

Newborn Metabolic Screening

Purpose: To establish a uniform procedure for obtaining newborn screening blood samples for all newborns at ANMC.

The success of the Alaska(AK) Newborn Screening Program depends on the coordinated efforts and responsibilities of laboratory and health care providers. Practitioners are responsible for the collection and handling of screening specimens (this has been delegated to the nursing and CMA staff on campus) and prompt follow up of lost specimens or abnormal results.

Guidelines:

1. At the time of birth, fill out both sections of the Newborn Screen card as completely as possible.
2. Explain purpose of testing to mother.
3. Collection of first specimen must be done prior to 48 hours of age. Since ANMC always performs, or has primary provider perform a second newborn screening prior to 21 days of age (this usually occurs around 14 days of age), the first newborn screening can occur at any time without consideration for intake.
 - Since every heelstick or venipuncture- causes pain in the newborn, consolidation of laboratory draws should always occur. Therefore, regardless of timing and feeding history, if blood is being collected from the infant for other labs, the 1st metabolic screen will be done at that time.
 - If the infant requires no other lab work other than newborn screening, attempts should be made to draw the 1st metabolic screen at 24 hours of age.
4. At collection time ensure all information is filled out completely.
 - Hyperalimentation and antibiotic therapy must be indicated on the specimen form.
5. Transfusions invalidate test results. The 1st metabolic screen should be obtained BEFORE the transfusion.

Specimen Collection:

6. To prevent specimen- contamination, do not touch any part of the filter paper circles before, during or after collection. Disposable gloves can contaminate the specimen and powdered lactose residue from the gloves can contaminate the hands.
7. Ensure proper blood flow by warming heel prior to collection
 - Heel stick is the preferred method of collection
 - IV and Central Line samples are not recommended and lines MUST be flushed
 - Cord blood is not acceptable.
8. Cleanse site with alcohol and air dry.
9. Puncture heel with sterile lancet. Wipe away first drop of blood to remove tissue fluids.
10. Hold infant's limb lower than the heart.
11. Sufficient blood should collect on the heel to fill each circle by a single application of paper to a drop of blood. If more than one drop is required, let each

drop touch the paper about 1/8 inch away from the previous one. This prevents layering of the paper, which is one cause of false results.

12. Apply blood on only one side of paper. Blood should soak all the way through the paper such that the blood spots look similar on both sides.
13. Complete saturation of the entire circle is essential for accurate testing. Fill circles completely with even saturation. Collect blood in all 5 circles if possible, however 4 complete circles are better than 5 inadequate ones.
14. Air dry sample 2-4 hours in a horizontal position. Do not dry on a heater or in a microwave oven. The sample must be completely dry before sending to the lab but should never be left in the nursery for any period of time after it is dry as this can delay crucial test results. If left too long the sample is no longer usable and the infant will have to be tested again.
15. Recommendation for heel puncture site in newborns: Perform punctures on the most medial or most lateral portion of the plantar surface of the heel.

2nd Metabolic Screening Specimen

16. If an infant remains hospitalized between 5 and 14 days of life, the 2nd specimen must be drawn during this time.
17. Anchorage area and Valley area newborns who are discharged and will be seen in the primary care clinic (PCC) will have the bar-coded, matching 2nd metabolic screening slip tubed to the outpatient pediatric clinic.
18. For newborns from the rural regions who are no longer inpatients, the primary caregiver will be given the 2nd metabolic screening card and instructed to take it to the baby's two week check-up.

Reference:

The Northwest Regional Newborn Screening Program Practitioner's Manual, 1995.

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