

Blood Lead Testing



Which sample type to use?

Blood lead tests fall into three main types:

Test type	Draw/Sample Type
Screening	Capillary or Venous
Confirmatory	Venous
Monitoring	Venous

Note: Do not use Point of Service devices for confirmatory testing or monitoring.

Avoiding lead contamination

To minimize false positive results:

- Be careful when selecting gloves and towels. Some **gloves and recycled paper towels** have been found to contain lead and pose a risk of contamination.
- Wash child's hands thoroughly and **allow to air dry**. Do not dry with paper towels.
- **Jewelry** (on the patient, the parent or the person performing the blood draw) has been found to contain lead and could contaminate the specimen. All jewelry (including watches) should be removed and hands washed, before putting on gloves and drawing a sample.

Other items can cause lead contamination:

- Dust from vents, open windows or doors
- Cell phones, sunglasses
- Keys or key rings
- Other items children play with or chew on

Specimen Labeling

Information to include on lab requisition:

- Patient Name
- Patient Address
- Patient Phone
- Patient Gender
- Patient Birth Date
- Patient's Employer Contact Info (if applicable)
- Provider Name
- Provider Address
- Provider Phone
- Date of Collection
- Draw/sample type (capillary, venous)
- **Lead Care II Users** - please assign individual accession numbers to each sample

Be sure that draw/sample type is included on the label (C for capillary, V for venous). Recommend: Write "Use certified lead-free tube" (e.g., tan top or royal blue top) on lab requisition. Any other tube must have been confirmed lead-free.

See video on collecting blood lead specimens on Centers for Disease Control and Prevention (CDC) web site: CDC Guidelines for Collecting and Handling Blood Lead Samples (2004) -- www.cdc.gov/nceh/lead/training/blood_lead_samples.htm

For more information, contact the Childhood Lead Poisoning Prevention Branch at (510) 620-5600 or visit our web site at www.cdph.ca.gov/programs/CLPPB

Use the Proper Collection Tube

Tube must be proven lead-free

Capillary Samples



Several manufacturer-certified tube types available

Capillary microcollection container
Top color: **Usually Lavender**
Use: **May use if certified by manufacturer for lead testing**
Anticoagulant: **EDTA**

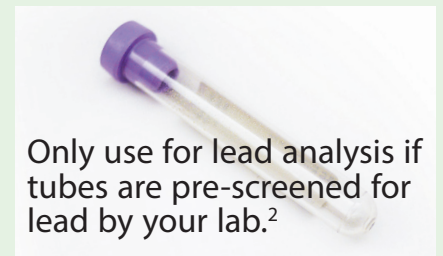
Venous Samples



Top color: **Tan**
Use: **Lead analysis**
Anticoagulant: **EDTA or Heparin¹**



Top color: **Royal Blue**
Use: **Trace metals analysis**
Anticoagulant: **EDTA or Heparin¹**



Only use for lead analysis if tubes are pre-screened for lead by your lab.²

Top color: **Lavender**
Use: **Only use for lead analysis if tubes are pre-screened for lead by your lab.²**
Anticoagulant: **EDTA**

¹ know in advance the acceptable anticoagulant for your analyzing lab
² per CLSI C40-A2 process, October 2013

Blood Lead Testing Guidance

- Testing of at-risk children is the best method of early detection of lead exposure
- Toddlers and children in publicly funded programs and those in older neighborhoods and housing are considered most at risk
- Exposure from all sources is cumulative
- Low levels of lead can cause developmental delay and organ damage
- You need to test and ensure appropriate follow-up after testing is done
- It is recommended that providers monitor and provide follow-up for children with levels at or above the current CDC reference value



http://www.cdc.gov/nceh/lead/ACCLPP/CDC_Response_Lead_Exposure_Recs.pdf

Childhood Lead Poisoning Regulations for California Providers Caring for Children

These regulations apply to all physicians, nurse practitioners, and physician's assistants, not just providers in publicly funded programs.

ANTICIPATORY GUIDANCE	At each periodic assessment from 6 months to 6 years
SCREEN (blood lead test)	<ul style="list-style-type: none"> • Children in publicly supported programs for low income children at both 12 months and 24 months • Children age 24 months to 6 years in publicly supported programs who were not tested at 24 months or later
ASSESS	<ul style="list-style-type: none"> • If child is not in a publicly supported program: <ul style="list-style-type: none"> - Ask: "Does your child live in, or spend a lot of time in, a place built before 1978 that has peeling or chipped paint or that has been recently remodeled?" Blood lead test if the answer to the question is "yes" or "don't know". • Change in circumstances has put child at risk of lead exposure • Other indications for a blood lead test (not regulations, but should be considered): <ul style="list-style-type: none"> - Parental request - Suspected lead exposure - History of living in or visiting a country with high levels of environmental lead

California state guidelines regarding management and follow-up can be found at:

http://www.cdph.ca.gov/programs/CLPPB/Documents/HAGS_201107.pdf

Federal Refugee Guidelines www.cdc.gov/immigrantrefugeehealth/guidelines/lead-guidelines.html

- Blood lead test all refugee children 6 months to 16 years old at entry to the U.S.
- Within 3 - 6 months post-resettlement, follow-up blood lead tests should be conducted on all refugee children aged 6 months to 6 years, regardless of initial screening blood lead level result
- Evaluate the child's iron status including a hemoglobin/hematocrit and red blood cell indices