TRAINING UPDATE

Lab Location:	SGMC	**Date Implemented:**	6.10.2016
Department:	Blood Bank	**Due Date:**	6.30.2016

DESCRIPTION OF PROCEDURE REVISION

Name of procedure:

Platelet Aliquot Preparation

Description of change(s):

1. Changed extra volume for tubing from 5mL to 10mL to accommodate the new administration tubing.
2. Removed references to making a platelet aliquot in a syringe, since we only use bags.
3. Removed the requirement to give an administration set at issue AND to calculate the post aliquot volume of parent unit.

Electronic Document Control System

Document No.: SGAH.BB108[4]
Title: Platelet Aliquot Preparation
Owner: LESLIE BARRETT
Status INWORKS
Effective Date: 02-Jul-2016 **Next Review Date:**

Non-Technical SOP

Title	**Platelet Aliquot Preparation**	
Prepared by	Stephanie Codina	Date: 4/24/2011
Owner	Stephanie Codina	Date: 4/24/2011

Laboratory Approval		
Print Name and Title	**Signature**	**Date**
Refer to the electronic signature page for approval and approval dates.		
Local Issue Date:	Local Effective Date:	

Review:		
Print Name	**Signature**	**Date**

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1. PURPOSE

To describe the procedure for making small-volume platelet aliquots from apheresis platelet products. This procedure allows small amounts of a platelet unit to be transfused over the lifespan of the original blood product. This process limits donor exposures and decreases donor-related risks in the recipient while minimizing overall blood product wastage.

2. SCOPE

This procedure applies to small-volume platelet transfusions requested for a neonate or small child. SGMC staff members perform all platelet aliquot procedures for WAH and SGMC.

3. RESPONSIBILITY

All blood bank staff members must be trained and competent in platelet aliquot preparation to ensure the purity, potency, and safety of the aliquotted platelet product.

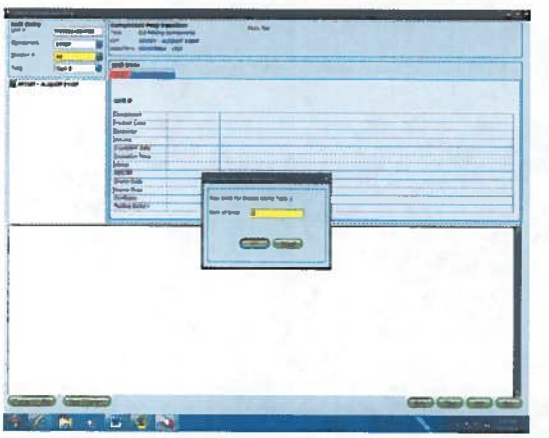
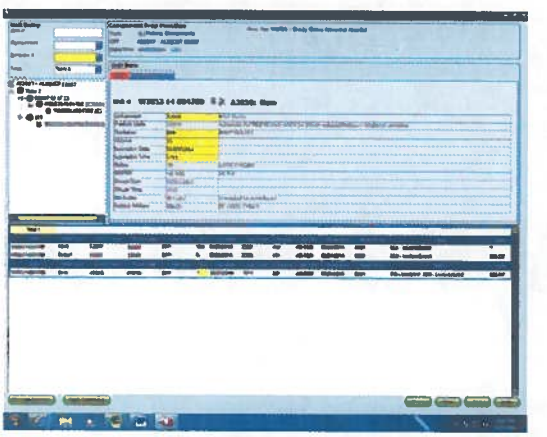
4. DEFINITIONS

N/A

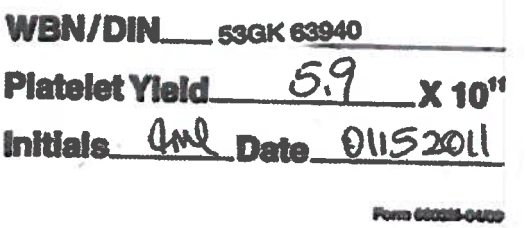
5. PROCEDURE

Step	Action
1	The patient care area will order platelet aliquots using test "TPLTNE." Review the order, special instructions, and volume.
2	Obtain the supplies necessary to aliquot a platelet: A. Transfer pack B. Sterile welding device C. Heat sealer D. Scale E. Hemostats
3	Perform daily QC of the scale if needed.
4	Select a platelet that meets the recipient's transfusion specifications. For neonatal transfusions, the following transfusion requirements should be met: A. Group AB platelets a. When AB platelets are not available, group-specific platelets may be used if an ABO retype has been performed on the recipient b. Volume-reduced platelets must be used if neither group AB or group-specific platelets are available. Refer to procedure, "Volume-Reduced and Saline-Replaced Platelet Products." c. Rh-negative females of child-bearing age (<50 years old) should receive Rh-negative platelets. These patients may receive Rh-positive platelets in emergency situations where Rh-negative platelets are unavailable. i. These patients will require RhIG within 72 hours of transfusion to minimize the potential for D sensitization. A physician's order is needed for RhIG administration. ii. Notify the BB Supervisor or on-call pathologist if the treating physician has questions. B. DO NOT transfuse any platelet product that is visibly contaminated with red cells C. Leukocyte reduced D. CMV-seronegative E. Irradiated

Step	Action
5	Document the following on the "Product Modification Log" A. Tech identification B. Date of modification C. Unit number D. E code of original and new units (or A code if applicable) E. Lot number of bag. F. Wafer lot number
6	Gently mix the primary bag to resuspend the platelets.
7	Connect the transfer bag to the primary platelet per procedure, "Sterile Tubing Welder." **Use aseptic technique for this procedure!**
8	Tare the scale using an empty 150 mL transfer bag.
9	Allow the required amount of blood to flow into the transfer bag via gravity. Include an extra 10 mL of platelets to compensate for the volume that will be lost in the tubing.
10	Clamp the line when an appropriate volume of platelets has been transferred. Seal the line between the hemostat clamps using a tube sealer at least twice. **Do not separate the aliquot from the parent unit at this time.** A. Always ensure the hemostat is clamped between the parent unit and the location in which the tubing will be sealed. B. This will protect the sterility of the unit should the heat seal fail.
11	Access Sunquest function, Blood Component Preparation. Note: Do not branch from blood component preparation from blood order processing.
12	At the "Value" prompt, type the aliquot function that corresponds to the platelet unit to be aliquotted then press the "Tab" key. The aliquot function is A + the E code of the platelet product. Refer to appendix A for additional information.
13	Press the tab key to default the current date and time as the aliquot time. Enter the date and time on which the aliquot was prepared if prepared at an earlier time (such as during computer downtime).
14	Click the continue button.

Step	Action
15	A second "Blood Component Prep" screen will appear. A. At the "Unit #" prompt, scan the unit number DIN of the parent platelet to be aliquotted. B. At the "Component" prompt, scan the product code of the parent platelet to be aliquotted. This will autofill both the product code and division fields.
16	A pop-up screen will appear asking the user to indicate the number of units that will be prepared (ie the number of aliquots being prepared at one time). A. Enter 1 in the field. B. Click the "OK" button. 
17	On the next screen, click on the yellow circle containing the "N" (for new product). Enter the volume of the platelet aliquot being prepared, then press the "Tab" key. 

Step	Action
18	Verify the new expiration dates/times. Document the new expiration date and time on the log. A. The expiration date of the parent unit will not change if a closed system is used. B. The expiration date of the parent unit will change to 24 hours from the time of aliquot if an open system is used (ie the sterile connection failed). If an open system is used, the output blood product codes in appendix A do not apply. See a supervisor for guidance. C. The expiration date of the aliquot will always be 4 hours from the time of preparation, regardless of whether an open or closed system is used.
19	Click the "Save" button.
20	A "Preview Output/New Units" screen will appear. Review the information to ensure accuracy, then click on the "finish" button to generate new labels for the parent and aliquotted products. A. The first time an aliquot is prepared, the system will convert the parent unit to division "AO" and the aliquot to division "BO." B. All subsequent divisions will assign a division code to the aliquot using the division labeling convention of "Aa, Ab, Ac, Ad……Az."
21	Adhere the new labels to BOTH the parent unit and the aliquot. **Ensure you adhere the "AO" label to the parent unit.**
22	After labeling, disconnect the aliquot from the parent unit.
23	Calculate the amount of anticoagulant in both the aliquotted and parent platelet product using the following formula. Document the volume of anticoagulant in the designated are on the label of each product. Ratio = Amount of Anticoagulant in Platelet / Volume of Platelet Volume of anticoagulant in the aliquot = ratio x aliquot volume Volume of anticoagulant in the parent platelet = ratio x remaining volume For example, A platelet label indicates an anticoagulant volume of 32 mL and a total volume of 197 mL. The ratio would be: Ratio = 32 mL ÷ 197 mL = 0.16 Assume the new aliquot is 25 mL. The amount of anticoagulant is: 0.16 x 25 mL = 4 mL of anticoagulant in the aliquot.

Step	Action
24	Document the following on the "Product Modification Log." A. Division of the new product. B. Documentation of the weld inspection.
25	Irradiate the aliquot per procedure. Do not perform the blood component preparation functions for irradiation as the aliquot function automatically performs these steps.
26	Perform label checks on both the parent product and the aliquot in Sunquest per procedure.
27	Allocate the platelet aliquot per procedure.
28	Return the parent product and the aliquot to the platelet rotator for storage. Aliquots should be transfused as soon as possible after preparation.
29	The original, parent platelet product can be issued until expiration as long as the platelet yield remains >3.0 x 10^{11}. A. The platelet yield is often attached to the platelet by tie tag. If the platelet count is not attached to the unit, it can be obtained by calling the blood supplier.  WBN/DIN 53GK 63940 Platelet Yield 5.9 X 10^{11} Initials QML Date 01152011 B. Use the following formula to calculate the platelet count of the unit from which the aliquot was taken: Platelet count x 10^6 = $\frac{\text{Platelet Yield x } 10^{11}}{\text{Original Volume}}$ Yield of new product x 10^{11} = New Volume x Platelet Count x 10^6 For example, A platelet has a platelet yield of 5.9 x 10^{11} and an original volume of 200mL. A 50 mL aliquot was removed from the parent unit leaving a new volume of 150mL. The platelet yield of the product is: (5.9 x 10^{11}) ÷ 200mL = 2950 x 10^6 platelet count (2950 x 10^6) x 150mL = platelet yield of 4.4 x 10^{11}

Form revised 3/31/00

6. RELATED DOCUMENTS

SOP: Volume-Reduced and Saline-Replaced Platelet Products
SOP: Sterile Tubing Welder
SOP: Blood Component Irradiation
Form: Product Modification Log (AG.F01)
SOP: Scale Quality Control
SOP: Blood Label Check

7. REFERENCES

1. Fung, MK, Grossman, BJ,Hillyer, CD, and Westhoff, CM. 2015. Technical Manual of the AABB, 18th ed. AABB Publishing, Bethesda, Maryland.
2. Standards for Blood Banks and Transfusion Services, 2016. AABB, 20th ed. AABB Publishing, Bethesda, Maryland.

8. REVISION HISTORY

Version	Date	Reason for Revision	Revised By	Approved By
		Supersedes SGAH B407.003		
000	11.6.12	Section 5: Updated procedure to require placing 2 hemostat clamps (1 near each bag) and seal in between clamps; added second check of unit CMV status	SCodina	NCacciabeve
001	5.8.13	Section 5: Added ISBT-128 Information Section 9: Added appendix B	SCodina	NCacciabeve
002	5.27.14	Section 5: Removed references to codabar-labeled units. Updated LIS instructions to include the Sunquest v6.4 upgrade. Moved appendix for blood component preparation in the LIS to the procedure. Section 9: Re-numbered appendix Footer: version # leading zero's dropped due to new EDCS in use as of 10/7/13.	SCodina	NCacciabeve
3	6.1.16	Section 5: Changed dead space for tubing from 5mL to 10mL due to new tubing. Removed references to syringe. Removed requirement to give transfusion set at issue. Removed requirement to calculate post-aliquot volume (LIS calculates). Section 7: Updated references.	SCodina	NCacciabeve

9. ADDENDA AND APPENDICES

Appendix A: Platelet Aliquot Blood Component Prep Functions

Appendix A
Platelet Aliquot Blood Component Prep Functions

Platelet Aliquot Products

Original Product Code	Component Prep Function	Final Product Code
E3077	AE3077	A3046
E3087	AE3087	A3056
E3088	AE3088	A3057
E3089	AE3089	A3058
E4643	AE4643	A4647
E4644	AE4644	A4648