

Chapter 3: Fats Test Bank

MULTIPLE CHOICE

1. The functions of fat in the body include
 - a. enzyme production, insulation of long bones, and bone structure.
 - b. formation of bone structure and energy for daily activities.
 - c. flavoring low fat foods, supplying fatty acids, and lubrication for vital organs.
 - d. insulation of vital organs, temperature regulation, and cell membrane structure.

ANS: D

In the body, fat around vital organs and under the skin provides insulation and helps regulate body temperature; fat is also a component of cell membrane structure.

DIF: Cognitive Level: Knowledge REF: 36 TOP: Nursing Process: Planning
MSC: NCLEX: Physiological Integrity: Physiological Adaptation

2. The number of kilocalories from fat in a meal that contains 35 g fat is
 - a. 35.
 - b. 140.
 - c. 315.
 - d. 350.

ANS: C

Fat contains 9 kcal/g, so $35 \text{ g} \times 9 \text{ kcal/g} = 315 \text{ kcal}$.

DIF: Cognitive Level: Application REF: 36
TOP: Nursing Process: Assessment
MSC: NCLEX: Physiological Integrity: Physiological Adaptation

3. The recommended total calories provided by fat in an 1800 calorie diet would be
 - a. 180-270 calories.
 - b. 360-630 calories.
 - c. 540-630 calories.
 - d. 540-720 calories.

ANS: B

It is recommended that no more than 20% to 35% of total calories come from fat. In an 1800 calorie diet: $1800 \times .20 = 360$ calories. $1800 \times .35 = 630$ calories.

DIF: Cognitive Level: Application REF: 42-43
TOP: Nursing Process: Implementation
MSC: NCLEX: Physiological Integrity: Physiological Adaptation

4. An element *not* found in triglycerides is
 - a. carbon.
 - b. hydrogen.
 - c. nitrogen.
 - d. oxygen.

ANS: C

Carbon, hydrogen, and oxygen make up fat, whereas nitrogen is found as part of the protein molecule.

DIF: Cognitive Level: Knowledge REF: 31 TOP: Nursing Process: Planning
MSC: NCLEX: Physiological Integrity: Physiological Adaptation

5. Triglycerides are composed of
- glycerol and amino acids.
 - trans—fatty acids.
 - hydrogenated fatty acids.
 - glycerol and fatty acids.

ANS: D

A triglyceride is composed of three fatty acids attached to a glycerol base.

DIF: Cognitive Level: Knowledge REF: 31 TOP: Nursing Process: Planning
MSC: NCLEX: Physiological Integrity: Physiological Adaptation

6. The chemical feature that distinguishes a saturated fatty acid from an unsaturated fatty acid is the
- amount of water it contains.
 - amount of cholesterol it contains.
 - source.
 - amount of hydrogen it contains.

ANS: D

Fatty acids are saturated or unsaturated depending on whether they are filled with hydrogen. A fatty acid that is not completely filled with all the hydrogen it can hold is unsaturated; the structure of a saturated fatty acid is completely filled with all the hydrogen bonds it can hold.

DIF: Cognitive Level: Knowledge REF: 31-32 TOP: Nursing Process: Planning
MSC: NCLEX: Physiological Integrity: Physiological Adaptation

7. An example of a food that contains a high level of saturated fatty acids is
- beef steak.
 - olive oil.
 - green tomatoes.
 - whole-grain bread.

ANS: A

Saturated fats are commonly found in animal products. Unsaturated and monounsaturated fats are mostly derived from plant sources. However, tropical oils such as coconut and palm oils as well as hydrogenated oils are saturated.

DIF: Cognitive Level: Application REF: 32
TOP: Nursing Process: Implementation
MSC: NCLEX: Physiological Integrity: Physiological Adaptation

8. Of the following fats, the one that is least saturated is
- safflower oil.
 - corn.

- c. cottonseed.
- d. soybean.

ANS: A

Unsaturated fats listed in order of degree of unsaturation are safflower, corn, cottonseed, and soybean.

DIF: Cognitive Level: Application REF: 33 TOP: Nursing Process: Planning
MSC: NCLEX: Physiological Integrity: Physiological Adaptation

9. Most fatty acids in plant foods are
- a. monounsaturated.
 - b. polyunsaturated.
 - c. unsaturated.
 - d. saturated.

ANS: C

Plant foods are mostly composed of unsaturated fats. However, tropical oils such as palm, palm kernel, and coconut as well as hydrogenated oils are composed of saturated fats.

DIF: Cognitive Level: Comprehension REF: 33 TOP: Nursing Process: Planning
MSC: NCLEX: Physiological Integrity: Physiological Adaptation

10. A patient is concerned with her weight. Her energy intake is calculated to be 1600 calories. Intake records reveal that her fat intake for the past month has been 120 calories or less per day. The appropriate intervention would be to
- a. assess for essential fatty acid deficiency.
 - b. continue to monitor for changes.
 - c. continue current meal plan.
 - d. draw lab work immediately.

ANS: A

An essential fatty acid is one that is essential for the body; its absence will create a specific deficiency. The body cannot manufacture essential fatty acids and must obtain them from the diet.

DIF: Cognitive Level: Analysis REF: 34
TOP: Nursing Process: Implementation
MSC: NCLEX: Physiological Integrity: Physiological Adaptation, Health Promotion and Maintenance

11. The body needs linoleic acid for
- a. digestion of food.
 - b. protein metabolism.
 - c. fluid balance.
 - d. blood clotting.

ANS: D

The body needs linoleic acid for functions related to tissue strength, cholesterol metabolism, muscle tone, blood clotting, and heart action.

DIF: Cognitive Level: Knowledge REF: 34-35 TOP: Nursing Process: Planning
MSC: NCLEX: Physiological Integrity: Physiological Adaptation

12. The best food choice to provide linolenic acid is
- strawberries.
 - canola oil.
 - raisin toast.
 - lard.

ANS: B

Linolenic acid is primarily found in soybean, canola, and flaxseed oil.

DIF: Cognitive Level: Application REF: 34
TOP: Nursing Process: Implementation
MSC: NCLEX: Physiological Integrity: Physiological Adaptation

13. An example of a food that contains hidden fats is
- salad dressing.
 - skim milk.
 - rice.
 - skinless chicken.

ANS: D

Even when all the visible fat has been removed from meat, approximately 6% of the total fat that surrounds the muscle fibers remains.

DIF: Cognitive Level: Application REF: 37 TOP: Nursing Process: Planning
MSC: NCLEX: Physiological Integrity: Physiological Adaptation

14. The process of adding hydrogen to fatty acids is called
- hydrolysis.
 - hydrogenation.
 - emulsification.
 - hydration.

ANS: B

Hydrogenation is the process of introducing hydrogen into the fat molecule; this makes the fat more saturated.

DIF: Cognitive Level: Knowledge REF: 33 TOP: Nursing Process: Planning
MSC: NCLEX: Physiological Integrity: Physiological Adaptation

15. A change brought about as the result of hydrogenation is
- liquid fats become solids.
 - fats become less saturated.
 - monoglycerides become diglycerides.
 - vitamins are destroyed.

ANS: A

Hydrogenation is the process of introducing hydrogen into the fat molecule; liquid fats such as vegetable oil are made into solids such as margarine and shortening in this manner.

DIF: Cognitive Level: Application REF: 33 TOP: Nursing Process: Planning
MSC: NCLEX: Physiological Integrity: Physiological Adaptation

16. An example of a food that does *not* contain cholesterol is
- liver.
 - sausage.
 - cheese.
 - coconut.

ANS: D

Cholesterol is a substance that naturally occurs in all animal foods but not in plant foods.

DIF: Cognitive Level: Application REF: 36 TOP: Nursing Process: Planning
MSC: NCLEX: Physiological Integrity: Physiological Adaptation

17. Cholesterol is synthesized by the body mainly in the
- intestine.
 - liver.
 - adipose tissue.
 - skin.

ANS: B

Endogenous cholesterol is synthesized in many body tissues, particularly the liver. Small amounts are synthesized in the adrenal cortex, skin, intestines, testes, and ovaries.

DIF: Cognitive Level: Knowledge REF: 34 TOP: Nursing Process: Planning
MSC: NCLEX: Physiological Integrity: Physiological Adaptation

18. After a dietary assessment is completed, it reveals that a client consumes 50% of daily calories from fat. This amount of fat places the client at risk for
- obesity, arthritis, and elevated blood pressure.
 - obesity, elevated blood fats, and diabetes.
 - elevated blood pressure, diabetes, and allergies.
 - diabetes, dementia, and stroke.

ANS: B

According to the Dietary Reference Intakes, no more than 20% to 35% of total calories should come from fat. Excess fat intakes places a person at risk for health problems, including obesity, elevated blood fats, and diabetes.

DIF: Cognitive Level: Application REF: 42
TOP: Nursing Process: Assessment
MSC: NCLEX: Physiological Integrity: Reduction of Risk Potential

19. Factors that increase the risk of heart disease include
- family history of cancer.
 - increased stress and obesity.
 - anemia and low thyroid levels.
 - gallbladder disease.

ANS: B

Heart disease is a leading cause of death in developed countries. Various risk factors are associated with heart disease, including excess dietary fat, especially saturated fat and cholesterol, along with obesity, diabetes, elevated blood fats, and elevated blood pressure. Additional lifestyle factors include smoking, stress, and lack of exercise.

DIF: Cognitive Level: Knowledge REF: 43 TOP: Nursing Process: Planning
MSC: NCLEX: Physiological Integrity: Reduction of Risk Potential

20. The substances that serve as the major vehicles for fat transport in the bloodstream are
- micelles.
 - glycolipids.
 - chylomicrons.
 - bile salts.

ANS: C

After absorption, monoglycerides and fatty acids are reformed into triglycerides, which are then packaged into lipoproteins called chylomicrons. Chylomicrons are made of triglycerides, cholesterol, phospholipids, and proteins, and allow fatty substances to enter the circulation.

DIF: Cognitive Level: Knowledge REF: 41 TOP: Nursing Process: Planning
MSC: NCLEX: Physiological Integrity: Physiological Adaptation

21. After eating a dinner of fried chicken, gravy, and mashed potatoes, chemical digestion of the fat component primarily takes place in the
- mouth.
 - stomach.
 - small intestine.
 - large intestine.

ANS: C

The largest part of chemical digestion occurs in the small intestine with bile salts from the gallbladder (which serve as an emulsifier) and several enzymes, including gastric lipase (tributyrylase) and pancreatic lipase, which break down triglycerides to diglycerides and monoglycerides.

DIF: Cognitive Level: Application REF: 39-41 TOP: Nursing Process: Planning
MSC: NCLEX: Physiological Integrity: Physiological Adaptation

22. The hormone responsible for stimulating the gallbladder to contract and release bile into the small intestine is
- gastric lipase.
 - cholecystokinin.
 - enteric lipase.
 - enterokinase.

ANS: B

Cholecystokinin release is stimulated when fat enters the duodenum. Cholecystokinin then causes the gallbladder to contract.

DIF: Cognitive Level: Knowledge REF: 39 TOP: Nursing Process: Planning
MSC: NCLEX: Physiological Integrity: Physiological Adaptation

23. End products of fat digestion do *not* include
- fatty acids.
 - glycerol.
 - diglycerides.

d. monosaccharides.

ANS: D

The end products of fat digestion include fatty acids, glycerol, and diglycerides. Monosaccharides are a type of carbohydrate.

DIF: Cognitive Level: Knowledge REF: 40-41 TOP: Nursing Process: Planning
MSC: NCLEX: Physiological Integrity: Physiological Adaptation

24. An important function of bile is to
- digest triglycerides.
 - activate the intestinal lipases.
 - break fat into smaller particles.
 - split fatty acids into two-carbon molecules.

ANS: C

Bile functions as an emulsifier rather than an enzyme. Bile assists in the preparation of fat for chemical digestion by its specific enzymes. This preparation accomplishes two tasks: it (1) breaks down fat into small particles; and (2) lowers the surface tension of the dispersed and suspended fat particles.

DIF: Cognitive Level: Knowledge REF: 39-40 TOP: Nursing Process: Planning
MSC: NCLEX: Physiological Integrity: Physiological Adaptation

25. A type of fat that may be associated with a high risk of atherosclerosis if consumed on a regular basis is
- olive oil.
 - safflower oil.
 - margarine.
 - lard.

ANS: D

Lard is a highly saturated fat. Excess intake of cholesterol and saturated fat is associated with atherosclerosis.

DIF: Cognitive Level: Application REF: 42-43 TOP: Nursing Process: Planning
MSC: NCLEX: Physiological Integrity: Physiological Adaptation

26. Fat substitutes are used in food products to
- reduce the cost of popular foods.
 - reduce the trans—fatty acid content of the food.
 - prolong the shelf life of the food.
 - improve the flavor and physical texture of low-fat foods.

ANS: D

Fat substitutes, such as Simplesse and Olestra, provide improved flavor and physical texture to low-fat foods and can help reduce total dietary fat.

DIF: Cognitive Level: Knowledge REF: 36 TOP: Nursing Process: Planning
MSC: NCLEX: Physiological Integrity: Physiological Adaptation

27. The greatest number of kilocalories is provided by

- a. 40 g carbohydrates.
- b. 30 g fat.
- c. 60 g carbohydrates.
- d. 50 g protein.

ANS: B

30 g of fat provides the most kilocalories. Fat provides 9 kcal/g; both carbohydrates and proteins provide 4 kcal/g.

Calculations:

$$30 \text{ g fat} \times 9 \text{ kcal/g} = 270 \text{ kcal}$$

$$40 \text{ g carbohydrate} \times 4 \text{ kcal/g} = 160 \text{ kcal}$$

$$60 \text{ g carbohydrate} \times 4 \text{ kcal/g} = 240 \text{ kcal}$$

$$50 \text{ g protein} \times 4 \text{ kcal/g} = 200 \text{ kcal}$$

DIF: Cognitive Level: Application REF: 36 TOP: Nursing Process: Planning
MSC: NCLEX: Physiological Integrity: Physiological Adaptation

28. A food relatively high in saturated fat is
- a. corn oil.
 - b. peanut oil.
 - c. avocado oil.
 - d. margarine.

ANS: D

Margarine is higher in saturated fat than corn oil, peanut oil, and avocado oil. Margarine is made from oil by hydrogenation. This makes the oil more solid and more saturated.

DIF: Cognitive Level: Application REF: 33-34 TOP: Nursing Process: Planning
MSC: NCLEX: Physiological Integrity: Physiological Adaptation

29. In a diet that contains 50 g fat and a total of 1500 kcal, the proportion of total kilocalories from fat is
- a. 3%.
 - b. 13%.
 - c. 30%.
 - d. 33%.

ANS: C

Fat contains 9 kcal/g; $50 \text{ g} \times 9 \text{ kcal/g} = 450 \text{ kcal}$. $450 \text{ kcal}/1500 \text{ total kcal} = 0.30$, or 30%.

DIF: Cognitive Level: Application REF: 36|42 TOP: Nursing Process: Planning
MSC: NCLEX: Physiological Integrity: Physiological Adaptation

30. A good source of monounsaturated fat is
- a. fish.
 - b. margarine.
 - c. avocado.
 - d. tofu.

ANS: C

Monounsaturated fats include olives and olive oil, peanuts and peanut oil, canola oil, almonds, pecans, and avocados.

DIF: Cognitive Level: Application

REF: 33

TOP: Nursing Process: Planning

MSC: NCLEX: Physiological Integrity: Physiological Adaptation