

Chapter 18: Drug-Nutrient Interactions

1. The age group that is at *greatest* risk for developing a drug-nutrient interaction is:
 - a. older adults.
2. One reason why older adults may experience harmful drug-nutrient interactions is that they:
 - a. are more likely to be taking several drugs.
3. A type of drug that may cause stomach irritation and even gastric bleeding is:
 - a. nonsteroidal antiinflammatory drugs.
4. A type of medication that can stimulate appetite is:
 - a. antihistamines.
5. Use of tricyclic antidepressants and antipsychotic drugs such as amitriptyline hydrochloride (Elavil), chlorpromazine hydrochloride (Thorazine), and clozapine (Clozaril) can result in:
 - a. weight gain.
6. Use of anabolic steroids can result in:
 - a. increased lean body mass.
7. Drugs that can depress appetite include:
 - a. alcohol.
8. A type of drug that may cause weight gain in clients is:
 - a. insulin.
9. The term used to describe the loss of taste sensation is:
 - a. dysgeusia.
10. A drug that may help increase nutrient absorption in gastrointestinal disorders is:
 - a. cimetidine.
11. A type of over-the-counter drug that can produce severe malabsorption is:
 - a. laxatives.
12. Any drug that prevents absorption of vitamin D will indirectly cause a deficiency of:
 - a. calcium.
13. One way that some drugs can cause mineral depletion is through:
 - a. increased renal excretion.
14. Symptoms such as weakness, nausea, anorexia, vomiting, and apprehension indicate a deficiency of:
 - a. potassium.
15. Potassium deficiency may be caused by the use of:
 - a. diuretics.
16. A medication that can interfere with nutrient absorption via chelation is:
 - a. penicillamine.
17. Iron deficiency related to chronic blood loss may be caused by the use of:
 - a. aspirin.
18. Natural licorice is sometimes used to heal gastric ulcers, but it has a side effect of:
 - a. hypertension.
19. Use of oral hypoglycemic agents in combination with alcohol may cause:
 - a. hypoglycemia.
20. Calcification of soft tissue may occur from long-term use of:
 - a. antacids.
21. A drug that should not be used in the latter part of pregnancy because it may cause birth defects is:
 - a. aspirin.
22. Aspirin may have beneficial effects for patients with:
 - a. arthritis.
23. Research has shown that the beneficial effects of aspirin are

- the result of inhibition of:
- prostaglandins.
24. Drugs such as the antimalaria drug pyrimethamine inhibit the action of:
- folate.
25. The chemotherapeutic agent methotrexate has multiple antagonistic effects on:
- folic acid.
26. A medication that adversely affects folic acid metabolism is:
- methotrexate.
27. The anticoagulant warfarin (Coumadin) acts as an antagonist to:
- vitamin K.
28. A diuretic that may cause *high* blood potassium levels is:
- spironolactone.
29. The class of medications associated with tyramine syndrome is:
- monoamine oxidase inhibitors.
30. A severe tyramine reaction may cause a crisis due to:
- Hypertension
31. Abuse of alcohol can lead to low levels of:
- potassium, magnesium, and zinc.
32. Hypoglycemic drugs prescribed to control type 2 diabetes may precipitate hypoglycemia by:
- stimulating release of insulin.
33. The medication used in the treatment of alcoholism that may cause nausea, vomiting, and headache when alcohol is consumed is:
- disulfiram (Antabuse).
34. Grapefruit juice increases the bioavailability of several drugs by:
- blocking a cytochrome system in the small intestine.
35. Slower gastric emptying will tend to cause drug absorption to:
- increase.
36. Absorption of iron is improved by eating foods that are high in:
- vitamin C.
37. A vitamin that can help overcome pulmonary oxygen toxicity is:
- vitamin E.
38. Absorption of tetracycline is hindered when ingested with:
- milk.
39. A nutrient that delays gastric emptying time, thereby creating more optimal saturation rates for drug absorption is:
- fat.
40. It is important to ask patients if they use herbal remedies because:
- herbal remedies may have adverse interactions with drugs.
41. Vegetables such as cabbage, broccoli, and cauliflower can accelerate medication metabolism because they:
- stimulate enzymes in the liver.
42. A cooking method that can increase hepatic drug metabolism through enzyme induction is:
- charcoal grilling.
43. Megadose intakes of pyridoxine or folate reduce the effectiveness of some:
- anticonvulsants.
44. An example of a cruciferous vegetable is:
- broccoli.
45. The action of liver enzymes that metabolize drugs is influenced by

- relative dietary quantities of:
- carbohydrate and fat.
46. Responsibility for monitoring drug-food-nutrient interactions is assumed by:
- the clinical dietitian and pharmacist.
47. The goal of coordinating food service, pharmacy, and clinical
- 49.
- 50. Chapter 20: Gastrointestinal Diseases**
- When mouth tissues become inflamed, *initial* nutritional recommendations include:
 - high-protein, high-kilocalorie liquids.
 - The medical term for difficulty in swallowing is:
 - dysphagia.
 - For a client who has achalasia, the diet of choice is:
 - nutrient-dense liquids and semisolid foods.
 - The term *pyrosis* means:
 - heartburn.
 - A good meal for someone with xerostomia would be:
 - stew, mashed potatoes, and pudding.
 - The patient most likely to develop a hiatal hernia is:
 - an obese man.
 - Malignancy is a common development in patients with:
 - gastric ulcer.
 - Peptic ulcers occur *most frequently* in the:
 - Duodenum
 - Peptic ulcer disease may be caused by:
 - Helicobacter pylori* infection.
 - A characteristic symptom of a peptic ulcer is:
 - abdominal pain between meals.
- nutrition in hospital settings is to:
- minimize adverse drug-nutrient interactions.
48. A meal that may be inappropriate for a patient taking warfarin (Coumadin) is:
- spinach salad with chicken and strawberries.
11. A basic principle guiding nutritional management of peptic ulcer disease is to eat:
- a well-balanced diet as tolerated.
12. People who have peptic ulcer disease are encouraged to *avoid* drinking:
- tea and coffee.
13. Diagnosis of celiac disease is confirmed using:
- intestinal biopsy.
14. Grains that should be eliminated from the diets of clients on a restricted gluten diet include:
- wheat, rye, and barley.
15. Cystic fibrosis is a disease that primarily affects the:
- pancreas, intestinal tract, sweat glands, and lungs.
16. Level I routine care of patients with cystic fibrosis includes:
- enzyme replacement and vitamin supplements.
17. The chronic inflammatory bowel disease that involves all layers of the intestinal wall is known as:
- Crohn's disease.
18. Inflammatory bowel disease that is confined to the colon and rectum is known as:
- ulcerative colitis.
19. During an acute exacerbation of inflammatory bowel disease, if the patient can tolerate an oral

- diet, the diet should be:
- low-fat, low-residue, high-protein, high-calorie, small, frequent meals.
20. During remission, patients with Crohn's disease are encouraged to increase their intake of:
- antioxidants.
21. Patients with short-bowel syndrome usually need parenteral nutrition support only until:
- their remaining small intestine adapts.
22. The small outpouchings that protrude from the intestinal lumen are called:
- diverticula.
23. If diverticula of the large intestine become inflamed, the condition is called:
- diverticulitis.
24. The type of diet prescribed for long-term management of diverticular disease is:
- high in fiber.
25. Dietary changes that help reduce the incidence of constipation include:
- increasing fluid intake.
26. An appropriate meal for someone with celiac disease would be:
- roasted chicken with rice and broccoli.
27. Patients with cystic fibrosis need extra:
- sodium.
28. A major clinical symptom associated with hepatitis is:
- jaundice.
29. Medical treatment of hepatitis includes:
- bed rest and optimal nutrition.
30. Adequate dietary protein is essential for recovery from hepatitis because protein:
- is needed for liver cell regeneration.
31. The amount of protein that should be consumed by a client who has viral hepatitis is:
- 1.0 to 1.2 g/kg body weight.
32. In patients with viral hepatitis, the major barrier to adequate nutritional intake is:
- anorexia.
33. Pathologic changes in the liver caused by cirrhosis include:
- fatty infiltration.
34. The *earliest* clinical manifestations of cirrhosis include:
- nausea, vomiting, and anorexia.
35. Development of ascites in clients who have cirrhosis is related to:
- protein deficiency.
36. One effect of impaired blood circulation through the liver caused by fibrous tissue is the development of:
- portal hypertension.
37. Nutrition support for the client who has cirrhosis includes a:
- low-sodium, soft-texture, high-energy diet.
38. A key component in the etiology of hepatic encephalopathy is:
- high ammonia levels in the systemic circulation.
39. Clinical signs of hepatic encephalopathy include:
- confusion and impaired motor function.
40. The primary objective of treatment of hepatic encephalopathy is to:
- remove sources of excess ammonia.
41. The recommended plan of

- nutrition therapy for clients who have hepatic encephalopathy is a:
- restricted protein and moderately high-energy diet.
42. Drugs used to control blood ammonia levels in patients with hepatic encephalopathy are:
- lactulose and neomycin.
43. The gallbladder is stimulated to contract and release bile by:
- the cholecystokinin mechanism.
44. Inflammation of the gallbladder is called:
- cholecystitis.
45. The presence of gallstones in the gallbladder is called:
- cholelithiasis.
46. Gallstone formation is promoted by:
- high fat intake.
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54. Chapter 21: Diseases of the Heart, Blood Vessels, and Lungs

- Development of coronary heart disease is related to:
 - fibrous plaques in coronary vessels.
 - In the process of atherosclerosis:
 - plaque is deposited on the interior surface of the blood vessels.
 - The layer of the artery in which atherosclerotic plaque forms is the:
 - intima.
 - Plaque usually consists mainly of:
 - cholesterol.
 - Several types of blood lipoproteins are synthesized in the:
 - liver.
 - The function of lipoproteins in body metabolism is to transport:
 - lipids to and from the
47. A characteristic clinical symptom of gallbladder inflammation or gallstones is:
- pain after eating.
48. Nonsurgical treatment for gallstones may include:
- chemical dissolution of gallstones.
49. Nutrition therapy for clients who have gallbladder disorders focuses on:
- reducing fat intake.
50. Factors responsible for development of acute pancreatitis include:
- alcohol abuse.
51. The initial diet prescription for clients who have acute pancreatitis is:
- to withhold oral feedings.
- 52.

12. In nutritional management of high serum cholesterol levels, TLC stands for:
- therapeutic lifestyle changes.
13. In patients with elevated serum LDL cholesterol levels, monounsaturated fat intake should be:
- up to 20% of energy intake.
14. Foods high in monounsaturated fats include:
- nuts.
15. According to TLC recommendations, a type of fatty acid that should be avoided as much as possible is:
- trans* fatty acids.
16. Fats high in polyunsaturated fats include:
- liquid vegetable oils.
17. A desirable blood cholesterol level is:
- less than 200 mg/dL.
18. The major principle that guides nutrition planning for clients who have coronary heart disease is:
- reduction of saturated fat intake.
19. Good sources of soluble dietary fiber include:
- oatmeal.
20. Soluble fibers are believed to be beneficial for preventing heart disease because they:
- lower LDL cholesterol levels.
21. Therapeutic dietary options for enhancing lowering of LDL cholesterol include:
- plant sterols.
22. Drug therapy should be considered for patients with hypercholesterolemia when:
- therapeutic lifestyle modifications have been unsuccessful after 3 months.
23. When blood supply to a tissue or body part is reduced, the result is referred to as:
- ischemia.
24. A localized area of dead tissue is called a(n):
- infarct.
25. If a patient who has just had a myocardial infarction has hypertension, his or her recommended diet would be:
- low in sodium.
26. Congestive heart failure can lead to an imbalance in:
- fluids and electrolytes.
27. The stimulus for the renin-angiotensin-aldosterone mechanism is:
- decreased renal blood pressure.
28. Congestive heart failure affects the renin-angiotensin-aldosterone mechanism so that:
- fluids are retained by the body.
29. Nutrition therapy for clients who have congestive heart failure focuses on restriction of dietary intake of:
- sodium.
30. The renin-angiotensin-aldosterone mechanism tends to promote the retention of sodium and the excretion of:
- potassium.
31. The cause of essential hypertension is:
- unknown.
32. An important feature of the Dietary Approaches to Stop Hypertension (DASH) eating plan is:
- eating a diet rich in fruits,

- vegetables, and low-fat dairy products.
33. The upper limit of normal blood pressure in adults is considered to be:
a. 120/80 mm Hg.
34. The three types of body systems that maintain normal blood pressure are:
a. neuroendocrine, hormonal, and enzyme systems.
35. In the United States, the incidence of stroke is highest among:
a. African Americans.
36. The diagnosis of prehypertension, stage 1 hypertension, or stage 2 hypertension is based on:
a. systolic and/or diastolic blood pressure.
37. Medical nutrition therapy for treatment of hypertension includes:
a. increased intakes of potassium and calcium.
38. The main source of dietary sodium is:
a. processed foods.
39. Most strokes are caused by:
a. blood clots.
40. Chronic obstructive pulmonary disease (COPD) is often accompanied by:
a. malnutrition.
41. The factor that guides nutrition therapy for clients with COPD is the:
- 51.
- 52. Chapter 22: Diabetes Mellitus**
1. People with type 1 diabetes have a problem with the function of cells in their:
a. pancreas.
 2. The underlying cause of type 1 diabetes is:
a. RQ of each of the fuel nutrients.
42. Patients who have experienced stroke may need to eat softened foods and thickened liquids if they have:
a. dysphagia.
43. Clients with COPD should have intakes that are higher than is normally recommended for:
a. fat.
44. The most important factor that contributes to development of peripheral vascular disease is:
a. cigarette smoking.
45. The amount of fluid recommended for clients with pneumonia (who do not need fluid restrictions) is:
a. 3.0 to 3.5 L/day.
46. The objective of nutritional management for clients with tuberculosis is to:
a. maintain weight or prevent weight loss.
47. Elevated blood levels of C-reactive protein indicate:
a. inflammation.
48. An example of a meal high in soluble fiber is:
a. split pea soup.
49. Omega-3 fatty acids help decrease risk of heart disease by:
a. decreasing platelet aggregation.
50. The food that would be lowest in sodium is:
a. frozen green beans.
- 51.
- 52. Chapter 22: Diabetes Mellitus**
1. People with type 1 diabetes have a problem with the function of cells in their:
a. pancreas.
 2. The underlying cause of type 1 diabetes is:
a. an autoimmune attack on insulin-producing cells.
3. An example of a health factor associated with insulin resistance

- is:
- a. hyperlipidemia.
 4. A population group that has a genetic susceptibility to type 2 diabetes is:
 - a. Pima Indians.
 5. Metabolic syndrome includes:
 - a. hypertension and obesity.
 6. In people with type 1 diabetes, insulin production is:
 - a. deficient.
 7. Type 1 diabetes is characterized by:
 - a. rapid development before age 40.
 8. Type 2 diabetes:
 - a. is associated with insulin resistance.
 9. *Initial* client symptoms of type 1 diabetes include polydipsia, polyuria, and:
 - a. polyphagia.
 10. Clinical laboratory results found in uncontrolled type 1 diabetes include:
 - a. glycosuria.
 11. The term that refers to an elevated blood glucose level is:
 - a. hyperglycemia.
 12. The pathophysiology of diabetes has most effect on the metabolism of:
 - a. carbohydrates and fats.
 13. The normal range for blood glucose is:
 - a. 70 to 120 mg/dL.
 14. Sources of blood glucose include dietary carbohydrates, fats, proteins, and:
 - a. liver glycogen.
 15. The function of the beta cell portion of the pancreatic islets cells is to synthesize:
 - a. insulin.
 16. The delta cells of the pancreas synthesize:
 - a. somatostatin.
17. The alpha cells of the pancreas synthesize:
 - a. glucagon.
18. The pancreatic sensors of blood glucose levels are located in the:
 - a. juncture points of the alpha, beta, and delta cells.
19. One of the major functions of insulin is to:
 - a. promote uptake of amino acids.
20. The hormone that is considered to be an antagonist to insulin is:
 - a. glucagon.
21. The hormone that regulates blood glucose level by inhibiting interactions of insulin and glucagon is:
 - a. somatostatin.
22. The nutrient that produces ketones as a by-product of metabolism is:
 - a. fat.
23. A common symptom among people with undiagnosed type 2 diabetes is:
 - a. poor wound healing.
24. Common complications of diabetes affect the:
 - a. kidney, eye, and nerve tissue.
25. A standard blood test that is used to evaluate long-term management and control in clients who have diabetes is:
 - a. glycated hemoglobin level.
26. Basic objectives in the care of the person who has diabetes include maintaining normal blood glucose levels, preventing complications, and:
 - a. maintaining optimal nutrition.

27. People who have diabetes are at particular risk for:
a. coronary artery disease.
28. Development of complications of type 1 diabetes can be minimized by:
a. aggressive insulin therapy.
29. The dose of insulin required for a meal is usually about 1 unit of insulin per:
a. 15 g carbohydrate.
30. The effects of glucagon include:
a. causing breakdown of liver glycogen.
31. Insulin may be used by clients with type 2 diabetes if they:
a. are unable to achieve glycemic control with oral agents.
32. One way that people with impaired glucose tolerance can prevent development of type 2 diabetes is to:
a. lose weight.
33. Insulin is a(n):
a. hormone.
34. Type 2 diabetes in children and adolescents is related to:
a. overweight and obesity.
35. One of the most common tools used for meal planning for clients with type 1 diabetes, based on the primary nutrient affecting postprandial blood glucose levels and insulin requirements, is:
a. carbohydrate counting.
36. In order to prevent ketosis, women with gestational diabetes mellitus (GDM) should consume at least:
a. 1700 to 1800 kcal/day.
37. The type of insulin that has its peak activity 11 hours after administration and acts for approximately 20 to 29 hours is:
a. intermediate acting.
38. Clients with type 1 diabetes can achieve more consistent blood glucose control using:
a. intensive insulin therapy.
39. A self-management technique that guides insulin prescriptions for clients with type 1 diabetes is:
a. self-monitoring of blood glucose.
40. Development of type 2 diabetes is closely linked to:
a. physical inactivity.
41. Historically, type 2 diabetes is typically diagnosed after age:
a. 40 years.
42. A major focus of the dietary prescription for people who have type 2 diabetes is to:
a. lose weight.
43. One way in which oral hypoglycemic drugs act to lower elevated blood glucose levels is by:
a. stimulating the pancreas to produce more insulin.
44. Nutrition therapy for diabetes is based on:
a. the individual's usual eating habits.
45. A client with diabetes would need to adjust or modify his or her diet if he or she is:
a. ill or under stress.
46. For a client with GDM, an acceptable blood glucose level 2 hours after a meal would be:
a. 130 mg/dL.
47. Infants born to mothers with GDM may experience:
a. hypoglycemia.
48. Infants born to mothers with GDM may have macrosomia because:
a. glucose crosses the placenta, but maternal

- insulin does not.
49. If someone with type 1 diabetes starts drinking alcoholic beverages an hour before a meal, they are likely to experience:
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- 51. Chapter 23: Renal Disease**
1. The basic functional units of the kidney are called:
 - a. nephrons.
 2. The laboratory test result that is generally used to predict glomerular filtration rate (GFR) in clinical practice is:
 - a. serum creatinine level.
 3. The kidney structure that is responsible for filtering the blood is the:
 - a. glomerulus.
 4. The main function of the proximal tubule of the glomerulus is:
 - a. reabsorption of nutrients.
 5. The main function of the loop of Henle is:
 - a. concentration of urine.
 6. The main function of the distal tubule of the nephron is:
 - a. maintenance of acid-base balance.
 7. Normal nephron function is adversely affected by:
 - a. chronic hypertension.
 8. The most common causes of end-stage renal disease are:
 - a. hypertension and diabetic nephropathy.
 9. In patients without diabetes, chronic kidney disease (CKD) is most commonly caused by:
 - a. immune-mediated mechanisms.
 10. Normal GFR is:
 - a. $125 \text{ mL/min}/1.73 \text{ m}^2$.
 11. A client with GFR of $15 \text{ mL/min}/1.73 \text{ m}^2$ has:
 - a. stage 5 CKD.
 12. Significant comorbidities in patients with CKD include:
 - a. malnutrition.
 13. Patients with CKD who have excessive sodium intakes may experience:
 - a. edema and hypertension.
 14. Patients with renal disease usually have a chronic state of inflammation, as shown by elevated serum levels of:
 - a. C-reactive protein.
 15. The presence of protein in the urine is called:
 - a. proteinuria.
 16. The term *oliguria* refers to:
 - a. a reduced amount of urine in relation to fluid intake.
 17. The term *hematuria* refers to:
 - a. the presence of blood in the urine.
 18. Factors that contribute to malnutrition in patients with chronic renal failure include:
 - a. anorexia and catabolism.
 19. Electrolyte imbalances that occur in chronic renal failure include:
 - a. high serum potassium.
 20. In patients with CKD, sodium intake does not usually need to be restricted until GFR falls to:
 - a. $10 \text{ mL/min}/1.73 \text{ m}^2$.
 21. The bone disease osteodystrophy often occurs in patients with:
 - a. chronic renal failure.
 22. Osteodystrophy develops because of the kidney's inability to:
 - a. activate vitamin D.
 23. Patients with chronic renal insufficiency develop anemia because their kidneys synthesize

- inadequate amounts of:
- erythropoietin.
24. Potassium intake is restricted if serum potassium level is higher than:
- 5.0 mg/dL.
25. The recommended protein intake for a 35-year-old man with a GFR of 20 mL/min/1.73 m² who weighs 80 kg is:
- 48 to 60 g/day.
A GFR of 20 mL/min/1.73 m² represents stage 4 CKD. Recommended protein intake at this stage is 0.6 to 0.75 g/kg body weight. At this man's weight, 0.6 g/kg · 80 kg = 48 g; 0.75 g/kg · 80 kg = 60 g. Therefore, the recommended range of protein intake for this man is 48 to 60 g/day.
26. In young adults with chronic renal disease, daily energy intake should be:
- 35 kcal/kg.
27. Dietary carbohydrates and fats are important for clients with chronic renal failure because they:
- provide energy and spare dietary protein.
28. The recommended fluid intake for a 60-year-old woman with stage 5 CKD treated with hemodialysis who weighs 60 kg and has a urine output of 300 mL/day is:
- 1300 mL. Fluid needs for patients receiving hemodialysis are 1000 mL plus urine output: 1000 mL + 300 mL = 1300 mL.
29. In a 45-year-old man with CKD who weighs 90 kg and is treated using hemodialysis, protein intake should be:
- 108 g.
30. The method of dialysis that gives clients the greatest amount of freedom of mobility is:
- peritoneal dialysis.
31. One of the basic objectives of medical nutrition therapy for clients receiving dialysis is to:
- maintain protein and kilocalorie (kcalorie or kcal) balance.
32. A problem that can occur with continual ambulatory peritoneal dialysis is:
- weight gain.
33. A treatment approach that can be used to replace dialysis for clients who have chronic renal failure is:
- kidney transplantation.
34. Sudden shutdown of renal function following traumatic or metabolic injury is called:
- acute renal failure.
35. The major clinical symptom of acute renal failure is:
- oliguria.
36. Factors that affect nutrition requirements in patients with acute renal failure include:
- type of dialysis, if any.
37. An increase in the serum urea nitrogen and creatinine of a client who has acute renal failure is a result of:
- tissue breakdown of muscle mass.
38. In acute renal failure (if the client is not catabolic and not receiving hemodialysis), protein intake should be about:
- 0.8 to 1.2 g/kg body

- weight per day.
39. The *most common* component of kidney stones is:
- calcium.
40. The recommended diet for a person with calcium stones is relatively low in:
- animal protein and oxalates.
41. The second most common type of kidney stone is composed of:
- struvite.
42. The main cause of cystine stones is:
- heredity.
43. A key component in the management of clients who have kidney stones is to:
- increase fluid intake.
44. The most common symptom associated with kidney stones is:
- severe pain.
45. A dietary component that may help protect against CKD is:
- omega-3 fatty acids.
46. The factor responsible for development of *most* urinary tract infections is:
- microorganisms.
47. Regular consumption of cranberry juice may help:
- prevent urinary tract infections.
48. Predisposing factors for renal stone formation include:
- untreated urinary tract infections.

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