

Adult Enteral Tube Feeding Policy

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Purpose

To provide concise evidence based guidance for all staff involved with enteral feeding to ensure safe feeding practices and minimise complications.

Who should read this document?

All clinical staff both qualified and unqualified who are involved in the care of patients receiving enteral nutrition within University Hospitals Plymouth NHS Trust.

Key Messages

Staff should be engaged in the process of supporting and caring for patients who require enteral tube feeding, so that safe and effective feeding can be provided according to their clinical need. Staff are expected to be competent to do so and comply with this policy.

Correct procedural documentation should be completed at every stage

Core accountabilities		
Owner	Specialist Head and Neck Dietitian (Claire Davis) Specialist Home Enteral Feeding Dietitian (Vicky Chudleigh-Emson) Professional Lead Dietitian (Paula Murphy)	
Review	Nutrition Steering Committee (NSG)	
Ratification	Deputy Director of Nursing	
Dissemination (Raising Awareness)	Claire Davis	
Compliance	Nutrition Steering Committee (NSG)	
Links to other policies and procedures		
Adult Nasogastric Tube Insertion Procedure & Management Policy		
Version History		
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1:9	April 2019	Review and updated and transferred into Policy by Claire Davis, Vicky Chudleigh-Emson & Paula Murphy. Updated: Refeeding Guidelines, Management of Diabetes, PEG/RIG aftercare, PEG/RIG placement pathways, Discharge checklist for HEFT, Procedure for care of Infection and Overgranulation of a Gastrostomy exit site and Leakage of Gastric Contents, Administration of medications via Enteral Feeding Tube, Inpatient Daily Care record

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1 Introduction

This policy outlines the management of patients who are receiving artificial feeding via the enteral route (feeding into the gastrointestinal tract). It covers guidance on the care of various types of enteral feeding tubes, how to administer feeds, infection control and troubleshooting guidelines.

It gives information and instruction regarding safe and effective management of enteral feeding to reduce risk in line with current Clinical Governance. Medical and nursing staff who are involved in the placement of tubes and administration of feed require appropriate training and support to ensure that safety and best practice is maintained. This policy is intended for use in adult patients.

It has been produced by Dietitians and Healthcare Professionals in University Hospitals Plymouth (UHP) NHS Trust to assist in successful enteral tube feeding in Derriford Hospital, Community Hospitals and at home including nursing and residential homes. This document does not negate the need for dietetic assessment of each individual patient requiring enteral tube feeding but should be used as a reference guide by all members of the Healthcare Team.

2 Purpose

University Hospitals Plymouth NHS Trust aims to deliver safe and effective care to all its patients. The purpose of this policy is to provide concise evidence based guidance for all staff involved with enteral feeding to minimise potential risks of infection and complications and standardise practice throughout the Trust. The policy aims to ensure that patient's nutritional and fluid requirements are met, to prevent and treat disease-related malnutrition, reduce complications induced by poor nutritional status and to ensure safe and effective feeding can be provided. It aims to facilitate and improve the organisation and quality of care for adult patients requiring enteral tube feeding across University Hospitals Plymouth (UHP) NHS Trust.

The aim of the policy is to ensure that practice complies with:

- National Patients Safety alert guidance (2005, 2010, 2011),
- Medical Devices alerts (2010)
- NICE (2006) 'CG32 - Nutrition support for adults: oral nutrition support, enteral tube feeding and parenteral nutrition'
- NICE (2012) 'QS24 - Nutrition support in adults'
- NICE (2012) 'CG139 - Healthcare-associated infections: prevention and control in primary and community care - Enteral Feeding - Preparing and Giving Feeds'

3 Definitions

Enteral Feeding - refers to the delivery of a tube feed into the gut via a tube. It should be considered in people who are malnourished or at risk of malnutrition and have unsafe or inadequate oral intake and a functional accessible gastrointestinal tract (NICE 2006).

Nasogastric tube (NG) - A tube passed through the nose into the stomach, used to deliver enteral feed into the gut. Used where short term feeding is indicated.

Gastrostomy - An opening made into the stomach to allow feeding directly into the gut. Indicated where long term enteral feeding is required.

Percutaneous Endoscopic Gastrostomy (PEG) – a procedure that uses an endoscope (flexible camera that passes into your stomach) to place the tube.

Radiologically Inserted Gastrostomy (RIG) - where the tube is placed under x-ray guidance

Nasojejunal tube (NJ)- A tube passed through the nose into the stomach, used to deliver enteral feed beyond the gut (post pyloric). Used where short term feeding is indicated

Jejunostomy tube - An opening made into the jejunum to allow direct feeding beyond the gut. Indicated where long term enteral feeding is required and where gastrostomy feeding is contraindicated.

Percutaneous Gastro Jejunostomy (PEJ) - An opening on the abdomen through to the jejunum, where a feeding device is placed to allowing direct feeding into the small bowel.

Intravenous (IV) – means into a vein. Intravenous (IV) medications are a solutions administered directly into the venous circulation.

Home Enteral Feeding Dietitian (HEF Dietitian) – Dietitian working in the community specialising in home enteral feeding.

Human Immunodeficiency Viruses (HIV) - is a virus that damages the cells in your immune system and weakens your ability to fight everyday infections and disease

Upper Gastrointestinal (UGI) – includes the oesophagus, stomach, and duodenum

4 Duties

All patients requiring enteral tube feeding should be referred to a Dietitian, who will plan, monitor and evaluate their treatment. Dietitians have a responsibility of ensuring each patient referred for enteral feeding receives a full nutritional assessment and a personalised feeding regimen.

All relevant Healthcare staff involved in the provision of enteral nutrition support should be trained in its provision, in the care of the enteral feeding tube and the stoma site.

All registered practitioners (this includes Registered Nursing Associates) are personally responsible for updating their practice to maintain competencies and skills at 2 yearly intervals and are responsible for ensuring their own compliance with this policy. The Nutrition Team provides training at 'Train the Trainer' sessions which are run twice a year to ensure staff are competent in the management of enteral feeding.

No Locum, Agency or Newly recruited medical or nursing staff are to insert/ confirm tube position / administer any substance via these tubes until training and competency assessment has taken place.

Modern Matrons/Ward Managers are responsible for ensuring that all ward staff adhere to the 'Adult Enteral Feeding Policy' within their own clinical area and for ensuring their staff attend training.

The procedures described below are intended to support staff in complying with the stated Trust policy and to ensure care is safe and effective.

Consent for the procedure should be sought under the guidance of the Policy for Consent to Examination and Treatment.

5.1 Indications for Enteral Tube Feeding

- Unconscious.
- Neuromuscular swallowing disorder.
- Physiological anorexia e.g. cancer, sepsis, HIV.
- UGI obstruction.
- GI dysfunction or malabsorption.
- Increased nutritional requirements e.g. cystic fibrosis.
- Psychological problems e.g. anorexia nervosa.
- Mental Health e.g. dementia (NICE 2006).

5.2 Choice of Feeding Route

The routes used for enteral tube feeding are:

- Nasogastric (NG), Nasojejunal (NJ).
- Gastrostomy (including Percutaneous Endoscopic Gastrostomy (PEG), Radiological Inserted Gastrostomy (RIG), Replacement Devices – Low Profile Gastrostomy Tubes (LPGT) and Balloon Gastrostomy Tubes (BGT)).
- Jejunostomy (including Percutaneous Endoscopic Gastrojejunostomy (PEG-J), Transgastric Jejunal Feeding Tube (RIG-J) and Surgical jejunostomy).

The expected duration of feeding, clinical condition and opinion of the patient /carer all need to be considered when deciding which route to use.

5.3 Enteral Feeding Equipment

The equipment required for feeding may include:

Feeding tube.

Replacement tubes (Balloon Gastrostomy Tubes and Low Profile Gastrostomy Devices).

Extension sets.

Giving sets.

Feed.

Pump.

Syringes.

Sterile feed container.

pH indicator strips.

Tape.

The type of tube that has been inserted should always be indicated in the patients' medical/ discharge notes and documented in their PEG/RIG Patient Passport Booklet. If this information is not included, the discharging/ Endoscopy unit should be contacted.

Table 1: Enteral Feeding Equipment

	Where to Obtain	Name of Product	Notes
Nasogastric Feeding Tubes (NOT Ryles tubes)	UHP - Order from Materials Management. HEF–Homecare Delivery Service	Corflo (Merck) fine bore feeding tube	Fine bore tubes (<12fr) should be used in preference to wider bore tubes
<u>*Critical Care Settings Only*</u>	UHP - order from Materials Management	Entral dual licence Nasogastric tube DFT (DFT =drainage feeding tube) Size 12- 16Fr– *Critical care settings Only* . For use only on critical care settings for draining + feeding.	A patient can be transferred to a ward with this tube in situ to continue with 4 hourly aspirates to assess for absorption, if 4 hourly aspirates obtained <200ml every 4 hours for 48hrs change to fine bore NG tube.
Ryles Tube	UHP - order from Materials Management.	Pennine Healthcare Decompression Tubes, 'Ryles' 10-18fg	Change as soon as possible for a fine bore NG feeding tube
Giving sets* NPSA Compliant	UHP inpatients - order from Materials Management HEF – Homecare Delivery Service	Amika pump set easybag ENPlus 7751917(with med port) Amika pump set easybag (no med port ENFit) 7751918 Amika pump set Varioline ENFit (for use with various feed presentations & rigid containers) 7751919 For community use only: Amika Pump Set Easybag Mobile ENFit (7751916) is used for feed bags but cannot be used with a rigid containers	Need to be changed every 24 hours and the old one discarded
pH indicator strips	UHP inpatients - order from ward supplies (Materials Management) HEF Devon –Enteral Feeding Company Delivery Service HEF Cornwall-District nurses	Johnson Test Papers	

Syringes NPSA Compliant	UHP inpatients- order from Materials Management. HEFDevon – Enteral Feeding Company Delivery Service HEF Cornwall- District Nurses	For bolus feeding in hospital: Enteral LPE60 60ml single use syringe (purple) (Medicina) 7945340 (ENFit) For bolus feeding use in the community, LHE60 60ml re-usable syringe (Medicina) 7945364 (ENFit) and if required for immunocompromised patients or extenuating circumstances; Enteral LPE60 60ml single use syringe (purple) (Medicina) 7945340 (ENFit)	Single use item (UHP) Use determined by risk assessment for HEF patients (see appendix 5)
Sterile feed containers*	UHP inpatients- order from Materials Management HEF – Enteral Feeding Company Delivery Service	Amika Pump Set Hydrobag 7751914 (giving set attached) Amika hydrobag 7751102 (amika pump set easybag non med port. Amika pump set easybag (no med port ENFit) giving set would need to be supplied & attached for use with this hydrobag. attached)	Discard after 24 hour use. Non-sterile feed discard after 4 hours.
Feed *	UHP inpatients - order from Pharmacy HEF - Homecare Delivery Service (Monthly delivery)		Dietitian will advise on each patient
Pump and Drip Stand*	UHP inpatients – obtain from Medical Equipment Management Services (MEMS) HEF- Enteral Feeding Company Delivery Service	Amika® enteral feeding pump and table top drip stand	Pumps should be serviced once every 2 years. If bolus or gravity feeding a pump will not be required

6 Infection Control and Enteral Tube Feeding

6.1 Procedures for Infection Control in Enteral Tube Feeding

- Wash hands before and after handling feeding equipment, non-sterile gloves and apron should be worn.
- Pre-packaged sterile feeds which are ready-to-hang should be used wherever possible. Feed can be hung for a maximum of 24 hours provided a clean technique is used to ensure no microorganisms are introduced when the feeding system is assembled. A non-touch technique should be used when opening and decanting feeds.
- Label feed and administration set with start time and date.
- Ready-to-use feeds should be stored in a clean dry environment protected from extremes of temperature. Stock should be rotated to avoid feeds exceeding their best before date.
- All syringes used for enteral feeding should be ENFIT (ISO 80369-3). Enteral syringes are deemed to be single use items within the hospital; discard after each use. This does not include reusable syringes, which may be used in the community setting.

Click on below link for syringe guidelines:

<http://staffnet.plymouth.nhs.uk/Portals/1/Documents/Department%20Documents/Clinical%20Support%20Service/Clinical%20Professions/nutrition/Home%20Enteral%20Feeding%20Syringe%20Guidelines%202017.docx>

Water:

- The first water bolus through a newly placed gastrostomy tube should be sterile.
- Freshly drawn tap water may be used for all subsequent boluses/tube flushes.
- For inpatients sterile water should be used for all immuno-compromised patients. In the community freshly cooled boiled/sterile water should be prepared at each administration for those that are immune-compromised.
- All water administered via jejunal tubes in hospital should be sterile. In the community freshly drawn tap water can be used, unless the patient is immunocompromised.

Decanting feeds:

Avoid decanting whenever possible but if necessary follow the guidelines below.

- **Sterile feeds** e.g. EO28 liquid feed, decant the total feed volume into the reservoir at the start of the 24-hour feeding period. A clean technique is essential to ensure no microorganisms are introduced when the feeding system is assembled.

- **Non-sterile feeds** e.g. reconstituted EO28 powder, 24 hours feed may be mixed and stored covered in the refrigerator at less than 4 degrees Centigrade for 24 hours. Feed should be mixed using freshly opened sterile water and a no touch technique. Hanging non-sterile feed at room temperature for more than 4 hours should be avoided. Feed reservoir administration sets should be changed every 4 hours.

6.2 Preventing the Spread of Infection

Refer to the Essential steps to safe clean care: Preventing the spread of infection (NHS).

7 Adult Nasogastric Tube Insertion Procedure & Management Policy

<http://staffnet.plymouth.nhs.uk/Portals/1/Documents/Trust%20Documents/Clinical/Adult%20Nasogastric%20Tube%20Insertion%20and%20Procedure%20Management%20Policy.pdf>

For nasogastric tube feeding follow principles of section 8 in this policy commencing enteral feeding.

8 Gastrostomy Feeding

8.1 Placement of a Gastrostomy Feeding Tube

The decision to place a gastrostomy tube needs to be multidisciplinary, involving the Consultant /General Practitioner, patient /family members and other Healthcare Professionals directly concerned with the care of the patient e.g. Dietitian, Speech and Language Therapist, Nursing staff.

Gastrostomy tubes

Percutaneous Endoscopic Gastrostomy (PEG)

These tubes are inserted via Endoscopy with appropriate sedation and local anaesthesia or under general anaesthetic. The most commonly used PEG within the Trust is the Fresenius Kabi Freka. This can be removed when no longer required using an endoscope. They should only be changed if they become problematic, damaged or no longer required. Occasionally, a Merck Corflo PEG is inserted. This tube is traction removable and can be removed at the bedside.

Following PEG placement, patients may be discharged home from the Endoscopy department if not already an existing inpatient

Click on below links

Inpatient PEG/PEGJ pathway:

http://staffnet.plymouth.nhs.uk/LinkClick.aspx?fileticket=O_0Wu4nobd4%3d&tabid=1323&portalid=1&mid=8548

Outpatient PEG/PEGJ pathway:

<http://staffnet.plymouth.nhs.uk/LinkClick.aspx?fileticket=Gmzpc6DnLyA%3d&tabid=1323&portalid=1&mid=8548>

Radiologically Inserted Gastrostomy (RIG)

This tube is placed under radiological guidance directly into the stomach. It is used usually for patients who are unable to have an endoscopy.

For RIG placement, admission to UHP may be required post insertion for monitoring
Click on below links:

Inpatient RIG/RIGJ pathway:

http://staffnet.plymouth.nhs.uk/LinkClick.aspx?fileticket=4hW_4SwOvJc%3d&tabid=1323&portalid=1&mid=8548

Outpatient RIG/RIGJ pathway:

<http://staffnet.plymouth.nhs.uk/LinkClick.aspx?fileticket=s2MR4BPz6e4%3d&tabid=1323&portalid=1&mid=8548>

Balloon Retained Gastrostomy

This tube is held in place by a balloon that is inflated with 5-20 ml of water and requires replacement approximately every 3-6 months or more frequently if clinically indicated. They can be replaced at the bedside through an established tract.

All enteral feeding tubes will comply with the ISO/DIS 18250-3

8.2 Procedure for Care for a Percutaneous Endoscopic Gastrostomy

Click on below link:

<http://staffnet.plymouth.nhs.uk/LinkClick.aspx?fileticket=x5ROuvJrNpg%3d&tabid=1323&portalid=1&mid=8548>

A PEG tube may stay in place for as long as it is comfortable and continues to work well.

8.3 Procedure for Care for a Balloon Gastrostomy Tube

Click on below link:

<http://staffnet.plymouth.nhs.uk/LinkClick.aspx?fileticket=XdQMKctvXOA%3d&tabid=1323&portalid=1&mid=8548>

RIG tube should be changed every 3 – 6 months depending on manufacturers guidelines

8.4 Procedure for care of a Low Profile Gastrostomy Device (LPGD)

Tube Types

Fresenius Freka Belly Button
Mic-Key (Vygon)



LPGD should be replaced as per manufacture's guidelines

****EXTENSION SETS SHOULD BE WASHED IN WARM SOAPY WATER, RINSED WITH TAP WATER AND LEFT TO AIR DRY BETWEEN USES.**

Extension sets are classified as single patient use. Sets should be replaced every 2-4 weeks dependent on integrity, functionality and manufacturers guidelines. These extension sets are essential for use with a LPGD, and must be the correct version for the tube.

Please note - Freka 100cm extension set is single use

9 Jejunal Feeding

- Jejunal feeding means feeding directly into the small bowel.. This type of feeding is also known as post-pyloric or trans-pyloric feeding.
- This method of feeding is considered where there is upper GI dysfunction/malignancy/surgery or due to delayed gastric emptying, an increased risk of aspiration/reflux or vomiting.
- Bolus feeding is unsuitable for jejunal/post pyloric feeding. Without the stomach acting as a reservoir, feed given as a bolus directly into the jejunum can cause abdominal pain, diarrhoea and dumping syndrome.
- There are 3 main types of tubes that feed into the bowel, nasojejunal tubes, PEGJ/RIGJ (PEG/RIG tubes with a jejunal extension) and surgically placed jejunostomy tubes.
- For people being fed into the jejunum feed can be delivered continuously over 24 hours. There is no requirement for a rest period.
- Sterile water (changed every 24 hours) should be used in the hospital setting and freshly drawn tap water in the home setting for flushing jejunal feeding tubes. Hygiene is extremely important due to increased risk of gastro-intestinal infection as the tube bypasses the natural microbiological defenses of the stomach.
- Jejunal tubes should be flushed regularly to avoid tube blockages (ideally 4-6 hourly).

9.1 Nasojejunal Tubes

- These may be placed under endoscopic or radiological guidance, and extend beyond the stomach into the jejunum.
- The healthcare professional/ carer/ patient should mark the original position of the nasojejunal tube against the nostril using the gradient markers, before administration of any feed, medications or fluids. Do not use the tube for feed, medications or fluids if it is suspected that the tube has become dislodged and/ or the tube has moved according to the gradient markers.
- Patients should be discharged with a management plan and the patient/carers should be clear on how to proceed in the event of tube displacement or tube blockages.
- Nasojejunal tubes should be replaced as per manufacturer's guidelines.

9.2 Tubes with a Jejunal extension (PEGJ/RIGJ)

Another method of feeding into the small bowel is by inserting a tube into the bowel through a (PEG) tube with a jejunal extension (PEGJ) or utilising a balloon-retained gastrostomy device (RIG) with trans-gastric tubing extending into the jejunum (RIG-J). These tubes are sometimes used in patients who experience frequent vomiting. The jejunal extension can frequently coil back into the stomach and cause the onset of vomiting, where this had previously resolved. This may indicate that the tube has coiled back into the stomach, therefore, an X-ray is recommended to confirm jejunal extension position.

The PEGJ/RIGJ tube should NOT be rotated, as rotating the tube could result in increased risk of the jejunal extension coiling back into the stomach.

Click on below link for PEG J aftercare instructions:

<http://staffnet.plymouth.nhs.uk/LinkClick.aspx?fileticket=hrvBNWT0y3E%3d&tabid=1323&portalid=1&mid=8548>

Click on below link for RIG J aftercare instructions:

<http://staffnet.plymouth.nhs.uk/Portals/1/Documents/Department%20Documents/Clinical%20Support%20Service/Clinical%20Professions/nutrition/RIG%20J%20Aftercare%20with%20Flow%20ChartV4.pdf>

9.3 Surgical Jejunostomy tubes

Jejunostomy tubes can be surgically inserted directly into the bowel. These tubes tend to be narrower than gastrostomy tubes and thus more prone to blockages.

The tube is sutured into place and held with an external fixator. The sutures should NOT be removed and should NOT be advanced nor rotated. This could lead to displacement of the tube.

Click on below link for JEJ aftercare instructions:

<http://staffnet.plymouth.nhs.uk/Portals/1/Documents/Department%20Documents/Clinical%20Support%20Service/Clinical%20Professions/nutrition/JEJ%20aftercare%20with%20flowchart.pdf>

9.4 Procedure for Care of Infection and Overgranulation of a Gastrostomy Exit Site and Leakage of Gastric Contents

If a gastrostomy site becomes red and inflamed the cause needs to be identified so that appropriate treatment can be given. Leakage of gastric contents can excoriate the skin and present in a similar way to an infected site. CE marked pH paper can be used to see if discharge is exudate from an infected site or leaking stomach contents, which would have a pH of 5 or less. Complications can occur if the tube is not properly tensioned or cared for so it is important to make sure that daily and weekly care are being carried out effectively.

Click below link for Inpatient Daily Care Record:

<http://staffnet.plymouth.nhs.uk/Portals/1/Documents/Department%20Documents/Clinical%20Support%20Service/Clinical%20Professions/nutrition/PEG-RIG%20Daily%20After%20Care%20Record.docx>

Abscesses can form in the tract of a gastrostomy tube or internally. This could present as, pyrexia, exudate, odour and inflammation and pain when the tube is moved. It is vital to have a complete overview of a patient's general health and symptoms to facilitate discussion and arrange treatment with their GP, medical team or gastrostomy nurse.

Suspected Infected Site

Send a wound swab for MC&S and fungal screen. Systemic antibiotics may be required. Discuss with the patient's medical team or GP. If the site looks infected on clinical examination commence care plan while awaiting swab results. Consider results of swab and treat with antibiotics according to sensitivities.

Does wound swab isolate infection?

YES

Treat with systemic antibiotics according to sensitivities and follow prescription chart until symptoms resolve.

NO

If swab result is negative but clinical examination indicates infection follow prescription chart until symptoms resolve. If infection is suspected and the site does not respond to treatment re-swab and discuss with GP/medics.

Broad spectrum antibiotics may be required.

TREATMENT CHART FOR SUSPECTED INFECTION

Acute Infections

Apply antimicrobial dressing to affected area, change dressing daily.

Cutimed Sorbact Dressing / Ribbon

Other dressing options:

Cutimed Sorbact Swab (this dressing may be used folded or unfolded)

Octenilin Irrigation Fluid 350ml (Octenidine HCl). Soak gauze and place on gastrostomy stoma for 15 minutes. Follow with normal dressing Cutimed Sorbact.

CHANGE DRESSING DAILY Monitor response.

If area not
improving after
2 weeks
consider using

Apply appropriate cream to area for 10-14 days. For example:

Timodine Cream Apply thinly 1-2 times daily

(Steroidal, anti-bacterial and anti-fungal cream)

Seek medical advice for alternative creams and ointments

Chronic Recurrent Infections

Patients with gastrostomy tubes where the 'plastic' has become colonised by bacteria will require longer term management. Options should be discussed with the GP e.g. efficacy of tube replacement vs ongoing treatment with antibiotics and topical treatments.

Overgranulation at the Gastrostomy Exit Site

Overgranulation presents as a red/pink mound at the border of the stoma. It bleeds easily and can be associated with a low grade infection or with excessive movement of the tube.

Send a wound swab for MC&S and fungal screen.
Follow initial steps for suspected infected site and follow treatment chart for Overgranulation

TREATMENT CHART FOR OVERGRANULATION

1st Line Treatment.

Octenilin Irrigation Fluid 350ml (Octenidine HCl). Soak gauze and place on gastrostomy stoma for 15 minutes. Follow with normal dressing e.g. Cutimed Sorbact.

2nd Line Treatment

Hydrocortisone Cream 1% combined with a pressure pad e.g. Atruaman 5x5cm (Hartmann) & Gauze firmly affixed with tape.

CHANGE DRESSING DAILY

If no improvement after **7-10 days** or if dressing cannot be applied directly to the area of overgranulation

Refer onwards to Tissue Viability.

The patient may require a stronger hydrocortisone treatment.

If antimicrobial dressing and Hydrocortisone do not improve the overgranulation, consider the following treatment options.

**FURTHER TREATMENT OPTIONS
FOR OVERGRANULATION**

Maxitrol drops (steroidal and bactericidal)

3-4 drops to be applied twice daily, only to area of overgranulation. Allow each drop to absorb before applying the next. Any drops that fall on healthy skin should be wiped immediately. Try for up to 5 days

Timodine cream (steroidal, antifungal and bactericidal)

Apply thinly 1-2 times daily for up to 2 weeks and review.

If overgranulation persists in spite of treatment, refer to Medical Practitioner or the Tissue Viability Nurse.

Sore excoriated site caused by leakage of gastric contents

Stomach acid will burn the skin on contact. Ensure gastrostomy tubes are properly tensioned with the internal bumper/balloon up against the internal stomach wall to reduce leakage to a minimum. Leaking stomach contents if checked with CE marked pH paper, would have a pH of 5 or less.

TREATMENT CHART FOR LEAKAGE OF GASTRIC CONTENTS

Apply Medi Derma S or Cavilon Barrier film or cream to clean, dry site, allow to dry.

Renew every 2-3 days. If leakage is severe barrier film may need to be applied daily.



Use a non-adhesive, absorptive dressing such as **Active Heal Non-Adherent Foam Dressing** or a protective dressing such as **UrgoTul Foam** over dried Cavilon Barrier film.

Medi-Derma Cream can be applied to excoriated area.

If gastric leakage is severe dressings may need to be replaced more than once every 24hours.

10 Commencing Enteral Feeding

- All patients requiring enteral feeding should be referred to the Acute dietitian if an inpatient or the Home Enteral Feeding Dietitian if in the community to establish the patients' nutritional requirements and to obtain an accurate prescription of enteral feed e.g. feed type, rate and volume.
- If it is not possible for a Dietitian to assess patient requirements prior to feeding, please use guidelines for commencing enteral tube feeding

Click on below link:

<http://staffnet.plymouth.nhs.uk/Portals/1/Documents/Department%20Documents/Clinical%20Support%20Service/Clinical%20Professions/nutrition/1095%20-%20Therapies%20%20Guidelines%20for%20Initiating%20Enteral%20Feeding%20in%20Patients%20....pdf>

Nasogastric/Nasojejunal Feeding

Feeding can commence once correct position of the tube has been confirmed and results recorded on relevant documents and appropriate feeding regime in place.

Gastrostomy Feeding

- The feeding tube should not be used for 4 hours after placement to allow recovery from sedation. Usually feeding is commenced following flushing the tube with sterile water.
- All patients will require nursing care and educational input following tube placement to ensure that the gastrostomy tube is working correctly and that the patient or carer is familiar with the equipment and feed administration.
- Feed start times may vary for surgically placed jejunal tube. Liaise with Surgical Team or Dietitian.

10.1 Refeeding Syndrome Guidelines

Refeeding Syndrome is a potentially fatal condition caused by rapidly re-feeding a malnourished or metabolically compromised patient via the oral, enteral or parenteral routes. As a result of the initiation of nutritional support in malnourished patients, there is a switch in metabolism from fat to carbohydrate with consequent insulin release, stimulated by the glucose load. This can manifest as severe fluid, electrolyte and metabolic shifts, with an increased uptake of glucose, phosphate, potassium, magnesium and water into cells. Notably the serum concentration of electrolytes can appear normal in the starved state due to alterations in renal rates of excretion. It is therefore essential to monitor electrolyte levels during the early stages of instigating nutritional support. Vitamin levels also can be low.

Step One: Identify patients at HIGH Risk of Refeeding Syndrome.

➤ **Is the patient at risk of Refeeding Syndrome? I.e. Has the patient got:**

One or more of the following?

- BMI less than 16 kg/m²
- Unintentional weight loss >15% within the previous 3-6 months
- Little or no nutritional intake for >10 days (including post bariatric surgery)
- Low levels of K⁺, PO₄³⁻, Mg²⁺ or Adjusted Calcium prior to feeding

OR

Two or more of the following?

- BMI less than 18.5 kg/m²
- Unintentional weight loss >10% within previous 3-6 months
- Very little intake >5 days
- History of alcohol abuse
- Drugs including insulin, chemotherapy, antacids or diuretics

Step Two: Baseline and daily bloods: U&E's, including K⁺, PO₄³⁻, Mg²⁺ and adjusted calcium
Restore Circulatory Volume. Take into account all fluid inputs/outputs, taking care not to fluid overload. Monitor fluid balance and overall clinical condition closely

Step Three: Prescribe Vitamin Supplementation for 10 days or until full feed prescription tolerated. *If the patient is suffering from alcohol withdrawal, refer to Alcohol Withdrawal Pathway for guidance as patient will require higher dosage of Pabrinex*

- **First-line choice (for 10 days):** 100mg Thiamine bd - tds (can be crushed as per pharmacy instructions) and given 30 minutes prior to first feed
PLUS 1 Forceval capsule od (for oral fed patients)**
- **Second-line choice (for 3 days then as per 1st line for 7 days):** IV / Parenteral Preparation: 1 pair of 5ml Pabrinex IV ampoules od in 100ml 0.9% NaCl or 5% Glucose (if hypernatraemic) and given 30 minutes prior to first feed
PLUS 1 Forceval capsule od (for oral fed patients)**

** or Forceval Soluble tablet dissolved in 40-125ml water (for enterally fed patients)

Step Four: Prescribe Electrolyte supplementation

- Supplement K⁺, PO₄³⁻, Mg²⁺ depending on serum levels. Reassess at least every 24 hours. See overleaf ' Starter Refeeding Syndrome Supplement Guide' or consult ward Dietitian or Pharmacist.

Step Five: Commence cautious feeding taking into account individual nutritional requirements, noting severity of Refeeding Syndrome risk, clinical condition and biochemistry. Prescribe no more than 10kcal per kg body weight and increase slowly to meet full requirements by 4-7 days. Caution with oral nutritional supplement drinks as these may contain 300-400kcal per 200ml. Contact the ward Dietitian (for oral or enteral feeds) or Nutrition Support Team (for PN) at the earliest opportunity.

10.2 Administration of Enteral Feeds

The majority of enteral tube feeds are delivered using enteral feeding pump. The feed may be administered continuously (over 24 hours) or may be given intermittently during a 24-hour period. If the patient is conscious and mobile, intermittent feeding is usually the preferred method as this allows the patient to have a break from feeding.

Bolus feeding using either a syringe or gravity bolus feeding set is a perfectly acceptable delivery method either as 'top up' nutrition, in the short term if problems arise with the pump, or longer term as a preferred method by some patients.

10.3 Administration of Water

Water may be administered via an enteral feeding tube for:-

- Hydration.
- Prevention of tube blockages.
- Prevention of drug-nutrient or drug- drug interactions.

The type of water depends on the patients' clinical condition and the route of administration. Patients with nasogastric or gastrostomy tubes can use freshly drawn drinking tap water. Acutely immunocompromised patients should receive sterile water in hospital and be advised to use freshly cooled boiled/sterile water at home. For nasojejunal/jejunal feeding sterile water should be used only in the hospital and freshly drawn tap water should be used in the community.

If using cooled boiled water – this should be prepared at the time of giving each water flush and not left out and used throughout the day

10.4 Procedure for Administering Continuous Enteral Feeding Clinical Equipment List

Non-sterile gloves and apron.

NOTE: This is hospital/ community care staff only. Patients administering their own feed at home are not asked to wear gloves or aprons but should follow hand washing guidelines.

Enteral feeding pump and stand.

Prescribed enteral tube feed.

Giving Set.

60ml Enteral syringe (purple).

For Nasogastric feeding:

pH indicator strip – Johnson Test Papers.

Fine bore nasogastric tube (labelled for enteral use).

For Nasojejunal feeding:

Fine bore nasojejunal tube (labelled for enteral use).

Procedure for Administering a Continuous Feed

Follow the guidelines for infection control (section 4.0).

- For nasogastric tubes, check the pH of the gastric aspirate. Document result . Do not feed if result is above 5.5.
- Check the feed is in date. Gently invert the bag to mix any settled contents.
- Close the clamp on the giving set and spike the giving set into the Easybag.
- Place the clamped section of giving set into its housing in the pump and prime the giving set.

- Open the clamp on the feeding tube (not NG). Flush the tube with water as per the feeding regime. Close the clamp.
- Remove the adapter or adapter cover and connect the administration set to the feeding tube (depending on which port is used).
- Set the pump rate and dose and set the pump to run.
- When the feed is complete, flush the tube immediately with water as per the feeding regime.
- Re-clamp (not NG) and re-cap the tube.
- Discard used equipment.

For jejunal feeding:

Method

Follow the guidelines for infection control (section 4.0).

- For nasojejunal tubes, pH does NOT need to be obtained prior to feeding. Note mark of tube at the patient's nose and record. X-ray is only needed if there is doubt with regard to the tube position.
- Check the feed is in date. Gently invert the bag to mix any settled contents.
- Close the clamp on the giving set and spike the giving set into the Easybag.
- Place the clamped section of giving set into its housing in the pump and prime the giving set.
- Flush the tube with sterile water if an inpatient or freshly drawn tap water if in the community
- Remove the adapter or adapter cover and connect the administration set to the feeding tube (depending on which port is used).
- Set the pump rate and dose and set the pump to run.
- When the feed is complete, flush the tube immediately with water as per the feeding regime.
- Re-cap the tube.
- Discard used equipment.

10.5 Procedure for Administering a Bolus Feed (Gastrostomy feeding ONLY)

Never administer a bolus feed via the jejunum

Clinical Equipment List

1 x 60ml ENFIT Syringe

Bolus Adaptor easybag.

Easybag/bottle of feed.

Freshly drawn drinking tap water.

Non-Sterile Gloves and Apron.

Note: This is hospital/ community care staff only. Patients administering their own feed at home are not asked to wear gloves or aprons but should follow hand washing guidelines.

For Nasogastric tubes you will also need:

pH indicator strips – Johnson Test Papers

Method

1. Patient must be supported in a sitting position of a minimum of 45°.
2. Patient must be supervised at all times.

3. Follow the guidelines for infection control (section 4.0).
4. For nasogastric tubes, check the pH of the gastric aspirate. Record result on all relevant NGT documentation. Do not feed if result is above 5.5.
5. Using the enteral syringe (with plunger) flush the feeding tube with water as per the feeding regime. Close clip on feeding tube and remove the syringe.
6. Remove the plunger from the enteral syringe and reconnect the barrel of the syringe to the feeding tube.
7. Attach Easybag bolus adaptor to the Easybag of feed. Open the end of the bolus adaptor.
8. Pour the amount of feed required into the syringe. Do not attempt to rush the feed, administer no faster than 50mls of feed every 3 minutes.
9. If the feed is running too slowly either lift the syringe higher or put the plunger back into the syringe and push the feed down the tube slowly.
10. When the prescribed amount of feed has been administered flush the tube with water as per the feeding regime then re-clamp and recap the tube end.

11 Administration of Medicines via an Enteral Feeding Tube.

Crushing tablets, opening capsules or giving any medicine down an enteral feeding tube are generally unlicensed routes of administration. Practitioners prescribing, advising or administering medicines in this way would be held responsible for any adverse effects that may occur because of this. However, only a prescriber (Doctor, Dentist or Independent Prescriber) can authorise the use of medicines via this route. Therefore other practitioners (including pharmacists giving advice and nurses/registered nursing associates administering the medicine) in order to demonstrate they have acted professionally and competently, must ensure that:

- They obtain the consent of the patient.
- The prescriber is aware of and has sanctioned the unlicensed route of administration. Written authorisation should be provided by the prescriber on the hospital/community prescription chart.
- That the proposed method of administration is based on the most up to date evidence available and is justifiable in terms of the potential clinical benefits and risks. Nurses and Registered Nursing Associates should seek the advice of a pharmacist and / or medicines information department to assure themselves on this point.
- All actions and instructions must be recorded in patient record.
- A pharmacist should review the patient's prescription when a feeding tube is placed.
- Information may be obtained from clinical pharmacists at Derriford or from Medicines Information, Pharmacy, Derriford.
Direct line 01752 (4)39976 or 01752 (4)32560 or Bleep 89377.
- Medications given through a feeding tube should be given using an ENFIT 60ml enteral syringe. The enteral syringe may be connected directly to the feeding tube or to the side port of an NPSA compliant giving set. In the community appropriate sized ENFIT syringes for medication should be provided by the GP or community nurses. They are available in sizes 5/10/20ml.

- Avoid the use of catheter tip syringes for measuring small volumes as dosing errors may occur. Smaller syringes may be used if dose measurement is critical. Solutions should be prepared and administered immediately to maintain stability and quality of the solution, and minimise the risk of inadvertent administration by other routes.
- All oral or enteral syringes containing oral liquid medicines must be labelled (by the person who prepared the syringe) with the name and strength of the medicine, the patient's name and the date and time it was prepared, UNLESS the preparation and administration is one uninterrupted process and the unlabelled syringe does not leave the hands of the person who has prepared it. Only one unlabelled syringe should be handled at any one time.
- Medication should not be added while the feed is running. Stop the feed, give a minimum of 30ml water flush using a 60ml enteral syringe and then give the drug(s) as below. Give a final flush of water (Minimum of 30mls) before re-starting the feed.

Choice of formulation

- Where patients are not nil by mouth and are able to swallow their medication, avoid using the feeding tube as a route of administration. Any medication given orally to patients should only be in consistencies recommended by the Speech and Language Therapist. Administration of medicines in this way should also be checked with the pharmacist.
- Any unnecessary medicines should be stopped.
- Wherever possible, appropriate liquid formulations should be used. If liquids are very viscous, they can be diluted with tap water* (at room temperature) immediately before administration.
- Solutions (rather than suspensions) or soluble tablets (not dispersible / effervescent) are the formulations of choice.
- Do not assume liquid formulations will be suitable- check with a pharmacist before use. This warning also applies to dilution with tap water*, as in a few cases this isn't appropriate.
- Alternative formulations should be considered – e.g. patches, orodispersible or sublingual tablets. In some case the pharmacist might recommend a similar medicine which is available in a more suitable formulation.
- Dispersible/effervescent formulations may not always be appropriate as they can contain significant amounts of sodium, and often require large volumes of water.
- Changes in formulation may require a change in dose or frequency. A change to a liquid formulation or crushing / opening tablets or capsules may also lead to differences in the dose the patient absorbs, so dose adjustments may be needed. The patient should be monitored for the expected clinical effect of the medicines.
- If the end of the tube is in the jejunum, it may be necessary to consider the site of drug absorption and adjust the dose or drug accordingly.

- If alternative formulations are not suitable, the pharmacist should advise about crushing tablets or opening capsules. **Do not crush tablets or open capsules without consulting a pharmacist as this is not always appropriate.**
- In general, enteric-coated tablets/capsules are unsuitable for crushing/opening, and most modified release preparations are unsuitable. Cytotoxic preparations and hormones should not be crushed /opened.
- Tablets must be crushed using a pestle and mortar or a screw-top 'pill crusher' device which is designed for the purpose. Other implements may be incompatible with some medications. The pestle and mortar should be washed with warm water after each use.

Preparing the medicine for administration

- Many tablets will disperse in water after a few minutes, even if they are not labelled as 'soluble' or 'dispersible'. 10 – 15ml of tap water is sufficient for this. A similar amount of water should be used if the tablet needs to be crushed. The container used should be rinsed with more water and the rinsing's also given to the patient. Consult a pharmacist.
- Tablets which disperse in water can be prepared for administration using just an enteral syringe – put the tablet in the barrel of the syringe, replace the plunger, draw 10ml water into the syringe, allow the tablet to disperse, shaking if needed, and then give the dose. Draw another 10ml of water into the syringe and give that as well.

Administration of medicines

- Tablets may be prepared in tap water at room temperature. There is no advantage in using warm water and the drug may not be stable in this.
- If the tube is in the jejunum, sterile water should be used for inpatients and freshly drawn tap water if in community for dilution and flushes. Take into consideration total volume of fluid and medication into jejunum (should be kept to a minimum).
- **Do not mix** medicines to be given at the same time; prepare each one separately. This avoids reactions between the medicines and reduces the risk of tube blockage. If more than one drug is to be given, at least 10ml water should be used to flush between each.
- Volumes used to flush tubes may need to be reduced if patients are fluid restricted. Flushes must also be used when liquid medicines are given.
- Volumes used for flushing may need to be documented on fluid charts.
- If medicines need to be given on an empty stomach, the feed should be stopped 1 hour before the dose is given, and re-started an hour after the dose. Please advise the dietitian, who will establish a feeding regimen to accommodate this.
- Drug-feed interactions. Some drugs, including phenytoin, interact with enteral feeds, and a longer feed-free period will be needed. The pharmacist and dietitian should determine the best feed regimen for the patient.

Discharge from hospital

- If the patient is discharged from hospital with the tube in place, the nurse/ registered nursing associate/ pharmacist should ensure that the patient or carer is familiar with the

administration of the medicines and flushes, and that any changes in medicines have been discussed with the GP, community pharmacist and any other appropriate healthcare staff.

- Patients must be given their own specific patient passport documenting the type and date of tube placement. This should be given by either the dietitians or inserting department. Dietitians should provide passports for long stay (>48 hrs post insertion) inpatients.
- When patients or carers need to administer oral liquid medicines (or dissolved tablets) with a syringe, ensure they are supplied with only oral or enteral syringes. Enfit Medication syringes should be provided by the GP/Community Nurse for patients in the community and needs to be added to the TTA information when discharged.
- See BAPEN website for further information on Administering Drugs via Enteral Feeding Tubes. BAPEN https://www.bapen.org.uk/pdfs/d_and_e/de_pract_guide.pdf Or refer to 'Drug administration via enteral feeding tube (3rd Edition 2015)'. Please also see PCH Single Use Policy.
- Some wards may find it helpful to have their own copy of the Handbook of Drug Administration via Enteral Feeding Tubes (3rd edition) which can be ordered directly through Pharmacy.

12 Trouble Shooting Guidelines

12.1 Enteral Feeding Tube Blockage: Causes and Prevention

Causes:

1. Feed clotting in the tube.
2. Extended rest period.
3. Not flushing tube after bottle is completed or temporarily stopped.
4. Medications.
5. Feed rate of administration less than 50mls/hr.
6. Highly viscous feeds e.g. high energy or specialist feeds can block the tube.
7. Failing feeding tube.

Prevention:

1. The tube should be flushed with a minimum of 30mls freshly drawn tap water after each bottle of feed, after each rest period and before and after giving any medication (water flushes will vary depending on patient's fluid requirements and feeding route. Check the Dietitian's recommendation. Where possible regularly massage tube between fingers to help cleanse build-up of feed on inner lumen of the tube.
2. If pump rate is less than 50mls / hour feed can easily clot in the tube, so extra flushes of water should be given e.g. 30-150mls water 4 hourly.
3. Where possible crushed medications should not be given down the tube (see section 8.0).

12.2 Procedure for Irrigating a Blocked Enteral Feeding Tube

If the blockage is in the giving set – replace.

Otherwise:

1. Firmly massage the tube between fingers to mechanically dislodge debris. Flush tube with 50mls warm water using a 60ml enteral syringe applying consistent pressure.
2. If blockage remains; Mix two teaspoons of sodium bicarbonate powder with 10mls of water. "Flush" into feeding tube as able. Leave for 15 minutes and flush with further 50mls water.
3. If an inpatient and blockage remains and it is caused by feed, obtain "Clog zapper®" from the Endoscopy Department (Endoscopy will require the budget code of the department requiring the product). Patients at home to contact District Nurse/ HEF Dietitian/ HEF nurse/ Endoscopy Department Derriford Hospital.

Follow the manufacturer's instructions.

Avoid irrigation with 'Coke', lemonade (acid) or fruit juice, which may curdle feed residue and damage the tube.

NB Consider reason for blockage; take action to avoid further problems.

12.3 Nausea, Vomiting and Abdominal Distension

Causes:

Gastric reflux.

Poor gastric emptying.

Gastrointestinal dysfunction and constipation.

Action:

1. Preventative measures – Aspirate from enteral feeding tube 4 hourly. If residual volume is > 200mls return 200ml of aspirate and discard remainder. (e.g. Aspirate = 250mls, return 200mls, discard 50mls).
2. If aspirate > 400mls on 3 consecutive occasions contact doctors to request commencing prokinetic agent e.g. Metoclopramide.
3. If aspirate remains > 200mls after commencing the prokinetic agent reduce rate of feed by 30mls / hr until tolerated. Maintain at minimum rate of 30ml /hr until reviewed by Dietitian.
4. If practical and patient able, sit patient slightly upright.
5. Consider whether the patient could be constipated – if bowels not open for >3 days commence laxatives or glycerine suppositories unless contraindicated. If necessary request further investigation.
6. If nausea and/or vomiting persist even with use of prokinetic agent, jejunal feeding could be considered, however, the cause of vomiting needs to be established before this is decided.
7. If actions are taken and symptoms continue contact the Dietitian to review feeding regimen and inform the patients caring medical team.

Note: HEF patients experiencing nausea, vomiting and abdominal distension contact HEF Dietitians or GP if out of office hours.

12.4 Diarrhoea

Diarrhoea is classified as an increase in stool weight to greater than 300g per day accompanied by increased stool frequency e.g. > 3 stools per day. Diarrhoea is a complication in 10-25% of enterally fed patients. It is not an indication to stop feeding unless severe.

Common Causes

- Medications – antibiotics, magnesium containing antacids, electrolyte elixirs
- Bolus feeding or rapid delivery of feed.
- Infection or microbial contamination.

Treatment

- Commence stool chart.
- Review medication.
- Take stool specimens for microbiology to confirm that infective agent is not the cause. Request test for *Clostridium difficile* toxin.
- If stool sample is positive, treat. **DO NOT STOP THE FEED.**
- If stool samples are negative, contact the medical team or GP to commence hypomotility agents such as loperamide or codeine phosphate if appropriate.
- Contact the medical team or GP or Pharmacist to review prescriptions and stop any medications where possible that may exacerbate diarrhoea.
- Contact the Dietitian to review the feeding regimen as soon as possible.

13 Guidelines for Management of Enterally Fed Adult Patients with Diabetes

Every attempt should be made to prevent or minimize hypoglycaemia and hyperglycaemia in patients with diabetes who are being enterally fed. Warning signs of hypoglycaemia are not easily identified in patients who are unwell or unable to communicate.

A normal blood glucose level may be too narrow a margin for control in patients outside the critical care setting (where insulin adjustments can be made hourly) and could be instrumental in hypoglycaemia.

All patients (Derriford Hospital) with diabetes receiving artificial feeding should be referred to the dietitian and diabetes specialist nurse.

Aims:

To understand how enterally fed adult patients with diabetes should be managed.

Objectives:

- To understand the importance of maintaining the prescribed feed regimen and rate of delivery in order to meet the patients nutritional requirements.
- To be aware of timing and appropriate administration of diabetes medication in relation to the feeding regimen and rest period, and the consequences of not doing so.
- To identify other factors which may contribute to a hypoglycaemic event.
- To regularly monitor patients' blood glucose.
- To understand actions to take for the immediate treatment and medium term treatment of an identified hypoglycaemic event.
- To understand how to prevent further episodes

Nutrition Support for People with Diabetes:

- When providing nutritional support to patients with diabetes the main treatment aim should be to avoid the extremes of hyperglycaemia and hypoglycaemia.
- Blood glucose should be monitored at least four times per day. More frequent monitoring may be necessary in less stable patients.
- Blood glucose should be maintained at a target agreed by caring medical practitioner taking into account individual patient circumstances.
- Warning signs are not easily identified in patients who are unwell or unable to communicate therefore frequency of monitoring is essential.

Risks for Hypoglycaemia:

- Inappropriate use of diabetic medication.
- Interruption of nutrition support e.g. tube displacement.
- Vomiting of patient on insulin or sulphonylureas.
- Diabetic gastroparesis.
- Resolution of severe stress.
- Reduction in drugs that induce hyperglycaemia.
- Deterioration in renal function.
- Severe hepatitis.

13.1 Treatment of Enterally Fed Patients when Blood Glucose is less than 4mmol/l

- If a patient is able to swallow safely and has a functioning gut:
 - 15 –20g refined carbohydrate immediately e.g.
 - 4-6 heaped teaspoons sugar
 - 25-30mls Fresubin Jucy or Polycal liquid (Nutricia).

If a patient is 'Nil by Mouth' and an enteral feeding tube in place, give 20-30mls Fresubin Jucy or Polycal liquid (Nutricia) via enteral feeding tube.

- Restart feed at the prescribed rate.
- Re-test blood glucose after 10 minutes, if < 4.0mmol/l repeat 15-20g carbohydrate. Continue to retest blood glucose at 10 minute intervals retreating (as above) if

necessary until blood glucose is within the agreed target range. Repeat up to 3 times if needed. If still $<4\text{mmol/L}$ after 3 times, start IVI dextrose @ 100ml/hour (acute unit).

- Complete the infusion of feed.

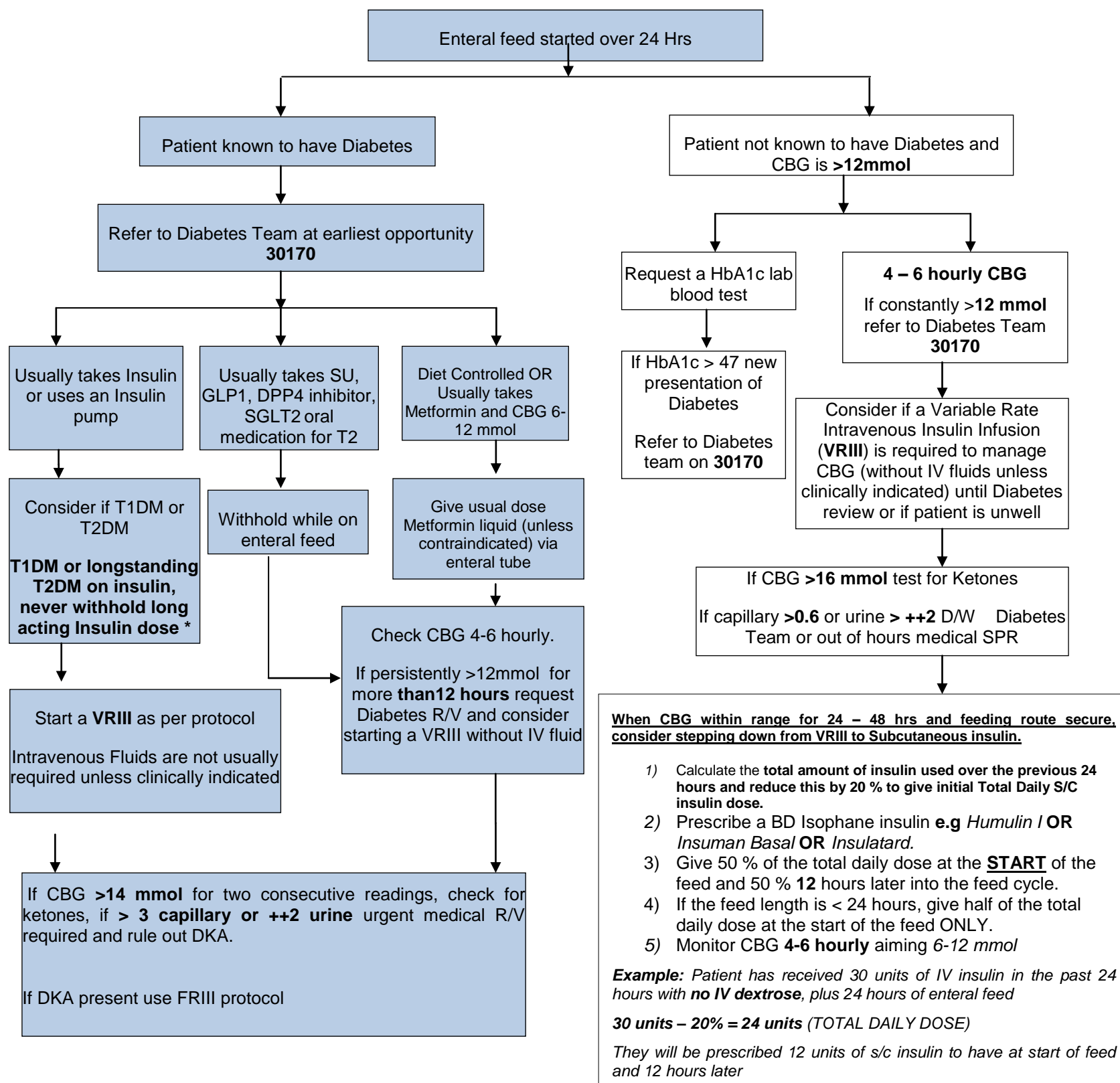
If the enteral feed is stopped for any reason (acute unit) eg. investigation or if the feeding tube is displaced, 1000ml of 5% dextrose should be prescribed on the IV prescription chart and infused via a volumetric pump over 6 hours.

Consider setting up Variable Rate Intravenous Insulin Infusion (VRIII) (blue form 'Fasting patients, not eating and drinking') WITHOUT IV FLUIDS unless clinically indicated. For patients at home contact GP.

- Acute Unit: Contact the medical team if blood glucose level decreases further or cannot be increased.
- Community: Contact the GP if blood glucose level decreases further or cannot be increased.

13.2 Management of Diabetes

Management of Diabetes / Hyperglycaemia with enteral feeding over 24 Hours

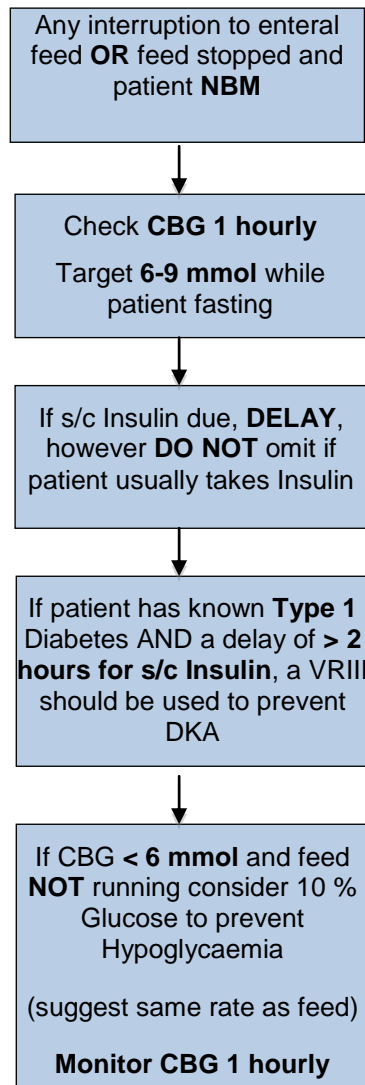


*Long Acting Insulins: Detemir(Levemir), Glargine(Lantus), Degludec(Tresiba), Insulatard, Humulin I and Insuman Basal, Toujeo and Abasaglar

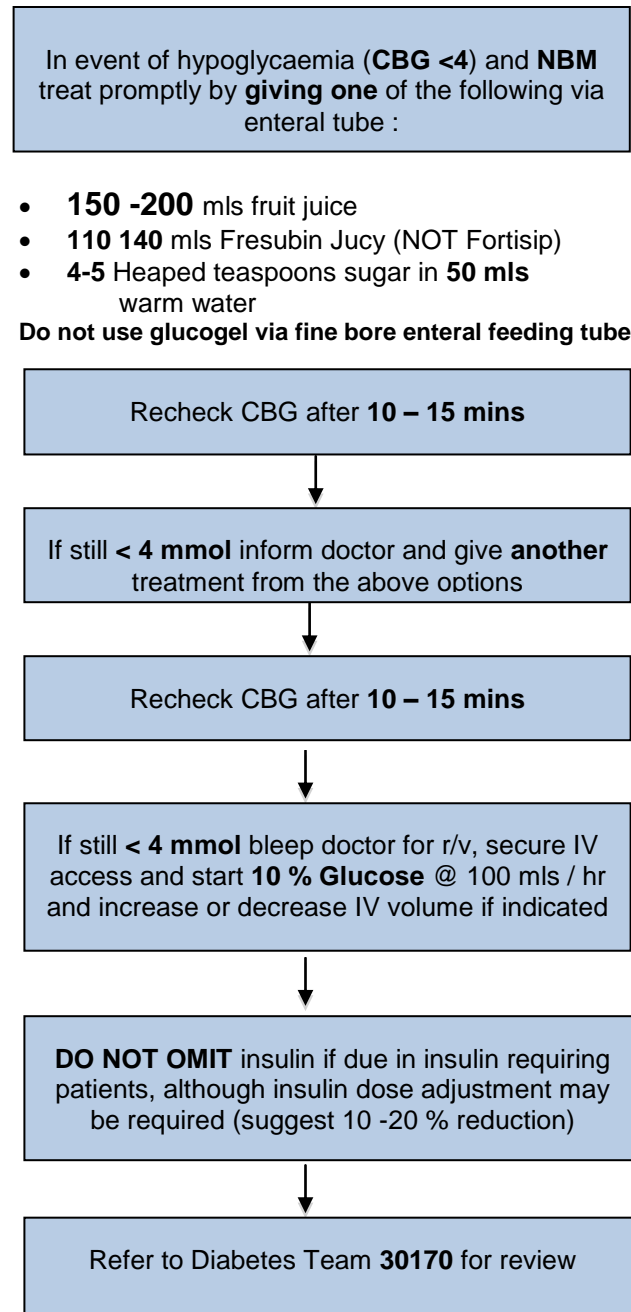
Actions to undertake if enteral feed is

stopped or interrupted

Consider that insulin already administered will continue to drive down blood glucose presenting a **risk** of Hypoglycaemia (CBG <4 mmol)



Treatment of Hypoglycaemia whilst enteral feed in place



14 Home Enteral Feeding

It is **essential** that patients/ carers/ community staff nurses are adequately trained to administer enteral feeds and care for the feeding tube prior to discharge. They must also be familiar with the practical aspects of ongoing feed and equipment supply.

Training is carried out on the ward prior to discharge by the nurses/ registered nursing associates who are responsible for completing and signing a checklist provided by the dietitian. Safe discharge of patients requires good communication between ward staff, acute and home enteral feeding dietitian and discharge coordinator. Patients in who have tubes placed in the outpatient setting are trained to administer feeds and trained in the care of the tube by the Home Enteral Tube Feeding Dietitian and/or contracted enteral feeding company nurse or gastrostomy nurse.

Click on below link for ‘Discharge Checklist for Home Enteral Tube Feeding’:

<http://staffnet.plymouth.nhs.uk/Portals/1/Documents/Department%20Documents/Clinical%20Support%20Service/Clinical%20Professions/nutrition/HETF%20Discharge%20Checklist%202019.doc>

This form must be completed by nursing staff for all patients prior to being discharged on HETF. It should then be filed in the Nursing Notes. Discharge requires at least 1 working day for all departments:

14.1 Follow up at Home

Follow up at home is via GP, District Nurse (as appropriate), Home Enteral Feeding (HEF) Dietitian and contracted enteral feeding company nurse or gastrostomy nurse. All patients should be telephoned within two working days of their discharge from hospital or transfer by HEF dietitian or nurse. The HEF Dietitian should visit the patient at home within 10 working days. Patients or carers should contact the HEF Dietitian if feed related problems arise at home.

All patients should be reviewed by the HEF dietitian every 3-6 months unless requested otherwise. The HEF dietitian will make contact with the GP and other Health Care Professional if appropriate at least once per year by standard review letter, more frequently if changes to treatment occur. The annual review letter should summarise all of the contacts for that year even if changes to treatment have not occurred.

15 Useful Contact Numbers

- Home Enteral Feeding (HEF) Dietitians, Estover Health Centre, Tel: 01752 433228
- Nutrition and Dietetic Department, Derriford Hospital, Tel 01752 432243.
- Pharmacy Information, Tel 01752 432274.
- Endoscopy Nurse Specialist, Derriford Hospital, Tel. 01752 432164/432163.
- Medical Imaging Sister, Derriford Hospital, Tel. 01752 431961/431963.
- Diabetes Specialist Nurse, Tel. 01752 517713.

Healthcare Staff are available to advise and support staff and patients with both routine care and complex enteral feeding needs (Monday –Friday: 8.30-4.30pm).

16 Overall Responsibility for the Document

Nutrition Steering Committee

17 Consultation and Ratification

The design and process of review and revision of this policy will comply with The Development and Management of Formal Documents.

The review period for this document is set as default of five years from the date it was last ratified, or earlier if developments within or external to the Trust indicate the need for a significant revision to the procedures described.

This document will be reviewed by the Nutrition Steering Committee and ratified by the Director or Deputy Director of Nursing.

Non-significant amendments to this document may be made, under delegated authority from the Director, by the nominated owner. These must be ratified by the Director.

Significant reviews and revisions to this document will include a consultation with named groups, or grades across the Trust. For non-significant amendments, informal consultation will be restricted to named groups, or grades who are directly affected by the proposed changes.

18 Dissemination and Implementation

Following approval and ratification, this policy will be published in the Trust's formal documents library and all staff will be notified through the Trust's normal notification process, currently the 'Vital Signs' electronic newsletter.

Document control arrangements will be in accordance with The Development and Management of Formal Documents. The document owner will be responsible for agreeing the training requirements associated with the newly ratified document with the named Director of Nursing/Executive Director and for working with the Trust's training function, if required, to arrange for the required training to be delivered.

19 Monitoring Compliance and Effectiveness

This policy will be monitored through:

- Incidents related to enteral feeding will be reviewed via Datix by Patient Safety Team
- Ongoing education with support from the Clinical Education department
- Consultation and Ratification
- Dissemination and Implementation
- Monitoring Compliance and Effectiveness
- Nursing staff to have training as mandatory training.
- The Information Governance Team will ensure that old versions of the policy are archived in the archive master file. Access to archived documents will be through the Records Strategy and Archive Manager.

- NICE (2006) 'CG32 - Nutrition support for adults: oral nutrition support, enteral tube feeding and parenteral nutrition'
- NICE (2012) 'QS24 - Nutrition support in adults'
- NICE (2012) 'CG139 - Healthcare-associated infections: prevention and control in primary and community care - Enteral Feeding - Preparing and Giving Feeds'
- Single Use Policy (PHNT and PCH 2007)
- Mouthcare policy (PCH 2007)
- NPSA Alert 19 Promoting safer measurement and administration of liquid medicines via oral and other enteral routes (2007)
- Advice to the NHS on reducing harm caused by the misplacement of nasogastric feeding tubes (NPSA 2005)
- Reducing the harm caused by misplaced nasogastric feeding tubes in adults, children and infants (NPSA 2011)
- National Patient Safety Agency (2010). Early detection of complications after gastrostomy. www.nrls.npsa.nhs.uk/resources
- Drug administration via enteral feeding tubes (BAPEN 2004)
- A Pocket Guide to Clinical Nutrition (PEN group 2004)
- Essential steps to safe clean care, Enteral Feeding (DoH 2006)
- Essential steps to safe clean care (DoH 2006). ISO/DIS 18250-3 (2014)
- Connectors for reservoir delivery systems for healthcare applications -- Part 3: Enteral applications

Dissemination Plan			
Document Title	Adult Enteral Tube Feeding Policy		
Date Finalised	May 2019		
Previous Documents			
Action to retrieve old copies	To be managed by the Information Governance Team.		
Dissemination Plan			
Recipient(s)	When	How	Responsibility
All Trust staff	May 2019	Vital Signs	Information Governance Team

Review Checklist		
Title	Is the title clear and unambiguous?	Yes
	Is it clear whether the document is a policy, procedure, protocol, framework, APN or SOP?	Yes
	Does the style & format comply?	Yes
Rationale	Are reasons for development of the document stated?	Yes
Development Process	Is the method described in brief?	Yes
	Are people involved in the development identified?	Yes
	Has a reasonable attempt has been made to ensure relevant expertise has been used?	Yes
	Is there evidence of consultation with stakeholders and users?	Yes
Content	Is the objective of the document clear?	Yes
	Is the target population clear and unambiguous?	Yes
	Are the intended outcomes described?	Yes
	Are the statements clear and unambiguous?	Yes
Evidence Base	Is the type of evidence to support the document identified explicitly?	Yes
	Are key references cited and in full?	Yes
	Are supporting documents referenced?	Yes
Approval	Does the document identify which committee/group will review it?	Yes
	If appropriate have the joint Human Resources/staff side committee (or equivalent) approved the document?	Yes
	Does the document identify which Executive Director will ratify it?	Yes
Dissemination & Implementation	Is there an outline/plan to identify how this will be done?	Yes
	Does the plan include the necessary training/support to ensure compliance?	Yes
Document Control	Does the document identify where it will be held?	Yes
	Have archiving arrangements for superseded documents been addressed?	Yes
Monitoring Compliance & Effectiveness	Are there measurable standards or KPIs to support the monitoring of compliance with and effectiveness of the document?	Yes
	Is there a plan to review or audit compliance with the document?	Yes
Review Date	Is the review date identified?	Yes
	Is the frequency of review identified? If so is it acceptable?	Yes
Overall Responsibility	Is it clear who will be responsible for co-ordinating the dissemination, implementation and review of the document?	Yes

Core Information				
Date	April 2019			
Title	Adult Enteral Tube Feeding Policy			
What are the aims, objectives & projected outcomes?	The purpose of this document is to provide concise evidence based guidance for all staff involved with enteral feeding to minimise potential risks of infection and hazards.			
Scope of the assessment				
This policy is aimed at all clinical staff both qualified and unqualified who are involved in the care of patients receiving enteral nutrition within University Hospitals Plymouth NHS Trust				
Collecting data				
Race				
Religion	The document has no impact in this area.			
Disability	The document has no impact in this area.			
Sex	The document has no impact in this area.			
Gender Identity	The document has no impact in this area.			
Sexual Orientation	The document has no impact in this area.			
Age	The document has no impact in this area.			
Socio-Economic	The document has no impact in this area.			
Human Rights				
What are the overall trends/ patterns in the above data?				
Specific issues and data gaps that may need to be addressed through consultation or further research				
Involving and consulting stakeholders				
Internal involvement and consultation				
External involvement and consultation				
Impact Assessment				
Overall assessment and analysis of the evidence				
Action Plan				
Action	Owner	Risks	Completion Date	Progress Update

