

### Teaching Plan

To use this lesson for self-study, the learner should read the material, do the activity, and take the test. For group study, the leader may give each learner a copy of the learning guide and follow this teaching plan to conduct the lesson. Certificates may be copied for everyone who completes the lesson.

#### *Learning objectives*

Participants in this activity will be able to:

- Maintain feeding tubes and properly perform a routine tube feeding
- Describe guidelines for delivering medications through feeding tubes
- Provide effective oral care

**Note:** Parts of this lesson may not be appropriate for every type of worker. Be sure to know the rules in your state and organization regarding the level of worker allowed to give food, fluids, or medication through feeding tubes. Be ready to explain these rules to your workers.

#### *Activity*

If available, bring the equipment used in your organization for tube feeding. Have participants handle the equipment to become familiar with it. Discuss the content of the learning guide with participants. You may wish to ask some of the participants to read the material in advance and present part of the lesson.

If needed, have participants practice oral care by brushing each other's teeth. Prepare for this by asking them in advance to bring toothbrushes and toothpaste to the session. Emphasize the importance of handling and storing dentures correctly to avoid breakage, chipping, warping, and loss.

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### ***Conclusion***

After participants take the test, review it together. Provide certificates to learners correctly answering 70%, or 7 out of 10.

### ***Test answers***

1. liquid
2. water
3. b
4. b
5. a
6. comfort, prevent bad breath, mouth dryness, infections, and irritations, reduce heart disease
7. 30 minutes to an hour
8. flush with water, avoid acidic liquids, do not mix medicine with formulas, crush tablets completely
9. soft
10. stomach juices

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## Feeding Tubes and Oral Care

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### Contents:

- Types of feeding tubes
- Nourishment
- Medications
- Tube feeding procedures
- Preventing and fixing tube clogs
- Tube maintenance
- Assisting with mouth and denture care

### Feeding Tubes

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Sometimes people with certain conditions become unable to eat or drink enough to have adequate nutrition. When this happens, a doctor might put a tube into the patient's stomach to enable the patient to receive nutrition, medicines, or fluids. These tubes come in various sizes and are usually called feeding tubes or enteral tubes. Enteral means "within the digestive tract." Feeding a patient through a tube placed in the digestive tract is known as tube feeding or enteral feeding.

#### ***Types of tubes***

Occasionally, temporary tubes called nasogastric (NG) tubes are inserted through the nose and into the stomach. These are often used after surgery or when the tube will be needed for only a short time.

Some patients have a more permanent feeding tube inserted into the digestive tract through a surgical incision called a stoma.

There are two main types of permanent feeding tubes. One type goes directly into the stomach and is called a gastrostomy tube or **G-tube**. Sometimes these are called percutaneous endoscopic gastrostomy

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tubes (**PEG tubes**) because a doctor inserts them with a special instrument called an endoscope. Not all feeding tubes are PEG tubes. Anyone caring for a tube should learn what kind of tube it is.

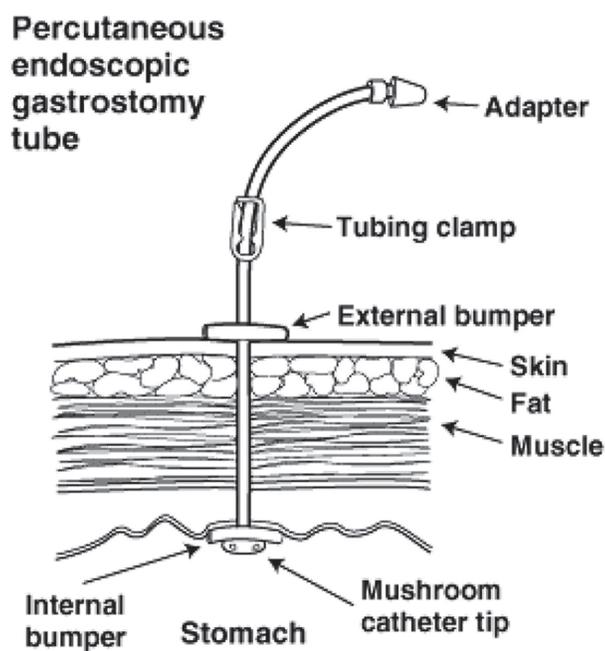
The second type is a **J-tube** or jejunostomy tube. J-tubes go directly into the small intestine (the upper part of the bowels). These are used when there is a need to bypass the stomach.

Most feeding tubes have an anchoring device inside and outside the digestive tract. The internal anchor, or bumper, keeps the tube from falling out. The external bumper is a disc that keeps the tube from going too far into the stomach.

There is usually a plug at the end of the feeding tube. Adapters on the end of the tube can connect it to a feeding device. Some have a side port for medication administration. Tubes range from size 8 to size 30 and are made of soft, flexible materials such as silicone, rubber, or polyurethane.

Figure  
38.1

### Feeding Tube



## FEEDING TUBES AND ORAL CARE

### ***Nourishment***

There are many different formulas used to feed people through feeding tubes. Commercially prepared formulas contain all the basic nutrients needed to maintain health.

A patient might have continuous feeding, with a machine that pumps a specific amount of formula per hour into the tube. Some patients receive bolus feedings, also called intermittent feedings, which means they get a certain amount of formula all at one time, usually several times per day.

Once opened, formulas need to be refrigerated at a specific temperature and used within a certain time. If a formula is supposed to be mixed with water, it is important to follow the directions about how much water to use and whether to use sterile water or tap water. Usually, liquid formula should not be diluted with water, because it increases the risk of contamination.

Sometimes formula is given through a food container that is washed after every use. Food containers and tubings used to give the formula must be kept clean. If the feeding is continuous, the tubings and feeding containers should be changed regularly, usually at least every 24 hours. In this case, the container should be marked to show when it was started and how long it should be used.

### ***Medications***

Patients may receive medications through the feeding tube. The pharmacist who dispenses the medicines can give advice about which medications need to be given on a full or empty stomach. This will help determine the timing of feedings and medications.

Not all medicine can be given safely through a feeding tube. The pharmacist can tell you whether tablets may be crushed and whether time-release capsules may be opened. Liquid forms of medication should be used when available. Liquid medications may usually be diluted with water. Soft gelatin capsules filled with liquid can be given by pricking a hole in the capsule and squeezing out the contents.

Medications should normally not be mixed with formula because of possible interactions between the drug and the formula. Medications should not be mixed together for the same reason. To avoid drug

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interactions, give 30 cc of water between medications. After giving medicine through a feeding tube, flush the tube with at least 20 to 30 cc of water.

### Feeding Tubes and Medication Types

Medications easily given via tube:

- Liquids (best alternative)
- Immediate-release oral tabs
- Soft gelatin capsules

Avoid or ask pharmacist about:

- Crushed enteric-coated tabs
- Sublingual or buccal meds
- Sustained-release caps/tabs
- Syrups

Usually these are **not** given via tubes.

### ***Tube feeding procedures***

1. Wash your hands and put on gloves.
2. Position the patient in a sitting position or with the head of the bed at a 45-degree angle. The head must remain higher than the stomach.
3. Check the tube to be sure it is in the right place. Follow this procedure:
  - a. Remove the plug at the end of the tube.
  - b. Attach a 60-cc syringe to the end of the tube.
  - c. Pull back on the plunger. If you see yellow-green or green fluid in the syringe, the tube is in the stomach.
  - d. Inject the stomach juices back into the tube before feeding.
  - e. If you do not obtain stomach juices when you pull back on the plunger, notify your supervisor. Do not begin the feeding.
  - f. If the syringe fills up with fluid when you pull back on the plunger, the stomach may be too full. Check with your supervisor before feeding.
4. Insert the tip of the food container tube or syringe into the feeding tube.

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5. Open the clamp on the tube slowly, adjusting the speed of the feeding so it will go in at the correct rate. If pouring the formula into a syringe or funnel, hold the syringe or funnel low enough to control the speed of the feeding.
6. A bolus or intermittent type of feeding should usually be given over a 45-minute or 1-hour period. If the patient chokes or has difficulty breathing during a feeding, stop the feeding at once and notify emergency personnel.
7. When the feeding is done, fill the food container with the amount of water prescribed by the patient's doctor. Allow the water to run into the stomach.
8. Close the clamp on the tube and disconnect the feeding device.
9. Insert the plug into the end of the tube.
10. Keep the patient in a sitting position or with the head of the bed raised at a 45-degree angle for 30 minutes to an hour after the feeding.

### ***Procedure for giving medications through a feeding tube***

1. Prepare medicine according to instructions. If allowed, crush a tablet with a mortar and pestle to a fine powder and mix it with water. Dilute liquid medications with 30 cc of water. Do *not* mix medications together.
2. Follow steps 1 through 3 in the feeding procedure.
3. Connect a 30- to 60-cc syringe to the medication port on the tube or to the end of the tube if a medication port is not available. Flush the tube with at least 30 cc of water.
4. Gently push the first medication into the tube through the syringe.
5. Flush tube with 30 cc of water (do not use formula, soda, or juice).
6. Give the next medication.
7. Administer each medicine separately and flush the tube well after each drug.
8. If the patient has a continuous feeding, reconnect the feeding bag after giving all the medications, unless the medicine requires an empty stomach.
9. For drugs that require an empty stomach, stop feeding 30 minutes before drug administration and resume 30 minutes to an hour afterward.

### ***Tube clogging***

Tube clogging is one of the most frequent problems with tube feeding. Clogging of the feeding tube may result in tearing of the tube.

Several things cause clogging:

- Administration of inappropriate medications or forms
- Poor flushing technique
- Thick formulas
- Reflux of gastric or intestinal contents into the tube

### ***Prevention of clogging***

- Flush with 20 to 30 cc of water. Do *not* use carbonated cola drinks or juices.
- Avoid the use of acidic liquids. Cranberry juice and carbonated cola beverages are acidic and may actually contribute to tube clogging.
- Do not mix medicine with formulas.
- Ensure tablets are fully crushed, if appropriate.

### ***Unclogging a feeding tube***

- Act immediately.
- Check to be sure that the tube is not kinked.
- Place a 30- to 60-cc syringe into the end of the tube and gently pull back on the plunger to dislodge the blockage.
- If the blockage remains, alternate gentle pushing and pulling on the plunger of the syringe. If this does not work, alert your supervisor.

### ***Discomfort***

Liquid medications must be diluted in order for some patients to tolerate them, especially when the medication is delivered directly into the small intestine through a J-tube. Not all liquid medications are appropriate for tube feeding. In addition, some patients may not be able to tolerate the large volumes of water needed when giving several medications. Report a patient's discomfort to your supervisor.

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**Note:** Only use oral medication syringes to perform tube feedings and give medications through a tube. It is dangerous to use other types of medication syringes. Fatalities have resulted when preparations intended for oral administration were given intravenously because they had been drawn up in syringes used for injections.

### ***Daily care of a gastrostomy tube***

- Always wash your hands and wear gloves when caring for the tube.
- Check the tube site daily for redness, bleeding, drainage, or tenderness.
- Note the length of the tube every day. Use the external marks on the tube if available, or measure the length of the tube from the stoma site to the end of the feeding tube. If the length of the tube changes, it might not be at the right place in the digestive tract. Changes in tube length must be reported to your supervisor.
- Be sure the tube is secured and that there is a small amount of space between the disc or bumper and the skin.
- If there is a button, it should be rotated daily during routine skin cleansing.
- Gently clean the skin around the tube site with soap and water or according to your organization's protocol. Dry the site thoroughly.

### ***Nasogastric (NG) tube care***

- Brush teeth twice daily.
- Clean the area where the NG tube goes into the nostrils every day. Use a cotton-tip applicator moistened with warm water. If the patient's nose is sore, apply water-soluble lubricant such as Surgilube or K-Y Jelly.
- Change the nasal tape when it is loose or dirty, or as needed. Make sure the nasal tape is secure at all times.
- A nasogastric tube may irritate the nasal passages. Be gentle when feeding or cleaning around the tube.

### Oral Care

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Keeping the mouth moist and clean is important for comfort. Good mouth care may help prevent bad breath, mouth dryness, infections, and irritations. Encourage the patient to do his own oral care. If he is unable, frontline staff may assist.

Good nutrition is another way to improve oral health. Acidic juices such as orange juice help reduce the buildup of plaque deposits on the teeth. Encourage patients to floss daily. Research shows that good oral hygiene is linked to a reduced risk of heart disease, probably because good oral cleanliness reduces the bacteria in the body.

#### ***Assisting with mouth care***

- Gather supplies:
  - Soft toothbrush
  - Toothpaste
  - Emesis basin
  - Washcloth
  - Water or alcohol-free mouth wash
  - Moisturizer or lubricant for lips
- Raise head of bed or assist the patient to sit or stand at the sink
- Place a towel under the patient's head or around the shoulders
- Apply gloves
- Use the toothbrush and a small amount of toothpaste to brush gently the teeth, gums, and tongue
- Do not put toothbrush too far in the back of the mouth, which can cause gagging
- Ask the patient to rinse mouth
- Apply lubricant, such as K-Y Jelly, to lips

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### ***Denture care***

- Dentures should be removed and cleaned at least once per day.
- Apply gloves.
- Use a piece of gauze to handle the dentures. Dentures are slippery and easily dropped.
- Place a washcloth in the bottom of the sink to provide a cushion in case you accidentally drop the dentures in the sink.
- Take dentures from patient. If dentures are difficult to remove, instruct the patient to puff out his cheeks with air. This usually breaks the suction and allows the dentures to be removed.
- Clean dentures over a basin filled with water to avoid chipping them.
- Use only cool water. Hot water can warp dentures.
- Use a denture brush or soft toothbrush and cleaning agent. If there is no denture cleaning agent, use baking soda and water.
- Have the patient rinse his mouth before reinserting dentures.
- Apply denture cream or adhesive as needed and have the patient reinsert dentures in mouth.
- If storing dentures, store in a clearly labeled container filled with cool water. Storing dentures dry can cause them to warp. Keep the container in a safe place.

**TEST**

**Feeding Tubes and Oral Care**

Name \_\_\_\_\_ Date \_\_\_\_\_ Score \_\_\_\_\_

**Directions:** Fill in or circle the correct answer.

1. It is best to use \_\_\_\_\_ medications when giving medications through a feeding tube.
  
2. It is best to use \_\_\_\_\_ to flush feeding tubes.
  
3. All tablets may be crushed in order to administer them through a feeding tube.  
a. True      b. False
  
4. When a feeding tube is being used, it is not necessary to consider whether a medication should be given on a full or empty stomach.  
a. True      b. False
  
5. Denture warp may occur if dentures are not stored in water.  
a. True      b. False
  
6. Keeping the mouth moist and clean is important for several reasons. List three reasons:  
a. \_\_\_\_\_  
b. \_\_\_\_\_  
c. \_\_\_\_\_
  
7. It is important to keep the patient's head higher than the stomach during a tube feeding for how long afterward?  
a. \_\_\_\_\_

**TEST**

**Feeding Tubes and Oral Care (cont.)**

8. List two ways to prevent clogging of a feeding tube:

a. \_\_\_\_\_

b. \_\_\_\_\_

9. When assisting with oral care, use a \_\_\_\_\_ toothbrush.

10. You know that a feeding tube is in the stomach when you see \_\_\_\_\_  
\_\_\_\_\_ in your syringe.