Lothian Enteral Tube Feeding Best Practice Statement

Introduction

This document has been produced by the Lothian Enteral Tube Feeding Best Practice Statement Review Group. The group was established in May 2012 and devised a workplan. The remit of the Review Group was to update the Lothian Enteral Tube Feeding Best Practice Statement for Adults and Children that was published in December 2007.

The content of the original document was reviewed, updated as necessary and new sections added to incorporate evidence since 2007. Where possible the recommendations are based on evidence, research or National Guidance. Where this was not available some statements are based on consensus of expert opinion and any related reference(s) listed.

The Best Practice Statement applies to all adult, paediatric and neonate patients in Lothian, with the exception of the neonates in Simpson's Reproductive Centre, Royal Infirmary of Edinburgh and St John's Hospital.

It is intended that this best practice statement should be implemented across NHS Lothian for hospitals and community.

The Best Practice Statement will be reviewed on a rolling programme as required. At time of publication, some sections are currently under review, and this is clearly stated within the document.

Chair - Lothian Enteral Tube Feeding Best Practice Statement Review Group

Review group membership

Senior Dietitian	Western General Hospital, Edinburgh
Senior Paediatric Dietician	Royal Hospital for Sick Children, Edinburgh
CENT Team Lead	Community Enteral Nutrition Team, NHS Lothian
CENT Dietitian	Community Enteral Nutrition Team, NHS Lothian
Nutrition Nurse	Royal Infirmary of Edinburgh
Paediatric Nutrition Nurse	Royal Hospital for Sick Children, Edinburgh

With assistance from:

Nurse Consultant Cancer & Palliative Care	Western General Hospital, Edinburgh
Senior Dietitian	Astley Ainslie Hospital, Edinburgh
Infection Control Nurse	Astley Ainslie Hospital, Edinburgh
Senior Clinical Pharmacist	Royal Edinburgh Hospital, Edinburgh

GENERAL ISSUES

ISSUE	STATEMENT	EVIDENCE / REFERENCE
Consideration prior to commencing enteral tube feeding	Nutrition and hydration provided by tube or drip are regarded in law as medical treatment, and should be treated in the same way as other medical interventions. Enteral feeding should never be started without consideration of all the related ethical issues and must be in the best interest of the patient. The access route should be decided on an individual basis according to the clinical indications, treatment plan and nutritional status of the patient. When invasive techniques are used to establish the access route consent must be obtained and the possible complications explained to individual giving the consent. Patients' capacity to consent should be assessed in accordance with Adults with Incapacity (Scotland) Act 2000 – Section 47. Discussions prior to commencing tube feeding should include advance planning, and there may be a time when enteral feeding may be no longer deemed in the patient's best interest. If this was the case this would be communicated to the patient / relatives and carers.	Todorovic & Micklewright (2011) PENG – A pocket guide to clinical nutrition 4th edition British Dietetic Association GMC (2010) Treatment and care towards the end of life: Good Practice in Decision Making http://www.gmc-uk.org/Treatment_and_care_towards_the_end_of_life___English_1011.pdf_48902105.pdf Adults With Incapacity (Scotland) Act 2000 – Section 47 http://www.scotland.gov.uk/publications/2008/06/13114117/0

Withholding or withdrawing enteral tube feeding.	When considering withholding and withdrawing enteral tube feeding, the discussion should involve the healthcare team, patient and relatives/carer(s) (if applicable). If the healthcare team conclude that enteral feeding is no longer in the patient's best interest, and should be withheld/withdrawn this should be explained clearly and time given to the patient and relatives / carers to take in this information and to formulate any questions. This discussion should be handled in a timely and sensitive manner, by the appropriate member of the healthcare team. Discussion should include rationale for the clinical judgement and details of the discussion should be recorded in the patient's notes. If the Liverpool Care Pathway (LCP) documentation is to be used, goals 6 and 7 are pertinent to clinically assisted hydration and nutrition. In accordance with the goals of the LCP, all decisions regarding commencing, continuing or withdrawing enteral feeding should be made according to clinical judgement, in the best interest of the patient. This should be discussed with the patient where possible, and relatives and carer(s). For further advice contact the Palliative Care team. http://intranet.lothian.scot.nhs.uk/NHSLothian/Healthcare/A-Z/PalliativeCare/Pages/PalliativeCare.aspx	GMC (2010) Treatment and care towards the end of life: Good Practice in Decision Making http://www.gmc-uk.org/Treatment_and_care_towards_the_end_of_life___English_1011.pdf_48902105.pdf Holmes, s (2010) Withholding or withdrawing nutrition at the end of life. Nursing Standard 25 (14) Liverpool Care Pathway consensus statement (2012) http://www.endoflifecareforadults.nhs.uk/assets/downloads/LCP_consensus_statement_24_09_12.pdf Liverpool Care Pathway Frequently Asked questions http://www.liv.ac.uk/media/livacuk/mcpcil/documents/LCP%20FAQ%20August%202012.pdf

Documentation following enteral feeding tube insertion	Good and accurate record keeping is an essential aspect of patient care and helps to protect the welfare of patients by promoting: ▪ High standards and continuity of patient care ▪ Better communication and dissemination of information between members of the inter-disciplinary team ▪ An accurate account of treatment, care planning and delivery ▪ The ability to detect problems at an early stage. All records should be signed (with the name and designation printed along side) with time and date. When an enteral feeding tube has been placed (or replaced) the following information must be documented in the patients medical / nursing / unitary notes / careplans (as appropriate depending on local arrangements): ▪ Type of enteral feeding tube ▪ Make and batch number of tube ▪ Length and size of tube (French gauge) ▪ Method of tube position confirmation ▪ Approximate date of replacement ▪ Method of tube removal Following insertion of a Gastrostomy tube there should be a high visibility warning in the patient's medical and nursing notes stating that if there is pain on feeding, prolonged or severe pain post-procedure, or fresh bleeding, or external leakage of gastric contents, **stop feed/medication delivery immediately**, obtain senior advice urgently and consider CT scan, contrast study or surgical review. This warning should also be included in discharge information to GPs, community nurses or care homes. Where patients are discharged within 72 hours of gastrostomy insertion patients should be provided with this information and advised to seek urgent attention if they experience any of these symptoms	Nursing and Midwifery Council (2009) Record keeping; Guidance for nurses and midwives. http://www.nmc-uk.org/Documents/NMC-Publications/NMC-Record-Keeping-Guidance.pdf British Dietetic Association (2008) Code of Professional Conduct. http://www.bda.uk.com/publications/Code_of_Professional_Conduct.pdf Health Professions Council (2008) Standards of conduct, performance and ethics. http://www.hpc-uk.org/assets/documents/10003B6EStandardsofconduct,performanceandethics.pdf Nursing and Midwifery Council (2011) Code of Conduct http://www.nmc-uk.org/documents/councilpapersanddocuments/council2011/council-code-of-conduct-2010-2011.pdf NPSA/2011/PSA002 National Patient Safety Agency. Reducing the harm caused by misplaced nasogastric feeding tubes in adults, children and infants. http://www.nrls.npsa.nhs.uk/easysiteweb/getresource.axd?assetid=129696&type=full&servicetype=attchment NPSA/2010/RRR010 National Patient Safety Agency Rapid Response Report. Early detection of complications after gastrostomy http://www.nrls.npsa.nhs.uk/resources/?entryid45=73457&q=0%C2%ACgastrostomy%C2%AC

Training and changing enteral feeding tubes	Staff must possess the knowledge, skills and abilities required for lawful, safe and effective care and must only practise those activities in which they have received appropriate education, training and experience, and maintained their competencies to do so. Any staff involved in placing orogastric, nasogastric tubes, nasojejunal tubes or replacing gastrostomy or jejunostomy tubes or replacing tube ends must be trained in the procedure according to local protocols.	Nursing and Midwifery Council (2011) The NMC Code of Professional Conduct: standards for conduct, performance and ethics. Health Professions Council (2008) Standards of conduct, performance and ethics. http://www.hpc-uk.org/assets/documents/10003B6EStandardsofconduct,performanceandethics.pdf NICE (2006) Nutrition support in adults – Oral nutrition support, enteral tube feeding and parenteral nutrition NHS Lothian Insertion and Care of Nasogastric Feeding Tubes (Adult) – Initial Competency http://intranet.lothian.scot.nhs.uk/NHSLothian/Corporate/A-Z/Clinical%20and%20Corporate%20Learning/ClinEducationTrain/Clinical%20Skills/PreCourse%20Workbooks%20and%20Competencies/IC%20-%20Insertion%20and%20Care%20of%20Nasogastric%20Feeding%20Tubes%20-%20Adult%20v2%20May%202012.pdf

Initiating feeding regimen following enteral feeding tube insertion	**Adults** Local protocols should be agreed. ▪ Orogastric, Nasogastric or Nasojejunal feeding can commence immediately once tube position has been confirmed. ▪ Gastrostomy - evidence shows that early feeding (4 hours) following tube insertion is both safe and effective. ▪ Surgical Jejunostomy - commence feeding 36 hour after tube placement. It is NOT necessary to use only water (except for flushing) for the first 24 hours; the prescribed feed may be used as soon as tube feeding starts. Appendix 1 Starter Feeding Regimen for Adults **Paediatrics** Local protocols should be agreed. ▪ Orogastric, Nasogastric or Nasojejunal feeding can commence immediately once tube position has been confirmed. ▪ Gastrostomy/Jejunostomy – essential medications can be given at 4 hours, and progress to feed within 12-16 hours post tube placement. It is NOT necessary to use only water (except for flushing) for the first 24 hours; the prescribed feed may be used as soon as tube feeding starts. Appendix 2 Initiating Nasogastric tube feeding out of hours: 0-1 years, children and adolescents	Choudry, U. et al (1996) Percutaneous endoscopic gastrostomy: a randomised prospective comparison of early and delayed feeding Gastrointestinal Endoscopy 44(2) 164-7. McCarter, TL et al (1998) Randomized prospective trial of early versus delayed feeding after percutaneous endoscopic gastrostomy placement American Journal of Gastroenterology 93(3) 419-21. NICE (2006) Nutrition support in adults – Oral nutrition support, enteral tube feeding and parenteral nutrition

ISSUE	STATEMENT	EVIDENCE / REFERENCE
The use of water for flushes in enteral feeding	**The following advice applies to ALL types of enteral tube feeding** **Adults and Paediatrics** Hospital (all patients) ▪ Sterile water should be used. ▪ Unused water should be discarded 24 hours after the bottle has been opened. Community Environment (including patients own home, care homes etc) ▪ Freshly drawn tap water (not too cold) should be used. Patient is immunocompromised in community ▪ Cooled, freshly boiled water should be used. **Guidance for use of jug for water** ▪ The patient should have an identified jug for this purpose ▪ After use the jug should be washed in hot soapy water and dried with a paper towel or kitchen roll ▪ If the jug is not used immediately it should be covered until required ▪ If using cooled boiled water, water should be boiled and allowed to cool before being decanted into the jug	NICE (2012) Infection control – Prevention and control of healthcare-associated infections in primary and community care. Infection Control Nurses Association (June 2003): Enteral feeding – Infection control guidelines.

ISSUE	STATEMENT	EVIDENCE / REFERENCE
Water for reconstituting feeds **CURRENTLY UNDER REVIEW**	**Reconstituting feeds** Adults and Paediatrics ▪ Sterile water should be used to reconstitute feeds for immunocompromised patients, burns patients ▪ Cooled boiled water should be used in all other circumstances with feeds refrigerated for no longer than 24 hours. ▪ Paediatric Hospital patients - follow Special Feeds Unit procedure ▪ Adult Hospital patients – use sterile water	NICE (2012) Infection control – Prevention of healthcare-associated infections in primary and community care.
Reconstituting feeds **CURRENTLY UNDER REVIEW**	Liquids For immunocompromised or paediatric patients, liquids should preferably be prepared in an aseptic unit or special feeds unit by appropriately trained staff. Powders Powders should be prepared in a clinically clean area or milk kitchen with certain feeds sterilised following preparation. General advice Hands must be thoroughly decontaminated prior to reconstituting feeds Utensils should either be sterile or heat-disinfected in a dishwasher / washer-disinfector Feeds must be mixed thoroughly using an aseptic non-touch technique Prior to decanting, modified feeds may be stored in a refrigerator below 8°C for up to 24 hours.	Infection Control Nurses Association (June 2012): Enteral feeding – Infection control guidelines. Food Standards Agency (2007) Guidelines for making up special feeds for infants and children in hospital Health Protection Scotland http://www.hps.scot.nhs.uk/haiic/ic/nationalhandhygienecampaign.aspx

ISSUE	STATEMENT	EVIDENCE / REFERENCE
Flushing enteral feeding tubes	Regular flushing of ALL enteral feeding tubes will help to reduce the risk of blockage. If a feeding tube is not being used for feeding it should be flushed **at least** once a day to keep tube patent. Take care if the patient is on a fluid restriction – flushing volumes may need to be altered. A push/ pull technique should be used as this is more effective in cleaning the inner walls of the tube. **Flushing volumes** <u>Adults</u> Flush the tube with water: ▪ before commencing feed (at least 30mls) ▪ when feeding has finished (at least 30mls) ▪ before administering medicines (at least 30mls) ▪ between each medicine (at least 5mls) ▪ after all medicines have been given (at least 30mls) <u>Paediatrics</u> Flush the tube with water: ▪ before commencing feed (5-10mls) ▪ when feeding has finished (5-10mls) ▪ before administering medicines (5-10mls) ▪ between each medicine (2mls) ▪ after all medicines have been given (5-10mls) <u>Neonates</u> Use smaller volumes in accordance with local guidelines	Gueneter, P. Mechanical complications in long term feeding tubes Nursing Spectrum Career Fitness Online www.nursingspectrum.com. Reising, D. L., & Neal, R. S. (2005) American Journal of Nursing, 105(3), 58-63. <u>Enteral tube flushing</u> White, R & Bradnam, V (2011) Handbook of Drug Administration Via Enteral Feeding Tubes. 2nd Edition. Pharmaceutical Press NPSA/2007/19 National Patient Safety Agency. Promoting safer measurement and administration of liquid medications via oral and other enteral routes

Patient position during feeding	Adults Optimal position is 30 degrees upright during feeding and up to one hour after feeding to reduce the risk of aspiration. Paediatrics Where possible the child should be positioned with their head above the level of their stomach, preferably sitting or supported at an angle of approximately 30 degrees Babies Babies may be fed in baby seats offering firm support, such as car seats, in preference to bouncy chairs which can induce vomiting. Babies with Gastro-oesophageal reflux should have their cots angled to 30 degrees.	Marks, L & Rainbow, D (2003) Working with Dysphagia Beachmark publishing. NHS QIS (2007) Nasogastric and Gastrostomy tube feeding for children being cared for in the community – best practice statement. Metheney N, Clouse R et al (2006) Tracheobronchial aspiration of gastric contents in critically ill tube fed patients: frequency outcomes and risk factors. Crit Care Med 34:1007-1015

ISSUE	STATEMENT	EVIDENCE / REFERENCE
Delivery of bolus feeds	Bolus feeding refers to a volume of feed given over a short space of time either by gravity or via a feeding pump. When using a syringe, avoid using a plunger to administer bolus feed. Adults A maximum volume of 400mls should be bloused at any one time. Paediatrics Gravity Bolus feeds should be administered over no less than 20-30min, however pump delivered bolus feeds can be larger & over longer duration. The actual volume of feed will depend on the child's body weight and tolerance.	ESPGHAN Committee on Nutrition (2010). Practical approach to Paediatric Enteral Nutrition. http://espghan.med.up.pt/joomla/pdf_files/EN.practical%20approach.2010.pdf
Type / size of syringe for feeding and medicine administration	Enteral syringes should be used at all times, and the largest functional size, commonly 60mls, should be used. Administering medicines When measuring medicines with syringes, use the size of syringe appropriate to the volume of medicine to be given e.g. use a 3ml syringe to administer a 2.5ml dose. Smaller syringes produce greater pressure and may split the tube, therefore administer slowly.	White, R & Bradnam, V (2011) Handbook of Drug Administration Via Enteral Feeding Tubes. 2nd Edition. Pharmaceutical Press
Feed storage	Sterile feeds should be stored in a clean, cool, dry area. Stock should be rotated to avoid feeds exceeding their expiry date. Dry powdered constituents should be dated when opened and discarded following manufacturer's guidelines. Feeds should be used according to manufacturer's guidance and food hygiene legislation. Reconstituted feeds (i.e. non-sterile feeds) should be refrigerated at a temperature of 4°C or below for no longer than 24 hours. Each feeding system should be labelled with patient's name and the date & time the feed was set up. **All feed (reconstituted feed and opened sterile feed) should be discarded after 24 hours.**	The British Journal of Infection Control (2003) Infection Control: Prevention of healthcare associated infection in primary and community care Dec 81-97. Anderton, A (2000) Microbial Contamination of Enteral Tube Feeds – How Can We Reduce The Risk? Nutricia Clinical Care. Safety Action Notice (2001) Enteral feeding systems: risk of contamination and infection 01/12.

Hanging times for feed	Sterile feeds – hanging time is a maximum of 24 hours Non-sterile feeds (including modular feeds, diluted and modified sterile feeds) Hospital – 4 hours. Community – 4 hours Feed bags and giving sets can be used for 24 hours, with feed volume being topped up every 4hrs. In certain situations, the Dietitian may advise an acceptable longer duration for overnight pump feeding, based on individual assessment.	Anderton, A (2000) Microbial Contamination of Enteral Tube Feeds – How Can We Reduce The Risk? Nutricia Clinical Care. NICE (2012) Infection control – Prevention of healthcare-associated infections in primary and community care. ESPGHAN Committee on Nutrition (2010). Practical approach to Paediatric Enteral Nutrition. http://espghan.med.up.pt/joomla/pdf_files/EN.practical%20approach.2010.pdf

ISSUE	STATEMENT	EVIDENCE / REFERENCE
Decanting feed	Where possible, avoid decanting feed by using full-strength ready to use feeds. If feed has to be decanted: ▪ Good hand hygiene is essential. ▪ A clean working area should be prepared and dedicated equipment used. ▪ Crown or screw-capped bottles should be used in preference to cans and tetrapaks (to reduce risk of contamination). ▪ Visibly dirty bottles or cans should be washed under clean running water and dried with a disposable paper towel. ▪ Before opening the container any parts of the outside surface which are likely to come into contact with the feed while it is being decanted should be thoroughly disinfected using either alcohol spray or a separate large alcohol impregnated wipe for each container. ▪ All scissors, bottle openers etc. which are used to open containers should be cleaned with hot, soapy water and disinfected (use an alcohol wipe and allow to dry) before use. Any items used to open containers should be identified as solely for this purpose. Do not 'top up' nutrient containers with sterile feeds – it is preferable to decant the total daily volume at the start of the 24 hour feeding period. In a community setting advice should be sought from a Dietitian for individual patient to allow for a practical feeding regimen.	The British Journal of Infection Control (2003) Infection Control: Prevention of healthcare associated infection in primary and community care Dec 81-97. Anderton, A (2000) Microbial Contamination of Enteral Tube Feeds – How Can We Reduce The Risk? Nutricia Clinical Care.

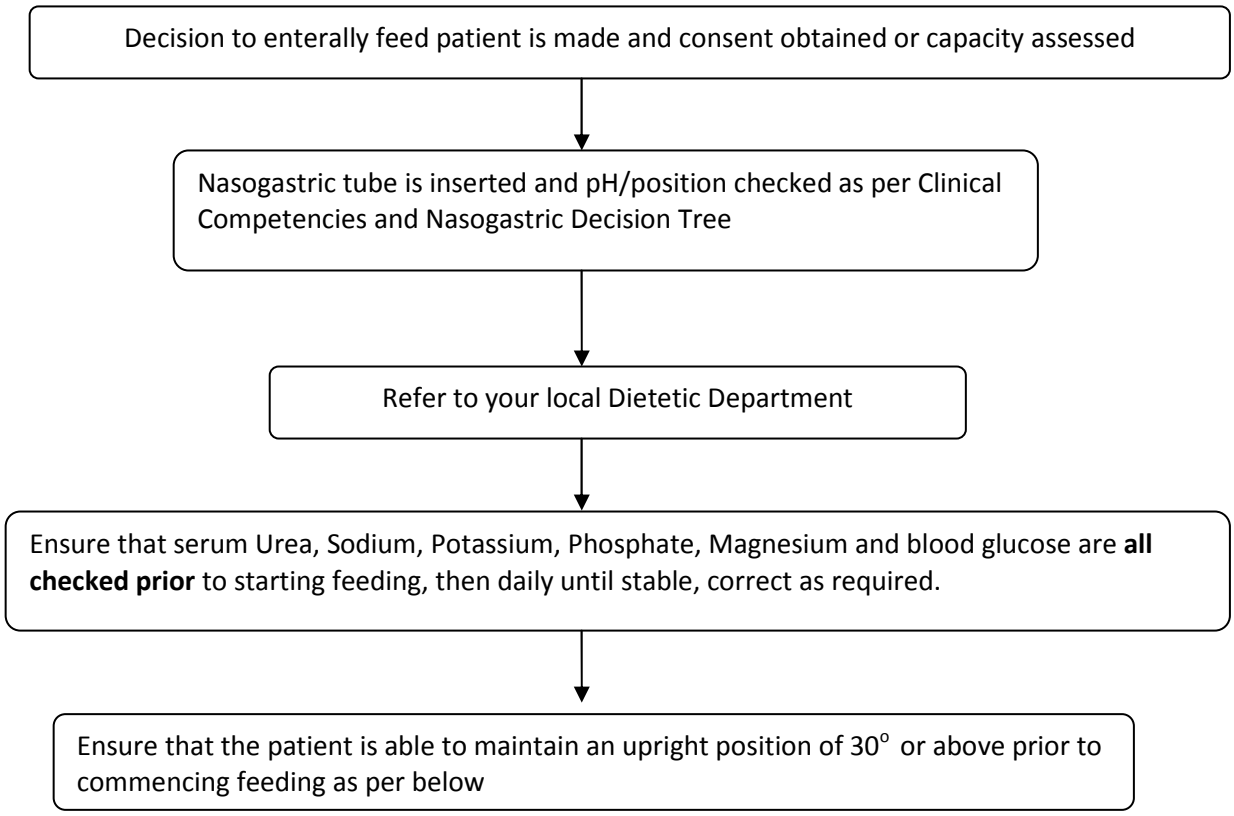
"Blenderised" diets	It is recommended that a prescribable, nutritionally complete feed is used. There is a recent trend toward preparing and administering blenderised/liquidised food via an enteral feeding tube. The following factors should be considered and fully discussed with patient/parents/carers: ▪ Food hygiene, safe preparation and storage and transport of liquidised/blenderised food. ▪ Nutritional adequacy (including the liquidised food process). ▪ Infection control procedures ▪ Tube blockage/degradation ▪ Administration technique ▪ Administering feed out with the home environment, including planning for periods of acute illness (i.e. hospital admission). This should include risk assessment to document safety measures put in place. ▪ Documentation in child's record to ensure staff are void of responsibility if any problems arise. ▪ Signed disclaimer for care centres (i.e. school, respite, residential units) An informed choice should be made based on above considerations and outcome of discussion shared with the healthcare team. Long term enterally tube fed patients tend to have multiple and often complex healthcare needs that make them more vulnerable in the consideration of the above factors. Dietetic support and monitoring should continue to be carried out as per monitoring guidelines.	
Oral hygiene	Good oral hygiene should be maintained in patients receiving enteral tube feeding. A patient who is receiving all nutritional requirements via an enteral feeding tube requires regular oral care (3-4 hourly) or more frequently as required. Use of oral swabs see advice below: http://www.mhra.gov.uk/Publications/Safetywarnings/MedicalDeviceAlerts/CON149697	SIGN (2004) Management of patients with stroke: identification and management of dysphagia SIGN 78. NHS QIS (2005) Best Practice Statement – Working with dependant older people to achieve good oral health. www.healthscotland.com/documents/4169.aspx

Managing blocked tubes	If feeding tube is blocked try the following: 1. Using a 60ml syringe administer warm water (i.e. 3 parts cold water and 1 part boiling water) using a push/pull technique. Massage the blockage if visible. 2. Using a 60ml syringe administer sodium bicarbonate solution (1 teaspoon in 100mls warm water) or soda water using a push/pull technique. 3. Use a smaller syringe (5ml) with caution if the above does not work. It can take up to 30 minutes with this technique. Cranberry juice, carbonated cola drinks and pineapple juice are acidic and may contribute to tube blockage by protein denaturation and, therefore, **should not be used.** If the tube does not become unblocked, follow local procedure to get tube replaced.	White, R & Bradnam, V (2011) Handbook of Drug Administration Via Enteral Feeding Tubes. 2nd Edition. Pharmaceutical Press

ISSUE	STATEMENT	EVIDENCE / REFERENCE	
Causes and management of nausea, bloating & vomiting	Causes Too rapid feed administration Feed too cold Side effects of medicines Constipation Feed intolerance Gastro-oesophageal reflux Delayed gastric emptying	Checklist Reduce rate / lower gravity for bolus feeds Ensure feed is at room temperature Review prescribed medicines Prescribe anti-emetics Medical review / composition of feed / fluid status Osmolality/ osmolarity / composition Feed thickeners / maximise anti-reflux medicines Consider gastric motility agents	McAtear, CA (1999) Current perspectives on enteral nutrition in adults A BAPEN Working Party Report BAPEN. Stroud, M, Duncan, H & Nightingale, J (2003). Guidelines for enteral feeding in adult hospital patients Gut Vol 52 (Supp VII):vii1-vii12. NICE (2006) Nutrition support in adults – Oral nutrition support, enteral tube feeding and parenteral nutrition NHS QIS (2007) Nasogastric and Gastrostomy tube feeding for children being cared for in the community – best practice statement.
Causes and management of diarrhoea	Causes Infection Too rapid administration Pharmaceutical Pre-existing bowel disorder Overflow Malabsorption Other	Checklist Stool samples for analysis Reduce rate/review regimen Review recent and current drug therapy Consider anti-diarrhoeal medicines Management of constipation (see below) Consider pancreatic enzyme therapy or a peptide feed. Review fibre intake/osmolarity of feed Medical review / check stool chart Review techniques / procedures	McAtear, CA (1999) Current perspectives on enteral nutrition in adults A BAPEN Working Party Report BAPEN. Todorovic, V & Micklewright, A. (2011) A Pocket Guide to Clinical Nutrition 4th edition, Parental and Enteral Nutrition Group of the British Dietetics Association. NHS QIS (2007) Nasogastric and Gastrostomy tube feeding for children being cared for in the community – best practice statement.
Causes and management of constipation	Causes Dehydration Side effects of medicines Lack of dietary fibre Immobility Changes in gut motility	Checklist Assess fluid status e.g. fluid balance chart, biochemistry Review prescribed medicines Prescribe laxatives Consider use of fibre feed Encourage physical activity if possible Consider enema/laxatives	McAtear, CA (1999) Current perspectives on enteral nutrition in adults A BAPEN Working Party Report BAPEN. Todorovic, V & Micklewright, A. (2011) A Pocket Guide to Clinical Nutrition 4th edition, Parental and Enteral Nutrition Group of the British Dietetics Association. NHS QIS (2007) Nasogastric and Gastrostomy tube feeding for children being cared for in the community – best practice statement.

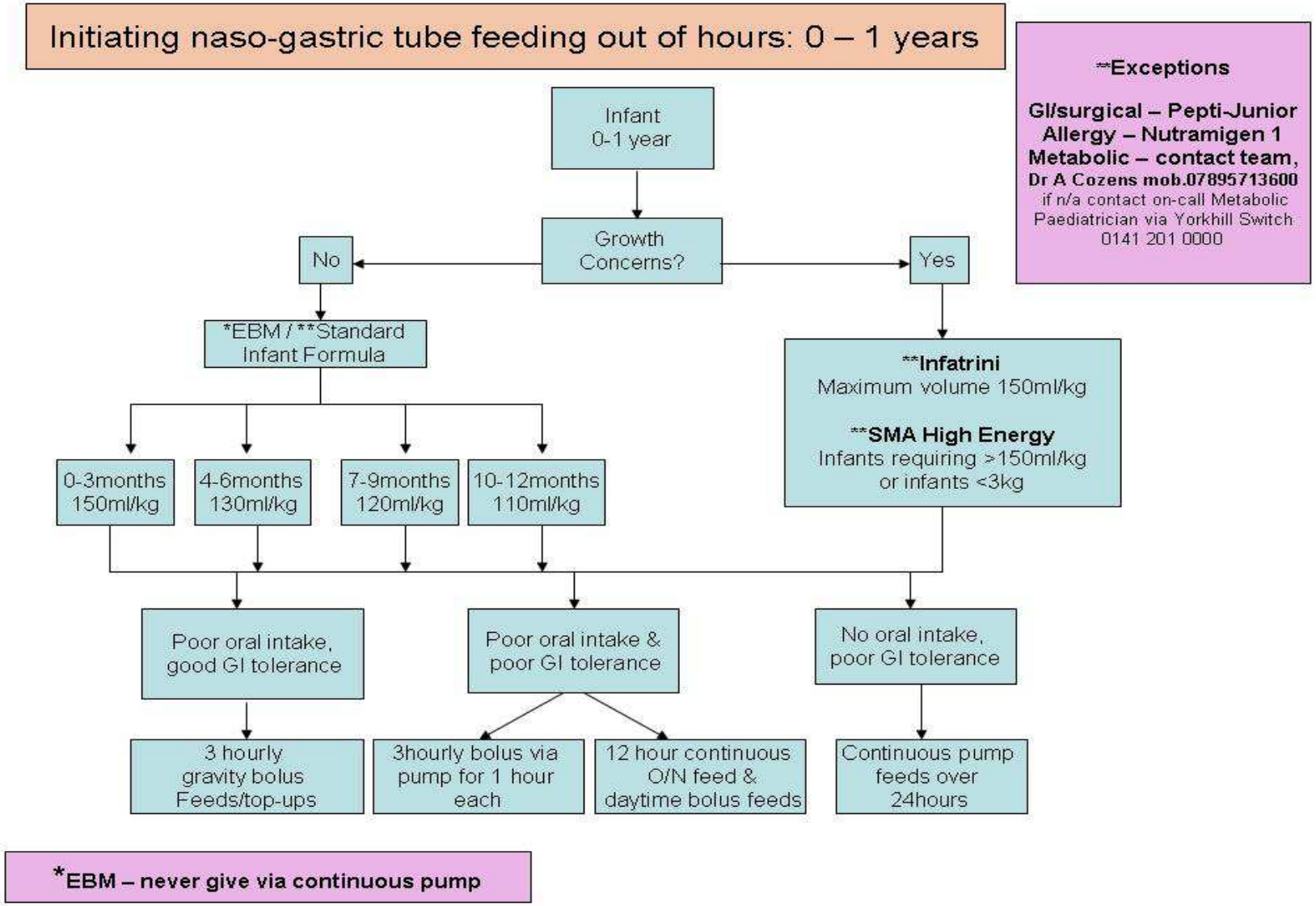
ISSUE	STATEMENT	EVIDENCE / REFERENCE
Refeeding syndrome ADULT GUIDANCE CURRENTLY UNDER REVIEW	Definition *"Severe fluid and electrolyte shifts and metabolic abnormalities associated with refeeding malnourished patients"* Patients at risk: Body mass index less than 18.5 Unintentional weight loss greater than 10% within last 3-6 months Little or no nutritional intake for more than 5 days Oncology patient on chemotherapy Patients unfed for 7-10 days with evidence of stress and depletion History of alcohol abuse. Patients suffering from anorexia nervosa Chronic antacid users Chronic diuretic users Hyperglycaemia/insulin requirements Consequences: Hypophosphataemia Hypokalaema Hypomagnesaemia Fluid balance abnormalities Vitamin deficiency Treatment Refer to local dietitian	NICE (2006) Nutrition support in adults – Oral nutrition support, enteral tube feeding and parenteral nutrition. Todorovic, V & Micklewright, A. (2004) A Pocket Guide to Clinical Nutrition 3rd edition, Parental and Enteral Nutrition Group of the British Dietetics Association.
PAEDIATRIC GUIDANCE CURRENTLY UNDER REVIEW	Paediatric patients are at greater risk of refeeding syndrome due to higher energy and nutrient requirements per kg body weight. Seek local advice from a Paediatric Specialist before feeding is initiated.	Afzaal, N, A, Addai, S, Fagbemmi, A Murch, S, Thomson, M, Heuschkel, R (2002) Refeeding syndrome with enteral nutrition in children: a case report, literature review and clinical guidelines. Clinical Nutrition 21(6) 515-520.

Appendix 1 Starter Feeding Regimen for Adults

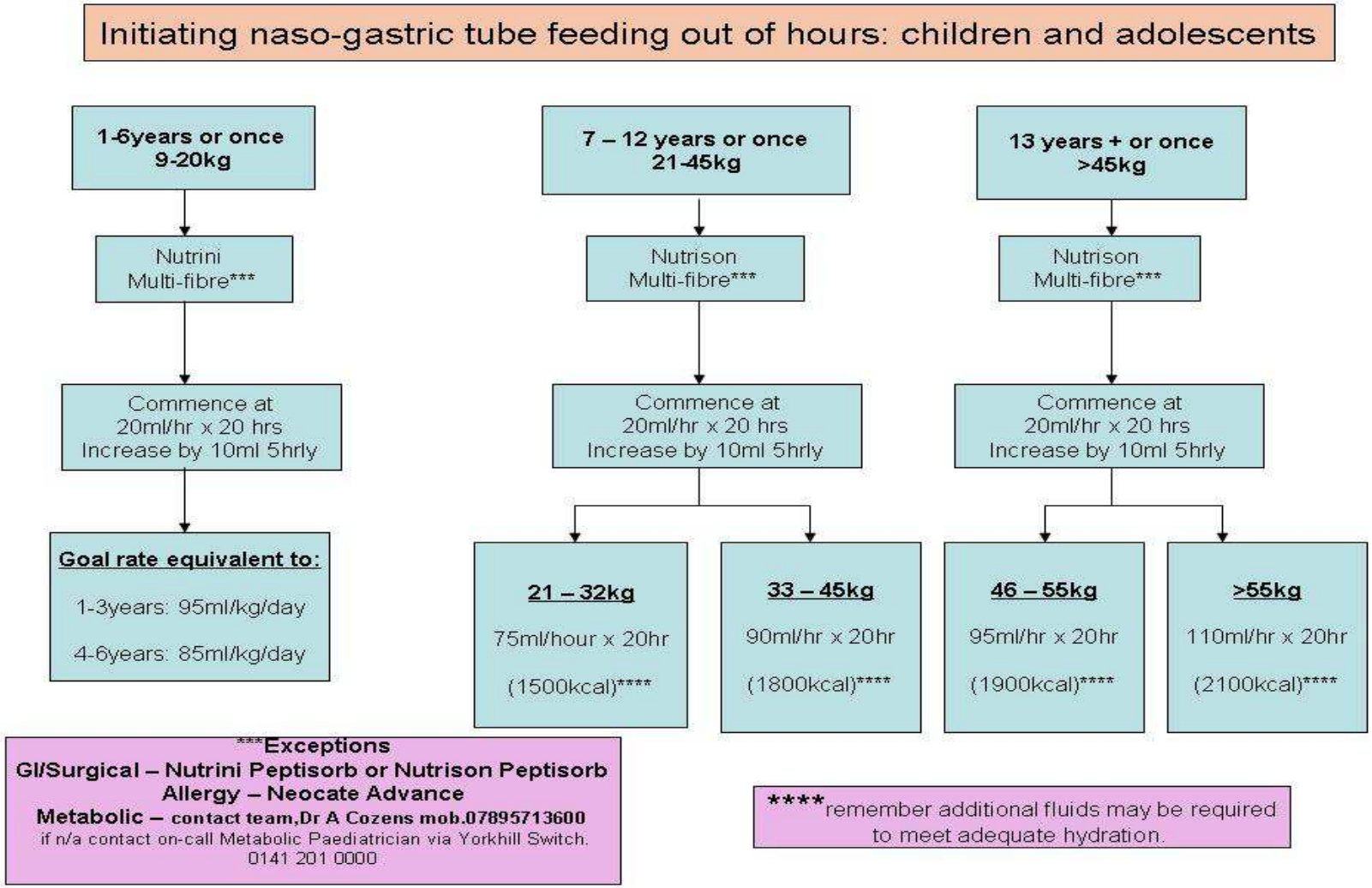


Safe Feeding Period – 7am to 11pm – DO NOT FEED OVERNIGHT	
Day 1	Commence 500mls Nutrison 1.0 @ 35mls for 14hrs
Day 2	700mls Nutrison 1.0 @ 50mls for 14hrs
Day 3 (and 4)	1000 mls Nutrison 1.0 @ 70mls for 14 hrs
Discuss additional fluid requirements with Medical Staff	

- Medical Staff have overall responsibility to monitor fluids and correct serum biochemistry as required
- Ensure weight is documented where possible or estimated
- If feeding is not tolerated as per protocol i.e. abdominal distension /vomiting – reduce to previous rate and seek medical or dietetic advice.
- For Enteral Feeding supplies, see the Ward Nutrition Manual for local policy
- For further information on Enteral Feeding in Lothian, refer to the Lothian Enteral Tube Feeding Best Practice Statement
- If the patient is considered a Refeeding risk, consult with Medical Staff


Initiating naso-gastric tube feeding out of hours: 0 – 1 years
Infant 0-1 year
Growth Concerns?
No
Yes
**Exceptions
GI/surgical – Pepti-Junior
Allergy – Nutramigen 1
Metabolic – contact team,
Dr A Cozens mob.07895713600
if n/a contact on-call Metabolic Paediatrician via Yorkhill Switch 0141 201 0000
*EBM / **Standard Infant Formula
**Infatrini
Maximum volume 150ml/kg
**SMA High Energy
Infants requiring >150ml/kg or infants <3kg
0-3months 150ml/kg
4-6months 130ml/kg
7-9months 120ml/kg
10-12months 110ml/kg
Poor oral intake, good GI tolerance
Poor oral intake & poor GI tolerance
No oral intake, poor GI tolerance
3 hourly gravity bolus Feeds/top-ups
3hourly bolus via pump for 1 hour each
12 hour continuous O/N feed & daytime bolus feeds
Continuous pump feeds over 24hours
*EBM – never give via continuous pump

Appendix 3


Initiating naso-gastric tube feeding out of hours: children and adolescents
1-6years or once 9-20kg
Nutrini Multi-fibre***
Commence at 20ml/hr x 20 hrs Increase by 10ml 5hrly
Goal rate equivalent to:
1-3years: 95ml/kg/day
4-6years: 85ml/kg/day
7 – 12 years or once 21-45kg
Nutrison Multi-fibre***
Commence at 20ml/hr x 20 hrs Increase by 10ml 5hrly
21 – 32kg
75ml/hour x 20hr
(1500kcal)****
33 – 45kg
90ml/hr x 20hr
(1800kcal)****
13 years + or once >45kg
Nutrison Multi-fibre***
Commence at 20ml/hr x 20 hrs Increase by 10ml 5hrly
46 – 55kg
95ml/hr x 20hr
(1900kcal)****
>55kg
110ml/hr x 20hr
(2100kcal)****
***Exceptions
GI/Surgical – Nutrini Peptisorb or Nutrison Peptisorb
Allergy – Neocate Advance
Metabolic – contact team,Dr A Cozens mob.07895713600
if n/a contact on-call Metabolic Paediatrician via Yorkhill Switch. 0141 201 0000
****remember additional fluids may be required to meet adequate hydration.

MEDICINE ADMINISTRATION VIA THE ENTERAL FEEDING TUBE ROUTE

ISSUE	STATEMENT	REFERENCE
General information	Administration of medicine(s) via an enteral feeding tube should only be undertaken after other routes of administration have been considered Buccal and sublingual tablets can be used, even if the patient is 'nil by mouth', providing they are producing and managing saliva. Administration of medicine via an enteral feeding tube generally falls outside a medicine product license/marketing authorisation Check with a pharmacist regarding medicine administration via an enteral feeding tube. To minimise tube blockage or drug-nutrient interactions. If medicine is to be given covertly then the appropriate documentation should be completed. For patients requiring insulin consideration must be given to the timing of feed and insulin administration. **Enteral feeding regimen should be taken into consideration when any new medications are prescribed.**	White, R & Bradnam, V (2011) Handbook of Drug Administration Via Enteral Feeding Tubes. 2nd Edition. Pharmaceutical Press Smyth J (2012) The NEWT guidelines for the administration of medication to patients with enteral feeding tubes or swallowing difficulties. Second edition. Lothian Joint Formulary - http://www.ljf.scot.nhs.uk/Pages/default.aspx Covert Medication http://www.mwcscot.org.uk/media/51790/Covert%20Medication.pdf

Prescribing considerations	If medications must be given via an enteral feeding tube then use liquid or soluble / dispersible medications whenever possible. Viscous medications may need to be diluted for administration via an enteral feeding tube. Modified release and enteric coated medicine formulations are not suitable for administration via the enteral feeding tube route. A pharmacist can provide advice on a suitable alternative or equivalent dose of another formulation of the medicine. Consider the timing of medicine(s) administration, e.g. some may need to be administered on an empty stomach. Limit cumulative volume(s) of sorbitol to prevent diarrhoea. Crushing medicines could potentially lead to sensitisation, allergy and possible adverse effects. If this is a concern a COSHH assessment should be carried out. Discuss with pharmacy for further advice. **In general:** ▪ Take care when changing from 'slow release' (labelled SR, MR, CR, LA, X/L or retard) to ordinary release or liquid preparations as changes in dose and/or dose interval may be required ▪ For medicines which should be taken on an empty stomach (check BNF) give during a break in feeding: stop feed 15-30 minutes before giving medication and wait 15-30 minutes before restarting feed. ▪ If there are concerns over interactions with feed and a particular medicine, or difficulty in controlling levels, the dose can be given during a break in feeding **Medicines that should not be crushed:** • Enteric coated • Modified/slow release • Cytotoxics & Hormones	Smyth J (2012) The NEWT guidelines for the administration of medication to patients with enteral feeding tubes or swallowing difficulties. Second edition. NHS Lothian Safe Use of Medicines Policy & Procedures (2010) http://intranet.lothian.scot.nhs.uk/NHSLothian/NHSLothian/BoardCommittees/AreaDrugTherapeutics/Documents/Safe%20Use%20of%20Medicines%20Policy%20and%20Procedures%20-%20V1-5%20-%20February%202013.pdf BAPEN – A practical guide http://www.bapen.org.uk/pdfs/d_and_e/de_pract_guide.pdf ESPGHAN Committee on Nutrition (2010). Practical approach to Paediatric Enteral Nutrition. http://espghan.med.up.pt/joomla/pdf_files/EN.practical%20approach.2010.pdf

	Problem medicines: • Phenytoin, Digoxin and Carbamazepine: Blood levels may be affected by feeds, these should be checked regularly. It may be necessary to increase the dose. • Antacids: The metal ions in the antacids bind to the protein in the feed and can block the tube. Consider using alternative drugs. • Penicillins: Feed may reduce the absorption, a higher dose may be needed. If possible stop feed 1 hour before and 2 hours after administration. • Other antibiotics: Levels of antibiotics such as ciprofloxacin, tetracyclines and rifampcin can be significantly reduced by feed. Consider other alternatives or increase doses or adjust feeding regimen as required. (This list is not exhaustive)	

Omeprazole (Losec MUPS®)	**Adults** To ensure complete dispersion of tablet and avoid clogging the feeding tube, follow this procedure: ▪ Remove plunger from a 50ml syringe, place Losec MUP in syringe and replace plunger ▪ Fill syringe with at least 25ml water* and 5-10ml air ▪ Shake for at least 2 minutes to disperse tablet (may take longer if a smaller volume is used) ▪ Hold syringe with tip pointing upwards and check tip is not clogged with tablet ▪ Attach syringe to tube while tip points upwards ▪ Shake syringe and position it with tip pointing down. Immediately inject 5-10ml into the tube ▪ Invert syringe after injecting and shake ▪ Reposition syringe and inject a further 5-10ml. Repeat until syringe is empty ▪ Fill syringe with 25ml water* and 5ml air and repeat the whole procedure to ensure all granules are removed from the syringe. **Paediatrics** ▪ Flush enteral feeding tube with 5-10ml water before and after administration ▪ Remove plunger from a 50ml syringe, place Losec MUP in syringe and replace plunger ▪ Fill syringe with at least 10ml water* and 5-10ml air ▪ Shake for at least 2 minutes to disperse tablet (may take longer if a smaller volume is used) ▪ Hold syringe with tip pointing upwards and check tip is not clogged with tablet ▪ Attach syringe to tube while tip points upwards ▪ Shake syringe and position it with tip pointing down. Immediately inject 5ml into the tube ▪ Invert syringe after injecting and shake ▪ Reposition syringe and inject a further 5ml. Repeat until syringe is empty ▪ Fill syringe with 10ml water* and 5-10ml air and repeat the whole procedure to ensure all granules are removed from the syringe.	

ISSUE	STATEMENT	REFERENCE
Giving liquid Phenytoin by enteral feeding tube	**Adults** When phenytoin capsules are substituted for phenytoin liquid, serum level monitoring is advised and the dose should be adjusted accordingly. The dosage form and volume of liquid should always be documented on the patient's prescription chart to avoid confusion. 1. Give phenytoin as a single daily dose. 2. Stop enteral feed 2 hours before administration of phenytoin and recommence 2 hours after dose. ***OR*** Suspend feed between 10pm and 6am (that is, during sleeping hours) and give phenytoin as a single dose at midnight (this allows 6 hours for medicine absorption). 3. Dilute phenytoin suspension with at least equal parts (at least 20ml) of water. 4. Flush enteral tube with plenty of water before and after administration. **Paediatrics** 1. Flush enteral feeding tube with 5-10ml water before and after administration. 2. Stop enteral feed 1 hour before administration and recommence 1 hour after dose has been given. 3. Dilute phenytoin suspension with an equal volume of water.	

ISSUE	STATEMENT	EVIDENCE / REFERENCE

Administration technique	Administer all medicines **separately,** i.e. do not mix them in a syringe or other container. Do not mix medicines with enteral feed (see separate guidance below for paediatrics). If medication is only available in tablet format, check with a pharmacist that it can be crushed. When administering medications, use the size of syringe appropriate to the volume of medicine to be given e.g. use a 3ml syringe to administer a 2.5ml dose. Adults Flush the tube with water: ▪ before administering medicines (at least 30mls) ▪ between each medicine (at least 5mls) ▪ after all medicines have been given (at least 30mls) Paediatrics Flush the tube with water: ▪ before administering medicines (5-10mls) ▪ between each medicine (2mls) ▪ after all medicines have been given (5-10mls) Neonates Use smaller volumes in accordance with local guidelines Record flushes in fluid balance chart if appropriate, e.g. for renal patients.	Van Den Bemt P M L A et al (2006) Quality Improvement of Oral Medication Administration in Patients with Enteral Feeding Tubes. Quality and Safety in Health Care 15(1) 44-47. White, R & Bradnam, V (2011) Handbook of Drug Administration Via Enteral Feeding Tubes. 2nd Edition. Pharmaceutical Press
Paediatric specific advice	In paediatrics, specific medications may be added to enteral feeds to optimise therapeutic benefits and tolerance. This is on a named patient and named medication basis and **only** after discussion with pharmacist/doctor.	

Table 1: Cytotoxic medicines / Prostaglandins / Hormone antagonists

These should NOT be crushed due to risk of staff exposure.

Contact your clinical pharmacist before administration.

For example:

- Altretamine (Hexalen®)
- Aminoglutethimide (Orimeten®)
- Anastrozole (Arimidex®)
- Azathioprine (Imuran®)
- Bicalutamide (Casodex®)
- Busulphan (Myleran®)
- Chlorambucil (Leukeran®)
- Ciclosporin (Neoral®/Sandimmun®/SangCya®)
- Cyclophosphamide (Endoxana®)
- Cyproterone acetate (Cyprostat®)
- Estramustine (Estracyt®)
- Etoposide (Vepesid®)
- Exemestane (Aromasin®)
- Flutamide (Chimax®/Drogenil®)
- Formestane (Lentaron®)
- Hydroxyurea (Hydrea®)
- Idarubicin (Zavedos®)
- Letrozole (Femara®)
- Lomustine (CCNU®)
- Melphalan (Alkeran®)
- Mercaptopurine (Puri-Nethol®)
- Methotrexate (Maxtrex®)
- Misoprostol (Cytotec®/Arthrotec®/Napratec®)
- Mycophenolate (CellCept®)
- Procarbazine (Natulan®)
- Razoxane
- Tacrolimus (Prograf®)
- Tamoxifen (Novaldex®/Embolon®/Fentmox®/Tamofen®)
- Temozolamide (Temodal®)
- Thioguanine (tioguanine / Lanvis®)
- Toremifene (Fareston®)
- Treosulphan
- Tretinoin (Vesanoid®)

This list is NOT exhaustive

GENERAL GASTROSTOMY TUBE CARE

The recommendations in this section refer to Percutaneous Endoscopic Gastrostomy, Radiological Inserted Gastrostomy (adults only) and Balloon Retained Gastrostomy

ISSUE	STATEMENT	EVIDENCE / REFERENCE
Care following initial stoma formation	Following initial formation of the stoma there may be slight bleeding from the wound. The stoma should be left undisturbed for 24 hours. Clean the stoma site with saline using aseptic technique for the first 48 hours. Thereafter, use a clean cloth and water and dry thoroughly. During the first 14 days the patient should not have a bath or go swimming to reduce the risk of bacterial entry to the peritoneum. Showers are acceptable. Wash the stoma site prior to rest of the body. Paediatric advice – no swimming for 6 weeks Care must be taken when adjusting the external fiixator within two weeks following the tube insertion (PEG tubes only). To adjust - please seek advice from a nutrition nurse, medical staff or a dietitian. Leave at least a 2mm gap between skin surface and fixator. **If there is pain on feeding, leakage of fluid around the tube, or new bleeding within first week of insertion, STOP FEED IMMEDIATELY and CONTACT a Nutrition Nurse Specialist or GI Registrar for urgent advice.**	CREST (2004) Guidelines for the Management of Enteral Tube Feeding. NICE (2006) Nutrition Support for Adults Oral Nutrition Support, Enteral Tube Feeding and Parenteral Nutrition Haywood, S (2012) Nursing Time 108(42). 20-22 PEG feeding tube placement and aftercare National Patient Safety Agency (2010) Rapid Response Report. Early Detection of Complications after Gastrostomy Insertion. NPSA/2010/RRR010

Daily stoma / tube care	Clean the area with a clean cloth and soapy water, rinse and dry thoroughly. Do not use moisturizing creams or talc around the stoma site. Reposition the external fixator after cleaning, if appropriate. The external fixator should not be moved for the first 2 weeks post procedure (PEG tubes or tubes placed with pull through technique). Refer to the manufacturer's guidelines. Once a week, the external fixator should be moved and the tube should be moved in and out by a maximum of 10mm. This prevents buried bumper syndrome occurring. Rotate the tube 360° and reposition the external fixator daily, leaving a space of at least 2mm to allow slight movement. If unsure whether a tube should be rotated, check with the person who placed the tube or refer to the manufacturer's guidelines.	NICE (2012) Infection. Prevention and control of healthcare-associated infections in primary and community care. Westaby, D, Young A, O'Toole P et al (2010) The provision of a percutaneously placed Enteral tube service GUT 59:1592-1605
Stoma problems – infection	Infection can be minimised by scrupulous hygiene of the stoma site. Avoid occlusive dressings as these can encourage and trap moisture. Obtain a swab for microbiology if any exudate or inflammation is present. Treat with the appropriate systemic antibiotic as topical may not always be effective, as the infection is usually within the tract and not just superficial.	Goldberg E, Barton S, Xanthopoulos MS, Stettler N, Licarous CA (2010) A descriptive study of complications of gastrostomy tubes in children. Journal of Pediatric Nursing. 25(2), 72-80.

ISSUE	STATEMENT	EVIDENCE / REFERENCE
Stoma problems – Candida	The tube often appears to have bobbly or bumpy appearance. A burst balloon or leaking feeding port can also be an indication of candida. <u>Adults</u> If the tube is still patent continue to use tube and monitor for deterioration in tube integrity. If the tube is completely blocked, change the tube as soon as practicable, and contact a Nutrition Nurse for advice. <u>Paediatrics</u> Presence of yeasts in the stomach should be considered if there are problems with recurrent burst balloons or leaking feeding port valves on low profile gastrostomy devices. A gastric aspirate should be sent to microbiology, if yeasts are confirmed they should be treated with 7-10 days of Fluconazole or Itraconazole (depending on organism sensitivity) and the tube should be changed at end of treatment.	

Stoma problems – Overgranulation	Insufficient rotation of the tube or movement of the tube within the tract can cause granulation tissue. Check that the external fixator is not too loose or too tight. Correct positioning of the external retention device can reduce the risk of overgranulation. Adults http://intranet.lothian.scot.nhs.uk/NHSLothian/Healthcare/A-Z/TissueViability/Documents/Lothian%20Joint%20Formulary/Dressing%20Selection%20Guide.pdf See Appendix 1 - Granuloma flowchart Paediatrics ▪ Consider the use of an absorptive dressing such as Allevyn Non-Adhesive, Allevyn Adhesive, Tegaderm Foam or Lyofoam. This should be used for a minimum of 2 weeks to determine if it has been effective. ▪ A Steroid-based, Antibiotic or Antifungal cream may be prescribed e.g. Maxitrol eye ointment, Fucidin H or Timodene for paediatric patients .	Crawley-Coha T (2004) A Practical Guide for the Management of Paediatric Gastrostomy Tubes Based on 14 Years of Experience Journal of Wound, Ostomy & Continence Nursing 31(4) 193-200. Rollins H (2000) Hypergranulation Tissue at Gastrostomy Sites Journal of Wound Care 9(3) 127-129. Best, C (2004) The correct positioning and role of an external fixation device on a PEG. Nursing Times (100)18 50-51. Vuolo J (2010) Hypergranulation: exploring possible management options. British Journal of Nursing (tissue viability supplement). 19(6), S4-S8. Warriner L & Spruce P (2012) Managing overgranulation tissue around gastrostomy sites. British Journal of Nursing (tissue viability supplement). 21(5), S14-S24
Leakage around Gastrostomy site	Consider the following: ▪ Check for infection by taking a swab of the stoma site and treat accordingly. ▪ Check the internal fixator is against the inner gastric wall by gently pulling the tube outwards until resistance is felt, and ensuring the external fixator is close to the skin, leaving a space of about 2-3mm to allow slight movement. ▪ For balloon-retained tubes, check the balloon is still patent and inflated. ▪ The French Gauge of tube may be incorrect. Discuss with a specialist e.g. Nutrition Nurse or GI Specialist. ▪ Consider the use of barrier preparation e.g. Cavillon, in conjunction with a foam dressing such as Allevyn Non-Adhesive.	Crawley-Coha T (2004) A Practical Guide for the Management of Paediatric Gastrostomy Tubes Based on 14 Years of Experience Journal of Wound, Ostomy & Continence Nursing 31(4) 193-200.

ISSUE	STATEMENT	EVIDENCE / REFERENCE
End of the tube has perished	There are no replacement ends for some types of gastrostomy tubes e.g. balloon retained gastrostomies - these tubes will therefore need replaced if Y-port is damaged. Any staff involved in changing gastrostomy tubes should have received appropriate training and maintained competency to do so. If a replacement end is available, order a new end for tube. Remove the existing end, trim the end of the tube, and insert a new Y-connector as per instructions.	
Frequency of changing tubes	When a tube has been placed, document the approximate time of the next replacement. As a guide: ▪ Gastrostomy tube with internal retention bolster: change if required or clinically indicated. ▪ Balloon gastrostomy tubes: 3-6 months ▪ Low profile devices (internal retention bolster): approximately 24 months ▪ Balloon replacement low profile device: 3-6 months Life span of the tube can vary depending on medicines and stomach acidity.	

What to do when a gastrostomy tube falls out	Paediatrics If you have been trained and are competent to reinsert the tube then attempt to do so. If you encounter problems reinserting the tube, then you should attend your local A&E. f you have not been trained to reinsert the tube you should attend your local A&E taking your spare tube with you. Seek advice from specialists and local protocols Adults http://intranet.lothian.scot.nhs.uk/NHSLothian/Healthcare/A-Z/CNT/Protocols/Management%20of%20dislodged%20%20G%20tube%20flowchart%20NPSA%20flowchart%20(PATIENT).xls http://intranet.lothian.scot.nhs.uk/NHSLothian/Healthcare/ClinicalGuidance/Documents/Management%20of%20dislodged%20%20G%20tube%20flowchart%20NPSA%20flowchart%20(STAFF).xls It is important to ensure that a spare feeding tube is readily available (correct type and size) irrespective of whether a patient is at home or in hospital. If a gastrostomy tube falls out then it should be replaced as soon as practicable, preferably within 6 hours, or the stoma will start to close. Mature stomas may take up to 48 hours or longer to heal but some will close more quickly. The permanent replacement tube or temporary tube should be the same or similar size to the tube which has fallen out. A foley urinary catheter can be used as a **temporary** measure and the patient may be fed through it until replaced with a suitable tube. However, note that foley catheters are licensed for urethral use only. Any staff involved in changing gastrostomy tubes should have received appropriate training and maintained their competencies in doing so.	

ISSUE	STATEMENT	EVIDENCE / REFERENCE
Fasting prior to and after permanent gastrostomy tube removal	There is no evidence to suggest that fasting is required before or after permanent tube removal, but it may be necessary for the patient to fast for up to 4 hours before the tube is removed, especially if a general anaesthetic is required. Consider the needs of the individual patient but do NOT remove the tube immediately after food or drink. Apply a dry dressing and secure with tape over the stoma site, a foam dressing such as Allevyn adhesive/non adhesive may be required for the first 24-48 hours. Change as required.	

BALLOON RETAINED GASTROSTOMY TUBES

ISSUE	STATEMENT	EVIDENCE / REFERENCE
Frequency of checking the balloon in balloon-retained tubes	Follow the manufacturer's guidelines (usually weekly) Remove old water from the balloon and replace with fresh water (according to manufacturers guidelines) using a sterile syringe. Ideally check balloon on the same day each week. There is no evidence to suggest a preference for sterile water vs. sterile saline. Follow the manufacturer's guidelines. Some manufacturers suggest cool, boiled water. Ensure that the balloon port is kept clean.	http://intranet.lothian.scot.nhs.uk/NHSLothian/Healthcare/A-Z/ChildrensServices/PoliciesGuidelines/TeachingGuidelines/Documents/gastrostomybutton.pdf
Unable to remove water from balloon	Check that luer slip syringe is attached to balloon port firmly. Try again, and if unsuccessful contact a specialist.	

RADIOLOGICALLY INSERTED GASTROSTOMY TUBE CARE

ISSUE	STATEMENT	EVIDENCE / REFERENCE
Care of sutures following insertion of Radiological Inserted Gastrostomy	Around the stoma there will be two to four sutures in situ. Please note that the gastrostomy tube is not held in place by the sutures. The sutures secure stomach wall to the abdominal wall to allow the stoma to be formed These sutures should be removed seven days post procedure by a ward nurse, community nurse or outpatient nurse. Raise the metal fastener and cut the suture, then remove disc and sponge. Internal suture material will pass through the gastrointestinal tract. Some bleeding is normal when removing sutures. Appendix 2 Protocol for the care of Radiologically Inserted Gastrostomy Medicina 14Fr G Tube	Early detection of complications after gastrostomy http://www.nrls.npsa.nhs.uk/resources/?entryid45=73457&q=0%c2%acgastrostomy%c2%ac

Appendix 1

Granuloma Flow Chart (for Adults)

Definition: A mass of inflamed granulation tissue usually associated with low grade infections

Standard Treatment
Observe the stoma site. Clean the area with soap and water. Rinse and dry well
Ensure the external fixator is positioned correctly – not tight or loose and is 2mm away from skin. Obtain swab for C& S if infection suspected. Treat infection as indicated by microbiology

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First Line Treatment
Clean as box 1 and apply 1% Hydrocortisone Cream daily for one week

↓

Second Line Treatment
Clean as box 1. Apply a foam dressing as a key hole dressing secure with tape .Tighten the external fixator snug up to the foam dressing. If no improvement after one week try Third Line Treatment
Change dressing daily

↓

Third Line Treatment
Clean as box1. Apply prontasan soaks for ten minutes daily. Apply foam dressings as above. Tighten the external fixator snug up to the foam dressing. If no improvement after 1-2 weeks try Fourth Line Treatment
Change dressing daily

↓

Fourth Line Treatment
Clean as box 1. Apply Honey e.g. Actilite® and foam dressing. Tighten the external fixator snug to the foam dressing. Can remain insitu for up to one week
If, after using a Honey product for 1-2 weeks and no improvement in the wound is seen, then further advice should be sought

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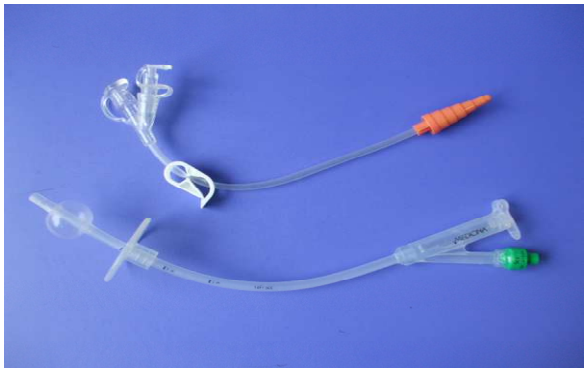
Clinical indication of infection – bacteria/fungal
Erythema, tenderness, purulent discharge, pain, swelling, malodour, elevated temperature
A combination of the above could indicate infection
Swab the stoma and treat with systemic antibiotics/antifungals

Please contact Nutrition Nurse Specialist via Hospital switchboard for further advice

Further information can be found in the Lothian Joint Formulary Lothian Joint Formulary (LJF)

NHS Lothian

Protocol for the care of Radiologically Inserted Gastrostomy Medicina 14Fr G Tube



Replacement tube - Merck Corflo14fr Balloon Gastrostomy tube
Product code 0901 20032
Replace every 6 months

Corflo Enteral Y extension set
Product code 0901 20037

WARNING
If there is pain on feeding, leakage of fluid around the tube, or new bleeding within first week of insertion, STOP FEED IMMEDIATELY and CONTACT Nutrition Nurse Specialist or GI Registrar for urgent advice. See flowchart overleaf for contact details.

CARE OF PATIENT FOLLOWING TUBE INSERTION

Observations: The patient will be given sedation and analgesia -therefore monitor TPR, BP and Oxygen saturations every ½ hr for the first 2 hours then 4 hourly for 24 hours

Pain management: A RIG procedure can be very painful for the first 24hrs Patients must be regularly assessed for pain and adequate analgesia given

Wound: Observe the abdominal insertion site for signs of leakage. The site may be covered with a dressing, which should be removed 24hrs post procedure.

Stoma site: Clean stoma site with saline using aseptic technique for the first 48 hours, thereafter clean with a clean cloth and water and dry thoroughly.

Tube: Observe the position of the tube on return to the ward and note any outward/inward movement. If there is any outward/inward movement gently move external bumper nearer to skin, leaving at least 2mm from skin surface. The tube is retained by water filled balloon (5mls).The tube should be rotated 360^{o} once a day to allow tract formation.

Sutures: Around the stoma there will be two or three sutures in situ. Please note the gastrostomy tube is not held in place by the sutures. The sutures secure the stomach wall to the abdominal wall (gastropexy) to allow the stoma to be formed. Nursing staff should remove these sutures seven days post procedure. Lift sponge and cut at skin level. The remaining portion (T fastener in stomach) will be passed out in a bowel movement, or remain embedded in the stomach wall.

Reviewed Aug 2010- Review date may 2012/LMcV

Balloon: An internal water filled balloon holds the tube in place. The water volume should be checked and replaced once a week, after the tube has been in situ for 2 weeks. Attach 5ml luer slip syringe to balloon port and withdraw all the fluid. Discard liquid Re-inflate balloon with 5ml sterile water *** NEVER ADMINISTER ANYTHING ELSE DOWN THE BALLOON PORT**

Flushing: Flush the tube with 50mls of sterile water (hospital) or tap water community. If tap water identified as high risk use cooled boiled water. Flush **before** and **after** commencement of the feed and administration of medicines.

Eating: Patients must remain nil by mouth for 4 hours after procedure and until sedation has fully worn off.

Tube-feeding: Nil via the tube for the first 4 hours. After 4 hours, commence feeding with feed at 50ml per hour or as per dietitian's regimen.

Medicines: Medication given via the tube should be given in liquid form where possible. Dispersible medicines may be given if dissolved well and flushed with 30 – 50mls of sterile water (hospital). In community use either tap or cooled boiled water. **Crushed tablets should never be given and capsules should not be opened and administered via the tube.** Please refer to the pharmacist or nurse specialist for advice. The tube is narrow (14fr) and can block easily**. Never administer medicines down the balloon port.**

Hygeine: The patient should **not** have an immersion bath for **2 weeks** following the procedure. Showers are permitted after 24 hours. Ensure that the stoma site is washed first.

Additional information is available on intranet under policies and guidelines "Tube Feeding"

JEJUNOSTOMY TUBE CARE - ADULTS

Also refer to following sections General Issues, Medicine Administration, Balloon Retained Gastrostomy Tubes.

ISSUE	STATEMENT	EVIDENCE / REFERENCE
Insertion techniques.	**Percutaneous Endoscopic Jejunostomy** (This tube is not used in Paediatrics) Placed via endoscope + or – mini laparotomy **Surgical Needle Catheter Jejunostomy** (This tube is not used in Paediatrics) Placed at laparotomy **Surgical Jejunostomy** (Balloon retained gastrostomy used) Placed at surgical laparotomy or laproscopically	

Care following initial stoma formation.	Observe the site for swelling or bleeding - if present contact medical staff. **DO NOT ROTATE THE TUBE** **Ensure Community Nursing has been informed of the care of a stoma prior to the patient being discharged home from Hospital.** **Percutaneous Endoscopic Jejunostomy** (This tube is not used in Paediatrics) ▪ External sutures should be removed 7 days post insertion. ▪ For first week following placement, employ an aseptic technique when cleaning. Clean around suture site and dry thoroughly. Apply sterile film dressing. ▪ Immersion bathing should be avoided for the first 14 days post insertion. Showering is permitted. **Surgical Needle Catheter Jejunostomy -** Freka Surgical Jejunostomy (This tube is not used in Paediatrics) **Should be retained by 2 sutures** ▪ **Do NOT remove external sutures or release external fixator.** ▪ Contact medical staff to re-suture as required. ▪ Employ an aseptic technique when cleaning. ▪ Clean twice weekly or more frequently if discharge is observed. ▪ Clean around the Jejunostomy exit site and suture sites and dry thoroughly. Apply a sterile film dressing(e.g. Tegaderm) ▪ Immersion bathing should be avoided for the first 14 days post insertion. Showering is permitted. **Surgical Jejunostomy** (Balloon- retained Gastrostomy is used) ▪ Employ an aseptic technique when cleaning for the first 48 hours post-insertion. Immersion bathing should be avoided for the first 14 days post insertion. Showering is permitted. For care of the Balloon - see Balloon Gastrostomy advice. Appendix 1: Care of Surgical Jejunostomy - Patient Information Leaflet	Cottee, S (2002) Jejunal feeding Complete Nutrition 2(2) 32-34.

ISSUE	STATEMENT	EVIDENCE / REFERENCE
Daily stoma care	**DO NOT ROTATE THE TUBE** (This tube is not used in Paediatrics) **Percutaneous Endoscopic Jejunostomy** ▪ The site should be cleaned daily with a clean cloth and soapy water, rinsed and dried thoroughly. ▪ Avoid the use of dressings unless exudates are present. ▪ Reposition the external fixator after cleaning stoma site. ▪ Do not rotate tube **Surgical Needle Catheter Jejunostomy** (This tube is not used in Paediatrics) **Do NOT remove external sutures or release external fixator.** ▪ Contact medical staff to re-suture as required. ▪ Check the length of the external tubing daily and record centimetre marking. ▪ Ensure the security of the external fixator and sutures. ▪ Clean twice a week or more frequently if discharge is observed. ▪ Clean around suture site with water and a clean cloth and dry thoroughly. Apply a sterile film dressing **Surgical Jejunostomy** (Balloon- retained Gastrostomy is used) ▪ Check the length of external tubing daily and record centimetre marking. ▪ Ensure the security of the external fixator and sutures. ▪ Site should be cleaned daily with a clean cloth and water and dried thoroughly. ▪ Avoid the use of dressings unless exudate present ▪ Reposition the external fixator after cleaning stoma site ▪ **Do not rotate tube**	NICE (2006) Nutrition support in adults – Oral nutrition support, enteral tube feeding and parenteral nutrition. Infection Control Nurses Association (June 2003): Enteral feeding – Infection control guidelines.
Stoma problems – infection	▪ Observe the site daily for signs of infection (i.e. inflammation, pain, exudates). ▪ If infection is suspected, a wound swab should be taken for microbiology and if indicated, the patient treated with the appropriate systemic antibiotic.	CREST (2004) Guidelines for the management of enteral tube feeding.

Stoma problems – Overgranulation	Overgranulation may arise from excessive movement of tube. Adults http://intranet.lothian.scot.nhs.uk/NHSLothian/Healthcare/AZ/TissueViability/Documents/Lothian%20Joint%20Formulary/Dressing%20Selection%20Guide.pdf See Appendix 2: Granuloma flowchart Actisorb treatment is not suitable for use with Jejunostomy tubes which have external dressings.	

ISSUE	STATEMENT	EVIDENCE / REFERENCE
Removal of Jejunostomy tubes.	**Percutaneous Endoscopic Jejunostomy** (This tube is not used in Paediatrics) ▪ Requires endoscopic removal **Surgical Needle Catheter Jejunostomy** (This tube is not used in Paediatrics) ▪ Surgical Jejunostomies should be left in situ for **at least** 4 weeks (even if feeding has been discontinued) to allow establishment of a tract , and the dissolution of the purse-string sutures which anchor the tube. ▪ The tube should be removed by a trained practitioner by traction after removal of sutures. **Surgical Jejunostomy** (Balloon retained gastrostomy used) ▪ Removed by traction following balloon deflation**.** Apply a dry dressing and secure with tape over the stoma site. Change as required.	Stroud, M., Duncan, H., Nightingale, J. (2003) Guidelines for enteral feeding in adult hospital patients Gut 52 (Suppl VIII): vii1-vii2.
Tube Displacement	If the tube comes out the stoma will begin to close within an hour, therefore it is essential to alert medical staff immediately.	CREST (2004) Guidelines for the management of enteral tube feeding.
Frequency of changing Jejunostomy tubes	Refer to manufacturer's guidelines.	

JEJUNOSTOMY TUBE CARE – PAEDIATRICS

Also refer to following sections General Issues, Medicine Administration, Balloon Retained Gastrostomy Tubes.

ISSUE	STATEMENT	EVIDENCE / REFERENCE
Insertion techniques	**Endoscopically / Radiological Transgastric Jejunal feeding tube** Placed through an established gastric stoma endoscopically initially, then over a guidewire in radiology at subsequent changes where possible. **PEG-J** Inserted endoscopically under anaesthetic. Subsequent changes of the intestinal tube will be performed endoscopically also. **Roux-en-Y Jejunostomy** A surgical roux-en-Y Jejunostomy is created via a mini-laparotomy. A Corflo 12Fr PEG tube is inserted as the initial roux-en-Y Jejunostomy tube. This tube is changed to a Low Profile Jejunostomy tube in theatre 12-18months following roux-en-Y Jejunostomy formation.	Michaud L, Coopman S, Guimber D, Sfeir R, Turck D, Gottrand F. (2012) Percutaneous gastrojejunostomy in children: efficacy and safety. Archives of Disease in Childhood. 97(8),733-734. CE Paxton, V Robb, J Livingstone, DC Wilson. Does jejunal feeding promote growth in children with worsening upper GI dysmotility? Archives of Disease in Childhood 2012; 97 (Suppl. 1): A54. CE Paxton, PM Gillett, G Wilkinson, FD Munro, S McGurk, K Armstrong, L Bremner, V Robb, JE Livingstone, DA Devadason, DJ Mitchell, DC Wilson. Jejunal tube feeding experience in paediatric nutrition support. Gut 2012; 61 (Suppl. 2): A33.
Daily stoma / tube care	**DO NOT ROTATE THE TUBE** ▪ Check the length of the external tubing daily and record centimetre marking. ▪ Ensure the security of the external fixator device. ▪ The site should be cleaned daily with a clean cloth and soapy water, rinsed and dried thoroughly. ▪ Avoid the use of dressings unless exudate is present ▪ Reposition external fixator after cleaning stoma site ▪ Seek medical / pharmacological advice on medicine administration.	Godbole, P et al (2002) Limitations and uses of gastrojejunal feeding tubes Archives of disease in childhood 86 p134-137. Fortunato, J, E et al (2005) The limitations of gastrojejunal feeding tubes in children: A 9 year Paediatric hospital database analysis American Journal of Gastroenterology 100 p186-189. Freidman, J.N et al (2004) Complications associated with image guided gastrostomy and gastrojejunostomy tube in children Pediatrics 114 (2) p458-461.
Tube migration	If feed is observed draining from the gastric port of the tube, feed(s) should be stopped and medical advice sought.	
Stoma problems - infection	Observe site daily for signs of infection (i.e. inflammation, pain, exudates)	CREST Guidelines for the management of enteral tube feeding in adults (April

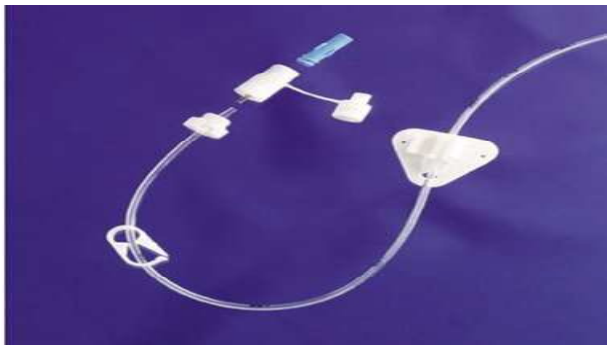
	If infection is suspected, a wound swab should be taken for microbiology and if indicated, the patient treated with the appropriate systemic antibiotic.	2004
Stoma problems - Overgranulation	Overgranulation may arise from excessive movement of tube. Consider the use of an absorptive dressing such as Allevyn Non-Adhesive, Allevyn Adhesive, Tegaderm foam or Lyofoam. This needs to be used for a minimum of 2 weeks to determine effect. A steroid based, antibiotic or antifungal cream may be prescribed e.g. Maxitrol eye ointment, Fucidin H or Timodene.	

Lothian Enteral Tube Feeding Best Practice Statement

ISSUE	STATEMENT	EVIDENCE / REFERENCE
Feeding regimen	▪ Feed should always be administered by a feeding pump. ▪ Bolus feeding should NOT be used. ▪ A suitable drainage bag should be attached to the gastric port or gastrostomy tube to allow gastric decompression during feeds. ▪ If feed is observed draining from the gastric port of the tube, feed should be stopped and medical advice sought. Jejunal feeding may cause looser stools – check feed composition, osmolality, osmolarity and feeding rate if symptoms worsen.	CE Paxton, V Robb, J Livingstone, DC Wilson (2012) Does jejunal feeding promote growth in children with worsening upper GI dysmotility? Archives of Disease in Childhood 2012; 97 (Suppl. 1): A54.
Frequency of checking balloon-retainer volume	Balloon water volume should be 7-10mls of sterile or cooled boiled water. This should be checked and replaced weekly.	
Removal of Jejunostomy tubes	Gastrojejunostomy tubes can be removed via gentle traction after deflation of balloon. Intestinal tubes can be removed by traction from the PEG tube if no longer required; the PEG will need to be removed endoscopically.	
Tube displacement	If the balloon bursts or the tube starts to come out, attempt to tape the tube in place before the whole tube falls out. If the intestinal port on the PEG-J tube disconnects, attempt to tape it in before the whole tube falls out. If the roux-en-Y Jejunostomy tube falls out and you have been trained to reinsert the tube, then attempt to do so. If you encounter problems reinserting the tube, then you should attend your local A&E. If you have not been trained to reinsert the tube you should attend your local A&E taking your spare tube with you. Contact medical staff or a nurse specialist for advice immediately.	
Frequency of changing tubes	Planned changes of Gastrojejunostomy tubes will be performed every 3-4 months in radiology. Consult manufacturer recommendations for PEG-J tubes. Low-profile roux-en-Y Jejunostomy tubes require to be changed 3 monthly.	

Appendix 1

Caring for Your Surgical Jejunostomy Tube at Home



Hand Hygiene
Hands should be washed, rinsed and dried before handling feed or enteral feeding systems

Medication
Administer medicines in liquid form wherever possible

Seek advice from your pharmacist to check that the drug can be given via the jejunal route
Never mix medicines with your feed Flush tube with at least 10mls of water between each medicine and before and after each medication

Tube Blockage
NEVER use carbonated cola drinks, cranberry juice or pineapple juice as these are acidic and may contribute to tube blockage by protein denaturation

Flushing
30mls soda water can be used if resistance is felt when flushing tube

Flush jejunostomy tube with 30mls of water prior to hanging feed and immediately after feed stopped DO NOT USE FORCE

Flush jejunostomy tube every 6 hours when there is a break in feeding

Feeding
Use a 60ml catheter tipped syringe to draw up water for flushing

Water should be freshly drawn drinking water into a clean cup/beaker and discarded after use

Administer feed as prescribed by your dietician
NEVER put anything other than your prescribed feed, water or prescribed medications down your jejunostomy tube

Position
Do not lie flat during feeding. Best position for feeding is ideally sitting upright. If you are lying down, support your upper body with pillows or cushions.

Do not lie flat for at least 30 minutes after feeding

Maintenance
Maintain a column of water in tube when not in use by:

- Attaching a 60ml catheter tipped syringe filled with 30ml of water to the tube
- Release tube clamp
- Instil 25ml of water
- Close tube clamp whilst maintaining positive pressure on syringe plunger whilst instilling last 5mls of water. This will prevent backflow and potential blockage of tube
- Close end cap

Stoma site
Observe the stoma site for swelling, bleeding, if present contact medical staff

Do not remove sutures (2 sutures) – clean around suture sites and dry thoroughly

Change Tegaderm / Mepore dressing approximately twice a week or more frequently if any leakage present

Slight leakage can occur

Observe for any pus or increase in leakage

For any further information and/or advice on your jejunostomy tube
Please Contact: Nutrition Nurse Specialists
WGH 0131 537 3695
RIE 0131 242 3635

Appendix 2

Granuloma Flow Chart (for Adults)

Definition: A mass of inflamed granulation tissue usually associated with low grade infections

Standard Treatment
Observe the stoma site. Clean the area with soap and water. Rinse and dry well
Ensure the external fixator is positioned correctly – not tight or loose and is 2mm away from skin. Obtain swab for C& S if infection suspected. Treat infection as indicated by microbiology

↓

First Line Treatment
Clean as box 1 and apply 1% Hydrocortisone Cream daily for one week

↓

Second Line Treatment
Clean as box 1. Apply a foam dressing as a key hole dressing secure with tape .Tighten the external fixator snug up to the foam dressing. If no improvement after one week try Third Line Treatment
Change dressing daily

↓

Third Line Treatment
Clean as box1. Apply prontasan soaks for ten minutes daily. Apply foam dressings as above. Tighten the external fixator snug up to the foam dressing. If no improvement after 1-2 weeks try Fourth Line Treatment
Change dressing daily

↓

Fourth Line Treatment
Clean as box 1. Apply Honey e.g. Actilite® and foam dressing. Tighten the external fixator snug to the foam dressing. Can remain insitu for up to one week
If, after using a Honey product for 1-2 weeks and no improvement in the wound is seen, then further advice should be sought

↓

Clinical indication of infection – bacteria/fungal
Erythema, tenderness, purulent discharge, pain, swelling, malodour, elevated temperature
A combination of the above could indicate infection
Swab the stoma and treat with systemic antibiotics/antifungals

Please contact Nutrition Nurse Specialist via Hospital switchboard for further advice

Further information can be found in the Lothian Joint Formulary Lothian Joint Formulary (LJF)

Author: NHS Lothian Enteral Tube Feeding Best Practice Group
Authorised by: NHS Lothian Enteral Tube Feeding Best Practice Group
Date Authorised: July 2013 Review Date: 2017

NASOGASTRIC / OROGASTRIC TUBE CARE		
ISSUE	**STATEMENT**	**EVIDENCE / REFERENCE**
How to check correct Nasogastric / Orogastric tube placement	General information ▪ Fully radio-opaque tubes with markings to enable accurate measurement, identification and documentation of their position should be used. Routine method for checking nasogastric tube placement ▪ Aspiration is the routine method for checking placement of nasogastric / orogastric tubes. ▪ **Radiography is recommended but should not be used 'routinely'.** It is the most reliable method it is not always possible or practical. Aspiration ▪ Test aspiration with pH paper: pH 5.5 or less ▪ The pH paper should have 0.5 graduations and be CE marked ▪ If the aspirate has a pH of 6 or more, this indicates that it may possibly be bronchial secretions. **Do not feed**, leave for an hour and try again. ▪ Medication which could elevate the pH level are antacids, H2 antagonists and proton pump inhibitors. An individual risk assessment should be completed for patients taking such medications and this should include testing and documenting the pH of the initial aspirate. ▪ If there is difficulty obtaining an aspirate: - Turn the patient on their side - Inject air (1-5mls for infants and children, 10-20mls for adults) using a 20 or 50ml syringe. Wait 15-30 minutes and try again. Injecting air will dispel any residual fluid in the tube and may also dislodge the exit port of the nasogastric tube / orogastric from the gastric mucosa. **Do not carry out auscultation.** - If the patient is alert, has an intact swallow and is perhaps only on supplementary feeding and is thus eating and drinking. Ask them to sip a coloured drink and aspirate the tube. If coloured fluid is obtained then the tube is in the stomach. Refer to Appendix 1 Decision tree for checking Nasogastric tube placement in Adults Methods which must **not** be used to check tube placement ▪ Auscultation of air insufflated through the nasogastric / orogastric tube ▪ Testing aspirate using blue litmus paper ▪ Interpreting the absence of respiratory distress as an indicator of correct position ▪ Monitoring bubbling at the end of the tube ▪ Observing the appearance of the aspirate	National Patient Safety Agency (2011) Patient Safety Alert: Reducing the harm caused by misplaced nasogastric feeding tubes in adults, children and infants. NPSA/2011/PSA002 http://www.nrls.npsa.nhs.uk/resources/?entryid45=129640&p=2 Refer to Insertion and Care of Nasogastric Feeding Tubes (Adult) Initial Competency: http://intranet.lothian.scot.nhs.uk/NHSLothian/Corporate/A-Z/Clinical%20and%20Corporate%20Learning/ClinEducationTrain/Clinical%20Skills/PreCourse%20Workbooks%20and%20Competencies/IC%20-%20Insertion%20and%20Care%20of%20Nasogastric%20Feeding%20Tubes%20-%20Adult%20v2%20May%202012.pdf Refer to the Procedure for the Insertion and Care of Nasogastric (NG) Feeding Tubes in Adults Clinical Policy: http://intranet.lothian.scot.nhs.uk/NHSLothian/Healthcare/ClinicalGuidance/General/Nasogatric%20feeding%20tube%20insertion.pdf NICE (2006) Nutrition support in adults – Oral nutrition support, enteral tube feeding and parenteral nutrition http://intranet.lothian.scot.nhs.uk/NHSLothian/Healthcare/A-Z/ ChildrensServices/PoliciesGuidelines/TeachingGuidelines/Documents/ngfeeds.pdf http://intranet.lothian.scot.nhs.uk/NHSLothian/Healthcare/A-Z/ChildrensServices/PoliciesGuidelines/TeachingGuidelines/Documents/ngpassing.pdf

Lothian Enteral Tube Feeding Best Practice Statement

ISSUE	STATEMENT	EVIDENCE / REFERENCE
Frequency of checking Nasogastric / Orogastric tube placement	Check Nasogastric / Orogastric tube position: ▪ Following initial tube insertion ▪ Before commencement of each feed ▪ Before medications are administered ▪ Following evidence of tube displacement, e.g. loose tape or the visible tube appears longer ▪ Following episodes of vomiting, retching or coughing	National Patient Safety Agency (2011) Patient Safety Alert: Reducing the harm caused by misplaced nasogastric feeding tubes in adults, children and infants. NPSA/2011/PSA002 http://www.nrls.npsa.nhs.uk/resources/?entryid45=129640&p=2
Frequency of changing Nasogastric / Orogastric tube	Follow manufacturer's guidance. Nasogastric / orogastric tubes should not be re-used, except if it is a 'single patient use' tube which may be reused, if considered appropriate. Only Nasogastric tubes liscensed for feeding should be used	

NASOJEJUNAL

Also refer to following sections General Issues, Medicine Administration.

ISSUE	STATEMENT	EVIDENCE / REFERENCE
Insertion technique and confirmation of Nasojejunal tube position.	Nasojejunal tube position should be placed/ confirmed radiologically, or placed endoscopically. Secure the Nasojejunal tube with nasal fixation tape and secure the residual tube firmly to face.	Stroud, M., Duncan, H., Nightingale, J. (2003) Guidelines for enteral feeding in adult hospital patients Gut 52 (Suppl VIII) vii1-vii2 Cottee, S (2002) Jejunal feeding Complete Nutrition 2(2), p32-34 NICE (2006) Nutrition support in adults – Oral nutrition support, enteral tube feeding and parenteral nutrition Cirgin Ellett M L (2006) Important facts about intestinal feeding tube placement Gastroenterology Nursing 29(2) 112-124.
Frequency of checking nasojejunal tube position.	Apart from radiology there is no reliable means of confirming tube position. The following may help indicate tube migration: ▪ Mark the position of the tube against the nostril daily using a permanent marker pen. ▪ Check length of external tubing daily and record centimetre marking. ▪ Measure and document the external length of tube, following tube placement and before administering feed/water/medications ▪ Observe the patient for signs of abdominal distension, vomiting or aspiration – this could indicate tube migration back into the stomach. In Paediatrics if the child has a gastrostomy tube this should be attached to a suitable drainage bag to allow gastric decompression during feeds. Feeds should be stopped if milk is noted in the drainage bag and advice sought.	Cottee, S (2002) Jejunal feeding Complete Nutrition 2(2), p32-34. Cirgin Ellett M L (2006) Important facts about intestinal feeding tube placement Gastroenterology Nursing 29(2) 112-124.
Feeding regimen	Feed should always be administered by a feeding pump. Bolus feeding should NOT be used.	

	Jejunal feeding may cause looser stools – check feed composition, osmolality, osmolarity and feeding rate if symptoms worsen.	
Frequency of changing Nasojejunal tube	Refer to manufacturer's recommendations	

Decision tree for Checking Naso-Gastric tube placement in ADULTS

CHECK POSITION OF THE FEEDING TUBE;

- When a new tube is inserted
- Before giving any medication through the tube
- Daily: prior to feeding/during continuous feeding
- Following any episodes of retching, vomiting or severe coughing
- If there is any suspicion of tube misplacement

Aspirate 0.5-1ml with an enteral 50ml syringe and gentle suction

pH below 5.5

PROCEED TO FEED

Document:
1. pH value
2. cm mark at nostril
3. Complete sticker and place in patient record if new tube

A pH of between 1 and 5.5 is reliable confirmation that the tube is not in the lung, however it does not confirm gastric placement as there is a small chance the tip may sit in the oesophagus where it carries a higher risk of aspiration. If this is a concern, the patient should proceed to x-ray.

pH 5.5 -6.0

CHECK AGAIN

Recommend that second person checks the reading or retests before proceeding to feed

pH above 6.0

DO NOT FEED

If NEW nasogastric tube insertion- X-Ray must be obtained if pH is above 5.5 or no aspirate

EXISTING tube with pH >6.0 RISK ASSESS-IS IT SAFE TO START FEED?

1. Is there any suspicion that the tube has been displaced?
2. Are tapes and securing devices intact and cm mark at nostril the same as at initial insertion?
3. Is the patient receiving medication that will elevate gastric pH?
4. Document decisions
5. If risk assessment inconclusive - Go to X-Ray

No Aspirate

DO NOT FEED

If NEW nasogastric tube insertion- X-Ray must be obtained if pH is above 5.5 or no aspirate

TRY THE FOLLOWING:
1. If possible turn patient onto left hand side - try to aspirate
2. Inject **10 -20ml of AIR** into the NG tube - try to aspirate
3. If able give patient a drink or perform mouth care and wait for 15 mins - try to aspirate
4. Advance tube a maximum of 5cms and try to aspirate again

STILL NO ASPIRATE

CONSIDER
a) **RISK ASSESS**
Is it safe to start feed?
1. Is there any suspicion that the tube has been displaced?
2. Are tapes and securing devices intact and tube length the same as at initial insertion?
3. Is the patient receiving medication that will elevate gastric pH?
4. Document decisions
5. Inconclusive? Go to X-Ray

b) Consider **r**epassing tube
c)Go to X-RAY

The following methods must not be used to confirm tube placement

- Auscultation of air insufflated through the feeding tube (whoosh test)
- Testing the aspirate using blue litmus paper
- Interpreting absence of respiratory distress as an indicator of correct positioning.
- Monitoring bubbling at the end of the tube
- Observing the appearance of feeding tube aspirate.

A Competent Doctor must check X-ray and confirm and document correct tube position before feeding

INFECTION CONTROL

ISSUE	STATEMENT	EVIDENCE / REFERENCE
Hand hygiene, Personal Protective Equipment (PPE)	Hands should be washed, rinsed and dried or alcohol hand rub may be used on physically clean hands Non-sterile, non-powdered gloves and an apron should be worn before handling feed or enteral feeding systems. Employees suffering from infections such as infected wounds, skin infections, sore throats, diarrhoea / vomiting must be excluded from enteral tube feeding duties and advice sought from the Occupational Health Service. On completion of connecting enteral feeding, Personal Protective Equipment should be removed (discarded as clinical waste) and hands decontaminated If a patient is managing their own enteral feeding tube then it is not necessary for them to wear gloves but hand hygiene should be carried out. Relatives or carers in the home situation are not required to wear protective clothing but must be aware that: ▪ Good hand hygiene is important. ▪ Cuts and sores on their hands and forearms must be covered with a waterproof dressing. ▪ Carers should not handle enteral feeds if they have skin infections, diarrhoea or vomiting. In such situations medical advice should be sought. Minimal handling and an aseptic technique should be used to connect the administration system to the enteral feeding tube.	NICE (2012) Infection. Prevention and control of healthcare-associated infections in primary and community care. Journal of Hospital Infection 2001(47) – Supplement, pages 29 & 31. Safety Action Notice (2001) Enteral Feeding Systems: Risk of Contamination and Infection 01/12. Ward V. et al (1997) Preventing Hospital Acquired Infection – Clinical Guidelines. Anderton, A. (1995) Reducing bacterial contamination in enteral tube feeds British Journal of Nursing 4(7). Infection Control Nurses Association (June 2003): Enteral feeding – Infection control guidelines. Ojo & Bowden (2012) Infection control in enteral feed and feeding systems in the community. British Journal of Nursing 21(18) Health Protection Scotland http://www.hps.scot.nhs.uk/haiic/ic/nationalhandhygienecampaign.aspx

Equipment	Any equipment used should be dedicated for enteral tube feeding use only. Any re-usable items should be washed in hot soapy water, rinsed, dried and stored in a covered container until required. Some manufacturers may suggest that items can be washed in a dishwasher but this may affect the usable life of these items.	NICE (2012) Infection. Prevention and control of healthcare-associated infections in primary and community care. Safety Action Notice (2001) Enteral Feeding Systems: Risk of Contamination and Infection 01/12. Medical Device Agency August 2000: Single Use Medical Devices: Implications and Consequences for Re-use. NHS MEL (1999) 79: Infection Control: Decontamination of Medical Devices. HDL (2001) 10: Decontamination of Medical Devices.

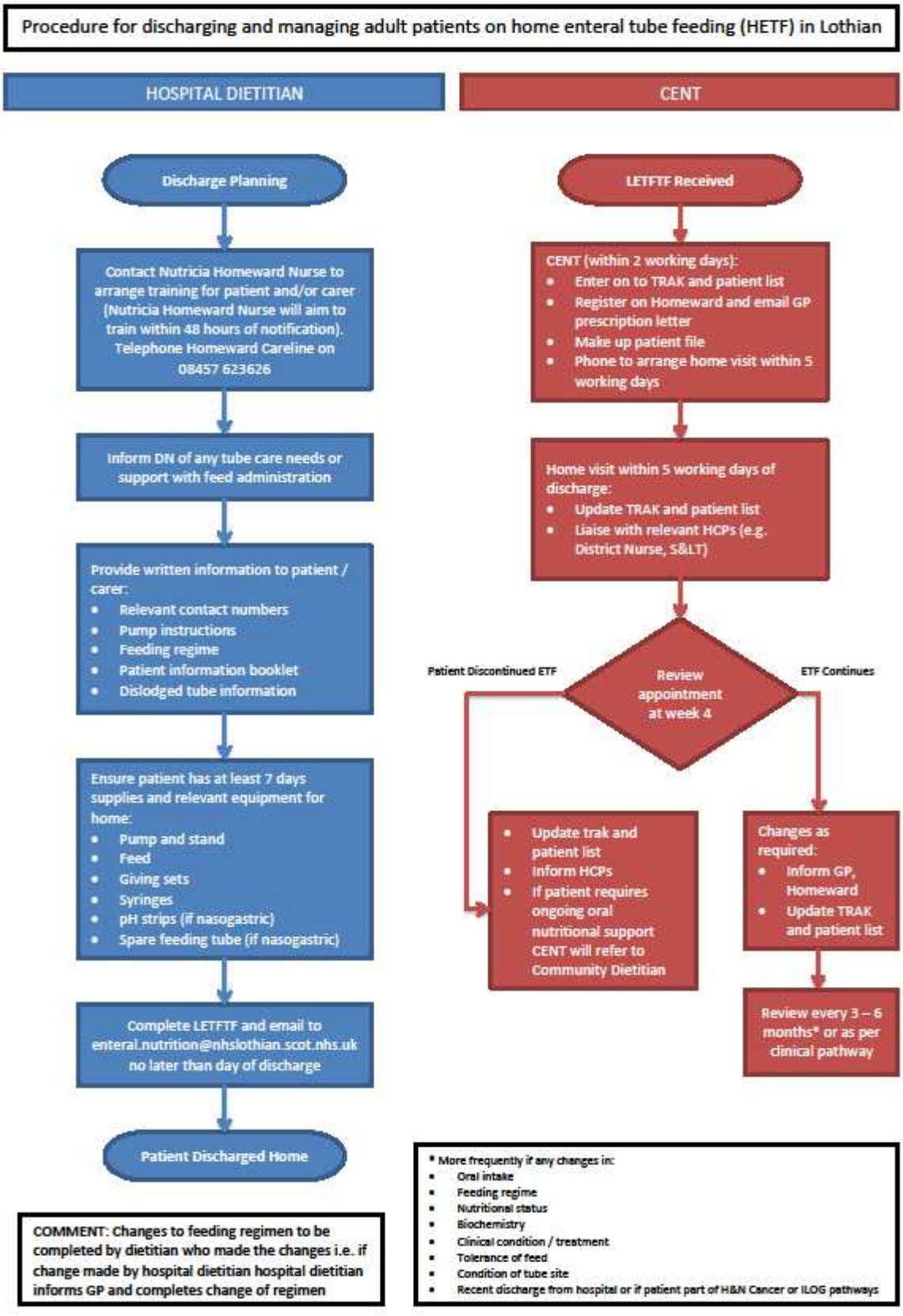
ISSUE	STATEMENT	EVIDENCE / REFERENCE
Giving sets and syringes	Items marked 'Single use' should not be reused. Items marked 'Single patient use' can be reprocessed for a specific patient if the manufacturer's reprocessing instructions are followed. Only syringes for enteral use (purple) should be used for administration of feed, water and medicines. Re-usable enteral syringes can be re-used. Refer to manufacturer guidelines for cleaning instructions and how often they should be changed. Immunocompromised patients should use single use syringes.	NICE (2012) Infection. Prevention and control of healthcare-associated infections in primary and community care. Safety Action Notice (2001) Enteral Feeding Systems: Risk of Contamination and Infection 01/12. NPSA (2007) Patient Safety Alert 19. Promoting safer measurement and administration of liquid medicines via oral and other enteral routes. NPSA/2007/19 Medical Device Agency August 2000: Single Use Medical Devices: Implications and Consequences for Re-use. NHS MEL (1999) 79: Infection Control: Decontamination of Medical Devices. HDL (2001) 10: Decontamination of Medical Devices.
Frequency of changing connecting tubes for skin level devices	Items marked 'Single Use Only' should not be re-used. For 'Single Patient Use' items, follow manufacturer's reprocessing instructions and guidance on frequency of changing.	Safety Action Notice (2001) Enteral Feeding Systems: Risk of Contamination and Infection 01/12. Medical Device Agency August 2000: Single Use Medical Devices: Implications and Consequences for Re-use. NHS MEL (1999) 79: Infection Control: Decontamination of Medical Devices. HDL (2001) 10: Decontamination of Medical Devices.

Pump cleaning	Consult manufacturer's instructions. Ensure feeding pump is clean before every episode of use.	NICE (2012) Infection. Prevention and control of healthcare-associated infections in primary and community care. Medical Device Agency 2000: Equipped to Care – the Safe Use of Medical Devices in the 21st Century. Ward V. et al (1997) Preventing Hospital Acquired Infection – Clinical Guidelines Public Health Laboratory Service. Journal of Hospital Infection 2001(47) – Supplement, page 21. Scottish Executive Health Department Working Group (2001) The Contamination of Surgical Instruments and Other medical Devices.

DISCHARGE PLANNING AND MONITORING

ISSUE	STATEMENT	EVIDENCE / REFERENCE
Discharge Procedure	Prior to discharge careful consideration should be given to ensure patients can be discharged home safely on enteral tube feeding. This includes identifying who will be responsible for daily care of tube, set up of the feed and relevant training to patient/parent/carers/care staff should be provided. All paediatric patients will be seen by Childrens' Community Nursing. **Complex patients who require community nursing input should be identified as early as possible in the discharge planning process to ensure the home enteral tube feeding is sustainable.** A multidisciplinary discharge planning meeting may be required including appropriate community staff. **It is essential that all patients/carers are fully aware and have written information regarding the procedure if the feeding tube displaced.** Appendix 1 Adult Discharge Flowchart Appendix 2 Adult Discharge checklist Appendix 3 Paediatric Discharge Planning for Home Enteral Tube Feeding Patients	http://intranet.lothian.scot.nhs.uk/NHSLothian/Healthcare/A-Z/CNT/Protocols/Management%20of%20dislodged%20%20G%20tube%20flowchart%20NPSA%20flowchart%20(PATIENT).xls http://intranet.lothian.scot.nhs.uk/NHSLothian/Healthcare/ClinicalGuidance/Documents/Management%20of%20dislodged%20%20G%20tube%20flowchart%20NPSA%20flowchart%20(STAFF).xls
Monitoring	Healthcare professionals should review the indications, route, risks, benefits and goals of nutrition support at regular intervals Appendix 4 Adult Monitoring in hospital Appendix 5 Adult Post discharge monitoring Appendix 6 Paediatric monitoring guidance	NICE (2006) Nutrition Support for Adults Oral Nutrition Support, Enteral Tube Feeding and Parenteral Nutrition Y Lim, CE Paxton, DC Wilson (2012) Regular nutritional blood test monitoring in children on home enteral tube feeding – is this necessary? Gut 2012; 61 (Suppl. 2): A17.
Procedure for Transition of Paediatrics to Adults	Appendix 7 Transitions procedure	

Appendix 1: Procedure for discharging and managing adult patients on home enteral tube feeding (HETF) in Lothian



Appendix 2

Adult home enteral feeding discharge checklist

Patients Name …… CHI……

Planned Discharge Date …….. Hospital & Ward……..

D = Dietitian N = Ward Nurses P = Pharmacist CN = Company Nurse

	Accountability	Initial	Date
Referred to Enteral Feed Company Nurse	D		
District Nurse referral if appropriate	N		
CENT referral (LETF Transfer form)	D		
Train patient on:			
Infection control e.g:- Hand hygiene	CN/N		
How to check the Nasogastric tube position	CN/N		
Correct positioning for feeding	CN/N		
How to flush their tube	CN/N		
How to administer medication(s)	CN/N		
How to set up their feed – pump or bolus	CN/N		
How to care for their feeding tube	CN/N		
How to care for their stoma site	CN/N		
Mouthcare	CN/N		
Storing feed	CN		
What to do if their tube falls out	CN/D		
Discharge Planning – The patient will require			
Pump and Pump Stand	D		
Feed – 7 day supply	D		
Feeding Regimen	D		
Patient information booklet including contact numbers	CN/D		
Medication Regimen	N/P		
Giving sets – 7 day supply	D		
Enteral syringes – 7 day supply	N/D		
Spare tube – if appropriate	N/CN/D		
pH indicator paper – Nasogastric only	N/D		
Information for delivery of future supplies	CN		
Written information identifying who to contact if their tube is displaced	N/D		

Appendix 3: Paediatric Discharge Planning for Home Enteral Tube Feeding Patients

Decision made by medical staff to commence home enteral tube feeding

Nursing staff in ward area to ensure appropriate teaching guidelines given to families. These must be completed and signed by nursing staff prior to discharge. Some families may require to attend the Special Feeds Kitchen prior to discharge, dietitian to advise.

Lothian, Glasgow & Argyle, Dumfries, Aberdeen & Forth Valley

Contact Nutrition nurse specialist on 20612, bleep 9313 or GI nurse specialist on 20602, bleep 9034 to arrange pump training. Contact Dietitian to advise 20302. If bolus feeding only and no pump training required, homeward service is not used.

Borders, Fife, Dundee & Lanarkshire patients

Wishaw dependant on follow up RHSC dietitian to clarify

Training on ward provided by **Nutricia**

Training on ward provided by **Abbott**

EQUIPMENT REQUIRED FOR DISCHARGE

Pump/Stand/ Bag – provided by GI/Nutrition nurse, either Z frame or Go frame

Giving sets and containers – 2/7 supply from Nutricia trainer

Feed bag – if using Z frame, ward to supply 7/7, if using Go frame, Nutricia will supply 2/7

A 7/7 supply of 50ml syringes and pH sticks – provided by ward

Tube feed – 7/7 supply provided by Dietitian

Milk Feed – 7/7 supply provided by Dietitian

EQUIPMENT REQUIRED FOR DISCHARGE

Pump/Stand/Bag – provided by Abbott trainer – Freego Pump

Giving sets and containers – 7/7 supply from Abbott trainer

A 7/7 supply of 50ml syringes and pH sticks – provided by ward

Tube Feed – 7/7 supply provided by Dietitian

ONGOING SUPPLIES (Lothian)

GI/Nutrition Nurse Specialists organise on-going supply of equipment and feeds via Homeward
Feed requirements supplied by RHSC dietitian to Nurse Specialists.
RHSC dietitian to write and fax feed prescription to GP

ONGOING SUPPLIES (Glasgow, Aberdeen, Dumfries and Forth Valley)

RHSC dietitian to liaise promptly with local dietitian to organise on-going supply of equipment and feeds via Homeward
RHSC dietitian to write and fax feed prescription to GP

ONGOING SUPPLIES (Fife, Borders, Dundee and Lanarkshire)

RHSC dietitian to liaise promptly with local dietitian to organise on-going supply of equipment and feeds via Abbott
RHSC dietitian to write and fax feed prescription to GP

All patients to have Community Nurse referral completed by ward staff sent to appropriate CCN team prior to discharge

Appendix 4: Guidance on monitoring adult patients who are receiving enteral tube feeding in hospital (Dietetic and Nursing)

Patient monitoring should be multidisciplinary and the healthcare professionals who are involved in different aspects of monitoring will depend on the individual patient.
However it should be clearly documented who is responsible for monitoring each aspect of patients care.

References:

Todorovic & Micklewright (2011) **PENG – A pocket guide to clinical nutrition 4rd edition**
British Dietetic Association

A.S.P.E.N. Enteral Nutrition Practice Recommendations
JPEN J Parenter Enteral Nutr 2009; 33; 122 - originally published online Jan 26, 2009
(Robin Bankhead, Joseph Boullata, Susan Brantley, Mark Corkins, Peggi Guenter, Joseph Krenitsky, Beth Lyman, Norma A. Metheny, Charles Mueller, Sandra Robbins, Jacqueline Wessel and the A.S.P.E.N. Board of Directors)

BAPEN (1999) **Current Perspectives on Enteral Nutrition in Adults**
British Association of Parenteral and Enteral Nutrition

Monitor	Suggested Frequency		Rationale
Nutritional intake	Acute	Stable	
• Calculate nutrient intake from enteral nutrition and normal diet. • Determine actual volume of feed delivered.	Daily	As clinically indicated	Compare intake with requirements. Facilitate transition between various forms of support
Anthropometric			
• Weight	Weekly	Weekly	Assess changes in tissue mass, reflecting adequacy of energy provision
• BMI and Height	Start of feeding	BMI weekly	Important for calculating nutritional requirements
• Mid arm circumference	Monthly	Monthly	Useful surrogate for weight when it cannot be measured, or not accurate due to oedema.
• Tricep skinfold thickness	If clinically indicated	If clinically indicated	Simple accessible indirect measure of body fat
Biochemical			
• Urea and electrolytes (Creatinine, Sodium, Potassium, Magnesium, Phosphate) as per Enteral Feeding order set on TRAK	Start of feeding, daily If refeeding risk twice weekly thereafter.	As clinically indicated e.g. change of condition, feed tolerance.	Assess hydration status. To ensure the patient is metabolically stable and that enteral feeding is meeting requirements. Abnormalities should be noted and corrected by oral/enteral or intravenous supplementation.
• Blood glucose	Four hourly in ICU. Daily on the ward. As clinically indicated in known Diabetes	In relation to Diabetic medication	To detect hypo- or hyperglycaemia To ensure that enteral feeding and insulin regime are optimising blood sugar control
• Haemoglobin, Iron , Ferritin	Establish baseline	As clinically indicated	Useful indicator for metabolic stress when calculating nutritional requirements
	Monitor acute	As clinically	Low albumin levels indicate high risk of morbidity

• CRP	phase response	indicated	and mortality. **It does not reflect protein status, but may help identify patients in need of nutritional support**
• Albumin	Twice weekly	If indicted e.g. oedema	
• Vitamins e.g. Vit B12, Vit B2, Vit B6, Vit C	Not indicated due to effects of acute phase response on plasma micronutrients	If clinically indicated	As required – patient specific.
Clinical			
▪ General condition and appearance, including swallowing and NBM status. Presence of safety device e.g. Nasal bridle, Posey mitts	Daily	If clinically indicated	To establish that the patient is tolerating the enteral feeding. Assess most appropriate route of access for enteral nutrition. Establish the safety of the enteral feeding .
▪ Ensure that the head of the patients bed is elevated to a minimum of 30 degrees during the administration of feeds	At all times	At all times	Minimising the risk of pulmonary aspiration of feed
▪ Temperature, pulse, respiration rate	Daily	Weekly	To monitor for infection. Can aid evaluation of hydration status. Pyrexia increase protein and energy requirements.
▪ Fluid balance	Daily	Weekly	To prevent under/over hydration. To compare prescribed feed with feed volume delivered
▪ Medicines and drug / nutrient interaction	Daily	As clinically indicated	Note that enteral feeds can reduce absorption of some medicines and this may be clinically important for medicines with narrow therapeutic ranges. (See best practice statement for further information).
Gastrointestinal function			
• Gastrointestinal function e.g. stool charts	Daily	Weekly	Altered bowel habit is common in enteral tube feeding
• Gastric residual volumes (GRV) where clinically indicated e.g. low conscious levels	Four hourly when establishing feed in ICU/HDU situation	As clinically indicated	GRV can be used to assess gastric emptying. Gastroparesis may increase the risk of oesophageal reflux and pulmonary aspiration
• Nausea and vomiting	Daily	Daily	To ensure tolerance of enteral nutritional support

Feeding Devices			
• Position of nasogastric tube feeding tube. Note positional marking of tube at nose.	Prior to administration of feed, fluids and medicines	Prior to administration of feed, fluids and medicines	Prevention of aspiration pneumonia pH <5.5 indicates gastric placement **(see Nasogastric Decision Tree)** Check that position of nasogastric tube has not become displaced.
• Nasal passages (when nasogastric Tube is in situ)	Daily	Daily	To check for nasal ulceration/irritation
• Condition of enteral feeding tube	Daily	Daily	To observe for cracks/leaks in the tube, To observe for movement in the tube. Additional monitoring will be required for Jejunostomies and Gastrostomies. **(refer to relevant section of Best Practice Statements)**
• Stoma site	Daily	Daily	Observe for redness, inflammation or over granulation
• Type of feeding device and retention method	At the start of feeding and any subsequent changes noted	When changed	Ensure that all feeding devices are correctly monitored

Review team:
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Appendix 5 Adult Dietetic post discharge monitoring

Monitor	Suggested Frequency	Rationale
Logistics • Competency of patient/carer • Additional training needs • Storage facilities for feed • Position of pump and power point • Assist with problem solving • Problems with feeding pump (if applicable)	Initial Home Visit At each review appointment	To ensure that the practicalities of feeding are achievable.
Nutritional • Calculate nutritional intake and compare to nutritional requirements. • Recent dietary and fluid intake using a 24-hour recall or food diary • Compare prescribed feed versus actual feed taken • Reason why feed not given • Tolerance of feeding regime	At each review appointment	To ensure that the individual is receiving the amount of nutrients prescribed to meet the nutritional requirements and that the methods of feeding are still the most appropriate.
Anthropometric • Weight, Height, BMI • Changes in weight • Skinfold thickness, mid arm circumference if appropriate.	At each review appointment	To assess ongoing nutritional status, determine whether nutritional goals are being achieved (e.g. maintain or improve nutritional status). To take into account both body fat and muscle.
Biochemical • Urea and electrolytes • Liver function tests • Albumin • CRP • Haemoglobin, Iron & Ferritin • Trace elements e.g. zinc, magnesium • Vitamins e.g. Vit B12, Vit B2, Vit B6, Vit C	As clinically indicated *****	To ensure the patient is metabolically stable and that enteral feeding is meeting requirements. Abnormalities should be noted and where possible the enteral feed altered to correct them. Where this is not possible they should be corrected by oral or intravenous supplementation. **Biochemical indicators should be assessed in conjunction with other markers of nutritional status and not in isolation.**
Clinical • General condition and appearance • Gastrointestinal function • Fluid balance • Problems with feeding tube and stoma site if appropriate • Pharmacological therapy and drug/nutrient interactions • Care of feeding tube and stoma site	At each review appointment	To establish that the patient is tolerating the enteral feeding and that the route of administration and treatment remain appropriate. Note that enteral feeds can reduce absorption of some medicines and this may be clinically important for medicines with narrow therapeutic ranges.

*** Factors that may indicate the need for more frequent monitoring**:

- Any biochemical abnormalities during recent hospital admission.
- Poor feed tolerance leading to the patient regularly receiving less than prescribed volume
- Presence of malabsorption
- Patients who are receiving additional electrolytes and vitamins
- Patients who are receiving feeding regimens that do not provide the Recommend Daily Amounts for vitamins and minerals.

NICE (2006) Nutrition support for adults Oral nutrition support, enteral tube feeding and parenteral nutrition. Clinical Guideline 32

Appendix 6 Paediatric monitoring

Monitoring of growth parameters and nutritional requirements of paediatric patients on home enteral nutrition is based primarily on individual patient need. There are no evidence-based guidelines regarding biochemical, growth and clinical monitoring in this patient group. The following consensus guidelines, developed in a paediatric tertiary referral centre, are based primarily upon clinical experience.

Biochemical monitoring

Any child receiving at least 50% of their daily nutritional requirements as enteral tube feeds should have blood collected for the following biochemical tests:

Baseline evaluation:
Urea and electrolytes, creatinine, glucose, liver function tests
Calcium/phosphate/magnesium
Albumin/protein
C-reactive protein, full blood count
Zinc, copper, selenium (2ml LiHep in tube with push-on cap)
Vitamins A/D/E (2ml LiHep)
PTH (1ml EDTA)
Vitamin B12 / folate (1ml plain)
Ferritin (0.5ml LiHep)

It is recommended that the above bloods are repeated at 6 months after baseline and then annually thereafter.
If biochemical imbalances or deficiencies/excessive levels of individual nutrients are identified, then closer intervals for reassessment may be appropriate.

Urinary sodium and creatinine will often be a useful measurement in infants with stomas, short bowel syndrome, gastroschisis and cystic fibrosis. The frequency should be based on individual patient need.

References:
Johnson TE, Janes SJ, MacDonald A, Elia M, Booth IW (2002) An observational study to evaluate micronutrient status during enteral feeding Archives of Diseases in Childhood 86 411-415

Jones M, Campbell KA, Duggan C, Young G, Bousvaros A, Higgins L, Mullen E (2001) Multiple micronutrient deficiencies in a child fed an elemental formula Journal of Paediatric Gastroenterology and Nutrition 33 602-60

Growth parameters

Infants (<2years)
Naked weight, length and head circumference should be measured and plotted on an appropriate centile chart and corrected age for prematurity should always be used for infants born <37/40 until 2 years:

Enteral feeding tube placement
2 weeks
2 monthly until 12 months
3-6 monthly thereafter

2 years - Adolescents
Weight and height should be measured and plotted on an appropriate centile chart at the following intervals:

Enteral feeding tube placement
1 month
3-6 monthly thereafter

Clinical monitoring
At the above time intervals (for growth parameters) a full clinical assessment should be undertaken to include the following:

- Nutritional assessment
    - intake from enteral feeds and oral diet
    - nutritional requirements adjusted for weight/ age/ stress factors/ physical activity

- General condition, appearance, energy levels

- Gastrointestinal function
    - vomiting / reflux
    - bowel frequency / consistency
    - abdominal distension / pain

- Check fluid status
    - include feed, water flushes, oral diet, medicines

- Infusion rate and pump

- Medicines and medicine / nutrient interactions

- Check feeding tube and stoma site

Appendix 7

PROCEDURE FOR TRANSITION OF HETF CLIENTS FROM PAEDIATRIC TO ADULT SERVICES

TIME	PERSON	ACTION
When client is 15 ½ years	Community Children's Nurse (CCN)	Send transfer information using Transition form CCN to District Nurses, and: • CENT Dietitian • Relevant District Nurse • Paediatric Dietitian • Nutrition Nurse • Patient/Carer • Lead Paediatric consultant • School Nurse • Dept of Community Child Health • GP • Others as appropriate Give patient information leaflet
Between 15 ½ - 16 years	Community Children's Nurse CENT Dietitian	• Joint Home visit to discuss equipment requirements and ongoing supply arrangements
Between 15 ½ - 16 years	CENT Dietitian	• Set up ongoing supply arrangements. Feed and giving sets, syringes, tubes from Home Delivery Company. • Change funding information with Home Delivery company • CENT Dietitian provides written information regarding supplies (using tube feed supplies form) and send to Patient/carer, CCN, District Nurse and GP, Paediatric Dietitian, Paediatric Budget Holder and Transitions Co-ordinator (email or post).
16 years	Paediatric Dietitian CENT Dietitian	Joint consultation to: • Meet client and carers • Review dietetic care • Growth charts • Diagnosis Location either home visit/clinic/school CENT dietitian will use LETFTF and Initial home visit sheet for documentation.
17 years	Paediatric Dietitian CENT Dietitian	Joint consultation to: • Review dietetic care • Growth charts Location either home visit/clinic/school
17 ½ years	Paediatric Dietitian CENT Dietitian	Joint consultation to: • Review dietetic care • Growth charts Location either home visit/clinic/school
18 years or on leaving school	Paediatric Dietitian CENT Dietitian	Joint consultation to Discharge into Adult Dietetic Service: • Review dietetic care • Growth charts Location either home visit/clinic/school If adult consultant known write to consultant

		informing them of dietetic care.

NOTES:

- This applies to Transition clients within NHS Lothian
- This does not include Cystic Fibrosis clients
- For clients who require residential/ day care placement the Paediatric Dietitian will inform the CENT Dietitian as soon as notification of placement has been received.
- The CENT Dietitian will organise training for residential care settings as required.
- This procedure is for guidance each client will be assessed on an individual basis.