

PathMD™: Board Review Letter

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Blood Bank - Part 3

Volume 1, Number 24

1. A Rh negative mother gives birth to a Rh positive son. Based on the information shown for case #1 on the website, how many vials of Rhogam should be given?

D. 6 vials

Answer: D. In this case, Kleihauer-Betke test showed 3% fetal cells in the maternal circulation. The easiest way to calculate the number of RhoGAM files is to take the percentage of fetal cells in the maternal circulation and multiply that by 5/3. This number is then rounded, and one RhoGAM vial is added as a safety factor. (Chaffin, Part III, page 10)

2. What is the maximum systolic blood pressure allowed to donate blood:

C. 180mm Hg

Answer: C. 180mm Hg systolic or 100mm Hg diastolic blood pressure is the maximum allowed. *Test taking strategy.* Unfortunately, there are just some numbers you have to memorize. Don't mess up and misread the question and answer E, which would be correct if they were asking about the maximum diastolic blood pressure. (Chaffin, Part IV, page 3)

3. How long does a donor have to wait between whole blood donations:

C. 8 weeks

Answer: C. Basically 2 months.

4. A donor should be deferred indefinitely for all of the following EXCEPT:

B. Receipt of plasma derived clotting factor concentrates

Answer: B. According to the 2004 AABB standards, receipt of plasma derived clotting factor concentrates are deferred for 12 months. Everything else listed is indefinitely deferred.

5. A donor indicates he is taking finasteride (Propecia, Proscar). He is informed that he will have to wait one month from the last dose before he can donate blood. Which of the following also requires a one month delay from the last dose before an individual is eligible to donate blood?

D. Isotretinoin (Accutane)

Answer: D. Accutane has to have been stopped for at least one month before and individual can donate blood. Etretnate (Tegison) and bovine thrombin manufactured in UK are both indefinite deferrals. Donors receiving toxoids or killed vaccines do not have to be deferred. Live attenuated vaccines are either 2 or 4 week deferrals (4 wks. for rubella and chicken pox). (Chaffin, Part IV, page 3)

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6. All of the following are true with respect to anticoagulant / preservative solutions and storage in packed red cells EXCEPT:

D. Frozen RBCs can be stored for 1 year at -65 C.

Answer: D. Frozen RBCs can be stored for 10 years at -65 C. (Chaffin, Part I, page 2)

7. Blood is regulated by which of the following:

C. Food and Drug Administration (FDA)

Answer: C. While the AABB and CAP contribute many regulations to the blood banking area of the lab, the FDA is responsible for regulation of blood products.

8. All of the following are true with regards to quality control for blood products EXCEPT:

A. Apheresis platelets $\geq 3 \times 10^{10}$ platelets in 90% of tested units

Answer: A. Apheresis platelets must have $\geq 3.0 \times 10^{11}$ platelets in 90% of tested units. (Chaffin, Part I, page 8)

9. In a patient who is not actively bleeding or hemolyzing, one unit of pRBCs can be expected to raise the hematocrit:

B. 3 %

Answer: B. One unit of pRBCs can be expected to raise the hematocrit 3% or the hemoglobin 1 g/dL.

10. Blood can be transfused with which of the following:

D. Both A and C are correct

Answer: D. Blood can be transfused with normal saline (0.9%), ABO compatible plasma, or 5% albumin. Lactated ringers is contraindicated because of the calcium content, which might overcome the anticoagulant in the blood. Other solutions (0.45% saline, TPN, etc.) are either hyotonic or hypertonic, which will damage or rupture the RBCs. The solutions must be isotonic to prevent an osmotic pressure gradient and lysis of the red cells.

Reference:

The Osler Institute: Blood Bank. Chaffin, DJ. 2004.

Notes for question set:¹

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