

## Royal Prince Alfred Hospital Enteral Nutrition Policy

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<b>Functional Sub-Group:</b>	Clinical Governance
<b>Summary:</b>	This policy aims to ensure that nutritional (+/- hydration) needs are met in patients who are unable to maintain an adequate oral intake for any reason.
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**Note:** Sydney South West Area Health Service (SSWAHS) was established on 1 January 2005 with the amalgamation of the former Central Sydney Area Health Service (CSAHS) and the former South Western Sydney Area Health Service (SWSAHS).

In the interim period between 1 January 2005 and the release of single Area-wide SSWAHS policies (dated after 1 January 2005), the former CSAHS and SWSAHS policies were applicable as follows:-

- SSWAHS Eastern Zone : CSAHS
- SSWAHS Western Zone: SWSAHS

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### Enteral Nutrition Policy

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## Royal Prince Alfred Hospital

### Enteral Nutrition Policy

#### 1. Introduction

##### **The risks addressed by this policy:**

###### Clinical Risks:

Without nutrition support, patients who are unable to meet their nutritional needs orally will experience deterioration in their nutritional status. Malnutrition is a common problem in hospitals and contributes to increased mortality, morbidity, infectious complications, delayed wound healing, increased length of stay and increased costs.

##### **The aims / expected outcome of this policy**

To facilitate the safe, appropriate administration of enteral tube feeding in order to meet patients' nutritional and hydration needs when they are unable to meet their needs orally

#### 2. Policy Statement

Inappropriate management of tube feeding can have a variety of detrimental effects including: dehydration, malnutrition, impaired swallowing, nasopharyngeal or gastric ulceration, aspiration injuries, and gastrointestinal or respiratory infections.

This policy has been developed to provide a guide to managing enteral tube feeding in the hospital ward setting.

#### 3. Principles / Guidelines

##### **3.1 Referral**

- Patients requiring enteral tube feeding should be referred promptly to the Dietitian for nutritional assessment and prescription of an appropriate individualised nutrition support regimen. The feeding tube should be inserted according to DOH Policy PD2009\_019 Fine Bore Nasogastric Feeding Tubes for Adults Policy. The feeding pump is obtained by telephoning the Diet Office (or NARMU if out-of-hours).

##### **3.2 Nursing Responsibilities**

- Ensure that patient's upper body is raised by at least 30° to minimise aspiration risk.
- Follow the Enteral Feeding Flowsheet (appendix 7.1) to advance the feed rate to the goal rate determined by the Dietitian (recorded in the Enteral Feeding Chart).
- Flush the feeding tube four-hourly with at least 30mL water (or other prescribed amount) to maintain feeding tube patency, as per Enteral Feeding Chart.

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- Check position of feeding tube once per shift (according to DOH Policy PD2009\_019) and inform MO if it appears that tube has been displaced.
  - Assess feeding tolerance each shift: ask patient about abdominal discomfort, overfullness or nausea, perform abdominal assessment if any reported problems: look (observe any signs of abdominal distension); listen (auscultate for presence or absence of bowel sounds); feel (palpate for tenderness, rigidity or tightness).
  - Inform MO if there is increasing tenderness, rigidity or distension, or blood or mucus in stools or a change in bowel sounds. (Note that bowel sounds provide some indication of stomach and colon function only. Bowel sounds do not need to be present to commence feeding, as the small bowel may still have normal motility and absorptive function.)
  - Chart enteral feeding and tube flushes, bowel activity, and any signs of feeding intolerance, in the fluid chart, progress notes, and/or nursing care plan.

### **3.3 Enteral Feeding Flowsheet**

- Enteral Feeding Flowsheet – see Appendix 7.1

### **3.4 General Guidelines for Starting and Stopping Feeding**

#### **Initiating Feeding**

- Enteral feeding is indicated if the gut is functioning and patient is unable to eat an oral diet (such as where speech pathologist assessment indicates that swallowing is inadequate) or if oral intake is not meeting patient's nutrition / hydration needs.
- The position of a fine-bore enteral feeding tube should be confirmed before feeds commence, according to DOH Policy PD2009\_019. Feeding may start 4 hours after PEG insertion.
- The Enteral Feeding flowsheet is used for commencing feeds unless MO or Dietitian document alternative instructions. Patients who have been on sliding scale insulin should be changed to a regular sc insulin regimen when they have started enteral feeds, for better control of BSLs.

#### **Stopping Feeding for Procedures or Patient Transport**

- Interruption of feeding should be minimised once commenced, as the feeding regimen is designed to provide a precise amount of nutrition and interruptions will prevent the patient receiving the full amount.
- For radiology: unless fasting is required, feeds should be continued until patient is ready for transport.
- For surgical procedures: MOs to document the time that feeds should stop before theatre. In general, six hours should be adequate for surgery, and can often be less. A fasting period before surgery is not required with jejunal feeding.
- Caution is required when stopping feeds if the patient is receiving insulin. Perform hourly blood sugar levels initially after stopping feeds. Insulin sliding scale may need to be reviewed if feeds remain off.

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### **Resumption of Stopped Feeds**

- If feeds have been stopped for less than 6 hours, they can be recommenced at the previously tolerated rate.
- If feeds have been stopped for more than 6 hours, use Enteral Feeding Flowsheet (appendix 7.1) to start feeding again. After a PEG insertion, follow the endoscopist's instructions to flush the tube and then resume the patient's previous tube feeding regimen.

### **Stopping Tube Feeding**

- Ideally, the tube feeding should not be stopped until the patient is fully established on an oral diet. Contact the Dietitian when the patient is to start eating, so that an appropriate transitional regimen can be arranged.
- Transitional feeding, that is, combining oral and tube feeding, is the best way to ensure that the patient's full nutritional needs are met while changing from tube feeds to oral diet. This may involve stopping feeds before each main meal, or feeding overnight.
- Food charts should be kept to allow close monitoring of oral intake, and the dietitian will adjust the feeding regimen accordingly.

### **Jejunal Feeding**

- When a patient has a new surgical jejunostomy or nasojejunal feeding tube, advance the feed rate at half the rate in the Flowsheet, ie start at 20mL/h and increase eight-hourly by no more than 20mL/h at a time. Assess feeding tolerance in terms of abdominal exam, as aspirates are not informative in jejunal feeding.

## **3.5 Out of Hours Issues**

- Please contact the Diet Office to arrange supply of enteral feeding pumps or feeding formula. Outside office hours, feeding pumps can be supplied by NARMU.
- If a patient is receiving a specialised feeding formula and the supply is running low out-of-hours, the feed can be replaced with Osmolite at an interim rate of 60mL/h until the next day when the Diet Office should be informed

## **3.6 Storage of Feed Formula and Minimising Contamination**

- Enteral giving sets should be changed every 24 hours.

### **Hang Time**

- Feeds in the closed system bottle can hang (at room temperature) for 24 hours. Feeds remaining in the bottle after 24 hours should be discarded and a new bottle started. Feeds given in a Kangaroo Bag should not hang at room temperature for more than four hours. The bag should be completely empty, and flushed with water, before refilling, and a new bag used every 24 hours.

### **Refrigeration Requirements**

- Unopened feeding formulae may be stored at room temperature, away from direct sunlight. Keep feeding formula in the allocated place on the ward, and return any unused formula to Food Services. Containers of formula made up from a powder (such as Vivonex), or opened formula cans, should be kept covered, refrigerated promptly, and any unused portion discarded after 24 hours.

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### Additions to the Feed

- Occasionally a patient may require extra water, salt etc to be given enterally. These should not be mixed with feeds.
- Any water needed in addition to the patient's ordinary requirements should be prescribed as tube-flushes in the Enteral Nutrition chart. Extra sodium can be given as salt tablets (10mmol Na<sup>+</sup> each) or as ordinary food service salt sachets (17mmol Na<sup>+</sup> each) which are cheaper and less bulky, and do not require crushing.
- Enteral feeding formulae are only 70-85% water and this should be taken into account when assessing fluid needs.

### 3.7 Alternative Feeding Regimes

- Patients preparing for discharge on home tube feeds may change over to their home regimen while in hospital. This regimen would usually be an intermittent or bolus feeding regimen.
- The feeding tube should be flushed before and after any intermittent or bolus feeding, and four-hourly during continuous feeding or if feeds have been suspended for any length of time.
- Bolus feeds can be given via a syringe, by removing the plunger from a 60mL catheter-tip syringe and attaching the syringe to the feeding tube. The required amount of feed is poured into the syringe chamber and allowed to run through by gravity over 10 to 15 minutes. A new syringe should be used for each bolus feed.

### 3.8 Giving Medications via the Feeding Tube

- Use liquid preparations whenever available. Effervescent or powdered forms are also suitable. Beware of crushing any medication with an enteric coating – check with the ward pharmacist if unsure (refer to “Do Not Crush” guidelines on RPAH Pharmacy Website <http://intranet.sswahs.nsw.gov.au/RPA/Pharmacy/pdfs/DonotCrush.pdf>).
- Cytotoxic drugs MUST not be administered via feeding tubes. Oral cytotoxic drugs MUST not be crushed or broken. Check the RPAH PharmWeb site before crushing any unfamiliar medication.
- Flush the feeding tube with water before and after each medication. This prevents medications reacting with the feed and with one another, blocking the tube. Ensure that medications are well crushed.
- It is preferable to leave the giving set connected to the feeding tube if possible (use the Y port of the tube or giving set, if there is one).
- Use the roller clamp, or manually kink the giving set tube, to prevent back-flow of the medication. If the tube does not have a Y-port, disconnect and cap the giving set when giving medications and water flushes.
- Many medications interact with enteral feed formula if insufficiently diluted, and in some cases it may be preferable to use an intermittent feeding regimen to allow a suitable break in feeds for administration of these medications: the Dietitian and Pharmacist should agree on an appropriate feeding regimen to allow this yet still meet the patient's nutritional needs.

### 3.9 Unblocking the Feeding Tube

- Medications are the most common cause of tube blockages and this can be prevented by flushing well before and after giving each well-diluted well-crushed medication through the tube.

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- If the tube can be flushed slowly, and flushing does not seem to improve the flow, then the tube may be kinked rather than blocked. (Confirm this by x-ray. It may be necessary to replace the tube if its position cannot be adjusted adequately to remove the kink.)
  - If tube appears to be blocked use the smallest syringe available that fits onto tube, suck out as much of tube content as possible, using slow and gentle pressure, then fill the syringe with very warm water (tea/coffee temperature) and flush into the tube using moderate pressure.
  - Clamp the tube, wait 10 minutes, and then suck out as much of the tube content as possible using slow and gentle pressure. Repeat.
  - Note that soft drinks/soda water should not be used for unblocking tubes, as they can make the tube prone to block again, and their acid content can worsen the blockage. If the tube remains blocked, pancreatic enzyme can be used, but this does not help with medication blockages and is expensive – check with MO whether it would be more appropriate just to replace the tube.
  - Pancrelipase+sodium bicarbonate is available from pharmacy in ready-to-use form: just add 20mL water for injection, shake well and flush into the tube using the warm water procedure described above. The bottle should be labelled with the date and time of use.

### 3.10 Managing Complications

#### Feeding Intolerance

- Assess feeding tolerance in terms of abdominal distension / discomfort, bowel activity, and any subjective symptoms reported by patient.
- Note that bowel sounds provide some indication of stomach and colon function only. Bowel sounds do not need to be present to commence or continue feeding, as the small bowel may still have normal motility and absorptive function.
- If the patient's abdomen is distended, inform MO who will assess need for PR exam, abdo X Ray, LFTs etc to exclude intra-abdominal pathology. Check the chart for record of last bowel action and manage this issue (see Bowel Management policy RPAH\_PD2010\_037).

#### Vomiting

- Follow Enteral Feeding Flowsheet (appendix 7.1). If the patient is distressed, or if vomiting is continuous, feeds can be stopped but should be recommenced after two hours or as soon as possible.

#### Diarrhoea

- Diarrhoea is not an indication for stopping enteral feeds and can mean that adequate nutrition and hydration become even more important. Follow Bowel Management Policy (RPAH\_PD2010\_037). Ensure that risk of feed contamination is minimised (see above).

#### Refeeding Syndrome

- Refer to Refeeding Syndrome Policy: RPAH\_PD2010\_036

#### Suspected Aspiration of Feed

- Prevention of aspiration (by monitoring patient position and identifying risk factors) is more important than detecting aspiration once it has occurred.

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- There is no reliable method for detecting aspiration. Blue food colouring is neither a sensitive nor a specific test and fatal complications from its use have been reported.
  - Methylene blue likewise is absorbed systemically and has its own pharmacological effects.
  - If aspiration of the feed is suspected, stop the feed and inform MO. Blue food colouring required for other purposes (such as confirming fistulae) can be obtained from Dietetics if prescribed in the medication chart by MO.

#### 4 Performance Measures

- Monitoring of incidents relating to Enteral Feeds via IIMs

#### 5 Definitions

- **BSL:** Blood Sugar Level
- **LFT:** liver function tests
- **MO:** Medical Officer
- **PR:** per rectal

#### 6 References and links

- **Policy Author:** Suzie Ferrie, Dietitian RPAH
- **Policy Authorisation:** RPA Nutrition & Dietetics Department
- RPAH\_PD2010\_036 Refeeding Syndrome Policy
- RPAH\_PD2010\_037 Bowel Management Policy
- NSW Health PD2009\_019 Fine Bore Nasogastric Feeding Tubes for Adults Policy [http://www.health.nsw.gov.au/policies/pd/2009/PD2009\\_019.html](http://www.health.nsw.gov.au/policies/pd/2009/PD2009_019.html)
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## Enteral Feeding Flowsheet

