

Disorders affected by Transfusion	State	Similarities/Differences
Hemoglobinopathies	ALL	
Galactosemia	not stated specifically on Ark, OK	
CF	IA/ND	
biotindase	IA/ND, NE	
CH	SD	
CAH	SD	
Collection Recommendations	State	Similarities/Differences
collect screen prior to transfusion	ALL (not specifically stated on Ark, KS collection protocol)	
Repeat Recommendations	State	Similarities/Differences
2 days PT	NE	
72 hours PT	SD	MO has a protocol for sick/NICU babies, no pre transfusion sample
4 days PT	Kansas	OK/SD/NE has 'no pre transfusion sample' protocol
7 days	NE	
30 days PT	MO (gal)	
60 days PT	Iowa/ND (Hgb, Gal, CF, bio), OK (hgb), NE	
90 days PT	MO (Hgb), SD (gal), OK (hgb), NE	
120 days PT	KS (Hgb)	
3 - 4 months PT	Ark (Hgb)	
No pre sample repeat recommendations		
24-48 hrs	MO (preemies, sick)	OK only repeats hemoglobinopathies
72 hours	SD	
2 - 7 days	OK, NE	
10-14 days	MO (preemies, sick), NE	
30 days	MO (preemies, sick)	
90 days	SD, NE (60-90 days)	
120 days	OK	

Heartland RECOMMENDATIONS

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State	Contact	Protocol	Repeat Recommendation	Result Wording	Follow-up
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Arkansas

Sharon Tiner, RN
501-280-4145,
Dianne Pettit
501-280-4145

AF: If found within 3-4 months of a transfusion this result is inconclusive. Otherwise, the result is presumed to be normal.

If a baby had a blood transfusion and the result is "AF", repeat the newborn screen 3-4 months after the last blood transfusion.

Letter sent:
This child received a blood transfusion, making hemoglobinopathy studies inaccurate. Please determine the date of the last transfusion and repeat the newborn screen three to four months after the date of the transfusion.

OR

Hemoglobin A was found in greater amounts than hemoglobin F. This may be normal after the newborn period or may occur if a blood transfusion was given, making this test inaccurate. If you determine that this child received a transfusion, repeat the newborn screen three to four months after the date of the transfusion.

Form letter sent to doctor

State	Contact	Protocol	Repeat Recommendations	Result Wording	Follow-up
Iowa/North Dakota/South Dakota	Arlena Pugliese apugiles@uhl.uio wa.edu	<p>Transfusion affects the following test results: biotinidase, galactosemia, Hemoglobinopathies, CF.</p> <p>Collect specimen, even if infant is <24 hours of age, prior to any blood product administration/transfusion.</p>	<p>Biotinidase: 60 days post date of last admin/transfusion</p> <p>Hemoglobinopathy: 60 days post date of last admin/transfusion</p> <p>Galactosemia: 60 days post date of last admin/transfusion</p> <p>CF: 60 days post date of last admin/transfusion</p>	<p>Abnormal results will always over ride the transfusion status. A repeat screen is requested.</p>	<p>By letter to primary care physician. Responsible for arranging repeat screening in the event of a transfusion.</p>

State	Contact	Protocol	Repeat Recommendations	Result Wording	Follow-up
Kansas	Melanie Warren MWarren@kdhe.state.ks.us	<p>If a transfusion is performed prior to obtaining a valid hemoglobinopathy result, recommend waiting 120 days to conduct a repeat screen.</p> <p>For all other disorders, wait 4 days after the last transfusion to repeat the screening.</p> <p>NOTE - July 1, 2008, will perform MS/MS screening</p>	<p>The recommendation is to wait 120 days to conduct an electrophoresis for abnormal hemoglobins.</p> <p>For other disorders the recommendation is to wait 4 days after the last transfusion to repeat the screening</p>	<p>A transfusion prior to collecting the blood spot invalidates all tests</p>	<p>has active follow-up in place</p>

State	Contact	Protocol	Repeat Recommendations	Result Wording
Missouri	Julie Raburn-Miller Julie.Raburn-Miller@dhss.mo.gov	<p>Categorized by premature, low birth weight, sick NICU.</p> <p>Recommend collection before RBC transfusion. If RBC <24 hrs with or without TPN: collect 1st sample before RBC transfusion. Collect 2nd sample 3-7 days after RBC transfusion. Collect 3rd sample 30 days after RBC transfusion. If sample not collected prior to RBC transfusion: Collect 1st sample 24-48 hours after RBC transfusion. Collect 2nd sample 10-14 days after RBC transfusion. Collect 3rd sample 30 days after RBC transfusion. Collect 4th sample 90 days after RBC transfusion. (MO also has TPN recommendations.)</p>	<p>Hemoglobinopathies: Repeat 90 days post transfusion.</p> <p>Galactosemia: Repeat 30 days post transfusion. If NO screen was done prior to transfusion (this is for sick/preemies): screen at the following age ranges: 24-48 hours post transfusion, 10-14 days post transfusion, 30 days post transfusion, 90 days post transfusion. If a screen was done prior to transfusion and <24 hours, collect rescreen at the following time points: 3-7 days post transfusion, 30 days post transfusion.</p>	<p>NO RESULT FOR HEMOGLOBINOPATHY: Hemoglobinopathy screening results are non-interpretable due to TRANSFUSION! The blood from the transfusion may mask the presence of an abnormal trait or disease condition. If a pre-transfusion sample has NOT been submitted, PLEASE REPEAT >90 DAYS POST TRANSFUSION.</p> <p>NO RESULTS FOR GALACTOSEMIA: Transferase results are invalid due to possible transfusion. If a pre-transfusion was NOT submitted, repeat the newborn screen 30 days after the last transfusion. It is recommended that a newborn screening specimen be collected prior to transfusion.</p> <p>CF: wording to be determined</p>

Follow-up

If transfused and show Hb S or C, will be referred to sickle cell centers for follow-up. NBS result will have recommendations for repeat.

State	Contact	Protocol	Repeat Recommendations	Result Wording
Nebraska	Krystal Baumert, krystal.baumert@h hss.ne.gov	<p>NE Regulations require a newborn screening specimen to be collected before transfusion.</p> <p>NE State Regulations state: If a newborn requires a blood transfusion prior to 24 hours of age, the specimen must be collected before the blood transfusion. The specimen should be collected at the time blood is collected for the typing and cross match prior to transfusion. The newborn's physician or designee must collect or cause to be collected a repeat PKU and hypothyroidism screening specimen by 7 days of age, regardless of prior test results.</p>	<p>Information received by NNSP indicates that the above infant may have been transfused prior to obtaining the initial newborn screening specimen. A blood transfusion can seriously interfere with screening tests based on enzymes or other proteins intrinsic to the red blood cells such as galactose-1-PO4 uridytransferase, biotinidase and hemoglobins A,C,F and S. If no screen was obtained prior to transfusion:</p> <ol style="list-style-type: none"> 1. Collect a repeat specimen at 2 days after the transfusion, or no later than 7 days regardless of the transfusion status. (everything is tested on repeat - so potentially not too late for some disorders (i.e. CAH, PKU, GAL, MCAD) 2. Collect another repeat specimen at 14 days after the last transfusion (everything tested on repeat even though not enough time for hemoglobin) 3. Collect a repeat specimen at 60-90 days post transfusion. (everything tested on repeat – (i.e. hemoglobin) <p>The letter is sent and the physician is asked to provide repeat specimen collection dates and repeat results, date of last transfusion.</p>	<p>Transfusion may alter results for some tests. A repeat sample is requested for this newborn.</p>

Follow-up

IF after 14 days no response from physician's office, a second letter is sent. If after 14 days no response from physician's office, follow-up coordinator attempts to contact the physician's office via phone. If the physician's office informs the follow-up staff that they are not the patient's physician, the follow-up staff contacts the birthing hospital for another physician of record. If a physician is not known, the follow-up staff will contact the mother by phone and certified letter. Once NNSP receives all the necessary repeat test result(s) the case is closed.

PROCEDURE FOR WHEN REPEAT NEWBORN SCREENING SPECIMEN (to follow-up on drawn early CPH, and PKU) IS DRAWN TOO SOON AFTER TRANSFUSION

When a repeat specimen is collected prior to 24 hours of age and the infant was transfused prior to obtaining that repeat newborn screening specimen then a letter is sent to the infant's physician and the following is to be done: Repeat at 2 days post transfusion and repeat at 14 days post transfusion.

State	Contact	Protocol	Repeat Recommendations	Result Wording	Follow-up
Oklahoma	Teresa Steckel, theresals@health.ok.gov	<p>Specimen should be collected prior to transfusion, as early as possible after 24 hours of age or immediately prior to discharge, whichever comes first.</p> <p>Premature/sick infants who could not be screened prior to a red blood cell transfusion should be screened by the 7th day of life, with a repeat specimen collected when plasma and/or red cells will again reflect the infant's own metabolic processes and hemoglobin type (the accepted time period to determine hemoglobin type is 90 to 120 days after transfusion).</p>	Only for hemoglobinopathies: 60-90 days post transfusion.	<p>Result consistent with transfusion; Out of range, see comments (HGB)</p> <p>Resubmit filter paper specimen at 4 months of age.</p>	<p>A physician is sent a lab mailer, transfusion form, and return envelope 30 days post physician letter, a letter is sent to the parents.</p> <p>Another kit is sent to the parents at 3 – 4 months of age with a 4 month hemoglobin kit.</p> <p>If no response after 90 days from the hemoglobin kit case is closed, assumed lost.</p> <p>REPEAT SCREEN – only Hemoglobinopathies are run.</p>