

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

- relative dietary quantities of:
- a. carbohydrate and fat.
46. Responsibility for monitoring drug-food-nutrient interactions is assumed by:
- a. the clinical dietitian and pharmacist.
47. The goal of coordinating food service, pharmacy, and clinical
- 49.

50. Chapter 20: Gastrointestinal Diseases

1. When mouth tissues become inflamed, *initial* nutritional recommendations include:
 - a. high-protein, high-kilocalorie liquids.
2. The medical term for difficulty in swallowing is:
 - a. dysphagia.
3. For a client who has achalasia, the diet of choice is:
 - a. nutrient-dense liquids and semisolid foods.
4. The term *pyrosis* means:
 - a. heartburn.
5. A good meal for someone with xerostomia would be:
 - a. stew, mashed potatoes, and pudding.
6. The patient most likely to develop a hiatal hernia is:
 - a. an obese man.
7. Malignancy is a common development in patients with:
 - a. gastric ulcer.
8. Peptic ulcers occur *most frequently* in the:
 - a. Duodenum
9. Peptic ulcer disease may be caused by:
 - a. *Helicobacter pylori* infection.
10. A characteristic symptom of a peptic ulcer is:
 - a. abdominal pain between meals.

- nutrition in hospital settings is to:
- a. minimize adverse drug-nutrient interactions.
48. A meal that may be inappropriate for a patient taking warfarin (Coumadin) is:
- a. spinach salad with chicken and strawberries.

11. A basic principle guiding nutritional management of peptic ulcer disease is to eat:
 - a. a well-balanced diet as tolerated.
12. People who have peptic ulcer disease are encouraged to *avoid* drinking:
 - a. tea and coffee.
13. Diagnosis of celiac disease is confirmed using:
 - a. intestinal biopsy.
14. Grains that should be eliminated from the diets of clients on a restricted gluten diet include:
 - a. wheat, rye, and barley.
15. Cystic fibrosis is a disease that primarily affects the:
 - a. pancreas, intestinal tract, sweat glands, and lungs.
16. Level I routine care of patients with cystic fibrosis includes:
 - a. enzyme replacement and vitamin supplements.
17. The chronic inflammatory bowel disease that involves all layers of the intestinal wall is known as:
 - a. Crohn's disease.
18. Inflammatory bowel disease that is confined to the colon and rectum is known as:
 - a. 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:
 - a. restricted protein and moderately high-energy diet.
- 42. Drugs used to control blood ammonia levels in patients with hepatic encephalopathy are:
 - a. lactulose and neomycin.
- 43. The gallbladder is stimulated to contract and release bile by:
 - a. the cholecystokinin mechanism.
- 44. Inflammation of the gallbladder is called:
 - a. cholecystitis.
- 45. The presence of gallstones in the gallbladder is called:
 - a. cholelithiasis.
- 46. Gallstone formation is promoted by:
 - a. high fat intake.
- 53.
- 47. A characteristic clinical symptom of gallbladder inflammation or gallstones is:
 - a. pain after eating.
- 48. Nonsurgical treatment for gallstones may include:
 - a. chemical dissolution of gallstones.
- 49. Nutrition therapy for clients who have gallbladder disorders focuses on:
 - a. reducing fat intake.
- 50. Factors responsible for development of acute pancreatitis include:
 - a. alcohol abuse.
- 51. The initial diet prescription for clients who have acute pancreatitis is:
 - a. to withhold oral feedings.
- 52.

54. Chapter 21: Diseases of the Heart, Blood Vessels, and Lungs

- 1. Development of coronary heart disease is related to:
 - a. fibrous plaques in coronary vessels.
- 2. In the process of atherosclerosis:
 - a. plaque is deposited on the interior surface of the blood vessels.
- 3. The layer of the artery in which atherosclerotic plaque forms is the:
 - a. intima.
- 4. Plaque usually consists mainly of:
 - a. cholesterol.
- 5. Several types of blood lipoproteins are synthesized in the:
 - a. liver.
- 6. The function of lipoproteins in body metabolism is to transport:
 - a. lipids to and from the cells.
- 7. The class of lipoproteins that has the highest lipid content is:
 - a. chylomicrons.
- 8. The classes of lipoproteins that carry the most triglyceride by weight are:
 - a. chylomicrons and VLDL.
- 9. The class of lipoproteins that is most responsible for atherosclerosis and is considered “bad cholesterol” is:
 - a. LDL.
- 10. The type of lipoprotein that is considered to be protective against cardiovascular disease is:
 - a. HDL.
- 11. The protein component that attaches itself to lipoproteins and has a significant effect on function is:
 - a. apolipoprotein.

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

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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

50.

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 mL/min/1.73 m².
11. A client with GFR of 15 mL/min/1.73 m² has:
 - a. stage 5 CKD.
12. Significant comorbidities in

beverages an hour before a meal, they are likely to experience:

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 mL/min/1.73 m².
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:
- a. erythropoietin.
24. Potassium intake is restricted if serum potassium level is higher than:
 - a. 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:
 - a. 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:
 - a. 35 kcal/kg.
 27. Dietary carbohydrates and fats are important for clients with chronic renal failure because they:
 - a. 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:
 - a. 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:
 - a. 108 g.
 30. The method of dialysis that gives clients the greatest amount of freedom of mobility is:
 - a. peritoneal dialysis.
 31. One of the basic objectives of medical nutrition therapy for clients receiving dialysis is to:
 - a. maintain protein and kilocalorie (kcalorie or kcal) balance.
 32. A problem that can occur with continual ambulatory peritoneal dialysis is:
 - a. weight gain.
 33. A treatment approach that can be used to replace dialysis for clients who have chronic renal failure is:
 - a. kidney transplantation.
 34. Sudden shutdown of renal function following traumatic or metabolic injury is called:
 - a. acute renal failure.
 35. The major clinical symptom of acute renal failure is:
 - a. oliguria.
 36. Factors that affect nutrition requirements in patients with acute renal failure include:
 - a. 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:
 - a. 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:
 - a. 0.8 to 1.2 g/kg body

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

49. b.
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