

Connecticut Newborn Screening Program
Katherine A. Kelley Public Health Laboratory
395 West Street, Rocky Hill, CT 06067
P: (860) 920-6628, F: (860) 920-6633



Heat, Humidity and NBS Specimens

False Positive Biotinidase Results

The Connecticut Newborn Screening (NBS) Program has seen a significant increase in the number of abnormal Biotinidase (BIO) results over the past month resulting in a large number of referrals to the Genetic Treatment Centers. Referrals to treatment centers equate to additional confirmatory testing for the newborn and an increased stress level for the new parent. We know that heat and humidity directly affect specimens undergoing Biotinidase (BIO) and Galactosemia (GALT) screenings. In one instance we had over 15 borderline BIO results over a period of a few days from one hospital. After much investigation on the part of the nurse manager, it was learned that the courier was placing envelopes containing NBS specimens directly on the seat of the vehicle which made numerous stops prior to arrival at the State Lab.

Please remind all personnel handling NBS specimens of the following:

1. Dry NBS specimen cards in a horizontal position in a climate controlled area
2. Ship NBS specimens to the State Lab within 24 hours of collection.
3. Do not allow NBS specimens to sit in/on a hot mailbox, loading dock or vehicle seat.
4. Transport NBS specimens in an insulated container

With your help we can decrease the number of referrals for false positive Biotinidase results this summer and save the babies unnecessary testing. Please don't hesitate to call the NBS Tracking Program with any questions.

Updated NBS Specimen Cards

Your next regular shipment of NBS specimen collection supplies will contain a new version of the NBS blood-spot specimen card. Updated instructions will accompany shipments of new cards. **You may continue to use the blue NBS specimen cards with valid expiration dates until your supply runs out.**

The new cards are a lavender color and have updated specimen collection instructions on the back. Other updates to the card include:

1. The addition of a 5th blood spot circle to accommodate new screening tests
2. Spaces for TPN and Transfusion information (which can affect metabolic testing, HGB and SCID results)
3. A space for the collector's full name
4. Spaces for the submitter's contact information when the submitter is not the hospital of birth

INSTRUCTIONS: PLEASE PRINT

- Check expiration date on card.
- Use ballpoint pen to fill out form completely.
- Store specimen cards in a cool, dry place.
- Do not handle filter paper portion.
- Skin oils will prevent proper saturation.

SAMPLE COLLECTION:
The ideal collect time is 24-48 hours of age for an infant not receiving blood products.

COLLECT SAMPLE FROM SHADED AREA

RIGHT ACCEPTABLE
Circle filled and evenly saturated.

WRONG UNACCEPTABLE
Layering
Insufficient, multiple applications
Serum rings present

1. Sterilize and dry skin. Puncture heel with sterile lancet. Wipe away first drop of blood.
2. Allow large blood droplet to form.
3. Apply blood specimen to front of the card ONLY. Touch filter paper to blood and allow to soak through completely in each circle. Total saturation of the circles must be evident when the paper is viewed on both sides.
4. Do NOT use capillary tubes to apply blood. They may damage the filter paper.
5. Air dry blood spots for four hours horizontally in the drying rack at room temperature. Keep away from direct sunlight, heat and humidity. DO NOT allow wet specimen to touch any other service.
6. Send filter paper cards to DPH lab within 48 hours of collection.

Note: Specimens may be unsatisfactory if:

- Card is expired.
- Circles are not completely filled (QNS).
- Sample is oversaturated due to layering of blood or use of capillary tubes.
- Filter paper is poorly soaked.
- Card is contaminated.

a. Do not touch sample area
b. Do not use material if discolored, or moldy

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AFFIX BARCODE LABEL IN BOX OR PRINT PATIENT INFORMATION

ACCESSION #: _____
HOSPITAL MEDICAL RECORD #: _____
MOTHER'S NAME: _____
INFANT'S NAME (if different from mother): _____
☐ MALE ☐ FEMALE
BIRTH WEIGHT: _____
DOB: _____
TIME OF BIRTH: _____ ☐ AM ☐ PM
Date of Collection: ____/____/____
Time of Collection: _____ ☐ AM ☐ PM
TPN stopped ≥4 h before collection: ☐ YES ☐ NO ☐ NA
Collected prior to RBC, platelet or plasma transfusion: ☐ YES ☐ NO ☐ NA
Collector's Full Name: _____
☐ First Specimen ☐ Retest Specimen
PCP Name: _____
PCP Telephone #: _____
Specimen collected by facility of birth: ☐ YES ☐ NO
If not collected by the facility of birth, please complete the following:
Facility/Practice submitting specimen: _____
Submitter's Address: _____
Submitter's Telephone: _____
Do NOT use area below this line
 IVD REF 1039794 Rev AC
State of Connecticut
Connecticut Department of Public Health
Dr. Katherine A. Kelley State Public Health Laboratory
P.O. Box 3588
Hartford, CT 06144