

Non-Technical SOP

Title	Neonatal Type and Screen and Crossmatch	
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Laboratory Approval		
Print Name and Title	Signature	Date
<i>Refer to the electronic signature page for approval and approval dates.</i>		
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Print Name	Signature	Date

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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 will be transfused. The SGAH Blood Bank provides neonatal blood products for both SGAH 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. The mother's specimen is the preferred specimen for antibody screen testing. B. Antibody screen results tested at WAH or SGAH are accepted.
3	<p>Testing performed includes:</p> <ul style="list-style-type: none"> A. ABO/Rh (Refer to procedure Cord Blood Evaluation / Neonatal DAT). Note: Neonatal ABO/Rh specimens should NOT be tested using the Galileo Echo. B. DAT (Refer to procedure Cord Blood Evaluation / Neonatal DAT) C. Antibody Screen (Refer to procedure Antibody Screen, Manual Capture) <ul style="list-style-type: none"> a. Antibody screen can be performed on either the neonate or the mother's specimen. b. The specimen of choice is the mother's. c. If the baby was transferred from another location. <ul style="list-style-type: none"> i. Order and result an antibody screen on the baby. ii. Call the transferring hospital and attempt to obtain the mother's history (as pertinent to the baby's testing and transfusion). D. Reflex/additional testing should be performed per procedure.
4	<p>Change the sample expiration date of birth +120 days.</p>
5	<p>Compatibility testing</p> <ul style="list-style-type: none"> A. If the mother does not have current or historical clinically-significant antibodies, no compatibility testing is performed. B. Result the test "TRCNEO" by entering "]" in the TS field. This will translate to "OK to transfuse." C. If the mother has current or historical clinically-significant antibodies (including current demonstration of passive anti-D or RhIG), <ul style="list-style-type: none"> a. Units that lack the corresponding antigen must be used. Refer to procedure, "Antigen Typing." b. Both AHG and IS crossmatch must be performed. Refer to procedure, "Crossmatch." <ul style="list-style-type: none"> i. Crossmatch testing can be performed on either the neonate or the mother's specimen. ii. The specimen of choice is the mother's. D. If the mother's history is unknown and the baby's antibody screen is positive, <ul style="list-style-type: none"> a. Both AHG and IS crossmatch must be performed on the infant's specimen until a new T&S specimen is collected and the antibody screen is negative (this is generally performed when the infant reaches the age of 4 months). b. Antigen negative units are provided if the antibody can be identified.

Step	Action
5 Cont	E. Additional information can be found in procedure, "Red Blood Cell Aliquot Preparation."
6	ABO confirmation (ABO retype) is not required for neonatal transfusion provided only group O red cells and group AB plasma products are transfused. ABO confirmation is needed prior to transfusion of group specific platelets.
7	<p>Red cell units for neonates must meet the following requirements.</p> <p>A. Group O</p> <p style="padding-left: 20px;">a. Rh-positive neonates may receive either Rh-negative or Rh-positive red blood cells.</p> <p style="padding-left: 20px;">b. Rh-negative neonates will only receive Rh-negative red blood cells.</p> <p>B. CPDA-1 or AS-3 anticoagulant</p> <p>C. Leukocyte reduced</p> <p>D. CMV-seronegative</p> <p>E. Sickle negative</p> <p>F. Irradiated in-house prior to leaving the blood bank</p> <p>G. Directed donor red cells that do not meet the above specifications require pathologist approval for issue. ABO retype on the recipient is required when non-group-O red cells are issued</p>
8	<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> <p>A. Label the unit with the infant's name and medical record number.</p> <p>B. Aliquots may be prepared and transfused from the unit until the expiration date of the parent unit unless otherwise stated by the pediatrician.</p>
9	<p>The neonatal T&S should be rubber banded to the mother's T&S if available. The specimens are stored together in the mother/baby specimen rack located in the refrigerator. The specimens are retained until the infant reaches 4 months of age or until discharge, whichever is sooner.</p>

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

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7. REFERENCES

1. Roback, J.D., Combs, M.R., Grossman, B.J., Hillyer, C.D. 2011. Technical Manual of the AABB, 17th ed. AABB Publishing, Bethesda, Maryland.
2. Standards for Blood Banks and Transfusion Services, 2011. AABB, 27th ed. AABB Publishing, Bethesda, Maryland.

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

9. ADDENDA AND APPENDICES

None