Chapter 1: Safety and Quality Assessment

Multiple Choice

1. Laboratory equipment and other inanimate objects serve as what in the chain of infection?
A. Host
B. Reservoir
C. Point of entry
D. Point of exit

ANS: B
DIF: Level 1
OBJ: 1
TOP: Biologic hazards

2. The chain of infection includes all of the following *except* a:
A. Source
B. Host
C. Disinfectant
D. Transmission method

ANS: C
DIF: Level 2
OBJ: 1
TOP: Biologic hazards

3. You arrive to work in the clinical laboratory with a small cut on your hand. Your supervisor pulls you from specimen collection (phlebotomy) duties for the day, citing chain of infection protocols. Why is your supervisor concerned about the cut on your hand?
A. Because you will not have the mobility in your hand to properly collect blood
B. Because you are going to have to wear a bandage all day long
C. Because you have a point of entry that could expose you to infectious agents
D. Because you are going to be an active transmitter of infection onto general surfaces

ANS: C
DIF: Level 3
OBJ: 1
TOP: Biologic hazards

4. Centrifuging an uncapped tube of urine is most likely to produce a/an:
A. Electrical shock
B. Broken tube
C. Unbalancing
D. Aerosol

ANS: D
DIF: Level 2
OBJ: 2
TOP: Biologic hazards

5. Which of the following guidelines tells laboratory personnel to consider all patients as possible carriers of blood-borne pathogens?
A. Urinalysis precautions
B. Blood-borne pathogen precautions
C. Standard precautions
D. Body fluid precautions

ANS: C
DIF: Level 1
OBJ: 2
TOP: Biologic hazards

6. The Centers for Disease Control (CDC) recommends that universal precautions be followed when encountering:
A. Specimens containing visible blood
B. Patients who are infected with blood-borne pathogens
C. All body fluid specimens
D. Specimens that may produce aerosols

ANS: A
DIF: Level 1
OBJ: 2
TOP: Biologic hazards

7. Which of the following CDC guidelines considers all moist body substances to be potentially infectious and stresses hand washing?

A. Universal precautions
B. Body fluid precautions
C. Standard precautions
D. Health-care personnel standards

ANS: C
DIF: Level 1
OBJ: 3
TOP: Biologic hazards

8. The Occupational Exposure to Blood-Borne Pathogens Standard is:
A. A guideline developed by the FDA
B. An additional precaution associated with urinalysis
C. A guideline recommended by the CDC
D. A law enforced by Occupational Safety and Health Administration (OSHA)

ANS: D
DIF: Level 1
OBJ: 3
TOP: Biologic hazards

9. A laboratory worker who observes a red hand rash after removing gloves should:
A. Avoid wearing gloves for 2 days
B. Wash the hands with antimicrobial soap
C. Apply cortisone cream to the hands
D. Avoid wearing latex gloves in the future

ANS: D
DIF: Level 2
OBJ: 4
TOP: Biologic hazards

10. Plexiglas shields are used in the laboratory when urine tube specimens are being:
A. Sorted according to lab
B. Uncapped for analysis
C. Centrifuged for analysis
D. Observed for color characteristics

ANS: B
DIF: Level 2

OBJ: 4
TOP: Biologic hazards

11. A urine specimen received in the laboratory is leaking in a transport bag. What is the next course of action?
A. It should be relabeled
B. It should be rejected
C. It should be processed with no special handling
D. It should be poured into a clean container

ANS: B
DIF: Level 1
OBJ: 6
TOP: Biologic hazards

12. Lab coats worn in the urinalysis lab should:
A. Be worn loosely over uniforms
B. Have short sleeves
C. Be completely buttoned
D. Be worn at all times in and outside of the laboratory

ANS: C
DIF: Level 2
OBJ: 4
TOP: Biologic hazards

13. Proper hand washing includes all of the following procedures *except:*
A. Rubbing to create a lather
B. Using warm water
C. Rinsing hands in a downward position
D. Using a paper towel to turn on the water faucet

ANS: D
DIF: Level 2
OBJ: 5
TOP: Biologic hazards

14. The acceptable method for disposing of urine specimens is:

A. Autoclaving in the entire collection
B. Pouring down the sink followed by copious amounts of water
C. Placing the specimen in a biohazard bag
D. Diluting with sodium hypochlorite

ANS: B
DIF: Level 1
OBJ: 6
TOP: Biologic hazards

15. Disinfection of the sink in the urinalysis laboratory should be performed:
A. On a daily basis
B. When a positive bilirubin is detected
C. Following an accidental spill
D. By using dilute hydrochloric acid

ANS: A
DIF: Level 2
OBJ: 6
TOP: Biologic hazards

16. Safety precautions observed in the urinalysis laboratory include all of the following *except:*
A. Wearing goggles or a face shield
B. Checking tube balance in the centrifuge
C. Centrifuging only uncapped tubes
D. Wearing a fluid-resistant lab coat

ANS: C
DIF: Level 2
OBJ: 6
TOP: Biologic hazards

17. The source, method of transmission, and host are all deemed:
A. Steps in the urinalysis
B. Components of the chain of infection
C. Problems encountered in urinalysis
D. Considerations in urine specimen transport

ANS: B
DIF: Level 1

OBJ: 1
TOP: Biologic hazards

18. Which of the following is a practice that all laboratory workers must avoid?
A. Changing gloves that are soiled
B. Centrifuging conical tubes
C. Moving puncture-resistant containers
D. Manually recapping needles

ANS: D
DIF: Level 1
OBJ: 6
TOP: Sharp hazards

19. Before using a water hose on a burning chemical cabinet, a firefighter would visually check that what is posted on the outside of the cabinet?
A. National Fire Protection Association (NFPA) symbol
B. Material Safety Data Sheet (MSDS)
C. Chemical Hygiene Plan
D. Occupational Safety and Health Administration manual

ANS: A
DIF: Level 1
OBJ: 8
TOP: Chemical hazards

20. Immediate information concerning the health hazards, flammability, and reactivity of a chemical can be obtained from the:
A. MSDS
B. NFPA symbol
C. CDC
D. OSHA

ANS: B
DIF: Level 2
OBJ: 8
TOP: Chemical hazards

21. Laboratory personnel wear special monitory badges when working frequently with which of the following hazards?
A. Biologic
B. Chemical
C. Radioactive
D. Explosive

ANS: C
DIF: Level 1
OBJ: 9
TOP: Radioactive hazards

22. When encountering a person experiencing an electrical shock, the first thing to do is:
A. Turn off the circuit breaker for area
B. Lower the person's head below the heart
C. Wrap the person in a wet fire blanket
D. Move the person away from the electrical object

ANS: A
DIF: Level 2
OBJ: 9
TOP: Electrical hazards

23. When a fire is discovered in the laboratory, you should do all of the following *except:*
A. Activate the fire alarm
B. Evacuate the area using the stairs
C. Use an appropriate fire extinguisher
D. Leave the door open when evacuating

ANS: D
DIF: Level 2
OBJ: 10
TOP: Fire hazards

24. The acronym RACE is used when encountering a/an:
A. Fire
B. Chemical spill
C. Electrical shock
D. Needlestick

ANS: A
DIF: Level 1
OBJ: 10
TOP: Fire hazards

25. Which of the following items found in the laboratory should be securely fastened to a nonmovable object?
A. Biohazard bags
B. Compressed gas cylinders
C. Chemical spill kits
D. Radiation detectors

ANS: B
DIF: Level 1
OBJ: 7
TOP: Fire hazards

26. The most commonly available fire extinguisher in a hospital is:
A. Type A
B. Type B
C. Type C
D. Type ABC

ANS: D
DIF: Level 1
OBJ: 9
TOP: Fire hazards

27. When using a fire extinguisher, which action do you perform first?
A. Point the nozzle
B. Pull the pin
C. Protect the patient samples
D. Position the extinguisher

ANS: B
DIF: Level 2
OBJ: 10
TOP: Fire hazards

28. Variables that are included in a quality assurance program include all of the following *except:*
A. Pre-examination
B. Clinical
C. Examination
D. Post-examination

ANS: B
DIF: Level 1
OBJ: 12
TOP: Quality assessment

29. Clinical laboratory personnel have the *least* control over which of the following conditions?
A. Pre-examination variables
B. Examination variables
C. Post-examination variables
D. Post-discharge variables

ANS: A
DIF: Level 2
OBJ: 12
TOP: Quality assessment

30. When you receive a specimen and a requisition form that do *not* match, you should:
A. Notify the personnel who collected the specimen
B. Test the specimen and note the error on the requisition
C. Immediately discard the specimen
D. Analyze the error and make appropriate changes to the label

ANS: A
DIF: Level 2
OBJ: 12
TOP: Quality assessment

31. When a critical value is obtained in the laboratory:
A. The test should be repeated
B. The pathologist should be notified
C. A new specimen must be requested
D. The result must be reported to the health-care provider

ANS: D
DIF: Level 2
OBJ: 12
TOP: Quality assessment

32. The ability to obtain the published result on a control sample is referred to as:
A. Precision
B. Accuracy
C. Standardization
D. Reliability

ANS: B
DIF: Level 1
OBJ: 13
TOP: Quality assessment

33. Obtaining the same result after testing the same specimen three times is called test:
A. Reliability
B. Quality control
C. Precision
D. Accuracy

ANS: C
DIF: Level 1
OBJ: 13
TOP: Quality assessment

34. The highest acceptable range for confidence limits in the clinical laboratory is:
A. ±1 SD
B. ±2 SD
C. ±3 SD
D. ±4 SD

ANS: C
DIF: Level 1
OBJ: 13
TOP: Quality assessment

35. A procedure with a coefficient of variation of 10% is considered:
A. Reliable
B. Precise
C. Confident
D. Imprecise

ANS: D
DIF: Level 2
OBJ: 13
TOP: Quality assessment

36. When plotted on a Levy-Jennings chart, a control that has been left on the counter overnight instead of being refrigerated might show a/an:
A. Shift
B. Increased CV
C. Trend
D. Change in precision

ANS: A
DIF: Level 2
OBJ: 13
TOP: Quality assessment

37. Proficiency testing should be performed:
A. When control results exceed the confidence limits
B. By personnel performing the tests routinely
C. By the laboratory supervisor only
D. During an accreditation site inspection

ANS: B
DIF: Level 2
OBJ: 13
TOP: Quality assessment

38. The least regulated level of Clinical Laboratory Improvement Amendments (CLIA) testing categories is:
A. Waived
B. Provider-performed microscopy
C. Moderate-complexity

D. High-complexity

ANS: A
DIF: Level 1
OBJ: 13
TOP: Quality assessment

39. A urinalysis laboratory that subscribes to an external proficiency testing program from which all samples are tested by the supervisor is an example of:
A. Right things done right
B. Wrong things done wrong
C. Right things done wrong
D. Wrong things done right

ANS: C
DIF: Level 3
OBJ: 13
TOP: Quality assessment

True/False

40. Personnel in the urinalysis laboratory are best protected from blood-borne pathogen exposure when following standard precautions.

ANS: True
DIF: Level 2
OBJ: 3
TOP: Biologic hazards

41. It is not necessary to change gloves when performing tasks on the same patient.

ANS: False
DIF: Level 1
OBJ: 4
TOP: Biologic hazards

42. OSHA requires employers to provide free immunization for hepatitis B virus (HBV) to workers in urinalysis.

ANS: True
DIF: Level 1
OBJ: 3
TOP: Biologic hazards

43. Hands should be washed before and after testing each urine specimen.

ANS: False
DIF: Level 2
OBJ: 5
TOP: Biologic hazards

44. A paper towel used to absorb a urine spill is discarded in a biohazard container.

ANS: True
DIF: Level 2
OBJ: 6
TOP: Biologic hazards

45. It is acceptable to recap a needle on a syringe containing urine, but not blood.

ANS: False
DIF: Level 2
OBJ: 6
TOP: Sharp hazards

46. Only nontoxic chemicals can be pipetted by mouth.

ANS: False
DIF: Level 1
OBJ: 7
TOP: Chemical hazards

47. The MSDS should be provided to laboratories by chemical manufacturers or vendors.

ANS: True
DIF: Level 1
OBJ: 7
TOP: Chemical hazards

48. Electrical current can pass through glass and wood.

ANS: False
DIF: Level 2
OBJ: 9
TOP: Electrical hazards

49. Flammable chemicals must be stored in explosion-proof refrigerators.

ANS: True
DIF: Level 1
OBJ: 7
TOP: Fire hazards

50. When lifting heavy objects, laboratory workers should bend their knees.

ANS: True
DIF: Level 1
OBJ: 2
TOP: Physical hazards

Matching

Match the burning material with the type of fire:
A. Type A
B. Type B
C. Type C
D. Type D

51. Electrical
52. Organic chemicals
53. Combustible metals
54. Wood

51. ANS: C	DIF: Level 1	OBJ: 9	TOP: Fire hazards
52. ANS: B	DIF: Level 1	OBJ: 9	TOP: Fire hazards
53. ANS: D	DIF: Level 1	OBJ: 9	TOP: Fire hazards
54. ANS: A	DIF: Level 1	OBJ: 9	TOP: Fire hazards

Match the following safety hazards with the possible injury:
A. Carcinogen exposure
B. Strained back
C. Viral infection
D. Shock

55. Biologic
56. Chemical
57. Electrical
58. Physical

55. ANS: C	DIF: Level 1	OBJ: 2	TOP: Biologic hazards
56. ANS: A	DIF: Level 1	OBJ: 7	TOP: Chemical hazards
57. ANS: D	DIF: Level 1	OBJ: 9	TOP: Electrical hazards
58. ANS: B	DIF: Level 1	OBJ: 2	TOP: Physical hazards

Short Answer

59. State the six components of the chain of infection.
ANS: Infectious agent, reservoir, portal of exit, means of transmission, portal of entry, susceptible host
DIF: Level 1
OBJ: 1
TOP: Biologic hazards

60. Who is responsible for laundering nondisposable lab coats?
ANS: Employer
DIF: Level 2
OBJ: 2
TOP: Biologic hazards

61. When gloves are removed, what is the next action taken?
ANS: Hand sanitizing
DIF: Level 2
OBJ: 5
TOP: Biologic hazards

62. What two activities are paper towels used for when washing the hands?
ANS: Drying the hands and turning off the water
DIF: Level 2
OBJ: 5
TOP: Biologic hazards

63. Name three blood-borne pathogens.
ANS: HBV, HCV, and HIV
DIF: Level 1
OBJ: 3
TOP: Biologic hazards

64. What document does OSHA require all laboratories to have on file when using hazardous chemicals?
ANS: Chemical hygiene plan
DIF: Level 1
OBJ: 7
TOP: Chemical hazards

65. What are the diamond-shaped, color-coded labels placed on chemical cabinets in the urinalysis lab called?
ANS: NFPA symbols

DIF: Level 1
OBJ: 8
TOP: Chemical hazards

66. A laboratory worker who is pregnant should avoid areas designated by what hazard symbol?
ANS: Radioactive
DIF: Level 1
OBJ: 9
TOP: Radioactive hazards

67. Describe the type of shoes that should be worn in the laboratory.
ANS: Comfortable, closed-toe
DIF: Level 1
OBJ: 2
TOP: Physical hazards