

SPECTRUM HEALTH



Specimen Collection

Lead Screen Filter Paper Testing
“Dried Blood Spots (DBS)”

Laboratory Services
February 2017

Agenda

Why Use Lead Screen Filter Paper Testing?

Before You Begin

Collection

Drying & Storage

Packaging & Transport

Valid vs. Invalid Specimens

Why use Lead Screen Filter Paper?

Lead is found in many products and in our environment. It is a poison that affects virtually every system in the body. It is particularly harmful to young children.

In accordance with the Centers for Medicare and Medicaid Services guidelines, Michigan Medicaid policy requires that all Medicaid enrolled children be blood lead tested at 12 and 24 months of age, or between 36 and 72 months of age if not previously tested.

Before you begin

Great care must be taken to remove lead from the hands of the patient and collector and to prevent contamination from the environment.

Collection area should be clean and free of dust.

Wash hands thoroughly and practice standard precautions while handling collection devices and specimens.

Immediately discard any sample card that has been handled on the filter paper section or that has fallen onto an unprotected surface.



lead-free



Before you begin

Gather your supplies:

Lead filter paper collection kit:

- Alcohol wipe
- Small bandage
- Sterile gauze
- Lancet
- Collection paper
- Pre-paid postage envelope
- Collection instructions
- Requisition (if needed)

Powder-free gloves

Soap and water

Sharps container

Discard bin for biohazard material



Before you begin

Fill out all information on the laboratory requisition form or send electronic order. All patient information must be provided in order to comply with state lead reporting guidelines. Accurate billing information must also be provided.

Write patient's name and date of birth on the space provided on back of sample card, using care to avoid contaminating the collection circles by touching them.

While collection card may include 5 circles, only one patient's blood may be collected on one card.

Before you begin

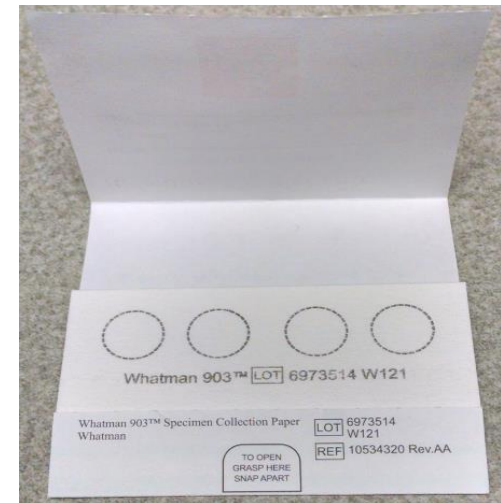
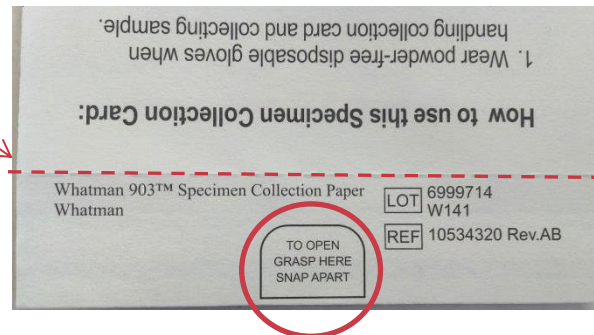
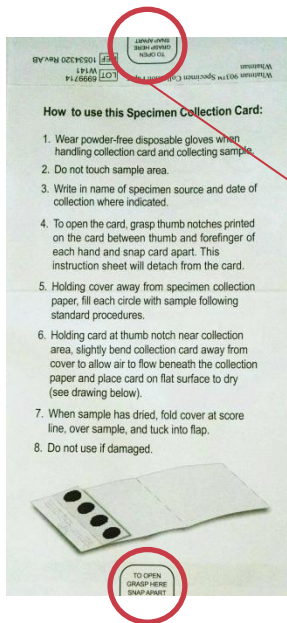
Thoroughly wash the patient's hand or foot with soap and warm water.

A sterile warming towel may be used to increase circulation at the site.

Once site has been washed, instruct patient not to touch anything, it is acceptable to dry the child's fingers with individually wrapped sterile gauze. The hands of small children should be held at the wrist to prevent contamination.

Collection

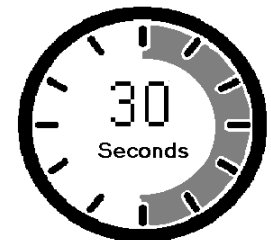
Open the sample card to expose the filter paper, and **detach the outer instruction sheet** by grasping thumb notches printed on the card between thumb and forefinger of each hand and snap card apart. Place opened card on clean, flat surface.



Collection

Disinfect site on patient finger/heel by thoroughly scrubbing site with an alcohol prep pad. Let air dry for 30 seconds.

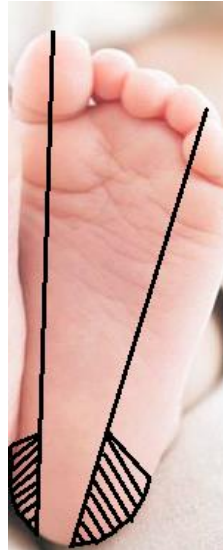
Use of heel is recommended for children up to one year of age.



Collection

Use a lancet to pierce the skin of the prepped finger/heel.

Wipe off the first drop of blood with sterile gauze. Initial drop may contain tissue fluids that can dilute the sample.



Avoid inside of the "V"



Collection

Allow large drops of blood to form and apply directly to filter paper on one side, saturating one circle at a time.

- Do not place the blood on both sides of the card.
- Do not layer successive drops.
- Avoid direct contact of the finger/heel with the filter paper.



Collection

Blood flow from the puncture site is enhanced by holding the puncture site downward. Do not squeeze excessively, as this will introduce tissue fluid which dilutes the sample.

If blood flow diminishes, repeat sampling technique.



Drying & Storage

Allow the blood spots to dry at room temperature in a horizontal position for 2 or more hours.

- Do not stack wet specimens.
- Do not expose specimens to heat or direct sunlight.
- Do not place in bag until dry.



Packaging & Transporting

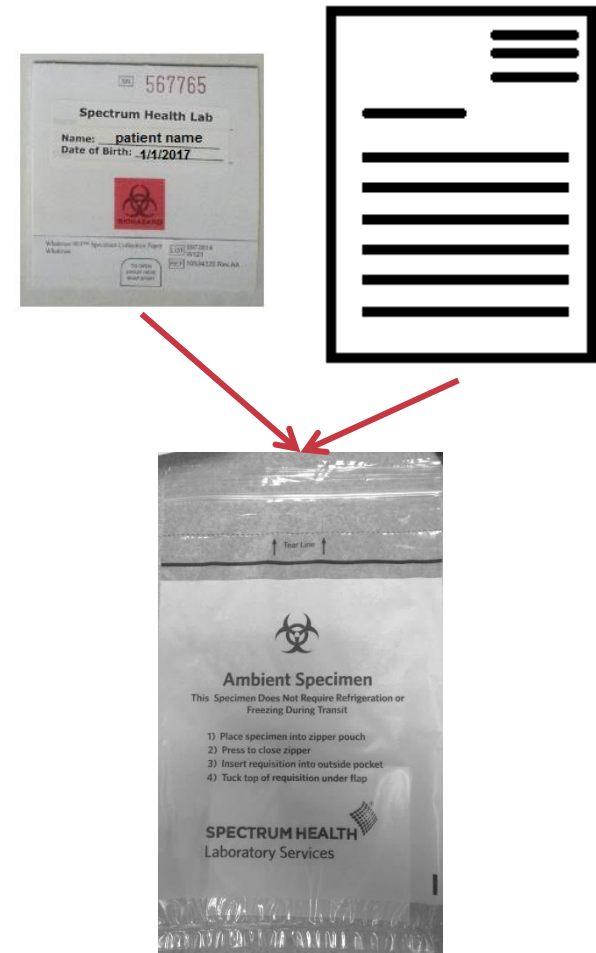
After specimen is completely dry, fold cover at score line, over sample, and tuck into flap to create a “matchbook”. **Place the sample card into a sterile plastic sealable storage bag...**



Packaging & Transporting

If you have a Spectrum Health Courier pick up:

Place the dried, closed sample into an ambient specimen bag. Place the white copy of the requisition or your printed order into the pouch on the outside of the bag. Please send to the laboratory within 24 hours.



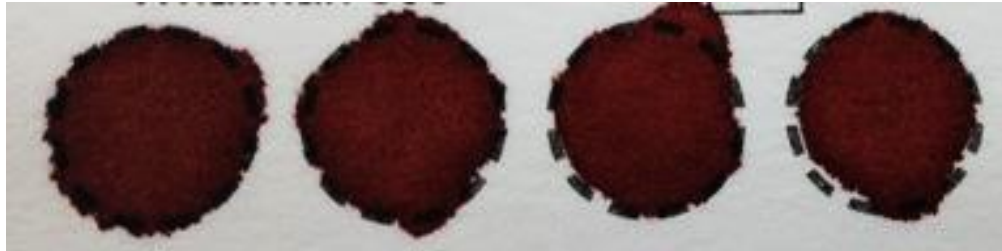
Packaging & Transporting

If you do not have a Spectrum Health Courier pick up:

Place the dried, closed sample into a sealable, sterile plastic bag. Place the white copy of the requisition or printed order and the sealed plastic bag with the dried sample card into the postage-paid envelope from the kit. Return to Spectrum Health Laboratory via the U.S. Mail.



Valid Specimen



This specimen is valid because:

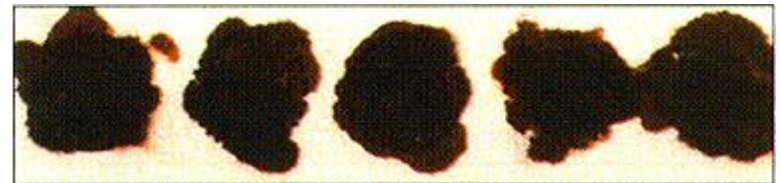
- 100 μ l of blood has been collected in each circle completely saturating or filling the circle
- Blood is soaked through to the other side of the card.

Note: 2 well-filled, valid circles is the minimum requirement for filter paper blood lead testing at Spectrum Health Laboratory.

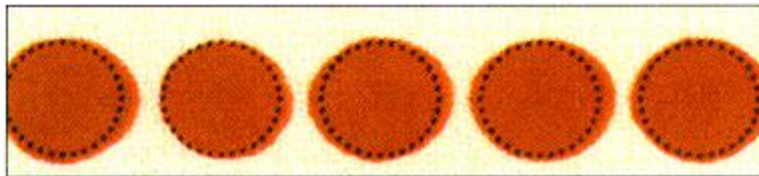
Invalid Specimen



Insufficient quantity



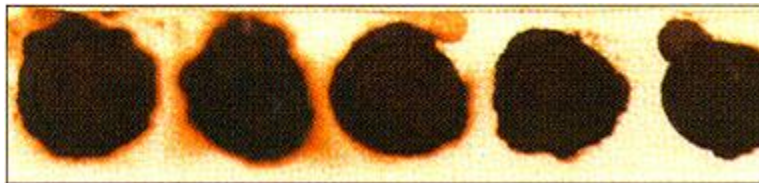
Scratched or abraded



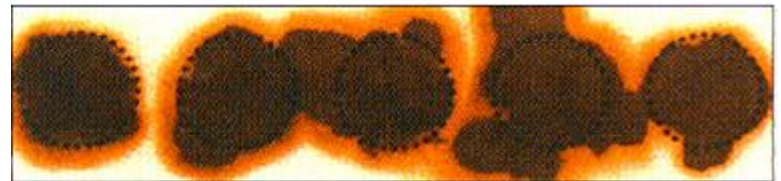
Not dried before mailing



Clotted or layered



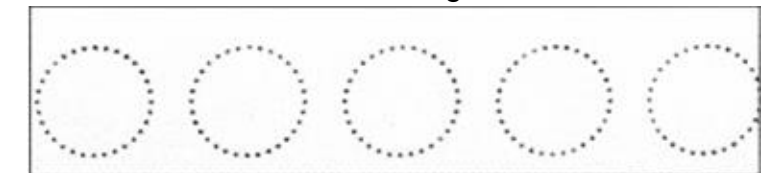
Diluted, discolored or contaminated



Serum rings



Supersaturated



No blood

Invalid Specimen



Insufficient quantity

This may have been caused by:

- Removing filter paper before blood has completely filled circle or before blood has soaked through to the other side
- Applying blood to filter paper with a capillary tube
- Filter paper coming in contact with gloved or ungloved hands or substances such as hand lotion or powder, either before or after blood specimen collection

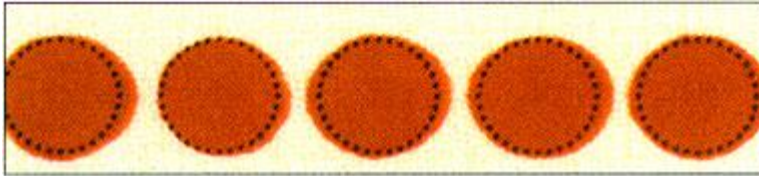


Scratched or abraded

This may have been caused by:

- Applying blood with a capillary tube or other device
- Filter paper mutilated

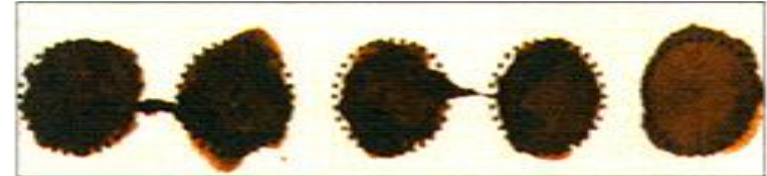
Invalid Specimen



Not dried before mailing

This may have been caused by:

This specimen is invalid because the specimen was not dry before mailing. The paper must dry a minimum of 2 hours before placing in the sealed plastic bag.



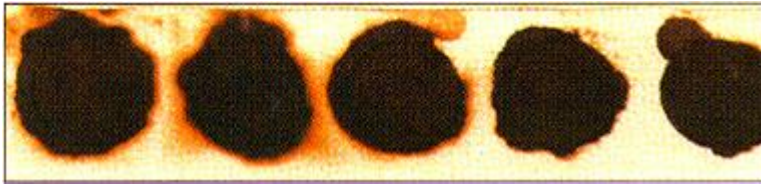
Clotted or layered

This may have been caused by:

- Touching the same circle on the filter paper to blood drop several times
- Filling circle on both sides of filter paper
- Dotting the circle with a capillary tube.

The volume of specimen will not be uniform between spots resulting in errors during the testing process.

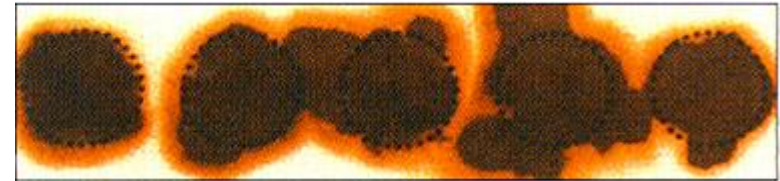
Invalid Specimen



Diluted, discolored or contaminated

This may have been caused by:

- Squeezing or “milking” of area surrounding the puncture site
- Allowing filter paper to come in contact with glove or ungloved hands or substances either before or after blood collection
- Exposing blood spots to direct heat



Serum rings

This may have been caused by:

- Not allowing alcohol to dry at puncture site before making skin puncture
- Allowing filter paper to come in contact with alcohol, hand lotion, etc.
- Squeezing area surrounding puncture site excessively
- Drying specimen improperly
- Applying blood to filter paper with a capillary tube

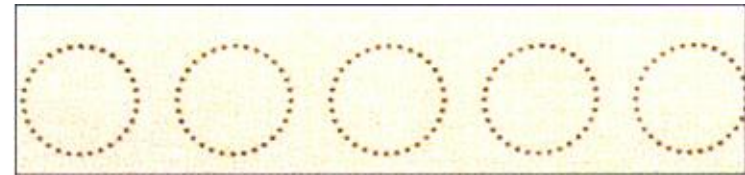
Invalid Specimen



Supersaturated

This may have been caused by:

- Applying excess blood to filter paper, usually with a device
- Applying blood to both sides of filter paper



No blood

Failure to obtain blood specimen

Resources

See the training page for information on

Heel pokes (in progress)

Finger pokes (in progress)

Resources

Spectrum Health Regional Laboratory

Phone: **616.774.7721**

Fax: **616.774.5159**

Email: **LaboratoryServices@spectrumhealth.org**

Test Directory and Collection Instructions:

spectrumhealth.testcatalog.org/show/9677

Laboratory News & Updates: **lab.spectrumhealth.org**

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