

**DukeMedicine****Division of Cellular Therapy****DOCUMENT NUMBER:** ABMT-COLL-002 FRM3**DOCUMENT TITLE:**

Apheresis Test FRM3

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ABMT-COLL-002 FRM3 APHERESIS TEST

Name:	Year:
<p>Directions: Circle the correct answer to each question on the answer sheet. A score of 100% must be achieved. You may use any Terumo BCT booklet to assist with this test. If score is less than 100% is resulted, a re-education session will be provided by the Apheresis Coordinator/designee in accordance with the Nurse Manager.</p>	

1. During the collection procedure, which pump flow rate does the Automated Interface Management (AIM) system adjust to control the concentration of cells in the collect port?
 - a. AC Pump
 - b. Plasma Pump
 - c. Return Pump
 - d. Collect Pump

2. True or False? Citrate works by binding with free calcium which is a necessary component in blood clot formation.

TRUE FALSE

3. During the collection procedure, the operator may set the system to collect shallow or deep into the buffy coat. What is this setting called?
 - a. Accumulation depth
 - b. Accumulation preference
 - c. Collection depth
 - d. Collection preference

4. True or False? The hallmark of a vasovagal reaction is hypertension with a fast faint pulse.

TRUE FALSE

5. If a patient complains of numbness and tingling in their hands and mouth during apheresis and a **mild** citrate reaction is suspected the first action should be:
 - a. change the whole blood to ACD ratio
 - b. decrease the whole blood flow rate to 30cc/min
 - c. instruct the patient to tell you if symptoms worsen and administer two TUMS and/or calcium gluconate 2-4 Gm IV per protocol
 - d. pause the machine and give a saline bolus

6. True or False? The AIM system functions during the collection procedure to establish the interface and to control the concentration of cells in the collect port to the targeted collection preference.

TRUE FALSE

7. If citrate toxicity symptoms are **severe** (entire body feels like it is vibrating) and calcium gluconate is infusing at 75 cc/hr., you would then:
 - a. change the whole blood to ACD ratio
 - b. increase the whole blood flow rate and increase the rate of calcium infusion
 - c. pause the machine and give a saline bolus for a few minutes until symptoms diminish, then switch to Heparin Protocol if platelet count is >50K
 - d. stop the procedure and contact the MD/extender
8. If a patient becomes hypotensive (with symptoms) during leukapheresis, treatment should consist of:
 - a. pausing the machine
 - b. opening the access and return saline lines and squeeze the saline bag to give a saline bolus
 - c. placing the patient in the Trendelenberg position and notify the clinic attending MD
 - d. all of the above
9. You have an order to collect 20 million cells/kg from your **Allogenic Donor**. You have collected 6 million CD-34s/kg on day #1 . The donor's platelet count is 60K today and the CD-34 count is still good at 79. Dr. Rozozo tells you to transfuse platelets and put the donor on the machine. The donor has agreed to transfusion. Your response would be:
 - a. inform Dr. Rozozo that we do not transfuse donors. Ask if he would like to continue Neupogen and bring the donor back the next day for a platelet check and possible collection
 - b. inform Dr. Rozozo that transfusion is not necessary because we will drop the platelet count 50% and 30K is still an acceptable range
 - c. obtain a consent for transfusion and order platelets
 - d. put the donor on the machine and draw platelet counts every 30 minutes and stop pheresis when the platelet count reaches 30K
10. Select one of the patient data details that are entered for a CMNC collection procedure.
 - a. Hematocrit
 - b. Platelet count
 - c. Age
 - d. White blood cell count
11. True or False? Fluid overload might be suspected if your patient starts coughing while on the machine.

TRUE FALSE
12. True or False? It is perfectly OK to give NMDP donors neupogen on day #6 from our Duke pharmacy.

TRUE FALSE

13. JR just flew in from California to donate DLIs for his brother. The Infectious Disease Tests were drawn the morning of apheresis and the results will not be back before the cells are infused the next day. The original stem cell donation was >30 days ago. The correct procedure to follow is:
 - a. no special steps are needed since the donor has already donated stem cells and the original testing was negative
 - b. complete Sections B and C on the back of the Summary of Eligibility Form and complete the Emergency/Exceptional Release.
 - c. remind the clinic attending that he must obtain consent from the recipient prior to reinfusion of the cells since the infectious disease tests will not be back. Have the Emergency/Exceptional Release form signed by the clinic attending MD and our Quality compliance officer
 - d. b and c
14. On the collection preference trend graph, the black line represents:
 - a. The target collection preference
 - b. The concentration of the cells at the collect port
 - c. Current total of plasma running through the channel
 - d. The target AC infusion rate
15. After experiencing repeated Return Line High Pressure alarms you would check:
 - a. that the blue pinch clamp on the return line is open
 - b. that the red access line pinch clamp is closed
 - c. that the blue return line Hickman catheter clamp is open
 - d. a and c
16. If a large amount of blood has been pumped into the saline bag and the bag looks like it is almost ready to explode you would:
 - a. close the return line roller clamp and continue with the collection
 - b. make sure that the access line saline roller clamp is closed
 - c. pause the machine and quickly don your protective gown and mask (It's gonna blow!)
 - d. pause the machine, open access and return saline roller clamp, take vitals and infuse most of the bag of saline and red blood cells through the return and inlet saline line
17. True or False? Platelet clumping during a run is easy to predict since it occurs at a specific platelet count.

TRUE FALSE
18. True or False? The collection preference controls the concentration of cells following through the collect port.

TRUE FALSE
19. True or False? The patient's blood is continuously pumped through the set.

TRUE FALSE

20. When transfusing RBCs or platelets during leukapheresis you should:
- turn off the calcium infusion since calcium can reverse anticoagulation and cause clotting in the IV tubing and central line catheter
 - lower the whole blood flow rate if citrate symptoms arise
 - monitor the patient closely for citrate toxicity since RBCs and platelets contain citrate
 - all of the above
21. Normal donor teaching should include expected side effects of apheresis such as fatigue and
- lowered platelet count (approximately 50% reduction with a 6 hour collection)
 - high fevers and rigors following apheresis
 - high blood pressure
 - red, itchy rash over abdomen
22. True or False? Mozobil (Plerixafor) patient teaching should include: this drug releases stem cells from the bone marrow into the bloodstream by disrupting a bond that normally keeps the stem cells anchored to the bone marrow.
- TRUE FALSE
23. Safe extracorporeal volume for an average size adult during an apheresis procedure is _____ % of the patient's whole blood volume:
- 5%
 - 8%
 - 15%
 - depends on patient's hematocrit
24. TRUE or FALSE? It is OK for patients or donors to have a beer while taking Neupogen:
- TRUE FALSE
25. If a patient has a temperature of 38.° C you would **initially**:
- start the apheresis, give Tylenol with MD order and notify the lab
 - draw blood and fungal cultures and proceed with apheresis
 - notify Clinic MD, have patient examined and draw cultures as ordered
 - notify nurse clinician so that apheresis can be rescheduled

ABMT-COLL-002 FRM3 APHERESIS TEST ANSWER SHEET

Name:	Date:
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|---|---|
| <p>1. a b b d</p> <p>2. TRUE FALSE</p> <p>3. a b b d</p> <p>4. TRUE FALSE</p> <p>5. a b c d</p> <p>6. TRUE FALSE</p> <p>7. a b c d</p> <p>8. a b c d</p> <p>9. a b c d</p> <p>10. a b c d</p> <p>11. TRUE FALSE</p> <p>12. TRUE FALSE</p> <p>13. a b c d</p> <p>14. a b c d</p> <p>15. a b c d</p> <p>16. a b c d</p> <p>17. TRUE FALSE</p> | <p>18. TRUE FALSE</p> <p>19. TRUE FALSE</p> <p>20. a b c d</p> <p>21. a b c d</p> <p>22. TRUE FALSE</p> <p>23. a b c d</p> <p>24. TRUE FALSE</p> <p>25. a b c d</p> |
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All dates and times are in Eastern Time.

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