PHLEBOTOMY STUDY GUIDE

TERMINOLOGY

1) The ability of the body to maintain equilibrium or “steady state” is called:
   
   A. hematology  
   B. homeostasis  
   C. hemochromatosis  
   D. hemostasis

2) What does NPO mean?
   
   A. fasting  
   B. newborn  
   C. next priority  
   D. nothing by mouth

3) Which of the following is a suffix?
   
   A. an  
   B. neo  
   C. oxia  
   D. ren

4) Inflammation of a vein is:
   
   A. angitis  
   B. cellulitis  
   C. phlebitis  
   D. vasomyelitis

5) CBC is an abbreviation for:
   
   A. complete blood cells  
   B. complete blood count
C. cerebrospinal blood count
D. cerebrospinal blood cells

6) Which of the following terms means muscle pain?
A. atrophy
B. myalgia
C. osteomyelitis
D. tendonitis

7) The word root “erythro” means:
A. cell
B. earth-like
C. oxygen
D. red

8) The abbreviation PT stands for:
A. partial thromboplastin
B. patient temperature
C. prothrombin time
D. phenylketonuria

9) What word means “controlling blood flow?”
A. hemolysis
B. hemostasis
C. homeostasis
D. venostasis

10) In the clinical laboratory, the abbreviation CSF is used for:
A. clinical serum fluid
B. cerebrospinal fluid
C. cerebral serum fluid
D. clinical spinal fluid
LAB SAFETY

1) In which instance could an electrical shock to a patient most likely occur?

A. drawing a patient’s blood during an electrical storm  
B. drawing a patient’s blood while standing in a puddle of water  
C. drawing blood from a patient who is talking on the telephone  
D. touching electrical equipment while drawing a patient’s blood

2. Which is not true of disinfectants? Disinfectants are:

A. corrosive chemical compounds  
B. safe to use on human skin  
C. used to kill pathogenic microorganisms  
D. used on surfaces and instruments

3. If a health care provider is in an area of the health care facility where a fire starts, she or he should first:

A. attempt to extinguish the fire, using the proper equipment  
B. pull the lever in the fire alarm box  
C. close all the doors and windows before leaving the area  
D. block the entrances so that others will not enter the fire area

4. What are the major principles of self-protection from radiation exposure?
A. distance, combustibility, and shielding  
B. time, distance, and shielding  
C. anticorrosive, shielding, and distance  
D. combustibility, anticorrosive, and distance

5. *Primum non nocere* comes from the Hippocratic oath and means:

A. first do no harm  
B. first things first  
C. quality is foremost  
D. ready to serve

6. What does the National Fire Protection Association (NFPA) codeword *RACE* mean?  

A. rescue, alarm, confine, extinguish  
B. rescue, activate, cover, extinguish  
C. run, alarm, counter, extinguish  
D. run, activate, confine, escape

7. Disinfectants are:

A. chemicals that are used to inhibit the growth and development of microorganisms but do not necessarily kill them  
B. used frequently on skin  
C. chemicals that are used to remove or kill pathogenic microorganisms  
D. quaternary ammonium compounds

8. If an electrical accident occurs involving electrical shock to an employee or a patient, the *first* thing that the health care worker should do is:

A. move the victim  
B. shut off electrical power
C. start CPR
D. place a blanket over the victim

9. Airborne precautions require the phlebotomist to wear:

A. a mask
B. a gown
C. eye protection
D. an N95 respirator

10. It is important for the phlebotomist to visually inspect the needle tip before inserting it in a patient’s vein to:

A. check for the presence of bacteria
B. check the needle point for imperfections that might damage the patient’s vein
C. ensure that the bevel is down during insertion
D. make certain that the needle is not outdated

11. Which of the following is a required characteristic of a sharps container?

A. bright red or orange in color
B. leak-proof and puncture-resistant
C. marked with a biohazard symbol
D. all of the above

12. The first step in giving mouth-to-mouth resuscitation is to:

A. open the airway by checking for obstructions
B. listen and feel for return of air from the victim’s mouth
C. determine whether the victim is conscious by gently shaking the victim and yelling, “Are you okay?”
D. look for the victim’s chest to rise and fall

13. If a chemical is spilled onto a health care worker, she or he should first:

A. rub vigorously with one hand
B. wait to see whether it starts to burn the skin
C. rinse the area with a neutral chemical
D. rinse the area with water

14. For safety in the health care facility, which of the following should not occur?

A. needles, syringes, and lancets should be disposed of in a special sturdy container
B. liquid waste should be discarded rapidly
C. the specimen collection area should be disinfected periodically according to the clinical laboratory schedule
D. the patients’ specimens should be covered at all times during transportation

15. Mixing equipment from different manufacturers can result in:

A. improper needle fit
B. needle coming unscrewed
C. tubes popping off
D. all of the above

**BLOOD COLLECTION TECHNIQUES**

1. Why are gauze pads rather than cotton balls considered a better choice for covering the site while holding pressure following venipuncture?
A. gauze pads are more sterile
B. gauze pads create more pressure
C. cotton balls are not as absorbent
D. cotton fibers tend to stick to the site

2. The evacuated tube system requires:

A. a special plastic adapter, a syringe, and an evacuated sample tube
B. an evacuated sample tube, a plastic adapter, and a double-pointed needle
C. a double-pointed needle, a plastic holder, and a winged infusion set
D. a special plastic adapter, an anticoagulant, and a double-pointed needle

3. Identify the tubes needed to collect a complete blood count (CBC), partial thromboplastin time (PTT), and STAT potassium by color and in the proper order of collection for a multi-tube draw.

A. lavender top, SST, royal blue top
B. gold top, yellow top, light blue top
C. light blue top, green top, lavender top
D. red top, gray top, light blue top

4. An acceptable blood smear:

A. covers the entire surface of the slide
B. forms a bullet shape
C. has a feathered uniform edge
D. is short and thick

5. For newborns, the penetration depth of lancets for blood collection must be:

A. 3.0 mm or less
B. 2.8 mm or less
C. 2.6 mm or less
D. 2.4 mm or less

6. Blood collected in a red stopper tube:

A. may be used for most coagulation tests
B. will not clot
C. yields plasma and cells
D. yields serum and clotted red cells

7. Which of the following is a commonly used intravenous device that is sometimes used in the collection of blood from patients who are difficult to collect blood by conventional methods?

A. heparinized Natelson tube
B. BD Unopette
C. Butterfly needle
D. BD Microtainer

8. All of the following tube stopper colors indicate the presence (or absence) and type of additive in the tube EXCEPT:

A. green
B. lavender
C. light blue
D. royal blue

9. Proper finger puncture technique includes all of the following EXCEPT:

A. avoid squeezing or vigorous massaging
B. puncture parallel to the whorls of the fingerprint
C. puncture the middle or ring finger
D. wipe away the first drop of blood
10. Which of the following procedures does *not* require cleansing the blood collection site with povidone-iodine solution?

A. therapeutic drug monitoring collection  
B. arterial blood gas collection  
C. blood culture collection  
D. blood donation collection

11. What do you do if the patient’s physician is in the room and the specimen is ordered STAT?

A. ask the patient’s nurse what to do  
B. come back later when the physician has gone  
C. politely introduce yourself, explain why you are there, and ask permission to proceed  
D. say “Excuse me” and proceed to collect the specimen

12. In which instance is needle recapping recommended?

A. after collecting a specimen in a syringe  
B. after collecting a specimen in the emergency room  
C. after collecting blood gases  
D. recapping is *never* recommended procedure

13. The following tests have all been ordered at the same time on different inpatients. There is only one phlebotomist on duty. Which test should the phlebotomist collect first?

A. ASAP CBC in oncology  
B. Hemoglobin in labor and delivery  
C. Timed blood cultures in ICU  
D. STAT electrolytes in the emergency room (ER)
14. You need to collect blood cultures, a gray top, and a lavender top on an adult with difficult veins. Which specimens can be collected by skin puncture?

A. all of them  
B. blood cultures and gray top only  
C. gray top and lavender top only  
D. none of them

15. Which of the following is true concerning skin puncture on an infant compared with the dorsal hand venipuncture procedure?

A. It is less stressful for the infant  
B. There is less dilution of the specimen with tissue fluid  
C. Hemolysis occurs more often  
D. Fewer punctures are required

16. It is not a good idea to collect a CBC specimen from a screaming infant because the:

A. platelets are more likely to clump  
B. specimen will be hemoconcentrated  
C. specimen will be more likely to hemolyze  
D. white blood count may be falsely elevated

17. Why should a laboratory report form indicate the fact that a specimen has been collected by skin puncture?

A. for liability and insurance purposes  
B. some test results may vary depending on the source of the specimen  
C. so that subsequent specimens will be collected by skin puncture also  
D. so that the patient’s nurse can check the site for signs of infection
18. Which of the following analytes is significantly increased in the blood with changes in position?

A. iron  
B. cortisol  
C. glucose  
D. testosterone

19. A vein may collapse because the:

A. tourniquet is applied too tightly  
B. tourniquet is too close to the venipuncture site  
C. tube vacuum is too much for the size of the vein  
D. any of the above

20. You have no choice but to draw a specimen from a site with a hematoma. Where should you obtain the specimen?

A. distal to the hematoma  
B. in the area of the hematoma  
C. proximal to the hematoma  
D. none of the above

21. Identification of an inpatient can best be accomplished by which of the following?

A. number on the hospital bracelet and verbal confirmation from the patient  
B. hospital room number and bed assignment  
C. confirmation from a patient’s relative  
D. none of the above

22. A phlebotomist has attempted twice to draw a partial thromboplastin time on a patient with difficult veins. Both times the phlebotomist has been able to draw
only a partial tube. What should the phlebotomist do?

A. collect the specimen by skin puncture  
B. have another phlebotomist attempt to draw the specimen  
C. pour the two tubes together and mix well  
D. send the tube with the most blood to the laboratory with a note that it was a difficult draw

23. Where should the tourniquet be placed on the patient during the venipuncture procedure?

A. 1 inch above the venipuncture site  
B. Over the venipuncture site  
C. 3 inches above the venipuncture site  
D. 3 inches below the venipuncture site

24. You may have to be careful about what type of equipment is brought into the room if a patient is severely allergic to:

A. adhesive bandages  
B. latex  
C. perfume  
D. any of the above

25. Excessive or blind probing for a vein can cause:

A. diurnal variation  
B. lipemia  
C. nerve damage  
D. petechiae

26. If a blood collection site continues to bleed after 5 minutes:
A.  bandage the site and tell the patient to hold pressure over the bandage
B.  notify the patient’s physician or nurse
C.  wrap a pressure bandage around the site
D.  none of the above

27. When collecting blood in a syringe, blood should be placed in the specimen tubes in the correct order to minimize contamination or clotting. The recommended order is:

A.  coagulation tubes, anticoagulated tubes, then blood culture tubes
B.  blood culture tubes, coagulation tubes, other anticoagulated tubes, tubes without anticoagulant additives
C.  tubes without anticoagulants, blood cultures, coagulation tubes
D.  none of the above

28. A phlebotomist must collect a hemoglobin on a patient in the intensive care unit. There is an IV in the patient’s left arm. There is no suitable antecubital vein or hand vein in the right arm. What should the phlebotomist do?

A.  ask another phlebotomist to collect the specimen
B.  attempt to draw a hand vein below the IV
C.  collect the specimen by skin puncture of a finger of the right hand
D.  draw the specimen from an ankle vein

29. What is the advantage of using a butterfly?

A.  blood flow is increased
B.  butterflies are less expensive
C.  butterflies make it easier to draw difficult veins
D. there is a greater choice of needle sizes

30. A vein that feels hard and cord-like and lacks resiliency may be:

A. an artery
B. collapsed
C. superficial
D. thrombosed

**LAB MATH**

1) Normal adult blood volume is 70 mL per kilogram. You weigh 130 lb. What is your blood volume?

A. 1300 mL
B. 1.3 L
C. 59 kg
D. 4.1 L

2) If room temperature is 77° F, what is the temperature in centigrade?

A. 20
B. 25
C. 32
D. 37

3) A blood culture bottle containing 45 mL of media require a 1:10 dilution of specimen. How much blood should be added?

A. 4 mL
B. 5 mL
C. 8 mL
D. 10 mL

4) One teaspoon is approximately:

A. 1 mL
B. 5 mL
C. 10 mL
D. 15 mL

5) Your requisition says that a specimen is to be drawn at 1530. What time would that be in 12-hour time?

A. 1:30 AM
B. 3:30 PM
C. 5:30 AM
D. 7:30 PM

6) If a red blood cell is 8 µm in diameter, what is its size in millimeters?

A. .8
B. .08
C. .008
D. .0008

7) What does 2.2 pounds (lb) equal in the metric system?

A. 1 kg
B. 44 g
C. 100 g
D. 454 kg

8) 200 µL is equal to:

A. 2 mL
B. 0.2 mL
C. 0.02 mL
9) 10 cc of blood equals approximately:

A. 1 mL of blood  
B. 5 mL of blood  
C. 10 mL of blood  
D. There is no relationship between cc and mL

10) 1.2 kg is equal to how many grams?

A. 12  
B. 120  
C. 1200  
D. 12,000

11) A test requires 3 mL serum. The laboratory requires that the amount of blood collected be 250% of the volume of specimen required to perform the test. Which size tube should you use to collect the specimen?

A. 4 mL  
B. 5 mL  
C. 10 mL  
D. 15 mL

12) Normal infant blood volume is 100 mL per kilogram. Calculate the approximate blood volume of a baby who weighs 6 lb.

A. 1.2 L  
B. 2.7 L  
C. 270 mL  
D. 600 mL

13) To prepare 100 mL of a 1:10 dilution of bleach, add:
A. 1 mL water to 100 mL bleach
B. 1 mL bleach to 99 mL water
C. 10 mL bleach to 90 mL water
D. 10 mL water to 100 mL bleach

14) One inch is equivalent to:
   A. 1 cm
   B. 1 mm
   C. 5 cm
   D. 2.54 cm

15) The civilian equivalent of 1448 is
   A. 2:48 AM
   B. 2:48 PM
   C. 12:48 PM
   D. 4:48 PM

16) In the metric system, a millimeter is:
   A. 1/10 meter
   B. 1/100 meter
   C. 1/1000 meter
   D. 1/10,000 meter

17) One gallon is equivalent to:
   A. 5 L
   B. 4 L
   C. 3.78 L
   D. 1 L

18) The military equivalent of 10:16 AM is:
   A. 1016
   B. 01000
   C. 0116
D. 10:16

19) A patient voids 1200 mL of urine for a creatinine clearance test. How much urine is this?

A. less than a liter
B. less than a quart
C. more than a liter
D. more than 2 liters

20) Which of the following symbols represents one cubic millimeter?

A. mmm
B. cu mm or mm³
C. mL
D. mM

INFECTION CONTROL

1) Which of the following has the highest prevalence of nosocomial infections?

A. urinary tract infections
B. dermal infections
C. respiratory tract infections
D. wound infections

2) The main purpose of an infection control program is to:

A. determine the source of communicable infections
B. isolate infectious patients from other patients
C. prevent the spread of infection in the hospital
D. protect patients from outside contamination

3) Which of the following is an example of an engineering control that helps eliminate hazards posed by bloodborne pathogens?
   A. gloves
   B. laboratory coat
   C. sharps container
   D. universal precautions statement

4) Which is not proper hand washing procedure?
   A. stand back so that clothing does not touch the sink
   B. wet hands with water before applying soap
   C. wash for at least 15 seconds
   D. turn the faucet off with the towel used to dry your hands

5) Which of the following chemicals should be used to disinfect tourniquets and items contaminated with blood?
   A. 70 percent isopropyl
   B. 1:10 dilution of chlorine bleach
   C. Hydrogen peroxide
   D. Iodophors

6) What is the proper way to dispose of laboratory specimens and contaminated supplies, other than sharps, when following BSI?
   A. double bag and throw in the trash
   B. place in labeled biohazard bags or containers
   C. place in puncture-resistant containers
   D. throw in trash that is to be incinerated
7) The manufacturer must supply a material safety data sheet (MSDS) for:

A. fluid-resistant laboratory coats  
B. most patient medications  
C. isopropyl alcohol  
D. isotonic saline

8) Which of the following is the most important procedure in the prevention of disease transmission in health care institutions?

A. use of personal protection equipment  
B. use of appropriate waste disposal practices  
C. hand washing  
D. reporting personal illnesses to supervisor

9) The two organizations responsible for the latest Guideline for Isolation Precautions in Hospitals are the:

A. Centers for Disease Control and Prevention (CDC) and Hospital Infection Control Practices Advisory Committee (HICPAC)  
B. Centers for Disease Control and Prevention (CDC) and Occupational Safety and Health Administration (OSHA)  
C. Hospital Infection Control Practices Advisory Committee (HICPAC) and National Institute for Occupational Safety and Health (NIOSH)  
D. National Institute for Occupational Safety and Health (NIOSH) and Joint Commission on Accreditation of Healthcare Organizations (JCAHO)

10) Which of the following is proper neonatal ICU blood drawing procedure?
A. keep your blood drawing tray as close to the isolette as possible
B. never awaken an infant to draw blood
C. use povidone-iodine to clean a skin puncture site
D. wear mask, gown, and gloves

11) Under the new CDC isolation guidelines, the old categories of isolation and disease-specific precautions have been collapsed into three sets of precautions that include:

A. airborne, droplet, and contact
B. airborne, respiratory, and contact
C. enteric, contact, and respiratory
D. complete, droplet, and airborne

12) Gloves are worn to:

A. prevent contamination of hands when handling blood or body fluids
B. reduce the chance of transmitting microorganisms on the hands of personnel to patients during invasive procedures
C. minimize the possibility of transmitting infectious microorganisms from one patient to another
D. all of the above

13) A person who has recovered from a particular virus and has developed antibodies against a particular virus is said to be:

A. a carrier
B. immune
C. infectious
D. susceptible
14) All of the following are proper laboratory safety procedures EXCEPT:

A. secure long hair away from the face  
B. never eat, drink, or apply makeup in the laboratory  
C. wear closed-toe shoes  
D. wear your laboratory coat at all times

15) Which of the following is not an example of possible “parenteral” means of transmission?

A. drinking contaminated water  
B. getting stuck by a needle used on a patient with AIDS  
C. rubbing the eye with a contaminated hand  
D. touching infectious material with chapped hands

16) A factor that increases a host’s susceptibility in the chain of infection is:

A. drug use  
B. an immunization  
C. use of disposable equipment  
D. proper nutrition

17) The “right to know” law primarily deals with

A. electrical safety  
B. first aid procedures  
C. hazardous materials information  
D. universal precautions

18) All of the following can be transmitted through blood transfusion EXCEPT:

A. diabetes mellitus
B. hepatitis B virus (HBV)
C. human immunodeficiency virus (HIV)
D. syphilis

19) What precautions are to be used for a patient who has an enteric pathogen?

A. airborne
B. contact
C. droplet
D. standard

20) What is the proper order for putting on protective clothing?

A. gloves first, then gown, mask last
B. gown first, then gloves, mask last
C. gown first, then mask, gloves last
D. mask first, then gown, gloves last

21) What should the phlebotomist do if the outside of a patient specimen tube has blood on it?

A. discard it after pouring the contents into a clean tube
B. discard it in the patient’s room and draw a new tube
C. place a biohazard label on it
D. wipe it with disinfectant

22) All of the following are required parts of an exposure control plan EXCEPT:

A. an exposure determination
B. communication of hazards
C. isolation guidelines
D. methods of implementation
23) The most frequently occurring laboratory-acquired infection is:

A. hepatitis A virus (HAV)
B. hepatitis B virus (HBV)
C. human immunodeficiency virus (HIV)
D. tuberculosis (TB)

24) Which of the following involves possible exposure to bloodborne pathogens by a “percutaneous” exposure route?

A. getting stuck with a contaminated needle
B. handling blood specimens with ungloved, badly chapped hands
C. ingesting infectious material
D. mucous membrane contact with infectious material

25) Which of the following is not a component that makes up the chain of infection?

A. mode of transmission
B. source
C. mode of transportation
D. susceptible host

PROFESSIONAL ETHICS

1) A patient is told that she must remain still during blood collection or she will be restrained. Which tort is involved in this example?

A. assault
B. battery
C. fraud
D. malpractice

2) When a health care provider gives aid at an accident, he or she is usually protected through:

A. informed consent
B. implied consent
C. CPR Law
D. rightful action consent

3) The definition of a minor is anyone:

A. younger than 18 years of age
B. younger than 21 years of age
C. who has not reached the age of majority
D. who is not self-supporting

4) Which of the following is an example of a confirming response to a patient?

A. “I do not know what you mean”
B. “I have no idea how long it will take”
C. “I understand how you must be feeling”
D. “I’m on a tight schedule right now”

5) Before a patient’s laboratory test results can legally be released, the patient must:

A. express verbal permission
B. tell his or her physician that it is okay
C. provide written consent
D. provide his or her lawyer’s consent

6) All of the following are examples of negligence EXCEPT:

A. The phlebotomist does not return a bedrail to the upright position
B. The phlebotomist forgets to put a needle in the sharps container
C. The phlebotomist fails to report significant changes in a patient’s condition
D. The phlebotomist fails to obtain a specimen from a combative patient

7) The best way to handle a difficult or “bad” patient is:

A. help the patient to feel in control of the situation
B. refuse to collect a specimen from him or her
C. speak sharply to the patient to show that you are in control of the situation
D. threaten to report the patient to his or her doctor

8) If a physician orders laboratory tests for diagnosis and the patient comes to the laboratory with a rolled-up sleeve, he or she is giving:

A. implied consent
B. informed consent
C. rightful action consent
D. preventive consent

9) Which of the following situations allows the patient to feel in control?

A. agreeing with the patient that it is his right to refuse to have a blood specimen drawn
B. informing the patient that you are going to draw a blood sample
C. insisting that the patient cooperate and let you draw blood
D. telling the patient not to eat or drink anything during a test
10) Unauthorized release of confidential patient information is called:

A. assault  
B. invasion of privacy  
C. negligence  
D. violation of informed consent

11) Which of the following is not part of communicating a professional appearance:

A. a clean pressed laboratory coat  
B. long hair pulled back  
C. short clean fingernails  
D. wearing strong cologne

12) All of the following are ways to avoid malpractice litigation except:

A. regularly participating in continuing education programs  
B. reporting incidents within 48 hours  
C. properly handling all confidential communications without violation  
D. obtaining consent for collection of specimens

13) Which of the following examples is a good way to earn a patient’s trust?

A. act knowledgeable  
B. convey sincerity  
C. look professional  
D. all of the above

14) A patient agrees to undergo treatment after the method, risks, and consequences are explained to him. This is an example of:
A. implied consent  
B. informed consent  
C. Respondeat superior  
D. Standard of care

15) Which of the following is not proper telephone protocol?

A. answer the phone promptly  
B. clarify and record information  
C. hang up on angry callers  
D. prioritize callers, if necessary