

Ohio Department of Health Newborn Screening Program Newborn Screening Specimen Acceptability

Specimens will be rejected if they do not meet the quality standards of the Ohio Department of Health. These standards are in accordance with recommendations of the Clinical Laboratory Standards Institute (Refer: Blood Collection of Filter Paper for Newborn Screening Programs: Approved Standard – Sixth Edition – NBS01-A6).


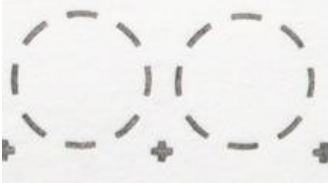

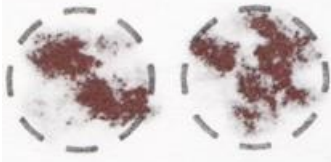



Specimens can be considered unsatisfactory and rejected if three or more blood spots do not meet standards. A blood spot may be considered unsatisfactory for any of the following reasons:



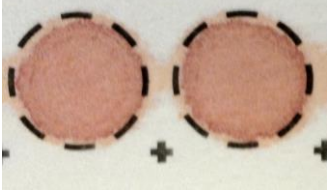
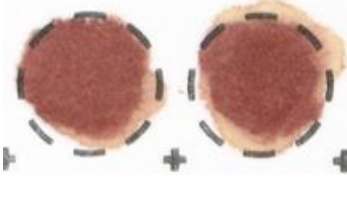

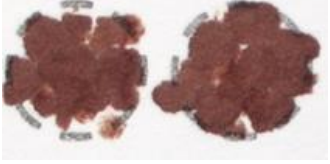
- No blood on filter paper
- Insufficient quantity of blood for testing
- Incomplete saturation of blood through filter paper
- Supersaturated or layered blood on filter paper
- Blood directly applied to both sides of filter paper
- Blood appears clotted
- Diluted, discolored, or contaminated specimen or filter paper
- Excess serum or tissue fluids in specimen
- Filter paper appears scratched or abraded
- Blood spots not dried at least 3 hours prior to shipping
- Specimen received by laboratory more than 14 days after collection
- Kit number on filter paper does not match kit barcode number on demographic sheet
- Demographic information does not match blood (wrong baby drawn on card)

The facility responsible for submitting an unsatisfactory newborn screening specimen will be contacted by the Ohio Newborn Screening Program. The facility is responsible for assuring that a second newborn screening specimen is submitted for the baby within 5 working days.

Please remember that an unsatisfactory specimen delays the screening process by a week or more. This could adversely affect the health and development of a baby with a time-critical condition on the Ohio newborn screening panel.

Every effort should be made to collect a satisfactory specimen the first time. (Refer to How to Collect and Mail Blood Specimens (<http://www.odh.ohio.gov/-/media/ODH/ASSETS/Files/phl/newborn-screening-program/Retired-Content/newborn-screening-program-OLD/mail-blood-specimens.pdf?la=en>) for instructions.) Both the front and the back of the blood spots on the filter paper should be inspected immediately after specimen collection. If the specimen does not meet quality standards, recollect the specimen before the baby is 48 hours of age. Refer to chart below for examples of unsatisfactory specimens.

<p>Picture Perfect Blood Spot</p> <p>The perfect blood spot fills the entire circle and is uniform in color. The blood spot looks identical when viewed from both the front and the back of the filter paper. At a minimum, the laboratory needs 3 filled blood spots for testing. It is preferable that all 5 spots be filled in case repeat testing to confirm abnormal results becomes necessary.</p>	
<p>No blood on filter paper</p> <p>If demographics are completed, but blood is not drawn on a card write "VOID" across demographics sheet. A Missed Newborn Screen (Hyperlink to form) form should be completed and sent to the newborn screening program if no specimen is collected for a baby.</p>	
<p>Insufficient quantity of blood for test</p> <p>Possible causes: Removing filter paper before blood has completely filled circle; not allowing an adequate blood drop to form before applying to filter; inadequate or improper heel stick procedure.</p>	
<p>Incomplete saturation of blood through filter paper</p> <p>Possible causes: Removing filter paper before blood has soaked through to opposite side; allowing filter paper to come in contact with substances such as lotion, powder, gloves, or skin.</p>	
<p>Filter paper supersaturated with blood</p> <p>Over filling the circles results in uneven and excessive blood volume and may cause false results and interfere with identification of babies affected with a condition on the newborn screening test panel.</p>	
<p>Blood layered on filter paper</p> <p>Layering causes uneven blood volume within the specimen and may cause false results and interfere with identification of babies affected with a condition on the newborn screening test panel.</p>	
<p>Blood applied to both sides of filter paper</p> <p>This effect is similar to layering- uneven blood volume within the specimen that may interfere with identification of babies affected with a condition on the newborn screening test panel.</p>	

<p>Clotted blood on filter paper</p> <p>Clotted blood on specimen may be due to too much blood being applied to filter paper. This results in uneven blood volume and may cause false results.</p>	
<p>Wet, contaminated, or discolored filter paper</p> <p>The blood volume on this filter paper may be diluted or uneven. Please repeat this specimen immediately. This specimen may interfere with identification of babies affected with a condition on the newborn screening test panel.</p>	
<p>Specimen diluted by IV fluid</p> <p>Specimen may have decreased blood volume and may result in false results that can interfere with identification of babies affected with a condition on the newborn screening test panel. The specimen should be collected from a heel stick unless medically contraindicated.</p>	
<p>Excess serum or tissue fluids in specimen</p> <p>This may be caused by squeezing the heel during specimen collection. Blood volume may be reduced or is uneven. This may cause false results that can interfere with identification of babies affected with a condition on the newborn screening test panel.</p>	
<p>Filter paper scratched, abraded, or torn</p> <p>Blood volume may be affected and false results may occur. After drying a specimen for at least 3 hours, place the protective cardstock flap over the blood spots to protect the specimen.</p>	
<p>Blood applied to filter paper using a capillary tube</p> <p>Blood volume may be reduced or is uneven. This may cause false results. Capillary tubes may also include other substances that interfere with screening results. The specimen should be collected from a heel stick unless medically contraindicated.</p>	
<p>Blood spots not dried at least 3 hours prior to shipping</p> <p>Blood spots that are not completely dry have a bright red color. Blood that is not dried can support growth of microorganisms and promote degradation of test analytes and may result in false results. Please dry specimen completely prior to placing protective flap over the specimen.</p>	