

MEDICINE ADMINISTRATION VIA THE ENTERAL FEEDING TUBE ROUTE

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



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



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	Problem medicines:	
	 Phenytoin, Digoxin and Carbamazepine: Blood levels may be affected by feeds, 	
	these should be checked regularly. It may be necessary to increase the dose.	
	Antacids: The metal ions in the antacids bind to the protein in the feed and can block	
	the tube. Consider using alternative drugs.	
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	Penicillins: Feed may reduce the absorption, a higher dose may be needed. If	
	possible stop feed 1 hour before and 2 hours after administration.	
	 Other antibiotics: Levels of antibiotics such as ciprofloxacin, tetracyclines and 	
	rifampcin can be significantly reduced by feed. Consider other alternatives or	
	increase doses or adjust feeding regimen as required.	
((This list is not exhaustive)	
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Lothian Enteral Tube Feeding Best Practice Statement		
Omeprazole (Losec MUPS®)	 Adults To ensure complete dispersion of tablet and avoid clogging the feeding tube, follow this procedure: Remove plunger from a 50ml syringe, place Losec MUP in syringe and replace plunger Fill syringe with at least 25ml water* and 5-10ml air Shake for at least 2 minutes to disperse tablet (may take longer if a smaller volume is used) Hold syringe to tube while tip points upwards Shake syringe and position it with tip pointing down. Immediately inject 5-10ml into the tube Invert syringe after injecting and shake Reposition syringe and inject a further 5-10ml. Repeat until syringe is empty Fill syringe with 25ml water* and 5ml air and repeat the whole procedure to ensure all granules are removed from the syringe. Paediatrics Flush enteral feeding tube with 5-10ml water before and after administration Remove plunger from a 50ml syringe, place Losec MUP in syringe and replace plunger Fill syringe with at least 10ml water* and 5-10ml air Shake for at least 2 minutes to disperse tablet (may take longer if a smaller volume is used) 	atement
	 used) Hold syringe with tip pointing upwards and check tip is not clogged with tablet Attach syringe to tube while tip points upwards Shake syringe and position it with tip pointing down. Immediately inject 5ml into the tube 	

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

ISSUE	STATEMENT	EVIDENCE / REFERENCE



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

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Table 1: Cytotoxic medicines / Prostaglandins / Hormone antagonists

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

Contact your clinical pharmacist before administration.

For example:

- Altretamine (Hexalen[®])
- Aminoglutethimide (Orimeten[®])
- Anastrozole (Arimidex[®])
- Azathioprine (Imuran[®])
- Bicalutamide (Casodex[®])
- Busulphan (Myleran[®])
- Chlorambucil (Leukeran[®])
- Ciclosporin (Neoral^{®/}Sandimmun[®]/SangCya[®])
- Cyclophosphamide (Endoxana[®])
- Cyproterone acetate (Cyprostat[®])
- Estramustine (Estracyt[®])
- Etoposide (Vepesid[®])
- Exemestane (Aromasin[®])
- Flutamide (Chimax[®]/Drogenil[®])
- Formestane (Lentaron[®])
- Hydroxyurea (Hydrea[®])
- Idarubicin (Zavedos[®])

- Letrozole (Femara[®])
- Lomustine (CCNU[®])
- Melphalan (Alkeran[®])
- Mercaptopurine (Puri-Nethol[®])
- Methotrexate (Maxtrex[®])
- Misoprostol (Cytotec[®]/Arthrotec[®]/Napratec[®])
- Mycophenolate (CellCept[®])
- Procarbazine (Natulan[®])
- Razoxane
- Tacrolimus (Prograf[®])
- Tamoxifen (Novaldex[®]/Embolon[®]/Fentmox[®]/Tamofen[®])
- Temozolamide (Temodal[®])
- Thioguanine (tioguanine / Lanvis[®])
- Toremifene (Fareston[®])
- Treosulphan
- Tretinoin (Vesanoid[®])

This list is NOT exhaustive