



NCCU CLINICAL GUIDELINES

SECTION: 10

METABOLIC MANAGEMENT

Section: 10 Metabolic Management
Newborn Screening Test (NST)
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NEWBORN SCREENING TEST (NBST)

Newborn screening involves testing infant to enable early detection of treatable metabolic disorders so that infants can be identified and treated before problems occur. The range of diseases which are tested for are not clinically obvious at birth, but unless treated early they can cause damage. Screening is the first step in a two-step process. The first screening test indicates a problem MAY be present, and then a second diagnostic test confirms whether or not the problem or disease is truly present.

THE FOLLOWING DISORDERS CAN BE DETECTED BY THE NEWBORN SCREEN.

- Phenylketonuria
- Congenital Hypothyroidism
- Galactosaemia
- Cystic Fibrosis
- Amino Acid Disorders
- Fatty Acid Oxidation Disorders
- Organic Acid Disorders

See publication - [WA Newborn Screening Program: Your newborn baby's screening test.](#)

TESTING ALL INFANTS AT 48 - 72 HOURS OF AGE

- All infants that are discharged home prior to 48 hours of age must have follow-up arranged to complete a NBST prior to leaving the nursery with VNS or VMS.
- All infants that require a blood transfusion or exchange transfusion prior to 48 hours of age are to have a NBST collected prior to commencement of the transfusion.
- All deceased infants prior to death if possible.

REPEATING NEWBORN SCREENING TESTS

- VLBW infants' birthweight <1500grams require a repeat test on Days 14.
- ELBW infants' birthweight ≤1000grams require a repeat test on Days 14 and 28.
- All infants that receive a blood transfusion or exchange transfusion prior to 48hours of age require a repeat NBST >48 hours after the transfusion.

PROCEDURE

1. Identify when the infant is due for the test, and ensure that the timing of collection is appropriate. Refer to the procedure instructions on sample collection.
2. Ensure parents have been provided with information about the NBST prior to collection. Clearly print ALL the required information on the NBST card.

- Throughout handling of the card, ensure that the collection circles are not touched or contaminated by oils, sweat, and talc from gloves, or Vaseline.
- Collect sample on the back of the card. Ensure all 3 circles are completely filled, and that blood has penetrated both sides of the card. Requirement for analysis of results. Place infant's addressograph on the back of the NBST card and check against infant's identity band.
- Check that all required information is correctly documented on NBST card
- Place the NBST card on the drying rack and allow to dry for ≥ 4 hours before sending to PMH Clinical Biochemistry in designated envelopes.

Fig 1: NEWBORN SCREENING CARD

DOCUMENTATION

- Following sample collection, record the following on the card:
 - Meconium plug / meconium ileus
 - Family history of cystic fibrosis (siblings)
 - Pre/post blood/exchange transfusion
 - Medications: e.g. Hep B immunoglobulin, Antibiotics
 - TPN and/or type of feed
 - Neonatal death
- Document the NBST card number and sample collection date in the following places:
 - Personal Health Record Book.
 - Neonatal Discharge Assessment (MR 430)
 - Neonatal Observation Chart and Assessment