

***Infection Control and Management of Hazardous  
Materials for the Dental Team 6th edition Miller Test  
Bank***

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## Chapter 02: Characteristics of Microorganisms

### Miller: Infection Control and Management of Hazardous Materials for the Dental Team, 6th Edition

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#### MULTIPLE CHOICE

1. Under what conditions do regular bacteria, excluding *Richettsia* and *Chlamydia*, multiply:
  - a. in the absence of nutrients.
  - b. only when they are inside of living cells.
  - c. when they are outside of living cells.
  - d. only when the temperature is below 7°C.

ANS: C

Nothing can grow in the absence of nutrients. *Rickettsia* and *Chlamydia* are the only bacteria that can grow inside living cells. Regular bacteria do not need to be inside living cells to grow. They can obtain their nutrients from the environment. Only the special bacteria called psychrophiles can grow at these low temperatures.

PTS: 1

DIF: Application

REF: p. 12

OBJ: 1

TOP: CDA, Infection Control, I.A. Demonstrate an understanding of infectious diseases and their relationship to patient safety and occupational risk

2. Select an environment in which viruses can multiply.
  - a. Only in the absence of nutrients
  - b. Only when they are inside of living cells
  - c. Only when they are outside of living cells
  - d. Only when the temperature is below 7°C

ANS: B

Nothing can grow in the absence of nutrients. Viruses need the nutrients and metabolic machinery of living cells to multiply. Viruses cannot obtain their nutrients from the environment. Only the special bacteria called psychrophiles can grow at these low temperatures.

PTS: 1

DIF: Application

REF: p. 14

OBJ: 2

TOP: CDA, Infection Control, I.A. Demonstrate an understanding of infectious diseases and their relationship to patient safety and occupational risk

3. Which of the following microbes is a yeast?
  - a. *Streptococcus mutans*
  - b. *Trichomonas vaginalis*
  - c. *Candida albicans*
  - d. *Staphylococcus aureus*

ANS: C

*Streptococcus mutans* is a bacterium. *Trichomonas vaginalis* is a protozoan. *Candida albicans* can exist as a yeast which is a special fungus. *Staphylococcus aureus* is a bacterium.

PTS: 1

DIF: Recall

REF: p. 15

OBJ: 3

TOP: CDA, Infection Control, I.A. Demonstrate an understanding of infectious diseases and their relationship to patient safety and occupational risk

4. Which of the following microbes is a type of fungus?
- a. Influenzae
  - b. *Candida albicans*
  - c. *Trichomonas vaginalis*
  - d. *Streptococcus mutans*

ANS: B

Influenzae is a virus. *Candida albicans* can exist as a yeast or filamentous fungus. *Trichomonas vaginalis* is a protozoan. *Streptococcus mutans* is a bacterium.

PTS: 1

DIF: Recall

REF: p. 15

OBJ: 3

TOP: CDA, Infection Control, I.A. Demonstrate an understanding of infectious diseases and their relationship to patient safety and occupational risk

5. A yeast is what type of microorganism?
- a. Bacterium
  - b. Fungus
  - c. Virus
  - d. Protozoan

ANS: B

Bacteria cannot form yeast. A yeast is a special type of fungus. Viruses and protozoa cannot form yeasts.

PTS: 1

DIF: Recall

REF: p. 15

OBJ: 3

TOP: CDA, Infection Control, I.A. Demonstrate an understanding of infectious diseases and their relationship to patient safety and occupational risk

6. Thrush is caused by:
- a. *Candida albicans*.
  - b. *Streptococcus mutans*.
  - c. *Staphylococcus aureus*.
  - d. human herpesvirus 1.

ANS: A

*Candida albicans* causes thrush (e.g., oral candidiasis or denture stomatitis) and is a fungus that may exist as a yeast cell or as a filamentous fungus (mold). *Streptococcus mutans*, *Staphylococcus aureus*, and human herpesvirus 1 do not cause thrush.

PTS: 1

DIF: Recall

REF: p. 15

OBJ: 3

TOP: CDA, Infection Control, I.A. Demonstrate an understanding of infectious diseases and their relationship to patient safety and occupational risk

7. Bacilli are shaped like:
- a. spheres.
  - b. cylinders or rods.
  - c. curved or spiral forms.
  - d. flat disks.

ANS: B

Spheres are not bacilli. Bacilli are bacterial cells shaped like a rod or cylinder. Spirilla are curved or spiral forms. There are no microbes shaped like a flat disk.

PTS: 1 DIF: Recall REF: p. 7 | Figure 2.2

OBJ: 1

TOP: CDA, Infection Control, I.A. Demonstrate an understanding of infectious diseases and their relationship to patient safety and occupational risk

8. Cocci are shaped like \_\_\_\_\_.
- spheres
  - cylinders or rods
  - curved or spiral forms
  - flat disks

ANS: A

Spherical cells are called cocci. Rod-shaped cells are called bacilli. Curved or spiral cells are called spirilla. This is not a shape associated with bacteria.

PTS: 1 DIF: Recall REF: p. 7 | Figure 2.2

OBJ: 1

TOP: CDA, Infection Control, I.A. Demonstrate an understanding of infectious diseases and their relationship to patient safety and occupational risk

9. Choose the bacterial structure that controls the flow of nutrients and waste into and out of the cell?
- Cell wall
  - Flagellum
  - Cytoplasmic membrane
  - Capsule

ANS: C

The cell wall protects the cell from being crushed. The flagellum provides locomotion. The cytoplasmic membrane has a function to regulate the entrance and exit of nutrient materials and waste products. The capsule keeps the cell from drying out and is antiphagocytic.

PTS: 1 DIF: Recall REF: p. 8 OBJ: 1

TOP: CDA, Does not apply

10. Which of the following bacterial structures interferes with phagocytosis?
- Cell wall
  - Flagellum
  - Cytoplasmic membrane
  - Capsule

ANS: D

The cell wall protects the cell from being crushed. The flagellum provides locomotion. One of the functions of the cytoplasmic membrane is to regulate the entrance and exit of nutrient materials and waste products. The capsule's "slimy" nature interferes with phagocytosis.

PTS: 1 DIF: Recall REF: p. 9 OBJ: 1

TOP: CDA, Infection Control, I.A. Demonstrate an understanding of infectious diseases and their relationship to patient safety and occupational risk

11. Which of the following bacterial structures helps the cell to attach to surfaces?
- Cell wall
  - Capsule
  - Cytoplasmic membrane
  - Fimbriae

ANS: D

The cell wall protects the cell from being crushed. The capsule keeps the cell from drying out and is antiphagocytic. One of the functions of the cytoplasmic membrane is to regulate the entrance and exit of nutrient materials and waste products. Fimbriae serve as mechanisms by which cells can attach to other cells or other environmental surfaces.

PTS: 1

DIF: Recall

REF: p. 9

OBJ: 1

TOP: CDA, Infection Control, I.A. Demonstrate an understanding of infectious diseases and their relationship to patient safety and occupational risk

12. The main function of the bacterial cell wall is to:
- protect against drying.
  - protect against crushing.
  - to control the exit of wastes from the cell.
  - provide the cell with locomotion.

ANS: B

Protect against drying is a function of the capsule. The basic components of the cell wall (peptidoglycan) protect the cell from being crushed. Controlling the flow of nutrients and waste is a function of the cytoplasmic membrane. Providing the cell with locomotion is a function of the flagellum.

PTS: 1

DIF: Recall

REF: p. 9

OBJ: 1

TOP: CDA, Does not apply

13. The main function of bacterial fimbriae is to:
- control the exit of wastes from the cell.
  - protect against crushing.
  - allow the cell to attach to surfaces.
  - protect against drying.

ANS: C

Controlling the exit of wastes from the cell is a function of the cytoplasmic membrane. Protection against crushing is a function of the cell wall. Fimbriae serve as mechanisms by which cells can attach to other cells or other environmental surfaces. Protection against drying is a function of the capsule.

PTS: 1

DIF: Recall

REF: p. 9

OBJ: 1

TOP: CDA, Infection Control, I.A. Demonstrate an understanding of infectious diseases and their relationship to patient safety and occupational risk

14. Choose an environment in which psychrophilic bacteria grow best.
- In the human body
  - In hot water heaters
  - Anywhere the temperature is 37°C

d. In the refrigerator

ANS: D

The human body, hot water, and 37°C are all too warm for the growth of psychrophiles. The refrigerator at 7°C provides the optimal grow temperature for psychrophiles.

PTS: 1                      DIF: Application      REF: p. 10                      OBJ: 1  
TOP: CDA, Does not apply

15. Which of the following groups of bacteria grow best inside your refrigerator?
- Psychrophiles
  - Thermophils
  - Mesophils
  - Acidophils

ANS: A

Psychrophiles are “cold-loving” and optimal growth is refrigerator temperature. Thermophils love high temperatures. Mesophils love medium (e.g., body) temperatures. Acidophils produce acids and are unrelated to temperature.

PTS: 1                      DIF: Recall                      REF: p. 10                      OBJ: 1  
TOP: CDA, Does not apply

16. How would prevent the growth of an obligate anaerobe?
- Adjust the pH of the environment to 7.0.
  - Remove protein of the environment.
  - Maintain the environmental temperature to 37°C.
  - Add oxygen to the environment.

ANS: D

A pH of 7.0 will support the growth of most bacteria. Removing protein will not always prevent growth. Keeping the temperature at 37°C will allow many bacteria to grow. Adding oxygen to the environment will prevent growth since they require low or no oxygen for growth.

PTS: 1                      DIF: Application      REF: p. 11                      OBJ: 1  
TOP: CDA, Infection Control, I.A. Demonstrate an understanding of infectious diseases and their relationship to patient safety and occupational risk

17. Those bacteria that die in the presence of oxygen are called:
- aerobes.
  - mesophils.
  - acidogens.
  - anaerobes.

ANS: D

Aerobes need oxygen for growth. Mesophils grow at medium temperatures and most are aerobes. Acidogens produce acids during growth and some are aerobes and some anaerobes. Anaerobes cannot tolerate oxygen.

PTS: 1                      DIF: Recall                      REF: p. 11                      OBJ: 1  
TOP: CDA, Infection Control, I.A. Demonstrate an understanding of infectious diseases and their

relationship to patient safety and occupational risk

18. Acidogenic bacteria are noted for producing large amounts of:
- acids.
  - vitamins.
  - proteins.
  - carbohydrates.

ANS: A

Acidogenic bacteria produce large amounts of acid. Vitamins may also be produced but do not relate to being acidogenic. Proteins and carbohydrates are also produced but do not relate to being acidogenic.

PTS: 1 DIF: Recall REF: p. 11 OBJ: 1

TOP: CDA, Infection Control, I.A. Demonstrate an understanding of infectious diseases and their relationship to patient safety and occupational risk

19. What temperatures are the surest way to kill bacteria (or any other type of microorganisms) in the shortest amount of time?
- Sterilizing temperatures
  - Freezing temperatures
  - Fluctuating temperatures
  - Refrigerator temperatures

ANS: A

Sterilizing temperatures such as those achieved in a steam, dry heat, or unsaturated chemical vapor sterilizer is the surest way to kill bacteria (or any other type of microorganisms) in the shortest amount of time. Freezing will not kill all microbes. Fluctuating temperatures cannot be relied upon to kill all microbes. Refrigeration will not kill all microbes.

PTS: 1 DIF: Application REF: pp. 13-14 OBJ: 1

TOP: CDA, Infection Control, II.C. Demonstrate an understanding of instrument processing

20. Anaerobes are bacteria that:
- require oxygen for growth.
  - grow only in the absence of oxygen.
  - can multiply in the presence or absence of oxygen.
  - are killed in the presence or absence of oxygen.

ANS: B

Aerobes require oxygen for growth. Anaerobes cannot tolerate oxygen and only grow in its absence. Facultative anaerobes grow in the presence or absence of oxygen.

PTS: 1 DIF: Recall REF: p. 11 OBJ: 1

TOP: CDA, Infection Control, I.A. Demonstrate an understanding of infectious diseases and their relationship to patient safety and occupational risk

21. Agar is a polysaccharide from seaweed that is used to:
- kill bacteria.
  - grow viruses.
  - kill viruses.
  - culture bacteria.

ANS: D

Agar is not lethal to bacteria or viruses. Viruses require living cells to grow. Agar can provide a semisolid surface on which bacteria can grow if adequate nutrients are available.

PTS: 1

DIF: Recall

REF: p. 6 | p. 11 | Figure 2.1

OBJ: 1

TOP: CDA, Does not apply

22. What environmental condition will promote the growth of an aciduric bacterium?
- Low oxygen level
  - Low nutrient level
  - Low pH
  - Low temperature

ANS: C

Low oxygen will promote growth of anaerobes. Low nutrients restrict rather than promote bacterial growth. Low pH (usually below pH 5.5) promotes growth of aciduric bacteria. Low temperature promotes the growth of psychrophiles.

PTS: 1

DIF: Application

REF: p. 11

OBJ: 1

TOP: CDA, Does not apply

23. Which type of microbe is the most difficult to kill?
- Endospores
  - Vegetative bacteria
  - Viruses
  - Chlamydiae

ANS: A

An endospore is one most resistant forms of life against heat, drying and chemicals due to its thickened cell wall, dense cytoplasm and dormant state. Vegetative bacteria can be killed by exposing it to high heat or with chemicals. Viruses can be killed when outside the body by exposure to high heat or chemicals. Chlamydiae are a type of bacterium and can be killed by exposure to high heat or with chemicals.

PTS: 1

DIF: Recall

REF: p. 9 | Figure 2.4

OBJ: 1

TOP: CDA, Infection Control, ILC. Demonstrate an understanding of instrument processing

24. Select the best description of a bacterial endospore.
- A fungus resistant to chemicals.
  - One of the most resistant forms of life to heat and chemicals.
  - A virus that infects the root canal.
  - A bacterium that grows at low temperatures.

ANS: B

A fungus is not a bacterium. An endospore is one of the most resistant forms of life against heat, drying and chemicals due to its thickened cell wall, dense cytoplasm and dormant state. A virus is not a bacterium. A bacterium that grows at low temperatures is called a psychrophile not an endospore.

PTS: 1

DIF: Recall

REF: p. 9 | Figure 2.4

OBJ: 1

TOP: CDA, Infection Control, II.C. Demonstrate an understanding of instrument processing

25. Some bacteria can change into special forms that are dormant and are highly resistant to heat, chemicals, and drying? These are called:
- Rickettsia*.
  - endospores.
  - mold.
  - vegetative cells.

ANS: B

*Rickettsia* are not resistant to heat. An endospore is one most resistant forms of life against heat, drying, and chemicals due to its thickened cell wall, dense cytoplasm, and dormant state. Molds are not bacteria they are fungi. Vegetative cells and bacteria that can grow (multiply) and are not dormant.

PTS: 1

DIF: Recall

REF: p. 9 | Figure 2.4

OBJ: 1

TOP: CDA, Infection Control, II.C. Demonstrate an understanding of instrument processing

26. *Chlamydia* and *Rickettsia* are examples of:
- viruses.
  - fungi.
  - bacteria.
  - protozoa.

ANS: C

Viruses and fungi are not bacteria. *Chlamydia* and *Rickettsia* are special bacteria called obligate intracellular parasites which multiply only inside living cells. Protozoa are not bacteria.

PTS: 1

DIF: Recall

REF: p. 12

OBJ: 1

TOP: CDA, Infection Control, I.A. Demonstrate an understanding of infectious diseases and their relationship to patient safety and occupational risk

27. Which of the following microbes cannot be killed with antibiotics?
- Streptococcus mutans*
  - Staphylococcus aureus*
  - Human herpes virus type 1
  - Mycobacterium tuberculosis*

ANS: C

*Streptococcus mutans* and *Streptococcus aureus* can be killed with certain antibiotics. Human herpes virus type 1 and other viruses are not killed by antibiotics. *Mycobacterium tuberculosis* can be killed with certain antibiotics.

PTS: 1

DIF: Recall

REF: p. 15

OBJ: 1

TOP: CDA, Infection Control, I.A. Demonstrate an understanding of infectious diseases and their relationship to patient safety and occupational risk

28. Before a virus multiplies inside of our body cells, what must it do?
- Uncoat (shed its capsid)

- b. Assemble the capsid and nucleic acid to make a whole virus
- c. Adsorb (attach) to the host cell
- d. Kill the host cell

ANS: C

Uncoating is the third step in the virus life cycle. Assembling is the fifth step in the virus life cycle. Adsorbing (attaching) to the host cell is the first step in the virus life cycle. Host cell death happens at the end of the life cycle of most viruses.

PTS: 1                      DIF: Recall                      REF: p. 14 | Table 2.3  
OBJ: 2                      TOP: CDA, Does not apply

29. Which of the following diseases is a bacterial disease?
- a. Influenza
  - b. Hepatitis B
  - c. Mumps
  - d. Dental caries

ANS: D

Influenza, Hepatitis B, and mumps are all viral diseases. Dental caries are caused by bacteria.

PTS: 1                      DIF: Recall                      REF: p. 13                      OBJ: 1  
TOP: CDA, Infection Control, I.A. Demonstrate an understanding of infectious diseases and their relationship to patient safety and occupational risk

30. What is the result of a virus invading a host cell?
- a. There is no effect on the cell.
  - b. The virus always dies.
  - c. The host cell always dies.
  - d. The host cell may die or be changed.

ANS: D

If a virus invades a cell there is always some effect. The virus may survive and kill or damage the cell. Sometimes the host cell survives with minor damage or permanent changes. Depending upon the virus, the cell may be killed or it may survive with minor damage.

PTS: 1                      DIF: Recall                      REF: p. 14                      OBJ: 2  
TOP: CDA, Infection Control, I.A. Demonstrate an understanding of infectious diseases and their relationship to patient safety and occupational risk

31. Viruses cause diseases in humans because they:
- a. produce exotoxins.
  - b. produce endotoxins.
  - c. invade and kill or damage cells in our body.
  - d. "swim" away from phagocytes using their flagella.

ANS: C

Exotoxins are involved in some bacterial or fungal diseases. Endotoxins are involved in some bacterial diseases. Viruses cause disease by entering and multiplying in our body cells and killing or changing them. Viruses do not have flagella.

PTS: 1                      DIF: Application                      REF: p. 14                      OBJ: 2

TOP: CDA, Infection Control, I.A. Demonstrate an understanding of infectious diseases and their relationship to patient safety and occupational risk

32. During the life cycle of a virus, what is the next step after the virus attaches to the host cell?
- Uncoating
  - Release
  - Replication
  - Enters the cell

ANS: D

Uncoating is the third step in the life cycle of a virus. Release is the sixth and final step in the life cycle of a virus. Replication is the fourth step in the life cycle of a virus. In the second step of the life cycle of a virus (penetration), the virus enters the host cell.

PTS: 1                      DIF: Application      REF: p. 14 | Table 2.3  
OBJ: 2                      TOP: CDA, Does not apply

33. The genes of a virus are in the:
- capsid.
  - nucleic acid core.
  - envelope.
  - capsid and envelope.

ANS: B

The capsid is the protein coating of virus that protects the nucleic acid core and determines the shape of the virus. The nucleic acid core contains the DNA or RNA genes of a virus. The envelope is the outer lipid-rich layer found in some viruses that is derived from the host cell membrane on release of the virus from the host cell. The capsid and envelope is referring to the outer protein coating (capsid) and the outer lipid-rich layer found in some viruses (envelope).

PTS: 1                      DIF: Recall                      REF: p. 14                      OBJ: 2  
TOP: CDA, Does not apply

34. What is the final product from the bacterial fermentation of sugar (e.g., glucose)?
- Nucleic acid
  - Lactic acid
  - Hydrochloric acid
  - Pyruvic acid

ANS: B

Nucleic acid is DNA or RNA neither of which are direct products of fermentation. Lactic acid is the final product. Hydrochloric acid is stomach acid. Pyruvic acid is the second to the last fermentation product.

PTS: 1                      DIF: Recall                      REF: p. 13                      OBJ: 1  
TOP: CDA, Does not apply

35. Which of the following substances is a component of some bacterial outer membranes and when released in the human body contributes to the causes of periodontal disease?
- Lysozyme
  - Mesosome

- c. Capsid
- d. Endotoxin

ANS: D

Lysozyme is an enzyme in saliva produced by the human body. Mesosomes are part of the bacterial structure but are not directly involved in periodontal diseases. The capsid is the protein coat of viruses. The action of endotoxin is thought to play a role in many infectious diseases, including periodontal diseases.

PTS: 1                      DIF: Application      REF: p. 9                      OBJ: 1  
TOP: CDA, Does not apply

36. Agents that prevent bacterial growth without killing them are referred to as:
- a. bacteriostatic agents.
  - b. sterilant agents.
  - c. disinfectant agents.
  - d. nucleic acid agents.

ANS: A

Bacteriostatic agents prevent or slow down bacterial growth which resumes when, and if, the agents are removed or degraded. Sterilant and disinfectant agents kill bacteria. Nucleic acid agents do not directly affect the growth of bacteria.

PTS: 1                      DIF: Recall                      REF: p. 13                      OBJ: 1  
TOP: CDA, Infection Control, I.A. Demonstrate an understanding of infectious diseases and their relationship to patient safety and occupational risk

37. Colony-forming-units (CFU) are defined as:
- a. measurements of the diameter of colonies that develop on an agar medium.
  - b. individual bacterial cells or a small group of cells each of which can form a colony on agar media.
  - c. units used to estimate the distance a bacterial cell can move away from its colony on agar media.
  - d. highly resistant forms of certain bacteria.

ANS: B

Colony diameter is measured in millimeters. One or a small number of bacterial cells deposited on an appropriate agar medium will develop into a single colony (clone) of cells and be referred to as a colony-forming unit. The distance a bacterial cell can move away from its colony on agar media is seldom measured but is expressed in millimeters. Highly resistant forms of bacteria are referred to as endospores.

PTS: 1                      DIF: Recall                      REF: p. 12                      OBJ: 1  
TOP: CDA, Infection Control, I.A. Demonstrate an understanding of infectious diseases and their relationship to patient safety and occupational risk

38. How are bacterial spores important in dental infection control?
- a. They cause periodontal disease.
  - b. They are used to monitor surface disinfection.
  - c. They are used to test the functioning and use of sterilizers.
  - d. They cause thrush.

ANS: C

Periodontal diseases are caused by nonspore-forming bacteria. There is not an easy test for surface disinfection. Since bacterial spores are highly resistant to heat, they are used to monitor heat sterilization in steam, dry heat and other sterilizers.

PTS: 1

DIF: Recall

REF: p. 9

OBJ: 1

TOP: CDA, Infection Control, II.C. Demonstrate an understanding of instrument processing

39. Which of the following bacteria are important in metabolizing sugar to acids that cause dental caries?
- Geobacillus stearothermophilus*
  - Bacillus atrophaeus*
  - Clostridium sporogenes*
  - Streptococcus mutans*

ANS: D

*Geobacillus stearothermophilus* is a spore-former use to monitor steam sterilizers. *Bacillus atrophaeus* is a spore-former use to monitor dry heat sterilizers. *Clostridium sporogenes* is a spore-former that is used to test the effectiveness of liquid sterilants. *Streptococcus mutans* forms plaque and metabolizes dietary sugar to acids causing demineralization of tooth enamel.

PTS: 1

DIF: Recall

REF: p. 13

OBJ: 1

TOP: CDA, Does not apply

40. Which of the following represents the pH values of acid?
- 0 to 7
  - 7 to 14
  - 8 to 10
  - 10 to 12

ANS: A

Acids have a pH from 0 to 7, 7 to 14, 8 to 10, and 10 to 12 are all alkaline.

PTS: 1

DIF: Recall

REF: p. 11

OBJ: 1

TOP: CDA, Does not apply

## COMPLETION

1. For growth all bacteria need the proper nutrients, temperature, pH, atmosphere and \_\_\_\_\_.

ANS: water

PTS: 1

DIF: Application

REF: p. 11

OBJ: 1

TOP: CDA, Infection Control, I.A. Demonstrate an understanding of infectious diseases and their relationship to patient safety and occupational risk

## TRUE/FALSE

1. Bacteria are larger than viruses.

ANS: T

Bacteria average about 1.0  $\mu\text{m}$  in diameter, and human viruses are smaller than bacteria, ranging from 0.02 to 0.3  $\mu\text{m}$ .

PTS: 1

DIF: Recall

REF: p. 14

OBJ: 2

TOP: CDA, Infection Control, I.A. Demonstrate an understanding of infectious diseases and their relationship to patient safety and occupational risk

2. Bacterial growth is defined as an increase in cell numbers.

ANS: T

When bacteria grow they double their numbers with each generation.

PTS: 1

DIF: Recall

REF: p. 10

OBJ: 1

TOP: CDA, Infection Control, I.A. Demonstrate an understanding of infectious diseases and their relationship to patient safety and occupational risk

3. Human virus are smaller than bacteria.

ANS: T

Bacteria average 1.0  $\mu\text{m}$  in diameter. Human viruses are smaller than bacteria, ranging from 0.02 to 0.3.

PTS: 1

DIF: Recall

REF: p. 14

OBJ: 2

TOP: CDA, Infection Control, I.A. Demonstrate an understanding of infectious diseases and their relationship to patient safety and occupational risk

4. If bacteria grow in a broth culture, the broth remains clear.

ANS: F

If bacteria grow in broth culture, the broth becomes turbid (cloudy).

PTS: 1

DIF: Recall

REF: p. 11

OBJ: 2

TOP: CDA, Infection Control, I.A. Demonstrate an understanding of infectious diseases and their relationship to patient safety and occupational risk

5. Unlike bacterial diseases, most viral diseases cannot be successfully treated.

ANS: T

Because viruses use the metabolic machinery of the host cell to replicate, chemicals such as antibiotics used against bacteria may damage the host cells and cannot be used to treat viral diseases.

PTS: 1

DIF: Recall

REF: p. 15

OBJ: 2

TOP: CDA, Infection Control, I.A. Demonstrate an understanding of infectious diseases and their relationship to patient safety and occupational risk