

Objective Questions

10-3-20

Brittnay Overlock

Lab 2 phlebotomy

1. Describe how to properly remove serum from a clot tube.

Answer: When removing serum, you need to make sure your tube is filled enough, you will be centrifuging this down and to do this you need to have a tube with the same amount of water across from the tube in the centrifuge so this is even when spinning. Once this is spun down you will need a pipet, you will tilt your tube and use the pipet to remove the separated serum and place it into a collection tube.

2. Why should you wipe away the first drop of blood when performing a capillary puncture?

Answer: When performing a capillary puncture you need to wipe the first drop of blood because it wipes away the tissue fluids and other bacteria from the finger, wiping this away means that you are preventing a test from being wrong.

3. Capillary punctures are also done for point-of-care testing. Give an example of two POC tests that use capillary samples.

Answer: Two point of care tests that are done using a capillary puncture would be a glucose level and a hemoglobin A1c. These are considered point of care tests because they do not require a lot of blood for testing.

4. Infant heelstick samples are used for newborn screening tests known as a(n).

Answer: The test that is done on infants using a heelstick is called the newborn's genetic disease blood test. This test is for many things. This is close to painless for a child and the easiest way to obtain blood on a newborn.

5. List the four most common problems that occur with a venipuncture.

Answer: The 4 most common problems that occur with a venipuncture are hemolysis, not obtaining enough blood, hematoma, miss labeled and miss used tubes.

6. Why is blind probing NOT recommended as a phlebotomy technique?

Answer: You should never blind probe or fish for a vein, this could cause nerve damage or even a hematoma, probing causes pain for the patient and can also cause bruising.

7. Why are WBC counts performed on a patient sample?

Answer: The WBC count is performed so that I can help to determine if a patient has a possible infection, it can also determine if a patient has a diagnosis of leukemia.

8. Describe a differential and why it is performed on patient samples.

Answer: The differential that is performed on a patient is a percentage of each type of WBC. This is also done to help reveal abnormal WBC population.

9. What is a normal platelet count for a healthy person.

Answer: The normal platelet count for a healthy person is 150,000 to 400,000 platelets per microliter or 150 to 400×10^9 /l

10. Why is blood typing not a CLIA-waived test.

Answer: Blood typing is not a CLIA - Waived test because there is room for too many errors and if done wrong you could potentially harm a patient by giving the person the wrong blood.

11. What is the most frequently tested chemical analyte in the blood.

Answer: The most frequently tested chemical analyte in the blood is the serum. This is done by configuration or coagulated blood. The serum contains no blood cells or clotting factors.

12. What factors affect a person's cholesterol level.

Answer: A person's cholesterol level can be affected by lack of exercise, smoking, age, diabetes, or even being obese. There are many more factors that can contribute to this.

13. What two liver enzymes are indicators of liver damage.

Answer: The 2 liver enzymes that are indicators of liver damage are, AST and ALT. AST is the aspartate aminotransferase. This is normally found in the RBC, liver, heart, and muscle tissues. ALT is alanine transaminase and this is an enzyme that is in the liver.

14. What two hormones produced by the thyroid gland affect body metabolism.

Answer: The two hormones produced by the thyroid gland are the T3 and T4. T3 is the triiodothyronine. The T4 hormone is thyroxine.

15. Describe a chemistry panel.

Answer: The chemistry panel is a group of tests that are routinely ordered to help determine a person's general health. See list below of what is included in a chemistry panel.

- **Glucose** - the primary energy source for the body's cells; a steady supply must be available for use, and a relatively stable level of glucose must be maintained in the blood.
- **Calcium** - one of the most important minerals in the body; it is essential for the proper functioning of muscles, nerves, and the heart and is required in blood clotting and in the formation of bones.

Proteins

- **Albumin** - a small protein made by the liver; it makes up about 60% of the total protein in the blood.
- **Total Protein** - measures albumin as well as all other proteins in blood; proteins are important building blocks of all cells and tissues and are essential for body growth, development, and health.

Electrolytes—these are minerals found in body tissues and blood in the form of dissolved salts. Electrolytes help move nutrients into the body's cells and help remove wastes out of the cells. They help maintain a healthy water balance and help stabilize the body's acid-base (pH) level. The following 4 tests are commonly called electrolytes:

- [Sodium](#) - vital to normal body function, including nerve and muscle function
- [Potassium](#) - vital to cell metabolism and muscle function, helping to transmit messages between nerves and muscles
- [Bicarbonate \(Total CO₂\)](#) - helps to maintain the body's [acid-base balance](#) (pH)
- [Chloride](#) - helps to regulate the amount of fluid in the body and maintain the acid-base balance

Kidney Tests

- [Blood urea nitrogen \(BUN\)](#) - waste product filtered out of the blood by the kidneys; as kidney function decreases, the BUN level rises.
- [Creatinine](#) - waste product produced in the muscles; it is filtered out of the blood by the kidneys so blood levels are a good indication of how well the kidneys are working.

Liver Tests

- [Alkaline phosphatase \(ALP\)](#) - enzyme found in bone, the liver, and other tissues; elevated levels of ALP in the blood are most commonly caused by [liver disease](#) or bone disorders.
 - [Alanine amino transferase \(ALT, SGPT\)](#) - enzyme found mostly in the cells of the liver and kidney; a useful test for detecting liver damage
 - [Aspartate amino transferase \(AST, SGOT\)](#) - enzyme found especially in cells in the heart and liver; also a useful test for detecting liver damage
 - [Bilirubin](#) - an orange-yellow pigment, a waste product primarily produced by the normal breakdown of heme; heme is a component of [hemoglobin](#), which is found in red blood cells (RBCs). Bilirubin is ultimately processed by the liver so that it can be removed from the body.
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- <https://labtestsonline.org/tests/comprehensive-metabolic-panel-cmp>