

**PALLIATIVE CARE**  
**GUIDELINES**  
FOR A HOME SETTING IN INDIA

## 7.3 ENTERAL FEEDING

### INTRODUCTION

Enteral nutrition is the direct supply of nutrients into the gastro-intestinal tract when the patient is unable to feed orally. It is recommended in:

- Severe dysphagia - Oropharyngeal or oesophageal stricture or tumour
- Upper GI – oesophageal, gastric outlet, duodenal obstruction
- Impaired swallowing - Post-CVA, multiple sclerosis, motor neurone disease, Parkinson's disease
- Severe anorexia - Cancer, HIV
- Psychological problems - severe depression
- Upper GI obstruction

Enteral routes of administration are nasogastric (pre-pyloric), nasoduodenal (post-pyloric), nasojejunal, feeding gastrostomy, feeding jejunostomy, percutaneous endoscopic gastrostomy (PEG), percutaneous endoscopic jejunostomy (PEJ) or a radiologically inserted gastrostomy (RIG) tube.

Enteral tubes are used for:

- Bolus/intermittent/continuous feeds
- Administration of medications
- To facilitate venting or gastric decompression

### RECOMMENDATIONS

- Enteral feeding should be started only after consideration of patient's wishes, ethical issues and should be in the patient's best interest
- When a patient is unable to express his wishes, the family and carers should be consulted
- The patient/carers should be made aware as to why this form of feeding is done, how it will be done, for how long and potential problems

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- If there is evidence of variceal bleeding, NG tube insertion should be attempted three days after the acute bleeding episode and only small-bore tubes should be used (preferably endoscopy guided)
- NG tube should be changed only when necessary and switched to the other nostril if possible
- If the patient is likely to need enteral feeding for more than 4 - 6 weeks, then gastrostomy or jejunostomy should be considered, if that is a feasible option
- Hypertonic fluids, higher frequency of feeding and bolus feeding can be used when feeds are given enterally to the stomach rather than intestine
- It is unnecessary to reduce the initial feeding volumes if the patient has had normal oral intake in the past week
- Liquidised feeds should be strained
- Both inadequate and excessive feeding are harmful
- Administration of medications should be in liquid form and should not be given with the feed
- Enteric coated tablets or sustained/continuous release tablets should not be crushed
- Flushing should be done before and after every feed and administration of medications
- Patients should be in propped up position (30 degrees) during the administration of feeds and remain in propped up position for half an hour after the completion of the feed to minimize the risk of aspiration
- Bolus feed is 200 - 400mL of liquid feeds given regularly over a duration of 15 - 20 minutes, while continuous feed is given over 16-24 hours
- Bolus feeding, and continuous feeding are equally effective
- Bolus feeds should be avoided in patients with jejunostomy tubes due to dumping syndrome
- In continuous feeding, feeds should not be hung for more than four hours to avoid bacterial contamination
- Feeds should be at room temperature

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## MANAGEMENT

- **Insertion of a nasogastric tube**

- Explain the procedure to the patient/family
- Non-sterile gloves may be used if sterile gloves are not available
- Determine the length of the tubing from the tip of the nose to the ears and then to the xiphisternum and note the measurement
- Check the nostrils and determine which side is most patent; sniff test can be done by asking the patient to sniff through one nostril while the other is occluded
- Lubricate the distal 2 - 4 inches of the tubing with liberal amount of Xylocaine 2% jelly
- Make the patient sit upright, if possible
- Insert the lubricated tubing through the nostril to the oesophagus
- Instruct the patient to swallow a small quantity of water and advance the tubing as the patient swallows
- During the procedure, check the position of the tube by placing the external end under some water to make sure no bubbles coming out
- Continue the swallow-advance process until the pre-determined mark reaches the edge of the nostril
- Withdraw the tube if the patient coughs persistently, becomes cyanosed or develops respiratory problems
- Check the position of the tube by pH check
  - ❖ Hold feedings one hour prior to pH check
  - ❖ Attach a 5 - 10mL syringe to the enteral tube
  - ❖ Clear the tube with 5mL of air before aspirating gastric contents
  - ❖ Do not flush the tube with water as this would affect the pH level
  - ❖ Aspirate minimum 0.5 - 1mL of gastric content (or enough to enable pH testing); consider the “dead space” in the tubing
  - ❖ If unable to obtain aspirate, place patient in the left lateral position and attempt re-aspiration after a few minutes
  - ❖ Interpretation of pH findings
    - 5 or less - indicates placement of tube in the stomach
    - Greater than 5 - indicates the placement of tube in the respiratory tract or the intestines
  - ❖ If the placement of the tube cannot be confirmed by pH testing of gastric aspirate, radiological confirmation would be necessary

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- Secure the tube with adhesive tape
- Document the date of and the reason for the tube insertion, type, & size of tube
- Assess and ensure that the position of the nasogastric tube is in the stomach. It should be checked:
  - ❖ Before administration of every feed and/or medications
  - ❖ After a heavy bout of cough
  - ❖ After vomiting
- Nurses/carers should ensure:
  - ❖ Taping is secure
  - ❖ Position marker of the nasogastric tube
- **Feeding through and flushing of a nasogastric tube**
  - Wash your hands with soap and water
  - Ensure the position of the nasogastric tube
  - Clamp the feeding tube and then open it
  - Make the patient sit upright, if possible
  - Connect a 60mL syringe to the tube and fill with the liquid feed
  - Open the tube and allow the fluid to flow by gravity by lifting up the tube
  - Ensure that the syringe has feed during the entire feed
  - After the feed, flush the nasogastric tube with 10mL of water
  - Ensure that the air does not enter the nasogastric tube during the entire procedure
  - Clamp the nasogastric tube ensuring that the tube is filled with water
  - Remove the syringe
  - Close the nasogastric tube with the tube cap
  - Using carbonated drinks to flush the enteral tube can help in clearing the tubes and preventing blocks
- **Feeding through and flushing of gastrostomy/jejunostomy tube - on continuous feed**
  - Hang the feeding container with the prescribed amount of feed on an intravenous drip stand or pole with the clamp closed

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- Ensure that the drip chamber is partially filled with the feed
- Remove the cap of the drip set and prime the drip line with the feed after releasing the clamp
- Close the clamp once the line is fully primed
- Flush the enteral tube with 10mL of water
- Connect the tip of the drip set to the enteral tube
- Open the clamp and adjust the drip rate to the correct prescribed rate
- Evaluate the drip rate at regular intervals to ensure that the feed is administered at the correct rate
- Flush the enteral tube after every feed with 10mL of water
- Position of the tubes should be checked every 4 hours
- Taping is secure
- Ensure that the tip of the drip set of the feeding bag is capped between feeds
- Ensure that the feeding set is changed every 24 hours
  
- **When gastrostomy tube is removed accidentally**
  - Assess whether the balloon has burst
  - Re-introduce the enteral tube and tape it in place
  - If enteral tube cannot be re-introduced, then a Foley's catheter should be introduced to keep the stoma patent
  - Enteral tube should be reintroduced at the earliest
  
- **When the tubes get blocked**
  - Using a syringe, push 10mL of warm water or a carbonated drink (if appropriate) through the tube and then pull back
  - If unsuccessful after repeated attempts, then change the enteral tube

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- **Types of feeds**

- Liquidised diet
    - ❖ Ragi porridge, rice porridge, khichdi (rice + dal puree), rice water (ganji), vegetables soups, fruit or yoghurt smoothies (lassi), fruit juices
    - ❖ Liquidised food should be strained before administration through enteral tubes
    - ❖ Disadvantages - microbial contamination, inadequate or unbalanced nutritional intake, tube blockage
  - Commercial formula feeds (e.g. Ensure powder) - simple to prepare, easy to administer, better digested but expensive
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## REFERENCES

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