

## Newborn Screening for NICU Infants Weighing Less Than 1800 Grams at Birth

### Newborn screening and premature infants

Newborn screening is an important part of infant health maintenance. However, newborn screening of the premature, low birth weight, and ill infants is not a simple or straightforward process.

The neonates' immaturity and the necessary therapeutic interventions may combine to interfere with both the collection of samples and the interpretation of newborn screening results.

### Why should premature infants be screened differently?

Infants weighing less than 1800 grams at birth should be screened differently to minimize both false positive and false negative results.

Collecting three specimens from each infant, and viewing the results together, will give a clearer picture of the neonate's risk for the disorders on Minnesota's screening panel.

### How should the specimens be collected?

Specimens should be collected on the yellow NICU screening cards at 24-48 hours after birth, 14 days of age, and 30 days of age. Ordering all three screens upon the infant's admission to the NICU will be most efficient.

### What if a transfusion is required?

If the infant requires transfusion before 24 hours of age, collect the initial specimen pre-transfusion and the next specimen at 14 days of age. A pre-transfusion specimen is essential for detection of some of the newborn screening disorders. If the infant receives a blood transfusion before the screen is collected, the newborn screen must be repeated 90 days after the **last** transfusion. Results from a transfused specimen are not valid and may represent a false negative.

### What if the infant is discharged before a repeat sample is collected?

If discharge is scheduled before the 14 or 30 day mark, the newborn screening specimen should be collected at discharge. The 14 and 30 day specimens should not be collected on outpatients.

### Are these screens done differently than regular newborn screens?

No. The laboratory testing is the same. Clinicians will still be notified of all abnormal results.

### Are the reports different?

The report format is the same for all newborns, but each report on an infant weighing less than 1800 grams at birth reminds the clinician to view all three screens together.

The following situations are reported differently for infants weighing less than 1800 grams at birth:

- If the initial screen for congenital adrenal hyperplasia (CAH) is positive, the report will suggest clinical evaluation of the infant and a repeat screen at 14 days of age. Positive results on repeat screens will be treated in the same way as positive results in other babies.
- If the amino acid pattern is consistent with total parenteral nutrition (TPN) on the initial or 14 day sample, no special action will be recommended; the next screening sample will simply be requested. Only if the result is consistent with TPN on the 30 day specimen is the request made to measure plasma amino acids when the child is receiving enteral feedings.

### Where can I get additional information?

- NICU Provider Manual:  
[www.health.state.mn.us/newbornscreening](http://www.health.state.mn.us/newbornscreening)
- Newborn Screening Program:  
(800) 664-7772  
[www.health.state.mn.us/newbornscreening](http://www.health.state.mn.us/newbornscreening)

