CH 28 Nutritional Therapy & Assisted Feeding

OBJECTIVE: THEORY

PAGE 500

- 1. EXAMINE THE NURSES ROLE RELATED TO NUTRITIONAL THERAPY AND SPECIAL DIETARY NEEDS
- 2. CONTRAST THE FULL LIQUID DIET WITH A CLEAR LIQUID DIET
- 3. DISTINGUISH THE DIFFERENT DIETARY MODIFICATION LEVEL: PUREED, MECHANICALLY ALTERED, ADVANCED AND REGULAR.
- 4. DESCRIBE HEALTH ISSUES RELATED TO NUTRITION
- 5. LIST DISEASE PROCESSES THAT MAY BENEFIT FROM NUTRITIONAL THERAPY
- 6. DEBATE THE RATIONALES FOR ASSISTED FEEDINGS AND TUBE FEEDINGS.
- 7. DIAGRAM THE STEPS FOR THE PROCEDURE TO INSERT, IRRIGATE, AND REMOVE A NASOGASTRIC TUBE.
- 8. DISCUSS THE STEPS TO THE PROCEDURE FOR MANAGING A TUBE FEEDING
- 9. IDENTIFY THE MEDICAL RATIONALE AND NURSING CARE FOR A PATIENT RECEIVING PERIPHERAL PARENTERAL NUTRITION (PPN) AND TOTAL PARENTERAL NUTRITION (TPN)

OBJECTIVES: Clinical

1. Propose therapeutic communication to assist a patient who requires a special diet.

2. Review a patient education plan for nutritional therapy

3. Demonstrate insertion, irrigation, and removal of a nasogastric tube.

4. Demonstrate feeding a patient through a nasogastric tube or percutaneous endoscopic gastrostomy (PEG) tube.

5. Employ your facility's policies, procedures, and protocols for nutrition-related problems and complications with tube feedings.

The Goals of nutritional therapy

page 501

- The goal of nutritional therapy are to treat and manage disease, prevent complications, and restore or maintain health through an appropriate nutritional plan.
- You can assist patients in meeting their nutritional goals by completing thorough nutritional data collection.
- Monitor the patient's food and fluid intake and document the response to therapy. Weight gain or loss, percentage of meals eaten, and ability to tolerate the diet should be included in the documentation.

The Goals of nutritional therapy

page 501

- Patients who may need assistance with food and fluid intake include those who have paralysis of the arms, visual impairment, intravenous lines or other devices in their hand or arm, problems breathing or swallowing (dysphagia), or severe impairments or weakness

The postoperative patient

page 501

- PATIENTS SCHEDULED FOR SURGICAL OR INVASIVE PROCEDURES MAY HAVE SPECIAL NUTRITIONAL NEEDS, THIS PATIENT SHOULD BE WELL NOURISHED PREOPERATIVELY TO FACILITATE POSTOPERATIVE HEALING AND RECOVERING.
- PREOPERATIVE PATIENTS USUALLY ARE PLACED ON NPO (TAKE NO FOOD OR FLUIDS BY MOUTH) STATUS FOR UP TO 12 HOURS BEFORE THE PROCEDURE. WHY?

The postoperative patient

page 503

THIS PRACTICE DECREASES THE RISK OF ASPIRATION/VOMITING OF STOMACH CONTENTS.

ASPIRATION CAN RESULT IN SERIOUS RESPIRATORY COMPLICATIONS.

ALTERNATIVES TO THE NPO STATUS INCLUDE INDIGESTION OF CARBOHYDRATE-RICH CLEAR LIQUIDS UP TO 2 HOURS BEFORE SURGERY

POSTOPERATIVE PATIENTS PROGRESS FROM A CLEAR LIQUID TO A FULL LIQUID DIET.

SOLID FOODS ARE ADDED WHEN THE PATIENT CAN TOLERATE THEM WITHOUT NAUSEA, VOMITING, OR OTHER ABDOMINAL DISCOMFORT

The postoperative patient

page 503

- THINK CRITICALLY BOX PAGE 503
- CLEAR LIQUIDS ARE STARTED WHEN THE PATIENT HAS A RETURN OF BOWEL SOUNDS DETECTED BY AUSCULTATION.
- THE GOAL IS TO INTRODUCE FLUIDS THAT HAVE LOW RESIDUE(LOW IN FIBER AND FAT), ARE EASILY DIGESTED, AND HAVE LOW RISK OF CAUSING ABDOMINAL DISCOMFORT.
- FOODS THAT ARE CLEAR FLUIDS AT ROOM TEMPERATURE (GELATIN, POPSICLES) AND CLEAR LIQUIDS ARE INCLUDED IN THE CLEAR LIQUID DIET.
- CLEAR LIQUID DIET ARE USED SHORT TERM BECAUSE THE DIET IS DEFICIENT IN MOST NUTRIENTS.

The postoperative patient

page 503

- A FULL LIQUID DIET MAY BE USED AS A STEP BETWEEN CLEAR LIQUID AND MECHANICAL SOFT OR REGULAR DIET.
- FULL LIQUID DIETS INCLUDE ALL FLUIDS, CUSTARDS, ICE CREAM, SHERBET, PUDDINGS, AND COOKED REFINED CEREALS.
- FULL LIQUIDS CAN BE USED FOR LONGER-TERM NUTRITIONAL MANAGEMENT BECAUSE PROTEIN AND OTHER ESSENTIAL NUTRIENTS, VITAMINS, AND MINERALS ARE AVAILABLE FROM THE FOODS ALLOWED.
- PATIENTS RECOVERING FROM SURGICAL PROCEDURES THAT INVOLVED MANIPULATION OF OR SURGICAL INCISION INTO THE STOMACH OR BOWEL MAY PROGRESS TO A SOFT DIET BEFORE ATTEMPTING A REGULAR DIET.
- SOFT DIETS ARE LOW IN FIBER, AND FOODS ARE SOFTENED BY COOKING, MASHING, OR CHOPPING.
- AS THE PATIENT'S CONDITION PROGRESS, THE DIET IS ADVANCED TO REGULAR.

The postoperative patient

page 504

- BOX 28.1
- THINK CRITICALLY BOX PAGE 504

Clear Liquid Diet

Clear liquids include all liquids that you can see through including:

- Water
- Black coffee
- Tea
- Apple juice
- Grape juice
- Cranberry juice
- Carbonated beverages
- Pop sickles
- Jello (gelatin)
- Broth
- Sports drinks (gatorade/powerade)
- Honey
- Syrup
- Hard candies
- Fruit ice
- Oils

Not acceptable:

- Coffee with creamer
- Tea with creamer
- Orange juice
- Prune juice
- Milk
- Yogurt
- Pudding
- Ice cream

Full Liquid Diet

Full liquid diets allow the consumption of all clear liquids as well as:

- Ice cream
- Sherbet
- Pudding
- Milk
- Milkshakes
- Frozen yogurt
- Custard
- Yogurt
- Orange juice
- Coffee and tea with creamer
- Smooth cream soups
- Cream of wheat
- Farina
- Cream of rice
- Butter
- Margarine
- Cream
- Tomato soup
- Cream soups

Health issues related to nutrition

page 504

- *ANOREXIA NERVOSA*: patients severely restrict caloric intake and focus on moderate to vigorous physical activity. If not corrected, anorexia nervosa CAN BE FATAL.
- Treatment- nutritional intervention, behavioral modification, and psychological counseling.
- *BULIMIA NERVOSA*: eating disorder characterized by episodic binge eating, followed by behaviors designed to prevent weight gain, including purging, fasting, using laxatives, and exercising excessively.
- Treatment- nutritional supplements and monitoring of patients after eating to ensure that purging does not occur.
- Clinical goldmine box page 505
- Nursing interventions for patients with feeding and eating disorders include nutritional management, behavioral modification, patient education, and monitoring progress.

OBESITY

page 505

- Many factors contribute to obesity, including genetics, environment, poor eating habits, lack of knowledge about good nutrition, medications, body physiology, age, and gender.
- Effective nursing activities for weight reduction assistance include encouragement of low-calorie diets, plant-based or vegetarian diets, appropriate portion sizes, activity recommendations, and behavior modifications.

OBESITY

Consequence

- heart diseases
- diabetes
- fatty liver
- stomach ulcer

1.5 billion people in the world are overweight

Reasons

- binge eating
- no activity
- genetic predisposition
- medicines
- unhealthy diet
- stress
- endocrine disorders
- age

Prevention

Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy

Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy

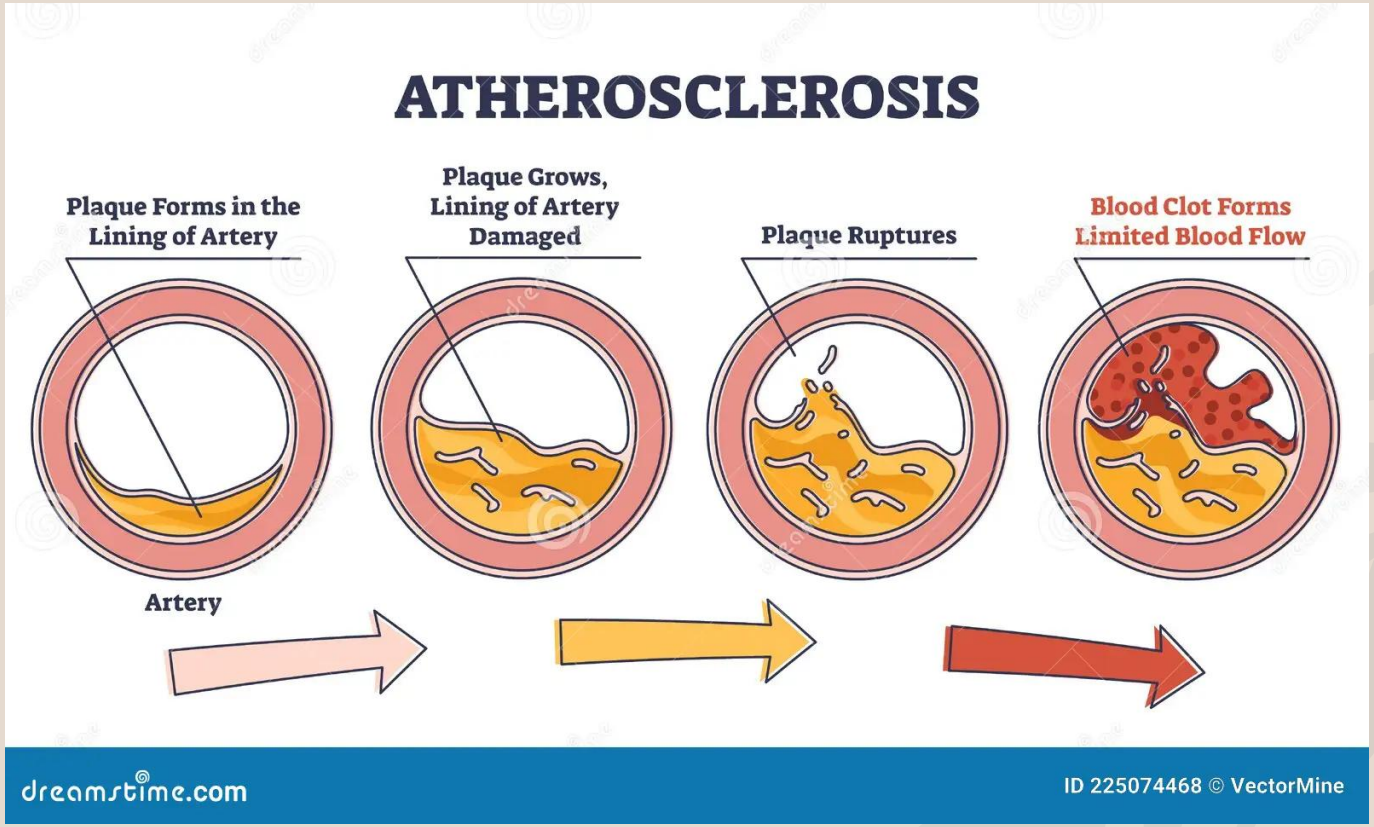
- frequent meals
- healthy diet
- sport
- walks in the open air
- daily regime
- alcohol restriction

Disease process that benefit from nutritional therapy

page 506

Cardiovascular disease:

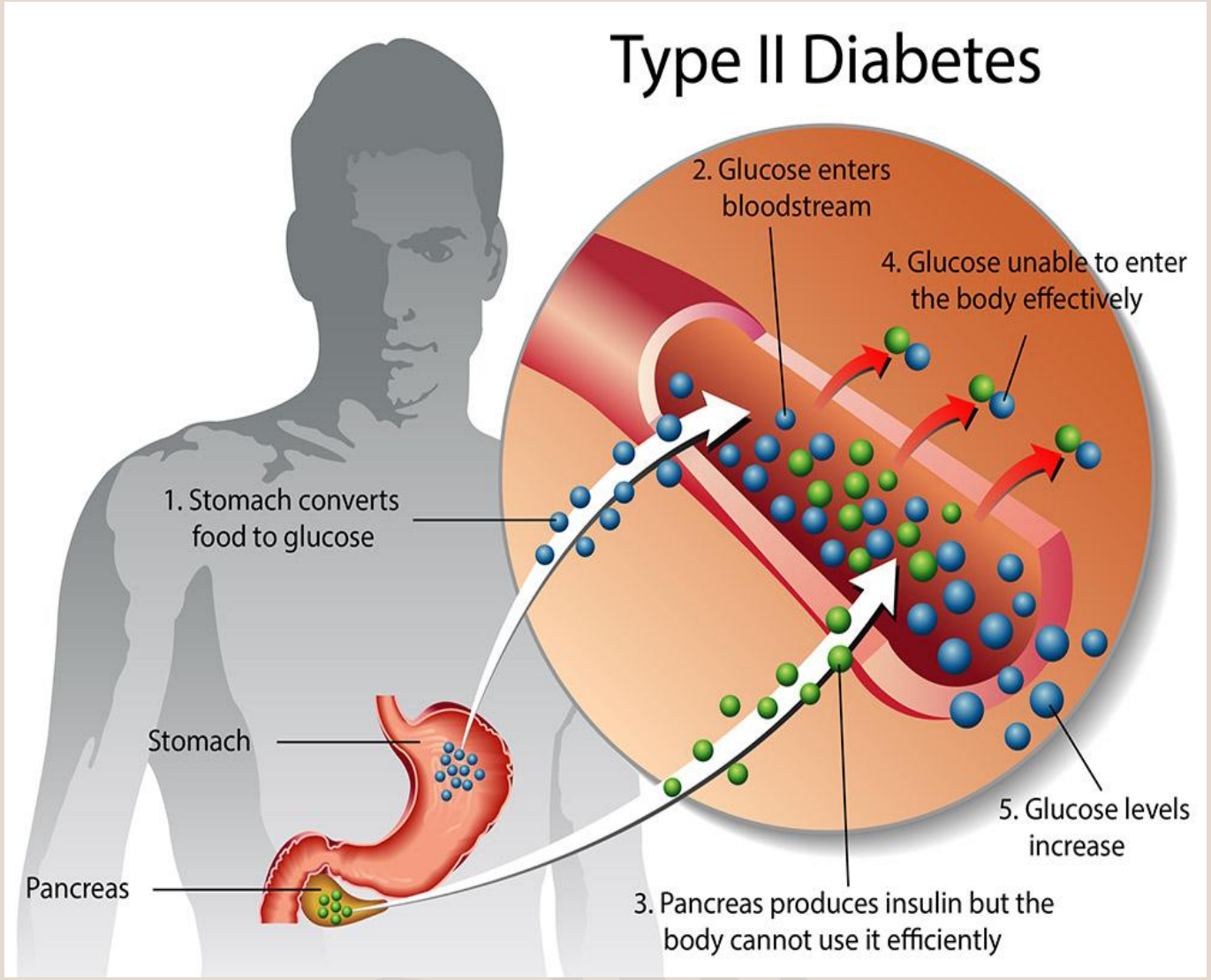
- Myocardial infarction (MI)-loss of blood supply to the heart muscle
- Heart failure (HF)- pump failure of the right or left ventricle
- Hypertension (HTN)
- Nutritional therapy is focused on reducing saturated and trans fat, cholesterol, sodium, and red meats.
- Atherosclerosis (plaque build-up)
- Think critically box page 508



Diabetes Mellitus

page 508

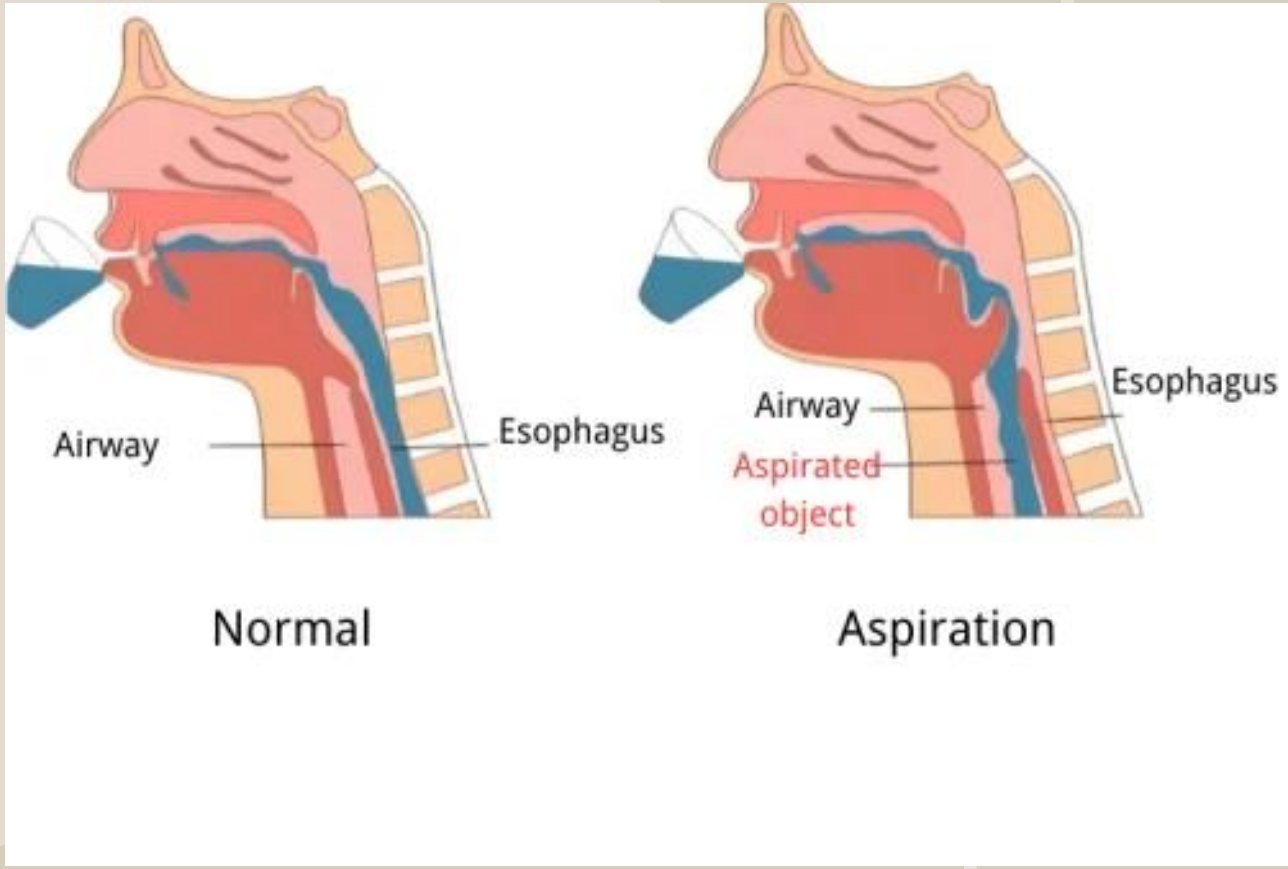
- The goal of nutritional therapy for patients with diabetes is to control the amount of carbohydrates in the diet to maintain the blood glucose level at 70-120mg/dL.
- Patients should distribute carbohydrate intake throughout the day and avoid ingesting large amounts of carbohydrates at one meal.
- A patient can monitor their response to particular carbohydrates by measuring the blood glucose 1 ½ to 2 hours AFTER eating.
- A blood glucose level of 180mg/dL or below usually indicates an acceptable post meal level.
- Box 28.2 page 508



Assisted feeding

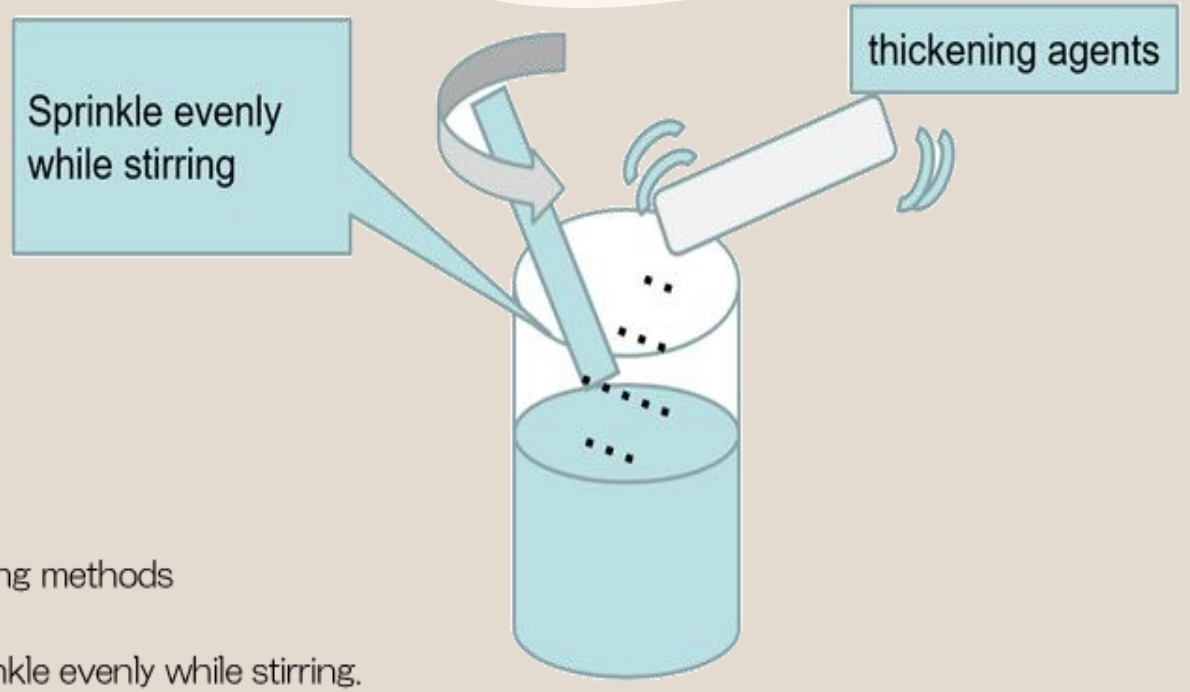
page 510

- MANY OLDER ADULTS RESIDING IN LONG TERM CARE FACILITIES MAY EXPERIENCE DYSPHAGIA.
- SIGNS-SWALLOWING PROBLEMS SUCH AS COUGHING WHEN DRINKING, DROOLING, OR HAVING FOOD REMAINING IN THE MOUTH
- ASPIRATE- TO INHALE SOMETHING ACCIDENTLY INTO THE LUNGS LIKE FOOD OR FLUIDS.
- MANY PATIENTS WHO ASPIRATE SHOW NO OBVIOUS SIGNS OR SYMPTOMS SUCH AS COUGHING.
- THE ASPIRATION MAY CAUSE A VOICE CHANGE OR A FEELING OF FOOD BEING STUCK IN THE THROAT.
- A FOCUSED RESPIRATORY ASSESSMENT IS ESSENTIAL FOR ASPIRATION PATIENT.



- If thickening agents are used, assess for adequate hydration, because research has shown that these agents may lead to inadequate fluid intake. (because altered texture, taste and increased fullness make liquids less appealing and harder to drink, despite their benefit for airway safety.

Points for using thickening agents



＊stirring methods

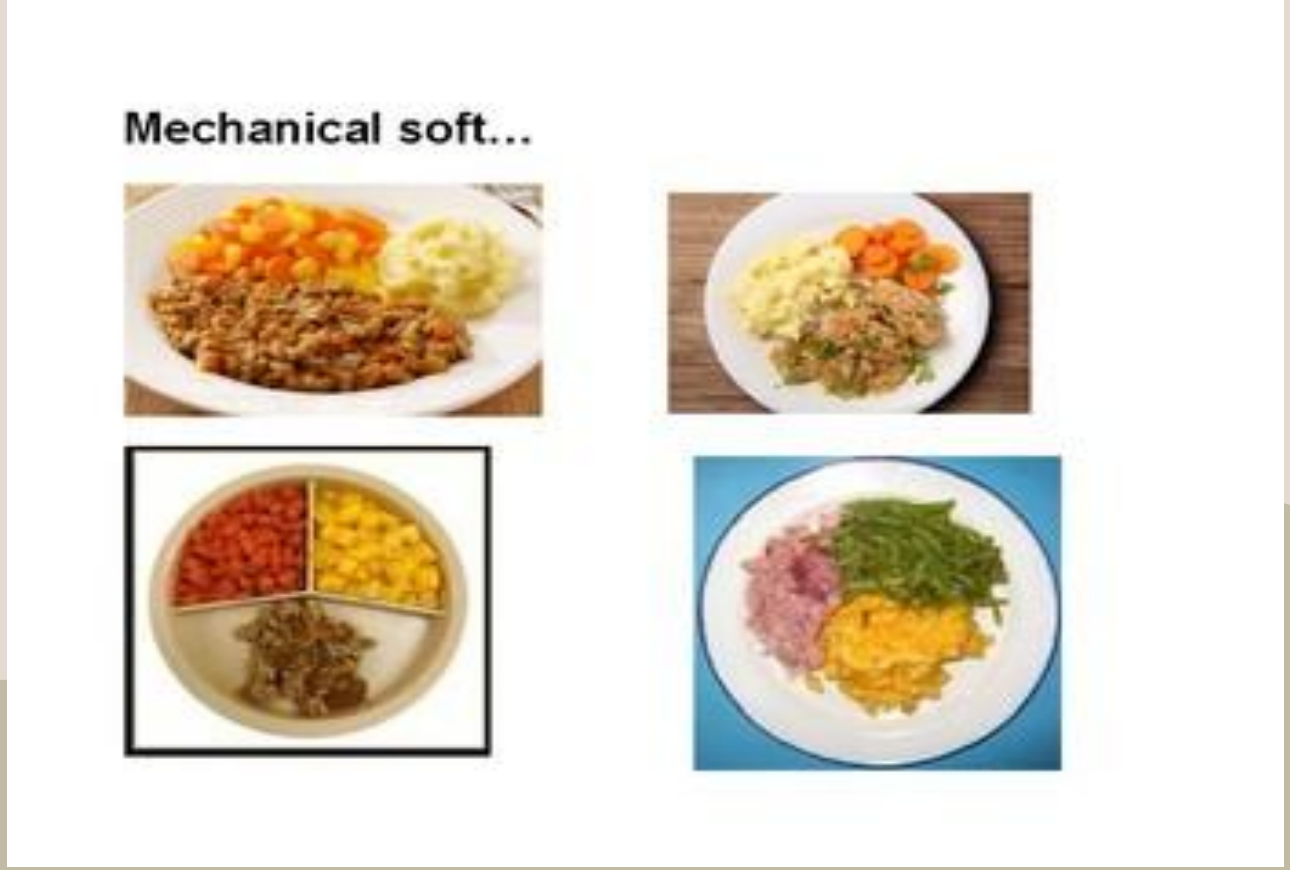
Point

- Sprinkle evenly while stirring.
- Stir quickly not to become lumpy.
- When adding thickening, make a thicker solution separately and add it.
- Remove any lumps.
- After adding thicker, wait for 5-15 minutes for the physical properties to stabilize.

Assisted feeding

Liquids can be thickened to help prevent aspiration. Solids can be ordered at four different texture levels:

Level 1: pureed (pudding texture)
Level 2: mechanically altered (moist and minced to ¼ in max)
Level 3: advanced (moist and bite size; no hard or crunchy foods)
Level 4: regular (all foods)

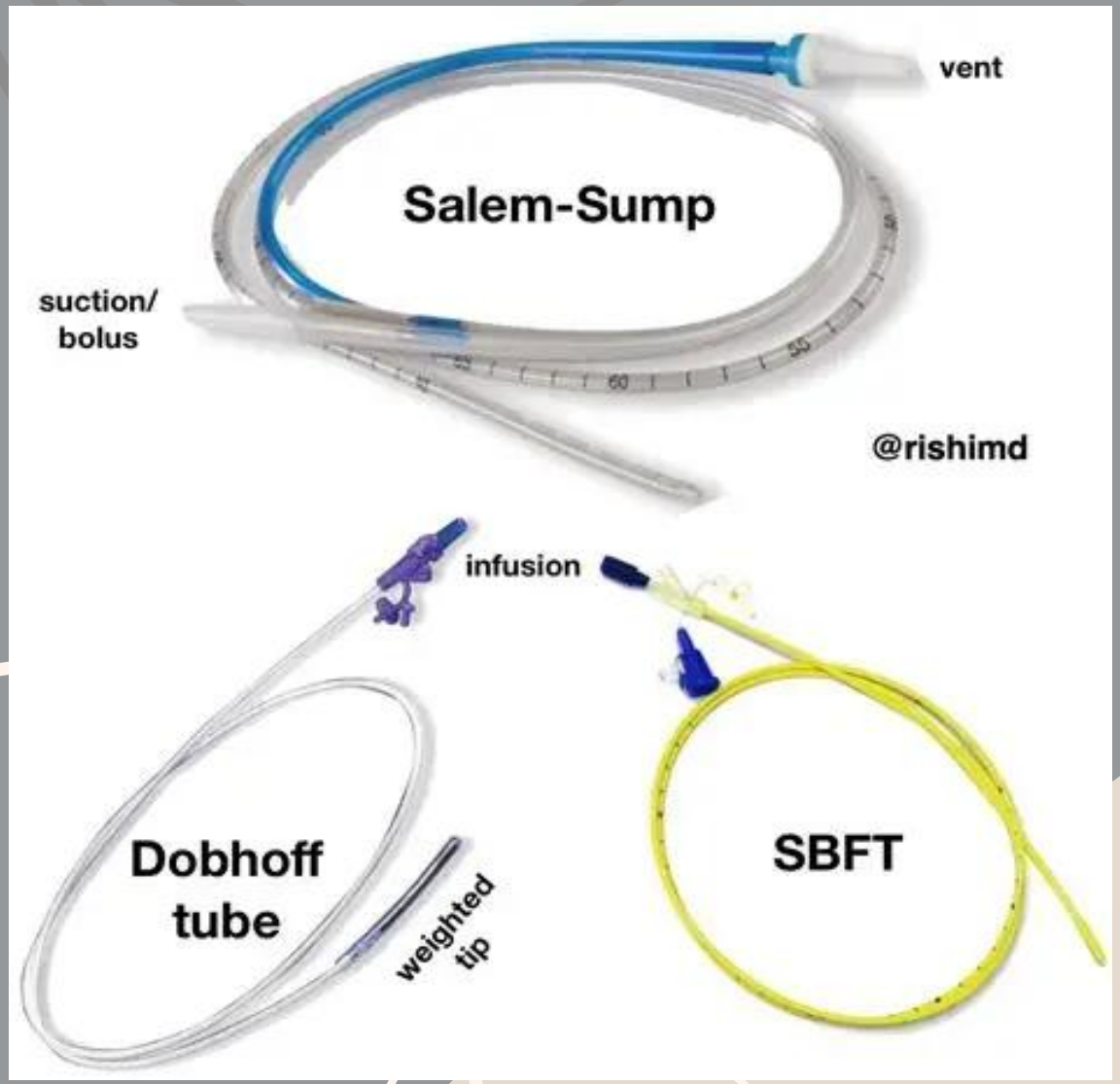


Nasogastric and Enteral Tubes

page 510-511

- ENTERAL TUBES:
- **Nasogastric tubes (NG)-** placed through the nose into the stomach
- **Gastrostomy Tube/Percutaneous Endoscopic Gastrostomy (PEG)-** placed directly into the stomach
- **Jejunostomy/ Duodenal Tube-**Placed into the intestine.
- Nasogastric tube placement is usually a temporary measure to provide nutritional support.
- Safety alert BOX pg 511

- NG tube uses:
- Stomach decompression, such as removing stomach content before or after surgery
- Obtaining laboratory specimens
- Gastric lavage for patients with gastrointestinal bleeding or for removal of ingested toxins
- Medication administration.

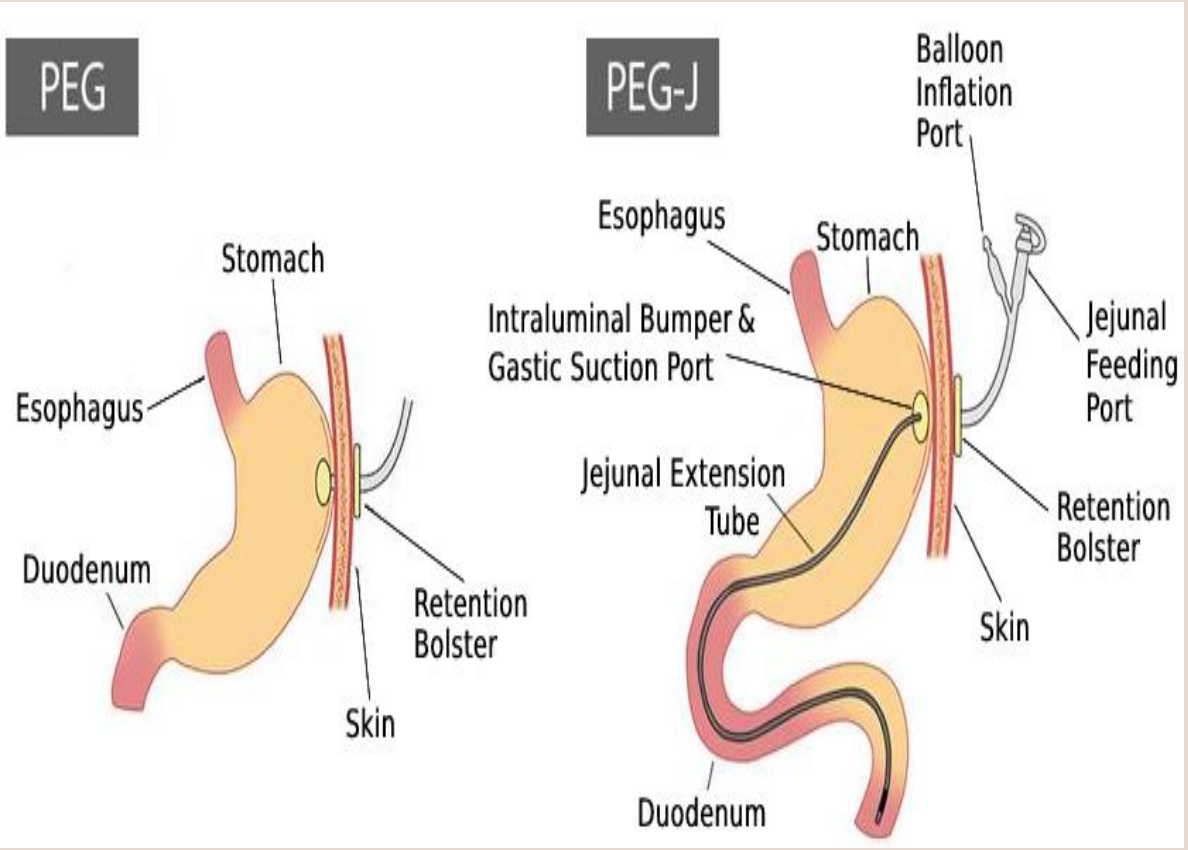


- SMALL BORE TUBES ARE SOFT, FLEXIBLE TUBES THAT MUST BE INSERTED BY A SKILLED PERSON USING A GUIDEWIRE OR STYLET. ACTIVE PATIENTS MAY FIND THE TUBE RESTRICTIVE AND INCONVENIENT.
- NURSING CARE OF PATIENTS WITH NG TUBES INVOLVES INSERTION, IRRIGATION, ADMINISTRATION OF TUBE FEEDING, CHECKS FOR PLACEMENT, CHECKS FOR RESIDUAL VOLUME, AND REMOVAL OF TUBE.
- TUBE INSERTION IS MORE DIFFICULT IF THE PATIENT IS UNABLE TO COOPERATE, SUCH AS WITH PATIENT WHO ARE UNCONSCIOUS OR HAVE IMPAIRED COGNITIVE FUNCTION. WHY?

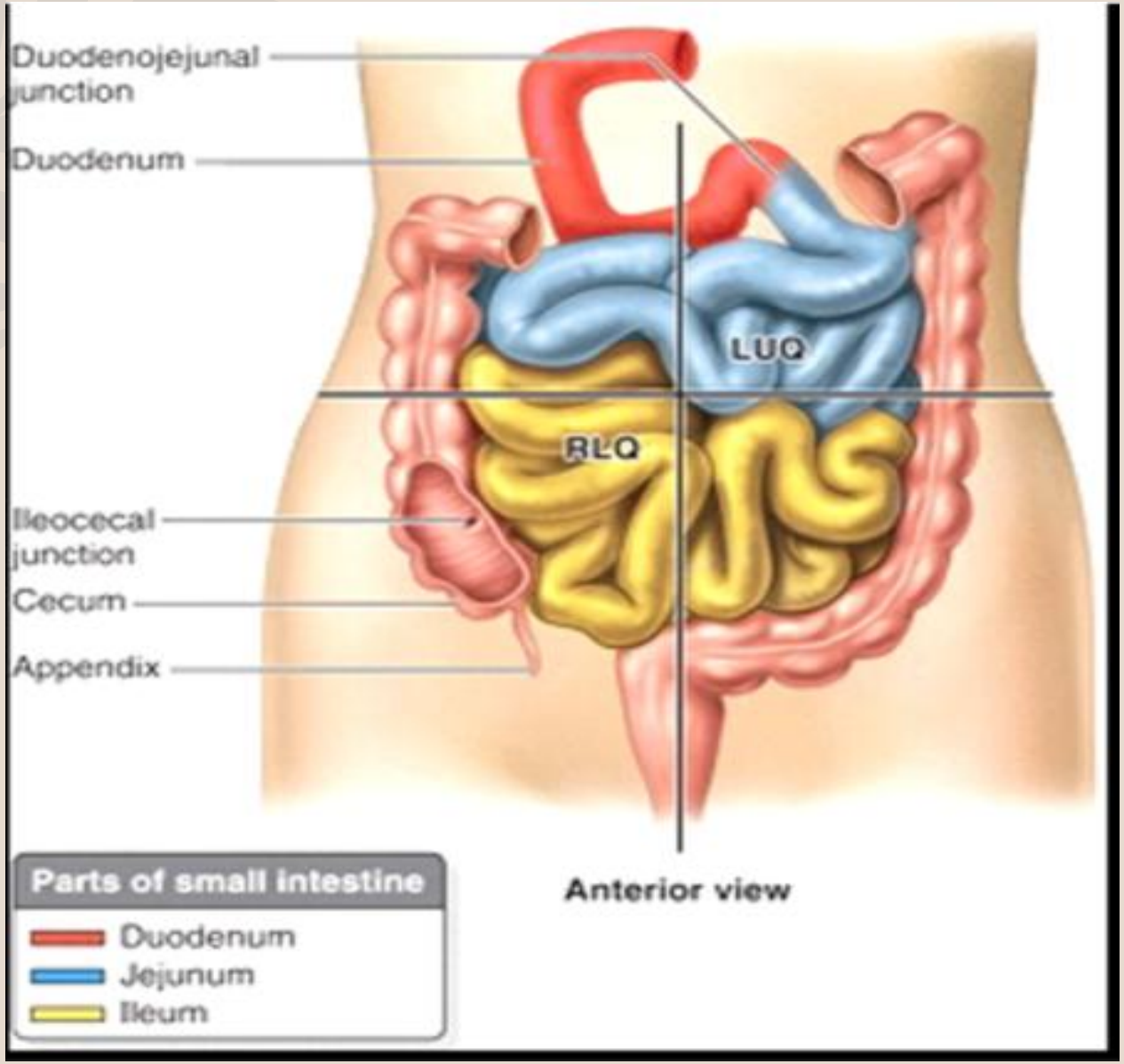
- Proper placement of small-bore tubes must be verified by x-ray examination.
- A tube that is not correctly positioned or poor body position can cause aspiration.
- Elevate the head of the bed for 30-60 minutes after feeding to ensure that residual volume is not aspirated.
- Quality and safety box page 516
- Quality and safety box page 516
- Monitor NG tubes frequently! Irrigate the NG tube with 30-60ml of sterile water solution to ensure that it is patent.
- Monitor for complications such as abdominal distention, constipation, nausea, diarrhea, hyperglycemia, and electrolyte imbalances.

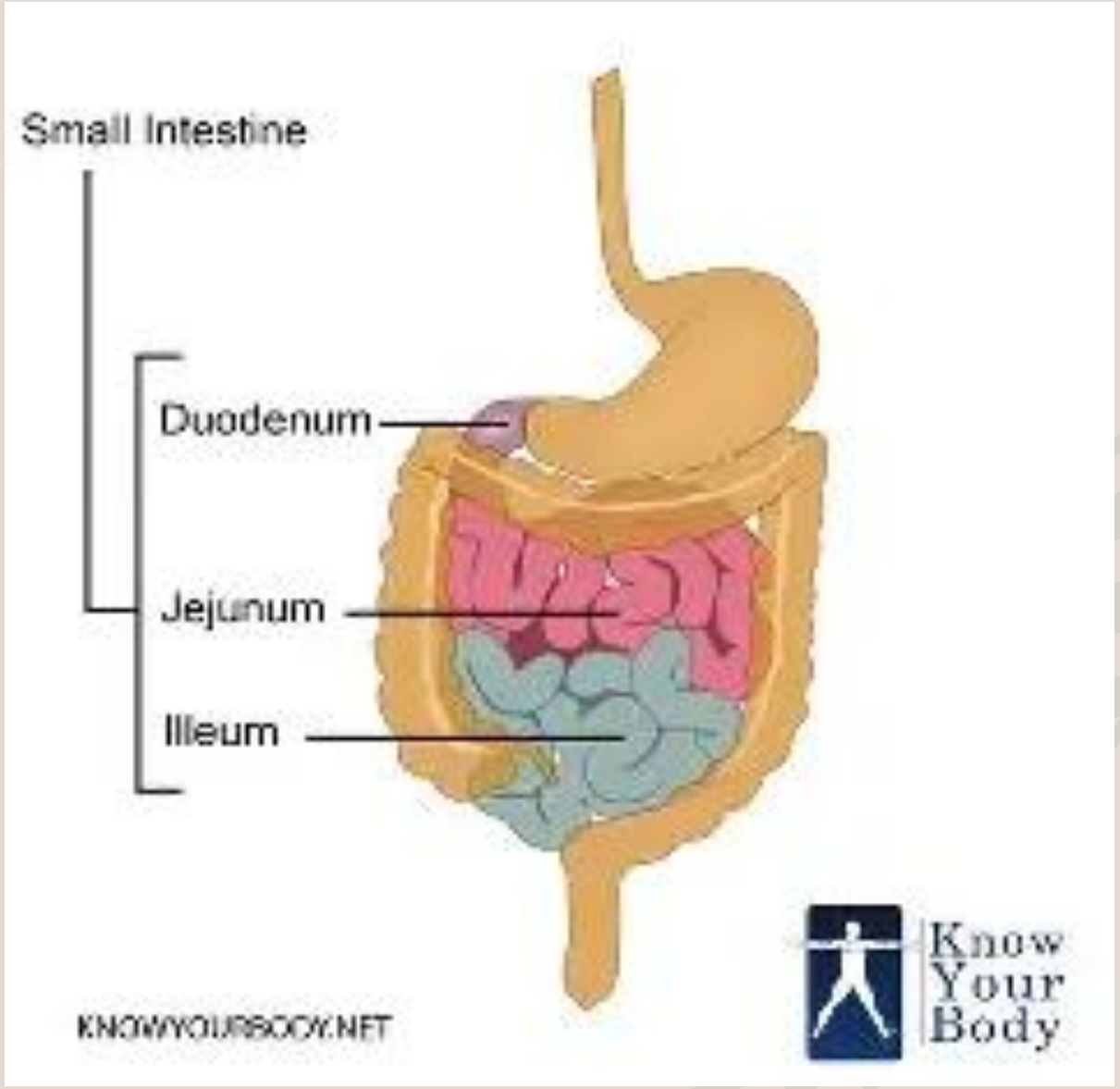
Percutaneous endoscopic gastrostomy(PEG) or jejunostomy tubes

page 516



- A peg tube is used when a patient requires long-term nutritional support and cannot take oral nutrition. Care of the PEG or PEJ tube is similar to that of the NG tube.
- The tube is placed via endoscopy. The PEG or PEJ tube allows patients more freedom of ambulation and allows the patient to administer their own feedings easily. A PEG or PEJ tube can be removed easily when it is no longer indicated.
- *Check tube placement at least every shift and before feeding or administering medication.*
- Check the health record for the placement measurements.
- Once the tube is in place, assess the function of the tube at least every 4 hours initially.

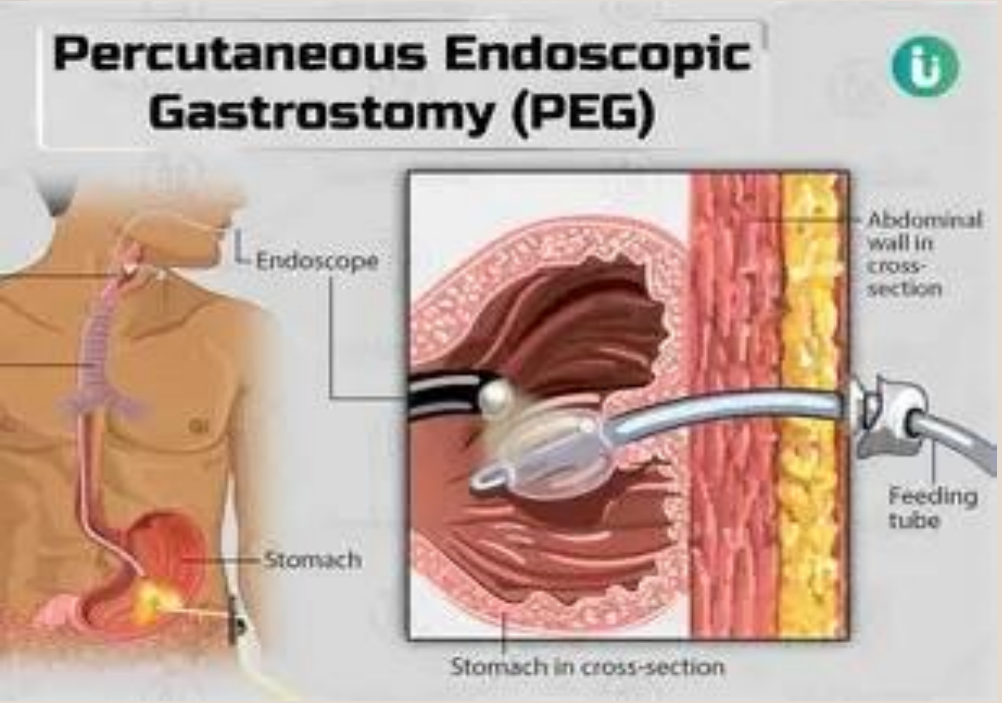

Duodenojejunal junction
Duodenum
LUQ
RLQ
Ileocecal junction
Cecum
Appendix
Parts of small intestine
Duodenum
Jejunum
Ileum
Anterior view


Small Intestine
Duodenum
Jejunum
Ileum
KNOWYOURBODY.NET
Know Your Body

Percutaneous endoscopic gastrostomy(PEG) or jejunostomy tubes page 516

- Measure the tube length from skin level to the end of the placement adapter, then compare the measurements.
- Higher measurements indicate that the tube has migrated outward.
- If the tube becomes dislodged, notify the charge nurse and the PCP.
- Daily care of the tube involves washing the tube insertion site with soap and water.
- Use a cotton swab moistened with saline to remove encrustation.
- Inspect the skin for irritation, maceration or infection.

Percutaneous endoscopic gastrostomy(PEG) or jejunostomy tubes page 516



- Observe the patient for abdominal distention or aspiration.
- Abdominal pain, vomiting, or respiratory distress may be signs of complications.
- Before feeding or administering medications, measure the amount of residual fluid in the stomach. Why?
- If the residual volume is greater than 500mL(or per agency policy), replace the withdrawn fluids, document the residual, notify the RN or PCP, and follow facility policy.
- Keep the patients bed elevated at least 30-45 degrees at all times if the patient is on continuous feeding, to facilitate stomach emptying and prevent aspiration.

Feeding tube and pumps

page 516

- Tube feedings can be continuous or intermittent. Pump or can
- Continuous feeding: effective for patients who cannot tolerate large amounts of fluid at one time.
- Intermittent feeding: can feed themselves or when beginning to reintroduce oral feeding. Closely resembles regular meals.
- The type and amount of tube feedings are prescribed by the primary care provider and usually range from 240-360mL per feeding.
- A daily amount of 2000mL is generally sufficient to meet the patients' nutritional requirements.

PRODUCT CONVERSION CHART

Abbott Nutrition

NEW Products	OLD Products
Ensure® Original 	Boost® 
Glucerna® Therapeutic Nutrition Shake 	Boost Glucose Control® 
Jevity® 1.2 Cal 	Fibersource® HN 
Osmolite® 1.2 Cal 	Isosource® HN 
Jevity® 1.5 Cal 	Isosource® 1.5 Cal 
Nepro® With Carbsteady® 	Novasource® Renal 
Glucerna® 1.2 Cal 	Diabetisource® AC & Glytrol® 
Vital® Family 	Peptamen® Family 

Feeding Tube and Pumps

page 518

- If a syringe is used, it should be 30mL or larger, and the formula should flow in by gravity.
- It should not be pushed in as a bolus or in large amounts. Why?
- Allow about 10 minutes for an intermittent feeding to flow into the tube.
- Flush the tube with 30mL of water after each feeding to prevent clogging.

- Continuous feedings are instilled into the tube drop in much the same manner as Intravenous feeding. For this purpose, a feeding pump and a tube feeding set are used.
- Pumps can be used with NG tubes, PEG tubes, or jejunostomy tubes.
- Home consideration box
- Tube feedings contain a high level of glucose to provide necessary calories. This should be given slow to prevent diarrhea and glycosuria (glucose in the urine)

TOTAL PARENTAL NUTRITION

PAGE 521

- Total parenteral nutrition (TPN)- method of delivering complete nutrition through a catheter placed in a large central vein. (subclavian vein)
- Parenteral nutrition- does not involve the digestive system, and it is absorbed directly through the bloodstream.
- Never attempt to catch up if the rate has slowed. The rapid infusion of glucose can be harmful to the patient.
- Box 28.3
- Lifespan consideration box page 522
- Table 28.5
- Patient education box page 523

Total parenteral nutrition

PUMPS


Kangaroo OMNI™
WARNING
DEAD BATTERY ERROR
Plug pump into AC power now or press Power Off.
Power Off
CardinalHealth


COVIDIEN

Key points

page 524

- Nursing knowledge and understanding of nutritional therapy are important to assist patients in meeting their nutritional needs.
- Nutritional therapy may involve the progressive introduction of foods
- Dietary management of eating disorders must include behavioral management and psychological and nutritional counseling.
- Obesity is an increasing health care problem.. The success of nutritional therapy for obese patients is low. Interventions include education, behavior modification, calorie control, appetite suppressants, surgery, and psychological counseling.
- Nutritional therapy can be beneficial in managing many disease processes, including GI disorders, cardiovascular disease, diabetes, nausea and vomiting, urinary disorders, cancer and HIV/AIDS.
- Enteral tubes are sometimes prescribed when patients are unable to eat or when foo in the digestive tract aggravates a disease process. Eternal tubes may be used short-or-long term.
- Nursing responsibilities when tubes are in place include patient education, tube insertion and removal, verification of placement, irrigation of tube, administration and management of tube feedings, and assessment for the development of complications.
- Patient experiencing severe malnutrition related to disease or treatment may require long-term and extensive nutritional support. PPN or TPN may be prescribed to meet those needs.
- Nursing knowledge concerning the management of PPN and TPN is essential for treatment success. Nurses are responsible for evacuating the patient for potential complications and ensuring that the fluids are administered as ordered.