

## Management of patients receiving feed and medication via an enteral feeding tube (Adult)– Clinical Guideline

Reference No:CG-CLIN/4449/24

### Purpose

This guideline is intended for use by nursing and medical teams managing patients receiving enteral nutrition via a feeding tube. It provides instructions for administration of feed, fluid and medication and the management of complications, it also includes links to other relevant guidelines.

### Outcome

Consistent management of enterally fed patients across the Trust.

### Equipment

All equipment used to administer feed, medications or fluid via an enteral feeding tube must be Enfit compatible and will be purple in colour.

### Syringes

A 60ml Enfit syringe must be used for aspirating NG tubes, administering flushes, medication, and bolus feeds via enteral tubes, they are not accurate enough to measure medication so small volume Enfit syringes must be used for this, then medication decanted into 60ml syringe for administration.

**Syringes used within this Trust are for SINGLE USE ONLY and must be discarded once used.**

### Feeding via an enteral feeding tube

The two methods of administering feed or fluids via an enteral feeding tube are bolus or pump feeding. The dietitian will assess and recommend the appropriate method of feeding.

### Bolus Feeding

The administration of feed via a 60ml Enfit syringe, by removing the plunger and pouring the required amount of feed into the syringe, allow the feed to run in slowly using the gravity method, holding the syringe above the tube.

### Equipment required

Enteral feed.

60ml oral/enteral syringe.

Freshly drawn drinking water / sterile water if the patient is immunocompromised/has a jejunal tube.  
pH testing strips (if nasogastric/transoesophageal tube)

### Procedure for bolus feeding

1. Wash hands with soap and water and explain the procedure to the patient.
2. Two nurses to check the enteral feed with prescription and expiry date.
3. Check packaging and seal for damage.
4. If the patient has a nasogastric/transoesophageal tube, ascertain the position of the tube tip.
5. Ensure that the patient is positioned at a minimum of 35° angle prior to feeding and remains in this position for 30 minutes after administration of the feed/medication or flush.
6. Remove end cap of the feeding tube, remove the plunger from the syringe and connect the syringe to the feeding tube.
7. Flush the tube, using a gravity method, with a minimum of 50mls (or as regimen states) of freshly drawn drinking/sterile water, with a 60ml Enfit syringe.
8. Pour the required amount of feed into the syringe, hold the syringe above the tube and allow the feed to run in slowly. Never attempt to rush bolus feeding.
9. You may need to administer more than one syringe full of feed at a time. If so, utilise the clamp/pinch the tube between boluses, or try to top up the syringe before the feed runs through.
10. When the feeding is finished, using a 60ml Enfit syringe, flush the tube with 50mls (or as regimen states) of freshly drawn drinking/sterile water, replace the cap on the feeding tube.
11. Disposed of the syringe, after each bolus feed.

## **Pump feeding**

### **Equipment required**

Nutricia Infinity feeding pump.

Enteral feed.

Administration set.

60ml Enfit syringe.

Freshly drawn drinking water or sterile water if patient is immunocompromised or has a jejunal feeding tube.

pH testing strips (if nasogastric/transoesophageal tube)

### **Prior to starting feed**

1. Wash hands with soap and dry thoroughly. Explain the procedure to the patient.
2. Two nurses to check the enteral feed with prescription and feeding regimen. Check the expiry date, that the packaging is not damaged, or the seal broken, and that there is no curdling or discolouration of the feed. Shake the pack well.
3. Ensure that the patient is positioned at a minimum of 35° angle prior to feeding and remains in this position for 30 minutes after the feed has finished.
4. Flush the tube, using a gravity method, with a minimum of 50mls (or as regimen states) of freshly drawn drinking/sterile water, with a 60ml Enfit syringe.
5. Label the administration set with date and time (discarded after 24 hours)
6. Unscrew and remove the purple protective cap from the pack of feed. Hold pack at base of spout and pierce foil. Take care not to touch connector on giving set or spout. Carefully screw giving set onto the spout.
7. Hang the pack of feed onto the drip stand.
8. Set up and programme the Nutricia infinity pump, for instructions follow the link- [Flocare Infinity pumps: instructions for use \(nutricia.co.uk\)](https://www.nutricia.co.uk/flocare-infinity-pumps-instructions-for-use)
9. When the feed is complete, disconnect the administration set from the feeding tube and flush the tube as in step 4.
10. Discard any remaining feed.

Occasionally the dietitian will recommend a feed that needs to be decanted into a reservoir for pump administration. The reservoir must only this can only be used for 24hours, and the feed must not hang for more than 4 hours.

## **Nursing management of patients receiving enteral feeding**

- All diabetic patients must be referred to the diabetes specialist nurses when enteral feed is to be commenced.
- Giving sets must be labelled “enteral” and with the date and time opened.
- Giving sets must not be used for longer than 24 hours.
- Patients must be positioned at least at a 35° angle whilst feeding and maintain this position for at least 30 minutes after the feed has been discontinued.
- Maintain strict fluid balance chart.
- Weigh weekly.
- Monitor blood glucose levels of diabetic patients receiving enteral feed a minimum of four times daily
- Administer the enteral feed at room temperature.
- If the patient is NBM it is essential that regular mouth care is performed to maintain oral health

## Managing complications during enteral feeding

### Diarrhoea

Review of medications e.g., antibiotics, laxatives.  
Rule out infective cause.  
Refer to dietitian for review.  
Ensure adequate fluids are given to replace any losses.

### Constipation

Review of medications e.g., analgesics.  
Ensure adequate fluid intake as per feeding plan.  
Refer to dietitian for review.

### Aspiration/reflux

Ensure correct positioning of the patient during feeding and maintain the position for an hour after discontinuing the feed.  
Ensure that fine bore not wide bore NG tubes are used for feeding.  
Review medication and consider the use of prokinetics.

### Nausea and vomiting

Rule out non feed related cause.  
Review the feeding rate.  
If the patient is nauseous, consider the use of anti-emetics.  
If the patient is vomiting – stop the feed and contact the dietitian.

### Refeeding syndrome

Refer to refeeding syndrome- full clinical guideline. <https://derby.koha-ptfs.co.uk/cgi-bin/koha/opac-detail.pl?biblionumber=1427>

### Abdominal pain/distension

Check bowel function to rule out constipation.  
Minimise any air going into the feeding tube.  
Review feed method, volume, rate, fibre content and concentration.  
Review gut motility agents.

### For management of complications related to feeding tubes, refer to the appropriate guideline,

Insertion and management of NG tubes <https://derby.koha-ptfs.co.uk/cgi-bin/koha/opac-detail.pl?biblionumber=1882>

Management of gastrostomy feeding tubes <https://derby.koha-ptfs.co.uk/cgi-bin/koha/opac-detail.pl?biblionumber=4450>

Management of jejunal feeding tubes [Details for: Management of Jejunal Feeding Tubes -Adults - Clinical Guideline > Trust Policies Procedures & Guidelines catalog \(koha-ptfs.co.uk\)](#)

## Administration of medication via enteral feeding tubes

- Drugs are not usually licensed for administration via enteral feeding tubes; this has implications for those prescribing, supplying and administering the drug, as they become liable for any adverse event a patient may experience. (White and Bradnam 2007)
- Medications must be prescribed for administration via the appropriate route e.g. NG, NJ, PEG and not PO.
- If medications are not available in a liquid, suspension or effervescent form please discuss with ward pharmacist. If medications are to be crushed ensure that they are crushed either in a pestle and mortar, pill crusher or between two metal spoons until they are a fine powder. Disperse in warm water and use a gentle 'swirling' motion as they are administered into the feeding tube. If tablets are enteric coated or sustained release formulation **DO NOT** crush

- Medications must be given separately, and the tube must be flushed with at least 10mls of water between each medication.
- No medication should be added to the feed/feed chamber.
- Medicines should be measured in either a graduated medicine measuring pots or small volume enteral syringes **NOT** in a 60ml syringe, as they are not accurate enough.
- All oral/enteral syringes must be labelled with the name and dose of the medicine, patients name, date and time, unless preparation and administration is one uninterrupted process and the syringe does not leave the hand of the person preparing it.
- Medication should not be given via tubes that are for aspiration or on free drainage.
- All syringes are single use only and must be discarded after use.
- For further information regarding the preparation of specific medicines for administration via an enteral feeding tube refer to the Trust Medicines code or ward pharmacist.

## Administering medicines via enteral feeding tubes (BAPEN)

- Administering medication via an enteral feeding tube requires thought and exercise of clinical judgement.
- Most medicines are not licensed for administration via enteral feeding tubes and professionals responsible for prescribing, supplying and administering them accept liability for their use.

### Initial Considerations

- Is medication essential?
- Can an alternative route be used? eg, topical, sublingual, rectal, IV
- Is there a more suitable formulation within the same therapeutic class?
- Is the oral route available for medicines administration?
- What is the size and site of feeding tube? eg. NG, NJ, PEG

### Medicine Formulations

Formulation	Advantages	Disadvantages
Liquid solution	Easy to measure Accurate dosing Ready to use	Excipients can cause diarrhoea eg. sorbitol Multiple bottles may be required Hyperosmolar medicines can have GI side effects Bioavailability can differ between liquid and tablet formulations eg. digoxin
Liquid suspension (insoluble drug in a suspending agent)	Easy to measure Ready to use	Large granule size can block tubes Unlicensed 'specials' can be expensive Need adequate mixing to ensure accurate dosing
Soluble tablets (dissolve in water)	Drug is in solution Accurate dosing Generally	Some drugs can take time to dissolve

Formulation	Advantages	Disadvantages
	inexpensive Convenient	
Dispersible tablets (disintegrate in water)	Accurate dosing Generally inexpensive Convenient	Drug particles may block tube
Effervescent tablets (disintegrate and fizz in water)	Accurate dosing Convenient	Sodium content can be high May require large volume of water Some drugs can take time to disperse
Opening capsules	Convenient Relatively inexpensive	Contents may not disperse in water Occupational exposure eg. antibiotics Can be difficult to open

In general the preferred formulations are liquid solutions and soluble tablets.

Crushing tablets and opening capsules should be considered as a last resort due to inaccuracies in dosing, length of time for preparation and risk of occupational exposure.

If unsure, a pharmacist or local medicines information department should be contacted.

Medicines that should **NEVER** be crushed include:

- Modified/extended release tablets
- Enteric coated tablets
- Cytotoxics
- Hormones

Please note that most orodispersible tablets eg. lansoprazole fastabs, loperamide melts, are **NOT** suitable for sublingual administration.

### **Nasojejunal tubes**

NJ tubes have greater potential to block due to longer length and smaller lumen. Some medicines are unsuitable for NJ administration as this bypasses gastric and duodenal absorption. Hyperosmolar medicines can cause GI side effects as the diluting effect of the stomach is bypassed. Advice from a pharmacist should always be taken before medication is administered via an NJ tube.

### **Drug and feed interactions**

Some medicines interact with enteral feeds causing a reduction in drug or feed absorption or a tube blockage. This can be avoided by using once daily dosing if possible, changing to an alternative medicine and/or administering medicines during a break in feeding. A pharmacist should always be consulted before administering medicines and feed via an enteral feeding tube. Some examples of drug interactions include:

Medicine	Effect of interaction	Solutions
Phenytoin	Reduced absorption Sub-therapeutic levels	Give intravenously Stop feed 2hrs before administration Give once daily if possible Monitor plasma levels
Warfarin	Reduced absorption and effect dependent on vit K content of feed	Monitor INR and adjust dose Give s/c LMWH
Flucloxacillin	Reduced absorption as best absorbed on an empty stomach	Give intravenously Change to alternative antibiotic
Sucralfate	Reduced effect as binds to feed GI obstruction	Stop feed 1hr before administration and restart 1hr after

## References

NHS Greater Glasgow + Clyde Nutrition Resource Manual; Section 5, part 3.  
British National Formulary 72. September 2016.  
NMC, Standards for medicines management, London: Nursing and Midwifery Council 2009.  
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## Document control

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