

Newborn Critical Care Center (NCCC) Clinical Guidelines

Newborn Metabolic Screening

GENERAL INFORMATION

1. State policy recommends that a repeat metabolic screen be done on all transfers within 48 hours after admission, **regardless of whether or not a sample was obtained at the transferring institution.**
2. *All infants with birth weight < 1500 grams should have a repeat newborn screen at 4-6 weeks of age or discharge, whichever comes first. If discharge is prior to 4-6 weeks of age, a repeat specimen should be sent at 4-6 weeks of age.*

Parents/legal guardians have a right to refuse both the metabolic and hearing testing for their child but **must** sign refusal forms.

METABOLIC SCREENING

- The optimal time for metabolic screening is 24 - 48 hours of age. The screen must be obtained after 24 hours unless patient is being transfused.
- A blood specimen should be obtained from every infant born at UNC Health Care System. If the patient is **discharged or transferred prior to 24 hours of age, a specimen should be obtained prior to discharge or transfer.**
- Infants discharged and screened prior to 24 hours of age should have a repeat screening test performed by one week of age. It is ultimately the responsibility of the infant's health care provider whose name is noted on the newborn screening form to obtain a repeat specimen in a timely manner.
- An infant should be screened regardless of the status of feedings between 24 - 48 hours of age. The infant may need to be screened again at a later time.
- The blood specimen should not be obtained from a central line if an amino acid solution is being infused.
- Use of capillary tubes to transfer blood is **not** recommended because the tubes disable filter paper and cause over absorption.
- If an infant is less than 24 hours of age and needs a blood product transfusion, it is optimal to collect a specimen before the infant is transfused. Another screen should be sent between 24 - 48 hours of age. **If a transfusion is given prior to the initial screen,** a repeat screen will need to be drawn 4 months after the last transfusion. This is primarily used as a screen for sickle cell disease or trait given the time required for Hb S to increase following a transfusion.

RESULTS AND REPORTING

- Results can be accessed at the [NC State Laboratory of Public Health](#) website

- The reporting of abnormal screening results by the state lab should be accompanied by recommendations for follow-up or additional testing. If there are questions, discuss these issues with NCCC attending/fellow and consider consulting appropriate subspecialties for further recommendations.

FURTHER SCREENING

Cystic Fibrosis

- This is a two-tier screening process – first IRT then DNA testing. Specimens are reported abnormal for CF if mutations are identified or if IRT > 175 ng/mL
State lab contact: Sarah Rutherford 919-707-5572
- A sweat test should then be performed once patient is > 2.5 kg.
- Contact person for sweat test:
Benjamin Butler Phone: (984) 974-9538 Pager: 216-8017

SCID

- Abnormal result – Contact immunology for additional testing.
- Borderline Result
 - Infants with BW <2300 grams *AND* <36 weeks adjusted gestational age
 - Repeat NBS every two weeks until one of the conditions below is met:
 - Screen is normal – no further workup or additional NBS indicated
 - Infant is 36 weeks CGA and screen remains borderline
 - Consult Immunology
 - Screen becomes abnormal
 - Consult Immunology
 - Infants BW <2300 grams *AND* ≥36 weeks adjusted gestational age
 - Repeat NBS
 - Repeat screen normal
 - No further workup or additional NBS indicated
 - Repeat screen borderline or abnormal
 - Consult Immunology
 - Infants BW >2300 grams
 - Repeat NBS within 48 hours
 - Repeat screen normal
 - No further workup or additional NBS indicated
 - Repeat screen borderline or abnormal
 - Consult Immunology
- If a UNC Allergy Immunology consult is indicated, please place an order for the consult in EPIC with the comment “increased risk for SCID on NBS.” Please page the on-call Fellow to alert them of the consult or if you have additional questions.

Thyroid Screening

- See [Thyroid Screening and Therapy Guidelines](#)

FOR ADDITIONAL INFORMATION

- Contact UNC Newborn Screening Coordinator:
 - Karla Glover or Kelli Benson CN IV
Phone 984-974-3534

- NC State Laboratory of Public Health:
 - [Newborn Screening](#) website
 - [List of conditions tested](#)
 - Contact Number: 919-733-3937 (customer service) or 919-807-8938 (newborn screen director – April Burrell)