Marshfield Labs™
A division of Marshfield Clinic

LEAD DETERMINATION - GUIDELINES FOR CAPILLARY BLOOD COLLECTION

Capillary blood for lead testing is generally viewed as a less reliable specimen than that obtained by venipuncture. Contamination may occur from skin, air, surface dust, powdered gloves, and sterile gauze pads, all of which may lead to falsely elevated results with capillary specimens. Accordingly, elevated results from an initial capillary screening should be repeated using a blood specimen obtained by venipuncture.

Specimen collection devices are also subject to lead contamination. Marshfield Laboratories has screened lavender-top Sarstedt Microvette® (0.75 mL capacity, EDTA anticoagulant, part no. 17.445.100) and BD Microtainer® (0.50 mL capacity, EDTA anticoagulant, part no. 365974) and found both to be acceptable. To request collection devices, please contact Customer Service @ 1-800-222-5835.

Capillary Blood Collection instructions:

1. Store capillary blood collection devices in a closed container protected from laboratory dust. Avoid touching the capillary tip when handling. Use only individually wrapped sterile gauze pads.

2. Powderless gloves should be worn while drawing blood. If powder or other potential contaminants are present on the exterior of the gloves, rinse with water after gloving.

3. Wash the child's hands thoroughly with soap and warm water, then dry with a towel. The finger to be punctured should not subsequently contact any other surface including the other fingers.

4. Scrub the designated finger to be punctured with an alcohol swab. Allow to air dry - DO NOT BLOT.

5. Puncture the finger using a sterile lancet slightly to the side of the finger.

6. Absorb the first drop of blood with the corner only of a gauze pad. Avoid wiping as this action may contaminate the puncture site.

7. Position the capillary blood collection device so that the vent just below the capillary tip is facing upward (if using Microvette® device).

8. Touch the narrow end of the capillary tip to the drop of blood. Avoid squeezing the finger to prevent dilution with tissue juices.

9. Fill container to a minimum of 500 mcL (second graduation of tube). Blood flow can be facilitated by gently massaging the lower (proximal) portion of the finger if needed.

10. When collection is completed, remove upper capillary end from the Microvette® and cap using the attached stopper. Invert the capillary blood collection device at least five times to mix blood with the anticoagulant.

11. Label the tube appropriately and store the whole blood sample in the refrigerator prior to transport.

NOTES:

1. Users who anticipate screening a significant number of children using capillary blood and have a preferred collection device for capillary specimens may submit empty containers to Marshfield Laboratories for screening for lead contamination.

2. Adapted from: Centers for Disease Control. Preventing Lead Poisoning in Young Children: A Statement by the Centers for Disease Control. Atlanta, GA: Centers for Disease Control; 1991.

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