

STATE OF CONNECTICUT

DEPARTMENT OF PUBLIC HEALTH

Renée D. Coleman-Mitchell, MPH
Commissioner-Designate



Ned Lamont
Governor
Susan Bysiewicz
Lt. Governor

Connecticut Newborn Screening Program
Dr. Katherine A. Kelley State Public Health Laboratory
395 West Street, Rocky Hill, CT 06067

April 2, 2019

Re: Updated Newborn Screening Blood Spot Specimen Collection Guidelines:

To: Connecticut Birthing Center Staff, Connecticut Midwives

The Connecticut Newborn Screening (CT NBS) Program screens each blood spot specimen for over 60 disorders. The optimal time to obtain the initial blood sample varies by disorder. Bloodspot specimens collected prior to 24 hours of age are invalid for endocrine screening and the amino acid screening results are less reliable. A specimen collected at greater than 48 hours of age may not allow enough time for results to be interpreted before serious symptoms occur in the newborn. Determining the best time for specimen collection is problematic when considering the range of disorders included on CT's newborn screening panel. Previous CT NBS Program specimen collection guidelines recommended that specimen collection take place between 24 and 48 hours of life, preferably as soon as possible after 24 hours of life.

Every month, the Connecticut Newborn Screening Program reports dozens of borderline elevations in Thyroid Stimulating Hormone (TSH) necessitating repeat screening to rule out Congenital Hypothyroidism. The physiological neonatal TSH surge occurring the first few days after birth is well documented. There is evidence that waiting until greater than 28 hours of age to collect the first newborn screening specimen, as opposed to collecting the specimen between 24-28 hours of age, significantly improves positive predictive value of screening by measurement of TSH levels¹. In attempt to reduce the false positive rate and reduce the need for collection of repeat heel-stick specimens, the CT NBS Program is now recommending that the first heel-stick specimen be collected at around 30 hours of age. This is consistent with the most recent recommendations (March 2015) from the US Department of Health and Human Services (USDHHS) [Advisory Committee for Heritable Disorders in Newborns and Children](#) (ACHDNC) for Timeliness in Newborn Screening stating that initial NBS specimens should be collected in the appropriate time frame for the baby's condition but **no later than 48 hours after birth.**

¹ S. Saleh, David & Lawrence, Sarah & T. Geraghty, Michael & Gallego, Patricia & McAssey, Karen & K. Wherrett, Diane & Chakraborty, Pranesh. (2015). Prediction of congenital hypothyroidism based on initial screening thyroid-stimulating-hormone. BMC Pediatrics. 16. 10.1186/s12887-016-0559-0.



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Please refer to the updated CT NBS Program Timing of Blood-Spot Collection Guidelines and the CT NBS Program Blood-Spot Specimen Collection Guidelines (attached).

Please contact the CT NBS Program at 860-920-6628 with any questions.

Sincerely,

Marie Burlette, RN, BSN, MPH
Supervising Nurse Consultant
Connecticut Newborn Screening Program