**DOCUMENT NUMBER:** ABMT-COLL-002 FRM3

**DOCUMENT TITLE:**
Apheresis Test FRM3

**DOCUMENT NOTES:**

### Document Information

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### Date Information

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<th>31 Jul 2017</th>
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### Control Information

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<th>DRAGO001</th>
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# ABMT-COLL-002 FRM3
## Apheresis Test

### Directions:
Circle the correct answer to each question on the answer sheet. A score of 80% must be achieved.

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1. Citrate works by chelating or binding free calcium which is a necessary component in blood clot formation.
   - TRUE
   - FALSE

2. The hallmark of a vasovagal reaction is hypotension with a rapid faint pulse.
   - TRUE
   - FALSE

3. A Multiple Myeloma patient arrives for stem cell collection 13 days post Cytoxan chemo therapy with the following counts: WBC = 25, CD-34 = 45 and platelet count 2,000. You would:
   a. start apheresis and order platelets
   b. Contact the MD/extender with results and ask if a HIT panel is needed
   c. transfuse platelets and check post platelet count prior to starting apheresis
   d. b and c

4. If a patient complains of numbness and tingling in their hands and mouth during leukopheresis 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

5. If citrate toxicity symptoms worsen (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
   d. switch to Heparin Protocol if platelet count is >50K
6. 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

7. You have an order to collect 20 million cells/kg from your **allo 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. Tell 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. Tell 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

8. Fluid overload might be suspected if your patient starts coughing while on the machine.
   TRUE     FALSE

9. It is perfectly OK to give NMDP donors neupogen on day #6 from our Duke pharmacy.
   TRUE     FALSE

10. 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
11. 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

12. If blood is being pumped into the saline bag on Optia, you should immediately take the following action(s):
   a. press PAUSE until you can troubleshoot the problem after flushing the access line
   b. open the access line saline roller clamp and change the saline bag
   c. close the return line saline roller clamp
   d. a and c

13. 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

14. When transfusing RBCs or platelets during leukapheresis you should:
   a. turn off the calcium infusion since calcium can reverse anticoagulation and cause clotting in the IV tubing and central line catheter
   b. lower the whole blood flow rate to 40cc/min. if citrate symptoms arise
   c. monitor the patient closely for citrate toxicity since RBCs and platelets contain citrate
   d. all of the above

15. Normal donor teaching should include expected side effects of apheresis such as fatigue and
   a. lowered platelet count (approximately 50% reduction with a 6 hour collection)
   b. high fevers and rigors following apheresis
   c. high blood pressure
   d. red, itchy rash over abdomen

16. Mozobil (Plerixafor, AMD) 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
17. Safe extracorporeal volume for an average size adult during an apheresis procedure is ______% of the patient's whole blood volume:
   a. 5%
   b. 8%
   c. 15%
   d. depends on patient's hematocrit

18. On day #1 of a 6 hour leukopheresis your patient has a WBC of 75,000 and pre-pheresis CD-34 = 60. The CD-34 final bag count was 1.2. You would:
   a. use a different machine and hang an Out of Service Form on the machine used on day #1
   b. strongly suspect Recirculation of the Hickman catheter and start an IV or send the patient to Vascular Radiology for assessment of the catheter after consulting with the Clinic attending MD
   c. wait and see what yields are on the second day of collection and suggest bone marrow harvest to the attending MD
   d. a and b

19. It is OK for patients or donors to have a beer while taking Neupogen:

   TRUE            FALSE

20. If a patient has a temperature of 38.9°C you would initially:
   a. start the apheresis, give Tylenol with MD order and notify the lab
   b. draw blood and fungal cultures and proceed with apheresis
   c. notify Clinic MD, have patient examined and draw cultures as ordered
   d. notify nurse clinician so that apheresis can be rescheduled

21. You have reconnect your patient following a bathroom break and you get the following alarm on Optia: You have entered an incorrect hematocrit. You would first
   a. check the interface through the view window
   b. check the inlet red roller clamp to make sure that it is closed
   c. check the patient data to confirm the Hct
   d. lower the hemocrit 2 points

22. You find that your return line has been disconnected from the blood warmer tubing and there is a large pool of blood on the floor. You would:
   a. quickly reconnect and continue the collection
   b. pause the machine and clamp the return line and patient blue lumen
   c. take vitals and estimate the blood loss plus the extracorporeal volume
   d. b and c

Revised: 06/17  S. Drago, RN
ABMT-COLL-002 FRM3
APHERESIS TEST ANSWER SHEET

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<tr>
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<tr>
<td>Directions: Circle the correct answer to each question on the answer sheet. A score of 80% must be achieved.</td>
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| 1. | TRUE | FALSE |
| 2. | TRUE | FALSE |
| 3. | a | b | b | d |
| 4. | a | b | c | d |
| 5. | a | b | c | d |
| 6. | a | b | c | d |
| 7. | a | b | c | d |
| 8. | TRUE | FALSE |
| 9. | TRUE | FALSE |
| 10. | a | b | c | d |
| 11. | a | b | c | d |
| 12. | a | b | c | d |
| 13. | a | b | c | d |
| 14. | a | b | c | d |
| 15. | a | b | c | d |
| 16. | TRUE | FALSE |
| 17. | a | b | c | d |

Score: Pass  Fail

Pass = >80%
# Signature Manifest

**Document Number:** ADMT-COLL-002 FRM3  
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**Title:** Apheresis Test FRM3

All dates and times are in Eastern Time.

## ABMT-COLL-002 FRM3 Apheresis Test

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<tr>
<td>Susan Drago (DRAGO001)</td>
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### Management

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### Medical Director

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<td>Nelson Chao (CHAO002)</td>
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<td>John Carpenter (JPC27)</td>
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