

TRAINING UPDATE

Lab Location: SGMC and WAH
Department: Blood Bank

Date Implemented: 10.5.2017
Due Date: 10.19.2017

DESCRIPTION OF PROCEDURE REVISION

Name of procedure:

Neonatal T&S and Crossmatch

Description of change(s):

Crossmatch tags are required when mom or baby has a clinically-significant antibody demonstrating.

1. Initial testing:

- a. Perform an AHG crossmatch using parent unit (prefer 00, but A0 is also acceptable). Result the AHG and IS crossmatches.
- b. Adhere the crossmatch label (patient information) to the parent unit.

2. Subsequent testing:

- a. Prepare an extra segment when each aliquot is created.
- b. Perform and ISXM on the aliquot using the segment.
- c. Adhere the crossmatch label (patient information) to the back of the blood product tag on the aliquot.
- d. The label **MUST** show that the unit was crossmatched and the results of the compatibility testing.

Non-Technical SOP

Title	Neonatal Type and Screen and Crossmatch	
Prepared by	Stephanie Codina	Date: 4/25/2011
Owner	Stephanie Codina	Date: 4/25/2011

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

Review:		
Print Name	Signature	Date

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TABLE OF CONTENTS

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

1. PURPOSE

Transfusion practice in neonates differs from that of other patients. Blood volume, hematologic values, immune system maturity, and physiologic responses to hypovolemia and hypoxia contribute to the complexity of transfusion. This procedure describes the procedures for pre-transfusion testing of neonates.

2. SCOPE

This procedure applies to any situation in which a neonate may be transfused. The SGMC Blood Bank provides neonatal blood products for both SGMC and WAH.

3. RESPONSIBILITY

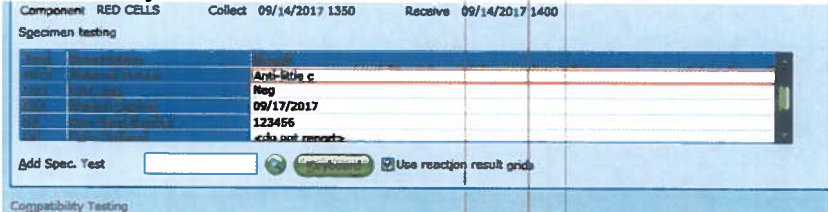
All blood bank staff members must understand the transfusion requirements of infants.

4. DEFINITIONS

Neonate: A term used to describe a patient who is less than 4 months in age.

5. PROCEDURE

Step	Action
1	<p>A neonatal type and screen (TSNEO) specimen is required for transfusion. A venous or heel stick specimen is required. Cord blood specimens are not acceptable.</p> <p>All TSNEO specimens must be legibly labeled with the following:</p> <ul style="list-style-type: none"> A. Patient's complete name B. Patient's medical record number C. Date and time of collection D. Identification of person collecting the specimen E. Blood bank armband number <p>Refer to procedure, "Sample Specifications for Blood Bank Testing for detailed labeling requirements.</p>

Step	Action
2	<p>Pull the mother's specimen, if available.</p> <ul style="list-style-type: none"> A. Perform a history check on the MOTHER of the infant for whom the TSNEO is being performed. Refer to procedure, "Patient History Check." B. If the baby was transferred from another location. <ul style="list-style-type: none"> a. Order and result an antibody screen on the baby. b. Call the transferring hospital and attempt to obtain the mother's history (as pertinent to the baby's testing and transfusion). C. Honor clinically-significant antibodies identified at other hospitals.
3	<p>Testing performed includes:</p> <ul style="list-style-type: none"> A. ABO/Rh Note: Neonatal ABO/Rh specimens should NOT be tested using the Galileo Echo. B. DAT C. Antibody Screen Note: Antibody screen can be performed on either the neonate or the mother's specimen. The mother's specimen is preferred. If mom's specimen demonstrates antibodies, enter the antibody identification in the antibody screen field.  <ul style="list-style-type: none"> D. Reflex/additional testing should be performed per procedure. E. Obtain and crossmatch a compatible red cell to any TSNEO when mom has clinically-significant antibodies or when baby's antibody screen is positive. See below.
4	<p>Change the sample expiration date of birth +120 days.</p>
5	<p>Using a rubber band, attach mom's specimen to the neonatal T&S when available. The specimens are stored together in the mother/baby specimen rack located in the refrigerator until the infant reaches 4 months of age or until discharge, whichever is sooner.</p>
6	<p>All pediatric red cell units will be reserved for each infant being transfused to limit donor exposure. Units may be shared between two or more neonates.</p> <ul style="list-style-type: none"> A. Label the unit with the infant's name and medical record number. B. Aliquots may be prepared and transfused from the unit until the expiration date of the parent unit unless otherwise stated by the pediatrician.

Form revised 3/31/00

Step	Action
7	ABO confirmation (ABO retype) is not required for neonatal transfusion provided only group O red cells and group AB plasma products are transfused.
8	If non-group O red cells are transfused to a neonate, A. ABO confirmation must be performed B. The baby's plasma must be tested using A1 and B cells (backtype must be performed).

Compatibility Testing

Step	Action
1	Red cell units for neonates must meet the following requirements. A. Group O a. Rh-positive neonates may receive either Rh-negative or Rh-positive red blood cells. b. Rh-negative neonates will only receive Rh-negative red blood cells. B. CPDA-1 or AS-3 anticoagulant C. Leukocyte reduced D. CMV-seronegative E. Sickle negative F. Irradiated in-house prior to leaving the blood bank G. Directed donor red cells that do not meet the above specifications require pathologist approval for issue. ABO confirmation on the recipient is required when non-group-O red cells are issued
2	If mom does not have clinically-significant antibodies: A. No compatibility testing is performed. B. Result the test "TRCNEO" by entering "]" in the TS field. This will translate to "OK to transfuse."
3	If mom has current or historical clinically-significant antibodies (including anti-D): A. Initial testing a. Find units that lack the corresponding antigen(s) for transfusion. b. Allocate the parent "00" or "A0" unit to the baby. c. Perform and result both an immediate spin and AHG crossmatch using mom's or baby's plasma (mom's is preferred). Note: this will tell the unit that the blood product is ready, so please notify them that you will need to prepare an aliquot. d. Add a comment to baby's specimen stating crossmatch was performing using mom's TS specimen as applicable. e. Place the crossmatch tag on the parent unit to designate the unit to the baby.

Form revised 3/31/00

Step	Action
3 Cont	B. Aliquot testing <ol style="list-style-type: none"> a. Prepare an extra segment from the line that connects the neonatal product to the parent product. b. Use blood from the extra segment to prepare a red cell suspension from the unit. c. Allocate the red cell aliquot product to the TSNEO and perform an immediate spin crossmatch. Note: AHG crossmatch is not required for each aliquot as long as an AHG crossmatch was performed using the parent "00" unit. d. Adhere the crossmatch tag to the back of the unit tag on the aliquot.
4	If mom's antibody history is unknown AND the baby's antibody screen is positive: <ol style="list-style-type: none"> A. Find units that lack the corresponding antigen(s) for transfusion (if antibody identification was performed) until the baby's antibody screen is negative. AHG crossmatch is no longer required after mom's antibody clears the baby's system. B. Allocate the parent "00" unit to the baby. C. Perform and result both an immediate spin and AHG crossmatch using mom's or baby's plasma (mom's is preferred). D. Place the crossmatch tag on the parent unit to designate the unit to the baby.

6. RELATED DOCUMENTS

- SOP: Sample Specifications for Blood Bank Testing
- SOP: Cord Blood Evaluation / Neonatal DAT
- SOP: Antibody Screen, Manual Capture
- SOP: Red Blood Cell Aliquot Preparation
- SOP: Antigen Typing
- SOP: Crossmatch

7. REFERENCES

1. Fung, MK, Grossman, BJ, Hillyer, CD, Westoff, CM. 2014. Technical Manual of the AABB, 18th ed. AABB Publishing, Bethesda, Maryland.
2. Standards for Blood Banks and Transfusion Services, 30th ed, 2016. AABB Publishing, Bethesda, Maryland.

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8. REVISION HISTORY

Version	Date	Reason for Revision	Revised By	Approved By
		Supersedes WAB401.01,SGAHB401.03		
000	8.1.12	Section 5: Added note indicating neonatal samples cannot be tested on the Echo. Updated crossmatch entry procedure due to new transfusion order. Added AS-3 as an allowable anticoagulant.	SCodina	NCacciabeve
001	6.14.13	Section 5: Added information to call the other hospital if we do not have history on mom. Added requirement to enter a comment about mom's clinically-significant antibodies on the TSNEO result. Added backtype requirement for non-O red cells (regulatory requirement).	SCodina	NCacciabeve
002		Header: Added WAH Section 5: Updated order for clarity. Added requirement to crossmatch parent unit and add crossmatch tag when mom has clinically-significant antibodies. Added requirement to ISXM each aliquot to obtain a unit tag for the unit to meet regulatory requirements for interpretation of crossmatch.	SCodina	NCacciabeve

9. ADDENDA AND APPENDICES

None