Practitioner’s Manual

Newborn Screening Program

State of Utah
Department of Health
STATE OF UTAH
DIVISION OF DISEASE CONTROL & PREVENTION
UTAH PUBLIC HEALTH LABORATORY
NEWBORN SCREENING PROGRAM

Revised July 2019
Newborn Screening Kits:  

Fees (effective July 1, 2019):

**TWO-PART KIT (First and Second Screen forms)**  
$118

The two-part kit is the initial form used by the institutions of birth. It is issued to the parent at the hospital/birthplace. Order online at [newbornscreening.health.utah.gov](http://newbornscreening.health.utah.gov)

**MISCELLANEOUS FORMS**  
No Charge

Miscellaneous kits are supplied as replacements for inadequate specimens, recall specimens, or for use when the original kit has been lost. Order online at [newbornscreening.health.utah.gov](http://newbornscreening.health.utah.gov)

**KIT ORDERS**

Contact the Newborn Screening Follow-up Program at 801-584-8256
INTRODUCTION

The Utah Newborn Screening handbook is designed to educate local hospital personnel such as nursery and laboratory staff, physicians, midwives, and other health care providers about the requirements for newborn screening in Utah. This handbook includes background information on the importance of newborn screening with specific instructions on completing the forms and submitting blood spot specimens.

The purpose of this handbook is to promote a better understanding of the newborn screening forms and the information entered on them. The quality of the newborn screening data and the ability to identify and locate families and medical providers quickly depends heavily on the correct completion of the forms. Forms sent in with missing or incorrect data or un-testable specimens cannot be processed, thus putting infants in jeopardy. The institution of birth or the midwife/practitioner providing assistance to the mother at the birth is responsible for initiating the newborn screening process.

The Newborn Screening Program uses the information on the form to efficiently locate and identify newborns with abnormal test results, as well as to notify health care providers when blood spot specimens are not adequate for testing.

IMPORTANCE OF NEWBORN SCREENING

Utah State Law UCA 26-10-6 [Appendix A] requires all infants born in Utah be tested.

The scientific, political and social advancements in the United States came together to foster the development of the newborn screening practices. In the 1960's, parent advocacy groups were instrumental in getting legislation passed for prevention of mental retardation. In 1965, Utah State legislators adopted mandatory testing of all newborns for phenylketonuria (PKU) and other metabolic diseases that might result in brain damage or death.
THE UTAH STATE DEPARTMENT OF HEALTH

The Utah Department of Health began managing the newborn screening process in 1979. At that time phenylketonuria (PKU), congenital hypothyroidism, and galactosemia were the diseases identified through screening. As of January 2018 Newborn Screening has expanded to include screening babies for biotinidase, congenital hypothyroidism, congenital adrenal hyperplasia, hemoglobinopathies, galactosemia, disorders of amino acid, organic acid and fatty acid metabolism, guanidinoacetate methyltransferase deficiency, cystic fibrosis, severe combined immunodeficiency syndrome and spinal muscular atrophy.

The Newborn Screening Program is administered under the laws [Statute 26-10-6] and rules [R438-15, Appendix B] of the State of Utah. The Newborn Screening Program, as part of the Division of Disease Control and Prevention, is in charge of screening. This includes sample laboratory testing, follow-up on abnormal specimens, education to the public and health care providers, and assists with identification of all public resources.

CONFIDENTIALITY OF NEWBORN SCREENING RECORDS

Newborn Screening personnel protect the information on the newborn screening forms and in the database from unwarranted or indiscriminate disclosure. Records are available only to persons who are authorized access by State Law and supporting rules. Legal safeguards for the confidentiality of records have been strengthened in recent years. Physicians, hospitals, and families are assured that extensive legal and administrative measures are used to protect individuals from unauthorized disclosure of personal information.
MEDICAL HOME

The Newborn Screening Program supports and encourages the “Medical Home” concept for all infants. The health care provider for a baby must be identified at birth. These providers will be contacted for any follow up needs.

What is a Medical Home?

A medical home is not a building, house or hospital, but rather a family-centered approach to providing health care in a high quality and cost effective manner. Primary care providers, families, and allied health care professionals act as partners to identify and access all medical and non-medical services needed by children and families to help them achieve their maximum potential. A medical home includes care that is accessible, family-centered, continuous, comprehensive, coordinated, compassionate, and culturally competent.

The ideal source of a child’s medical home is a primary care pediatrician or family doctor working in partnership with the parents. All children deserve a medical home to provide consistent and personalized care and this relationship may be even more important for children who may have special health care needs. Benefits of a medical home include: increased patient and family satisfaction, establishment of a forum for problem solving, improved coordination of care, efficient use of available resources, increased professional satisfaction, and increased child wellness due to comprehensive care.

For more information contact the Medical Home Project Coordinator at (801) 584-8584 or visit http://www.medicalhomeportal.org/

RESPONSIBILITIES REGARDING NEWBORN SCREENING SPECIMENS
FIRST SCREENING SPECIMEN

Hospital personnel, midwives, and birth attendants must complete the personal data required on the form and collect and submit a testable blood specimen (see Simple Spot Check on page 23). Necessary procedures may cut across departmental lines, involving many different people. These procedures, when combined with the current emphasis on reducing the length of stay in hospitals, make it extremely important for one hospital staff member to be given the overall responsibility and authority to request and obtain the cooperation needed. Responsibilities regarding the first screening specimen:

- Develop efficient procedures for prompt assignment of a Newborn Screening Kit, preparation of data, and collection of filter paper blood spot specimen on every newborn. [R438-15]

- Collect and record all information requested on the data portion of the first screen form: infant name, sex, feeding, adoption, transfusion, date of birth, mother’s name, address and phone number, mother’s date of birth, and medical home/health care provider information. If the baby is being adopted, an identifying name and a contact person must be included. [R438-15-9 (e)]

- Prepare a legible form; make certain every item is complete and correct. Print in block, capital letters using black ink. Forms with missing information cannot be processed. Completion of the second screen form at this time is discouraged as many items change between collection of the first and second specimens.

- Collect an appropriate blood spot specimen using the heel-stick method. [R438-15-9] The person drawing the specimen must complete the ‘Specimen Collection Date’ on the screening form, without which the specimen CANNOT be processed. Results are validated only for specimens collected using the heelstick method. Do not use capillary tubes to transfer blood to the filter paper. This will result in abraded filter paper and cause over absorption.

- Timing of collection: First specimen should be drawn between 24 - 48 hours life, however there may be exceptions. [R438-15-6] Results are based on the age of the infant at the time the specimen was drawn.

- If the original first screen card is unusable (e.g., contaminated, destroyed, blood specimen is inadequate, etc.), it is not necessary to use a new 2-part kit and number. Use a Miscellaneous Form. Remove bar code labels from the back of the original first and place them over the miscellaneous numbers, or cross out the miscellaneous numbers and write the original number in each place.

- If possible, collect the specimen prior to a transfusion. [R438-15-7 (2)] This may necessitate drawing the specimen prior to 24-48 hours of age.
• Allow the specimen to dry horizontally at room temperature for 3 hours.

• Transport specimen **within 24 hours of collection** to the Newborn Screening Lab. Use of a courier is highly recommended to decrease delay in receipt and testing of the specimen. [R438-15-9 (2)]

• Fold the cardboard flap over the dried blood spots before sending the specimen.

• Educate the family regarding the required screening, which disorders are screened, and how to obtain the second screen collection. [R438-15-7]

• Develop efficient procedures for prompt collection of the screening specimen on the newborn whose first specimen was determined to be abnormal [R438-15-10] or unsatisfactory for testing (could not test). [R438-15-11]

### SECOND SCREENING SPECIMEN

Utah law requires that all newborns have a second specimen drawn between 7 and 16 days of age. These specimens are usually collected during the first visit to the medical home/health care provider. Office personnel, clinic personnel and midwives must assemble and record the personal data to be entered onto the forms and must collect and submit a testable blood specimen (see Simple Spot Check on page 23). Responsibilities regarding the second screening specimen:

• Develop efficient procedures for preparation of data and collection of the second screening specimen on every newborn. [R438-15]

• Collect and record all information requested on the data portion of the second screen form: Infant name, gender, feeding, adoption, transfusion (if applicable), date of birth, mother’s name, address, and phone number, mother’s date of birth, and medical home/health care provider information. If the baby was adopted, identifying information needs to be included to link the first and second specimens. [R438-15-9 (e)]

• Prepare a legible form; making certain that every item is completed and correct. Print in block, capital letters using black ink. Forms with missing information cannot be processed.
• Collect an appropriate blood spot specimen using the heel-stick method. **The person who is drawing the specimen must complete the ‘Specimen Collection Date’ on the form; without a collection date, the specimen CANNOT be processed.** Results are validated only for specimens collected using the heelstick method. Do not use capillary tubes to transfer blood to the filter paper. This will result in abraded filter paper and cause over absorption.

• Timing of collection: Specimen should be collected between 7 and 16 days of age, however there may be exceptions. [R438-15-8] Results are based on the age of the infant at the time the specimen was drawn.

• If possible, collect the specimen prior to a transfusion. [R438-15-6 (2)]

• Allow specimen to dry horizontally at room temperature for 3-4 hours, using designated drying rack.

  • Transport specimen **within 24 hours of collection** to the Newborn Screening Lab. Using a courier is highly recommended to decrease delay in receipt and testing of specimen. [R438-15-9 (2)]

  • To meet postal requirements, fold the cardboard flap over the dried blood spots before mailing the specimen.

• Develop efficient procedures for prompt collection of screening specimens for newborns whose specimen was determined to be abnormal [R438-15-10] or unsatisfactory for testing (could not test). [R438-15-11]
Equipment: Sterile lancet with tip approximately 2.0 mm, sterile alcohol prep, sterile gauze pads, soft cloth (or disposable heat pack), blood collection form, Complete ALL information. Do not contaminate filter paper circles by allowing the circles to come in contact with spillage or by touching before or after blood collection. Keep front sheet; sheet states “Retain this sheet for your records.”

Hatched area ( ) indicates safe areas for puncture site.

Warm site with a soft cloth moistened with warm water (up to 41˚C), or a disposable heat pack, for three to five minutes.

Cleanse site with alcohol prep. Allow area to dry.
6. Puncture heel. Wipe away first drop of blood with sterile gauze pad. Allow another LARGE drop of blood to form.

7. Lightly touch filter paper to LARGE blood drop. Allow blood to soak through and completely fill circle with a SINGLE application to LARGE blood drop. To enhance blood flow, VERY GENTLE intermittent pressure may be applied to area surrounding puncture site. Do NOT milk the site. Apply blood to one side of filter paper only.

8. Fill remaining circles in the same manner as step 7, with successive blood drops. If blood flow is diminished, repeat steps 5 through 7. Care of skin puncture site should be consistent with your institution’s procedures.

9. Dry blood spots horizontally on drying rack provided by the Newborn Screening Program for at least 3 hours.

10. Mail completed form to testing laboratory within 24 hours of collection.

Send completed form to testing laboratory within 24 hours of collection. Use of a courier is recommended. To meet postal requirements, fold cardboard flap over blood specimen before mailing.
GENERAL INSTRUCTIONS FOR SUBMITTING THE NEWBORN SCREENING FORM

The testing for the Newborn Screen is considered to be “moderate or high complexity testing, or both” by the Clinical Laboratory Improvement Amendments of 1988 (CLIA). The Newborn Screening Laboratory must comply with the CLIA regulations, which includes CLIA’s minimum required data that must be collected to be in compliance.

The requested data is required in order to identify an infant, family, and health care provider, in compliance with federal regulations. Although the screened disorders are rare, their impact on an individual and family can be tremendous. Correct identification of the infant and rapid notification the health care provider is critical when there are abnormal results. Time is vital in getting the initial evaluation done and treatment started. Nationally, it is the standard of care to identify the infant, complete confirmatory testing, and begin treatment prior to 21 days of age.

- Follow the instructions on the form that comes with the newborn screening kit.
- Print legibly, in block letters, using black ink.
- Avoid abbreviations, except the standard abbreviations used in addresses (use those acceptable from the US Postal Service).
- Verify with the mother (or informant) the spelling of names, especially those that have different spellings for the same sounding name (e.g., Peterson or Petersen).
- Use the current form designated by the State of Utah. The filter paper is a Food and Drug Administration (FDA) regulated form. The filter paper has a shelf life of three years, after printing. All forms have an expiration date with the month and year – the form is good through the last day of the month specified.
- Avoid touching the filter paper at all times. Moisture, body oil, hand lotion, powder from gloves, and even compression of the filter paper fibers can interfere with the absorption of the blood and test results.
- Complete all requested data fields. Incomplete forms cannot be processed and the delay may result in poor infant outcomes
- The instruction part of the form is to be removed prior to collecting the specimen. It may be kept for your records.
- Collect a blood specimen by the heel-stick method. Use of capillary tubes to transfer blood to the filter paper is not recommended. Capillary tubes tend to roughen the filter paper and cause over absorption, invalidating results.
• Dry specimen thoroughly, 3-4 hours at room temperature, before mailing. Specimen should be dried in a horizontal position. A rack designed for this purpose is available, free of charge, through the Newborn Screening program.

• Submit/send the specimen to the Newborn Screening Laboratory within 24 hours of the specimen collection. Use of a courier is recommended to reduce delay in transportation and testing times. If using the US Postal system, the regulations/standards for mailing clinical specimens apply.

• Use the envelope supplied for sending the second screen specimen to the lab.
Sample Collection Date: Specimen cannot be processed without this date.

Birthdate: Several results are based on the baby's age and cannot be processed without the birthdate.

Birth Weight: Several results are based on birth weight and cannot be processed without it.

Medical Home Information: Who is called in case of an abnormal screen and where to send results.

Recall Screen Box: Mark only if instructed by program staff. This is used if another specimen is needed because of specimen being unacceptable or abnormal.

Note Expiration Date: Form CANNOT be used after this date.

Kit ID Number: Used to identify child.

Mother's Information*: This is used to identify the baby and mother, and to contact mother if necessary.

FOR UDOH LAB ONLY: Do not mark or place labels in any of these areas.

Fill all 7 circles with blood. The top two blood spots are sent off-site and MUST be filled in addition to the five below.

Used by UDOH lab to mark a specimen unacceptable.

* If baby is adopted, write adoptive family information, or adoption agency and contact person. We must be able to identify and connect the information from the second screen with the first screen.
Item-by-item instructions for completing the demographic information on the newborn screening form

FOR UDOH LAB ONLY-DO NOT MARK: Leave this box blank. The Newborn Screening Lab uses it for the accession number and bar code.

Sample Collection Date (Month, Day, Year): Enter the sample collection date as eight digits: The first two digits for month, the next two for day, and the last four for year. Leading zeros are required. For example: 04-01-2018 for April 1, 2018.

This date establishes the parameter for determining whether or not the specimen has been received within the acceptable time frame for testing. Enzymes and metabolites begin to break down as soon as the specimen is drawn. The older the specimen is when received for testing, the less likely the level of enzymes and metabolites will be accurate. The lab cannot guarantee accurate results on a specimen that has been received outside of the acceptable time frame.

Medical Record Number: Alpha or numeric digits may be entered.

This space is supplied at the request of the providers to assist in filing the results in the chart. This information may be the hospital medical record number or the health care provider medical record number (2nd screen specimens).

Baby’s Last Name: Enter the baby’s last name(s). The baby’s last name does not need to be the same as the mother’s last name. Hyphens and apostrophes are acceptable.

Baby’s First Name: Enter the baby’s first name. If a first name has not been selected, leave this field blank. Do not enter ‘baby girl,’ ‘girl,’ ‘bg,’ ‘baby boy,’ ‘boy,’ ‘bb,’ or sex and mother’s first name. You may enter ‘A’ or ‘B’ for multiple births.

Gender: Check M (male) or F (female) box. If the gender is ambiguous, do not mark F or M and write in “ambiguous”.

Birthplace/Hospital: Enter place where baby was born. You may enter a hospital name, birth institution name, ‘home birth,’ or ‘out of state’ (please indicate state of birth only).

This information is used to determine where the first screening results are to be sent. This information helps identify a baby from another born on the same day with the same last name and gender. The place of birth is a reference source for information. It is used in statistical reports to determine the number and/or percent of Utah babies screened.

Baby’s Birth Date: Enter the baby’s birth date as eight digits: The first two digits for month, the next two for day, and the last four for year. Leading zeros are required. For example: 03-01-2018 for March 1, 2018. This information is used for identification, quality assurance issues, and diagnostic purposes.
**Individual Items:** Check any and all boxes that apply to the newborn:

- Breast (feeding)
- Bottle (feeding)

**Adopted:** Adoption issues may cause some confusion. The Newborn Screening Program maintains patient and record confidentiality. The first screening form must be completed with information to identify the baby and health care provider. If there is concern about entering the birth mother’s information, the adoptive agency or adoptive mother’s information may be entered. A contact person must be entered. [R438-15-9 (e)] The second screening form and educational information should be given to the adoptive agent or adoptive parents with instructions for collection and submission of the second screen specimen. Do not fill out the information on the second screen card. The card should be completed at the health care provider’s office with the adoptive names entered.

**Premature/Sick:** Mark if appropriate.

**Transfusion:** Enter date of transfusion. If transfusion occurred prior to birth please indicate “in utero.” Transfusions prior to first screening specimens invalidate results for galactosemia and hemoglobinopathy. Transfusions given 7-10 days prior to second screen specimens could interfere with the results for phenylketonuria and congenital hypothyroidism. *This information is used for interpretation of the screening results, as well as diagnosis and treatment. Babies who have received transfusions may have results that are not valid and will need another specimen drawn at a later date.*

**Birth Weight (grams):** Enter the baby’s birth weight in grams. Birth weight is necessary to determine testing cutoff values. *This field will accept up to 4 characters.* Leading zeros are required.

**Mother’s Last Name:** Enter the mother’s legal last name(s). If the mother is unmarried, the last name and maiden name can be the same.

**Mother’s First Name:** Enter the mother’s first name.

**Mother’s Maiden Name:** Enter mother’s maiden name, even if it is the same as the legal last name(s). The maiden name is used for identification purposes.

**Mother’s Mailing Address:** Enter the mother’s mailing address. Please include P.O. Box or apartment number if applicable.
**City:** Enter the mother’s city.

**State:** Enter mother’s state, using the 2-digit abbreviation.

**Zip:** Enter mother’s zip code.

**Mother’s Birth Date:** Enter mother’s birth date as 8 digits: the first two digits for the month, the next two digits for the day, and four digits for the year. Leading zeros are required. For example: 04-01-1983 for April 1, 1983.

**Mother’s Area Code & Phone:** Enter the mother’s phone number, including the area code. Do not use the father’s phone number or insurance guarantor’s number.

**Medical Home Doctor/Clinic Name:** Enter the name, last and first, of the health care provider or clinic that will provide health care to the newborn. The information distinguishes providers with the same name.

**Medical Home Doctor/Clinic Address:** Enter the address of the health care provider or clinic that will provide health care to the newborn. This information identifies health care providers that have the same last name by identifying the clinic where the physician is located (some providers work at two or more clinics).

**City:** Enter the city of the health care provider or clinic that will provide health care to the newborn.

**State:** Enter the state of the health care provider or clinic that will provide health care to the newborn. Use the 2-digit abbreviation.

**Zip:** Enter the zip of the health care provider or clinic that will provide health care to the newborn.

**Medical Home Doctor/Clinic Area Code & Phone:** Enter the phone number of the health care provider or clinic that will provide health care to the newborn, including the area code.

**Recall Screen Mark Only If Instructed:** Mark this area only when instructed by the Newborn Screening program personnel, or in a recall notification letter sent to you from the Newborn Screening program. When this area is marked, the lab staff members are able to distinguish the recall specimen from a routine specimen.
SPECIAL INSTRUCTIONS - Abnormal Results

Program personnel will call the doctor/clinic noted on the demographic form for all abnormal results. Instructions will be given for follow-up. You may be asked for the collection of the routine second specimen, a third specimen or for additional confirmation testing at any time. If there are any questions, call the program for clarification (801) 584-8256. Below is an example of Newborn Screening Results Mailer.

NEWBORN SCREENING RESULTS

<table>
<thead>
<tr>
<th>DISORDER/TEST</th>
<th>DATE TESTED</th>
<th>RESULTS</th>
<th>DETERMINATION</th>
<th>NORMAL RANGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biotinidase Deficiency</td>
<td>10/26/07</td>
<td>Normal</td>
<td>Normal</td>
<td>Full enzyme activity</td>
</tr>
<tr>
<td>Enzyme activity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Congenital Adrenal Hyperplasia</td>
<td>17-OHP ELISA</td>
<td>0.0 ng/dL</td>
<td>Normal</td>
<td>Based on baby's birth weight</td>
</tr>
<tr>
<td>17-18-20-24 20th percentile</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Galactosemia</td>
<td>10/25/07</td>
<td>Normal</td>
<td>Normal</td>
<td>&gt; 4.0 U/g/dL</td>
</tr>
<tr>
<td>G-1-P uridylytransferase activity</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hemoglobinopathies</td>
<td>10/25/07</td>
<td>Normal - FA</td>
<td>Normal</td>
<td>FA</td>
</tr>
<tr>
<td>Isoelectric Focusing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Congenital Hypothyroidism</td>
<td>10/25/07</td>
<td>Normal</td>
<td>Normal</td>
<td>&gt; 4.0 ng/dL</td>
</tr>
<tr>
<td>T4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acylcarnitine Disorders</td>
<td>10/25/07</td>
<td>Abnormal</td>
<td>ABNORMAL</td>
<td>Based on baby's birth weight</td>
</tr>
<tr>
<td>MS/MS screening</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amino Acid Disorders</td>
<td>10/25/07</td>
<td>Normal</td>
<td>Normal</td>
<td>Based on baby's birth weight</td>
</tr>
<tr>
<td>MS/MS screening (Including PKU)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SCID-Immunodeficiency
TREC                       12/12/12 Abnormal Abnormal

Specimen Comments: Undetectable or low number of TREC indicates T-cell development has not taken place properly and that this baby may have SCID or immunodeficiency. ACTION: FLOW CYTOMETRY CONFIRMATORY TESTING

A newborn screening result should not be considered diagnostic, and cannot replace the individualized evaluation and diagnosis of an infant by a well-trained, knowledgeable health care provider.

If you have questions regarding these results, please contact the Newborn Screening Program at (801) 584-8256. Visit our website http://health.utah.gov.

This is where any specifics about results, actions needed and notes from the lab will be entered; not all disorders will have a footnote.
Miscellaneous Forms

Miscellaneous forms are supplied without cost as replacement forms for inadequate specimens, recall specimens, or for use when the original kit form has been lost. The original kit was issued to the parent at the hospital/birthplace.

- Write the original Kit ID Number in each place on the miscellaneous form. This original kit number was issued by the hospital of birth and can usually be obtained from the Kit ID log kept in the hospital nursery. You can also contact the Newborn Screening program to obtain the original kit number.

- Mark the ‘Test Requested’ box for the appropriate screen needed (first or second screen).

- The ‘Recall Screen’ box is to be marked only if you have been instructed to do so by the Newborn Screening program. It is used to notify the laboratory of the need for the recall specimen procedure and testing.

Instructions For Filling Out A Miscellaneous Newborn Screening Form

1. Read all instructions on cover sheet before proceeding. Remove cover sheet.
2. Check expiration date. Do not use if expired.
3. Fill out form completely. Specimen will not be processed until information is complete.
4. Replace miscellaneous number with a stick-on label from the original kit if available (or draw a single line through it and write the number). To obtain the original number call the nursery at the hospital of birth.
Transfusions

Transfused blood adds foreign red blood cells (adult hemoglobin) to the infant's circulation thereby altering the level of fetal hemoglobin and enzymes found in the blood. Infants who have received transfusions containing red blood cells may not have an accurate screen. In addition, dialysis and plasma exchange transfusions may temporarily reduce the concentration of circulating metabolites and hormones for phenylketonuria (PKU) or hypothyroidism. This change may result in a false negative screen for PKU or a false positive screen for hypothyroidism.

- When possible, collect the first screening specimen prior to a transfusion.

- If the first screening specimen is collected after a transfusion, another specimen will be needed when the foreign red blood cells are no longer in circulation (approximately 120 days after the last transfusion given).

- Collect the second screening specimen 7-10 days after a transfusion is given.

- Newborn Screening Program personnel will follow up on all specimens with the 'Transfusion' box marked and/or if the hemoglobinopathy results are indicative of a transfusion (newborn’s results will show a predominance of ‘A’ [adult] hemoglobin).

The Newborn Screening Program will need to review medical records and transfusion history. If a transfusion(s) is documented, instructions will be given for further action.
Sick or Preterm Newborns

The ideal timing to collect the first newborn screen is at 48 hours of life. If the baby is sick or preterm certain interventions affect the newborn screen results. Therefore we recommend the following:

1. Collect the **first** screen before treatment is started or transfusion is given.
   - Certain treatments (TPN, synthetic blood products - darbepoeatin, steroids, antibiotics*) and whole blood transfusion (packed red blood cells, whole blood, in-utero transfusions) can interfere with interpretation of the screening results.
   - Otherwise, collect at 24-48 hours of age.
     *If the infant will only be receiving antibiotics it is best to collect at 24-48 hours (i.e. chorioamnionitis prophylaxis).

2. Collect the **second** screen at 8 days of age
   - Newborns discharged prior to 8 days of age should follow the routine collection requirement of collecting specimen between 7 and 28 days of age.

3. Mark all applicable fields on the newborn screen collection form (i.e. check or fill in the ‘sick/preterm’ box, TPN feeding, etc. as applicable). When marking the transfusion box include the date of the first transfusion or if prior to birth write “in-utero”.
   - This information allows for better result interpretation (differentiation between a possible disorder or a reflection of the medical state of the sick or preterm newborn).
Unsatisfactory Specimens

The Utah State Lab frequently receives blood spot specimens in conditions that are unsatisfactory for testing. Unsatisfactory specimens are known to give invalid results. Submitting unsatisfactory specimens can result in delays and place the newborn at risk. A delay in processing could possibly result in death if the baby has a life-threatening disorder that would have otherwise been diagnosed if a satisfactory specimen was received and processed in a timely fashion.

*Trained staff members review each specimen to determine if it is acceptable for testing or not.*

*If the specimen is determined to be unsatisfactory, the Newborn Screening tests are not done. The newborn's status - normal or abnormal - is unknown.*

- Develop efficient procedures for recalling newborns, preparing data, and collecting filter paper blood spot specimens to replace the unsatisfactory specimens.

- Notification letter and screening result mailer (including the reason the sample was unsatisfactory) are sent to the hospital/birth institution for unsatisfactory first screening specimens [R438-15-4], and to the medical home on unsatisfactory second screening specimens [R438-15-7]. Recollect the screening on a miscellaneous card. Replacement miscellaneous cards can be ordered online. The hospital/birth institution is responsible for the collection of a repeat first screen in the event of an unsatisfactory specimen, *even if the baby is no longer in the facility.*

- Collect the repeat specimen for an unsatisfactory first screen and the specimen for the routine second screen on different days, at least five days apart. The Newborn Screening Program sometimes gets a repeat first specimen *after* having received the routine second specimen from the medical home. If the laboratory has not received the repeat first specimen, *do not draw the second specimen.* Call the facility at which the first specimen was collected and find out when the repeat first specimen was drawn. Make sure one full week has passed prior to collecting the second specimen.

When sending in a recall specimen, you will be instructed to mark the recall screen box.
**Simple Spot Check**

**Invalid Specimens:**

1. Specimen quantity insufficient for testing
2. Specimen appears scratched or abraded.
3. Specimen not dry before mailing.
4. Specimen appears supersaturated.
5. Specimen appears diluted, discolored or contaminated.
6. Specimen exhibits serum rings.
7. Specimen appears clotted or layered.
8. No blood.

**Possible Causes:**

- Removing filter paper before blood has completely filled circle or before blood has soaked through to second side.
- Applying blood to filter paper with a capillary tube.
- Touching filter paper before or after blood specimen collection with gloved or ungloved hands, hand lotion, etc.
- Allowing filter paper to come in contact with gloved or ungloved hands or substances such as hand lotion or powder, either before or after blood specimen collection.
- Applying blood with a capillary tube or other device.
- Mailing specimen before drying for a minimum of four hours.
- Applying excess blood to filter paper, usually with a device.
- Applying blood to both sides of filter paper.
- Squeezing or “milking” of area surrounding the puncture site.
- Allowing filter paper to come in contact with gloved or ungloved hands or substances such as alcohol, formula, antiseptic solutions, water, hand lotion or powder, etc., either before or after blood specimen collection.
- Exposing blood spots to direct heat.
- Not wiping alcohol from puncture site before making skin puncture.
- Allowing filter paper to come in contact with alcohol, hand lotion, etc.
- Squeezing area surrounding puncture site excessively.
- Drying specimen improperly.
- Applying blood to filter paper with a capillary tube.
- Touching the same circle on filter paper to blood drop several times.
- Filling circle on both sides of filter paper.
- Failure to obtain blood specimen.

**Valid Specimen**

Allow a sufficient quantity of blood to soak through to completely fill the pre-printed circle on the filter paper. Fill all required circles with blood. Do not layer successive drops of blood or apply blood more than once in the same collection circle. Avoid touching or smearing spots.
BIRTH RECORD NUMBER (A.K.A. KIT NUMBER)

The Utah Department of Health is legally required to collect three distinct data sets for each birth that occurs in Utah: 1) Newborn Screening data, 2) Newborn Hearing data, and 3) Birth Certificate data. The Department of Health is looking for ways to simplify and unify this effort through the following methods.

Goals:

- Link the three data sets together with a single unique number
- Increase the accuracy of the data being collected
- Improve health status of newborns through enhanced follow-up activities
- Locate newborns missed in screening
- Identify newborns lost to follow-up
- Decrease/eliminate unnecessary contact of families of newborns that have expired.

One of the solutions to simplify newborn data collection is to link the three data collection systems together. This linking is accomplished by identifying each of the data sets with a “Birth Record Number”. The Newborn Screening Kit ID number, which is assigned to each Utah newborn, has been chosen as this number. The number is seven digits in length and includes both alpha and numeric characters (e.g. UT100A200). There are no spaces or hyphens in the number. The Newborn Screening kit will include a set of stick-on labels on the first screening form, which bear the Newborn Screening ID number. These labels can be placed in the field created for them on each of the other records. This unique number, called the “Birth Record Number” in the Hearing Screening and Birth Certificate databases, is used to identify each child.

Instructions:

- Assign the Birth Record Number for the newborn. This is the Newborn Screening kit number.

- Place a Birth Record Number label on the Birth Certificate worksheet, the Hearing Screening log, and the Newborn Screening log.
  
  For Hearing Screening:
  Hi*Track database use the ‘Alternate record #’ field
  Hi*Screen database use the ‘Medical ID’ field

  For Birth Certificate database:
  Use the ‘Newborn Screening Number’ field

- If the first newborn screening form becomes contaminated or
unusable for any reason, use a miscellaneous form. Enter the original kit number (one of the Birth Record Number labels may be applied over the miscellaneous number in each place) and mark the ‘Test Requested’ box as ‘First Screen’. Collect the blood specimen.

- If the newborn expires prior to obtaining the newborn screen it is not necessary to assign a Birth Record Number. Enter “deceased” into the ‘Newborn Screening number’ field on the Birth Certificate, and into the ‘inpatient screening results’ field of the Hi*Track Hearing Screening database.

- Transfer of newborn to another institution:
  1) If transferred prior to assigning the Birth Record Number:
     a) Enter “transferred” into the ‘Newborn Screening number’ field on the Birth Certificate.
     b) The receiving hospital is responsible for assigning the Birth Record Number, collecting the newborn screen first specimen, and entering the given Birth Record Number into the Hearing Screening database.
  2) If transferred after assigning the Birth Record Number and collecting the newborn screening first specimen, but before the hearing screen is done:
     a) Notify the receiving nursery that the first newborn screening has been done and give the assigned Birth Record Number.
     b) The receiving nursery is responsible for entering the Birth Record Number into the Hearing Screening database.

- Keep a detailed record of the assigned Birth Record Number for each infant, including the date each of the newborn screening specimens were drawn, and who the baby’s medical home is.

<table>
<thead>
<tr>
<th>Date of Birth</th>
<th>Name</th>
<th>Birth Weight</th>
<th>Birth Record/Kit ID #</th>
<th>1(^{st}) done</th>
<th>Initials</th>
<th>2(^{nd}) done</th>
<th>Initials</th>
<th>Medical Home</th>
</tr>
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<tbody>
<tr>
<td>1/1/2015</td>
<td>Smith</td>
<td>3216</td>
<td>000A100</td>
<td>1/3/15</td>
<td>SB</td>
<td>1/15/15</td>
<td>SB</td>
<td>Bob Jones</td>
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<tr>
<td>1/2/2015</td>
<td>Jones</td>
<td>3159</td>
<td>000A000</td>
<td>1/4/15</td>
<td>FK</td>
<td>D/C</td>
<td>FK</td>
<td>Family Peds.</td>
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Example: Birth Record Number Log -- Include the baby’s date of birth, name, and assigned Birth Record Number. A stick-on label from the back of the first newborn screen form may be used. Make sure there is a place for the specimen collection date for both the first and the second screen, as some babies are still in the hospital at that time. If the baby has left the hospital before the second screen was drawn, “discharged” may be entered. The name of the baby’s doctor or medical home should also be included in case the information is needed at a later date (i.e. the baby had an abnormal Newborn Screen and the doctor must be notified but no doctor was listed on the card). You may use our log (located on the following page), or create your own.
Birth Record Number/Newborn Screening Log

<table>
<thead>
<tr>
<th>Date of Birth</th>
<th>Name</th>
<th>Birth Weight (g)</th>
<th>Birth Record/Kit ID #</th>
<th>1st Done</th>
<th>Initials</th>
<th>2nd Done</th>
<th>Initials</th>
<th>Medical Home/Provider</th>
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NEWBORN SCREENING STATUTE

26-10-6 Testing of newborn infants.
(1) Except in the case where parents object on the grounds that they are members of a specified, well-recognized religious organization whose teachings are contrary to the tests required by this section, a newborn infant shall be tested for:
   (a) phenylketonuria (PKU);
   (b) other heritable disorders which may result in an intellectual or physical disability or death and for which:
      (i) a preventive measure or treatment is available; and
      (ii) there exists a reliable laboratory diagnostic test method;
   (c)
      (i) an infant born in a hospital with 100 or more live births annually, hearing loss; and
      (ii) an infant born in a setting other than a hospital with 100 or more live births annually, hearing loss; and
   (d) critical congenital heart defects using pulse oximetry.

(2) In accordance with Section 26-1-6, the department may charge fees for:
   (a) materials supplied by the department to conduct tests required under Subsection (1);
   (b) tests required under Subsection (1) conducted by the department;
   (c) laboratory analyses by the department of tests conducted under Subsection (1); and
   (d) the administrative cost of follow-up contacts with the parents or guardians of tested infants.

(3) Tests for hearing loss described in Subsection (1) shall be based on one or more methods approved by the Newborn Hearing Screening Committee, including:
   (a) auditory brainstem response;
   (b) automated auditory brainstem response; and
   (c) evoked otoacoustic emissions.

(4) Results of tests for hearing loss described in Subsection (1) shall be reported to:
   (a) the department; and
   (b) when results of tests for hearing loss under Subsection (1) suggest that additional diagnostic procedures or medical interventions are necessary:
      (i) a parent or guardian of the infant;
      (ii) an early intervention program administered by the department in accordance with Part C of the Individuals with Disabilities Education Act, 20 U.S.C. Sec. 1431 et seq.; and
      (iii) the Utah Schools for the Deaf and the Blind, created in Section 53E-8-201.

(5)
   (a) There is established the Newborn Hearing Screening Committee.
   (b) The committee shall advise the department on:
      (i) the validity and cost of newborn infant hearing loss testing procedures; and
      (ii) rules promulgated by the department to implement this section.
   (c) The committee shall be composed of at least 11 members appointed by the executive director, including:
      (i) one representative of the health insurance industry;
      (ii) one pediatrician;
      (iii) one family practitioner;
      (iv) one ear, nose, and throat specialist nominated by the Utah Medical Association;
      (v) two audiologists nominated by the Utah Speech-Language-Hearing Association;
      (vi) one representative of hospital neonatal nurseries;
(vii) one representative of the Early Intervention Baby Watch Program administered by the department;
(viii) one public health nurse;
(ix) one consumer; and
(x) the executive director or the executive director’s designee.

(d) Of the initial members of the committee, the executive director shall appoint as nearly as possible half to two-year terms and half to four-year terms. Thereafter, appointments shall be for four-year terms except:
   (i) for those members who have been appointed to complete an unexpired term; and
   (ii) as necessary to ensure that as nearly as possible the terms of half the appointments expire every two years.

(e) A majority of the members constitute a quorum, and a vote of the majority of the members present constitutes an action of the committee.

(f) The committee shall appoint a chairman from the committee’s membership.

(g) The committee shall meet at least quarterly.

(h) A member may not receive compensation or benefits for the member’s service, but may receive per diem and travel expenses in accordance with:
   (i) Section 63A-3-106;
   (ii) Section 63A-3-107; and
   (iii) rules made by the Division of Finance pursuant to Sections 63A-3-106 and 63A-3-107.

(i) The department shall provide staff for the committee.

(6) Before implementing the test required by Subsection (1)(d), the department shall conduct a pilot program for testing newborns for critical congenital heart defects using pulse oximetry. The pilot program shall include the development of:
   (a) appropriate oxygen saturation levels that would indicate a need for further medical follow-up; and
   (b) the best methods for implementing the pulse oximetry screening in newborn care units.
Appendix B

R438. Disease Control and Prevention.
R438-15-1. Purpose and Authority.
(1) The purpose of this rule is to facilitate early detection, prompt referral, early treatment, and prevention of disability and mental retardation in infants with certain genetic and endocrine disorders.
(2) Authority for the Newborn Screening program and promulgation of rules to implement the program are found in Sections 26-1-6, 26-1-30 and 26-10-6.

(1) "Abnormal test result" means a result that is outside of the normal range for a given test.
(2) "Appropriate specimen" means a blood specimen submitted on the Utah Newborn Screening form that conforms with the criteria in R438-15-9.
(3) "Blood spot" means a clinical specimen(s) submitted on the filter paper (specially manufactured absorbent specimen collection paper) of the Newborn Screening form using the heel stick method.
(4) "Department" means the Utah Department of Health.
(5) "Follow up" means the tracking of all newborns with an abnormal result, inadequate or unsatisfactory specimen or a quantity not sufficient specimen through to a normal result or confirmed diagnosis and referral.
(6) "Inadequate specimen" means a specimen determined by the Newborn Screening Laboratory to be unacceptable for testing.
(7) "Indeterminate result" means a result that requires another specimen to determine normal or abnormal status.
(8) "Institution" means a hospital, alternate birthing facility, or midwife service in Utah that provides maternity or nursery services or both.
(9) "Medical home/practitioner" means a person licensed by the Department of Commerce, Division of Occupational and Professional Licensing to practice medicine, naturopathy, or chiropractic or to be a nurse practitioner, as well as the licensed or unlicensed midwife who takes responsibility for delivery or the on-going health care of a newborn.
(10) "Metabolic diseases" means those diseases screened by the Department which are caused by an inborn error of metabolism.
(11) "Newborn Screening form" means the Department's demographic form with attached Food and Drug Administration (FDA)-approved filter paper medical collection device.
(12) "Quantity not sufficient specimen" or "QNS specimen" means a specimen that has been partially tested but does not have enough blood available to complete the full testing.
(13) "Unsatisfactory specimen" means an inadequate specimen.

(1) Newborn Screening Advisory Committee shall be composed of at least 9 members as follows:
(a) an individual with an advanced degree (MS/PhD/MD) in genetics or other relevant field, who will serve as Chair;
(b) a representative from the Utah Hospital Association;
(c) a community pediatrician;
(d) the Director of the Division of Disease Control and Prevention;
(e) an advocate or a consumer of a newborn screening services;
(f) clinical consultants for the Newborn Screening program;
(g) a representative from the Utah Public Health Laboratory
(h) a representative from the Newborn Screening Follow-up Program;
(i) a representative from the research community with knowledge about disorders considered for future addition to the newborn screening panel.

(2) The Department Executive Director shall approve committee membership with counsel from the advisory committee.

(3) The term of committee members shall be four years;
(a) members may serve up to three additional terms as requested;
(b) if a vacancy occurs in the committee membership for any reason, a replacement shall be appointed for the unexpired term in the same manner as the original appointment;
(c) a majority of the committee constitutes a quorum at any meeting. If a quorum is present, the action of the majority of members shall be the action of the advisory committee.

(4) The committee shall:
(a) advise the Department on policy issues related to newborn screening services;
(b) provide guidance to programs and functions within the Department having to do with newborn screening services and
(c) evaluate potential tests that could be added to newborn or population screening and make recommendations to the Department.


(1) Each newborn in the state of Utah shall submit to the Newborn Screening testing, except as provided in Section R438-15-12.

(2) The Department of Health, after consulting with the Newborn Screening Advisory Committee, will determine the disorders on the Newborn Screening Panel, based on demonstrated effectiveness and available funding. Disorders for which the infant blood is screened are:
(a) Biotinidase Deficiency;
(b) Congenital Adrenal Hyperplasia;
(c) Congenital Hypothyroidism;
(d) Galactosemia;
(e) Hemoglobinopathy;
(f) Amino Acid Metabolism Disorders:
(i) Phenylketonuria (phenylalanine hydroxylase deficiency and variants);
(ii) Tyrosinemia type 1 (fumarylacetoacetate hydrolase deficiency); 
(iii) Tyrosinemia type 2 (tyrosine amino transferase deficiency);
(iv) Tyrosinemia type 3 (4-OH-phenylpyruvate dioxygenase deficiency);
(v) Maple Syrup Urine Disease (branched chain ketoacid dehydrogenase deficiency);
(vi) Homocystinuria (cystathionine beta synthase deficiency);
(vii) Citrullinemia (arginino succinic acid synthase deficiency);
(viii) Argininosuccinic aciduria (argininosuccinic acid lyase deficiency);
(ix) Argininemia (arginase deficiency);
(x) Hyperprolinemia type 2 (pyrrole-5-carboxylate dehydrogenase deficiency);
(g) Fatty Acid Oxidation Disorders:
(i) Medium Chain Acyl CoA Dehydrogenase Deficiency;
(ii) Very Long Chain Acyl CoA Dehydrogenase Deficiency;
(iii) Short Chain Acyl CoA Dehydrogenase Deficiency;
(iv) Long Chain 3-OH Acyl CoA Dehydrogenase Deficiency;
(v) Short Chain 3-OH Acyl CoA Dehydrogenase Deficiency;
(vi) Primary carnitine deficiency (OCTN2 carnitine transporter defect);
(vii) Carnitine Palmitoyl Transferase I Deficiency;
(viii) Carnitine Palmitoyl Transferase 2 Deficiency;
(ix) Carnitine Acylcarnitine Translocase Deficiency;
(x) Multiple Acyl CoA Dehydrogenase Deficiency;
(h) Organic Acids Disorders:
(i) Propionic Acidemia (propionyl CoA carboxylase deficiency);
(ii) Methylmalonic acidemia (multiple enzymes);
(iii) Malonic Aciduria;
(iv) Isovaleric acidemia (isovaleryl CoA dehydrogenase deficiency);
(v) 2-Methylbutylryl CoA dehydrogenase deficiency;
(vi) Isobutyryl CoA dehydrogenase deficiency;
(vii) 2-Methyl-3-OH-butryl-CoA dehydrogenase deficiency;
(viii) Glutaric acidemia type 1 (glutaryl CoA dehydrogenase deficiency);
(ix) 3-Methylcrotonyl CoA carboxylase deficiency;
(x) 3-Ketothiolase deficiency;
(xi) 3-Hydroxy-3-methyl glutaryl CoA lyase deficiency;
(xii) Holocarboxylase synthase (multiple carboxylases) deficiency;
(i) Cystic Fibrosis;
(j) Severe Combined Immunodeficiency syndrome; and
(k) Disorders of Creatine Metabolism and Spinal Muscular Atrophy

(1) If the newborn is born in an institution, the institution must collect and submit an appropriate specimen, unless the newborn is transferred to another institution prior to 48 hours of age.
(2) If the newborn is born outside of an institution, the practitioner or other person primarily responsible for providing assistance to the mother at the birth must arrange for the collection and submission of an appropriate specimen.
(3) If there is no other person in attendance of the birth, the parent or legal guardian must arrange for the collection and submission of an appropriate specimen.
(4) If the newborn is transferred to another institution prior to 48 hours of age, the receiving health institution must collect and submit an appropriate specimen.

The first specimen shall be collected between 24 and 48 hours of the newborn's life. Except:
(1) If the newborn is discharged from an institution before 48 hours of age, an appropriate specimen must be collected within four hours of discharge.
(2) If the newborn is to receive a blood transfusion or dialysis, the appropriate specimen must be collected immediately before the procedure, except in emergency situations where time does not allow for collection of the specimen. If the newborn receives a blood transfusion or dialysis prior to collecting the appropriate specimen the following must be done:
(a) Repeat the collection and submission of an appropriate specimen 7-10 days after last transfusion or dialysis for a second screening specimen;
(b) Repeat the collection and submission of an appropriate specimen 120 days after last transfusion or dialysis for a first screening specimen.

The person who has responsibility under Section R438-15-5 shall inform the parent or legal guardian of the required collection and submission and the disorders screened. That person shall give the second half of the Newborn Screening form to the parent or legal guardian with instructions on how to arrange for collection and submission of the second specimen.
   A second specimen shall be collected between 7 and 16 days of age.
   (1) The parent or legal guardian shall arrange for the collection and submission of the appropriate second specimen through an institution, medical home/practitioner, or local health department.
   (2) If the newborn's first specimen was obtained prior to 24 hours of age, the second specimen shall be collected by fourteen days of age.
   (3) If the newborn is hospitalized beyond the seventh day of life, the institution shall arrange for the collection and submission of the appropriate second specimen.

   (1) The institution or medical home/practitioner collecting the appropriate specimen must:
      (a) Use only a Newborn Screening form purchased from the Department. The fee for the Newborn Screening form is set by the Legislature in accordance with Section 26-1-6;
      (b) Correctly store the Newborn Screening form;
      (c) Not use the Newborn Screening form beyond the date of expiration;
      (d) Not alter the Newborn Screening form in any way;
      (e) Complete all information on the Newborn Screening form. If the infant is being adopted, the following may be omitted: infant's last name, birth mother's name, address, and telephone number. Infant must have an identifying name, and a contact person must be listed;
      (f) Apply sufficient blood to the filter paper;
      (g) Not contaminate the filter paper with any foreign substance;
      (h) Not tear, perforate, scratch, or wrinkle the filter paper;
      (i) Apply blood evenly to one side of the filter paper and be sure it soaks through to the other side;
      (j) Apply blood to the filter paper in a manner that does not cause caking;
      (k) Collect the blood in such a way as to not cause serum or tissue fluids to separate from the blood;
      (l) Dry the specimen properly;
      (m) Not remove the filter paper from the Newborn Screening form.
   (2) Submit the completed Newborn Screening form to the Utah Department of Health, Newborn Screening Laboratory, 4431 South 2700 West, Taylorsville, Utah 84119.
      (a) The Newborn Screening form shall be placed in an envelope large enough to accommodate it without folding the form.
      (b) If mailed, the Newborn Screening form shall be placed in the U.S. Postal system within 24 hours of the time the appropriate specimen was collected.
      (c) If hand-delivered, the Newborn Screening form shall be delivered within 48 hours of the time the appropriate specimen was collected.

R438-15-10. Abnormal Result.
   (1)(a) If the Department finds an abnormal result consistent with a disease state, the Department shall send written notice to the medical home/practitioner noted on the Newborn Screening form.
      (b) If the Department finds an indeterminate result on the first screening, the Department shall determine whether to send a notice to the medical home/practitioner based on the results on the second screening specimen.
   (2) The Department may require the medical home/practitioner to collect and submit additional specimens for screening or confirmatory testing. The Department shall pay for the initial confirmatory testing on the newborn requested by the Department. The Department may recommend additional diagnostic testing to the medical home/practitioner. The cost of additional testing recommended by the Department is not covered by the Department.
   (3) The medical home/practitioner shall collect and submit specimens within the time frame and in the manner instructed by the Department.
(4) As instructed by the Department or the medical home/practitioner, the parent or legal guardian of a newborn identified with an abnormal test result shall promptly take the newborn to the Department or medical home/practitioner to have an appropriate specimen collected.

(5) The medical home/practitioner who makes the final diagnosis shall complete a diagnostic form and return it to the Department within 30 days of the notification letter from the Department.

**R438-15-11. Inadequate or Unsatisfactory Specimen, or QNS Specimen.**

If the Department finds an inadequate or unsatisfactory specimen, or QNS specimen, the Department shall inform the institution or medical home/practitioner noted on the Newborn Screening form.

(1) The institution or medical home/practitioner that submitted the inadequate or unsatisfactory, or QNS specimen shall submit an appropriate specimen in accordance with Section R438-15-9. The responsible institution or medical home/practitioner shall collect and submit the new specimen within two days of notice, and the responsible institution or medical home/practitioner shall label the form for testing as directed by the Department.

(2) The parent or legal guardian of a newborn identified with an inadequate or unsatisfactory specimen or QNS specimen shall promptly take the newborn to the institution or medical home/practitioner to have an appropriate specimen collected.

**R438-15-12. Testing Refusal.**

A parent or legal guardian may refuse to allow the required testing for religious reasons only. The medical home/practitioner or institution shall file in the newborn's record documentation of refusal, reason, education of family about the disorders, and a signed waiver by both parents or legal guardian. The practitioner or institution shall submit a copy of the refusal to the Utah Department of Health, Newborn Screening Program, P.O. Box 144710, Salt Lake City, UT 84114-4710.


(1) The Department shall have access to the medical records of a newborn in order to identify medical home/practitioner, reason appropriate specimen was not collected, or to collect missing demographic information.

(2) The institution shall enter the Newborn Screening form number, also known as the Birth Record Number, into the Vital Records database and the Newborn Hearing Screening database.

**R438-15-14. Noncompliance by Parent or Legal Guardian.**

If the medical home/practitioner or institution has information that leads it to believe that the parent or legal guardian is not complying with this rule, the medical home/practitioner or institution shall report such noncompliance as medical neglect to the Department.

**R438-15-15. Confidentiality and Related Information.**

(1) The Department initially releases test results to the institution of birth for first specimens and to the medical home/practitioner, as noted on the Newborn Screening form, for the second specimen.

(2) The Department notifies the medical home/practitioner noted on the Newborn Screening form as provided in Section R438-15-10(1) of any results that require follow up.

(3) The Department releases information to a medical home/practitioner or other health practitioner on a need to know basis. Release may be orally, by a hard copy of results or available electronically by authorized access.

(4) Upon request of the parent or guardian, the Department may release results as directed in the release.

(5) All requests for test results or records are governed by Utah Code Title 26, Chapter 3.
The Department may release information in summary, statistical, or other forms that do not identify particular individuals.

A testing laboratory that analyzes newborn screening samples for the Department may not release information or samples without the Department's express written direction.


1. Blood spots become the property of the Department.
2. The Department includes in parent education materials information about the Department's policy on the retention and use of residual newborn blood spots.
3. The Department may use residual blood spots for newborn screening quality assessment activities.
4. The Department may release blood spots for research upon the following:
   a. The person proposing to conduct the research applies in writing to the Department for approval to perform the research. The application shall include a written protocol for the proposed research, the person's professional qualifications to perform the proposed research, and other information if needed and requested by the Department. When appropriate, the proposal will then be submitted to the Department's Internal Review Board for approval.
   b. The Department shall de-identify blood spots it releases unless it obtains informed consent of a parent or guardian to release identifiable samples.
   c. All research must be first approved by the Department's Internal Review Board.

**R438-15-17. Retention of Blood Spots.**

1. The Department retains blood spots for a minimum of 90 days.
2. Prior to disposal, the Department shall de-identify and autoclave the blood spots.

**R438-15-18. Reporting of Disorders.**

If a diagnosis is made for one of the disorders screened by the Department that was not identified by the Department, the medical home/practitioner shall report it to the Department.


As required by Subsection 63G-3-201(5): Any medical home/practitioner or institution responsible for submission of a newborn screen that violates any provision of this rule may be assessed a civil money penalty as provided in Section 26-23-6.

**KEY:** health care, newborn screening

**Date of Enactment or Last Substantive Amendment:** January 29, 2018

**Authorizing, and Implemented or Interpreted Law:** 26-1-6; 26-1-30; 26-10-6
RELIGIOUS OBJECTION TO NEWBORN SCREENING

I/We, ________________________________ and ________________________________, Print Parent or Guardian Full Name Print Parent or Guardian Full Name am/are the parent(s)/legal guardian(s) of ________________________________, who was born on _____/_____/_________. Name of Infant Month Day Year

I/We understand that Utah law [§ 26-10-6(1)] requires that each newborn infant be tested for disorders which may result in an intellectual or physical disability or death. Disorders for which infants are screened are listed under Utah Rule 438-15-4(2).

I/we further understand that religious objection is the only reason which Utah rule allows for refusal to have newborn screening performed.

I/We understand that failure to detect and treat any of these conditions within the first few days or weeks of life can be life threatening or cause significant handicaps, including mental retardation.

I/We have received a copy of the Newborn Screening informational brochure and have read it. Our health care provider _________________________________ has informed us of the seriousness of these conditions.

With full knowledge of the possible consequences, I/we object to the newborn screening testing on the grounds that I/we am/are members of the __________________________________ religion, which is a specified, well recognized, religious organization whose teachings are contrary to the testing required by Utah law for each newborn infant.

______________________________ ____/____/_________ Parent/Guardian Signature Date

______________________________ ____/____/_________ Parent/Guardian Signature Date

Witnessed by (Print Name): _______________________________

______________________________ ____/____/_________ Witness Signature Date

Fax or Mail completed and signed form to:
Utah Department of Health Newborn Screening Program
PO Box 144710 - Salt Lake City - Utah 84114-4710
Fax: 801-536-0966
FREQUENTLY ASKED QUESTIONS

What do we do if the family brings their baby in for his/her second screen and they forgot/lost the second screen card?

• **Use a miscellaneous form.** Miscellaneous forms are supplied without cost as replacement forms for inadequate specimens, for recall specimens, or for use when the original kit form that was given to the parent/caregiver by the hospital or birthplace has been lost.

  • Write the original Kit ID Number in place of the miscellaneous number in all three places on the form. This original kit number was issued by the hospital of birth and can usually be obtained from the Kit ID log kept in the hospital nursery.

  • Mark the ‘Test Requested’ box for the appropriate screen needed. Please mark if you are requesting a first or a second screen.

  • The ‘Recall Screen’ box is to be marked only if you have been instructed to do so by the program. It is used to notify the lab of the need for the recall specimen procedure and testing.

We have to use a miscellaneous form, how do we get the baby’s original Kit ID number?

• **This original kit number was issued by the hospital of birth and can usually be obtained from the Kit ID log kept in the hospital nursery.** If you are having trouble obtaining the number from the hospital, please call the Newborn Screening Program for assistance.

We have a baby that was born at home and he/she never had a first screen, what do we do?

• **If the newborn is born outside of an institution, the practitioner or other person primarily responsible for providing assistance to the mother at the birth must arrange for the collection and submission of an appropriate specimen.** If there is no other person in attendance of the birth, the parent or legal guardian must arrange for the collection and submission of an appropriate specimen. The parents can purchase a Newborn Screening Kit by contacting the Newborn Screening Program prior to the birth of the baby.

We accidentally put the blood for the first screen on the second screen card or vice versa?

• **Sometimes there is an error and the blood is placed on the wrong card.** Rather than throw out the specimen, you may use that card and send it in. **Make sure to write on the card what screen it is.** If it is a first screen on a second card – write **FIRST SCREEN** on the card. If it is a second screen one a first card – write **SECOND SCREEN** on the card. Do not use whiteout.

What if the baby was not born in Utah?

• **Follow the protocol for the state the baby was born in.** Each state’s newborn screening laws and rules are different.
The baby was adopted; what demographic information should we put on the newborn screening card?

- **Adoption issues may cause some confusion.** The Newborn Screening Program maintains patient and record confidentiality. The first screening form must be completed with information to identify the baby and health care provider. If there is concern about entering the birth mother’s information, the adoptive agency or adoptive mother’s information may be entered. A contact person **must** be entered. [R438-15-9 (e)] The second screening form and education should be given to the adoptive agent or adoptive parents with instructions for collection and submission of the second screen specimen. Do not fill out the information on the second screen card. The card should be completed at the health care provider’s office with the adoptive names entered.

- **For surrogate births.** Complete the first screen with the birth mother’s information (not biological mother). Mark adoption on the card and write in surrogate next to the adoption bubble.

We have a baby that needs a second screen but he/she has casts on both feet, what should we do?

- **If the baby has casts on both feet and the baby did not have any abnormal tests on his/her first screen, obtain second screen when/if casts are changed or when the casts are removed.** We can screen babies up to six months of age. If the baby had abnormal test results please contact the Newborn Screening Program to determine plan of care.

What if the parents refuse to have a newborn screen done?

- **A parent or legal guardian may refuse to allow the required testing for religious reasons only.** The medical home/practitioner or institution shall file in the newborn’s record documentation of refusal, reason, education of family about the disorders, and signed waiver by both parents or legal guardian. The practitioner or institution shall submit a copy of the refusal to the Utah Department of Health, Newborn Screening Program, P.O. Box 144710, Salt Lake City, UT 84114-4710.