Lanarkshire Enteral Tube Feeding

Best Practice Statements For Adults

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Contents:

This document is the second version of the Lanarkshire Enteral Tube Feeding Best Practice Statements for Adults produced and reviewed by the Lanarkshire Multidisciplinary Enteral Feeding Group in April 2018. It was originally adapted from NHS Lothian Enteral Feeding Best Practice Statements for Adults and Children

Its purpose is to provide comprehensive guidance for evidence based practice in relation to enteral tube feeding in adults for Healthcare staff. To facilitate and improve the organisation and quality of care for adult enteral feeding patients across NHS Lanarkshire and Lanarkshire Care Homes

Where possible these statements have been based on evidence and/or research but when this was not available some decisions are based on consensus of opinion and any related reference(s) listed. Wide consultation took place before the recommendations were finalised.

It is intended that these best practice statements should be incorporated into the appropriate local policies, protocols and procedures.

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I. GENERAL ISSUES	STATEMENT	EVIDENCE / REFERENCE
1.1 Prior to commencing feeding -	Enteral feeding should never be started without consideration of all related ethical issues and must be in the best interest of the patient. Access route should be decided on an individual basis according to the clinical indications, treatment plan and nutritional state of the patient. When invasive techniques are used to establish the access route consent must be obtained and the possible complications explained to the person giving consent. Capacity to consent should be assessed in accordance with Adults with incapacity (Scotland) Act 2000 – section 47 If an individual is under a compulsory treatment (CTO) order under the Mental Health Act and they refuse consent, a second opinion from a designated medical practitioner (DMP) appointed by the Mental Welfare Commission agrees that nutrition by artificial means is in the individuals best interest Nutrition and Hydration provided by artificial means is regarded in law as a medical treatment and should be treated in the same way as other medical interventions. Discussion prior to commencing tube feeding should include advance planning. There may be a time when enteral feeding may be no longer deemed in the patient's best interest	PENG – A pocket guide to clinical nutrition 4th edition British dietetic association Todorovic & Micklewright (2011) Fletcher (2014) Adult enteral device selection: which is the best for the patient? British Journal of Community Nursing October 19 suppl 10 :s19 – 23 Adults with Incapacity (Scotland) Act 2000 – Section 47 www.scotland.gov.uk/publications Good Practice Guide - Nutrition by artificial means(March 2015) www.mwcscot.org.uk GMC (2010) Treatment and Care towards the end of life: good practice in Decision making. www.GMC-uk.org http://www.bapen.org.uk/pdfs/decision-trees/ethics-and-clinically-assisted-nutrition.pdf
1.2 Documentation following enteral feeding tube insertion	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 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 dated and signed with the name and designation and the time the record was made. When an enteral feeding tube has been placed (or replaced) document the following information in the patient's medical notes / nursing / care plans (as appropriate depending on local arrangements): ▪ Date ▪ 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 for replacement ▪ Method of tube removal ▪ Name, signature and designation of person placing the tube ▪ Any reorder number for tube or replacement part	Nursing and Midwifery Council (2015) Record Keeping: Guidance *for Nurses and Midwives.* *www.nmc-uk.org* *British Dietetic association (2008) Code of Professional conduct* *www.bda.uk.com/publications* Health and Care Professions Council (2016) *Standards of Conduct, performance and ethics.* *www.hcpc-uk.org* NHS QIS Best practice Statement (May 2008)*Gastrostomy tube Insertion and Aftercare: (For Adults being cared for in the community)* NPSA /2011/PSA002 National Patient Safety Agency. Reducing the harm caused by misplaced Nasogastric feeding tubes in adults, children and infants. Role of nursing staff Post feeding tube Insertion pathway http://www.clinicalknowledgepublisher.scot.nhs.uk/Published/PathwayViewer.aspx?fileId=2537 Role of hospital dietitian post feeding tube insertion pathway http://www.clinicalknowledgepublisher.scot.nhs.uk/Published/PathwayViewer.aspx?fileId=2536

ISSUE	STATEMENT	EVIDENCE / REFERENCE
Documentation following enteral feeding tube insertion	Post 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, fresh bleeding or external leakage of gastric contents **stop the feed/medication delivery immediately**. If the patient is still in hospital obtain medical advice urgently and consider ct scan, contrast study or surgical review. This warning should also be included in discharge information to GP's, community nurses and care home staff Where patients are discharged within 72 hours of gastrostomy insertion patients should be provided with this information and advised to seek urgent medical attention if they experience any of the symptoms	NPSA/2012/RRR001 National Patient Safety Agency Rapid Response Report. Early detection of complications after gastrostomy http://www.nrls.npsa.nhs.uk/
1.3 Training and changing enteral feeding tubes	Staff must possess the knowledge, skills and ability required for lawful, safe and effective care and must only practice those activities in which they have received appropriate education, training and experience. Any staff involved in changing orogastric, nasogastric, naso-jejunal tubes or replacing gastrostomy or jejunostomy tubes or replacing feeding tube ends must be competent to undertake the procedure in accordance with agreed standards.	Nursing and Midwifery Council (2015) The NMC Code of Professional Conduct: *Standards for conduct, performance and ethics.* *www.nmc-uk.org* Health Professions Council (2016) *Standards of conduct, performance and ethics.* http://www.hcpc-uk.co.uk/ NICE (2006) CG32 Updated Aug 2017 Nutrition support in adults – *Oral nutrition support, enteral tube feeding and parenteral nutrition.* *https://www.nice.org.uk/guidance* *NHS Lanarkshire Competency Checklist for Gastrostomy Tube Change Appendix 9a* *NHS Lanarkshire Competency Checklist for Button Gastrostomy Tube change Appendix 9b* *NHS Lanarkshire Competency Checklist for Gastrostomy Tube maintenance appendix 10a*
1.4 Initiating feeding regimen post enteral feeding tube insertion	▪ Orogastric, nasogastric, naso-jejunal feeding can commence immediately once tube position has been confirmed. ▪ Gastrostomy evidence shows that early feeding (4- 6 hours) following tube insertion is both safe and effective. ▪ Surgical jejunostomy commence feeding 6-12 hours after tube placement. As recommended by Manufacturers guidelines It is not necessary to use water (except for flushing) for the first 24 hours; the prescribed feed may be used as soon as tube feeding starts.	*NHS Lanarkshire Competency Checklist for Button Gastrostomy Tube maintenance appendix 10b* 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) CG32 Updated Aug 2017 Nutrition support in adults – *Oral nutrition support, enteral tube feeding and parenteral nutrition.* *https://www.nice.org.uk/guidance*

ISSUE	STATEMENT	EVIDENCE / REFERENCE
1.5 The use of water in enteral feeding	**The following advice applies to all types of enteral tube feeding.** **Hospital:** ▪ Sterile water should be used. Unused water should be discarded 24 hours after the bottle has been opened. **Community and Immuno-compromised patients** The consensus of the group has been to recommend cooled freshly boiled water for tube flushing in the community for all patients so that there is no distinction made between patients who are or may become immunosuppressed during their treatment. The NICE guidance also recommends cooled freshly boiled water for patients feeding into the jejunum. Guidance for use of storage containers and jugs for water: ▪ When using cooled boiled water, water should be boiled and allowed to cool before decanting into jug – this should be changed at least every 24 hours. ▪ 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 ▪ If the jug is not used immediately it should be kept covered until required	NHS Lanarkshire Acute Operating Division *Enteral Tube Feeding Infection Control Guidelines.* NHS Lanarkshire Primary Care Operating Division *Enteral Tube Feeding Infection Control Guideline* NICE (2012) infection control – *Prevention of healthcare-associated infections in primary and community care* https://www.nice.org.uk/guidance
1.6 Flushing enteral feeding tubes	Regular flushing of the enteral feeding tube 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 the tube patent. A push/pause technique should be used as this is more effective in cleaning the inner walls of the tube 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) Take care if the patient is on a fluid restriction – flushing volumes may need to be altered.	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 Enteral Tube Flushing White,R & Bradnam,V (2015) Handbook of Drug Administration Via Enteral Feeding Tubes,3rd Edition. Pharmaceutical Press NPSA /2007/19 National patient Safety Agency. Promoting safer measurement and administration of liquid medications via oral and other enteral routes. http://www.nrls.npsa.nhs.uk/

ISSUE	STATEMENT	EVIDENCE / REFERENCE
1.7 Type of Syringe used for feeding and administration of medication	Enfit enteral syringes should be used at all times and the largest size commonly 60 mls should be used. Lanarkshire currently use single use syringes in the hospital. A syringe can be used for an episode i.e. flush, medication, flush then dispose. Multi-use syringes are used in the community. Labelled as single patient use - these syringes can be used within the manufacturer's recommendation of one week. When measuring medicines with syringes, use the size of syringe appropriate to the volume of medicine to be given i.e. use a 3ml syringe to administer a 2.5ml dose. Smaller syringes produce greater pressure and may spilt the tube therefore administer slowly	White,R & Bradnam,V (2015) Handbook of Drug Administration Via Enteral Feeding Tubes,3rd Edition. Pharmaceutical Press NPSA /2007/19 National patient Safety Agency. Promoting safer measurement and administration of liquid medications via oral and other enteral routes. http://www.nrls.npsa.nhs.uk/
1.8 Managing blocked enteral feeding tubes	Warm water is the best flush solution for a blocked tube. Sodium bicarbonate solution or instillation of a pancreatic enzyme, which should be prescribed, may also unblock tubes. No evidence for recommended strength of sodium bicarbonate solution but 5% (or 1 teaspoon in 100mls warm water is suggested). 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.	
1.9 Patient position during feeding	To minimise aspiration, patients should be fed propped up by 30 degrees or more and should be kept propped up for 30 - 60 minutes after feeding finishes	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 PENG – A pocket guide to clinical nutrition 4th edition British dietetic association Todorovic & Micklewright (2011)
1.10 Delivery of bolus feeds	Bolus feeding refers to a volume of feed given over a short space of time either by gravity or by a feeding pump. When using a syringe do not use the plunger to administer the bolus. The rate of delivery should not exceed 30mls / minute for adults. Maximum volume 400mls at any one time. For children and young people the actual volume will depend on their size and tolerance	https://www.nutriciahcp.com/uploadedfiles/main/sub_sites/ons_site/ons/studies/bolusfeedinginadultsapracticalguide.pdf

ISSUE	STATEMENT		EVIDENCE / REFERENCE
1.11 Causes and management of nausea, bloating & vomiting	Causes Too rapid administration Feed too cold Side effects of medicines Constipation Position of feeding tube Delayed gastric emptying	Checklist Reduce rate or bolus amount Ensure feed is at room temperature Review prescribed medicines Prescribe anti-emetics Medical review Contrast x-ray Check gastric aspirate – consider gastric motility stimulants	McAtear, CA (1999) *Current perspectives on enteral nutrition in adults* A BAPEN Working Party Report BAPEN. Todorovic, V & Mickelwright, A (2011) *A Pocket Guide to Clinical Nutrition* 4th edition. Parenteral and Enteral Nutrition Group of the British Dietetic Association Stroud, M, Duncan, H & Nightingale, J (2003) *Guidelines for enteral feeding in adult hospital patients* GUT vol 52 SuppVII NICE (2006) CG32 Updated Aug 2017 Nutrition support in adults – *Oral nutrition support, enteral tube feeding and parenteral nutrition.* https://www.nice.org.uk/guidance
1.12 Causes and management of diarrhoea	Causes Malabsorption Immunological Pharmaceutical Infection Too rapid administration Intolerance Other	Checklist Medical review of bowel habits and pre-existing bowel disorders, consider pancreatic enzyme therapy or peptide feed Medical review Review recent and current drug therapy Stool samples for analysis Reduce rate / bolus amount Secondary lactose intolerance post gastroenteritis Review fibre intake Review recent dietary intake Check biochemistry 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 & Mickelwright, A (2011) *A Pocket Guide to Clinical Nutrition* 4th edition. Parenteral and Enteral Nutrition Group of the British Dietetic Association
1.13 Causes and management of constipation	Causes Dehydration Side effects of medicines Low residue feed Immobility	Checklist Assess fluid status e.g. fluid balance chart and biochemistry Review prescribed medicines Prescribe laxatives Consider use of fibre feed Medical review	McAtear, CA (1999) *Current perspectives on enteral nutrition in adults* A BAPEN Working Party Report BAPEN. Todorovic, V & Mickelwright, A (2011) *A Pocket Guide to Clinical Nutrition* 4th edition. Parenteral and Enteral Nutrition Group of the British Dietetic Association
1.14 Causes and management of overflow	Causes Constipation	Checklist Enema/Laxatives Fibre review Assess fluid status e.g. fluid balance chart and biochemistry	McAtear, CA (1999) *Current perspectives on enteral nutrition in adults* A BAPEN Working Party Report BAPEN. Todorovic, V & Mickelwright, A (2011) *A Pocket Guide to Clinical Nutrition* 4th edition. Parenteral and Enteral Nutrition Group of the British Dietetic Association

2. REFEEDING SYNDROME

ISSUE	STATEMENT	EVIDENCE / REFERENCE
ADULT GUIDANCE ONLY	**Definition** "Severe fluid and electrolyte shifts and metabolic abnormalities associated with refeeding malnourished patients" **Patients at Risk** **Risk Category** / **How to identify patient** At risk patient: Any patient who has had little or no food intake for >5 days High Risk patients: Any patient in a starved state is a higher risk of re-feeding syndrome if they have any of the following: - BMI <16kg/m^2 - Unintentional weight loss >15% in the last 3-6/12 - Little to no nutrition for >10 days - ↓ levels of potassium, magnesium, phosphate prior to feeding High Risk patients: Or if a patient has 2 or more of the following: - BMI <18.5kg/m^2 - Unintentional weight loss >10% in the last 3-6/12 - Little to no nutrition for >5 days - A history of alcohol abuse or the use of some drugs including insulin, chemotherapy, antacids or diuretics Extremely high risk patients: Patients in a starved state with BMI <14kg/m^2 Very little or no nutrition for >15 days Consequences: Hypophosphataemia Hypokalaemia Hypomagnesiaemia Fluid balance abnormalities Vitamin deficiency Treatment Refer to local NHS Lanarkshire Refeeding Guidelines January 2017	NICE (2006) CG32 Updated Aug 2017 Nutrition support in adults – *Oral nutrition support, enteral tube feeding and parenteral nutrition.* https://www.nice.org.uk/guidance Todorovic, V & Mickelwright, A (2011) *A Pocket Guide to Clinical Nutrition* 3^{4th} edition. Parenteral and Enteral Nutrition Group of the British Dietetic Association NHS Lanarkshire Refeeding Syndrome Guideline January 2017 http://firstport2/staff-support/nutrition-and-dietetics/hairmyres/Documents/Refeeding%20Syndrome%20Guideline%20Update%202017.doc

3. GASTROSTOMY STOMA AND TUBE CARE

ISSUE	STATEMENT	EVIDENCE / REFERENCE
3.1 Care following initial stoma formation	Gastrostomy tubes are commonly used for patients who require enteral feeding longer term, and may be inserted endoscopically, radiologically or surgically Following initial formation of the stoma there may be slight bleeding or leakage from the wound. The stoma should be left for 24 hours and cleaned aseptically 24-48 hours post-formation. During the first 14 days: ▪ The patient should not have a bath to reduce the risk of bacterial entry to the peritoneum. Showers are acceptable. ▪ The external fixator must not be loosened. If there is pain on feeding, prolonged or severe pain post-procedure, fresh bleeding or external leakage of gastric contents **stop the feed/medication delivery immediately** and seek medical advice	Fletcher (2014) Adult enteral device selection: which is the best for the patient? British Journal of Community Nursing October 19 suppl 10 :s19 – 23 Pendlebury, J. (1997) *Feeding by PEG* Community Nurse May p11-12. CREST (2004) *Guidelines for the management of enteral tube feeding in adults* NICE (2006) CG32 Updated Aug 2017 Nutrition support in adults – *Oral nutrition support, enteral tube feeding and parenteral nutrition.* https://www.nice.org.uk/guidance NPSA/2012/RRR001 National Patient Safety Agency Rapid Response Report. Early detection of complications after gastrostomy http://www.nrls.npsa.nhs.uk/
3.2 Daily stoma / tube care	Clean area with a clean disposable cloth and water, dry thoroughly. First 14 days rotate tube 360° (not jejunostomy, surgically placed or radiologically placed tubes). If unsure whether a tube should be rotated, check with the person who placed the tube or manufacturer guidelines. After 14 days the external fixator should be loosened and the tube advanced weekly for cleaning and repositioned and to minimise the risk of buried bumper syndrome.	NICE (2012) *infection control – Prevention of healthcare-associated infections in primary and community care.* https://www.nice.org.uk/guidance NHS QIS Best practice Statement (May 2008) *Gastrostomy tube Insertion and Aftercare: (For Adults being cared for in the community)*
3.3 Leakage around gastrostomy site	Consider the following ▪ Check the internal fixator is against the inner gastric wall by gently pulling the tube outwards until resistance is felt and ensuring external fixator is close to skin, leaving space of 2-3 mm to allow slight movement. ▪ If a balloon-retained tube, check balloon is still patent and is correctly inflated. ▪ French gauge of tube may be incorrect, discuss with specialist. ▪ Consider the use of barrier preparation (see below) ▪ Check for infection by taking a swab of stoma site and treat accordingly. ▪ Avoid occlusive dressings as these can encourage and trap moisture	Crawley-Coha T (2004) *A Practical Guide for the Management of paediatric Gastrostomy Tubes based on 14 years experience.* Journal of Wound, Ostomy & Continence Nursing 31(4) 193-200.

ISSUE	STATEMENT	EVIDENCE / REFERENCE
3.4 Stoma problems **Exudate**	Check site daily for level of leakage Refer to 3 Step Sin Barrier Guide	Acute 3 Step Barrier Guide Primary Care 3 Step Barrier Guide
Infection (Bacterial & Fungal)	Infection can be minimised by scrupulous hygiene of the stoma site. Obtain swab for bacteriology if any exudate or inflammation present.	
Candida	Tube often appears to have bumpy appearance. A burst balloon or leaking feeding port can also be an indication of Candida. If Candida is suspected - gastric aspirate should be sent to microbiology, if yeasts are confirmed they should be treated with fluconazole 50mg for 7-10 days and then replace the tube.	
Hypergranulation	Possible reasons: • Insufficient rotation of tube • Excessive movement causing friction • Poorly managed exudate • Infection • Hyper-granulation can and may reduce naturally and heal without intervention • Tissue viability Guidance document below	

Hypergranulation

Definition:

The uncontrolled formation of granular tissue in a wound, it is either bubbly/bumpy in appearance in the wound bed or proud/trumpeting out of the wound or its edges. Hypergranulating tissue prevents the wound from progressing and epithelialisation to take place. Due to its vascularisation it is fragile and can easily bleed during cleansing and dressing change.

Possible causes include	Assess	Plan	Implement	Evaluate
1.Moisture	Exudate vs. the right foam, is the absorbency right for this wound? Consult formulary guidelines re capacity i.e. PolyMem light exudate, Zetuvit high exudate Exudate vs. the right renewal frequency, do you need to review the dressing more regularly, daily instead of every 2-3?	Double Foam	Cleanse. Dry. Apply barrier. Apply simple non adhesive foam then secondary adhesive foam, change daily.	Please undertake a formal wound assessment at least once a week, ask another member of the team to be a part of this so that a consensus can be reached. Is the granular tissue flatter in appearance? Has it changed colour? Is it less fragile/ bleeding when changing the dressings? Do you need Tissue Viability?
2.Infection	Is there an increase in heat, odour, exudate, pain in the wound? If more than one then take a swab to isolate infection.	Use appropriate antimicrobial dressing.	Cleanse. Dry. Apply barrier. Confer with wound formulary, dry antimicrobial dressing should be renewed as per individual exudate requirements dictate	As above. After a two week challenge do you need to continue with an antimicrobial dressing or change the treatment? Do you need Tissue Viability?
3.Devices/ Friction	Is the device ill fitting and causing friction	How can the device be secured to reduce excessive movement? Be mindful of positioning, comfort and painless removal of adhesive strips.	Cleanse. Dry. Apply barrier. Some devices i.e. PEG do not advise dressings between the skin and phalange so may just need regular skin care to reduce moisture	As above. Do you need to refer to orthotics or medical team for advice around the device fitting or resizing?

NHS Lanarkshire Tissue Viability Service April 2018

ISSUE	STATEMENT	EVIDENCE / REFERENCE
3.5 Replacing a feeding tube adaptor.	There are replacements feeding adaptors for some gastrostomy tubes usually PEG tubes. Staff involved in the replacement of feeding adaptors should have received appropriate training. Remove existing end and insert new feeding adaptor. Some gastrostomy tubes do not have replacement feeding adaptors therefore the feeding tube will need to be replaced. Staff involved in tube replacement should have received appropriate training. Follow manufactures guidelines.	
3.6 Frequency of Changing Tubes	When a feeding tube has been placed, document approximate date for next replacement. Always follow manufacturer's guidelines. As a guide ▪ Primary PEG tube with internal bolster: 18-24 months ▪ Balloon-retained gastrostomy tube: 3-6 months ▪ Low profile device (internal retention bolster): 18-24 months. ▪ Balloon replacement low profile device: 6 months.	NHS QIS Best practice Statement (May 2008) *Gastrostomy tube Insertion and Aftercare: (For Adults being cared for in the community)* Planned replacement of primary PEG Tube http://www.clinicalknowledgepublisher.scot.nhs.uk/Published/PathwayViewer.aspx?fileId=2538 Planned replacement of balloon retained enteral feeding tubes (G tube) http://www.clinicalknowledgepublisher.scot.nhs.uk/Published/PathwayViewer.aspx?fileId=2539
3.7 What to do when a gastrostomy tube falls out	If a gastrostomy tube falls out then it should be replaced as soon as practicable, preferably within 2 hours, or the stoma may start to close. Mature stomas may take up to 48 hours or longer to heal but some will close more quickly. If a balloon gastrostomy is to be used as a replacement percutaneously it must be via an established tract. An established tract is usually considered safe from 4 – 6 weeks post insertion of the primary placement. The action will depend on the length of time the stoma has been formed: Less than 4 weeks — Refer patient back to the unit where the tube was originally placed. Between 4 and 12 weeks — Try to put in a balloon-retained replacement tube. Do not use the tube for feeding or medicine administration until tube placement has been checked by a competent practitioner. More than 12 weeks — Insert a balloon-retained replacement tube. Position can be confirmed by gastric aspiration – aspirate should be checked using pH indicator and pH of 5.5 or less recorded. Recommence feed as per established regime Ensure a spare tube of the correct size is available. The permanent replacement tube or temporary tube should be the same or similar size to the tube, which has fallen out. Replacement tubes can be ordered via the Enteral Feeding Dietitian. If a replacement tube is not available an Enplug stoma stopper can be used to keep to stoma open. These can be ordered for individual patients via the Enteral Feeding Dietitian. Any staff involved in changing gastrostomy tubes should have received appropriate training.	NNNG 2016 –Good Practice Guideline – Changing of a Balloon Gastrostomy tube into the Stomach for Adults and children http://www.nnng.org.uk/download-guidelines/ Procedure to replace a Balloon Retained Gastrostomy tube Appendix 9 NHS QIS Best practice Statement (May 2008) *Gastrostomy tube Insertion and Aftercare: (For Adults being cared for in the community)* Nicholas et al (2015) First balloon gastrostomy changes in the community 12 weeks post stoma formation: an audit of outcomes. Abstracts / Clinical Nutrition ESPEN 10(5): ppe187 –e188 https://www.gbukenteral.com/pdf/ENPLUG_Literature.pdf NHS Lanarkshire Procedure to replace a balloon retained gastrostomy tube Appendix 9 *NHS Lanarkshire Self Assessment Competency Checklist for Gastrostomy Tube change Appendix 10a* *NHS Lanarkshire Self Assessment Competency Checklist for Button Gastrostomy Tube change Appendix 10b*
3.8 Fasting prior to and after permanent gastrostomy tube removal	No evidence to suggest that fasting is required before or after permanent tube removal but it may be appropriate for the patient to fast for 4 hours before the tube is removed. Consider the needs of the individual patient but do not remove the tube just after food or drink.	

4. BALLOON RETINED GASTROSTOMY TUBES

ISSUE	STATEMENT	EVIDENCE / REFERENCE
4.1 Changing Balloon Retained Gastrostomy tube.	A balloon gastrostomy is placed directly through the abdomen into the stomach and held in place by an inflatable balloon. Tubes range in size from 10 Fr to 24Fr gauge. Balloon volumes vary according to the tube size and manufacturers recommendation – the balloon valve will advise of the maximum inflation of the tube you are using. When a feeding tube has been placed, document approximate date for next replacement. Always follow manufacturer's guidelines. As a guide: ▪ Balloon-retained gastrostomy tube: 3-6 months ▪ Balloon retained low profile device: 3-6 months. Life span of the tube can vary depending on medication taken, acidity of stomach, frequency of tube use and fungal infection. In Lanarkshire we have reached a consensus that standard balloon retained gastrostomy tubes will be replaced between 4 and 5 months as we had been experiencing balloon failure leading to emergency tube change when left at 6 monthly intervals. Low profile gastrostomy tubes can be changed at 6 months unless otherwise advised.	OJO O (2011) Balloon gastrostomy tubes for long-term feeding in the community. British Journal of Nursing 20(1): 34-38 NNNG 2016 –Good Practice Guideline – Changing of a Balloon Gastrostomy tube into the Stomach for Adults and children http://www.nnng.org.uk/download-guidelines/ NHS Lanarkshire Procedure to replace a balloon retained gastrostomy tube – appendix 9 Self Assessment Competency Checklist for Balloon Gastrostomy change - appendix 10a Self Assessment Competency Checklist for Button Gastrostomy change - appendix 10b Halyard Health - Information for Patients and Carers – Entral Gastrostomy tube Halyard Health – MIC KEY Button Gastrostomy Information Leaflet
4.2 Frequency of checking the balloon in balloon-retained tubes	Follow manufacturer's guidelines. Ideally checked weekly, checking on the same day each week is easier to remember. After balloon check, or tube replacement test gastric aspirate with pH indicator, as this is the most reliable method to check correct gastrostomy tube placement, a pH of 5.5 or less is required. Document pH recorded in patient record.	Self Assessment competency checklist for balloon retained gastrostomy maintenance - appendix 11a Self Assessment competency checklist for button gastrostomy balloon maintenance – appendix 11b
4.3 Water used in balloon maintenance	No evidence to suggest a preference for sterile water or cooled boiled. Follow manufacturer guidelines.	Balloon Retained Gastrostomy Balloon Replacement Record Appendix 12 Balloon Retained Gastrostomy Balloon Volume Record Appendix 13
4.4 Unable to remove water from balloon	Check that the correct syringe is being used – a luer slip syringe should be used. Ensure it is attached to balloon port firmly. Try again, if unsuccessful the balloon may be empty or burst. Carry out balloon maintenance and try to withdraw the water just placed to ensure the device is inflated. If no water comes out assume the balloon has burst and replace tube.	

5. RADIOLOGICALLY INSERTED GASTROSTOMY TUBE (RIG)		
ISSUE	**STATEMENT**	**EVIDENCE / REFERENCE**
5.1 Care of sutures following insertion of radiologically inserted gastrostomy RIG	Radiologically Inserted Gastrostomy tubes are used when it is unsuitable for a patient to have an endoscope passed and is often the tube of choice in patient with H&N cancer where there may be a risk of malignant cell relocation from the primary site of the disease to the stomach. Around the stoma there may be 2 - 4 sutures in situ. If suture locks are in place do not rotate as it may weaken the suture and cause early detachment. Do not rotate or advance the gastrostomy for the first 2 weeks after placement. If balloon retained do not check the gastrostomy balloon for the first 2 weeks. Thereafter maintenance is the same for a balloon gastrostomy tube. Please note that the gastrostomy tube is not held in place by the sutures. The sutures secure the stomach wall to the abdominal wall to allow the stoma to be formed. These sutures should dissolve or be removed post procedure, follow the manufacturer's guidelines. If a suture lock disc is used these should fall off within 3 weeks, if not raise disc and cut sutures and remove disc and sponge. Internal suture material will pass through the gastrointestinal tract. Some bleeding is normal when removing sutures.	OJO O & Brooke J: (2016) Recent Advances in Enteral Nutrition Nutrients 8,709 Halyard Health – Radiologically Inserted Balloon Gastrostomy patient Information leaflet NNNG 2016 –Good Practice Guideline – Changing of a Balloon Gastrostomy tube into the Stomach for Adults and children http://www.nnng.org.uk/download-guidelines/

6. JEJUNOSTOMY TUBE CARE

ISSUE	STATEMENT	EVIDENCE / REFERENCE
6.1 Insertion Technique	**Percutaneous Endoscopic Jejunostomy** Placed via endoscope and or mini-laparotomy Percutaneous Endoscopic Gastrostomy with Jejunal Extension (PEGJ) / Transgastric Jejunostomy Endoscopic and or radiological placement **Surgical Needle Catheter** Placed at laparotomy **Surgical Jejunostomy (Balloon retained gastrostomy)** Placed at surgical laparotmy or laparoscopically	Stayner, J L et all (2012) Feeding Tube Placement : Errors and Complications Nutrition in Clinical Practise 27, 6 738-748
6.2 Care following initial stoma formation	Observe site for swelling or bleeding, if present contact medical staff. Immersion bathing should be avoided for the first 14 days post insertion. Showering is permitted. **DO NOT ROTATE THE TUBE** **Percutaneous Endoscopic Jejunostomy** ▪ External sutures 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. **Percutaneous Endoscopic Gastrostomy with Jejunal Extension (PEGJ)** ▪ Any dressings applied should be removed after 24hrs ▪ Clean the skin around the stoma with saline. ▪ If the external fixator requires adjusting this should be undertaken by a clinician. **Transgastric Jejunostomy** ▪ Any dressings applied should be removed after 24hrs ▪ Clean the skin around the stoma three times daily **Surgical Needle Catheter** ▪ **Do not remove external sutures or release external fixator** ▪ Contact medical staff to re-suture as required. ▪ Employ an aseptic technique when cleaning. ▪ Clean 3 times week or more frequently if discharge observed. ▪ Clean around suture site and dry thoroughly. Apply sterile film dressing. **Surgical Jejunostomy (Balloon retained gastrostomy)** ▪ Employ an aseptic technique when cleaning for the first 48 hours post insertion.	Cottee, S (2002) *Jejunal Feeding* Complete Nutrition 2(2) 32-34 Pendlebury, J (1997) *Feeding by PEG* Community Nurse May 11-12 Jejunal Extension via A corflo PEG Aftercare sheet Freka PEGJ aftercare sheet Vygon Transgastric-Jejunal Feeding tube care guide Freka Surgical Jejunostomy aftercare sheet

ISSUE	STATEMENT	EVIDENCE / REFERENCE
6.3 Daily Stoma Care	**Percutaneous Endoscopic Jejunostomy** ▪ Site should be cleaned daily with a clean cloth and soapy water, rinsed and dried thoroughly. ▪ Avoid the use of dressings unless exudates present. ▪ Reposition external fixator after cleaning stoma site. **Percutaneous Endoscopic Gastrostomy with Jejunal Extension (PEGJ)** ▪ Site should be cleaned daily with a clean cloth and soapy water, rinsed and dried thoroughly. ▪ Avoid the use of dressings unless exudates present. ▪ Check the length of the jejunal extension tube daily and record centimetre marking **Transgastric Jejunostomy** ▪ Site should be cleaned daily with a clean cloth and soapy water, rinsed and dried thoroughly. ▪ Avoid the use of dressings unless exudates present. ▪ Check length of external tubing daily and record centimetre marking ▪ Reposition external fixator (if one present) after cleaning stoma site. ▪ Check water volume in the balloon once per week. (Refer to manufacturers guidelines) **Surgical Needle Catheter** ▪ **Do not remove external sutures or release external fixator** ▪ Contact medical staff to re-suture as required. ▪ Check length of external tubing daily and record centimetre marking ▪ Ensure security of external fixator and sutures. Site should be cleaned daily with a clean cloth and soapy water, rinsed and dried thoroughly. ▪ Avoid the use of dressings unless exudates present Clean 3 times a week or more frequently if discharge observed. ▪ Clean around suture site with water and a clean cloth and dry thoroughly. Apply sterile film dressing. **Surgical Jejunostomy (Balloon retained gastrostomy)** ▪ Check length of external tubing daily and record centimetre marking. ▪ Ensure security of external fixator and sutures. ▪ Site should be cleaned daily with a clean cloth and water and dried thoroughly. ▪ Avoid the use of dressings unless exudates present. ▪ Reposition external fixator after cleaning stoma site. Check water volume in the balloon once per week. (Refer to manufacturers guidelines)	NICE (2006) CG32 Updated Aug 2017 Nutrition support in adults – *Oral nutrition support, enteral tube feeding and parenteral nutrition.* https://www.nice.org.uk/guidance Warriner L, Spruce P (2012) Managing OvergranulationTissue Around Gastrostomy Sites British Journal Nursing 03, 09 514-524 Pendlebury, J (1997) *Feeding by PEG* Community Nurse May 11-12. NICE Guidelines (2012) – *Healthcare-associated infections: prevention and control in primary and community care.* https://www.nice.org.uk/guidance Infection Control Nurses Association (June 2003) *Enteral Feeding Infection Control Guidelines*

ISSUE	STATEMENT	EVIDENCE / REFERENCE
6.4 Stoma problem – infection	▪ Observe site daily for signs of infection (inflammation, pain, and exudate). ▪ If infection is suspected, a wound swab should be taken for microbiology and if indicated, the patient should be treated with the appropriate systemic antibiotic.	CREST (2004) *Guidelines for the management of enteral tube feeding in adults* Forest Lalande, L (2012) The Management of Feeding Gastrostomies. Gastrointestinal Nursing 10,3 28-35
6.5 Stoma problems - over granulation	▪ Over granulation may arise from excessive movement of the tube ▪ Check for signs of clinical infection, swab where necessary. ▪ First line treatment option would be Lyofoam dressing apply directly to the over granulating tissue. ▪ Second line treatment option would be apply 1% hydrocortisone ointment twice daily with no dressings for 7-10 days; this should be applied with caution re. sensitivities and under medical supervision as not licensed for this use. ▪ Where there are signs of local clinical infection treatment option would be an uncut actisorb dressing only. The dressing should be put under flange and left for as long as possible (up to 10 days). Skin must be examined at regular intervals ▪ Actisorb treatment is not suitable for use with jejunostomy tubes which have external sutures. ▪ If no improvement seek specialist review.	Harris A Rolstad B S (1994) *Hypergranulation tissue: a nontraumatic method of management.* Ostomy wound Management 40: 5, 20-22 Young T (1995) *Common Problems in wound care: overgranulation.* British Journal of Nursing 4 ,3,169-170 Leak K (2002) *PEG site infections: A novel use for Actisorb Silver 220.* British Journal of Community Nursing 7,6, 321-325 Warriner L, Spruce P (2012) Managing OvergranulationTissue Around Gastrostomy Sites British Journal Nursing 03, 09 514-524
6.6 Removal of Jejunostomy tubes	**Percutaneous Endoscopic Jejunostomy** ▪ Requires endoscopic removal. **Percutaneous Endoscopic Gastrostomy with Jejunal Extension (PEGJ)** ▪ Following removal of jejunal extension tube, PEG should be removed by traction if retained by collapsible balloon or endoscopically if retained by rigid bolster **Transgastric Jejunostomy** ▪ Removal by traction following balloon deflation **Surgical Needle Catheter** ▪ Should be left in-situ for at least 4 weeks even if not feeding to allow establishment of a tract and the dissolution of the purse string suture, which anchors the tube. ▪ A trained practitioner should remove the tube after removal of sutures. **Surgical Jejunostomy (Balloon retained gastostomy)** ▪ Removed by traction following balloon deflation.	Stroud, M Duncan, H, Nightingale, J (2003) *Guidelines for enteral feeding in adult hospital patients* GUT 52 (suppl VIII) vii1-vii2
6.7 Tube Displacement	If the tube comes out the stoma will begin to close within an hour, alert medical staff immediately.	CREST (2004) *Guidelines for the management of enteral tube feeding in adults* Stayner, J L et all (2012) Feeding Tube Placement : Errors and Complications Nutrition in Clinical Practise 27, 6 738-748
6.8 Frequency of jejunostomy tube changes	Refer to manufacturers guidelines.	

7. NASOGASTRIC / OROGASTRIC TUBE CARE

ISSUE	STATEMENT	EVIDENCE / REFERENCE
7.1 How to check correct Nasogastric tube placement	Routine method Aspiration and pH testing is used as the first line test method, x-ray is used only as a second line test when no aspirate can be obtained or pH indicator paper has failed to confirm the position of the tube. Aspiration ▪ Test aspiration with pH indicator: with pH between 1 and 5.5 as the safe range. ▪ The pH indicator should have 0.5 graduations. ▪ Document each pH value in the patient records. ▪ If the aspirate has a pH of 6 or more this may be bronchial secretion. **Do not feed** leave one hour and try again. ▪ Medication that could elevate the pH are antacids, H2 antagonists and proton pump inhibitors. An individual risk assessment should be completed for patients taking such medications; this should include testing and documenting the pH of the initial aspirate. **If there is difficulty obtaining aspirate** ▪ Turn the patient onto their left side. ▪ Inject 10-20mls air using a 60mls syringe. Wait 15 - 30 mins and try again. Injecting air will dispel any residual fluid in the tube and may dislodge the exit port of the tube from the gastric mucosa. **Do not carry out air auscultation. Do not use water to flush.** ▪ Give mouth care to patients who are nil by mouth (stimulates gastric secretion of acid). ▪ If patient is alert and able to safely drink give a drink of coloured liquid, if able to aspirate the coloured drink it is safe to feed.	National Patient Safety Agency Alert *2005/PSA/09 Reducing the harm caused by misplaced naso and orogastric feeding tubes in babies under the care of neonatal units* 2005 http://www.nrls.npsa.nhs.uk/resources/?entryid45=59798 National Patient Safety Agency Alert *2011/PSA/02 Reducing the harm caused by misplaced nasogastric feeding tubes in adults, children and infants* 2011 http://www.nrls.npsa.nhs.uk/resources/type/alerts/?entryid45=129640 National Patient Safety Agency Rapid Response Report *2012/RRR/01Harm from flushing of nasogastric tubes before confirmation of placement* 2012 http://www.nrls.npsa.nhs.uk/resources/type/alerts/?entryid45=133441 NHS England Patient Safety Alert *PSA/W/2013/001 Placement devices for nasogastric tube placement DO NOT replace initial placement checks* 2013 https://www.england.nhs.uk/2013/12/05/psa-ng-tube/ NHS Improvement Patient Safety Alert NHS/PSA/RE/2016/006 Nasogastric tube misplacement: continuing risk of death and severe harm 2016 https://improvement.nhs.uk/news-alerts/nasogastric-tube-misplacement-continuing-risk-of-death-severe-harm/ http://www.bapen.org.uk/pdfs/decision-trees/naso-gastric-tube-insertion.pdf See appendix 7 Procedure for inserting and maintaining a fine bore Nasogastric feeding tube See appendix 8 NPSA Decision tree for Nasogastric tube placement checks in adults
7.2 Frequency of checking Nasogastric tube placement	Check Nasogastric/orogastric tube position: ▪ Following initial tube insertion. Document length of tube on patient records. ▪ Before commencement of each feed. ▪ Before medications are administered. ▪ If the patient complains of discomfort or feed reflux into the throat or mouth. ▪ If the patient has vomited or retched violently. ▪ Following evidence of tube displacement e.g. loose tape, tube appears longer. ▪ After suctioning via an endotracheal or tracheostomy tube.	National Patient Safety Agency Alert *2011/PSA/02 Reducing the harm caused by misplaced nasogastric feeding tubes in adults, children and infants* 2011 http://www.nrls.npsa.nhs.uk/resources/type/alerts/?entryid45=129640
7.3 Frequency of changing nasogastric / orogastric tube	Follow manufacturer's guidance. Nasogastric/ orogastric tubes should not be re-used unless it is a 'single patient use' tube, which may be reused, if considered appropriate.	
7.4 Nasal Tube Retention device	Nasal retention device secure a Nasoenteric feeding tube to the nose to minimise accidental removal by the patient. These can only be placed by a practitioner with the relevant skills.	Guidance for the Insertion of Nasal tube Retention Device for the purpose of Securing Nasoenteric Feeding tubes – NHS Lanarkshire - September 2015 Appendix 13 http://www.nnng.org.uk/download-guidelines/

8. NASOJEJUNAL

ISSUE	STATEMENT	EVIDENCE / REFERENCE
8.1 Insertion Technique	Naso-jejunal tube position should be placed/confirmed radiologically (or placed endoscopically) Secure naso-jejunal tube with nasal fixation tape and secure 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) 32-34 NICE (2006) CG32 Updated Aug 2017 Nutrition support in adults – *Oral nutrition support, enteral tube feeding and parenteral nutrition.* https://www.nice.org.uk/guidance *Cirgin Ellett M L (2006) Important facts about intestinal feeding tube placement Gastroenterology Nursing 29 112-124*
8.2 Frequency of checking naso-jejunal 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 ▪ Check the length of the external tubing daily and record centimetre marking. ▪ Measure and document external length of tube: Following tube placement and before administering feed/water/medications. ▪ Observe patient for signs of abdominal distension, vomiting or aspiration – this could indicate tube migration back into the stomach.	Cottee, S (2002) *Jejunal Feeding* Complete Nutrition 2(2) 32-34 Cirgin Ellett M L (2006) *Important facts about intestinal feeding tube placement* Gastroenterology Nursing 29 (2) 112-124
8.3 Frequency of changing naso-jejunal tube	Refer to manufacturer's guidelines.	

9. INFECTION CONTROL

ISSUE	STATEMENT	EVIDENCE / REFERENCE
9.1 Hand hygiene, gloves and aprons	Hands should be washed, rinsed and dried or alcohol based hand rub (ABHR) may be used on visibly clean hands before handling feed or enteral feeding systems. Non-sterile gloves and an apron should be worn. If a patient is managing their own enteral feeding tube then it is not necessary for them to wear gloves but effective hand hygiene should be carried out. Family (informal) carers in the home situation are not required to wear protective clothing but must be aware that: ▪ Effective hand hygiene is important ▪ Cuts and sores on their hands and forearms must be covered with waterproof dressing ▪ Carers should not handle enteral feeds if they have evidence of any skin infections/vomiting or diarrhoea. 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 occupational health (in the first instance) Minimal handling and an aseptic technique should be used to connect the administration system to the enteral feeding tube.	Safety Action Notice April 2001: *Enteral Feeding Systems: Risk of Contamination and Infection.* Anderton, A. (1995) *Reducing bacterial contamination in enteral tube feeds British* Journal of Nursing 4(7). NICE Guidelines (2012) – *Healthcare-associated infections: prevention and control in primary and community care.* https://www.nice.org.uk/guidance Epic 3 (2014): - *National Evidence-Based Guidelines for Preventing Healthcare-Associated Infections in NHS Hospitals in England.* National Services Scotland (2012) - *National Infection Prevention and Control Manual.*
9.2 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 manufacturers reprocessing instructions are followed. See cleaning guidance appendix 15. Home enteral syringes can be re-used. Refer to manufacturers guidelines for cleaning instructions. These syringes can be reused for 1 week	Safety Action Notice April 2001: *Enteral Feeding Systems: Risk of Contamination and Infection.* Medicines and Healthcare Products Regulatory Agency (2013) - *Single use medical devices: implications and consequences for re-use*
9.3 Frequency of changing connecting tubes for skin level devices	Should not be re-used if marked 'Single Use Only'. For 'Single Patient Use' items, follow manufacturers reprocessing instructions and guidance on frequency of changing. The MIC KEY extension sets can be reused for 2 weeks	Safety Action Notice April 2001: *Enteral Feeding Systems: Risk of Contamination and Infection.* Medicines and Healthcare Products Regulatory Agency (2013) - *Single use medical devices: implications and consequences for re-use* National Services Scotland (2012) - *National Infection Prevention and Control Manual.*

ISSUE	STATEMENT	EVIDENCE / REFERENCE
9.4 Feed storage	Sterile feeds and dry powdered constituents should be stored in a clean, cool, dry area. Stock should be rotated to avoid feeds exceeding their expiry date. 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 until used. Each feeding system should be labelled with patient's name and the date & time the feed was set up and the time the feed is due for completion. Reconstituted feed / opened sterile feed should be discarded after 24 hours.	NICE Guidelines (2012) – *Healthcare-associated infections: prevention and control in primary and community care.* https://www.nice.org.uk/guidance Anderton, A (2000) *Microbial Contamination of Enteral Tube Feeds – How Can We Reduce The Risk?* Nutricia Clinical Care. Safety Action Notice - 01/12 2001: *Enteral feeding systems: risk of contamination and infection.* Infection Control Nurses Association (June 2003): *Enteral feeding – Infection control guidelines.* .
9.5 Hanging times for feeds	Sterile feeds - 24 hours Non-sterile feeds (including modular feeds, diluted and modified sterile feeds) – 4 hours, however, advice should be sought for individual patients to allow for a practical feeding regime. Holding time (time that feed is held at ward / room temperature) should be taken into account: ▪ Time that opened feed is stored at ward / room temperature prior to decanting (if not refrigerated). ▪ Time that decanted feed is stored in the nutrient container prior to decanting. ▪ Time that the feed is hanging at the patient's bedside even if it is not flowing into the patient.	Anderton, A (2000) *Microbial Contamination of Enteral Tube Feeds – How Can We Reduce The Risk?* Nutricia Clinical Care. NICE Guidelines (2012) – *Healthcare-associated infections: prevention and control in primary and community care.* https://www.nice.org.uk/guidance
9.6 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 the community advice should be sought from the Dietitian for individual patients to allow for a practical feeding regime.	NICE Guidelines (2012) – *Healthcare-associated infections: prevention and control in primary and community care.* https://www.nice.org.uk/guidance Anderton, A (2000) *Microbial Contamination of Enteral Tube Feeds – How Can We Reduce The Risk?* Nutricia Clinical Care

ISSUE	STATEMENT	EVIDENCE / REFERENCE
9.7 Pump cleaning	Consult manufacturer's instructions for use and decontamination advice Should be cleaned before and after every episode of use. Should be cleaned after blood and or/body fluid contamination in accordance with National Infection Prevention and Control Manual (2012).	NICE Guidelines (2012) – *Healthcare-associated infections: prevention and control in primary and community care.* https://www.nice.org.uk/guidance National Services Scotland (2012) - *National Infection Prevention and Control Manual.*

10. ORAL HYGIENE		
ISSUE	**STATEMENT**	**EVIDENCE / REFERENCE**
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.	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.* Royal Marsden Manual of Clinical Practice. 6th Edition Caring for smiles – a new educational resource for oral health training in care homes Gerodontology, June 2012, Vol.29(2), pp.e1161-e1162

11. MEDICINE ADMINISTRATION

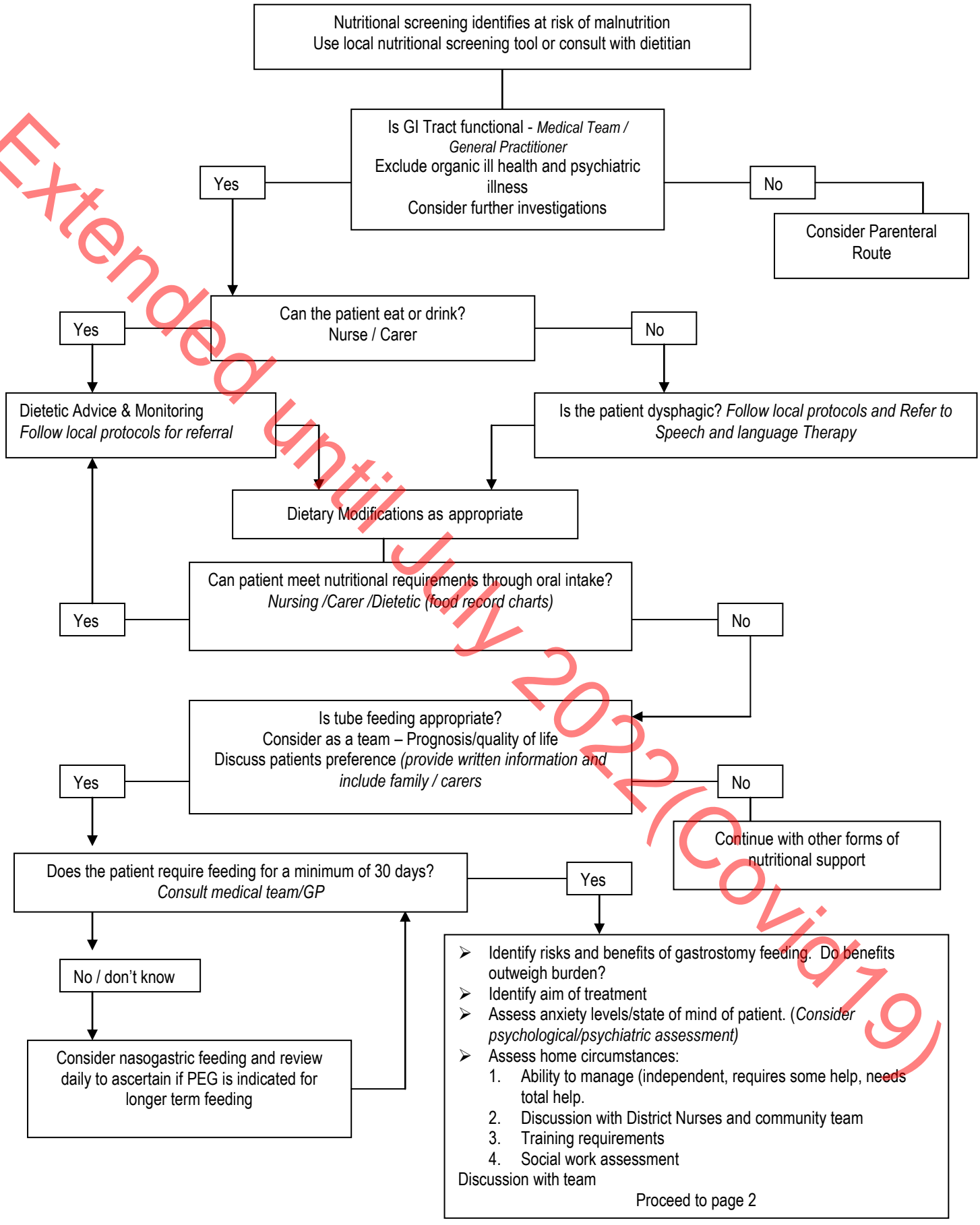
ISSUE	STATEMENT	EVIDENCE / REFERENCE
11.1 Medicine administration via the enteral feeding tube route (Also refer to Appendix 14 for further information)	Medicines sometimes have to be given via enteral feeding tubes The oral route is preferable, so ensure the patient is assessed before automatic medicines administration via feeding tube Consider other routes e.g. transdermal, rectal etc.. Use oral route if possible or consider other routes of administration. Buccal and sublingual tablets can be used, even if the patient is 'nil by mouth' providing they are producing saliva. If medication is to be administered via enteral feeding tube the prescription should be re-written to state the route and specify the form of product required. Recognised references should be used or advice sought from a pharmacist before any medicine is prescribed or administered	The NEWT Guidelines for administration of medication to patients with enteral feeding tubes or swallowing difficulties. Second (Updated) Edition April 2012. NHS Wales
11.2 Prescribing Consideration	The patient's medicines should be reviewed to reduce unnecessary polypharmacy and ensure medicines are rationalised. Many medicines are not suitable or safe to be given via enteral tubes. A pharmacist can provide suitable advice. Licensed medicines should be used where available.	
11.3 Administration Technique	Administer all medicines separately i.e. do not mix them in a syringe. Do not mix medicines with enteral feed. If medication is only available in tablet format check with a pharmacist that this can be crushed. It is usually not necessary to dilute liquid preparations before administration, however it is best to dilute syrups with an equal volume of sterile or cooled boiled water. If a syrup is one of several medicines being administered, it is preferable to administer the syrup last. When measuring and administering oral liquid medications with syringes, use only labelled oral/enteral syringes that cannot be connected to intravenous catheters or ports. 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. Flush tube with water before administering medications (at least 30mls), between each medication (at least 5mls) and after all medications has been given (at least 30mls). Consider timing of medication administration e.g. should it be given on an empty stomach. Fluid restricted patients will need to have the volume of each flush recorded as part of their daily fluid intake Particular care should be taken when administering some medications via the enteral route, e.g. phenytoin, quinolone antibiotics, theophylline. Refer to Appendix 14 & 15 for further information..	The NEWT Guidelines for administration of medication to patients with enteral feeding tubes or swallowing difficulties. Second (Updated) Edition April 2012. NHS Wales NPSA /2007/19 National patient Safety Agency. Promoting safer measurement and administration of liquid medications via oral and other enteral routes. http://www.nhslcg.scot.nhs.uk/wp-content/uploads/2016/11/enteral-administration-of-medicines.pdf

12. DISCHARGE PLANNING

ISSUE	STATEMENT	EVIDENCE / REFERENCE
12.1 Discharge procedure for adults	The aim of discharge planning is to ensure that the patient is discharged from hospital into the community safely and with adequate support. ▪ Procedure - see Appendix 3 ▪ Training checklist for patients and carers – see Appendix 6	Role of hospital dietitian post feeding tube insertion pathway http://www.clinicalknowledgepublisher.scot.nhs.uk/Published/PathwayViewer.aspx?fileId=2536
12.2 Post-discharge patient monitoring	▪ See Appendices 4 & 5	Todorovic, V & Mickelwright, A (2011) *A Pocket Guide to Clinical Nutrition* 3rd edition. Parenteral and Enteral Nutrition Group of the British Dietetic Association NICE (2006) CG32 Updated Aug 2017 Nutrition support in adults – *Oral nutrition support, enteral tube feeding and parenteral nutrition.* ***https://www.nice.org.uk/guidance***

13. APPENDICES

Appendix 1:
Flowchart for the assessment of adult patients for Percutaneous Endoscopic Gastrostomy (PEG)



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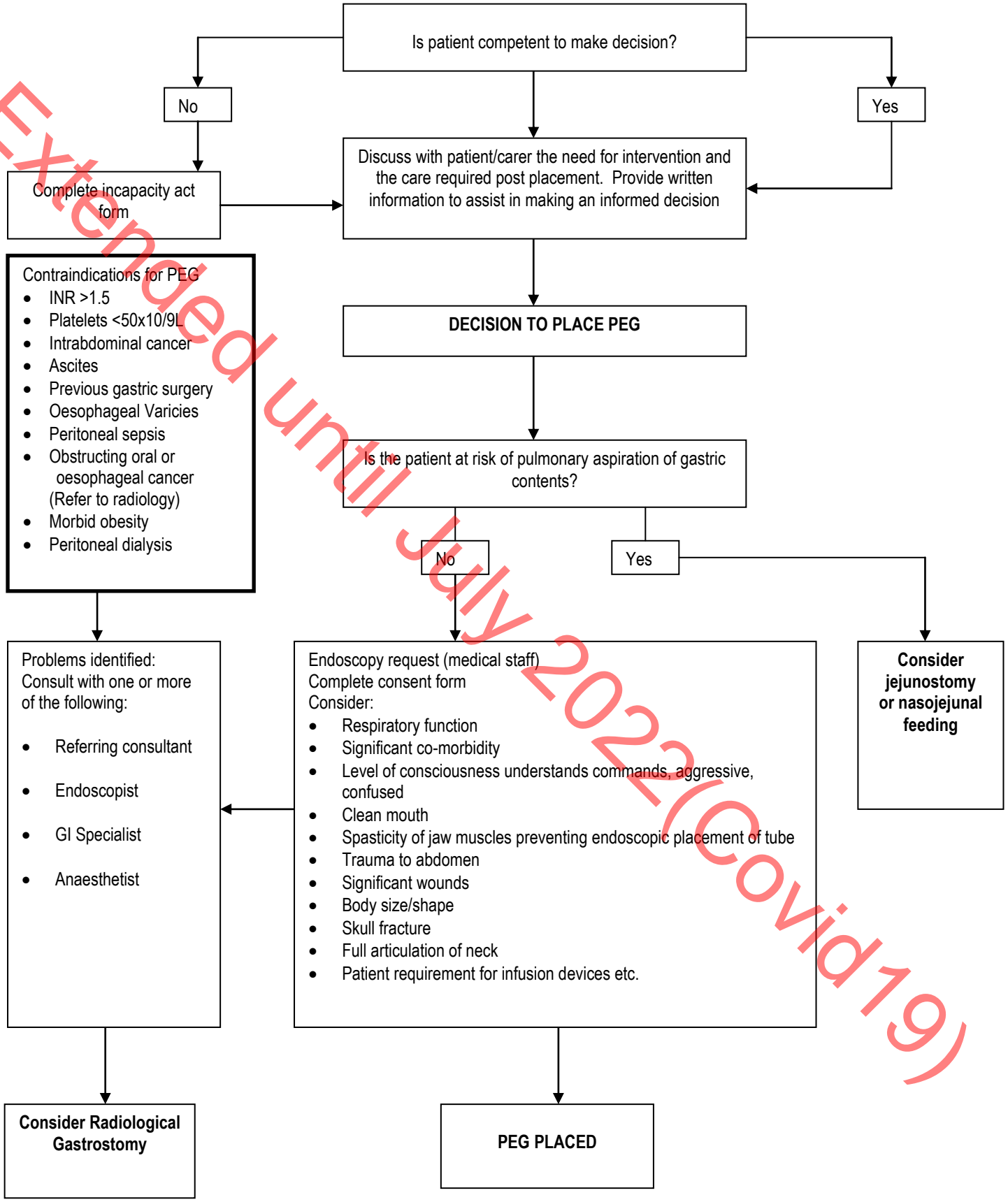


Appendix 2
Guidance on monitoring patients who are receiving enteral tube feeding in hospital

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 patient care.

This information is for guidance only and local protocols should be agreed.

Reference: BAPEN (1999) - Current Perspectives on Enteral Nutrition in Adults.
BAPEN (2016) – Enteral Feed Monitoring
NICE Pathway (Published Sep 2014) - Nutritional Support in Adults.

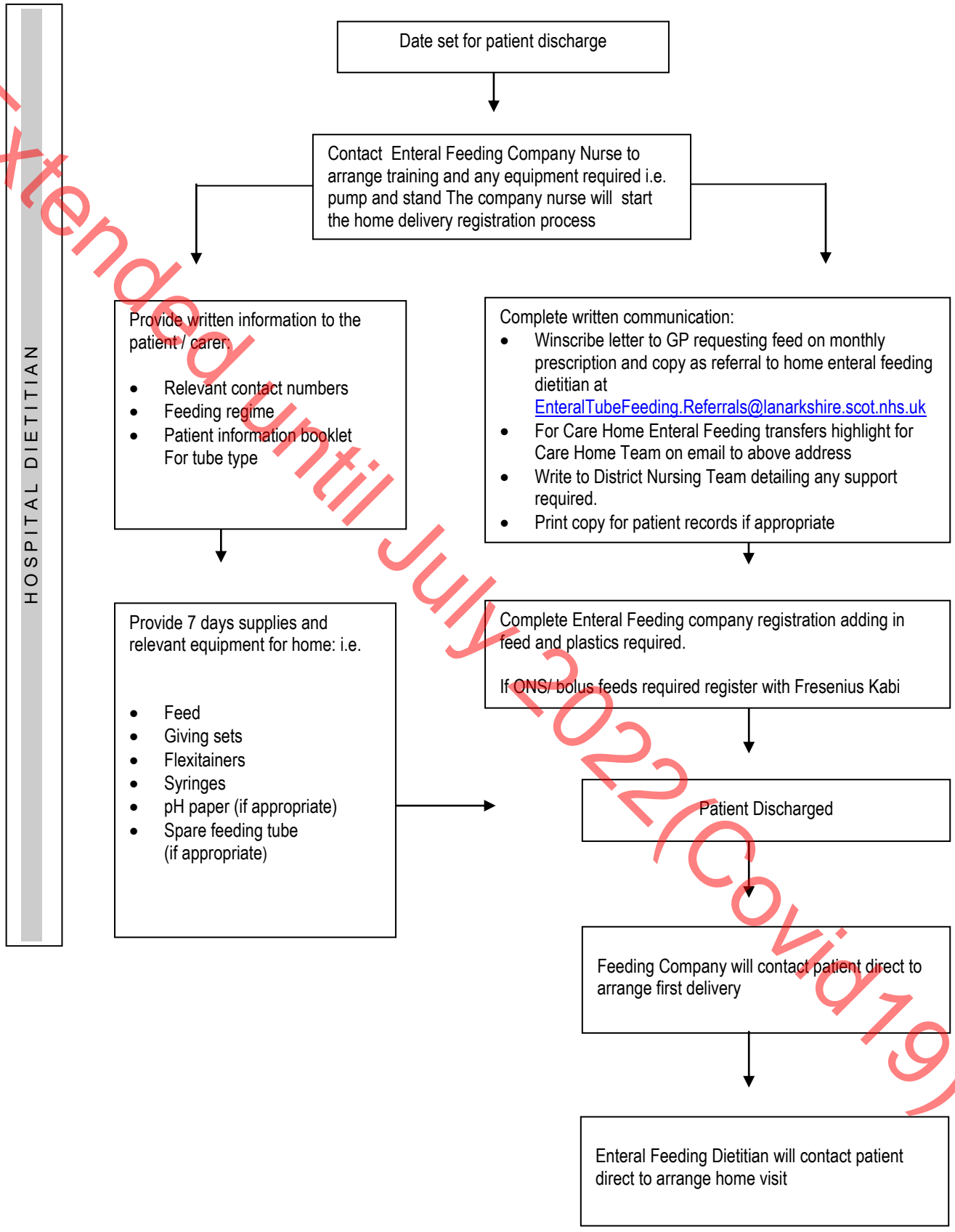
Hospital

Monitored by Dietitian	Suggested Frequency	Rationale
Nutritional Calculate nutrient intake from oral, enteral or parental nutrition.	Daily initially, reducing to twice weekly when stable.	To ensure that the patient is receiving the amount of nutrients to meet their nutritional requirements and that the current method of feeding is still the most appropriate.
Determine actual volume of feed delivered.	Daily initially, reducing to twice weekly when stable.	To ensure that the patient is receiving the correct volume of feed.
Anthopometric Weight	Daily if concerns regarding fluid balance, otherwise weekly.	To assess ongoing nutritional status, determine whether nutritional goals are being achieved and take into account both body fat and muscle.
BMI	Start of feeding and then monthly.	
Skinfold thickness, mid arm circumference.	Monthly if weight cannot be obtained or is difficult to interpret.	
Gripstrength/Bodystat could be used for longerterm patients if available.		
Monitored by Medical Staff Biochemical Sodium, urea, creatinine.	Baseline, daily until stable, then 1-2 times/week.	Assessment of renal function, fluid status detect electrolyte abnormalities
Potassium, phosphate, Magnesium, Corrected Calcium	Baseline, 3 times/week until stable, then weekly. (If patient is at risk of refeeding monitor daily until stable/feed established)	Depletion is common and under recognised. To detect electrolyte/ metabolic abnormalities
Glucose	Baseline, 1-2 times/day (or more if required) until stable, then weekly.	To ensure optimum glycaemia control. Glucose intolerance is common.
Liver Function Tests	Baseline, twice weekly until stable, then weekly.	To ensure the patient is metabolically stable.
C- reactive protein	Baseline, then 2-3 times/week until stable.	To assess acute phase response and assists in interpretation of protein, and micronutrient results
Calcium, Albumin	Baseline, then weekly. (If patient is at risk of refeeding calcium should be monitored daily until stable/feed established)	Hypocalcaemia or hypercalcaemia may occur. Aids interpretation of minerals. Low albumin reflects disease not protein status.

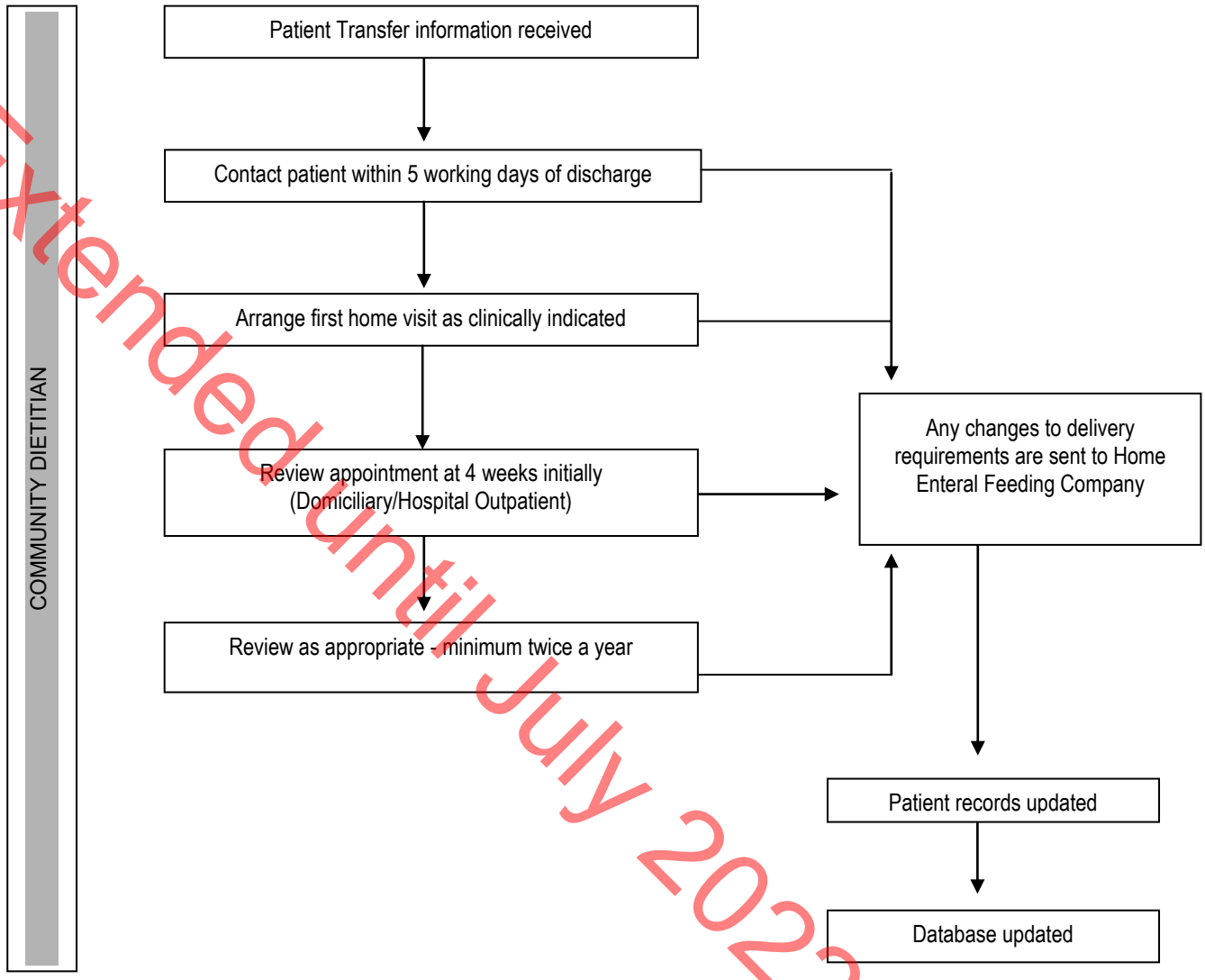
Trace Elements	As clinically indicated.	
Vitamins	As clinically indicated.	Deficiency common especially when increased losses.
Full Blood Count	Baseline, 1-2 times/week until stable, then weekly.	Anaemia due to iron or folate deficiency is common.
Monitored by Nursing Staff		
Clinical General condition and appearance	Daily.	To ensure the patient is tolerating the feed and to check that feed and route continue to be appropriate.
Gastrointestinal function	Daily	To ensure tolerance of feed and to rule out other causes of GI upset.
Temperature	Daily initially, then as required.	To check for signs of infection and dehydration
Fluid balance	Daily initially, reducing to twice weekly when stable. Include fluid delivered by other routes i.e. oral/IV	To assess hydration status. To assess fluid prescribed with volume given.
Position of feeding tube if appropriate	Before each feed begins.	To ensure tube is in the correct position.
Infusion rate of pump	Before each feed begins.	To ensure feed is delivered correctly.
Care of feeding tube & stoma site	Daily	To ensure early detection of complications.
Monitored by Pharmacist		
Medicines & medicine/nutrient interactions	Daily initially, reducing to monthly when stable.	To ensure appropriate preparation of drugs (to reduce incidence of tube blockage). To prevent/reduce drug nutrient interactions (see Best Practice Statement for further information).

Appendix 3:

Procedure to discharge an adult patient from hospital to community on Home Enteral Tube Feeding (HETF)



Appendix 4:
Post discharge review of patients on Home Enteral Tube Feeding (HETF)



Community Dietitian will liaise with relevant healthcare professionals to ensure that appropriate monitoring is carried out.

Appendix 5:

Guidance on monitoring patients receiving enteral tube feeding in the Community

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 • Compare prescribed feed versus actual feed taken • Reason why feed not given • Tolerance to 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 • Total Protein • Haematology: full blood count • Trace elements e.g. zinc, magnesium, selenium. • Vitamins e.g. Vit B12, Vit B2, Vit B6, Vit C	As clinically indicated 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.
Clinical • General condition and appearance • Gastrointestinal function • Fluid balance • Problems with feeding tube and stoma site if appropriate • Pharmacological therapy and medicine/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. To ensure early detection of complications

Appendix 6: Adult training checklist supported by Abbott Nurse Advisor

Patient and Carer Training	Demonstration Date and sign	Practised Date and sign	Proficient Date and sign
Feed			
Reason for Enteral Feeding			
Aim of enteral Feeding			
Correct position for Feeding			
Feeding Regimen ➢ Feed ➢ Administration (pump or bolus) ➢ Timing and quantities			
Storing/disposing feed			
Tube and Stoma Care/hygiene			
The principles good hand hygiene			
Caring for the feeding tube			
Caring for the stoma site			
Checking the position of the tube			
How and when to flush the tube			
Administering medication via the tube			
Preventing tube blockages			
Securing the feeding tube			
The principles of tube hygiene			
Dealing with stoma infection			
Equipment			
Operating enteral feeding pump			
Setting up the feed			
What to do when pump alarms			
Disconnecting the feed			
How home delivery works			
Contact Information			
Arrangements for follow-up			
Contact numbers ➢ Dietitian ➢ Home delivery company ➢ Out of hours contact			
What to do if tube breaks or falls out			
Who received the training	Patient / Carer / Both		

Once completed file copy in patients notes

Inform appropriate community staff (i.e. Community Dietitian and / or District Nurse) of any training requirements that have not been covered.

Enteral feeding Company Patient Care Nurse will support with training before and after discharge from hospital and will complete further training checklist which will be uploaded on the eRegistration.

Appendix 7:
Procedure Inserting and maintaining Fine Bore Naso-gastric tubes

Equipment required

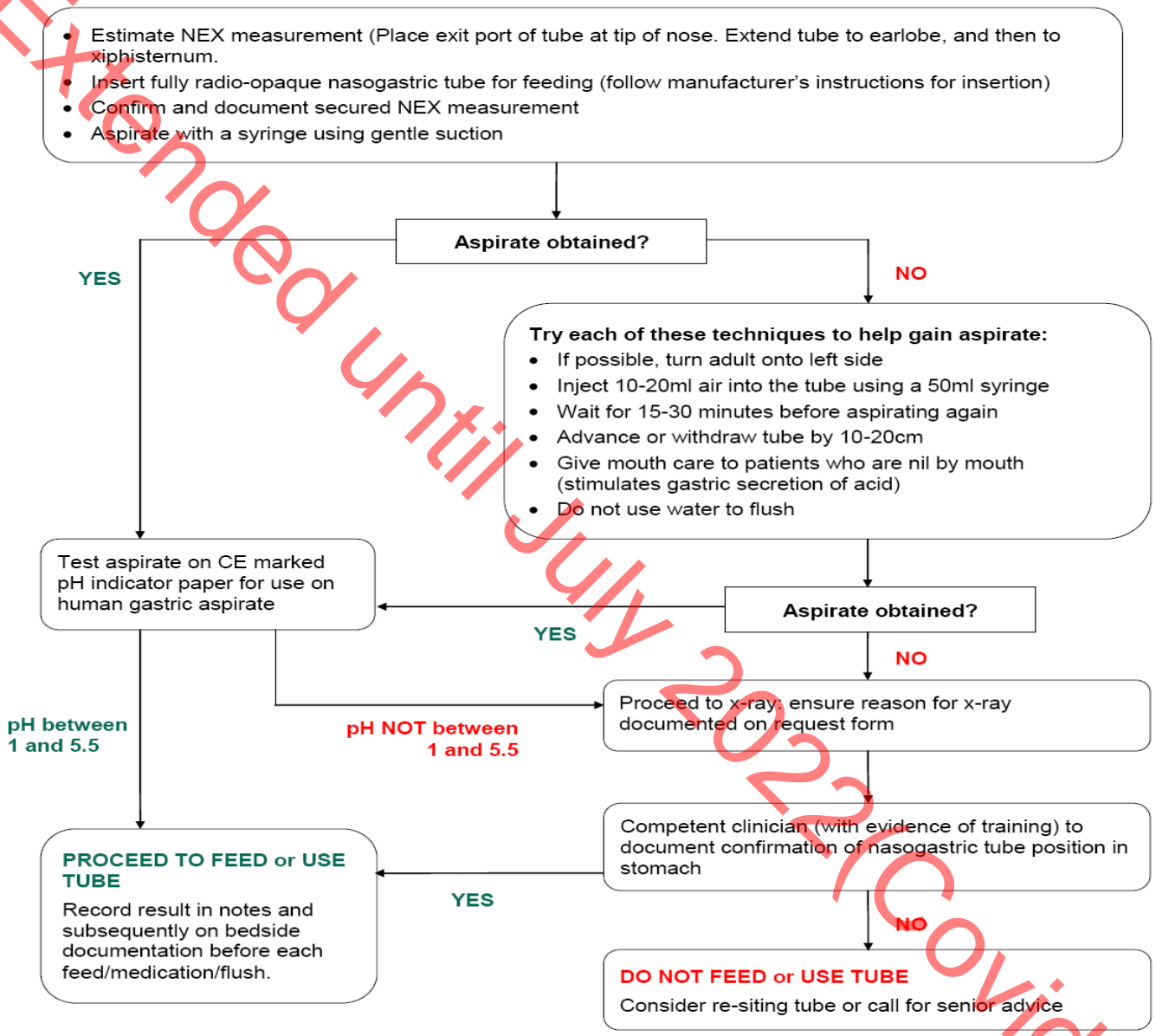
Clinically clean tray
Fine bore naso-gastric tube
Sterile or cooled boiled water
Hypoallergenic tape
Adhesive patch
Gloves and apron
Glass of water
Drinking straw
30 – 50 ml syringe
pH indicator strips
Marker pen
Vomit bowl and tissues

	Action	Rationale
1.	Explain procedure to patient and receive consent.	To ensure co-operation and promote confidence.
2.	Help conscious patients adopt a comfortable upright position in bed or chair, support patients head with pillows	Aids relaxation of patient and aids correct passage of tube.
3.	Explain the importance of not tilting head backwards.	To maintain an open passage for the tube. Prevents accidental intubation of the trachea
4.	Arrange a signal such as raising the hand	To enable the patient to request the procedure to stop
5.	Wash hands put on gloves and apron	To reduce the risk of cross-infection (this is a clean procedure).
6.	Place the tip of the tube against the xiphisternum, measure to the ear lobe then to the tip of the nose	To measure the length of the tube which needs to be introduced in order that the tip will lie in the stomach.
7.	Determine the preferred nostril and ask the patient to blow their nose or clean the nostril gently.	To clear any obstruction caused by debris
8.	Introduce the tube into the nostril and advance it inwards along the floor of the nose to the nasopharynx. A little resistance is not uncommon	To avoid trauma to the nasal mucosa.
9.	If an obstruction is encountered, withdraw slightly, and then advance tube at a slightly different angle. Gentle rotation of the tube can be helpful at this stage. **Do not use force** if you continue to encounter obstruction refer to medical staff	To facilitate the passage of the tube by following the natural anatomy of the nose
10.	If the patient can co-operate, request that when the tip is felt in the throat, nasophaynx, they swallow tilting the chin down slightly at the same time. The process is aided by sipping water through a straw if safe to do so	Helps the tip pass into the oesophagus
11.	Advance the tube forward, encourage the patient to take slow, even breaths.	Assists relaxation and avoids laryngeal spasm.
12	When the pre-determined mark on the tube reaches the nostril, tape the tube to the cheek	To prevent movement of the tube whilst checking its position
13.	Check the position of the tube with gastric aspirate and pH indicator paper. A reading of pH less than 5.5 indicated gastric placement	To ensure correct placement of tube so that the feed is delivered into the stomach and not the lungs.
14.	If unable to obtain gastric aspirate air may be injected into the stomach, aspirate again or reposition patient	This can change the fluid level in the stomach making aspiration possible.
15.	Flush the tube with 10ml of water and remove the guidewire slowly. The guidewire must not be reinserted	This will facilitate removal of the guidewire. If the tube is kinked or coiled, the wire may perforate the tube if reinserted, damaging adjacent organs.
16.	Secure tube to nostril and cheek with suitable tape	To avoid causing discomfort and prevent accidental removal of the tube
17.	If at any time during or following the procedure signs or respiratory distress occur, remove the tube immediately	The tip of the tube may have entered the respiratory system.
18.	Record procedure and pH confirming correct placement in patient records	To complete documentation.

Appendix 8 Decision Tree for NG tube placement checks in Adults

NHS
National Patient Safety Agency

Decision tree for nasogastric tube placement checks in ADULTS



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 tube tip may sit in the oesophagus where it carries a higher risk of aspiration. If this is any concern, the patient should proceed to x-ray in order to confirm tube position.

Where pH readings fall between 5 and 6 it is recommended that a second competent person checks the reading or retests.

www.npsa.nhs.uk/alerts

Appendix 9:
Procedure to replace balloon retained Gastrostomy Tube

Equipment required

Gastrostomy tube
Gloves & apron
Dressing pack
2 x 10 or 20 ml luer slip syringe
Sachet of saline
Water based lubricant
50ml Catheter tipped syringe
Sterile or cooled boiled water to inflate balloon
Cooled boiled water to flush tube (community)
Sterile water to flush tube (hospital)
pH indicator strips

	Action	Rationale
1.	Establish size and type of tube in situ	To ensure correct tube is fitted
2.	Explain procedure to patient	To relieve anxiety and obtain consent
3.	Gather equipment & prepare environment	To allow procedure to run smoothly
4.	Place patient in supine position	To facilitate placement of tube
5.	Wash hands, level 1, dry thoroughly and wear gloves and apron	To minimize risk of infection
6.	Draw up required amount of cooled boiled or sterile water & insert into new balloon.	To check patency of balloon Do not use if there is evidence of leakage or the balloon fails to inflate evenly
7.	Withdraw water after inspection	To facilitate insertion
8.	If previous tube in situ, deflate balloon and remove tube	To facilitate insertion of new tube
9.	Clean stoma site with sterile saline	To minimise risk of infection
10.	Lubricate tip of gastrostomy tube	To ease tube insertion
11.	Guide tip of tube through stoma until balloon has passed through tract	To ensure correct placement
12.	Inflate balloon with recommended amount of cooled boiled or sterile water	To retain gastrostomy tube in situ
13.	Withdraw tube gently away from abdomen until resistance of balloon against stomach wall is felt	Ensures correct placement of tube
14.	Wipe around tube & stoma	To ensure surrounding skin is clean and dry
15.	Slide the fixation plate down the shaft of the tube to secure comfortably against the abdominal wall (Leave around 1-2mm between skin & fixation device)	To ensure correct position and prevent tube migration
16.	Check position of tube by withdrawing a small amount of aspirate & testing with pH sensitive paper	To ensure tube is correctly fitted into the stomach
17.	Dispose of equipment correctly& wash & dry hands	To minimize risk of infection
18.	Complete appropriate documentation recording the type of tube, length remaining externally & amount of water in balloon	To ensure accurate records

Appendix 10a: Self Assessment competency checklist for Balloon Retained Gastrostomy Change

Dietetics Department NHS Lanarkshire

Self Assessment competency checklist for Balloon Retained Gastrostomy Change

Practitioner _____

A balloon gastrostomy is a tube that is placed directly through the abdomen into the stomach and held in place by an inflatable balloon.
Balloon volumes differ according to tube size and manufacturer's recommendations. Ensure to check the inflation of the device to be placed.
The life of a balloon gastrostomy varies according to manufacturers and can be between three to six months. As a general rule standard balloon retained gastrostomy tubes last 4-5 months and low profile devices 6 months however circumstances such as gastric pH and fungal infection may affect the longevity of the balloon and regular balloon maintenance documentation may highlight a failing balloon.

Before attempting the procedure ensure your patient has been NBM or Nil by tube for at least 2 hours

Equipment List

Dressing pack	**2x 10ml luer slip syringes**	**Sterile or cooled boiled water for balloon**
Correct size gastrostomy tube	**50 ml syringe**	**cooled boiled water to flush tube**
Apron	**Lubricating gel**	
Gloves	**pH indicator strips**	

Steps of Procedure		Procedure Observed	Performed with Supervision	Performed alone	Confident to Practice
Check all equipment required from list is available					
Introduce self to patient					
Explain procedure to patient and gain verbal consent					
Help patient adopt a supine position					
Wash hands put on gloves and apron					
Establish size, type and centimetre marking of tube in-situ and ensure tube moves freely in stoma to facilitate removal.					
Aspirate stomach contents and test with pH indicator strip and confirm pH below 5.5.* If so continue with procedure					
Wash hands, open dressing pack and put on fresh gloves					
Draw up required amount of water and inflate balloon in new tube to check for leaks. Roll the inflated balloon between your fingers to ensure uniform shape. Withdraw water fully and lubricate tip					

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Steps of Procedure		Procedure Observed	Performed with Supervision	Performed alone	Confident to Practice
Deflate balloon of tube in situ by ensuring removal of all water and remove tube.					
Wipe stoma site clean					
Guide lubricated tip of new tube into stoma until the balloon has passed through the tract					
Inflate balloon with required amount of sterile or cooled boiled water					
Check tube position by aspirating stomach contents with 50ml syringe and test with pH indicator strip and confirm pH below 5.5					
Withdraw tube gently away from abdomen until resistance is felt and slide the external fixator down towards the stoma leaving a 1-2mm gap.					
Gravity flush 30mls cooled boiled water and check for leakage or discomfort					
Wipe around stoma to dry to ensure patient is comfortable					
Document tube change details and pH in patient notes					
Ensure a spare gastrostomy tube has been given to patient					

***If pH is higher than 5.5 we cannot confirm placement in stomach. Tube replacement cannot be performed. Make arrangement to return later that day or the next day before feed and medication has been administered**

The patient must be left with a spare gastrostomy tube of the same size. Please contact the Home Enteral Feeding Dieititan to order a spare tube.

Patients with low profile gastrostomy tubes must be give a spare gastrostomy tube of the same French gauge to use as a spare if required. Low profile gastrostomy tubes will be ordered nearer to the time of replacement once the tube has been assessed for fit. If you have concerns that the tube is either too long or too short the stoma will need to be measured before ordering the replacement tube.

Dietetics Department NHS Lanarkshire

Self Assessment competency checklist for Balloon Retained low profile Gastrostomy Change

Practitioner _____

A balloon gastrostomy is a tube that is placed directly through the abdomen into the stomach and held in place by an inflatable balloon.
Balloon volumes differ according to tube size and manufacturer's recommendations. Ensure to check the inflation of the device to be placed.
The life of a balloon gastrostomy varies according to manufacturers and can be between three to six months. As a general rule standard balloon retained gastrostomy tubes last 4-5 months and low profile devices 6 months however circumstances such as gastric pH and fungal infection may affect the longevity of the balloon and regular balloon maintenance documentation may highlight a failing balloon.

Before attempting the procedure ensure your patient has been NBM or Nil by tube for at least 2 hours

Equipment List

Dressing pack
Correct size gastrostomy tube
Apron
Gloves
2x 10ml luer slip syringes
50 ml syringe
Lubricating gel
pH indicator strips
Sterile or cooled boiled water for balloon
cooled boiled water to flush tube

Steps of Procedure		Procedure Observed	Performed with Supervision	Performed alone	Confident to Practice
Check all equipment required from list is available					
Introduce self to patient					
Explain procedure to patient and gain verbal consent					
Help patient adopt a supine position					
Wash hands put on gloves and apron					
Establish size of tube in-situ and ensure tube moves freely in stoma to facilitate removal. If you have any concerns about the tube appearing too loose or too tight a stoma measurement may need to be redone.					
Attach extension set to aspirate stomach contents and test with pH indicator strip and confirm pH below 5.5.* If so continue with procedure					
Wash hands, open dressing pack and put on fresh gloves					
Draw up required amount of water and inflate balloon in new tube to check for leaks. Roll the inflated balloon between your fingers to ensure uniform shape. Withdraw water fully and lubricate tip					

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Steps of Procedure		Procedure Observed	Performed with Supervision	Performed alone	Confident to Practice
Deflate balloon of tube in situ by ensuring removal of all water and remove tube.					
Wipe stoma site clean					
Guide lubricated tip of new tube into stoma until the balloon has passed through the tract					
Inflate balloon with required amount of sterile or cooled boiled water					
Gently rotate tube and ensure a 1-2mm gap. To ensure the button is not too tight.					
Reattach the extension set and check tube position by aspirating stomach contents with 50ml syringe and test with pH indicator strip and confirm pH below 5.5					
With the extension set still attached gravity flush 30mls cooled boiled water and check for leakage or discomfort. The extension set can now be detached.					
Wipe around stoma to dry to ensure patient is comfortable					
Document tube change details and pH in patient notes					
Ensure a spare gastrostomy tube has been given to patient					

***If pH is higher than 5.5 we cannot confirm placement in stomach. Tube replacement cannot be performed. Make arrangement to return later that day or the next day before feed and medication has been administered**

The patient must be left with a spare gastrostomy tube of the same size. Please contact the Home Enteral Feeding Dieititan to order a spare tube.

Patients with low profile gastrostomy tubes must be give a spare gastrostomy tube of the same French gauge to use as a spare if required. Low profile gastrostomy tubes will be ordered nearer to the time of replacement once the tube has been assessed for fit. If you have concerns that the tube is either too long or too short the stoma will need to be measured before ordering the replacement tube.

Dietetics NHS Lanarkshire

Self Assessment Competency checklist for Balloon Retained Gastrostomy Balloon Maintenance

Practitioner signature_____

*If pH is above 5.5 this may be that the patient has recently had feed or medication. As we have not removed the tube we have to assume the tube has not displaced and will be safe to proceed with feeding. If you are in any doubt about the position of the tube and the patient is showing signs of pain and distress on flushing tube please seek medical advice to confirm tube has not displaced

Equipment List

2x 10ml luer slip syringes
50 ml syringe
Gloves
Apron
Sterile or cooled boiled water for balloon
Cooled boiled water to flush tube
pH indicator strips

Steps of Procedure	Procedure Observed	Performed with Supervision	Performed alone	Confident to Practice
Check all equipment required from list is available				
Introduce self to patient				
Explain procedure to patient and gain verbal consent				
Ensure feed is not running				
Help patient adopt a supine position				
Loosen the external fixator and advance the tube inwards				
Using a luer slip syringe deflate balloon of tube by ensuring removal of all water.				
Using luer slip syringe inflate balloon with required amount of sterile or cooled boiled water - this will be marked on the balloon valve.				
Check tube position by aspirating stomach contents with 50ml syringe and test with pH indicator strip and confirm pH below 5.5*				
Withdraw tube gently away from abdomen until resistance is felt and slide the external fixator down towards the stoma leaving a 1-2mm gap.				
Gravity flush 30mls cooled boiled water and check for leakage or discomfort				
Wipe around stoma to dry to ensure patient is comfortable				
Using balloon maintenance record chart document the water volume removed and replaced and the pH in patient notes				

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Dietetics NHS Lanarkshire

Self Assessment Competency checklist for Button Gastrostomy Balloon Maintenance

Practitioner signature_____

*If pH is above 5.5 this may be that the patient has recently had feed or medication. As we have not removed the tube we have to assume the tube has not displaced and will be safe to proceed with feeding. If you are in any doubt about the position of the tube and the patient is showing signs of pain and distress on flushing tube please seek medical advice to confirm tube has not displaced

Equipment List

2x 10ml luer slip syringes	Sterile or cooled boiled water for balloon
50 ml syringe	Cooled boiled water to flush tube
Gloves	pH indicator strips
Apron	Extension Set

Steps of Procedure	Procedure Observed	Performed with Supervision	Performed alone	Confident to Practice
Check all equipment required from list is available				
Introduce self to patient				
Explain procedure to patient and gain verbal consent				
Ensure feed is not running				
Wash hands put on gloves and apron				
Loosen the external fixator and advance the tube inwards				
Using a luer slip syringe deflate balloon of the button gastrostomy in situ by ensuring removal of all water.				
Using luer slip syringe inflate balloon with required amount of sterile or cooled boiled water - this will be marked on the balloon valve.				
Attach extension set to button gastrostomy tube				
Check tube position by aspirating stomach contents with 50ml syringe and test with pH indicator strip and confirm pH below 5.5*				
Gravity flush 30mls cooled boiled water and check for leakage or discomfort				
Wipe around stoma to dry to ensure patient is comfortable, remove extension set				
Using balloon maintenance record chart document the water volume removed and replaced and the pH in patient notes				

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FRM.BALMNT.17_29210.L

Appendix 12

CHI no .....
First name ..... DOB ...../...../.....
Last name ..... Sex: ☐M ☐F
Address .....
.....
.....
or attach addressograph label here

Locality: .....
Team: .....

NHS Lanarkshire

Balloon Retained Gastrostomy Replacement Record

Sheet number: .....

A balloon-retained gastrostomy feeding tube should be replaced every 4 - 6 months by a skilled practitioner. Before proceeding please ensure you have completed the appropriate clinical competencies and follow the procedure to replace a Balloon Retained Gastrostmy (NHS Lanarkshire Enteral Feeding Best Practice Statement 2018, appendix 9).

To prevent the stoma closing, tubes that fall out must be replaced within 2 - 4 hours.
If a spare tube is not available use an Enplug stoma stopper to keep the stoma open until a replacement tube is located. Replacement tubes and Enplugs can be ordered via your Enteral Feeding Dietitian.

Document the pH of gastric aspirate before removing the tube and after replacement to confirm gastric placement. A pH of 5.5 or less indicates gastric placement. If you are **NOT** able to obtain a pH consistent with gastric placement then review:

- The patient notes for previous pH readings during gastrostomy tube replacements,
- The stoma site for the presence of bleeding, pain or leakage of feed/gastric contents.

If any of the stoma issues are present **do not** proceed to change the gastrostomy tube and seek specialist/medical advice.

If the patient has been receiving feed via the gastrostomy tube without concern before this tube change consider:

- Has there been difficulty obtaining aspirate before?
- Does the patient have a history of high pH?

Is the patient receiving PPIs? If yes, when was the last dose of PPI administered before tube change? If there have been no concerns regarding the tube before this tube change and/or the patient has taken PPI and/or has had a recorded history of elevated pH with uncomplicated tube replacements then proceed to tube change (National Nutrition Nurse Group 2016*).

Date/ Time	Tube Type/ LOT number	Tube Size (Fr)	Balloon Volume	pH before removal	pH after placement	Signature/ Designation

*National Nutrition Nurse Group (2016) Good Practice Guideline : Changing of a Balloon Gastrostomy Tube (BGT) into the Stomach for Adults and Children

NMAHP.BRGREP.17_01926.P

Appendix 13

CHI no .....
First name ..... DOB ...../...../.....
Last name ..... Sex: ☐M ☐F
Address .....
.....
.....
or attach addressograph label here

Locality: .....
Team: .....

NHS Lanarkshire

Balloon Retained Gastrostomy Balloon Volume Record

Sheet number: .....

Patient's preferred name:

Before proceeding please ensure you have completed the appropriate clinical competencies and follow the procedure to maintain a Balloon Retained Gastrostomy or Low Profile Balloon Retained Gastrostomy (NHS Lanarkshire Enteral Feeding Best Practice Statement 2018, appendices 10, 11). The balloon volume should be checked weekly. Remove the water from the balloon, discard and replace with the required amount of sterile or cooled boiled water.

To confirm the tube remains in the stomach aspirate some gastric content and check pH. A pH of 5.5 or less indicates gastric placement. If the pH is above 5.5 consider the timing of the last feed and medication administration, especially if the patient is on PPI. As the tube has not been removed and if the patient has not shown any signs of pain or distress, you should continue to document pH and aim to do the next pH check before any feed or medication has been administered.

If the amount of water removed from the balloon becomes less each week, this is often an indication that the tube will need to be changed. Please ensure there is a spare tube of the same size available for an elective change.

Make of tube:	Date tube inserted: ...../...../.....
Tube size:	pH indicator expiry date: ...../...../.....
Balloon volume:	Spare tube expiry date: ...../...../.....

Date/ Time	Amount of water removed from balloon	Amount of water inserted into balloon	Actual pH recorded	Signature/ Designation

Appendix 14

Guidance on the Insertion of Nasal Tube Retention Devices for the Purpose of Securing Naso Enteric Feeding Tubes

NHSL FFNC Steering Group December 2015

Review Date – December 2018

PURPOSE

The purpose of this document is to ensure that all NHS Lanarkshire staff are aware of procedures that apply in respect of the insertion of nasal tube retention devices.

The information contained in this policy is based on evidence based practice and will provide staff with information on safe practice related to the insertion of nasal tube retention devices.

SCOPE

All NHS Lanarkshire hospital staff who are responsible for the insertion and management of Naso enteric tubes i.e. clinicians, registered nurses.

RECOMMENDATIONS FOR PRACTICE

Enteral nutrition is a vital part of patient care for patients with a poor swallow or gag reflex, unable to meet nutritional requirements with oral diet, have increased nutritional requirements or are anorexic due to their disease state. In these patient groups, Naso enteric tubes are used frequently for the safe administration of medication, nutrition and hydration.

One of the most frequent complications of nasogastric feeding is inadvertent tube removal by the confused patient (Williams, 2005). Many methods have been used for securing Naso enteric tubes, such as adhesive tapes and suturing, these methods are often ineffective or painful for the patient.

The technique of placing a nasal tube retention device, where a piece of tape or latex tubing is passed behind the nasal septum and secured to the Naso enteric tube has been documented since 1989 (Meer et al, 1989). Popovich et al (1996) and Anderson et al (2004) have documented ways of fixing Naso enteric tubes preventing accidental removal. However, the development of a new method of placing a nasal bridle using 2 magnetic probes has simplified the process, making nasal tube retention device suitable for bedside placement.

With practitioners being able to insert nasal tube retention device to secure Naso enteric tubes, incidents of inadvertent tube displacement can be reduced. This will minimise the need for patients to be intubated several times and therefore minimise the risk of misplacement, ensuring optimum nutrition can be delivered and potentially reducing aspiration risk. The system should also be more comfortable for the patient than previous methods of retention device insertion.

INDICATIONS

1. Confused patients, where there is documented evidence in the patient's record of inadvertent displacement of the Naso enteric tube on more than 2 occasions in any 48 hour period.

2. Elective use to retain Naso enteric tubes which would be impossible to replace or when replacement would be a high risk, technically difficult procedure.

CONTRAINDICATIONS

1. A competent patient refuses treatment
2. The patient has severe trauma to the nose/ face
3. The patient has an INR >1.5
4. Patients with base of skull fractures
5. Patients with a deviated nasal septum
6. Patients with structural deformity of the nose

When a decision has been made not to proceed, document this in the medical notes including reason.

LIMITATIONS TO PRACTICE

1. If the practitioner fails to insert the nasal tube retention device after 3 attempts, the procedure should be stopped and advice sought from the medical team.

2. If the patient becomes unreasonably distressed during the insertion of the nasal loop, the procedure should be stopped.

3. If the patient continues to pull at the nasogastric tube while the nasal tube retention device is in situ, causing unreasonable distress, remove the retention device.

4. If the practitioner has any concerns regarding the Naso enteric tube or the use of a nasal tube retention device, s/he should seek advice from the medical team.

5. The practitioner must seek advice from the medical team before the insertion of a nasal tube retention device in patients who take regular anticoagulant medication or have a known clotting disorder.

DOCUMENTATION AND CONSENT

1. Clinician's decision to use a nasal tube retention device and reasons why must be documented in the patient's notes.

2. Although formal written consent is not required for minor procedures (DOH, 2009), verbal consent for the procedure should be obtained where possible and this should be documented in the patient's notes. If the patient is unable to give their consent, the practitioner must document in the patient's notes why they believe the procedure to be in the patient's best interests, including any involvement from other health professionals, family or carers in reaching that decision.

RESPONSIBILITIES AND ORGANISATIONAL ARRANGEMENTS

1. A registered practitioner who is competent in passing fine bore Naso enteric feeding tubes and has completed relevant education and training in the insertion of nasal tube retention devices.
2. Nasal tube retention devices should not be placed without adequate training in line with manufacturers insertion guidance
3. Any untoward incidents and near misses should be reported via Datix

PROCEDURE

Please note that the nasal tube retention device can be placed prior to the Naso enteric tube insertion or after the tube has already been inserted and its position confirmed.

CARE OF THE PATIENT WITH THE NASAL TUBE RETENTION DEVICE

Clean and dry the nasal tube retention device tape at least daily. This may be required to be done more frequently, especially if there are excessive secretions from the nose. The nasal mucosa should be frequently observed for signs of irritation or bleeding.

Where there is a nasogastric tube in place, continue to check position of the nasogastric tube using pH paper. The nasal tube retention device holds the tube in the stomach but does not stop it being displaced from the stomach by vomiting for example.

Check nostrils daily. Apply petroleum jelly if any soreness present.

Ensure the clip holding the Naso enteric tube in place is not too tight against the nostrils. Check frequently for signs of pressure ulceration.

If the patient becomes distressed with the nasal tube retention device i.e. pulls excessively on the tube and is in danger of causing trauma to the nasal septum, remove tube by cutting end of tape and pulling gently.

If the tube becomes displaced cut the tape and remove Naso enteric tube.

REMOVAL

The nasal tube retention device can stay in place for the entire length of the duration of the feeding tubes useful life.

When removal is desired, cut one side of the umbilical tape (between the nose and the clip) and gently pull both the retention device and the feeding tube out at the same time.

Evidence Base and Further Reading

Anderson, M.R. et al. (2004) The nasal loop provides an alternative to percutaneous endoscopic gastrostomy in high risk dysphagic stroke patients. Clinical Nutrition: vol 23, No. 4, 501-506

Department of Health (2009) Reference guide to consent for examination or treatment 2nd edition. July 2009 DOH, London.

Lothian University Hospitals Trust. Protocol for the insertion of nasal loops by registered practitioners. January 2009

National Nurses Nutrition Group Guidelines - http://www.nnng.org.uk

National Patient Safety Agency (2011). Patient safety alert 002. Reducing the harm caused by misplaced nasogastric tubes. NPSA, London. NPSA2011/PSA002.

National Patient Safety Agency (2012). Rapid Response Report harm from flushing of nasogastric tubes before confirmation of placement. NPSA/2012/RRR001

Popovitch MJ, Locrem JD, Zivot JB, (1996) Critical Care Medicine. March, 24(3); 429-31

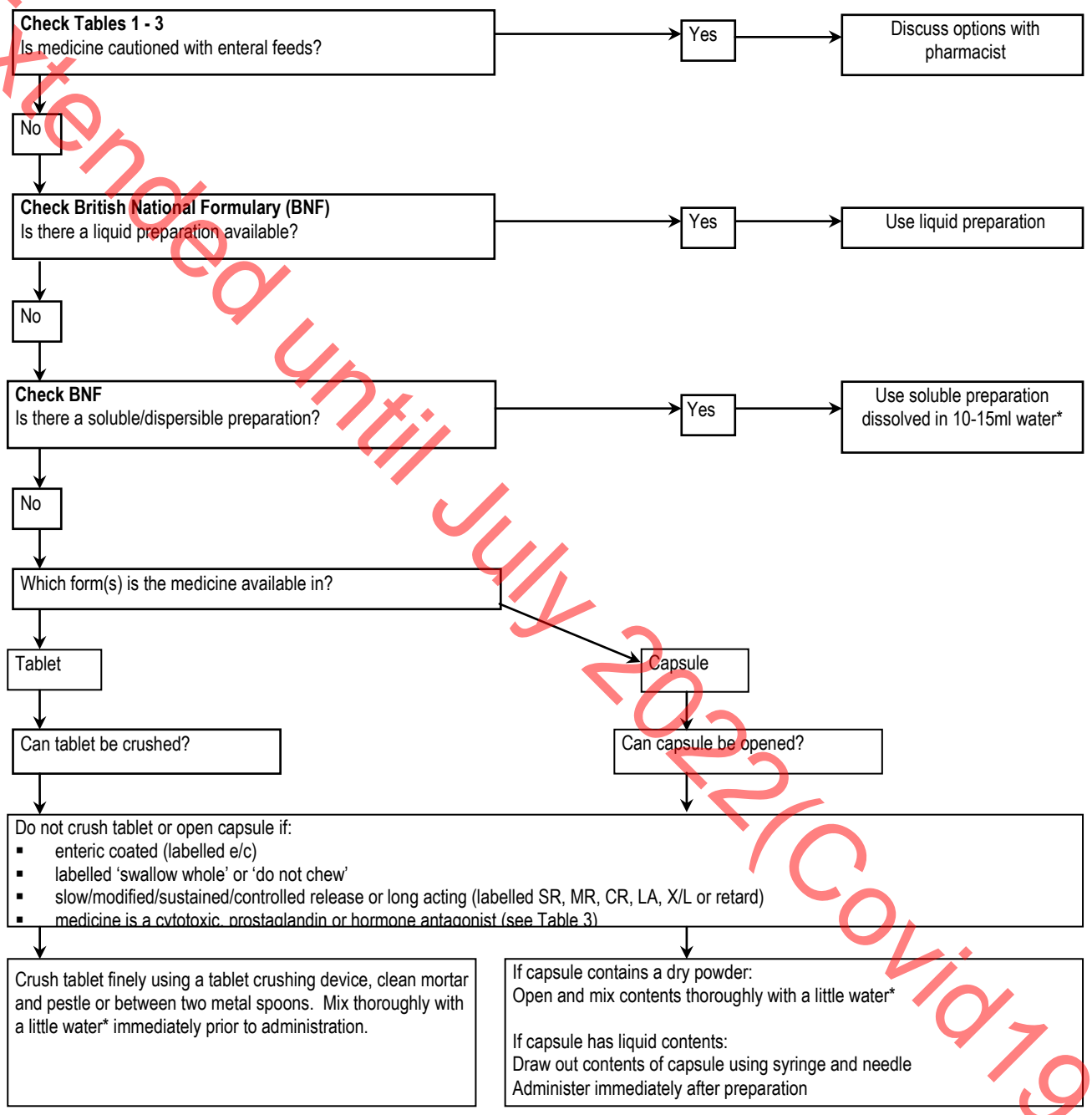
Williams J. (2005) Using an alternative fixing device for nasogastric tubes. Nursing times: Vol 101, No 34, 26-27.

Appendix 15: Administration of medicines via enteral feeding tubes

Reference: Thomson, FC, Naysmith, MR and Lindsay, A (2000) Managing drug therapy in patients receiving enteral and parenteral nutrition Hospital Pharmacist 7(6) 155-164. Reproduced by permission of Anne Balfour, Clinical Pharmacist, Western General Hospital Edinburgh

Flowchart for administration of medicines via enteral feeding tubes

Identify medicines to be given and contact pharmacist for advice before administering



NB: Take care when using syringes to draw up liquid / dispersed medicines for administration by enteral feeding tubes: fatalities have resulted from accidental intravenous administration of drugs intended for enteral use, use only labelled oral/enteral syringes that cannot be connected to intravenous catheters or ports.

* Where water is referred to above, in hospital use sterile water and in community use cooled/boiled water

If none of the above options apply, or if you have any queries, contact your clinical pharmacist for advice.
Your pharmacist will consider other options such as whether the drug can be made into a liquid preparation, given by another route (e.g. suppositories) or whether an alternative medicine may be suitable.

Table 1: Medicines which should be administered with caution in patients on enteral tube feeding

Antacids:	Some indigestion mixtures interact with certain enteral feeds.
Ciprofloxacin:	See 'Quinolone antibiotics' below.
Carbamazepine:	Use suppositories if patient is 'nil by mouth' - licensed for 2 weeks only (dose adjustment required).
Chlormethiazole:	Use alternative medicine: syrup and capsule contents bind to plastic of feeding tube.
Ciclosporin (Neoral®):	Absorbs to plastic of tube: flush well before and after dose and monitor blood levels.
Digoxin:	If liquid preparation is used dosage adjustment may be necessary.
Etidronate (Didronel PMO®):	Dissolve tablet in water*. Stop feeds for 2 hours before and after dose.
Finasteride:	Crushed tablets should not be handled by women of childbearing age.
Hydralazine:	Decreased absorption with enteral feeds. Monitor patient's blood pressure.
Levodopa (Madopar®/Sinemet®):	When using dispersible tablets, total daily dose may need to be given more frequently, especially when changing from slow release tablets. 400mg levodopa in slow release formulations is equivalent to 300-400mg levodopa in ordinary release/dispersible tablets. Adjust dose according to response.
Lithium:	Total daily dose may need to be given in more frequent divided doses when changing from slow release to liquid preparation. Dose adjustment is necessary with liquid preparation.
Penicillin V:	Unpredictable absorption with enteral feeds. Advise stopping feeds for 1 hour before and 2 hours after each dose. May need to consider different route due to poor absorption
Quinolone antibiotics:	Absorption of quinolones is reduced due to interaction with feeds. Stop feed for 1 hour before and 2 hours after each dose. Do not mix with tap water.
Sodium fusidate (Fucidin®):	When using the liquid preparation, dosage adjustment is necessary.
Sucralfate:	Binds to proteins in the feed. Use alternatives, otherwise feed would have to be stopped for 12 hours each day.
Theophylline:	Absorption decreased significantly and metabolism increased. Stop feed for 1 hour before and 2 hours after each dose and monitor levels.
Vancomycin:	Use injection enterally: reconstitute 500mg vial with 10ml water: stable in fridge for 24 hrs.
Warfarin:	May interact with vitamin K in feed. Monitor INR closely or use heparin when critical. Stop feed for 1 hour before and after administration

*** Where water is referred to above, in hospital use sterile water and in community use cooled/boiled water**

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.

NB: This list is not exhaustive, if in doubt, ask your clinical pharmacist.

WARNING!

Numerous papers are available describing the problems of administering phenytoin via enteral feeding tubes. The use of feeding breaks has been shown NOT to improve drug absorption.250 It is recommended that phenytoin should NEVER be administered via enteral feeding tube. If parenteral therapy is not possible, alternative treatments should be considered.

Table 3: Cytotoxic medicines / Prostaglandins / Hormone antagonists

These medicines should not be crushed. Contact your clinical pharmacist for advice on the closed system technique to dissolve tablets before giving any of the following medicines via enteral feeding tube:

- 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®)

Drug Interactions With Enteral Nutrition (general use)

Guidance regarding enteral administration of medicines and interactions between medicines and enteral feeds, including feeding breaks

General points:

- This list is not exhaustive – contact ward pharmacist or Medicines Information (01355 584879 or medicines.information@lanarkshire.scot.nhs.uk) for advice regarding other medicines.
- In general, crushing / dispersing tablets and administering them via enteral feeding tubes renders their use off label.
- Even if liquid available, it is not always the best option for administration via enteral tubes
- Be careful with sodium content of effervescent / dispersible preparations
- Withholding enteral feeds can compromise nutrition and interfere with blood glucose management.

Written by: Medicines Information Team, Hairmyres Hospital May 2016
Approved by: Area Drugs and Therapeutics Committee Review date: May 2018

DRUG	FORMULATION	ACTION
Antimicrobials		
Ciprofloxacin	Disperse tablets (suspension – high risk of tube blockage)	• Use higher end of dose range (especially if jejunal) • Withhold feed 2 hours before and after dose (especially if jejunal)
Levofloxacin	Crush tablets and mix with water	• Use higher end of dose range • Withhold feed 2 hours before and after dose
Ofloxacin	Crush tablets and mix with water	• Use higher end of dose range • Withhold feed 2 hours before and after dose
Metronidazole	Crush tablets and mix with water (suspension available but contains a different salt which requires a feeding break & is not suitable for jejunal administration)	• No feeding break required if crushed tablets are used
Flucloxacillin	Use liquid	• Withhold feed 1 hour before and 2 hours after dose • Possibly not compatible with enteral feeding due to QID dosing • Consider IV or alternative antibiotic
Penicillin V	Use liquid	• Withhold feed 1 hour before and 2 hours after dose • Possibly not compatible with enteral feeding due to QID dosing • • Consider IV or alternative antibiotic
Trimethoprim	Use liquid	• Withhold feed ½ hour before and after dose if possible for optimal absorption.
Co-amoxiclav	• For NG/PEG use liquid mixed with an equal volume of water • Not suitable for jejunal administration	• No feeding break required

DRUG	FORMULATION	ACTION
Cardiology medicines		
Warfarin	Crush tablets and mix with water	• If feeding regime is kept as stable as possible, a break is probably not required. • Where possible withhold feed 1 hour before and after dose • Keep intake consistent and monitor INR when regime is changed
Lercanidipine	Crush tablets and mix with water	• Withhold feed ½ hour before and after dose • Consider changing to amlodipine
Digoxin	• Use liquid (don't dilute) • 62.5 microgram digoxin tablet = 50 microgram digoxin liquid	• If high fibre feed, withhold feed 2 hours before and 1h after dose
Perindopril	Crush tablets and mix with water	• Withhold feed ½ hour before and after dose • Consider changing to lisinopril
Gastro medicines		
DRUG	**FORMULATION**	**ACTION**
Epilepsy Medicines		
Phenytoin ***It is recommended that phenytoin should NEVER be administered via enteral feeding tubes. Absorption is extremely unpredictable. Only use if there is no suitable alternative route or drug e.g. IV phenytoin.*** ***Must discuss with medical staff before giving enteral phenytoin.***	• For NG/PEG use liquid mixed with an equal volume of water • Not suitable for jejunal administration • 100mg phenytoin capsule = 90mg phenytoin liquid	• Can usually be given as a single daily dose at night • Conflicting information but most sources advise withhold feed for 1-2 hours before and after dose
Carbamazepine	• Use liquid mixed with an equal volume of water • If daily dose > 400mg, divide into 4 equal doses	• No feeding break required • Enteral feed interaction should be considered if patient fails to achieve adequate levels

DRUG	FORMULATION	ACTION
Miscellaneous		
Theophylline ***Seek specialist advice regarding alternatives.***	• Modified release tablets are not suitable for crushing • **Aminophylline** injection may be given enterally (draw up via filter straw). Aminophylline is a salt of theophylline. Dose change required - contact pharmacy for advice. • If a modified release preparation is required, contact pharmacy for advice.	• No feeding break required • Enteral feed interaction should be considered if patient fails to achieve adequate levels
Parkinsons Disease medicines Also refer to: NHSL Acute management of PD patients who are NBM	**Madopar** Do not open capsules. Use dispersible tablets.	• No feeding break required • Absorption may be altered by enteral feeds • Timing of feed and dose should be as consistent as possible to reduce fluctuations in daily response.
	Sinemet Do not crush modified release tablets. Disperse standard tablets in water.	
	Stalevo Crush tablets and mix with water	
Levothyroxine	Crush tablets and mix with water	• Monitor thyroid function • Enteral feed interaction should be considered if patient fails to achieve adequate response. • Consider withholding feed for 1 hour before and after dose, or adjust dose.

Information prepared using:

- NEWT Guidelines. Accessed online at www.newtguidelines.com, January 2016
- White R, Bradnam V. Handbook of Drug Administration via Enteral Feeding Tubes, 3rd Ed. London: Pharmaceutical Press, 2015.
- Stockleys Drug Interactions. Accessed online via www.medicinescomplete.com, January 2016

Appendix 17
Enfit Enteral Syringes

Global standard IOS 80369-1 This standard establishes requirements for small bore connectors for liquids and gases making it difficult, if not impossible, for unrelated delivery systems to be connected. The introduction of this standard has seen enteral feeding system change to Enfit a reverse luer connector system.

From March 2016 we have seen syringes, enteral feeding tubes and ancillaries gradually be introduced into healthcare. All our hospital and home care delivery supplies should now be Enfit compliant.

Hospital wards use single use Enfit syringes. All enteral syringes will be purple in colour to distinguish them from other syringes.

Community patients will use multi – use Enfit syringes designed to be used for 7 days

Guidelines for use of reusable enteral syringes

For Healthcare Professionals

- Multiuse syringes are for single patient use only
- The appropriateness of using multiuse syringes should be assessed on an individual patient basis.
- Multiuse syringes are only suitable if **single patient use** can be guaranteed.
- Enteral syringes are designed to be cleaned and reused up to 1 week. This means they may be cleaned for 1 week after an episode of care without loss of performance or accuracy.

An **episode of care** is the whole procedure at a given time. For example: flush, feed, flush OR flush, medication, flush, medication, flush. If feed and medication are being given at the same time refer to information on drug – nutrient interactions.

Cleaning Instructions

- The syringe should be cleaned immediately after every episode of care
- The syringe should be washed in warm soapy water (domestic washing up liquid)
- It is essential to draw soapy water in and out through the syringe several times using the plunger until all traces of feed or medication has been removed.
- The barrel and plunger should then be separated and washed thoroughly in warm soapy water
- Rinse barrel and plunger under a cold tap.
- All excess water should be shaken off. Tapping the end of a syringe on a clean paper towel/kitchen roll will dislodge any water that may still be in the tip of the syringe.
- Wipe dry with a paper towel/kitchen roll
- Store in a clean dry container with a lid, barrel and plunger separated.
- **If at any point during use the syringe becomes difficult to operate, the markings become unclear or there is any visible damage to the barrel, tip or plunger seal, the syringe should be replaced.**

Appendix 18:

Protocol for Care of Extension Sets for Gastrostomy and Gastro-Jejunal feeding tubes

This advice applies to:

- MIC KEY right angled feeding extension set
- MIC KEY bolus feeding extension set

Cleaning	• The extension set should be cleaned immediately after disconnection from low profile feeding device • The extension set should be washed inside and out with hand hot soapy water • The extension set should be rinsed thoroughly and allowed to air dry • Store in a clean dry container with a lid
Replacement	• MIC KEY extension sets are single patient use only • The extension set should be changed every two weeks • If there is any deterioration in the set prior to the change date replace with a new extension set

Appendix 19

NHS Lanarkshire Dietetic Pathways for Enteral Feeding Links

1. Planned replacement of primary PEG Tube

http://www.clinicalknowledgepublisher.scot.nhs.uk/Published/PathwayViewer.aspx?fileId=2538

2. Planned replacement of balloon retained eternal feeding tubes (G tube)

http://www.clinicalknowledgepublisher.scot.nhs.uk/Published/PathwayViewer.aspx?fileId=2539

3. Role of hospital dietitian

http://www.clinicalknowledgepublisher.scot.nhs.uk/Published/PathwayViewer.aspx?fileId=2536 –

4. Role of nursing staff

http://www.clinicalknowledgepublisher.scot.nhs.uk/Published/PathwayViewer.aspx?fileId=2537 –