

## Reference Range Update for Lead, Blood

On July 1<sup>st</sup> 2022, the UVMHC laboratory will update the reference range for blood lead levels, capillary and venous, in conjunction with the new blood lead testing guidelines adopted by the Vermont Department of Health (VDH).<sup>1</sup> This update follows the recent revision to the CDC Blood Lead Reference Value.<sup>2</sup> The guidelines are given below for both capillary and venous blood collections.

The detection limit of the UVMHC blood lead test performed on a graphite furnace atomic absorption instrument is 2.0 ug/dL. Therefore, in concordance with the upcoming VDH blood lead testing guidelines, **the new reference range for both capillary and venous blood lead will be <2.0 ug/dL**. All values of 2.0 ug/dL and above will be flagged as abnormal.

Orderable Name	Epic Code	Atlas Code	Mayo Access ID	Order LOINC
Lead, Blood	LAB98	LEAD	FAH134	10912-4

### When to Confirm Capillary Blood Lead Tests:

If Capillary Blood Lead Level is:	Confirm with Venous Test Within:
<2.0 µg/dL	Confirmation not needed
2.0 – 3.4 µg/dL	Within 6 months (capillary sample or venous)
3.5 – 9.9 µg/dL	Within 3 months
10.0 – 19.9 µg/dL	Within 1 month
20.0 – 44.9 µg/dL	Within 2 weeks
45.0 – 59.9 µg/dL	48 hours
60.0+ µg/dL	Immediately as an emergency test

### When to Follow Up with a Venous Blood Lead Re-test:

If Venous Blood Lead Level is:	Follow-Up	Late Follow-Up (blood lead level declining)
<2.0 µg/dL	Venous re-test not required	Venous re-test not required
2.0 – 3.4 µg/dL	6 – 9 months	6 - 9 months
3.5 – 9.9 µg/dL	3 months	6 – 9 months
10.0 – 19.9 µg/dL	1 – 3 months	3 – 6 months
20.0 – 44.9 µg/dL	2 weeks – 1 month	1 – 3 months
45.0+ µg/dL	Initiate chelation and re-test in 7 – 21 days	As clinically indicated

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Lastly, the approved sample type for blood lead testing is EDTA whole blood. We occasionally see heparinized samples submitted for this testing as prior assays utilized this sample type. Moving forward, **heparinized samples will no longer be accepted for this testing.**

Acceptable Specimen	Specimen	Temperature	Collect/Submit Vol	Min Vol	Stability
Lavender Top Tube	Whole Blood	Refrigerate	2 mL	0.3 mL	7 days
Lavender Microtainer	Whole Blood	Refrigerate	0.6 mL	0.2 mL	7 days

If you have any questions or concerns please reach out to the Medical Director of Clinical Chemistry ([clayton.wilburn@uvmhealth.org](mailto:clayton.wilburn@uvmhealth.org)).

### References:

1. [Pediatric Blood Lead Testing Guidelines \(healthvermont.gov\)](https://www.healthvermont.gov/clinical-laboratory/pediatric-blood-lead-testing-guidelines)
2. <https://www.cdc.gov/nceh/lead/data/blood-lead-reference-value.htm>

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