TRAINING UPDATE

Lab Location:	SGAH	**Date Implemented:**	5.16.2013
Department:	Blood Bank	**Due Date:**	5.20.2013

DESCRIPTION OF PROCEDURE REVISION

Name of procedure:
Platelet Aliquot Preparation
Description of change(s):
• Updated SOP to include ISBT-128 instructions. • Added summary of process above procedure in SOP. • Blood component prep code for all aliquoted products will be "A" plus the E code. For example, if you aliquot product E3077, your BCP code will be AE3077. • We must print new blood product labels for aliquotted products using the HemaTrax system (training in progress). • Sunquest v6.3 CANNOT recognize the division letter for an aliquotted ISBT-128 product, so we will print the slash number label from Sunquest and apply it to the ISBT label for all aliquotted products.

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**

Form revised 3/31/00

TABLE OF CONTENTS

1. PURPOSE 2
2. SCOPE 2
3. RESPONSIBILITY 2
4. DEFINITIONS 2
5. PROCEDURE 2
6. RELATED DOCUMENTS 7
7. REFERENCES 9
8. REVISION HISTORY 9
9. ADDENDA AND APPENDICES 9

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 platelet transfusion requested for a neonate or small child. SGAH staff members perform all platelet aliquot procedures for WAH and SGAH.

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

Summary of the steps that will be performed for this procedure:

A. Physically prepare the aliquot unit
B. BCP the aliquot in the LIS to generate a slash unit.
C. Determine the volume of platelets and anticoagulant in the aliquot.
D. Generate a HemaTrax label for the new product using the aliquot division letter.
E. Irradiate the aliquot.
F. Allocate/Issue the unit using the slash unit number.

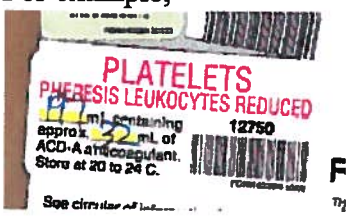
Form revised 3/31/00

Step	Action
1	Obtain the supplies necessary to aliquot a platelet: A. Transfer pack B. Sterile welding device C. Heat sealer D. Scale E. Hemostats F. Labels
2	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
3	Tighten all connections. The hub connection nearest the syringe has disconnected on rare occasions. **Use aseptic technique for this procedure!**
4	Document the following on the "Product Modification Log" A. Tech identification B. Date of modification C. Unit number of original unit D. Product or E code of original unit E. Lot number of bag F. Wafer lot number

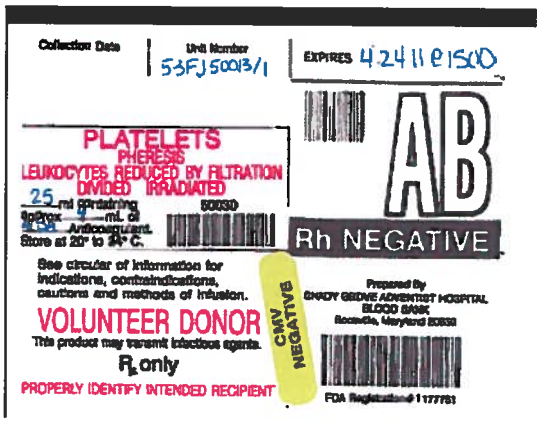
Form revised 3/31/00

Step	Action
5	Gently mix the primary bag to resuspend the platelets.
6	Connect the transfer bag to the primary platelet per procedure, "Sterile Tubing Welder."
7	Prepare the scale for use. Refer to procedure, "Scale Quality Control." Tare the scale using an empty 150 mL transfer bag.
8	Allow the required amount of blood to flow into the transfer bag via gravity. Include an extra 5 mL of platelets to compensate for the volume that will be lost in the tubing.
9	Clamp the line when an appropriate volume of platelets has been transferred by placing a hemostat between the seal location and the port of EACH bag. Seal the line between the hemostat clamps using a tube sealer at least twice. 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.
10	Calculate the volume of platelets remaining in the parent product (original bag) using the formula: Original volume – aliquotted volume = new volume
11	Change the volume of the parent product. A. Place a single line through the original volume. B. Write the new volume on the label. C. Initial the change.
12	Calculate the amount of anticoagulant in both the aliquoted and parent platelet product using the formulas: $\text{Ratio} = \frac{\text{Amount of Anticoagulant in Platelet}}{\text{Volume of Platelet}}$ Volume of anticoagulant in the aliquot = ratio x aliquot volume Volume of anticoagulant in the parent platelet = ratio x remaining volume

Form revised 3/1/00

Step	Action
12 Cont	For example,  This platelet label indicates an anticoagulant volume of 32 mL and a total volume of 197 mL. Therefore, 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.
13	Prepare a label for the platelet aliquot. The label MUST contain the following: A. For ISBT-128 labeled products a. Print a label using the HemaTrax system. Refer to procedure, "ISBT-128 Label Production." b. Include the division letter on the label. c. Add a CMV-negative comment, if applicable B. For Codabar-labeled products a. Place a unit number from the parent unit or handwrite the unit number on the label b. Expiration date (4 hours from the time the unit was divided) c. Product Code Barcode Label to include the new volume and volume of anticoagulant calculated in step 9 d. Blood Type (ABO/Rh) e. FDA Registration (Prepared by SGAH Blood Bank) f. CMV-Negative (if applicable) Apply the label to the aliquot **prior to disconnecting it from the parent unit.**

Form revised 3/31/00

Step	Action
13 Cont	Example: 
14	Document the following on the "Blood Product Modification Log." A. Unit number of new product B. Product or E code of new product C. Documentation of the weld inspection
15	Create the aliquot in the LIS system per appendix A. A. A new unit number label will print following LIS modification. B. Apply the unit number to the new product label f**or codabar and ISBT-128 labeled units**.
16	Irradiate the aliquot per procedure, "Blood Component Irradiation." For codabar labeled units only, enter the irradiation comment on the unit tag: A. Access the TPP specimen in Sunquest function "Blood Order Processing." B. Click on the "Allocation" folder. C. Allocate the unit to the recipient. D. Result the TS as "]" which translates to "OK to transfuse." E. In the "Add Unit Test" field, type either "." or ";CM" to add a comment field. F. The "CM" field will appear. Type ";IRR" to add the irradiation comment. G. Click the "Save" button.

Form revised 3/7/00

Step	Action
17	Have a second tech verify the labeling of the blood product and document the 2nd label check on the "Product Modification Log" form. The following will be verified. Do not issue if discrepancies exist. A. Unit number or DIN B. Divided unit slash number (53FC##### / #) or division letter C. ABO/Rh D. Intended use (volunteer donor vs. directed donor) E. Donation type (volunteer donor vs. directed donor) F. E product code and description G. Expiration date and time H. Special testing (if applicable) I. Facility information J. Volume of the aliquot K. Anticoagulant volume of the aliquot In addition, the second tech must verify: A. The adjusted volume of the parent product B. The adjusted volume of anticoagulant in the parent product
18	Have a second tech verify the correct information is printed on the pink, "Administration Record" form. Verify the following: A. Expiration date and time on the unit match on the pink form B. Irradiation status is printed on the pink form C. CMV status of the aliquot is printed on the pink form
19	Store the aliquot in the platelet rotator at 20-24°C until issue. Aliquots should be transfused as soon as possible following preparation.
20	Platelet products are transfused via the component recipient set.

Form revised 3/31/00

Step	Action
21	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 [illegible] Date 01152011 Form [illegible] 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}

6. RELATED DOCUMENTS

SOP: Volume-Reduced and Saline-Replaced Platelet Products
SOP: Sterile Tubing Welder
SOP: Blood Component Irradiation
Form: Product Modification Log
SOP: Scale Quality Control
SOP: ISBT-128 Label Production

Form revised 3/5/100

7. REFERENCES

1. Roback, J.D., Combs, M.R., Grossman, B.J., Hillyer, C.D. 2008. Technical Manual of the AABB, 16th ed. AABB Publishing, Bethesda, Maryland.
2. Standards for Blood Banks and Transfusion Services, 2012. AABB, 28th 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

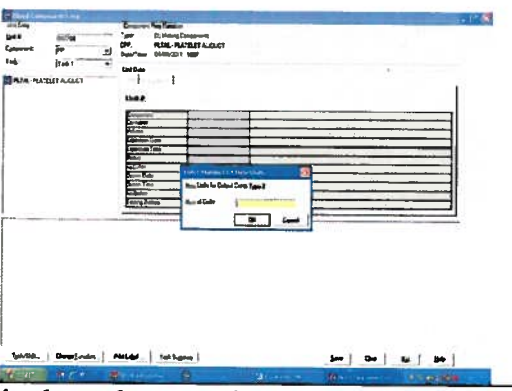
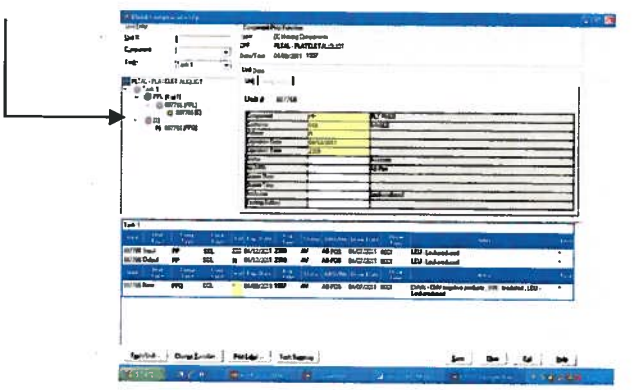
9. ADDENDA AND APPENDICES

Appendix A: Preparing a Platelet Aliquot in Sunquest
Appendix B: ISBT-128 Product Codes

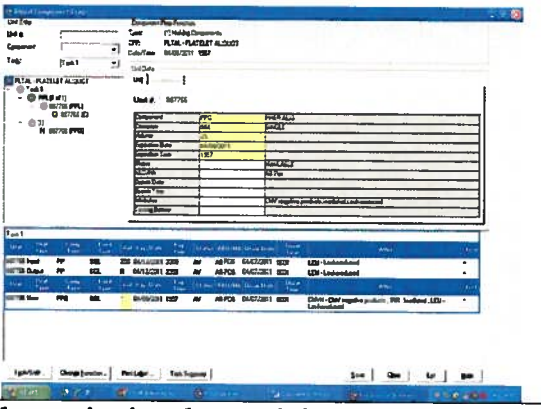
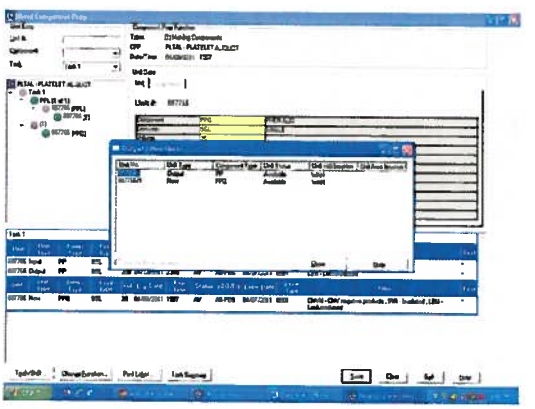
Form revised 3/31/00

Appendix A

Preparing a Platelet Aliquot in Sunquest

Step	Action
1	Access Sunquest function, "Blood Component Preparation."
2	In the "Lookup by" prompt, select "Component Prep Function" from the dropdown menu.
3	At the "Value" prompt, type the correct blood component preparation function and press the "Tab" key. Refer to appendix B for guidance.
4	Press the "Tab" key at the date and time prompts to default the current date and time or manually enter the date and time.
5	Click on the "Continue" button.
6	Enter the unit number and press the "Tab" key.
7	The component will autofill. Press the "Tab" key to open the task tree.
8	The prompt, "Enter number of new units" will appear. Type the number of platelet aliquots that will be prepared in the yellow box and click the "OK" button. 
8	Click on the yellow "N" in the task tree. The screen will display the aliquot data. 

Form revised 3/1/00

Step	Action
9	Enter the volume of the prepared aliquot and press the "tab" button. The yellow letters in the task tree will turn green and the volume of the parent unit will change based on the volume of the aliquot. 
10	Verify the accuracy of the expiration date and time assigned by the LIS. A. If a sterile connecting device was used, the expiration date of the **original** (parent) blood product will not change. B. If an open system was used, the new expiration date and time of the original (parent) blood product will be 4 hours from the time of modification. Click on the yellow "O" and modify the expiration date/time of the original blood product. **Note: If an open system is used, the E codes in appendix B do not apply. See a supervisor for guidance.** C. The expiration date and time of the aliquotted blood product will be 4 hours from the time of preparation, regardless of whether an open or closed system was used to prepare the aliquot.
11	Click on the "Save" button.
12	The pop-up message "File All Units?" appears. Click the "OK" button.
13	An "Output/New Units" screen will appear. Review the information for correctness and click the "Close" button. Ensure the slash number of the new aliquot is correct. 
14	A new unit number label will generate. Apply the label to the label for the new unit over the barcode label or handwritten unit number that was previously applied for codabar-labeled units.

Appendix B
ISBT-128 Product Codes

Original Product Code	Component Prep Function	Final Product Code
E3077	AE3077	E3046
E3087	AE3087	E3056
E3088	AE3088	E3057
E3089	AE3089	E3058
E4643	AE4643	E4647
E4644	AE4644	E4648
Codabar-label	PLTAL	Codabar 50030

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