

Procedure for collecting the Blood Sample on Guthrie Card:

1. Please note that the blood collection is to be done by an expert (Doctors or trained paramedical staff) in hospital or clinics, nobody other than an expert should attempt to collect the sample as it may result in injury and infection to the child.
2. Choose the appropriate puncture site. (Refer to the shaded area in the Picture below). Avoid previous puncture sites and curvature of the heel. Warming the site can help increase the blood flow.



3. Clean the puncture site and whole heel alcohol swab and allow heel to dry thoroughly
4. Puncture the plantar surface of the heel with a sterile lancet no longer than 2.00 mm depth
5. Apply gentle pressure and massage intermittently as the drop of blood forms.
6. Wipe away the first drop of blood with sterile gauze. The initial drop contains tissue fluid which may interfere with the results.
7. Allow a large drop of blood to form.

8. Gently touch the droplet of blood on the centre of filter paper circle marked on the card so that blood soaks through the other side. It is very important that blood sample should soak through the other side. Do not press the filter paper against the heel. Do not ever try to put drop on both sides of a circle.
9. Do not apply multiple drops to fill each circle or one drop on another blood drop.
10. Fill up to 3 circles
11. Do not touch blood spot with finger
12. Wipe the puncture site with alcohol/spirit swab. Apply compression to the puncture site with sterile gauze for a few seconds and apply spot plaster to the puncher site once bleeding stops
13. Discard all used items safely.
14. **Dried blood spot specimen drying and storage-**
 - a. Dry for 4 hrs away from direct sunlight, heat or any external appliance before sending to laboratory for testing.
 - b. It is important to dry blood spot specimens before storage or transport. (Moisture may harm the specimen by inducing bacterial growth or altering the elution time of the specimen.)
 - c. The specimens should be protected from moisture
15. Transportation of dried blood spot specimens- Dried blood spot specimens that have been packed as described above have to be transported to the lab. If samples are not being transported the same day, the cards should be kept at 2-8°C and protected from moisture.

COMMON SAMPLE COLLECTION PROBLEMS –

Ensure good quality of samples. *Poor quality sample will be labeled as invalid sample for testing and you will get request to send second sample. Poor qualities samples cause unnecessary trauma to the newborn (and parents) and could potentially delay the detection and treatment of an affected infant. The common sampling problems of blood spot sample are as follows:*

1. Insufficient blood (not filling all circles); not enough samples to perform tests or repeat tests.
2. Layering or applying successive drops of blood (double collection) in the same printed circle causes caking and /or non-uniform concentrations of blood.
3. Do not put many blood spots in same printed circle.
4. Ensure that blood soaks through. Do not apply blood on both sides.
5. Contamination of maternal blood with sample during collection, drying, or mailing with urine samples will render the results unreliable. Such samples will be labeled invalid and will not be tested.
6. Inadequate or inappropriate drying.
7. Humidity and moisture adversely affect the quality of sample and analyte recovery.
8. Excess heat or sunlight bakes the sample.

