

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-Care devices for venous confirmatory testing or monitoring.

Filter paper blood lead tests are NOT accepted by the State of California.

Avoid 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.
- **All jewelry** (including watches) should be removed and hands washed, before putting on gloves and drawing a sample. Jewelry (on the patient, the parent, or the person performing the blood draw) has been found to contain lead and could contaminate the specimen.

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

Sample Labeling: Be sure that draw/sample type is on the test tube label (C for capillary, V for venous).

Information to include on lab requisition or order:

- Patient Name
- Patient Address
- Patient Phone
- Patient Sex
- Patient Birth Date
- Patient Race and Ethnicity
- Point of Care Users—please assign unique accession numbers to each sample
- Patient's Employer Contact Info (if applicable)
- Provider Name/National Provider Identifier (NPI)
- Provider Address
- Provider Phone
- Date of Collection
- Draw/Sample Type (capillary, venous)
- Patient Pregnancy Status
- Medi-Cal client identification number (CIN) or other health plan name and identification number
- **Recommend:** Write "Use certified lead-free tube" (e.g., tan top or royal blue top) on lab requisition or order. **Any other tube must have been confirmed lead-free.**

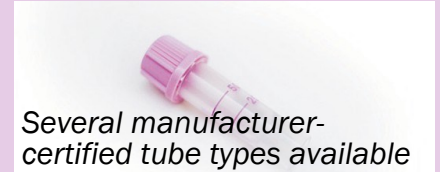
See US Centers for Disease Control and Prevention (CDC) [poster](http://tinyurl.com/CDC-BLS-FS) (tinyurl.com/CDC-BLS-FS) and [video](http://tinyurl.com/CDC-BLS-VID) (tinyurl.com/CDC-BLS-VID) about best practices for collecting blood lead specimens.

NOTE: For point-of-care test kits, refer to [Magellan LeadCare® recall page](#) (tinyurl.com/CLPPB-MAG) for screening restrictions.

Use the Proper Collection Tube

Tubes 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 analysis

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



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 At-Risk Children is the Best Method of Early Detection of Lead Exposure

- Young children in publicly funded programs for low-income children and those in older neighborhoods and housing are considered most at risk.
- Exposure from all sources is cumulative.
- Even low levels of lead can cause developmental delay and organ damage.
- Providers need to test at-risk children and ensure appropriate follow-up according to [California Management Guidelines](https://tinyurl.com/CLPPB-MG-DS) (tinyurl.com/CLPPB-MG-DS).
- It is recommended that providers monitor and provide follow-up for children with levels at or above 3.5 mcg/dL, the [current CDC reference value](https://tinyurl.com/CDC-BLRV-21) (tinyurl.com/CDC-BLRV-21).



Childhood Lead Poisoning Prevention Mandates for California Providers Caring for Children

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

ANTICIPATORY GUIDANCE	<p>At each periodic assessment from 6 months to 6 years, all health care providers are required³ to inform all parents and guardians about:</p> <ul style="list-style-type: none"> • The risks and effects of childhood lead exposure. • The requirement that children enrolled in Medi-Cal receive blood lead tests. • The requirement that children not enrolled in Medi-Cal who are at high risk of lead exposure receive blood lead tests.
SCREEN (blood lead test)	<ul style="list-style-type: none"> • Children in publicly funded programs for low-income children at both 12 months and 24 months of age.³ • Children age 24 months to 6 years in publicly funded programs for low-income children who were not tested at 24 months or later.³
ASSESS	<ul style="list-style-type: none"> • If child is not in a publicly funded 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".³ • Blood lead test if a change in circumstances has put child at risk of lead exposure • <i>Other indications for a blood lead test:</i>⁴ <ul style="list-style-type: none"> • <i>Parental request</i> • <i>Sibling, playmate or other close contact with an increased blood lead level</i> • <i>Suspected lead exposure (possible sources: page 2) (tinyurl.com/guide-source)</i> • <i>History of living in or visiting a country with high levels of environmental lead</i>

³ Health and Safety Code, sections 105285-105286; California Code of Regulations, Title 17, Sections 37000 to 37100

⁴ Items in *italics* are not in regulations but also should be considered.

Federal Refugee Lead Testing Guidelines (tinyurl.com/CDC-REF-LEAD)

Initial lead exposure screening with blood test	<ul style="list-style-type: none"> • All refugee infants and children ≤ 16 years of age • Refugee adolescents > 16 years of age if there is a high index of suspicion, or clinical signs/symptoms of lead exposure • All pregnant and lactating women and girls
Follow-up testing with blood test 3-6 months after initial testing	<ul style="list-style-type: none"> • All refugee infants and children ≤ 6 years, regardless of initial screening result. • Refugee children and adolescents 7–16 years of age who had blood lead levels (BLLs) ≥ 3.5 mcg/dL.⁵ • Any child older than 7 years of age who has a risk factor (e.g., sibling with BLL ≥ 3.5 mcg/dL, environmental exposure risk factors) regardless of initial test result. • Pregnant or lactating adolescents (<18 years of age) who had BLLs ≥ 3.5 mcg/dL at initial screening.⁵

⁵ California guidelines for all children up to age 21 require repeat BLL if initial BLL ≥ 3.5 mcg/dL.