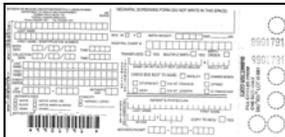


Kansas Department of Health and Environment
1000 SW Jackson St.
Topeka, KS 66612



SPOTLIGHT ON NBS BLOOD SPOT CARDS

DO YOU HAVE ANY OF THESE CARDS?



Blood spot cards are the first step in the newborn screening process. We've discussed how important it is to store them properly, as they are considered a collection device by the FDA and are controlled as such. Recently we've had several facilities submit samples on previous versions of blood spot cards, which are not acceptable. If you have any cards that look like the above cards, please return these to our laboratory and order new cards.

The current version of blood spot cards is shown below. Note that the same form is used for both initial and repeat samples—please remember to check the box to indicate which sample type is on the card.



The older cards do not have expiration dates. Because the FDA considers NBS blood spot cards a collection device, similar to an EDTA or other type of blood collection tube, our current cards have expiration dates on them. The expiration date is found in two locations:

- ◆ On the upper left corner where there is an hour glass with year and date.
- ◆ In the upper left corner above the black circles on the filter paper portion of the card.



If you find expired cards, do not use them. Return expired cards to the laboratory. Contact our lab to order new cards. (See "Contact Us" on page 2.) Order forms are available online at: http://www.kdheks.gov/labs/cust_serv/download/specimen_kit_request_form.pdf

SHIPMENT OF CARDS

HEAT: The heat is already here in Kansas. It is important to remember to not put blood spot cards in an outside mailbox. Exposure to heat can deactivate the enzymes that are markers for two newborn screening tests—Galactosemia and Biotinidase. Please ensure that blood spot cards are not exposed to extreme temperatures.

TIMELINESS: Cards are to be sent to the state laboratory within 24 hours of collection. Please do not batch cards, as this may delay testing and reporting of abnormal lab results for an affected infant.

PREPAID ENVELOPES: The use of prepaid/pre-canceled envelopes is highly discouraged. If a sample is received more than ten days after collection, it is useful to know when the sample was actually mailed to determine if it was a problem with samples not being mailed or if the problem was with the post office.



ODDS AND ENDS

TIME OF COLLECTION: If you have staff fill out the demographic information prior to collection, please ensure they do not pre-fill the date and time of collection. There may be several hours from when the card is filled in to when the actual sample collection occurs.

NOTES ON CARDS: If you must include a note on a collection card, to indicate an adoption or other message, please use a post-it note.

MULTIPLE CARDS: Please only submit **one** card per infant. Multiple cards cannot be processed at the laboratory. Choose the card with the best samples and submit only that card.



"TIME TO CELEBRATE"

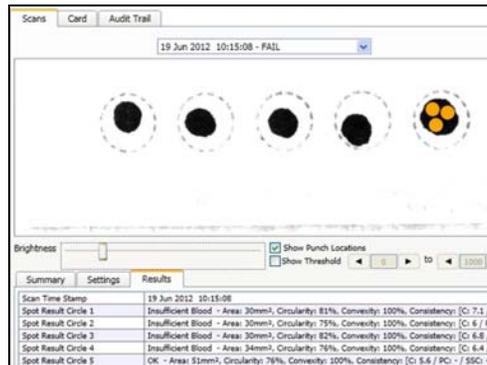
Top collection facilities for 1st Quarter 2012!

FACILITY NAME	Facility Total Samples	Total Unsat %	Blood spot Unsat %
NEWMAN REGIONAL HEALTH	95	0.0	0.0
PROVIDENCE MEDICAL CENTER	218	0.5	0.0
HAYS MEDICAL CENTER	181	0.6	0.6
KANSAS UNIV MED CTR	524	1.3	0.8

NEW INSTRUMENT HELPS DETERMINE BLOOD SPOT QUALITY



The Kansas Newborn Screening Laboratory has a new tool to help assess unsatisfactory blood spot samples. The Luminex Cardscan™ (pictured at left) is used as a third set of “eyes” for blood spot evaluation. The process still requires a lab tech to visually review each card that is submitted for testing. Any card that is potentially suspect for unsatisfactory quality or quantity is set aside. A second lab tech then reviews those cards and if they agree with the first tech’s assessment, the card is put into the Cardscan™ for a final evaluation. A report for each card is generated by Cardscan™ and stored. See example at right.



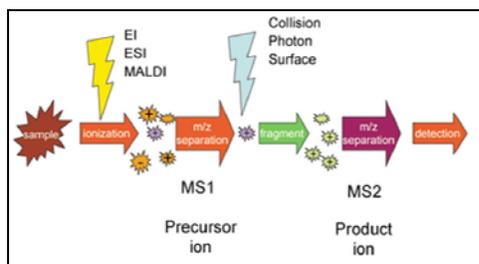
To avoid unsatisfactory samples, please check each card prior to submission for:

- ◆ Blood spot has saturated completely through both sides of the filter paper.
- ◆ Blood spot is evenly saturated.
- ◆ Blood spot is from one drop of blood.
- ◆ Blood spot fills the circle completely.

REMEMBER—THE GOAL IS <1.3% UNSATISFACTORY BLOOD SPOTS

MS/MS

Of the twenty-eight metabolic disorders the State of Kansas screens for, twenty are detected using tandem mass spectrometry, commonly referred to as MS/MS. Mass spectrometry has been used for over a century to sort and weigh peptides and amino acids based on their mass to charge ratio. To separate the target pieces or analytes, the instrument ionizes or puts a charge on the molecules which then allows the instrument to separate them by their mass and charge.



In the last 30 years, tandem mass spectrometry has become an invaluable tool in detecting amino acid, fatty acid and organic acids. Tandem mass spectrometry utilizes two mass spectrometers linked together sorting and analyzing like a molecular change machine. Think of a handful of change. It is first sorted by coin type; quarters, pennies, nickels and dimes. The individual coins are then further sorted by composition and the total amount of zinc, copper and nickel that is contained in that handful of change is determined. This is similar to how a tandem mass spectrophotometer analyzes newborn screening specimens for amino acid, fatty acid and organic acid disorders. Specific target analytes, such as C8 for MCAD, are analyzed to produce a quantitative result.

At a Glance—1st Quarter (January—March 2012)

Total # of Samples Tested:	10,862
Total Unsatisfactory Samples:	467
Average Percent Unsatisfactory Samples:	4.3 %
Total Unsatisfactory Blood Spots:	338
Average Percent Unsatisfactory Blood Spots:	3.1%
Goal for Unsatisfactory Blood Spots:	1.3 %



EXPECTANT PARENT OPEN HOUSES

Does your facility hold an open house for expectant parents? Do you include outside vendors or other stakeholders?

The Kansas Newborn Screening Program would like to partner with you on your next expectant parent fair or open house. We have found that most new parents-to-be have not heard about newborn screening. This is an excellent opportunity for us to visit with your parents to fully explain how the testing is collected, who tests their child’s blood and who receives the results .

Please contact Linda Williams at lwilliams@kdehs.gov or 785-296-3617 if you are interested in a KDHE staff person attending your next event.



CONTACT US!

LABORATORY:	1-785-296-1650 (Phone) 1-758-296-0978 (Fax)
FOLLOW-UP:	1-785-291-3363(Phone) 1-785-296-2950 (Fax)
ORDER CARDS:	1-785-296-1623 (Phone) 1-785-296-1641 (Fax)

