## Matching

Use choices only once unless otherwise indicated.

### MATCHING 3-1: KEY TERMS AND DESCRIPTIONS

Match each key term with the best description.

<table>
<thead>
<tr>
<th>Key Terms (1–20)</th>
<th>Descriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Asepsis</td>
<td>A. A series of events that lead to infection</td>
</tr>
<tr>
<td>2. BBP</td>
<td>B. Anything harmful to health</td>
</tr>
<tr>
<td>3. Biohazard</td>
<td>C. Chemistry of fire representation</td>
</tr>
<tr>
<td>4. CDC</td>
<td>D. Condition of being free of pathogenic microbes</td>
</tr>
<tr>
<td>5. Chain of infection</td>
<td>E. Devices that isolate a workplace BBP hazard</td>
</tr>
<tr>
<td>6. Engineering controls</td>
<td>F. Federal agency charged with the investigation and control of various diseases</td>
</tr>
<tr>
<td>7. EPA</td>
<td>G. Federal agency that regulates the disposal of hazardous waste</td>
</tr>
<tr>
<td>8. Fire tetrahedron</td>
<td>H. Federal organization that advises the CDC on nosocomial infection–prevention guidelines</td>
</tr>
<tr>
<td>9. Fomites</td>
<td>I. Having an abnormally low neutrophil count</td>
</tr>
<tr>
<td>10. HAI</td>
<td>J. Hepatitis B virus</td>
</tr>
<tr>
<td>11. HBV</td>
<td>K. Hepatitis C virus</td>
</tr>
<tr>
<td>12. HCS</td>
<td>L. Inanimate objects that can harbor material containing infectious agents</td>
</tr>
<tr>
<td>13. HCV</td>
<td>M. Infection acquired in any health care setting</td>
</tr>
<tr>
<td>14. HICPAC</td>
<td>N. OSHA standard regarding hazardous chemicals</td>
</tr>
<tr>
<td>15. HIV</td>
<td>O. Pathogen responsible for causing an infection</td>
</tr>
<tr>
<td>16. Immune</td>
<td>P. Procedures that separate patients with certain transmissible infections from others</td>
</tr>
<tr>
<td>17. Infectious/causative agent</td>
<td>Q. Protected from a particular disease by antibodies</td>
</tr>
<tr>
<td>18. Isolation procedures</td>
<td>R. Short for microorganism</td>
</tr>
<tr>
<td>19. Microbe</td>
<td>S. Term applied to infectious microorganisms in blood and other body fluids</td>
</tr>
<tr>
<td>20. Neutropenic</td>
<td>T. Virus that causes AIDS</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Key Terms (21–40)</th>
<th>Descriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>21. NHSN</td>
<td>A. Any route other than the digestive tract</td>
</tr>
<tr>
<td>22. NIOSH</td>
<td>B. Capable of causing disease</td>
</tr>
<tr>
<td>23. Nosocomial infection</td>
<td>C. Contains hazardous chemical information</td>
</tr>
<tr>
<td>24. OSHA</td>
<td>D. Federal agency that recommends ways to prevent work-related injury</td>
</tr>
<tr>
<td>25. Parenteral</td>
<td>E. Federal agency that mandates and enforces safe working conditions for employees</td>
</tr>
<tr>
<td>26. Pathogenic</td>
<td>F. Individual with little resistance to an infectious agent</td>
</tr>
<tr>
<td>27. Pathogens</td>
<td>G. Infection acquired in a hospital</td>
</tr>
<tr>
<td>28. Percutaneous</td>
<td>H. Microorganisms capable of causing disease</td>
</tr>
<tr>
<td>29. Permcusal</td>
<td>I. Practices that reduce the likelihood of BBP exposure</td>
</tr>
<tr>
<td>30. Precautionary</td>
<td>J. Precautions that reduce the risk of airborne, droplet, or contact transmission</td>
</tr>
</tbody>
</table>
Chapter 3: Infection Control, Safety, First Aid, and Personal Wellness

30. ___ Pictogram
31. ___ PPE
32. ___ Reservoir
33. ___ Reverse isolation
34. ___ SDS
35. ___ Standard precautions
36. ___ Susceptible host
37. ___ Transmission-based precautions
38. ___ Vector transmission
39. ___ Vehicle transmission
40. ___ Work practice controls

K. Precautions to be used in caring for all patients
L. Protective items worn by an individual
M. Protects a patient who is highly susceptible to infection
N. Provides a widely used HAI tracking System
O. Source of an infectious microorganism
P. Through mucous membranes
Q. Through the skin
R. Transmission of an infectious agent by an insect, arthropod, or animal
S. Transmission of an infectious agent through contaminated food, water, drugs, or blood
T. Universally accepted hazard symbol

MATCHING 3-2: ACTIVITY EXAMPLE AND MEANS OF TRANSMISSION

Draw an arrow from the example of an activity that could lead to infection in the first column to the most likely means of transmission that would be involved in the second column. Use a different colored pen or pencil for each arrow. Answers can be used only once.

**Activity Example**
1. Collecting a throat culture specimen from a coughing patient without wearing a mask
2. Entering a TB patient’s room without an N95 respirator
3. Filling a TB test syringe with antigen without first cleaning the top of the antigen vial
4. Handling a dead rodent
5. Kissing someone with mononucleosis
6. Rubbing your eye after touching a contaminated blood tube

**Means of Transmission**
A. Airborne
B. Direct contact
C. Indirect contact
D. Droplet
E. Vector
F. Vehicle

MATCHING 3-3: CLASS OF FIRE, TYPE OF MATERIAL, AND METHOD REQUIRED TO EXTINGUISH

Using a different colored pen or pencil for each class of fire, draw an arrow from the class of fire in the first column to the type of materials involved in the second column. Using the same color used for the class of fire, draw an arrow from the type of material involved to the method required to extinguish the fire found in the third column.

**Class of Fire**
Class A
Class B
Class C
Class D
Class K

**Type of Material**
1. Combustible metals
2. Electrical equipment
3. Flammable liquid
4. Cooking oils
5. Wood or paper

**Method Required to Extinguish**
A. Block oxygen source or smother
B. Cool and smother with splash prevention agent
C. Cool with water or water-based solution
D. Extinguish with dry powder agent or sand
E. Extinguish with nonconducting agent
**MATCHING 3-4: TYPE OF SPILL AND CLEANUP PROCEDURE**

Match the type of spill with the cleanup procedure (Procedure 3–2).

<table>
<thead>
<tr>
<th>Type of Spill</th>
<th>Cleanup Procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. ___ Small spill (a few drops)</td>
<td>A. Carefully absorb spill with a paper towel or similar material. Discard material in a biohazard waste container. Clean area with appropriate disinfectant.</td>
</tr>
<tr>
<td>2. ___ Large spill</td>
<td>B. Moisten spill with disinfectant (avoid scraping, which could disperse infectious organisms into the air). Absorb spill with paper towel or similar material. Discard material in a biohazard waste container. Clean area with appropriate disinfectant.</td>
</tr>
<tr>
<td>3. ___ Dried spill</td>
<td>C. Use a special clay or chlorine-based powder to absorb or gel (thicken) the liquid. Scoop or sweep up absorbed or thickened material. Discard material in a biohazard waste container. Wipe spill area with appropriate disinfectant.</td>
</tr>
<tr>
<td>4. ___ Spill involving broken glass</td>
<td>D. Wear heavy-duty utility gloves. Scoop or sweep up material. Discard in a biohazard sharps container. Clean area with appropriate disinfectant.</td>
</tr>
</tbody>
</table>

**MATCHING 3-5: HCN PICTOGRAMS**

The following are nine GHS hazard category pictograms. Match the pictogram to the example of the type of hazard it represents. Put an X in parenthesis next to the one pictogram that is not an HCS pictogram.

<table>
<thead>
<tr>
<th>Pictogram</th>
<th>Hazard Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. ____</td>
<td>A. Acute toxicity (fatal or toxic)</td>
</tr>
<tr>
<td>2. ____</td>
<td>B. Aquatic toxicity</td>
</tr>
<tr>
<td>3. ____</td>
<td>C. Carcinogen</td>
</tr>
<tr>
<td>4. ____</td>
<td>D. Explosives</td>
</tr>
<tr>
<td>5. ____</td>
<td>E. Eye damage</td>
</tr>
<tr>
<td>6. ____</td>
<td>F. Flammables</td>
</tr>
<tr>
<td>7. ____</td>
<td>G. Gases under pressure</td>
</tr>
<tr>
<td>8. ____</td>
<td>H. Oxidizers</td>
</tr>
<tr>
<td>9. ____</td>
<td>I. Respiratory tract irritant</td>
</tr>
</tbody>
</table>

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Labeling Exercises

LABELING EXERCISE 3-1: NFPA 704 MARKING SYSTEM

Label the quadrants in the NFPA marking system diagram above according to the type of hazard they identify. Color the quadrants the appropriate color code (one quadrant will remain uncolored). Using a black marker, write the signal number (or draw the symbol if applicable) for each of the following hazards in the appropriate quadrant:

- Material that on short exposure could cause serious temporary injury even with prompt medical attention
- Material that would have to be preheated before ignition could occur
- Material that is capable of detoning or exploding at normal temperature and pressure
- Material that is radioactive
LABELING EXERCISE 3-2: ENGINEERING CONTROLS AND WORK PRACTICE CONTROLS

Each illustration below shows an item (or items) or a practice that is either an engineering control, work practice control, or both. Write the name of the item(s) or practice shown followed by the type of control it is, on the corresponding line beneath the illustration.

1. ____________________________________________________________________________

2. ____________________________________________________________________________

3. ____________________________________________________________________________
4. 

5. 

6.
7. 

8. 

9. 
Knowledge Drills

KNOWLEDGE DRILL 3-1: CAUTION AND KEY POINT RECOGNITION

The following sentences are taken from selected “CAUTION and KEY POINT” statements found throughout Chapter 3 in the TEXTBOOK. Using the TEXTBOOK, fill in the blanks with the missing information.

1. The transmission of (A) ______________ viruses and (B) ______________ through blood transfusion is also considered (C) ______________ transmission.

2. (A) ______________ transmission differs from airborne transmission in that (B) ______________ normally travel less than (C) ______________ and do not remain (D) ______________ in the air.

3. Individuals who are exposed to the (A) ______________ ______________ (___) are less likely to contract the disease if they have previously completed an (B) ______________ (C) ______________ series.

4. (A) ______________ regulations require employers to offer (B) ______________ (C) ______________ free of charge to employees whose duties involve risk of (D) ______________.

5. The (A) ______________ ______________ ______________ ______________ (___) consensus recommendations in the 2009 Guidelines on Hand Hygiene in Health Care are that (B) ______________ do not wear artificial (C) ______________ (D) ______________ when having direct contact with patients, and natural nails should be kept short (0.5 cm long or approximately (E) ______________ long).

6. Wearing (A) ______________ during phlebotomy procedures is (B) ______________ by the OSHA (C) ______________ ______________.

7. The (A) ______________ is known as “the right to know law” because the (B) ______________ requirement gives employees the right to know about the (C) ______________ (D) ______________ they encounter in the workplace.

8. The original compress should not be removed when adding (A) ______________ ones because removal can (B) ______________ the (C) ______________ process.

9. Never give fluids if the patient is (A) ______________ or (B) ______________ ______________ or has injuries likely to require (C) ______________, and anesthesia.

10. According to the American Heart Association, if activity during work is low to moderate a 30-minute (A) ______________ ______________ or similar exercise (B) ______________ can improve blood pressure and reduce the risk of (C) ______________ ______________ and (D) ______________ ______________.

11. In addition, if hands are heavily contaminated with (A) ______________ material and hand washing facilities are not available, it is recommended that hands be cleaned with (B) ______________ - ______________ ______________ followed by the use of an (C) ______________ - ______________ antiseptic hand cleaner.

12. The most common type of (A) ______________ reported to NHSN is (B) ______________ ______________ ______________ ______________ (___), accounting for over (C) ______________ of all HAIs.
KNOWLEDGE DRILL 3-2: SCRAMBLED WORDS

Use each numbered hint below to unscramble the words listed after it. Write the correct spelling of the scrambled word on the line next to it.

1. Three types of biohazard exposure routes
   a. merpuscola
   b. troucanesupe
   c. tegionnis

2. Together they create the need for a fire extinguisher
   a. teha
   b. genoxy
   c. lufe
   d. mechlica noriteac

3. They play a role in radiation exposure
   a. miet
   b. gleindish
   c. staindec

4. A chemical safety requirement
   a. yesfat
   b. taad
   c. hetse
5. A symptom of shock (three word phrase)
   a. pardi
   b. akew
   c. slupe

6. They play a role in personal wellness
   a. sciereex
   b. tunionirt
   c. neighey

**KNOWLEDGE DRILL 3-3: BREAKING THE CHAIN OF INFECTION** (Box 3-1)

List five things a phlebotomist can personally do to break the chain of infection.

1. 
2. 
3. 
4. 
5. 

**KNOWLEDGE DRILL 3-4: SITUATIONS THAT REQUIRE HAND HYGIENE**

The following are statements concerning situations that require hand washing. Fill in the blanks with the missing information.

1. Before and after each ____________________________
2. Between ____________________________ procedures on a patient such as wound care and drawing blood
3. Before putting on gloves and ____________________________
4. Before leaving the ____________________________
5. Before going to lunch or on ____________________________
6. Before and after going to the ____________________________
7. Whenever hands become ____________________________ contaminated
KNOWLEDGE DRILL 3-5: SAFETY RULES WHEN IN PATIENT ROOMS AND OTHER PATIENT AREAS

The following are safety rules to follow when in patient rooms and other patient areas. After each rule, list at least one reason why it should be followed.

1. Avoid running. ____________________________

2. Be careful entering and exiting patient rooms. ____________________________

3. Do not touch electrical equipment in patient rooms while drawing blood. ____________________________

4. Follow standard precautions when handling specimens. ____________________________

5. Replace bed rails that were let down during patient procedures. ____________________________

KNOWLEDGE DRILL 3-6: PATHOGEN TRANSMISSION AND PRECAUTIONS

A list of microorganisms, diseases, and conditions follows. Using colored pens or pencils write the type of precautions involved. Write “A” in blue if airborne precautions are required, “C” in black if contact precautions are required, “D” in green if droplet precautions are required, and “S” in brown next to those that require only standard precautions. Write BBP in red next to those that are also bloodborne pathogens.

1. ____ Bordetella pertussis   11. ____ Malaria-causing microbe
2. ____ C. difficile   12. ____ Mycoplasma pneumoniae
3. ____ CMV   13. ____ Neisseria meningitides
4. ____ Group A strep (draining wound)   14. ____ RSV
5. ____ HBV   15. ____ Rubella virus (congenital)
6. ____ HCV   16. ____ Rubeola virus
7. ____ HIV   17. ____ Staphylococcus aureus (draining abscess)
8. ____ HDV   18. ____ Syphilis-causing microbe
9. ____ Impetigo   19. ____ Mycobacterium tuberculosis
10. ____ Influenza   20. ____ Varicella virus

KNOWLEDGE DRILL 3-7: TRUE/FALSE ACTIVITY

The following statements are all false. Circle the one or two word(s) that make the statement false and write the correct word(s) that would make the statement true, in the space provided.

1. Assepsis is a condition of being contaminated with microorganisms that can cause disease.

2. Nosocomial infection is a relatively new term applied to infections acquired during health care delivery in any health care setting.

3. The HCS was developed to protect employees from bloodborne pathogens.

4. The source of an infectious agent is called a vector.

5. OSHA regulations require employers to offer reduced price HBV vaccination for employees whose duties involve risk of exposure.

6. Studies have shown that artificial nails harbor fewer pathogenic microbes than natural nails.

7. The spores of Clostridium difficile are easily killed by alcohol-based hand cleaners.
8. According to CLSI guidelines, pants worn by laboratory personnel should be ½ to 1½ inches off the floor to prevent contamination.

9. Except for a mask, PPE worn in isolation rooms is removed at the door before leaving.

10. Transmission-based precautions are to be used in the care of all patients.

11. A signal word specifies the reactivity of a hazard.

12. Pictograms are round with a red border.

Skills Drills

SKILLS DRILL 3-1: REQUISITION ACTIVITY

Any Hospital USA
1123 West Physician Drive
Any Town USA

Laboratory Test Requisition

PATIENT INFORMATION:

Name: Doe Jane (last) (first) (MI)
Identification Number: 093656321 Birth Date: 04/11/68
Referring Physician: Payne
Date to be Collected: 03/15/15 Time to be Collected: 0600
Special Instructions:

TEST(S) REQUIRED:

____ NH4 – Ammonia
____ NH4 – Ammonia
____ Billi – Bilirubin, total & direct
____ Lact – lactic acid/lactate
____ BMP – basic metabolic panel
____ PIIt. Ct. – platelet count
____ BUN – Blood urea nitrogen
____ PT – prothrombin time
____ Lytes – electrolytes
____ PTT – partial thromboplastin time
____ X CBC – complete blood count
____ RPR – rapid plasma reagin
____ Chol – cholesterol
____ T&S – type and screen
____ ESR – erythrocyte sed rate
____ PSA – prostatic specific antigen
____ ETOH – alcohol
____ D-dimer
____ Gluc – glucose

Other __ AFB culture

A phlebotomist is sent to collect the specimens on the following requisition. Upon arrival at the patient’s room, he finds an airborne precautions sign on the door.

1. What precautions, if any, must the phlebotomist take before entering the room?

2. Which test requested might be a clue as to why the patient has airborne precautions?

3. What is the full name of the correct answer to 2 and why is it a clue to required precautions?

4. Name the disease the patient has, or is suspected of having?
SKILLS DRILL 3-2: WORD BUILDING

Divide each word below into all of its elements (parts): prefix (P), word root (WR), combining vowel (CV), and suffix (S). Write the word part and its definition on the corresponding lines. Write the general meaning of the word in the space provided. If the word does not have a particular element, write NA (not applicable) in its place.

Example: Neonatal

<table>
<thead>
<tr>
<th>Elements</th>
<th>neo / nat / al</th>
</tr>
</thead>
<tbody>
<tr>
<td>P</td>
<td>WR</td>
</tr>
<tr>
<td>Definitions</td>
<td>new / birth / pertaining to</td>
</tr>
<tr>
<td>Meaning:</td>
<td>pertaining to a newborn</td>
</tr>
</tbody>
</table>

1. Asepsis

<table>
<thead>
<tr>
<th>Elements</th>
<th>______ / ______ / ______</th>
</tr>
</thead>
<tbody>
<tr>
<td>P</td>
<td>WR</td>
</tr>
<tr>
<td>Definition</td>
<td>______ / ______ / ______ / ______</td>
</tr>
<tr>
<td>Meaning:</td>
<td>______</td>
</tr>
</tbody>
</table>

2. Cardiopulmonary

<table>
<thead>
<tr>
<th>Elements</th>
<th>______ / ______ / ______ / ______</th>
</tr>
</thead>
<tbody>
<tr>
<td>P</td>
<td>WR</td>
</tr>
<tr>
<td>Definition</td>
<td>______ / ______ / ______ / ______</td>
</tr>
<tr>
<td>Meaning:</td>
<td>______</td>
</tr>
</tbody>
</table>

3. Dermatitis

<table>
<thead>
<tr>
<th>Elements</th>
<th>______ / ______ / ______</th>
</tr>
</thead>
<tbody>
<tr>
<td>P</td>
<td>WR</td>
</tr>
<tr>
<td>Definition</td>
<td>______ / ______ / ______ / ______</td>
</tr>
<tr>
<td>Meaning:</td>
<td>______</td>
</tr>
</tbody>
</table>

4. Hemorrhage

<table>
<thead>
<tr>
<th>Elements</th>
<th>______ / ______ / ______</th>
</tr>
</thead>
<tbody>
<tr>
<td>P</td>
<td>WR</td>
</tr>
<tr>
<td>Definition</td>
<td>______ / ______ / ______ / ______</td>
</tr>
<tr>
<td>Meaning:</td>
<td>______</td>
</tr>
</tbody>
</table>

5. Hepatitis

<table>
<thead>
<tr>
<th>Elements</th>
<th>______ / ______ / ______</th>
</tr>
</thead>
<tbody>
<tr>
<td>P</td>
<td>WR</td>
</tr>
<tr>
<td>Definition</td>
<td>______ / ______ / ______ / ______</td>
</tr>
<tr>
<td>Meaning:</td>
<td>______</td>
</tr>
</tbody>
</table>

6. Percutaneous

<table>
<thead>
<tr>
<th>Elements</th>
<th>______ / ______ / ______</th>
</tr>
</thead>
<tbody>
<tr>
<td>P</td>
<td>WR</td>
</tr>
<tr>
<td>Definition</td>
<td>______ / ______ / ______ / ______</td>
</tr>
<tr>
<td>Meaning:</td>
<td>______</td>
</tr>
</tbody>
</table>
SKILLS DRILL 3-3: HAND WASHING TECHNIQUE (Procedure 3-1)

Fill in the blanks with the missing information.

**Step** | **Explanation/Rationale**
--- | ---
1. Stand back so that you do not | The (B) ___________ may be (C) ___________.
   (A) ________________ ______________
2. Turn on the faucet and (D) ________________ ________________ under warm, running water. | Water should not be too hot or (E) ________________ ________________ and hands should be (F) ________________ before applying (G) ________________ to minimize drying, chapping, or cracking of hands from frequent hand washing.
3. Apply soap and work up a | A good (I) ________________ is needed to reach all surfaces.
   (H) ____________________.
4. Scrub all surfaces, including between the fingers and around the (J) ________________.
5. Rub your hands together | Scrubbing is necessary to dislodge (K) ________________ from surfaces, especially between fingers and around (L) ________________.
   (M) ________________.
6. Rinse your hands in a (Q) ________________ motion from (R) ________________ to (S) ________________.
   (U) ________________ to be (V) ________________ ________________ the hands and fingers into the sink rather than flowing (W) ________________ ________________ the arm or wrist.
7. Dry hands with a (X) ________________ paper towel. | Hands must be dried thoroughly and gently to prevent chapping or cracking. (Y) ________________ towels can be a source of (Z) ________________.
8. Use a (AA) ________________ paper towel to (BB) ________________ ________________ ________________ ________________ unless it is foot or motion activated. | Clean hands should not touch contaminated (CC) ________________ ________________.
Crossword

**ACROSS**

1. Condition showing decreased amount of neutrophils
5. Type of fire, ________ A, B, C, D, or K
8. Bio_______, cautious handling of biological materials
9. Type of isolation system
10. Capable of living
11. Pathway link in the chain of infection
12. Federal agency charged with controlling disease
13. Infectious insect, arthropod, or animal
15. Tuberculosis
16. Tuberculin test
18. PPE facial covering
19. Results from insufficient blood flow to the heart
20. Most frequently occurring laboratory-related blood-borne pathogen
21. Infection acquired in the hospital
23. Resistant to a disease
26. Code used to remember how to operate a fire extinguisher
27. Injection to prevent acquiring a disease
28. AIDS virus
29. Institute requiring N95 respirator for HCWs who may encounter airborne contaminants
31. Precautions to follow for all patients
34. Intravenous (abbrev.)
35. Strategy to prevent exposure to BBPs (abbrev.)
37. Environmental protection agency (abbrev.)
38. Institute that suggests a predominantly plant-based diet
39. Protective covering for skin and clothing
40. Percutaneous means through the_______

**DOWN**

2. Work practice and __________ controls
3. An N95 respirator must be worn around a patient with this disease
4. Cause to become diseased with virus or bacteria
5. ________ of infection
6. Having little resistance to infection or disease
7. Basin for flushing eye after contamination
14. Process of passing disease from one to another
17. Unit in a hospital where intensive care is given
18. Microscopic organism
22. An example of PPE clothing worn over scrubs
24. Most common type of HAI
25. PPEs for hands
26. Items worn to protect an individual from infectious substances
27. Type of agent for hepatitis disease
28. Anyone infected with HBV is at risk for acquiring this virus
29. Agency that regulates fire codes
30. Most widespread chronic BBP illness in the United States
32. Term for a microbe that causes an infection
33. Chance of injury, damage or loss
36. Federal agency dealing with transportation
Chapter Review Questions

1. Terms used to identify components of the chain of infection include
   a. Infectious agent        c. Reservoir
   b. Susceptible host       d. All of the above

2. Which of the following is an example of employee screening for infection control?
   a. HBV vaccination        c. TB testing
   b. MMR vaccination       d. All of the above

3. CDC and HICPAC recommendations allow the use of alcohol-based antiseptic hand cleaners in place of hand washing as long as
   a. gloves were worn during the prior activity.
   b. hands are first cleaned with detergent wipes.
   c. hands have no visible dirt or organic material.
   d. all of the above conditions are met.

4. Standard precautions
   a. apply only to secretions and excretions that contain blood.
   b. are to be used when caring for all patients at all times.
   c. never supersede other CDC isolation recommendations.
   d. should not be combined with other precautions.

5. Which of the following actions would violate a laboratory safety rule?
   a. Chewing gum while processing specimens
   b. Keeping food in a laboratory reagent refrigerator
   c. Wearing artificial nails
   d. All of the above

6. Which of the following is an example of a blood-borne pathogen?
   a. Cytomegalovirus        c. TB mycobacterium
   b. Group A strep          d. Varicella virus

7. Which of the following meet the OSHA BBP standard definition of an engineering control?
   a. Self-sheathing needle
   b. Sharps container
   c. Splash shield
   d. All of the above

8. The best defense against HBV infection is:
   a. HBV vaccination.
   b. proper hand hygiene.
   c. using safety needles.
   d. wearing gloves.

9. Which of the following involves the possibility of a permcosal BBP exposure?
   a. Failing to cover broken skin with a bandage
   b. Getting stuck with a used phlebotomy needle
   c. Licking the fingers to turn laboratory manual pages
   d. Opening blood tubes without a safety shield

10. Proper procedure for cleaning the site of an injury from a contaminated needle includes
    a. cleaning it with povidone-iodine or another antiseptic.
    b. squeezing the injured area hard until it bleeds freely.
    c. washing it with soap and water for at least 30 seconds.
    d. all of the above.

11. Class “C” fires occur with
    a. ordinary combustibles.
    b. flammable liquids.
    c. electrical equipment.
    d. reactive metals.

12. Normally the most effective means of controlling external hemorrhage is
    a. application of a tourniquet.
    b. applying firm direct pressure.
    c. finger pressure over an artery.
    d. holding an ice pack on the site.

13. In the event of a chemical splash to the eyes, they should be flushed with water for a minimum of
    a. 2 minutes.          c. 10 minutes.
    b. 5 minutes.         d. 15 minutes.

14. In the NFPA 704 marking system, health hazards are indicated in the
    a. blue quadrant on the left.
    b. red quadrant at the top.
    c. yellow quadrant on the right.
    d. white quadrant on the bottom.

15. Approximately 20% of all workplace injuries involve
    a. back injuries.       c. needlesticks.
    b. foot problems.      d. stress reactions.
16. The most common type of HAI reported to NHSN is
   a. central line infection.
   b. respiratory infection.
   c. surgical site infection.
   d. urinary tract infection.

17. A phlebotomist whose hands are visibly contaminated should:
   a. clean them using alcohol wipes.
   b. scrub them with hand cleaner.
   c. wash them with soap and water.
   d. wipe them with detergent wipes.

18. One of the newest challenges in antibiotic resistance is
   a. *Clostridium difficile*
   b. group A streptococcus
   c. methicillin-resistant *Staphylococcus aureus*
   d. multidrug-resistant gram-negative bacteria

19. The pictogram for this type of hazard is an exclamation point.
   a. corrosion
   b. eye irritant
   c. flammable
   d. pyrophoric

20. Holistic comes from the Greek word *Holos*, which means to
   a. heal.
   b. mend.
   c. nourish.
   d. restore.
Case Studies

Case Study 3-1: Airborne Precautions
A phlebotomist arrives at a patient’s room for a timed blood draw. She observes an airborne precautions sign on the patient’s door. There is a cart in the hallway outside the door with supplies on it.

 QUESTIONS
1. What will the phlebotomist have to do before she enters the room?
2. Will the specimen require special handling in addition to what is normally required for the test?
3. Name one disease that requires airborne precautions for anyone entering the patient’s room.
4. Name two diseases that do not require airborne precautions for a phlebotomist who is immune to them.

Case Study 3-2: Work Restrictions (Appendix D)
A phlebotomist wakes up with a fever and an extremely sore throat. He calls his physician who sends him to a laboratory for a rapid strep test. The test is positive for group A strep. The physician gives him a prescription for an antibiotic. The phlebotomist picks up the prescription and takes the first dose at 13:00 hours. He is scheduled to work later that afternoon. He has used all his sick leave, so he takes some aspirin and goes to work.

 QUESTIONS
1. What work restrictions are required for a person with strep throat?
2. What is the earliest that he should have reported for work provided he was symptom free?
3. What might be the consequences of reporting to work when he still had symptoms?

Case Study 3-3: Traveling Germs
A phlebotomist works the morning shift at a large hospital. Today he is wearing a brand new pair of scrubs his wife just bought for him the day before. They are a little long, so he rolls them up. Unfortunately they do not stay that way and he finally just lets them drag the floor. He considers his scrubs street clothes since he always remembers to wear his lab coat when drawing patients. Several of his patients have been in contact isolation today. He has been careful to follow all precautions indicated. Two rooms have a sign on the door that says hand washing with soap and water is required after patient contact, and he has done so meticulously. When his shift is over he stops by the daycare center to pick up his 3-year old son. While there he talks with a neighbor who is there to pick up her toddler. The toddler is sucking on a pacifier while holding onto his mother’s legs, begging to be picked up. The pacifier drops on the floor next to the phlebotomist’s feet. Before his mom has a chance to retrieve it, the toddler picks it up and puts it in his mouth.

The next week he learns that the neighbor’s toddler has been hospitalized due to severe diarrhea and dehydration.

 QUESTIONS
1. Why would hand washing with soap and water be required in addition to the contact precautions required for several of the patients?
2. What CLSI guideline was not been followed by the phlebotomist?
3. The phlebotomist could have had something to do with the toddler’s illness. Why is that?
4. If the phlebotomist was responsible for the toddler’s illness, what can he do to prevent something similar from happening in the future?
Case Study 3-4: Trash Bin Fire

Just as a phlebotomist arrives at work and comes through the door, the fire alarm sounds, the fire sprinkler system in the hallway activates, and the door down the hall automatically shuts. There is a trash bin near the door with heavy smoke and flames coming from it. Since it is partially covered, the water has little effect on the fire. No one else is in sight. The phlebotomist runs to a fire extinguisher nearby, grabs it, pulls the pin, and puts the fire out. It does not appear to have spread beyond the trash bin. Just then the firemen arrive on the scene.

QUESTIONS

1. What class of fire was most likely involved in this incident and why?
2. What type of extinguisher would be required to put it out?
3. The fire extinguisher in the hall was most likely what type?
4. What may have caused the fire?
5. What is the code word for action in the event of a fire and what does it mean?
Unit I Crossword Exercise

ACROSS
3. Disease transmission by aerosols of infectious agents that are inhaled
6. Infection acquired in any health care setting
7. Exsanguinated means that all of this is removed
9. Inanimate objects that harbor material containing infectious agent
11. Center for Medicare and Medicaid Services initials
13. Federal law that was designed to regulate patient privacy (abbrev.)
14. Code used to classify, report, and bill health care services
15. Pre-established value indicating a level of acceptable practice
16. College of American Pathologists initials
18. Compares a patient’s current laboratory results with previous results for the same test
19. Global, nonprofit standards-developing organization
20. Intensive care unit for neonates
24. One of the barriers to communication
25. Type of isolation for a neutropenic patient
27. Level of care that should be exercised in the given circumstances
28. Abbreviation for hematocrit
30. Fluid found in the spinal column (abbrev.)
31. Infection acquired in a hospital
32. Tests that must be done immediately
33. Source of an infectious microorganism
34. An act or threat that causes one to be in fear of immediate battery
37. A process in which a party in a legal action is questioned under oath
39. Manufacturers must furnish this for hazardous products
40. Alanine aminotransferase (abbrev.)
41. Resistant to a particular disease or infection

DOWN
1. Antibody (abbrev.)
2. Educational standards for phlebotomy programs
4. Consent that implies voluntary and competent permission
5. AMT phlebotomy certification initials
6. Hospital advisory committee for infection-control (abbrev.)
8. Percutaneous exposure occurs through this type of skin
10. New initials for Clinical Laboratory Scientist (abbrev.)
12. Old initials for Clinical Laboratory Scientist (abbrev.)
17. Study of an individual’s concept and use of space
19. Evidence that fundamental competencies in a particular field have been mastered
21. Means of transmission through food or water
22. Laboratory instrument that does urinalysis
23. Microbe capable of causing disease
24. Aspartate aminotransferase (abbrev.)
26. microbes responsible for certain diseases such as the common cold
29. Personalized medicine abbreviation
31. Health professionals who give direct patient care
35. Blood types
36. Wrongful act against one’s person
38. Chemical abbreviation for sodium