



NICU essentials









Remember

- The consent process needs to be followed for both
 - collecting the blood spots the first time and
 - collecting the blood spots again.
- Collecting an infant's blood spots for the Alberta Newborn Screening Program (ANSP) in a neonatal intensive care unit (NICU) is similar to collecting blood spots in other service areas.
- Collect the blood spots when the infant is between 24 and 72 hours old, but as close to 24 hours old as possible.
- Collect the blood spots right away, even if the infant is sick or preterm, no matter how the infant is being fed (unless indicated otherwise by the infant's physician for clinical reasons).
- Filling out the blood spot card means using a specimen label or filling out the blood spot card manually.
- Have your supplies ready.
- Verify the infant's identity. For more information about verifying identity, go to Insite and search "patient identity".

For more information

visit www.ahs.ca/newbornscreening

Staff Education

-  Collecting
-  Following up
-  Talking with Parents Summary
-  Filling Out the Blood Spot Card
-  Collecting the Blood Spots
-  Getting Great Blood Spots
-  Drying & Transportation
-  Special Situations when Following Up

Clinical Policy Suite

Newborn Blood Spot Screening Sample Collection Procedure

Newborn Blood Spot Screening Neonatal Intensive Care Unit

Preparing for newborn screening

- double check the blood spot card is not expired
- blood spot card information can affect the accuracy of newborn screen results, when documenting pay special attention to
 - all feeding types within the last 12 hours regardless of the amount, this information supports the detection of classic galactosemia (GALT)
 - make sure you check parenteral nutrition for any infant on intravenous feeding
 - blood transfusion

Filling out the blood spot card means using a specimen label or filling out the blood spot card manually

- put the specimen label on the front of the blood spot card

When filling out the blood spot card manually

- print clearly
- use **black ink**

Collecting the blood spots

For medically stable preterm infants

- poke the infant's heel with a lancet specifically designed for preterm infants according to your local practice

For medically fragile infants

- blood spots can be collected from venous blood (dorsal hand vein, antecubital vein or femoral venous catheter specimens) and/or arterial blood (femoral arterial catheter specimens) instead of puncturing the heel for sample collection if the most responsible health practitioner (MRHP)*, usually a nurse, believes it's necessary**
 - make sure the line is as clear of all fluids, heparin and other medications as possible before collecting the blood spots

For infants receiving a blood transfusion

- if an infant is receiving packed RBC transfusion, all attempts should be made to collect an initial sample before the transfusion, regardless if the collection is before 24 hours of age
- if an infant has a sample collected before 24 hours of age before receiving packed RBC transfusion, collect a repeat sample between 24 and 72 hours of age and write on the blood spot card "COLLECTION AFTER TRANSFUSION"

* The MRHP is the health practitioner who has responsibility and accountability for treatments and procedures provided to an infant.

** If blood spots can't be collected from these sources contact your ANSP Zone designate or the ANSP for advice if needed.

For more information see the *ANSP summary and essentials*   

Documenting

- document in the infant's health record that the blood spots were collected, when manually filling out the blood spot card
- when using a specimen label documentation is done within the order electronically
- document in the infant's health record any issues related to collecting the blood spots, such as whether the infant had multiple heel pokes or issues with bleeding
- mark the "Collected" box in the "Blood Spot Screen" field and record the date and time on the notice of birth (if you have the notice of birth)
- if the blood spots were not collected, document in the infant's health record why the infant didn't get the newborn blood spot screen





Collecting the blood spots again

- when an infant weighs **less than 2000 grams** at birth, collect the blood spots again when the infant is between 21-28 days old (504-672 hours, collecting before 504 hours will cause a repeat collection)
- **if** a repeat collection is required for an infant who was **less than 37 weeks gestation at birth**, you will receive a notification to collect the blood spots again when the infant is between 21-28 days old (504-672 hours)
- when an infant has **borderline** or **inadequate** results, collect the blood spots again within 96 hours of getting notification from zone public health nursing services
 - **if** the infant with borderline results is one of a multiple birth set, collect the blood spots again from all infants in the birth set
- don't wait to collect the blood spots if the infant is sick or preterm, no matter how the infant is being fed (unless indicated otherwise by the infant's physician for clinical reasons)
- when an infant's screen result says "possible parenteral nutrition effect", collect the blood spots again **at least 24 hours after** Intravenous feeding has been discontinued
- document that the blood spots were collected again or why the infant didn't get the newborn blood spot screen done again in the infant's health record

An infant's clinical status, screen results and previous blood spots can affect whether you need to collect blood spots again. Ask for help if you are not sure. The MRHP*, usually a nurse, can talk to the Alberta Newborn Screening Lab (780-407-7907) about whether an infant needs to have blood spots collected again.

For more information about infants who weigh less than 2000 grams and infants less than 37 weeks gestational age at birth, see the *Following up summary* and the *Special Situations when Following Up essentials*.

* The MRHP is the health practitioner who has responsibility and accountability for treatments and procedures provided to an infant.  

After collecting the blood spots

Drying checklist

Dry the blood spot card

- horizontally and suspended without touching the fold-over cover or another blood spot card
- for at least three hours**
- away from direct sunlight
- on a commercial drying rack (pictured) or something else used for this purpose

Transportation checklist

Transportation details are up to your site, as long as the blood spot card is

- packaged and sealed in a paper envelope addressed to the Alberta Newborn Screening Lab with your facility's return address
University of Alberta Hospital
Department of Laboratory Medicine
Room 4B2.10
Alberta Newborn Screening
8440 – 112 Street NW
Edmonton, Alberta T6G 2B7
- sent to be **transported as soon as possible** after drying for at least three hours and the fold-over cover is closed over the blood spots
- packaged and sealed in a paper envelope (plastic bags, including biohazard bags, cause heat build-up that can affect the quality of the blood spots and should not be used)
- transported according to your local practices (don't use Canada Post)

This will allow every blood spot card to get to the Alberta Newborn Screening Lab within 72 hours and be accurately analyzed.

NOTE: If packaging multiple blood spot cards in one envelope rotate the blood spot cards so the blood spots from each card are on opposite ends and also so they fit better in the envelope.

