



DAVID MAXWELL-JOLLY
Director

State of California—Health and Human Services Agency
Department of Health Care Services



ARNOLD SCHWARZENEGGER
Governor

February 4, 2009

CHDP Provider Information Notice: 08-10

TO: ALL CHILD HEALTH AND DISABILITY PREVENTION (CHDP)
PROGRAM PROVIDERS AND MEDI-CAL MANAGED CARE PLANS

SUBJECT: CHDP PROVIDER INFORMATION NOTICE NO.: 08-10 AND JOINT
CHILDHOOD LEAD POISONING PREVENTION BRANCH (CLPPB)
AND DEPARTMENT OF HEALTH CARE SERVICES (DHCS) PROGRAM
LETTER – UPDATED RECOMMENDATIONS ON CHILDHOOD LEAD
POISONING AND PREVENTION

The purpose of this Provider Information Notice (PIN) is to inform you of updated information on childhood lead poisoning prevention, based on policy recommendations from the Advisory Committee on Childhood Lead Poisoning Prevention of the Centers for Disease Control and Prevention (CDC). This information is being provided by a joint program letter from the CLPPB in the California Department of Public Health and the CMS Branch/CHDP in the California Department of Health Care Services. A second document, "Management Guidelines on Childhood Lead Poisoning" is included.

If you have any questions, please contact your Regional Consultant staff.

Sincerely,

Original Signed by Harvey Fry for Luis R. Rico

Luis R. Rico, Acting Chief
Children's Medical Services Branch

Enclosure



MARK B HORTON, MD, MSPH
Director

State of California—Health and Human Services Agency
California Department of Public Health



ARNOLD SCHWARZENEGGER
Governor

December 17, 2008

CHDP Program Letter No.: 08-10
CLPPB Program Letter No.: 08-02

TO: ALL CHILD HEALTH AND DISABILITY PREVENTION (CHDP)
PROGRAM DIRECTORS, DEPUTY DIRECTORS, STATE CHILDREN'S
MEDICAL SERVICES (CMS) BRANCH STAFF AND REGIONAL OFFICE
STAFF, CHILDHOOD LEAD POISONING PREVENTION (CLPP)
PROGRAMS, CLPP COORDINATORS, AND CLPP BRANCH STAFF

SUBJECT: UPDATED RECOMMENDATIONS ON CHILDHOOD LEAD POISONING
PREVENTION

PURPOSE

This is a joint program letter from the Child Health and Disability Prevention Program (CHDP) in the California Department of Health Care Services and the Childhood Lead Poisoning Prevention Branch (CLPPB) in the California Department of Public Health. The purpose of this notice is to provide you with updated recommendations on childhood lead poisoning prevention, based on recent policy recommendations from the Advisory Committee on Childhood Lead Poisoning Prevention of the Centers for Disease Control and Prevention (CDC).¹

The CDC Advisory Committee's conclusions address:

- More frequent rescreening of children with blood lead levels (BLLs) approaching 10 micrograms of lead per deciliter of blood (mcg/dL or $\mu\text{g}/\text{dL}$).

¹ Centers for Disease Control and Prevention Advisory Committee on Childhood Lead Poisoning Prevention. Interpreting and Managing Blood Lead Levels of less than 10 $\mu\text{g}/\text{dL}$ in Children and Reducing Childhood Exposure to Lead: Recommendations of the Centers for Disease Control and Prevention Advisory Committee on Childhood Lead Poisoning Prevention. *MMWR*, 2007;56(RR08);1-14;16; <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5608a1.htm> and errata 2007;56(RR08);1241-1242; <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5647a4.htm>. Accessed October 8, 2008. Also *Pediatrics*, 2007;120(5):e1285-e1298; <http://pediatrics.aappublications.org/cgi/content/full/120/5/e1285>. Accessed October 8, 2008.

- Referral of families to agencies and sources of information that will help them establish a lead-safe environment, including public health and housing agencies.

California's updated recommendations, based on these policies, are summarized in the enclosed table. They reflect an increased awareness of potential neurodevelopmental damage at lower BLLs and the importance of primary prevention. The CHDP Health Assessment Guidelines (HAGs) are in the process of revision, but we believe it is important to disseminate this information now.

BACKGROUND

Childhood lead exposure remains a significant environmental disease in California. No level of lead in the body is recognized as safe. CDC has set the level of concern at 10 mcg/dL but recognizes a risk of neurodevelopmental sequelae at levels below 10 mcg/dL.

The only way to know if a child is lead poisoned is to order a BLL. Young children from six months to six years (particularly those at one and two years) are at greatest risk. Under state regulations,² providers must give anticipatory guidance on lead poisoning prevention at each periodic health assessment from the age of six months up to 72 months. If the child is at risk, the provider must order BLLs at the ages of one and two years (or whenever a child under six years is identified as having missed the required tests). All children who are receiving services through publicly funded programs, such as CHDP, are deemed to be at high risk of lead poisoning and must be tested at one and two years.

Once a child has become exposed to lead, it is crucial to identify and remove the sources of exposure. Local childhood lead poisoning prevention (CLPP) programs can be most helpful in this, as well as in providing educational materials and technical knowledge. A current list of these programs is at www.cdph.ca.gov/programs/CLPPB.

Many hazards are associated with lead poisoning, either as the primary source or as part of the child's cumulative exposure. Some of these, such as lead-contaminated candy, toys, and jewelry have received a good deal of recent public attention. However, exposure to deteriorated lead-based paint and lead-contaminated dust and soil remain the major causes of childhood lead poisoning.

² California Code of Regulations, Title 17, Section 37000 - 37100.

RECOMMENDATIONS

The enclosed table clarifies evaluation and management guidelines, particularly the schedule for confirmation and retesting intervals. Generally, actions are scheduled to occur earlier and at lower BLLs. Emphasis is placed on neurodevelopment and coordination with local CLPP programs, which can assess and address environmental hazards. Some of the changes are:

- Previous guidelines labeled levels as “background,” “low,” “mild,” “moderate,” “high,” and “severe.” Recognizing that even low BLLs may have serious sequelae, these guidelines eliminate the labels.
- **Less than 10 mcg/dL:** Previous guidelines gave only general advice on BLLs in this range. These recommendations provide specific actions for BLLs starting at 5-9 mcg/dL, including evaluating lead exposure. At this level the provider now should consider retesting in six months (rather than one year), particularly if the BLL is approaching 10 mcg/dL and the child is less than two years of age, is at high risk for lead exposure, or was tested at the start of warm weather (when BLLs tend to increase). The provider should also consider ordering neurodevelopmental screening, adding a notation of the BLL to the child’s medical record for future neurodevelopment monitoring, and testing other family members.
- **10-14 mcg/dL:** Providers are now advised to retest within three months (rather than three to four), encourage early stimulation activities, and consider referral to local CLPP programs for education and materials.
- **15-19 mcg/dL:** The provider should retest within three months (instead of three to four), do later testing at one to three months (rather than one to four), and consider hemoglobin and hematocrit levels (instead of waiting until 20-44 mcg/dL).
- **20-44 mcg/dL:** The provider should consider abdominal x-rays and bowel decontamination, if appropriate; and retesting is clarified as being within one week to one month.
- **45-59 mcg/dL:** Chelation should be considered. The provider is alerted to the potential for renal tubular dysfunction with some chelation agents. The provider also is warned to ensure that, if calcium Na₂EDTA is used as the chelating agent, it is calcium Na₂EDTA, as use of substances with similar names have caused death.
- **60-69 mcg/dL:** The provider is reminded that this is an urgent situation. The provider is reminded that long-term lead poisoning, such as with a retained bullet, may result in persistent highly elevated BLLs and thus require modified follow-up.
- **Equal to or greater than 70 mcg/dL:** The provider is reminded that this is an emergency. The provider’s attention is drawn to the potential for peanut allergy reaction to BAL (British Anti-Lewisite or dimercaptopropanol), which might be used in this BLL range for chelation.

CHDP Program Letter
CLPPB Program Letter 08-02
Page 4
December 17, 2008

Thank you for your assistance in addressing the important problem of lead exposure in California's children.

Original signed by Marian Dalsey, M.D., M.P.H.

Marian Dalsey, M.D., M.P.H., Chief
Children's Medical Services Branch
California Department of Health Care Services

Valerie Charlton

Valerie Charlton, M.D., M.P.H., Chief
Childhood Lead Poisoning Prevention Branch
California Department of Public Health

Enclosure



MARK B HORTON, MD, MSPH
Director

State of California—Health and Human Services Agency
California Department of Public Health



ARNOLD SCHWARZENEGGER
Governor

December 17, 2008

CHILDHOOD LEAD POISONING PREVENTION BRANCH PROGRAM LETTER #2008-02

TO: HEALTH OFFICERS
CHILDHOOD LEAD POISONING PREVENTION PROGRAM
COORDINATORS
DIRECTORS OF ENVIRONMENTAL HEALTH

SUBJECT: JOINT CHILDHOOD LEAD POISONING PREVENTION BRANCH
(CLPPB) AND CHILD HEALTH AND DISABILITY PREVENTION
PROGRAM (CHDP) LETTER ON SCREENING FOR, AND
MANAGEMENT OF, CHILDHOOD LEAD POISONING PREVENTION

INTRODUCTION

This letter notifies you that the CLPPB in the California Department of Public Health and the CMS Branch/CHDP in the California Department of Health Care Services have issued a joint program letter covering updated recommendations on childhood lead poisoning prevention, based on recent policy recommendations from the Advisory Committee on Childhood Lead Poisoning Prevention of the Centers for Disease Control and Prevention (CDC).¹

The CDC Advisory Committee addressed:

- More frequent rescreening of children with blood lead levels (BLLs) approaching 10 micrograms of lead per deciliter of blood (mcg/dL or µg/dL).
- Referral of families to agencies and sources of information that will help them establish a lead-safe environment, including public health and housing agencies.

¹ Centers for Disease Control and Prevention Advisory Committee on Childhood Lead Poisoning Prevention. Interpreting and Managing Blood Lead Levels of less than 10 µg/dL in Children and Reducing Childhood Exposure to Lead: Recommendations of the Centers for Disease Control and Prevention Advisory Committee on Childhood Lead Poisoning Prevention. *MMWR*, 2007;56(RR08);1-14;16; <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5608a1.htm> and errata 2007;56(RR08);1241-1242; <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5647a4.htm>. Accessed October 8, 2008. Also *Pediatrics*, 2007;120(5):e1285-e1298; <http://pediatrics.aappublications.org/cgi/content/full/120/5/e1285>. Accessed October 8, 2008.

California's updated recommendations, based on these policies, are summarized in the table that accompanies the joint letter. They reflect an increased awareness of potential neurodevelopmental damage at lower BLLs and the importance of primary prevention.

BACKGROUND

As part of its oversight and support work, CHDP issues Health Assessment Guidelines (HAGs) for health care providers in its program. CHDP is in the process of an overall revision of the HAGs, but the release date is sometime in the future. While awaiting the release, CLPPB and CHDP have chosen to disseminate these updated guidelines on childhood lead poisoning.

RECOMMENDATIONS

The table enclosed with the joint letter clarifies evaluation and management guidelines for the health care provider, particularly the schedule for confirmation and retesting intervals. Generally, actions are scheduled to occur earlier and at lower BLLs. Emphasis is placed on neurodevelopment and coordination with local childhood lead poisoning prevention (CLPP) programs that can assess and address environmental hazards. Some of the changes are:

- Previous guidelines labeled levels as "background," "low," "mild," "moderate," "high," and "severe." Recognizing that even low BLLs may have serious sequelae, these guidelines eliminate the labels.
- **Less than 10 mcg/dL:** Previous guidelines gave only general advice on BLLs in this range. These recommendations provide specific actions for BLLs starting at 5-9 mcg/dL, including evaluating lead exposure. At this level, the provider now should consider retesting in six months (rather than one year), particularly if the BLL is approaching 10 mcg/dL and the child is less than two years of age, is at high risk for lead exposure, or was tested at the start of warm weather (when BLLs tend to increase). The provider should also consider ordering neurodevelopmental screening, adding a notation of the BLL to the child's medical record for future neurodevelopment monitoring, and testing other family members.
- **10-14 mcg/dL:** Providers are now advised to retest within three months (rather than three to four), encourage early stimulation activities, and consider referral to local CLPP programs for education and materials.
- **15-19 mcg/dL:** The provider should retest within three months (instead of three to four), do later testing at one to three months (rather than one to four), and consider hemoglobin and hematocrit levels (instead of waiting until 20-44 mcg/dL).
- **20-44 mcg/dL:** The provider should consider abdominal x-rays and bowel decontamination, if appropriate; and retesting is clarified as being within one week to one month.

- **45-59 mcg/dL:** Chelation should be considered. The provider is alerted to the potential for renal tubular dysfunction with some chelation agents. The provider also is warned to ensure that, if calcium Na₂EDTA is used as the chelating agent, it is calcium Na₂EDTA, as use of substances with similar names have caused death.
- **60-69 mcg/dL:** The provider is reminded that this is an urgent situation. The provider is reminded that long-term lead poisoning, such as with a retained bullet, may result in persistent highly elevated BLLs and thus require modified follow-up.
- **Equal to or greater than 70 mcg/dL:** The provider is reminded that this is an emergency. The provider's attention is drawn to the potential for peanut allergy reaction to BAL (British Anti-Lewisite or dimercaptopropanol), which might be used in this BLL range for chelation.

If you have questions about the joint letter or the guidelines enclosed with it, please contact the CLPPB Care Management Section at (510) 620-5600.

Original signed by Marian Dalsey, M.D., M.P.H.

Marian Dalsey, M.D., M.P.H., Chief
Children's Medical Services Branch
California Department of Health Care Services

Valerie Charlton

Valerie Charlton, M.D., M.P.H., Chief
Childhood Lead Poisoning Prevention Branch
California Department of Public Health

Enclosures

MANAGEMENT GUIDELINES ON CHILDHOOD LEAD POISONING FOR HEALTH CARE PROVIDERS

- No level of lead in the body is known to be safe.
- Primary treatment for all blood lead levels (BLLs) is prevention of lead exposure and the timely and effective reduction of any exposure that may have occurred. In addition to the long-known major sources of lead exposure (lead-contaminated paint, dust, and soil), other potential sources are being recognized. Ongoing coordination between the medical provider and the local public health team is essential for effective follow-up of lead exposed children.
- Contact the California Department of Public Health, Childhood Lead Poisoning Prevention Branch, (510) 620-5600, www.cdph.ca.gov/programs/CLPPB for more information.

Blood Lead	Pediatric Evaluation	Management
< 5 mcg/dL¹	<p>General</p> <ul style="list-style-type: none"> ▪ Standard history and physical examination and developmental assessment. ▪ Evaluate nutrition and consider iron deficiency as in all children. ▪ Evaluate lead exposure. <p>Blood Lead Levels (may be capillary or venous)²</p> <ul style="list-style-type: none"> ▪ Retest as for routine screening, i.e. obtain BLL at 1 and 2 years, test anytime up to 6 years (if not tested at 1 and 2 years), or whenever indicated by changed circumstances or identification of new risks. 	<ul style="list-style-type: none"> ▪ Comply with California regulations mandating a standard of care under which the health care provider, at each periodic health care visit from age 6 months to 72 months must give oral or written anticipatory guidance to a parent or guardian, including at a minimum that children can be harmed by lead and are particularly at risk for lead poisoning from the time they crawl until 72 months and can be harmed by deteriorating or disturbed paint and lead-contaminated dust.³ ▪ Discuss hand to mouth activity, hand washing, and sources of lead exposure (e.g. lead-contaminated paint; dust and soil, particularly near streets and roadways; lead from a household member's job, ceramic ware, cultural remedies, imported food, costume jewelry, vinyl products, and lead in plumbing and water). ▪ Counsel on any risk factors identified. ▪ Discuss test results with family. ▪ Encourage good nutrition (iron, calcium, and vitamin C); consider referral to Supplemental Nutrition Program for Women, Infants, and Children (WIC). ▪ Encourage participation in early enrichment programs for children from families with low economic and social resources and for whom exposure to lead is likely. <p>Chelation is not recommended in this BLL range.</p>
5–9 mcg/dL	<p>General</p> <p>Evaluate as above and</p> <ul style="list-style-type: none"> ▪ Consider more frequent or more extensive neurodevelopmental evaluations. 	<p>Manage as above and</p> <ul style="list-style-type: none"> ▪ Evaluate risk to, and consider testing for, other children in the home ▪ Evaluate risk to, and consider medical referral for, other household members (especially pregnant women).

Blood Lead	Pediatric Evaluation	Management
	<p>Blood Lead Levels (may be capillary or venous)</p> <ul style="list-style-type: none"> ▪ Consider an initial retest within 6 months.⁴ ▪ If retest is in this range, consider monitoring with BLLs every 6 months until trend is downward or stable and then less often as trend indicates. ▪ If retest is in another range, follow-up as for that range. 	<ul style="list-style-type: none"> ▪ Add notation on blood lead level to child’s medical record for future neurodevelopmental monitoring. <p>Chelation is not recommended in this BLL range.</p>
<p>10–14 mcg/dL</p>	<p>General Evaluate as above.</p> <p>Blood Lead Levels (all retests should be venous)</p> <ul style="list-style-type: none"> ▪ Initially retest within 3 months. ▪ If retest is in this range, monitor with BLLs every 3 months until trend is downward or stable and then less often as trend indicates. ▪ If retest is in another range, follow-up as for that range. 	<p>Manage as above and</p> <ul style="list-style-type: none"> ▪ Advise activities such as those provided by early intervention/stimulation programs (e.g., Early Start). ▪ Consider referral to the local Childhood Lead Poisoning Prevention Program (CLPPP). The Childhood Lead Poisoning Prevention Branch (CLPPB) webpage at www.cdph.ca.gov/programs/CLPPB has links. <p>Chelation is not recommended in this BLL range.</p>
<p>15–19 mcg/dL</p>	<p>General Evaluate as above and</p> <ul style="list-style-type: none"> ▪ Consider Hgb/Hct. ▪ If persistent in this range evaluate as for 20-44 mcg/dL <p>Blood Lead Levels (all retests should be venous)</p> <ul style="list-style-type: none"> ▪ Confirm within 3 months. ▪ To determine eligibility for public health case management, retest after an interval of 30 days or more (must show persistence in this range). ▪ If confirmed in this range, monitor with BLLs every 1--3 months until trend is downward or stable and then less often as trend indicates. ▪ If confirmed in another range, follow-up as for that range. 	<p>Manage as above and</p> <ul style="list-style-type: none"> ▪ If BLL is persistent in this range (15 mcg/dL or greater on tests done at least 30 days apart) or if BLL increases above this range, initiate referral to local CLPPP or health department for public health nurse case management, environmental investigation, and recommendations for remediation of lead sources. <p>Chelation is not recommended in this BLL range.</p>

Blood Lead	Pediatric Evaluation	Management
<p>20–44 mcg/dL</p>	<p>General</p> <ul style="list-style-type: none"> ▪ History and physical examination with attention to neurodevelopment. ▪ Evaluate lead exposure. ▪ Evaluate nutrition. ▪ Evaluate iron deficiency: Hgb/Hct, ferritin, and Fe/TIBC are all good measures. ▪ Consider abdominal x-ray if particulate lead ingestion is suspected. <p>Blood Lead Levels (all retests should be venous)</p> <ul style="list-style-type: none"> ▪ Confirm within 1 week to 1 month (the higher the BLL, the sooner the retest). ▪ If confirmed in this range, monitor with BLLs every 2 weeks to 1 month until trend is downward or stable and then less often as trend indicates. ▪ If confirmed in another range, follow-up as for that range. 	<p>Manage as above and</p> <ul style="list-style-type: none"> ▪ Initiate referral to local CLPPP or local health department for public health nurse case management, environmental investigation, and recommendations for remediation of lead sources. ▪ Treat any iron deficiency. ▪ Order bowel decontamination if indicated. ▪ Refer to California Children Services (CCS). <p>Chelation is not typically initiated in this BLL range.</p>
<p>45–59 mcg/dL</p> <p>urgent situation</p>	<p>General Evaluate as above and</p> <ul style="list-style-type: none"> ▪ Very high BLLs have been associated with renal tubular dysfunction. If potentially nephrotoxic chelating agents are to be used in treatment (e.g. CaNa₂EDTA), test renal function before and during treatment. <p>Blood Lead Levels (all retests should be venous)</p> <ul style="list-style-type: none"> ▪ Confirm within 48 hours ▪ If confirmed in this range, monitor with serial BLLs during any chelation. ▪ Follow-up with BLLs every 2 weeks to 1 month (or more frequently if status requires) until trend is downward or stable and then less often as trend indicates. ▪ It may be appropriate to modify protocol if BLLs remain chronically elevated, e.g. from a retained bullet. ▪ If confirmed in another range, follow-up as for that range. 	<p>URGENT MEDICAL SITUATION. Manage as above and</p> <ul style="list-style-type: none"> ▪ Consider chelation. ▪ Evaluate whether hospitalization is needed to reduce lead exposure or to achieve compliance with treatment protocols. ▪ Immediately notify local CLPPP. <p>Chelation Therapy</p> <ul style="list-style-type: none"> ▪ Consult with a provider experienced in managing chelation therapy. ▪ Order bowel decontamination before chelation, if indicated by abdominal x-ray. ▪ Consider one of two chelating agents: <ul style="list-style-type: none"> a. Succimer per outpatient prescribed protocol; give on inpatient basis if compliance or exposure reduction cannot be assured. b. CaNa₂EDTA per prescribed protocol in hospital. <ul style="list-style-type: none"> * Be certain to use only CALCIUM Na₂EDTA* ▪ Repeat treatment cycles may be needed based on blood lead rebound.

Blood Lead	Pediatric Evaluation	Management
<p>60–69 mcg/dL urgent situation</p>	<p>General Evaluate as above.</p> <p>Blood Lead Levels (all retests should be venous)</p> <ul style="list-style-type: none"> ▪ Confirm within 24 hours. ▪ If confirmed in this range, monitor with serial BLLs during any chelation. ▪ Follow-up with BLLs every 2 weeks to 1 month (or more frequently if status requires) until trend is downward or stable and then less often as trend indicates. ▪ It may be appropriate to modify protocol if BLLs remain chronically elevated, e.g., from a retained bullet. ▪ If confirmed in another range, follow-up as for that range. 	<p>URGENT MEDICAL SITUATION. Manage as above.</p>
<p>≥ 70 mcg/dL medical emergency</p>	<p>General Evaluate as above.</p> <p>Blood Lead Levels (all retests should be venous)</p> <ul style="list-style-type: none"> ▪ Confirm any BLL in this range immediately. ▪ If confirmed in this range, monitor with serial BLLs during chelation. ▪ Follow-up with BLLs every 2 weeks to 1 month (or more frequently if status requires) until trend is downward or stable and then less often as trend indicates. ▪ It may be appropriate to modify protocol if BLLs remain chronically elevated, e.g. from a retained bullet. ▪ If confirmed in another range, follow-up as for that range. 	<p>MEDICAL EMERGENCY. Manage as above and</p> <ul style="list-style-type: none"> ▪ Immediately hospitalize to stabilize, reduce lead exposure, chelate, and monitor progress. ▪ Immediately notify local CLPPP. <p>Chelation Therapy</p> <ul style="list-style-type: none"> ▪ Consult with a provider experienced in managing chelation therapy. ▪ Order bowel decontamination before chelation, if indicated by abdominal x-ray. ▪ Typically combined therapy with BAL (dimercaprol) and CaNa₂EDTA per prescribed protocol. <ul style="list-style-type: none"> * Be certain to use only CALCIUM Na₂EDTA* * Assess for peanut allergy if using BAL (BAL is suspended in peanut oil)* ▪ Repeat treatment cycles may be needed based on blood lead rebound.

Note: Searching for gingival lead lines; testing of neurophysiologic function specifically for lead (postural sway, auditory evoked potentials, or nerve conduction); testing of hair, teeth, fingernails, or urine for lead; radiographic imaging of long bones; and X-ray fluorescence of long bones are not usually recommended.⁵

-
1. Blood lead test results should be rounded to the nearest whole number, with numbers with decimals equal to and above 0.5 rounded up and numbers with decimals below 0.5 rounded down; e.g. treat 4.5 mcg/dL as 5 mcg/dL, 9.5 mcg/dL as 10 mcg/dL, 14.5 mcg/dL as 15 mcg/dL, 4.3 mcg/dL as 4 mcg/dL.
 2. Capillary specimens for lead are easily contaminated. Capillary specimens are acceptable for screening but all retests on BLLs \geq 10 mcg/dL should be on venous blood. When a reference is made to a “venous” specimen, arterial or umbilical line specimens may be substituted. Use of a heelstick instead of a fingerstick to obtain a capillary specimen is recommended in children under one year of age.
 3. California Code of Regulations, Title 17, Sections 37000–37100.
 4. Consider retesting in six months, particularly if the BLL is approaching 10 mcg/dL and the child is less than two years of age, is at high risk for lead exposure, or was tested at the start of warm weather (when BLLs tend to increase).
 5. CDC: *Managing Elevated Blood Lead Levels Among Young Children: Recommendations from the Advisory Committee on Childhood Lead Poisoning Prevention* U.S. Department of Health and Human Services, March 2002; http://www.cdc.gov/nceh/lead/CaseManagement/caseManage_main.htm.