Nutrition therapy is used in the treatment of many digestive system disorders. For many disorders, diet merely plays a supportive role in alleviating symptoms rather than altering the course of the disease. For other gastrointestinal (GI) disorders, nutrition therapy is the cornerstone of treatment. Frequently nutrition therapy is needed to restore nutritional status that has been compromised by dysfunction or disease.

This chapter begins with disorders that affect eating and covers disorders of the upper GI tract (mouth, esophagus, and stomach) that have nutritional implications. Table 17.1 outlines the roles these sites play in the mechanical and chemical digestion of food. Problems with the upper GI tract impact nutrition mostly by affecting food intake and tolerance to
particular foods or textures. Diet-focused assessment criteria for upper GI tract disorders are listed in Box 17.1.

DISORDERS THAT AFFECT EATING

Anorexia

Anorexia is a common symptom of many physical conditions and a side effect of certain drugs. Emotional issues, such as fear, anxiety, and depression, frequently cause anorexia. The aim of nutrition therapy is to stimulate the appetite to maintain adequate nutritional intake. The following interventions may help:

- Serve food attractively and season according to individual taste. If decreased ability to taste is contributing to anorexia, enhance food flavors with tart seasonings (e.g., orange juice,
lemonade, vinegar, lemon juice) or strong seasonings (e.g., basil, oregano, rosemary, tarragon, mint).

- Schedule procedures and medications when they are least likely to interfere with meals, if possible.
- Control pain, nausea, or depression with medications as ordered.
- Provide small, frequent meals.
- Withhold beverages for 30 minutes before and after meals to avoid displacing the intake of more nutrient-dense foods.
- Offer liquid supplements between meals for additional calories and protein if meal consumption is low.
- Limit fat intake if fat is contributing to early satiety.

**Nausea and Vomiting**

Nausea and vomiting may be related to a decrease in gastric acid secretion, a decrease in digestive enzyme activity, a decrease in gastrointestinal motility, gastric irritation, or acidosis. Other causes include bacterial and viral infection; increased intracranial pressure; equilibrium imbalance; liver, pancreatic, and gallbladder disorders; and pyloric or intestinal obstruction. Drugs and certain medical treatments may also contribute to nausea.

The short term concern of nausea and vomiting is fluid and electrolyte balance. IVs can meet patient needs until an oral intake resumes. With prolonged or intractable vomiting, dehydration and weight loss are concerns.

Nutrition intervention for nausea is a common sense approach. Food is withheld until nausea subsides. When the patient is ready to eat, clear liquids are offered and progressed to a regular diet as tolerated. Small, frequent meals of low fat, readily digested carbohydrates are usually best tolerated. Other strategies that may help are:

- Encourage the patient to eat slowly and not to eat if he or she feels nauseated.
- Promote good oral hygiene with mouthwash and ice chips.
- Limit liquids with meals because they can cause a full, bloated feeling.
- Encourage a liberal fluid intake between meals with whatever liquids the patient can tolerate, such as clear soup, juice, gelatin, ginger ale, and popsicles.
- Serve foods at room temperature or chilled; hot foods may contribute to nausea.
- Avoid high-fat and spicy foods if they contribute to nausea.

**Quick Bite**

**High-fat foods**
- "Fats"—nuts, nut butters, oils, margarine, butter, salad dressings
- Fatty meats, such as many processed meats (bologna, pastrami, hard salami), bacon, sausage
- Milk and milk products containing whole or 2% milk
- Rich desserts, such as cakes, pies, cookies, pastries
- Many savory snacks, such as potato chips, cheese puffs, tortilla chips

**Readily digested carbohydrates that are low in fat**
- Dry toast
- Saltine crackers
- Plain rolls
- Pretzels
- Angel food cake
- Oatmeal
- Soft and bland fruit like canned peaches, canned pears, and banana

**Intractable Vomiting:** vomiting that is difficult to manage or cure.
Symptoms of esophageal disorders range from difficulty swallowing and the sensation that something is stuck in the throat to heartburn and reflux. **Dysphagia** and gastroesophageal reflux disease are discussed next.

**Dysphagia**

Swallowing is a complex series of events characterized by three basic phases (Fig. 17.1). Impairments in swallowing can have a profound impact on intake and nutritional status, and greatly increase the risk of aspiration and its complications of bacterial pneumonia and bronchial obstruction.

Many conditions cause swallowing impairments. Mechanical causes include obstruction, inflammation, edema, and surgery of the throat. Neurologic causes include amyotrophic lateral sclerosis (ALS), myasthenia gravis, cerebrovascular accident, traumatic brain injury,
cerebral palsy, Parkinson’s disease, and multiple sclerosis. Refer patients with actual or potential swallowing impairments to the speech pathology department for a thorough swallowing assessment.

**Nutrition Therapy**

Viscosity: the condition of being resistant to flow; having a heavy, gluey quality.

The goal of nutrition therapy for dysphagia is to modify the texture of foods and/or **viscosity** of liquids to enable the patient to achieve adequate nutrition and hydration while decreasing the risk of aspiration. Solid foods may be minced, mashed, ground, or pureed and thin liquids may be thickened to facilitate swallowing, but these measures often dilute the nutritional value of the diet and make food and beverages less appealing (Germain et al., 2006). Emotionally, dysphagia can affect quality of life; patients with dysphagia may feel panic at mealtime and avoid eating with others (Ekberg et al., 2002). Meeting nutritional needs is a challenge and in some instances, enteral nutrition may be necessary.

The American Dietetic Association has published the National Dysphagia Diet, developed by a group of dietitians, speech and language therapists, and a food scientist for the purpose of standardizing dysphagia diets throughout the United States (The National Dysphagia Diet Task Force, 2002). It is composed of three levels of solid textures and four liquid consistencies (Table 17.2).

The levels of solid food and liquids are ordered separately to allow maximum flexibility and safety in meeting the patient’s needs. The patient may start at any of the levels. The solid food consistencies include pureed, mechanically altered, and a more advanced consistency of mixed textures. The liquids are described as thin, nectarlike, honeylike, and spoon-thick.

Generally a speech or language pathologist (SLP) performs a swallowing evaluation on the patient to determine the appropriate consistency of food and liquids and recommends feeding techniques based on the patient’s individual status. Changes to the diet prescription are made as the patient’s ability to swallow improves or deteriorates.

Generally, moist, semisolid foods are easiest to swallow, such as pudding, custards, scrambled eggs, and yogurt because they form a cohesive bolus that is more easily controlled. Dry, crumbly, and sticky foods are avoided. Some foods, such as bread, are **slurried** to create a texture easily swallowed while retaining the appearance of “regular” bread. Commercial thickeners added to pureed foods can allow pureed foods to be molded into the appearance of “normal” food, which is more visually appealing than “baby food.” (Fig. 17.2). In studies comparing molded food to standard pureed food, people with dysphagia found the molded food to be more difficult to eat, instead preferring pureed food (Ballou Stahlman et al., 2000). Flavor enhancers, colored plates, and attractive garnishes can improve the appearance of pureed food.

Thickened liquids are more cohesive than thin liquids and are easier to control (Matta et al., 2006). Commercial thickening agents provide instructions on how to mix the product with liquids to achieve the desired consistency, yet wide variations in consistency occur depending on the beverage type, thickener brand, temperature of the liquid, and time between thickened fluid preparation and service to the patient (Adeleye & Rachal, 2007). Commercially prepared thickened beverages are available but viscosity varies among manufacturers and many product labels do not include viscosity. Thickened beverages are often poorly accepted making it difficult to maintain an adequate fluid intake.

Various feeding techniques may facilitate safe swallowing:

- Serve small, frequent meals to help maximize intake.
- Encourage patients with dysphagia to rest before mealtime. Postpone meals if the patient is fatigued.
- Give mouth care immediately before meals to enhance the sense of taste.
### Table 17.2 National Dysphagia Diet

<table>
<thead>
<tr>
<th>Level of Diet</th>
<th>Description</th>
<th>Foods Allowed</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Three Levels of Solid Textures</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Level 1: Dysphagia Pureed</td>
<td>Foods are totally pureed to a smooth, homogenous consistency. Eliminates sticky foods such as peanut butter and coarse-textured foods such as nuts and raw fruits and vegetables</td>
<td>Smooth cooked cereals; slurried or pureed bread products; milk; smooth desserts such as yogurt, pudding, custard, and applesauce; pureed fruits, vegetables, meats, scrambled eggs, and soups</td>
</tr>
<tr>
<td>Level 2: Dysphagia Mechanically Altered</td>
<td>Soft-textured, moist foods that are easily chewed. Eliminates coarse textures, nuts, and raw fruits and vegetables. (except banana)</td>
<td>Cooked cereals may have a little texture; some well-moistened ready-to-eat cereals; well-moistened pancakes with syrup; slurried bread; moist well-cooked potatoes, noodles, and dumplings; soft poached or scrambled egg; soft canned or cooked fruit; soft, well-cooked vegetables with &lt; ½ in. pieces (except no corn, peas, and other fibrous vegetables). Moist-ground or minced tender meat in pieces no larger than ⅛ in., soft casserole, cottage cheese, tofu; moist cobblers and moist soft cookies; soups with easy to chew meat or vegetables</td>
</tr>
<tr>
<td>Level 3: Dysphagia Advanced</td>
<td>Near-normal textured foods; excludes crunchy, sticky, or very hard foods. Food is bite-sized and moist</td>
<td>All breads are allowed except for those that are crusty; moist cereals; most desserts except those with nuts, seeds, coconut, pineapple, or dried fruit; soft, peeled fruit without seeds; moist tender meats or casserole with small pieces of meat; moist potatoes, rice, and stuffing; all soups except those with chewy meats or vegetables; most cooked, tender vegetables, except corn; shredded lettuce. No nuts, seeds, coconut, and chewy candy</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Four Liquid Consistencies</strong></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Thin</td>
<td>All unthickened beverages and supplements</td>
<td>Clear juices, frozen yogurt, ice cream, milk, water, coffee, tea, soda, broth, plain gelatin, liquidy fruits such as watermelon</td>
</tr>
<tr>
<td>Nectarlike</td>
<td>Liquids thicker than water but thin enough to sip through a straw</td>
<td>Nectars, vegetable juices, chocolate milk, buttermilk, thin milkshakes, cream soups, other properly thickened beverages</td>
</tr>
<tr>
<td>Honeylike</td>
<td>Liquids that can be eaten with a spoon but do not hold their shape</td>
<td>Honey, tomato sauce, yogurt</td>
</tr>
<tr>
<td>Spoon-thick</td>
<td>Liquids thickened to pudding consistency that need to be eaten with a spoon</td>
<td>Pudding, custard, hot cereal</td>
</tr>
</tbody>
</table>

Instruct the patient to think of a specific food to stimulate salivation. A lemon slice, lemon hard candy, or dill pickles may also help to trigger salivation, as may Moderately flavored foods.

Reduce or eliminate distractions at mealtime so that the patient can focus his or her attention on swallowing. Limit disruptions, if possible, and do not rush the patient; allow at least 30 minutes for eating.

Place the patient in an upright or high Fowler’s position. If the patient has one-sided facial weakness, place the food on the other side of the mouth. Tilt the head forward to facilitate swallowing.

Use adaptive eating devices such as built-up utensils and mugs with spouts, if indicated. Syringes should never be used to force liquids into the patient’s mouth because this can trigger choking or aspiration. Unless otherwise directed, do not allow the patient to use a straw.

Encourage small bites and thorough chewing.

Discourage the patient from consuming alcohol because it reduces cough and gag reflexes.

Gastroesophageal Reflux Disease

Gastroesophageal reflux disease (GERD) is caused by an abnormal reflux of gastric contents into the esophagus related to an abnormal relaxation of the lower esophageal sphincter (Vemulapalli, 2008). Other contributing factors are increased intra-abdominal pressure (e.g., related to hiatal hernia, obesity, or pregnancy) and decreased esophageal motility.
Although some people may be relatively asymptomatic, complaining only of a “lump” in their throat, indigestion, “heartburn,” and regurgitation are common, especially after eating a large or fatty meal. Pain frequently worsens when the person lies down, bends over after eating, or wears tight-fitting clothing. Chronic untreated GERD may cause reflux esophagitis, dysphagia, adenocarcinoma, esophageal ulcers, and bleeding. The amount of acid refluxed, the severity of heartburn, and the damage to the esophagus do not always correlate: severe pain can occur in the absence of esophageal damage and severe damage may occur with minimal heartburn (Stenson, 2006).

**Nutrition Therapy**

A three-pronged approach is used to treat GERD: lifestyle modification, including nutrition therapy; drug therapy; and surgical intervention, if necessary. Lifestyle and diet modifications focus on reducing or eliminating behaviors believed to contribute to GERD (Box 17.2), although proof that these approaches are effective is scarce (Holtmann et al., 2004; Vemulapalli, 2008). In an analysis of all published trials that looked at the impact of lifestyle and diet on GERD symptoms, Kaltenbach et al. found that elevating the head of the bed, lying on the left side while sleeping, and weight loss were the only strategies that improved GERD somewhat in nonrandomized studies (Kaltenbach et al., 2006). Despite the lack of evidence, lifestyle and diet are considered important adjunct therapies in the treatment of GERD.

**DISORDERS OF THE STOMACH**

Peptic ulcer disease and dumping syndrome from gastric surgery are disorders of the stomach that use nutrition therapy to help control symptoms.

**Peptic Ulcer Disease**

Approximately 15% of ulcers occur in the stomach and the remaining 85% are in the duodenum; ulcers in either site are known as peptic ulcer disease. Helicobacter pylori infection is implicated in an estimated 70% of gastric ulcers and 92% of duodenal ulcers (Harbison & Dempsey, 2005), yet most people infected with *H. pylori* do not develop the disease, which
suggests other factors may be involved (Ryan-Harshman & Aldoori, 2004). *H. pylori* appears
to secrete an enzyme that depletes gastric mucus, making the mucosal layer more suscepti-
tible to erosion. For these patients, destroying the bacteria—with antibiotics—generally cures
the ulcer. The second leading cause of peptic ulcers is the use of nonsteroidal antiinflamma-
tory drugs (NSAIDs). Eating spicy food does not cause ulcers.

Some people who have peptic ulcers are asymptomatic, while others experience a
burning or gnawing pain. Pain may be relieved by food, although gastric ulcers may some-
times be aggravated by eating. Pain, food intolerances, or loss of appetite may impair intake
and lead to weight loss. Iron deficiency anemia can develop from blood loss.

Although dietary restrictions are commonly
used for ulcers, there is no evidence that diet
causes peptic ulcer disease or speeds ulcer healing
(Shils et al., 2006). Patients may be told to avoid
coffee, alcohol, and chocolate because they stim-
ulate gastric acid secretion, yet consuming mod-
erate amounts of these items has not been shown
to impair ulcer healing (Stenson, 2006). Some
evidence suggests that a high-fiber diet, especially
soluble fiber, may reduce the risk of duodenal
ulcer, but other dietary factors, including alcohol
and caffeine, have little effect on ulcer risk (Ryan-Harshman & Aldoori, 2004). Nutrition
intervention may play a supportive role in treatment by helping to control symptoms. Any
of the following strategies may help:

- Avoid items that stimulate gastric acid secretion, namely coffee (decaffeinated and regular),
alcohol, and pepper.
- Avoid eating 2 hours before bed.
- Avoid individual intolerances.

### Dumping Syndrome

Nutritional complications of gastric surgeries depend on the extent of gastric resection
and the type of reconstruction performed. A common complication of gastrectomy and
gastric bypass is dumping syndrome, a group of symptoms caused by rapid emptying of
stomach contents into the intestine. As the hyperosmolar bolus enters the intestines, fluid
shifts from the plasma and extracellular fluid into the intestines to dilute the high partic-
le concentration. The large volume of hypertonic fluid into the jejunum and an increase
in peristalsis leads to nausea, vomiting, diarrhea, and abdominal pain. Weakness, dizzi-
ness, and a rapid heartbeat occur as the volume of circulating blood decreases. These
symptoms occur within 10 to 20 minutes after eating and characterize the early dumping
syndrome.

An intermediate dumping reaction occurs 20 to 30 minutes after eating as digested
food is fermented in the colon, producing gas, abdominal pain, cramping, and diarrhea
(ADA Nutrition Care Manual, 2008). Late dumping syndrome occurs 1 to 3 hours after
eating. The rapid absorption of carbohydrate causes a quick spike in blood glucose levels;
the body compensates by over-secreting insulin. Blood glucose levels drop rapidly
and symptoms of hypoglycemia develop, such as shakiness, sweating, confusion, and
weakness.
A reduced stomach capacity, rapid gastric emptying, and rapid transit time increase the risk of maldigestion, malabsorption, and decreased oral intake. The excretion of calories and nutrients produces weight loss and increases the risk of malnutrition. Other potential nutritional complications are outlined in Table 17.3.

Nutrition Therapy

**QUICK BITE**

Sources of sugar alcohols
- Dietetic foods, such as dietetic candies, sugarless gums, sugar-free cough drops, throat lozenges, and breath mints
- Some fruits and vegetables, such as cherries and berries

Nutrition intervention can control or prevent symptoms of dumping syndrome. Unlike most initial post-op feedings, clear liquids are not used. Patients are started on small frequent meals consisting of protein, fat, and complex carbohydrates, but only one or two items are given each meal. Liquids are provided between meals, not with meals, because they promote quick

<table>
<thead>
<tr>
<th>Potential Complication</th>
<th>Possible Contributing Factors</th>
<th>Possible Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iron deficiency anemia</td>
<td>Decreased food intake&lt;br&gt;A decrease in HCL secretion impairs the conversion of iron to its absorbable form&lt;br&gt;If the duodenum is bypassed or food moves through it too quickly, iron absorption cannot occur (the duodenum is the site of iron absorption)</td>
<td>Iron supplementation is necessary</td>
</tr>
<tr>
<td>Steatorrhea (excess fat in the stools)</td>
<td>Rapid intestinal time does not allow enough time for fat to be exposed to digestive enzymes&lt;br&gt;If the duodenum is bypassed, less pancreatic lipase mixes is available to digest fat&lt;br&gt;Bacterial overgrowth (excessive growth of intestinal bacteria) can develop from low-gastric acidity or altered motility; it interferes with the action of bile which is important for the emulsification of fat</td>
<td>Supplemental pancreatic enzymes may be necessary&lt;br&gt;Medium chain triglycerides may be used for additional calories (but lack the essential fatty acids)&lt;br&gt;Supplements of fat soluble vitamins may be prescribed; their absorption is dependent upon the absorption of fat</td>
</tr>
<tr>
<td>Pernicious anemia</td>
<td>Intrinsic factor, necessary for the absorption of vitamin B12 from the intestine, is produced by the stomach. It may be absent after gastric surgery. It may take years for a deficiency to develop</td>
<td>Injections of vitamin B12 may be necessary</td>
</tr>
<tr>
<td>Osteomalacia (softening of the bones)</td>
<td>Calcium is normally absorbed in the duodenum; if it is bypassed or the transit time is too rapid, calcium malabsorption can occur&lt;br&gt;Fat malabsorption causes calcium and vitamin D to be malabsorbed&lt;br&gt;Lower calcium intake related to lactose intolerance</td>
<td>Supplements of calcium and vitamin D may be necessary</td>
</tr>
</tbody>
</table>
movement through the GI tract. Simple sugars and sugar alcohols are avoided to limit the hypertonicity of the mass as it reaches the jejunum. Lactose may be restricted because lactose intolerance is common. Patients are advised to lie down after eating and functional fibers, such as pectin and guar gum, may be used to delay gastric emptying and treat diarrhea (ADA Nutrition Care Manual, 2008). Over time the diet is liberalized as the remaining portion of the stomach or duodenum hypertrophies to hold more food and allow for more normal digestion. Box 17.3 features antidumping syndrome diet guidelines (see Chapter 14 for more on bariatric surgery).

**Functional Fiber:** Fiber that has been isolated from food that has beneficial physiological effects.

### BOX 17.3 ANTI-DUMPING SYNDROME DIET GUIDELINES

**Eating strategies:**
- Eat small, frequent meals
- Consume beverages between, not with, meals
- Avoid sugar, honey, syrup, sorbitol, and xylitol and all food and beverages that have any of those listed as one of the first 3 ingredients on the label
- Eat a source of protein at each meal because it helps slow gastric emptying
- Choose low-fiber grains; mostly canned, not fresh fruit; nongassy, well-cooked vegetables without seeds or skins

**Recommended foods:**
- Breads and cereals: refined plain breads, crackers, rolls, unsweetened cereal, rice, and pasta that provide less than 2 g fiber/serving
- Vegetables: well-cooked or raw vegetables without seeds or skins, vegetable juice
  - Avoid “gassy” vegetables such as broccoli, cauliflower, cabbage, and corn
- Fruits: banana, soft melons, unsweetened canned fruit, unsweetened fruit juices
- Milk and milk products: any milk (if not lactose intolerant); choose yogurt, soy milk, and ice cream without sugar added
- Meat and meat alternatives: avoid all of the following: except fried meats, fish, and poultry; high-fat luncheon meats, sausage, hot dogs, and bacon; tough or chewy meats; dried peas and beans; nuts and nut butters
- Fats: oils, butter, margarine, cream cheese, mayonnaise
- Beverages: decaffeinated tea, artificially sweetened soft drinks; diluted fruit juice. Avoid caffeinated beverages, alcohol

**Sample Menu**

**Breakfast:**
- 1 poached egg
- 1 slice white toast with butter
- 1 hour later: 6 oz apricot nectar

**Mid-Morning Snack:**
- Firm banana
- Butter crackers

**Lunch:**
- ½ cup cottage cheese with two unsweetened, canned peach halves
- Dinner roll with butter
- 1 hour later: 8 oz artificially sweetened ginger ale

**Mid-Afternoon Snack:**
- 2 oz cheddar cheese
- 4 saltine crackers

**Dinner:**
- 3 oz baked chicken
- ½ cup white rice with butter
- ½ cup cooked carrots with butter
- 1 hour later: hot tea

**Bedtime Snack:**
- 1 cup yogurt without sugar added

**CHAPTER 17**

Nutrition for Patients with Upper Gastrointestinal Disorders

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**NURSING PROCESS: GERD**

Jason is 28 years old and complains of frequent painful heartburn. He takes antacids on a daily basis and has lost 14 pounds over the last few months. His strategy to avoid pain is to avoid eating. He smokes 2 packs of cigarettes/day. He is 5 ft. 8 in. tall, weighs 170 pounds, and has an appointment to see his doctor. In the meantime he has come to you, the corporate nurse on staff where he works, to see what he can do to help control his heartburn.

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**Assessment**

**Medical–Psychosocial History**
- Medical history that would contribute to GERD, such as hiatal hernia
- Symptoms that may affect nutrition, such as difficulty swallowing or nausea and vomiting
- Use of medications that may lower LES pressure, such as anticholinergic agents, diazepam, or theophylline
- Use of medications that may damage the mucosa, such as NSAIDs or aspirin
- History of smoking
- Level of activity

**Anthropometric Assessment**
- BMI, % weight loss

**Biochemical and Physical Assessment**
- Abnormal lab values, if available, especially hemoglobin and hematocrit because low values may indicate bleeding,

**Dietary Assessment**
- How many meals do you eat daily?
- Would you say your meals are small, medium, or large in size?
- Are there any particular foods that cause indigestion, especially alcohol, coffee, tea, caffeine, pepper, mint, chocolate, or fatty foods?
- What foods do you avoid?
- Can you correlate your symptoms to:
  - Lying down after eating?
  - Wearing tight clothes?
  - Eating right before bed?
- Do you take vitamins, minerals, herbs, or other supplements?
- Do you have ethnic, religious, or cultural food preferences?

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**Diagnosis**

**Possible Nursing Diagnosis**
- Imbalanced nutrition: less than body requirements as evidenced by weight loss related to inadequate intake secondary to heartburn

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**Planning**

**Client Outcomes**
- The client will:
  - Report relief from symptoms
  - Consume adequate calories and nutrients
  - Use less medication to control symptoms
  - Explain the role of diet in controlling GERD symptoms
  - Exhibit normal laboratory values

*(nursing process continues on page 414)*
NURSING PROCESS: GERD (continued)

**Nursing Interventions**

**Nutrition Therapy**
- Avoid items that increase gastric acid secretion and/or lower LES pressure
  - Alcohol
  - Black and red pepper
  - Coffee
  - Chocolate
  - Fatty foods
  - Mint
- Eat small frequent meals to avoid increasing intra-abdominal pressure but avoid eating within 3 hours of bedtime
- Consume liquids between meals instead of with meals to limit distension of the stomach
- Avoid spicy, acidic, or tomato-based foods that may irritate the esophagus
- Eliminate any foods not tolerated

**Client Teaching**
- Instruct the client:
  - That nutrition interventions may help control symptoms but do not treat the underlying problem
  - On lifestyle modifications that may help improve symptoms, such as losing weight, smoking cessation, and regular exercise
  - To avoid pressure on the abdomen and LES
  - Raise the head of the bed
  - Do not bend over or lie down after eating
  - Do not wear tight-fitting clothes

**Evaluation**

**Evaluate and Monitor**
- Monitor for improvement in symptoms
- Monitor weight
- Monitor for medication usage

**How Do You Respond**

If over-the-counter drugs to combat heartburn are as good as advertised, why should I worry about what to eat if taking a pill can allow me to eat what I want without any pain? Although they work well, relying on medications to stave off pain after eating whatever, whenever, and in any amount is foolhardy. All medications have the potential to cause side effects, and pain is a signal that something is wrong. Encourage clients to implement eating and lifestyle changes to see if they alone can prevent symptoms.

**Case Study**

Barbara is a 72-year-old, “Type A” personality who was diagnosed with a peptic ulcer more than 40 years ago. At that time her doctor told her to follow a bland diet and eat 3 meals/day with 3 snacks/day of whole milk to “quiet” her stomach. She meticulously
complied with the diet to the point of becoming obsessive about eating anything that may not be “allowed.” She lost 15 pounds by following the bland diet because her intake was so restricted. She recently began experiencing ulcer symptoms and has put herself back on the bland diet, convinced it is necessary in order to recover from her ulcer.

Yesterday she ate:

<table>
<thead>
<tr>
<th>Breakfast:</th>
<th>1 poached egg</th>
<th>2 slices dry white toast</th>
<th>1 cup whole milk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morning Snack:</td>
<td>1 cup whole milk</td>
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<td></td>
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<tr>
<td>Lunch:</td>
<td>¼ cup cottage cheese with ¼ cup canned peaches</td>
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<td></td>
</tr>
<tr>
<td>Afternoon snack:</td>
<td>1 cup whole milk</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dinner:</td>
<td>3 oz boiled chicken</td>
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<tr>
<td></td>
<td>½ cup boiled plain potatoes</td>
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<tr>
<td></td>
<td>½ cup boiled green beans</td>
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<td></td>
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<td></td>
<td>½ cup gelatin</td>
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<tr>
<td>Evening snack:</td>
<td>1 cup whole milk</td>
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</table>

- Barbara’s 1600 calorie MyPyramid plan calls for 1.5 cups of fruit, 2 cups of vegetables, 5 grains, 5 ounces of meat/beans, 3 cups of milk, and 5 teaspoons of oils. How does her intake compare? What food groups is she undereating? Overeating? What are the potential nutritional consequences of her current diet?
- What other information would be helpful for you to know in dealing with Barbara?
- Barbara clearly wants to be on a bland diet; what would you tell her about diet recommendations for peptic ulcer disease? What recommendations would you make to improve her symptoms and meet her nutritional requirements while respecting her need to follow a “diet”?

1. The patient asks if coffee is bad for his peptic ulcer. Which of the following would be the nurse’s best response?
   a. “Coffee does not cause ulcers and drinking it probably does not interfere with ulcer healing. You may try eliminating it from your diet to see what impact it has on your symptoms and then decide whether or not to avoid it.”
   b. “Both caffeinated and decaffeinated coffee can cause ulcers and interfere with ulcer healing. You should eliminate both from your diet.”
   c. “You need to eliminate caffeinated coffee from your diet but it is safe to drink decaffeinated coffee.”
   d. “You can drink all the coffee you want; it does not affect ulcers.”

2. Which statement indicates the patient needs further instruction about GERD?
   a. “I know a bland diet will help prevent the heartburn I get after eating.”
   b. “Lying down after eating can make GERD symptoms worse.”
   c. “High-fat meals can make GERD symptoms worse.”
   d. “Losing excess weight can help prevent symptoms of GERD.”

3. Which of the following snacks would be best for a patient who wants to eat who has nausea?
   a. Cheese
   b. Peanuts
   c. Fat-free pudding
   d. A milkshake
4. The nurse knows her instructions have been effective when the patient with dumping syndrome verbalizes she should:
   a. Avoid lying down after eating.
   b. Drink liquids between, not with, meals.
   c. Eat easily digested carbohydrates.
   d. Avoid protein.

5. A patient with dumping syndrome asks why it is so important to avoid sugars and sweets. Which of the following is the nurse’s best response?
   a. “Sugars and sweets provide empty calories, so they should be limited in everyone’s diet.”
   b. “Sugars draw water into the intestines and cause cramping and diarrhea.”
   c. “Sugar makes blood glucose levels increase; hyperglycemia is a complication of dumping syndrome.”
   d. “Avoiding sugars and sweets helps ensure that they will not displace the intake of protein, which you need for healing.”

6. Which of the following is an appropriate breakfast for a patient on a level 1 dysphagia diet?
   a. Poached egg
   b. Cream of wheat
   c. Granola with milk
   d. Toast cut into small pieces

7. A patient who develops pernicious anemia after gastric surgery needs supplemental:
   a. Protein
   b. Iron
   c. Calcium
   d. Vitamin B12

8. The best dessert for a patient with GERD is:
   a. Chocolate cake
   b. Peppermint ice cream
   c. Fresh orange sections
   d. Pineapple sherbet

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**KEY CONCEPTS**

- Nutrition therapy for GI disorders may help minimize or prevent symptoms. For some GI disorders, nutrition therapy is the cornerstone of treatment.
- Small, frequent meals may help to maximize intake in patients who have anorexia. Avoiding high-fat foods may lessen the feeling of fullness.
- After nausea and vomiting subside, low-fat, easily digested carbohydrate foods, such as crackers, toast, oatmeal, and bland fruit, usually are well tolerated. Patients should avoid liquids with meals because liquids can promote the feeling of fullness.
- The National Dysphagia Diet has three different solid food textures and four different liquid consistencies. A speech and language pathologist recommends the appropriate level for solids and liquids based on a swallowing evaluation.
- Pureed foods are less calorically dense than normal textured foods. They are also less visually appealing. Patients with dysphagia are monitored for poor intakes and weight loss.
- People with GERD should lose weight if overweight, avoid large meals and bedtime snacks, eliminate individual intolerances, and avoid alcohol, caffeine, decaffeinated coffee, chocolate, fatty foods, peppermint and spearmint flavors, and cigarette smoke.
There is no evidence that diet causes ulcers or promotes their healing. Patients are commonly advised to avoid items that stimulate gastric acid secretion and any foods not tolerated.

Nutrition therapy for dumping syndrome consists of eating small, frequent meals; eating protein at each meal; and avoiding concentrated sugars and sugar alcohols. Liquids should be consumed 1 hour before or after eating instead of with meals.

**ANSWER KEY**

1. **TRUE** Drinking liquids with meals may promote a bloated feeling and contribute to nausea. Encourage patients to drink fluids between meals, especially clear liquids such as water, clear juices, gelatin, ginger ale, and Popsicles.

2. **FALSE** Thin liquids are the most difficult consistency to control for people who have swallowing difficulties. Thickened liquids have a more cohesive consistency that is easier to manage.

3. **FALSE** The degree of texture modification for dysphagia is determined by the individual’s ability to chew and swallow. There are three levels of solid textures: pureed, mechanically altered, and an advanced consistency of mixed textures.

4. **FALSE** The severity of the pain is not correlated to the extent of esophageal damage. Some people have severe damage with only minor symptoms.

5. **TRUE** Fat lowers LES pressure so high-fat meals may cause symptoms of GERD.

6. **TRUE** Spicy or acidic foods may irritate the esophagus when it is inflamed. Patients should avoid any foods not tolerated.

7. **TRUE** Alcohol stimulates gastric acid secretion and, in theory, should be avoided by people with peptic ulcer disease.

8. **FALSE** A bland diet is considered obsolete. It does not promote ulcer healing and eating moderate amounts of nonbland foods has not been shown to irritate peptic ulcers.

9. **TRUE** People with dumping syndrome should avoid sugars and sweets because they contribute to a high osmolar load when the gastric contents enter the intestine. Over time the diet is liberalized to allow sugars and sweets as the remaining stomach and intestine accommodate to the change in the stomach’s holding capacity.

10. **TRUE** Because intrinsic factor is produced in the stomach and is necessary for the intestinal absorption of vitamin B12, people who have had a gastrectomy are at risk of developing pernicious anemia. The symptoms may take years to develop because the body stores vitamin B12.

**WEBSITES**

American College of Gastroenterology at [www.acg.gi.org](http://www.acg.gi.org)

American Gastroenterological Association at [www.gastro.org](http://www.gastro.org)

**REFERENCES**


