

MA112 Lab 2
Critical Thinking Questions
Week 4

Name: Caitlyn Matthews

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1. Why are red blood cells biconcave?

Red blood cells are biconcave because, it allows them to easily move through our body's veins and arteries. Red blood cells are also shaped like disks which helps optimize the cells surface area to volume as well as gas exchange.

2. Why is a WBC differential so important when making differential diagnoses?

White blood cell differential is important when making differential diagnoses because, WBC counts measures how many WBCs are in our blood. A WBC differential tells us the percentage of each type of WBC that we have in our body. It can determine if a cell is mature enough, or if there are abnormalities.

3. Why are patients who have relatively normal hemoglobin, but a low hematocrit given packed cells rather than whole blood?

If a hematocrit level is low it could indicate that the patient doesn't have enough healthy red blood cells in the body so therefore giving a patient more packed blood cells will add healthy cells to the body with more oxygen to help oxygenate the blood keeping blood healthier.

(I really wasn't sure on this one because everything I read talked about both levels being low or high but not if one is off)

4. What are the essential features of blood cells used in the differentiation of the cells?

The essential features of a blood cell that are used when differentiation of the cells is the shape, the size and if the cell has a nucleus as well as the appearance of the cytoplasm.

5. What is the normal shape of a red blood cell? A white blood cell?

A RBC is disk shaped and a WBC can be many shapes it also has a peanut looking nucleus.

6. Why are capillary punctures used to obtain a blood specimen from geriatric patients?

A capillary puncture can be used to collect a blood specimen from a geriatric patient when a lot of blood is not needed. It is often used on geriatric because their veins are fragile and can be easily collapsed or blown and because it can be more painful to them as their skin is sometimes very thin.

7. Where is the primary site for the production of erythrocytes, granulocytes, and platelets?

Erythrocytes, granulocytes, and platelets are produced in our bodies bone marrow.