube	www.cookmedical.com
Corflo balloon	www.corpakmedsystems.com

Low profile gastrostomy

Vygon Mic-Key	www.vygon.co.uk

Surgical Jejunostomy

Freka surgical jejunostomy	www.fresenius-kabi.co.uk

PEG – J

Freka gastro-jejunostomy	www.fresenius-kabi.co.uk
Cook Medical PEG-J	www.cookmedical.com

Please note that although Milton Keynes University Hospital NHS Foundation Trust may include links to external websites, the Trust is not responsible for the accuracy or content therein.

3.7 When your patient arrives from hospital

Each patient will be discharged with 14 days' supply of feed and equipment from hospital. The hospital dietitians will inform the community dietitians of the discharge. Patients can choose to have their feed delivered by an enteral feeding delivery company or by the local pharmacy. If this is the patient's choice, the community dietitians will register the patient with the enteral feeding delivery company, who will deliver one month's supply of feed and equipment for the patient, once they have a prescription from the GP. Monthly deliveries will occur from then on. The community dietitian will also write to the GP for a prescription which the GP will send to enteral feeding delivery company or local pharmacy.

3.8 Feed selection

There are a variety of different feeds available, depending on the needs of the patient e.g. low calorie feeds, high calorie feeds, fibre based feeds etc. The dietitian will discuss the options with the patient and will decide on the appropriate feeding regimen.

Please see appendix 1 for information on the usual feeds that are currently used in Milton Keynes.

3.9 Dietetic monitoring of the patient

The patient will be monitored as required by the community dietitian in order to ensure the regimen still meets their needs. The first visit will take place within one month for a patient in a care home. For patients in their own home, the dietetic department will make initial contact with the patient within 48 hours of discharge from hospital. Once established on a feeding regimen, the dietitian will visit to review the patient every 3-6 months in line with NICE guidance (NICE, 2006).

Please see appendix 2 for details of what the dietitian will monitor on each visit.

3.10 Feed provision

All enteral feeds are prescribed items and therefore a prescription is needed from the patient's GP. This prescription is either given to the local pharmacy who can deliver the feed only, or posted to the enteral feeding delivery company who will then deliver the feeds and necessary equipment on a monthly basis. The equipment such as plastics always have to come from the enteral feeding delivery company. The enteral feeding delivery company will not deliver to a patient until the patient has been registered with them by the community dietitian.

Milton Keynes operates a no prescription, no feed policy. No feed can be delivered without the feed delivery company or local pharmacy having a valid prescription in hand. The feeding supplies of patients should be monitored to ensure that stock does not run out, as feed may not be available for delivery in a short time frame.

3.11 Infection control

Good infection control is important to ensure that the risk of microbial contamination of the feeds is reduced.

Good infection control practices:

1. Always wash and dry the hands thoroughly before and after touching the feed, equipment or the stoma site.
2. Do not hang sterile feeds for more than 24 hours or non-sterile feeds for more than 4 hours
3. Do not touch the inside of the feed container, the foil seal or the inside of the giving set cap with your hands.
4. Do not keep leftover feed and use it the following day.
5. Change the giving set every 24 hours if a sterile feed or every 4 hours if a decanted feed
6. Do not re-use feed containers or flexitainers.
7. Do not wash out empty feed bottles and use them to give water.
8. If an extension set is needed for the tube, change it every 2 weeks.
9. Do not dilute enteral feeds.
10. Change the syringes in line with manufacturer's guidance.

(NICE,2012)

3.12 Positioning

Patients should be at an angle of at least 30-45 degrees during feeding and for approximately 30 minutes after feeding has finished. Patients should not be allowed to lay flat during feeding. If a patient is prone to slipping down the bed during feeding, regular checks need to made and the patient repositioned as necessary.

3.13 Administering a feed

Following discussion with the patient if possible, the dietitian will devise a suitable regimen for each patient. This will include the method of feeding i.e. pump or bolus feeding, or a mixture of both.

Pump feeding is where the feed is administered through a feeding pump. The feed rate is controlled by the pump and is usually administered over a longer period of time e.g. 10-16 hours.

Bolus feeding is often used for those patients who are more mobile. The feed is divided into 4 or more "meals" of feed throughout the day. The patient does not need to be connected to a feeding pump.

Jejunal feeding may require a slower feeding rate as the stomach is bypassed so there is no stomach for the feed to be held in.

The feed should be administered at room temperature.

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

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

Enteral feeds **should not** be diluted. This is a source of microbial contamination and can change the osmolality of the feed, both of which can cause diarrhoea.

Only commercially prepared feeds should be administered via an enteral feeding tube. Giving pureed food through a feeding tube is not recommended due to the increased risk of tube blockage and the increased risk of microbial contamination. See section 3.17 for more information on blenderised diets through a feeding tube.

Hands should be washed in line with current infection control guidelines (Infection Prevention and Control Manual, 2014).

3.14 Bolus feeding

There are two methods of bolus feeding – using a syringe alone, or by using a gravity giving set.

Bolus feeding using only a syringe

Feed is decanted into the enteral syringe barrel and administered over 15-20 minutes with the aid of gravity rather than by using the plunger. Administering the feed in a quicker timeframe may

cause diarrhoea and is not advised. The plunger may need to be used for finer feeding tubes. Usually, small bottles of feed (125- 220 mls) are used when bolus feeding.

1. Collect all the equipment together
2. Check the label and expiry date on the feed to make sure it is the correct product and not out of date, and that the seal is not broken
3. Wash and dry hands thoroughly
4. The patient should be in an upright position if possible
5. Check the feeding tube and ensure the tube is clamped
6. Fill the 60ml syringe with approximately 50ml of water, or as advised by your healthcare professional
7. Remove the cap on the feeding tube, attach the syringe, unclamp the tube
8. Flush the feeding tube with the water in the syringe
9. Clamp the tube and remove the syringe
10. Open the feed container according to the manufacturer's instructions
11. Feed can be drawn up directly from the small bottle or can be decanted into a clean jug
12. Draw up 50ml of feed into the syringe
13. Attach the syringe to the feeding tube
14. Unclamp the tube and gently syringe the feed into the tube. Alternatively, take the plunger out of the syringe and attach the syringe to the end of the feeding tube
15. Slowly, pour the required amount of feed into the syringe. The dietitian will advise on how much this should be
16. Hold the syringe at a height that is comfortable for you and allow the feed to flow through your feeding tube. This will occur naturally due to gravity
17. When the feed is finished, clamp the tube and prepare to flush the feeding tube with 30–50ml of water, or as advised by the dietitian
18. Flush your tube – clamp
19. Remove the syringe from the feeding tube
20. Put the cap back on the feeding tube
21. Unclamp so that the tube does not flatten and eventually block
22. Wash and dry hands thoroughly

(Courtesy of Abbott Nutrition)

If the syringe is held at a lower height, this will slow the feeding rate; raising the height of the syringe will speed up the feeding rate.

Bolus feeding using a gravity giving set

Small bottles of feed (125–220 mls) are usually used for this method of feeding. The feeding tube is flushed with water. The bottle of feed is attached to a gravity giving set before being hung on a drip stand using the clear plastic bottle holder. The roller clamp on the giving set is opened so that the bottle of feed runs through over a 15-20 minute period. If multiple feeds are required at intervals throughout the day, once the first fed is finished running through, the gravity giving set should be left attached to the empty bottle of feed. The feeding tube should again be flushed with water.

When the next feed is due, disconnect the gravity giving set from the empty bottle and immediately attach it to the full bottle that is to be administered. This way, the same gravity giving set can be used for multiple feeds throughout the day – the gravity giving set should be discarded within 24 hours of it being opened.

Bolus feeding using a feeding pump

On occasions a patient may choose to bolus multiple feeds during the day using a feeding pump. The feeding pump will regulate the rate and will normally administer the feed over, for example, one hour at a rate of approximately 220 mls per hour.

If multiple feeds are required at intervals throughout the day, once the first fed is finished running through, the giving set should be left attached to the empty bottle of feed. The feeding tube should again be flushed with water.

When the next feed is due, disconnect the giving set from the empty bottle and immediately attach it to the full bottle that is to be administered. This way, the same giving set can be used for multiple feeds throughout the day – the giving set should be discarded within 24 hours of it being opened.

3.15 Pump feeding

For more information on how to set up a pump feed, see appendix 3.

3.16 Overnight feeding

There are known risks associated with tube feeding at any time of the day, for example aspiration of the feed (where feed goes into the lungs) or vomiting could occur. The risks are higher when constant supervision is not possible / practical.

Wherever possible, overnight tube feeding should be avoided, but it is recognised that there are situations where it is not practical or the patient does not wish to feed during the daytime. In these situations, the dietitian will carry out a risk assessment to identify the risks and a plan will be put in place to minimize these risks as much as possible. The dietitian will ask the patient/carer to sign the risk assessment to show that they have taken on board those risks and still wish to feed overnight.

3.17 Blenderised diet through a feeding tube

At the present time, The British Dietetic Association (BDA) does **not** recommend the administration of liquidised food via enteral feeding tube due to the risk to nutritional adequacy. Use of liquidised food also increases the likelihood of feeding tube blockage and increases the risk of gastric infection. The use of this mode of feeding poses particular risks to jejunal fed patients or patients who are immuno-compromised.

3.18 Storage of Feeds

All feeds should be stored according to the manufacturer's instructions. In addition all feeds should be stored unopened at room temperature, on a shelf off floor level away from the risk of contamination e.g. water splashes from sinks. They should not be stored near a heater or in direct sunlight. Feeds should not be stored in the fridge, as when administered to a patient a cold feed can cause diarrhoea. Do not store in a garage as during the winter they may freeze.

Partly used packs of feed should be discarded.

3.19 Feed hanging times

Type of feed	How long to hang
Sterile ready to hang feeds	Up to 24 hours
Reconstituted powder feeds/ decanted feeds	Up to 4 hours – if further feeding is needed, a new giving set and flexitainer must be used

(NICE, 2012)

3.20 Equipment and where to get it

Equipment	Who delivers it	Contact number
Pump	Abbott Hospital to Home	0800 018 3799
Drip stand	Abbott Hospital to Home	0800 018 3799
Backpack	Abbott Hospital to Home	0800 018 3799
Giving sets	Abbott Hospital to Home	0800 018 3799
Bottle hanger	Abbott Hospital to Home	0800 018 3799
60 ml syringes for flushing	Abbott Hospital to Home	0800 018 3799
Small medication syringes	Community pharmacist	Your local pharmacy
10 ml syringes for balloon inflation	Abbott Hospital to Home	0800 018 3799
Flexitainers	Abbott Hospital to Home	0800 018 3799
Balloon gastrostomies	Abbott Hospital to Home	0800 018 3799
Extension sets	Abbott Hospital to Home	0800 018 3799
pH paper	Abbott Hospital to Home	0800 018 3799
Water vials for balloon inflation	On prescription from GP	Your local GP surgery
PEG ends/ clamps/ external fixators (triangle)	Dietitians	01908 995416

3.21 How often to change equipment

Pump	Serviced every 7 years
Drip stand	Change only when broken
Backpack	Change only when broken or very worn
Giving sets	Change every 24 hours (4 hours if reconstituted or decanted feed)
60 ml syringes for flushing	Reusable syringes can be washed and reused as long as washed properly between uses – see Appendix 4 for cleaning guidelines
Small medication syringes	Ask for guidance from district nurses as different brands have different guidelines
Flexitainers	Change every 24 hours if administering water Change every 4 hours if administering feeds
Balloon gastrostomies	According to manufacturers advice – usually every 3-6 months
Extension sets	According to manufacturers advice – usually every 2 weeks

PEG ends/ clamps/ external fixators	Change only when broken

3.22 Pumps

Pumps should be wiped with a damp cloth daily and dried thoroughly before feeding. Any feed spills should be cleaned immediately.

Please note that enteral feeding pumps have an accuracy of ± 5%. This is normal and is not the pump malfunctioning.

An emergency 6 hour pump delivery service is available through Abbott Hospital to Home 24 hours per day. Contact 0800 018 3799 and ask for an emergency pump delivery.

For more information on setting up a feeding pump, please see appendix 3.

3.23 Flushing/ water

To prevent blockage, the enteral feeding tube should be flushed with fresh tap water before and after feeding or administrating medications. Enteral feeding tubes for patients who are immunosuppressed should be flushed with cooled freshly boiled water (NICE, 2012). Water should be allowed to cool completely to room temperature.

When flushing the tube, the main purpose is to ensure the tube is clean and without any residue from feeds or medications being left in the tube. Therefore it is advised to use a pulsing action (i.e. flush-pause-flush-pause) when flushing the tube to build up a small amount of pressure behind the water, to ensure the tube is adequately cleaned.

A 60 ml syringe should be used for flushing. A smaller syringe may exert too much pressure and split the tube.

If you need to run water through a flexitainer this should be cooled, boiled water.

Empty feed bottles should never be used to administer water.

More fluid will be required if the patient is suffering from diarrhoea, vomiting, or has an infection. More water will also be required in hot weather.

Bottled / mineral water should not be used as this can become a reservoir for the development and multiplication of bacteria. If it must be used, it should be boiled and cooled first.

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

Do not use fruit juice, fizzy drinks or sodium bicarbonate to flush or unblock tubes.

3.24 Syringes

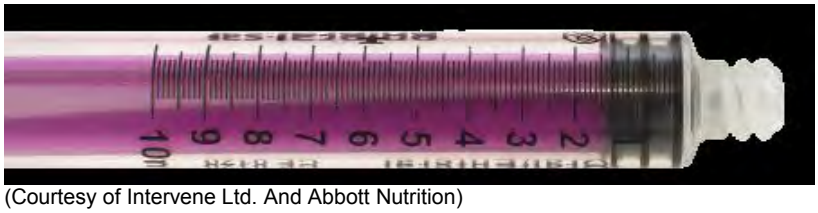
Following the NPSA guidance 'Promoting safer measurement and administration of liquid medicines via oral and other enteral routes' – patients safety alert 19, syringes for enteral feeding

must be marked for oral/enteral use (NPSA, 2007). These syringes are often identified by their purple colouring; however do note that some non-enteral syringes are also coloured purple.

Syringes for feeding and flushing will be provided from Abbott Hospital to Home (0800 018 3799).

Small syringes used for measuring medications will be provided by your local pharmacy.

The syringes used for enteral feeding have recently had their tip changed to what is commonly being called an Enfit compliant tip (see below). As a temporary measure, an adapter (see below) may be needed to connect these new Enfit syringes to the existing feeding tube. Once the feeding tubes also come with an Enfit compliant connection, an adapter will no longer be required.



(Courtesy of Intervene Ltd. And Abbott Nutrition)

Reusable syringes should be thoroughly washed and allowed to dry between uses. They are single patient use syringes (they should not be used on different patients, but can be used many times on the same patient, as long as they are washed out in between uses). See appendix 4 for further guidance on how to clean syringes between uses. Each syringe can be used for up to one week. However if the plunger becomes stiff or if the numbers rub off the syringe, it may need to be replaced sooner.

3.25 Administering Medications

Liquids or soluble (dispersible) tablets are the preferred formulations to be administered via feeding tubes. As an alternative some injections, or non-coated tablets (dispersed in water) may be used. Crushing tablets or opening capsules should only be considered as a last resort when there are no other means of administering the medication, and should only be undertaken on the specific advice of a pharmacist.

The following medications should not be crushed and capsules should not be opened.

- Enteric coated
- Modified/ slow release
- Cytotoxic drugs and hormones

Some medications interact with feeds e.g. Phenytoin, Digoxin, Carbemazepine and Levodopa among others. In such cases the feed may need to be stopped for a period of time prior to administering the medication. The community pharmacist can advise accordingly.

Giving medication via feeding tubes generally falls outside a drug's product license, especially tablets and capsules which are usually licensed for oral administration only. In these circumstances the prescriber and nurse accept liability for any adverse effects resulting from this route of administration.

It is good practice for nurses to ensure that the prescriber and/or pharmacist has authorised that the administration of the drug via the feeding tube is appropriate and this is documented in the patient's notes and on the patients drug chart. If the nurse is unsure of the correct administration of any medication they should contact the community pharmacist for advice (BAPEN, 2004).

When administering medications through a feeding tube, the feeding tube should be flushed before and after each medication. If more than one medication needs to be given, do not mix all the medications together and administer through the tube. Administer each medication one at a time and flush with 10-20 mls of water between each one. The tube must be flushed with 60 mls of water after all the medications have been given to ensure the tube is clean.

It is important to know where the tip of the feeding tube lies so the site where the drug will be administered is known. The position of the feeding tube tip can affect the absorption and bioavailability of some drugs. It should never be assumed that a drug can be administered via an enteral feeding tube and a pharmacist should always be consulted to ensure that the appropriate form and dose of a drug is administered.

3.26 Tube feeding and diabetes

Patients with diabetes who require tube feeding can be fed with the same range of feeds used by the rest of the population. A review of diabetic medication and a change of feeding regimen may be required to promote good glycaemic control.

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

Managing hypoglycaemia

If a patient's blood glucose level is under 4 mmol/l, 15-20g of quick acting carbohydrate should be given immediately.

If oral administration is not possible, 100-150 mls of feed, 120 mls of Lucozade, 200 mls of a sugary fizzy drink or 200 mls of fruit juice should be flushed through the enteral feeding tube. This is the only occasion when it is appropriate to flush such liquids down an enteral feeding tube and it should be followed by flushing the tube with a minimum of 30 ml of water afterwards.

Regular checking of the blood sugar level is required while treating hypoglycaemia. Once the blood glucose level has returned to within the target range, additional carbohydrate will be required to maintain it. In tube fed patients this may mean commencing the feed. If a patient can eat orally, a starchy carbohydrate containing snack should be given.

If regular hypoglycaemic episodes occur, the patient should be referred to the GP or diabetes nurse for a review.

3.27 Troubleshooting

The most common issues that a patient can encounter on a feed are as follows:

- Diarrhoea
- Constipation
- Nausea/vomiting
- Aspiration
- Issues with the feeding tube or stoma site

Please contact the dietitians if your patient experiences any of these issues. If the problem is with the tube or stoma site please contact the Abbott Nurse Advisor.

3.28 Tube blockage

If the PEG tube becomes blocked, warm water may be used to un-block it. Draw warm (not hot) water into a 60ml syringe, connect onto the PEG tube and with a continuous 'push-pull' action it will slowly dislodge the blockage. This will take time – don't give up.

It also helps to roll/massage the tube gently between your fingers.

Do not:

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

A commercial clog remover should be considered if no other method of unblocking the tube has been successful. Please note these preparations only work on a blockage caused by feed. If a medication has caused the blockage, it will not be of benefit to try a commercial clog remover.

If the RIG becomes blocked, seek advice from the Radiology Department immediately.

3.29 Tube Care

There are a variety of makes of all types of enteral feeding tubes. Manufacturer's guidance should be followed for the care of the specific tube. It is the responsibility of the clinician receiving the referral to ensure that the discharging unit supply specific guidelines for the care of the feeding tube and ongoing care for the patient i.e. when the tube should be changed.

A selection of tube specific care guidelines for commonly used enteral tubes can be seen in Appendix 5.

3.30 Checking the volume of water in a balloon retained gastrostomy

Balloon retained gastrostomies have an internal balloon which prevents the tube from being pulled out and keeps the tube in the correct position. It is important that the volume of water in the balloon is checked on a weekly basis.

It is advised that the volume of water is checked when you know a healthcare professional would be available if help is required – do not check it in the evening or at a weekend. Your healthcare

professional will tell you how much water you need to put into the balloon. Stop the feed one hour before checking the water volume.

Weekly water check routine

Equipment required

2 x 10 ml sterile luer slip syringes
Water for injection
A container into which the removed water can be placed
A clean dry towel

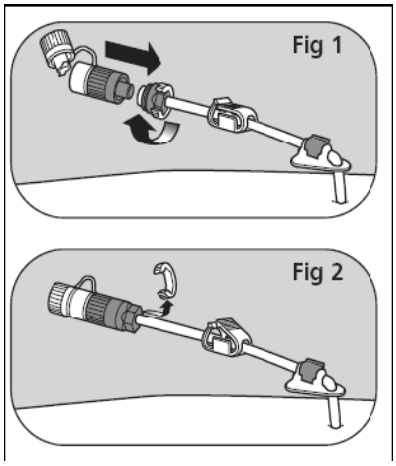
1. Wash and dry hands.
2. Fill one 10 ml syringe with the recommended amount of water to put into the balloon. Lay this syringe on the clean towel.
3. Using the second 10 ml syringe, attach the tip to the balloon inflation valve ensuring to keep the tube firmly in place. Gently pull back on the plunger until no more water comes out of the balloon. Remove the syringe. Make a note of how much water has come out of the balloon and then discard the water.
4. Repeat step 3 to ensure that all of the water has been removed from the balloon.
5. To re-inflate the balloon, take the 10 ml syringe full of fresh water and attach it to the inflation valve. Holding the tube firmly in place, push the plunger down on the syringe to re-inflate the balloon. Remove the syringe and discard it. Pull back gently on the tube until resistance is felt and ensure the external fixator is in the correct position.
6. Wash and dry hands.

(Courtesy of Abbott Nutrition)

3.31 Replacing a Freka PEG End

This is a clinically clean procedure and not a sterile procedure. However all practical measures to maintain a clean environment to avoid introducing infection should be adhered to (Infection Prevention and Control Manual, 2014).

- Wash and dry hands thoroughly
- Clamp the tube using the quick release clamp
- Unscrew and remove the existing luer lock PEG end
- Slide on the new fixation screw
- Insert the luer lock adaptor into the tube
- Screw the two parts together
- Close the cap off on the end of the PEG



(Courtesy of Fresenius Kabi)

3.32 Replacement of tubes

PEG

If a PEG tube requires replacing, please refer to the Gastroenterology Department at Milton Keynes Hospital.

PEG tubes normally last a minimum of 18 months. In practice, they regularly last a lot longer than this and are often left in situ while patent and problem free.

RIG

For patients with a RIG in situ, that does not have an internal balloon, e.g. pigtail RIG, radiology will recall these patients every 6 months for tube replacement. Should the tube come out unexpectedly, please contact the radiology department for advice **immediately.**

Balloon retained gastrostomy tubes

The enteral feeding company nurse routinely changes these tubes, usually around every 3-4 months. If the nurse is not available and the tube has come out, **it is essential that the stoma is kept open by inserting a spare gastrostomy tube and attending A&E immediately. If a spare gastrostomy tube is not available, immediate medical assistance should be sought in A&E, as the stoma can close over in a matter of hours.**

Jejunostomy tubes

JEJ tubes are normally placed in an out of area hospital e.g. Oxford. If the tube needs replacing, please contact the nutrition nurse at Oxford or at the relevant hospital.

Stitches are commonly used to keep JEJ tubes in place. It is important to ensure that these stitches are replaced promptly when they come out – failure to do so can cause the JEJ to become displaced.

3.33 Removal of feeding tubes

PEG tubes

Gastrostomy tubes should not be removed for at least 14 days after initial placement.

Removal of the tube is organised through referral to the Gastroenterology department at Milton Keynes Hospital. They require the GP to refer.

- PEG tubes can be removed through an endoscopic procedure, or by the "cut and push" method providing there is no history of chronic constipation or bowel strictures. "Cut and push" removal method requires a gastroenterologist to assess the patient first.

RIG tubes

RIG tubes are removed in radiology. The GP will need to refer.

Balloon retained gastrostomies

These can be removed by gastroenterology. With medical permission, the Abbott Nurse Advisor can often remove these types of tubes in the community.

Jejunostomy tubes

JEJ tubes will be removed by the hospital where they were placed.

3.34 Care of stoma site

Care of site for the first 10 days after placement

The formation of a stoma will normally take up to 10 days (this can be longer in patients with poor wound healing). During this time extra care should be taken with cleaning. The site should be cleaned with saline and a sterile gauze dressing on a daily basis. The external fixation plate should not be moved or loosened and the stoma site should not be immersed in water (i.e. swimming and bathing). Having a shower will not cause a problem in the first 10 days. A loose non-woven gauze dressing may be required during this period if the stoma site is weeping or infected. If there is excessive bleeding or leakage, inform ANP: nutrition/ Gastroenterologist.

Care of the site from day 10 onwards

After to first 10 days, the care of the stoma site changes. It no longer needs to be cleaned with saline and sterile gauze. Mild soap and water is adequate for daily cleaning. A non-woven cleaning cloth can be used. The site can also be cleaned in the shower, if desired, using a mild shower gel or soap. It is also fine to start bathing and swimming, as long as there is no leakage or infection in the site.

Daily care

1. Wash hands.
2. Move the external fixation plate away from the skin.

3. Using mild soap and water clean the site thoroughly, as well as the back of the retention device and dry using a clean, non-fluffy towel.
4. Push the tube into the stomach by approximately 6-7 cm and gently rotate the tube 360°. This should be done once per day, or as a minimum once per week.
5. Gently pull back the tube until slight resistance is felt.
6. Return the external fixation device to its original position, usually 1-2 cm away from the skin.
7. Wash hands.

Some tubes do not need to be rotated (e.g. radiologically inserted gastrostomies and some jejunostomies held in with sutures) – check with the tube manufacturer or the technician who inserted the enteral feeding tube.

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

3.35 Useful contact numbers

Community dietitians	01908 995416 community.dietetics@mkuh.nhs.uk
Abbott Nurse Advisor	07824 483335
Abbott Hospital to Home	0800 018 3799
Milton Keynes University Hospital	01908 660033
Radiology department, MKUH	01908 995672
Gastroenterology department, MKUH	01908 996907

4.0 Statement of evidence/references

References:

Adult Guidelines for:Percutaneous Endoscopic Gastrostomy tubes (PEG), and Radiologically Inserted tubes (RIG), Milton Keynes Hospital Foundation Trust, 2015

British Association for Parenteral and Enteral Nutrition (1998) *Ethical and Legal Aspects of Clinical Hydration and Nutrition Support*

British Association for Parenteral and Enteral Nutrition (2004) *Administering drugs via an enteral feeding tube, a practical guide*

Milton Keynes Hospital NHS Foundation Trust (2014) *Infection prevention and Control Manual*

National Institute for Clinical excellence (NICE) (2012) *Healthcare-associated infections: prevention and control in primary and community care*

National Institute for Clinical excellence (NICE) Clinical guideline 32 (2006) *Nutritional support in adults*

National Patient Safety Agency (NPSA) Alert 19 (2007) Promoting safer measurement and

administration of liquid medicines via oral and other enteral routes

National Patient Safety Agency (NPSA) Rapid Response Report NPSA/2010/RRR010 (2010) *Early detection of complications after gastrostomy*

5.0 Governance

5.1 Record of changes to document

Version number: 2		**Date:** 09.08.2016		
Section Number	**Amendment**	**Deletion**	**Addition**	**Reason**
3.5	New section		Yes	A larger range of tubes are being seen in MK.
3.6	New section		Yes	A larger range of tubes are being seen in MK.
3.10	Included information regarding our new no prescription, no feed policy		Yes	Contract changed in January 2016 to include this change.
3.13 3.17	Included information on blenderised diet		Yes	Some community patients are now using blenderised feeds – a change in recent years.
3.14	Included information on gravity bolus feeding		Yes	This was missing from the last version of this policy.
3.16	New section		Yes	This was missing was the last version of this policy.
3.24	Included information on new enfit range of enteral feeding supplies		Yes	Enfit compliant feeding supplies have started to be rolled out in 2016/2017 – staff need to be aware of this
3.26	New section		Yes	Staff need to be aware of how to deal with a hypoglycaemic episode.
3.30	New section		Yes	Use of balloon retained tubes has grown since the policy was done – this is now a common practice that needs to be done.
3.32	Expanded the range of tubes covered in this section		Yes	A larger range of tubes are now seen regularly in MK.
3.33	Expanded the range of tubes covered in this section		Yes	A larger range of tubes are now seen regularly in MK.
3.34	Divided this section into pre-10 day and post-10 day care		Yes	To ensure clarity – the care is very different and needs to be done properly.

5.2 Consultation History

Stakeholders Name/Board	Area of Expertise	Date Sent	Date Received	Comments	Endorsed Yes/No
Fay Lord	Dietetic assistant	16.08.16			
Katy Gooding	Dietitian	16.08.16	19.08.16	Punctuation, reorganisation of some sentences to read better	Yes
Philippa Rice-Grubb	Specialist dietitian	16.08.16	31.08.16	Spelling errors Section 3.10 clarity on those who get feed locally Section 3.11 point 6 to include flexitainers Section 3.35 include dietitians email address	Yes Yes Yes Yes
Gillian Momi	Specialist dietitian	16.08.16	07.09.16	Spelling error	Yes
Gerald Remy	Dietetic Manager	16.08.16			
Zulaika Van Aar	Dietetic Team Leader, acute	16.08.16			
Helen Tozer	Dietetic Team Leader, acute	16.08.16			
Maeve O'Boyle	Dietetic Team Leader, LD	16.08.16			
Ruth Hammond	Prescribing dietitian	16.08.16	07.09.16	Error in the guidance on treating hypoglycaemia and expanding information provided Adjustments to appendix 2 to include Abbott Nurse Advisor role	Yes No – this appendix lists what the dietitian checks
Janet Corbett	Head of Prescribing and Medicines Management	16.08.16	30.08.16	To include Abbott Nurse Advisor in the scope. Clarity in 3.7 re delivering feed only once prescription received Comment re does enfit adapters still need mentioning	Yes Yes No – adapters still in use
Lynfa Lanzon-Miller	ANP, Nutrition	16.08.16	13.10.16	Minor wording and sectioning changes. Expanding the executive summary section.	Yes Yes

Angela Legate	Assistant Director Infection Prevention	16.08.16			
Kath Mowbray	Head of Clinical Governance and Risk Management	16.08.16			
Jill Wilkinson	Director of Nursing and Quality	16.08.16			
Sarah Hibble	Community nurse service manager	16.08.16			
Joanne Burgess	District nurse manager	16.08.16	06.09.16	No changes requested	
Imelda Robson	Acute dietitian	16.08.16	03.10.16	To include information on pump bolus feeding	Yes

5.3 Audit and monitoring

This Guideline outlines the process for document development will be monitored on an ongoing basis. The centralisation of the process for development of documents will enable the Trust to audit more effectively. The centralisation in recording documents onto a Quality Management database will ensure the process is robust.

Audit/Monitoring Criteria	Tool	Audit Lead	Frequency of Audit	Responsible Committee/Board
All aspects of this policy will be monitored by the dietitians at each visit	Consultation Questioning	Ciara Mackie	Ongoing at every visit	CSU CIG

5.4 Equality Impact Assessment

This document has been assessed using the Trust's Equality Impact Assessment Screening Tool. No detailed action plan is required. Any ad-hoc incident which highlights a potential problem will be addressed by the monitoring committee.

Impact	Age	Disability	Sex (gender)	Gender Reassignment	Race	Religion or Belief	Sexual orientation	Marital Status	Pregnancy & Maternity
Do different groups have different needs, experiences, issues and priorities in relation to the proposed policy?	N	N	N	N	N	N	N	N	N
Is there potential for or evidence that the proposed policy will not promote equality of opportunity for all and promote good relations between different groups?	N	N	N	N	N	N	N	N	N
Is there potential for or evidence that the proposed policy will affect different population groups differently (including possibly discriminating against certain groups)?	N	N	N	N	N	N	N	N	N
Is there public concern (including media, academic, voluntary or sector specific interest) in potential discrimination against a particular population group or groups?	N	N	N	N	N	N	N	N	N

Appendix 1

List of commonly used feeds

Feed	Features	Kcals/ml	Nutritionally complete in
Jevity Promote	Low calorie fibre feed	1.0	1000 mls
Jevity	Fibre feed	1.0	1227 mls women 1415 mls men
Jevity Plus	Fibre feed	1.2	1125 mls women 1250 mls men
Jevity 1.5 kcal	High calorie fibre feed	1.5	933-1000 mls women 987-1000 mls men
Osmolite	Fibre free feed	1.0	1350-1370 mls women 1500 mls men
Osmolite Plus	Fibre free feed	1.2	1125 mls women 1250 mls men
Osmolite 1.5 kcal	High calorie fibre free	1.5	933-1000 mls women 1071 mls men
Twocal	High calorie feed	2.0	875 mls
Ensure Plus milkshake style	High calorie fibre free, used for bolus feeding	1.5	5 bottles
Ensure Plus Fibre	High calorie fibre feed, used for bolus feeding	1.5	5 bottles
Ensure Twocal	High calorie feed, used for bolus feeding	2.0	5 bottles
Vital 1.5 kcal	Peptide based feed used for issues with tolerance and malabsorption	1.5	1000 mls

Appendix 2 – Dietetic review of an enteral feed

CATEGORY	PARAMETER	RATIONALE	FREQUENCY	RESPONSIBILITY
NUTRITIONAL STATUS/ ADEQUACY OF FEED	Appearance	To ensure patient is visually within ideal body weight range	At each visit	Dietitian/Dietetic assistant (DA)
	Weight	To ensure feed is adequate for the patient's energy needs To ensure a patient is within a healthy weight range	At each visit by dietitian. Patient also weighs between visits	Dietitian/DA and patient/care staff
	Height	To enable working out of BMI	At initial visit	Staff in care home will take measurement
	BMI	To ensure a healthy weight for height ratio	At each visit	Dietitian/DA
	Mid upper arm circumference	Is a useful measurement for monitoring weight status in the absence of a measured weight	At each visit if not able to weigh patient	Dietitian/DA
	% weight loss	This is an independent indicator of malnutrition risk	At each visit	Dietitian/DA

CATEGORY	PARAMETER	RATIONALE	FREQUENCY	RESPONSIBILITY
	Amount of weight lost/gained since last review	To quantify the actual amount of weight lost/gained over a specific period of time	At each visit	Dietitian/DA
	Skin condition	Indicator of hydration and nutritional status. Nutritional requirements may be higher if pressure sores present	At each visit	Dietitian/DA
	Urine output	To ensure a good fluid input	At each visit	Dietitian/DA
	Urine infections	Can be more frequent if inadequate fluid being given. Can increase fluid requirements if regularly present along with increased temperature	At each visit	Dietitian/DA
	Blood glucose levels	Ensuring good diabetic control	At each visit	Dietitian/DA

CATEGORY	PARAMETER	RATIONALE	FREQUENCY	RESPONSIBILITY
	Chest infections	Can be an indicator of poor positioning during feeding. Can increase fluid requirements if regularly present along with increased temperature	At each visit	Dietitian/DA
	Feed given vs feed prescribed	To ensure correct feeding regimen is being given	At each visit	Dietitian/DA
	Factors that affect nutritional requirements e.g. pyrexia, mobility, clinical condition	Can increase energy or fluid requirements	At each visit	Dietitian/DA
	Food intake and consistency	Food intake must be taken into account when working out nutrition provided by feed	At each visit	Dietitian/DA
	Fluid intake and consistency	Oral fluid intake will affect the amount of fluid provided in a feeding regimen	At each visit	Dietitian/DA

CATEGORY	PARAMETER	RATIONALE	FREQUENCY	RESPONSIBILITY
	Fluid intake and consistency	Oral fluid intake will affect the amount of fluid provided in a feeding regimen	At each visit	Dietitian/DA
	Monitoring of trace elements, vitamins and minerals or other bloods as necessary	To ensure no deficiencies if feed is only marginally adequate for requirements	Only if clinical concern	Dietitian will request that GP monitors and supplements as necessary
	Drug – nutrient interactions	To ensure that reduced absorption of neither feed nor drugs occurs	At each visit	Dietitian/DA
TOLERANCE	Constipation	To ensure patient comfort	At each visit	Dietitian/DA
	Diarrhoea	To ensure patient comfort	At each visit	Dietitian/DA
	Vomiting/nausea	To ensure patient comfort	At each visit	Dietitian/DA
	Abdominal bloating/cramps	To ensure patient comfort	At each visit	Dietitian/DA
PRACTICAL ASPECTS	Pump functioning	To ensure a correctly working pump is available for the patient and to help the patient/staff trouble shoot any pump related	At each visit	Dietitian/DA

CATEGORY	PARAMETER	RATIONALE	FREQUENCY	RESPONSIBILITY
		problems		
	Deliveries	MKUH chooses the feed provider. We therefore have a responsibility to monitor the contract and service provided to the patient	At each visit	Dietitian/DA
	PEG tube blockages	To ensure the patient tube is functioning properly. To try and prevent total blockage of the tube and therefore the need for replacement	At each visit	Dietitian/DA
	PEG tube	To ensure the PEG tube is clean, in good condition and fit for purpose	At each visit	Dietitian/DA
	PEG site	To ensure the site is clean and dry, without infection, overgranulation or any other problems	At each visit	Dietitian/DA

CATEGORY	PARAMETER	RATIONALE	FREQUENCY	RESPONSIBILITY
	PEG care	To ensure the PEG tube and site is being cared for properly. This extends the life of the tube, prevents buried bumper syndrome and ensures a healthy tract is formed and maintained	At each visit	Dietitian/DA
QOL ISSUES	Hunger	To ensure patient comfort	At each visit	Dietitian/DA
	Timing and method of feeding	To ensure that the feeding regimen and method of feeding suits the patient's daily routine and therefore impacts QOL as little as possible	At each visit	Dietitian/DA
	Meeting goals of feeding	Review the original aims of PEG feeding and whether or not they are being achieved	At each visit	Dietitian/DA

CATEGORY	PARAMETER	RATIONALE	FREQUENCY	RESPONSIBILITY
	Appropriateness of goals	Are the goals initially set still appropriate?	At each visit	Dietitian/DA

Appendix 3

INSTRUCTIONS FOR USE

TO PREPARE FEED CONTAINER:

1. Depending on your feed container, complete ONE of the following (A, B, or C):

A. If feeding from a Ready-to-Hang (RTH) container, attach either the Spike or Feedcap feeding set securely onto the pre-filled enteral nutrition container.

B. If feeding from a RPB (reclosable plastic bottle), attach the Feedcap feeding set securely onto the pre-filled enteral nutrition container.

C. If feeding from a bag set, unscrew the cap on the bag set, pour in the feeding solution, and be sure to securely re-screw the cap onto the bag set to prevent accidental fluid spilling.

2. Hang the feed container (i.e. from a drip stand, from Abbott FreeGo table drip stand, or inside Abbott FreeGo backpack).

TO PRIME AND LOAD THE FEEDING SET:

1. Complete ONE of the following (*Option A* or *Option B*):

Option A

- **MANUALLY PRIME THE SET:** Gently push the lilac prime tab on the feeding set cassette against tubing until fluid flows. Completely prime the set by allowing fluid to expel air from the tubing.
- **LOAD THE SET INTO THE PUMP:** Open the door on the pump. Grasp the lilac cassette body on the feeding set and loop the pump insert around rotor stretching lightly. Gently pull down and then seat the lilac cassette into the pump. Close the door firmly.

Or…

Option B

- **LOAD THE SET INTO THE PUMP:** Open the door on the pump. Grasp the lilac cassette body on the feeding set and loop the pump insert around rotor stretching lightly. Gently pull down and then seat the lilac cassette into the pump. Close the door firmly.
- **AUTO PRIME THE SET:** Turn pump dial to **SET RATE** or **SET DOSE**. Press and hold the Prime Button for two (2) seconds then release. "PRIMING" will be displayed. Auto priming will stop when the priming volume has been reached. To stop this process prior to its completion, press and release the Prime button.
- **INCREMENTALLY PRIME THE SET:** There may still be a small section of air in the feeding set. Press and hold the Prime Button. Priming will begin after two (2) seconds. Release Prime Button when fluid has reached desired level.

NOTE: See  in PUMP DIAL AND BUTTON REFERENCE for more information on priming.

TO START PUMP:

1. Turn pump dial to **SET RATE.** Then select your prescribed flow rate by pressing the Up and Down Arrow Buttons while observing the entry on the display. Keeping an Arrow Button depressed will cause the scroll rate to increase.

NOTE: Any time the dial is turned from **OFF/CHRG** to any other dial position (i.e. the pump is turned on), the pump will initiate system Self-Check Procedure. During this procedure, user should **verify** that all segments on the LCD display activate and deactivate, and then display the pump's software version and serial number (for example, **V1:00** AF11001000). Simultaneously, verify that the audio beeps at high volume, then low, then high again. Do not use the pump if the operation is not exactly as described above.

2. Turn the dial to **SET DOSE** and programme your prescribed dose using the Up and Down Arrow Buttons. Keeping an Arrow Button depressed will cause the scroll rate to increase.

NOTE: Pump can be programmed to feed until the container is empty (**SET DOSE** at **INF** DOSE; see PUMP DIAL AND BUTTON REFERENCE). In this case, feeding will continue until the pump's sensors detect air in the feeding set. At that time, the pump will stop and the display will read "FEED EMPTY".

NOTE: Be sure that the feeding volume has been cleared from the pump's memory prior to beginning a new feeding (for instruction, see **CLEAR VOL** at step 6, below).

3. Connect the Abbott FreeGo feeding set securely to the enteral feeding tube.
4. Turn dial to **RUN** to start feeding.

NOTE: If alarm sounds, turn pump dial to **HOLD**. Correct alarm condition that has been indicated on the LCD display, then return dial to **RUN** to restart feeding. For Alarm and Warning information, see ALARM AND WARNING MESSAGES.

5. To view the accumulated feeding volume delivered, turn dial to **VOL FED**.
6. To clear the accumulated feeding volume delivered, turn dial to **CLEAR VOL** (the volume will clear after a five (5) second countdown.)
7. When feeding is complete, turn the pump dial to **OFF/CHRG**.
8. Detach the feeding set from the enteral feeding tube.

TO PAUSE FEEDING:

In order to temporarily pause feeding, turn the dial to **HOLD**. The pump's hold timer will start its countdown from 5 minutes, by default. The hold time can be manually changed in one-minute increments, from 1 to 90 minutes, by using the Up and Down Arrow Buttons. The pump's hold time resets back to this default value every time the dial is switched away from **HOLD**. At the end of the countdown, an alarm will sound, but the PUMP WILL **NOT** AUTOMATICALLY RESTART. The dial must be returned to **RUN** for the pump to begin feeding again. The hold timer is only meant as an audio reminder that the feeding was paused.

NOTE: Since feeding only occurs in **RUN** mode, feeding may be temporarily paused by switching the dial from **RUN** to any of the other dial settings. HOWEVER, there is the possibility of changing the feeding parameters (in **SET RATE** or **SET DOSE** dial mode) or clearing the accumulated delivered volume (in **CLEAR VOL** dial mode). Therefore, it is advised to only use the **HOLD** function to temporarily pause a feeding.

TO LOCK THE PUMP:

In order to prevent an unintentional altering of the current numerical values in **SET RATE**, **SET DOSE** and **VOL FED** (via **CLEAR VOL**), the pump has a lock-out feature.

NOTE: The **HOLD** timer can still be adjusted while the lock-out feature is activated.

NOTE: The pump will not prime the feeding set while the lock-out feature is activated.

1. To activate the lock-out feature, simultaneously press both the Up and Down Arrow Buttons while the dial is in either **SET RATE** or **SET DOSE** dial modes. The display will read "**ON** LOCK ON".
2. To deactivate the lock-out feature, repeat the step (1) above. The display will read "**OFF** LOCK OFF".

Courtesy of Abbott Nutrition

Appendix 4

DASH 3® *Plus* REUSABLE ENTERAL SYRINGE

LUER ENFIT

The DASH 3® *Plus* Reusable ENFit* syringe has been designed for use in the community by enterally-fed patients and can be used for up to 7 days.

Uses for which the syringe has been designed are shown above

INSTRUCTIONS FOR CLEANING DASH 3® *Plus* ENFit* SYRINGES

Do not allow contents to dry in the syringe before washing. Syringes can be cleaned by washing in warm,soapy water. The plunger should be removed and washed separately.

Do not scrub either component of the syringe as this will shorten the life of the syringe.

Rinse off each component with cold water thoroughly and allow to air dry. Do not dry the components with paper towel or similar as this will shorten the life of the device.

Alternatively, the syringe may be cleaned in a dishwasher on an economy or cool cycle. Ensure the plunger is removed before washing.

Once dry, the plunger can be reinserted and stored in a clean, dry place.

When to discard the syringe?

1. Marking on the syringe barrel become indistinct or begins to rub off.
2. The plunger becomes stiff to operate.
3. The syringe has been used for 7 days.

Please consult your local professional healthcare advisor prior to using the DASH 3® *Plus* ENFit* syringe

Issue: 4

Contact:
INTERVENE, WATERLOO COURT, MARKHAM VALE, CHESTERFIELD, S44 5HN
Customer Service: +44 (0) 1246 828088

dash3.co.uk

*Registered Trademark of Global Enteral Device Supplier Association, Inc.

Literature Ref: PR20005

Appendix 5

Freka® PEG Aftercare Sheet

Name	
Tube Size	
Date of Placement	

→ General Information:

- The tube in situ is a Freka® PEG (percutaneous endoscopic gastrostomy), placed endoscopically into the stomach.
- The area where the tube enters the stomach is called the stoma site.

→ Initial Care:*

- A keyhole dressing may be applied, as per hospital policy. The stoma site can be cleaned using a 0.9% saline solution.
- If the external fixator requires adjusting, this should be undertaken by the healthcare professional.
- Water/feed is usually commenced 6-12 hours after placement. Refer to individual feeding regimen.
- If patient complains of pain or there is localised swelling, stop feeding and report to your local healthcare professional.
- Flush tube 4-6 hourly with water (as per local/ hospital policy). This does not need to be done through the night.

*until site is healed, approximately 7-10 days

→ Daily Care:

- Clean stoma site daily with mild soap and water and ensure adequate drying.
- Observe stoma site daily for leakage, swelling, redness or inflammation – report any problems to your local healthcare professional. Some clear fluid may be present this is normal.
- Flush tube with water (as per local/hospital policy) before, during and after enteral feed and medications.
- Do not use dressings unless clinically indicated.
- If tube blocked use warm water/carbonated water/soda water and refer to local policy if applicable.
- **Do not** flush tube using force if tube remains blocked and inform your local healthcare professional.
- **Do not** put anything down the tube other than feed, water and medication in liquid form.
- Advance tube 1-2cm and rotate 360° at least once a week no more than once a day.
- Once stoma tract has healed, fixation device can be moved for cleaning. However, it should be returned back to its original position (approx 1cm away from skin) to prevent migration/movement.

Post insertion care of the CORFLO® PEG

CORFLO® GASTROSTOMY

The first 24 hours following PEG insertion

- Observe the stoma site for signs of leakage, redness, swelling, irritation. Some clear fluid may be present, this is normal.
- If a keyhole dressing has been applied this should be removed after 24 hrs. Thereafter no dressing is necessary.
- It is important that the area is dried gently but thoroughly.
- If the external fixator requires adjusting, this should be undertaken by the clinician.
- Confirm the correct placement of the PEG using X-ray or gastric aspiration, using certified pH indicator strips, as per hospital protocol.
- Feeding may be commenced 4 hours after insertion usually starting with sterile water.[1] Refer to local policy.
- If the patient complains of pain or there is localised swelling, stop feeding and report to the clinician.

Day 1 – Day 28 post PEG insertion

- Clean the stoma site daily using soap and water. It is important that the area is dried gently but thoroughly.
- The patient's oral hygiene is very important. Teeth should be cleaned twice a day. Artificial saliva or a mouth wash may help if the patient's mouth is very dry.
- Until the stoma site is fully healed usually 14 days[1], do not immerse the site in water. The patient should take showers instead of baths.

1 month post PEG insertion – daily care

- Clean the skin around the stoma site using mild soap and warm water. Continue to ensure the area is dried gently but thoroughly. Before cleaning the site, check for any signs of the following: leakage; swelling; irritation; redness; skin breakdown; soreness or excessive (more than 1cm)[1] movement of the tube in or out of the patient's stomach.
- Continue with daily oral hygiene.

1 month post PEG insertion – weekly care

- The fixation device cover can be separated from the base to allow further cleaning of this part of the tube. Unclip the fixation device and flush the tube in a straightened position. Clean inside the fixation device. The tube should be rotated to prevent adherence to the stoma tract.
- The tube should be gently moved into the stomach and rotated to prevent adherence, gently pull the tube back until the internal bumper is against the stomach wall. Refasten the fixation device, which should sit comfortably on the patient's abdomen.
- When the external fixation device is clipped into place, there should be no more than 1cm of movement between the fixator and the abdomen.[1]
- If the stoma tract has healed, bathing and swimming can be enjoyed.

Dos and Don'ts

✓ Do flush the PEG tube with water before and after medication administration and whenever feeding is stopped. Routine irrigation (every four hours) will reduce the likelihood of blockage.

✓ Do check the stoma site daily for signs of swelling; leakage; redness; soreness; pain or excessive movement in and out.

✓ If tube is accidentally pulled out, action should immediately be taken to prevent the tract from closing. If tube has been in situ for: under 2 weeks, refer patient to hospital for reinsertion. Between 2 and 4 weeks - expert may blindly insert a replacement gastrostomy tube of same French size or smaller. If longer than 4 weeks - appropriately trained person to insert replacement gastrostomy tube of same French size or smaller.[1]

✓ A clamp is provided as an accessory to prevent leakage from the Y-adapter when opened. Do change the position of the clamp on the tube regularly to prevent damaging the tube.

✓ Ensure the base skirt of the Y-adapter is firmly screwed in place at all times.

✗ Do not use dressings unless clinically indicated.

✗ Do not put anything down the tube other than the patient's feed, water or medicines as advised by your medical team.

✗ Do not permanently clamp the tube, as prolonged clamping may cause damage.

Post insertion care of the CORFLO® Balloon Gastrostomy Tube

CORFLO® GASTROSTOMY

Daily Care (established/healed stoma)

- Inspect the stoma for cleanliness and check for signs of redness or irritation. To clean the skin around the stoma, lift the edges of the retention bolster and gently wash the stoma with soap and water.
- Dry the stoma site thoroughly and return the retention bolster to its original position if it was moved.
- Keep the feeding port clean of enteral feed by using a swab or soft cloth.
- Clean (using warm soapy water) and dry the outer surface of the tube and retention bolster as necessary.
- Check the position of the retention bolster, which should sit comfortably on the abdomen. Pull back on the gastrostomy tube gently until resistance is felt and gently slide the fixator towards the abdomen until there is a space of no more than 1cm between the abdomen and the fixator.[1]
- The patient's oral hygiene is very important. Teeth should be cleaned twice a day. Artificial saliva or a mouth wash may help if the patient's mouth is very dry.

1 week post insertion - weekly care (established/healed stoma)

- Rotate the tube, 360 as this will prevent the tube from adhering to the stoma tract[1]
- Check the balloon volume to validate its integrity:
  - Discontinue feeding.
  - While the tube is in place, use a syringe to completely evacuate water from the balloon. Discard the water from the syringe and reinsert the syringe, withdrawing any remaining water to ensure that the balloon is completely empty.
  - Failure to completely empty the balloon may result in the balloon being overfilled and bursting.
- It is normal for small amounts of water to evaporate from the balloon over time.
- Reinflate the balloon with 5 ml or 20 ml of water, depending on balloon volume. This is printed on the inflation valve.
- Do not inflate the balloon with more than the volume printed on the inflation valve – it may cause the balloon to burst.

Removal of a CORFLO® Balloon Gastrostomy tube

- Deflate the balloon completely.
- Apply gentle pressure to the abdomen and pull the tube until it completely exits the stoma.
- Clean and dry the stoma site.

Replacement of a CORFLO® Balloon Gastrostomy tube

- Choose a replacement gastrostomy tube of the same french size to the one being replaced.
- Inspect the tube prior to use:
  - Fill the balloon with 5 ml or 20 ml of water, depending on balloon volume.This is printed on the inflation valve. If necessary, roll the inflated balloon gently between the thumb and index finger to achieve a uniform shape. (It is not unusual for the balloon to appear flatter on one side on initial inflation)
  - Completely deflate the balloon after inspection.
  - Check the retention bolster to ensure that it slides up and down the shaft of the tube.
  - Lubricate the tip with water-based lubricant. Do not use a petroleum-based oil or jelly.
- Guide the lubricated tip through the stoma and into the stomach until the entire balloon has passed through the tract.
- Inflate the balloon with 5 ml or 20 ml of water, depending on balloon volume. This is printed on the inflation valve.
- Never inflate the balloon with air. Never over-inflate the balloon.
- Withdraw the tube until resistance is felt from the balloon contacting the stomach wall.
- Slide the retention bolster down the shaft of the tube until there is a space of 1-2mm[1] between the stoma and the bolster.
- Excessive tension should not be applied nor should the retention bolster be sutured in place.
- Aspirate gastric contents to confirm correct placement.

Dos and Don'ts

- ✓ Do irrigate with water when enteral feed is interrupted and before and after each medication administration. Routine irrigation (every four hours) will reduce the likelihood of blockage.
- ✓ Do check the stoma site daily for signs of swelling; leakage; redness; pain or excessive movement in and out.
- ✓ If tube is accidentally pulled out, action should immediately be taken to prevent the tract from closing. If tube has been in situ for: under 2 weeks, refer patient to hospital for reinsertion. Between 2 and 4 weeks - expert may blindly insert a replacement gastrostomy tube of same French size or smaller. If longer than 4 weeks - appropriately trained person to insert replacement gastrostomy tube of same French size or smaller.[1]
- ✓ Do check the position of the external fixator. If it is too tight, it can cause tissue damage. If it is too loose, it can cause gastric contents to damage the stoma tract and surrounding tissue.
- ✗ Do not use dressings unless clinically indicated.
- ✗ Do not put anything down the tube other than the patient's enteral feed, water or medicines as directed by your clinician.
- ✗ Do not close the clamp for long periods of time in the same position on the tube. This will help prolong the life of the tube.

Unique Identifier:
Version: 2
Review date: 08/2016

Care of a Mic-Key gastrostomy tube

CARE AND USE

Clean the MIC-KEY* feeding tube daily. Care is simple and easy. Just keep the tube and the skin around the tube (stoma) clean and dry.

The following supplies will make your work easier:

- soap and water
- cotton-tip applicators
- tissues
- luer slip syringe

The balloon holds your feeding tube in place. Check the volume of water in the balloon at least once a week. To do this, attach the luer slip syringe to the balloon port and withdraw all the water while leaving the feeding tube in place. If there is less fluid than the amount originally prescribed, replace it with the prescribed amount. Distilled or sterile water is a good choice for the replacement fluid once the stoma site has healed. (Never fill the balloon with air. Air will rapidly migrate out of the balloon and the MIC-KEY* feeding tube will not stay in place).

Rotate the MIC-KEY* feeding tube in a full circle when you perform daily tube care. This will prevent the tube or balloon from adhering to the skin.

MAINTENANCE OF THE MIC-KEY* LOW-PROFILE GASTROSTOMY FEEDING TUBE

ALWAYS WASH YOUR HANDS WITH WARM SOAPY WATER BEFORE TOUCHING YOUR TUBE.

Develop a habit of inspecting the skin around the tube (stoma) after feeding. Make sure the skin is clean and dry. Observe the stoma for a few minutes checking for gastric leakage. If you use a dressing, change it when it becomes wet or soiled. Never allow a wet dressing to remain in contact with the skin. Note: The MIC-KEY* feeding tube does not require a dressing. gently clean the skin around the stoma. Rotate the MIC-KEY* feeding tube and clean again. Use cotton-tip applicators or a soft cloth, using soap and warm water. If you think soap is irritating the skin, try cleansing with water alone or try another soap.

Clean the feeding port with a cotton tip applicator or soft cloth to remove oil or food. If you receive a continuous feeding, flush the tube and the extension set tubing at least three times daily.

AVOID PUNCTURING OR TEARING ANY PART OF THE MIC-KEY* LOW-PROFILE GASTROSTOMY FEEDING TUBE.

Freka® Surgical jejunostomy Aftercare Sheet

Name	
Tube Size	
Date of Placement	

General Information:

- The tube in situ is a Jejunal feeding tube placed in theatre. The fixation triangle is secured with sutures which **must** remain in situ for the life of the tube.

Initial Care:

- A keyhole dressing may be applied, as per hospital policy. The stoma site can be cleaned using 0.9% saline solution.
- Water/feeding is usually commenced 6-12 hours after placement. Refer to individual feeding regimen.
- If the patient complains of pain or there is localized swelling, stop feeding and report to your healthcare professional.
- Flush tube with 20ml of water (as per local/ hospital policy).

Daily Care:

- Hygiene is of the up most importance as the tube is in the small bowel; here there is no acid barrier as protection.
- Clean stoma site avoiding disturbing sutures with mild soap and water and ensure adequate drying, also renew dressing as required.
- Observe the stoma site daily for any leakage, swelling, redness or irritation; report any problems to your local healthcare professional. Some clear fluid may be present – this is normal.
- Continue to observe stoma site checking sutures are intact and report any problems to your healthcare professional.
- Flush tube with water (as per local/hospital policy) before, during and after enteral feed and medications.
- **Do not** rotate or advance tube to avoid displacement.
- If tube blocked use warm/carbonated/soda water and refer to local policy of applicable.
- **Do not** flush using force if tube remains blocked and inform your local healthcare professional.
- If the tube becomes displaced **do not** use tube and inform your local healthcare professional.
- If jejunal end becomes damaged contact your local healthcare professional for replacement.
- Do not put anything down the tube other than feed, water and medications in liquid form.
- Always check medications can be given by the jejunal route and liaise with pharmacist if required.

Freka® PEG-J Aftercare Sheet

Name	
Tube Size	
Date of Placement	

General Information:

- The tube in situ is a Freka® PEG with a jejunal extension tube passed through it.
- The jejunal extension port will be marked on the outside with a letter "I".
- The gastric port will be marked on the outside with a letter "G" – this port may be used for aspiration of gastric contents.
- Feed, medication and water for flushing can be administered into either port.
- Your healthcare professional will advise which port you should use.
- The area where the tube enters the stomach is called the stoma site.

Initial Care:*

- A keyhole dressing may be applied, as per local/hospital policy. The stoma site can be cleaned using a saline solution.
- If the external fixator requires adjusting then this should be undertaken by the healthcare professional.
- Water/feeding is usually commenced 6-12 hours after placement. Refer to individual feeding regimen.
- If patient complains of pain or there is localised swelling, stop feeding and report to your healthcare professional.
- Flush tube 4-6 hourly with water (as per local/hospital policy). This does not need to be done through the night.

Daily Care:

- Hygiene is of the up most importance as the tube is in the small bowel; here there is no acid barrier as protection.
- Observe the stoma site daily for any leakage, swelling, redness or irritation; report any problems to your healthcare professional. Some clear fluid may be present – this is normal.
- Clean stoma site using mild soap and water and ensure adequate drying.
- Flush with water (as per local policy) before, during and after enteral feed and medications.
- If the gastric port is not being used regularly flush once a day using water (as per local/hospital policy). **Check with healthcare professional before doing this to ensure patient safety.**
- **Do not rotate the tube** as this may dislodge the jejunal extension. Once the stoma tract has healed, the fixation device can be moved for cleaning. However, it should be returned back to its original position (approx 1cm away from skin) to prevent migration/movement.
- Push 2-3cm of tube into stomach and gently pull back tube to feel resistance at least once a week, no more than once a day.

*until site is healed, approximately 7-10 days

Post RIG care:

- Bed rest for 4 hrs.
- Routine observations – temperature, pulse, BP and PO2
  - ¼ hourly for 1hr.
  - ½ hourly for 2 hrs.
  - 1 hourly for 2hrs.
  - Then 4 hourly for 24hrs.
- NBM for 4 hrs (consider alternate means of nutrition till RIG is ready to use).
- Flush gastrostomy after 4 hours -
  - 25ml/ hr first 2 hours
  - 50ml after 2 hours (once) → if flushed easily with **no patient distress /abdominal pain or distention** then RIG feeding can be commenced following dietician review and as per their local protocol.

❖ **Please note: decision to commence RIG feed is clinical (not radiological).**

Potential immediate complications in relation to RIG feeding –

1. **Peritonitis** – If there are any clinical signs and symptoms of peritonitis **STOP** RIG feeding. Seek advice from clinical team.
2. **Pain** – pain following RIG feeding may be sign of RIG displacement. STOP feeding and arrange a RIGOGRAM with the radiology department before recommencing feed.
3. **Aspiration** – The patient may have a degree of gastroparesis following RIG insertion. Please ensure that the patient is absorbing feed before increasing the rate/overnight feeds.
4. **Pneumoperitoneum** – Can be normal finding following RIG insertion provided there are no signs of peritonitis.