



# *Yakima Health District*

## **BULLETIN**

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### **New Lead (Pb) Screening Guidelines Aim to Increase Targeted Testing & Address Low Level Elevations**

#### **Requested Actions:**

- Screen children for blood lead (Pb) elevations at 12 and 24 months of age if they are covered by Medicaid or have risk factors for Pb exposure:
  - Live or frequently visit pre-1950s housing
  - Live or frequently visit pre-1980s housing undergoing renovations
  - Family income < 130% federal poverty limit
  - Sibling or playmate with elevated blood Pb
  - Parent or caregiver with Pb-based occupation or hobby (e.g., remodeling and demolition; painting; works in or visits gun ranges; mining; battery recycling; makes Pb fishing weights or shotgun pellets; hobbies involving stained glass, pottery, soldering, or welding)
  - Recent immigrant, refugee, adoptee, or foster child
  - Use of imported, traditional or ethnic remedies in the home
  - Use of informally imported candies, cosmetics, canned foods, or food containers in the home
- Consider screening of older children if:
  - Parents are concerned or request testing
  - Live within 1km of an airport or Pb-emitting industry
  - Live on former orchard land
  - Exhibit pica
  - Have neurodevelopmental disorders (e.g., ADHD, autism, learning disability)

#### **Background:**

- The Centers for Disease Control and Prevention (CDC) has expressed an updated perspective that no level of Pb exposure can be considered safe.
  - Subtle cognitive and behavioral effects with potentially lasting consequences can be seen at low level elevations (e.g., 5-14mcg/dL).
  - Overt neurologic, gastrointestinal, renal, or cardiovascular effects can be seen at higher levels.
  - Younger children are at greater risk of sequelae from Pb exposure due to ongoing brain development, incomplete blood brain barrier, crawling and mouthing behaviors, and cation deficiencies (e.g., iron, calcium). They also can retain up to 30% of an ingested dose (vs. 1% for adults) and store it in bone.
  - The new threshold for follow-up and intervention has changed from 10mcg/dL to 5mcg/dL.
  - 5mcg/dL is the 97.5<sup>th</sup> percentile of children's blood Pb levels obtained through the National Health and Nutrition Examination Survey.
- The Washington State Department of Health (DOH) convened an expert panel in late 2015 to review available data and update recommendations for lead screening in children. Those recommendations have been finalized and the full document can be downloaded at <http://www.doh.wa.gov/Portals/1/Documents/Pubs/334-383.pdf>. Key findings emanating from the process and most relevant to Yakima County include:
  - Only about 3% of children were screened in Washington State in recent years (8% in Yakima County).
  - Statewide, 2-3% of blood Pb results are >5mcg/dL and 0.1-0.2% are >10mcg/dL.
  - Among refugee children, 15% have elevated blood Pb results.
  - Over 30% of housing in Yakima County is pre-1950.
  - Yakima County ranks above the 90<sup>th</sup> percentile statewide for housing stock and above the 70<sup>th</sup> percentile for poverty as risk factors for lead exposure. Visit <https://fortress.wa.gov/doh/wtn/wtnibl> for an interactive website providing visual assessment of geographic risk.
  - Many local residents may use informally imported food products, food containers, candies, cosmetics, or

- other products that could expose a small child to Pb.
- 58,000 (2%) of Yakima County's 2.75 million acres of land are former apple or pear orchards potentially affected by past use of Pb-arsenate pesticides. Not surprisingly, Yakima County is home to the largest land area of former orchards in the state.
- The Washington State Health Care Authority is seeking a waiver from the federal requirement for universal testing of children covered by Medicaid in favor of risk-based testing as set forth above for all children. That application remains pending at the Centers for Medicaid and Medicare Services.

### **Blood Pb Testing Modalities:**

- Point-of-care capillary Pb measurements are relatively non-invasive, convenient, and provide real-time results. However, false elevations due to skin surface contamination do occur, the analytic machine must be maintained and calibrated regularly, and ALL results (elevated or not) must be reported to the DOH Lead Poisoning Prevention Program (fax: 360-236-3059). Elevated levels obtained by capillary blood testing should always be confirmed via collection and submission of venous blood.
- Venous sampling is more invasive, but validity of results is greater and there is no analytic machine to manage. Furthermore, because ALL blood Pb test results in Washington State children must be reported to DOH (elevated or not), venous sampling relieves the health care provider or clinic of that obligation via deferral to the testing laboratory.

### **Hierarchy of Medical Responses Based on Blood Pb Results:**

- **<5mcg/dL**
  - Re-test in 3-6 months if child remains at high risk.
  - Ensure testing at 1 and 2 years of age.
  - Anticipatory guidance on diet and avoidance of exposure (see Figure 6, p. 17 of DOH recommendations and enclosure to this Bulletin).
- **5-14mcg/dL**
  - Take environmental exposure history.
  - Re-test venous blood Pb in 1-3 months.
  - Emphasize adequate calcium and iron intake.
  - Assess iron status (e.g., CBC, Fe studies).
- **15-44mcg/dL**
  - Repeat venous blood Pb in 1-4 weeks.
  - Consider abdominal imaging if history suggests mouthing or pica.
  - Consult the University of Washington's Northwest Pediatric Environmental Health Specialty Unit (PEHSU) if a foreign body is present, the child is symptomatic, or there is an intent to treat.
- **>45mcg/dL**
  - Confirm results by repeating blood Pb level within 48 hours.
  - Consider hospitalization and/or chelation in consultation with PEHSU.

*Note: clinical follow-up and management of the child is the responsibility of the clinician ordering the test and the parent-or-guardian of the child.*

### **Public Health Response:**

- When the DOH Pb Poisoning Prevention Program receives a report of an elevated result in a Yakima County child, YHD is notified.
- YHD then will provide the ordering clinician with UW PEHSU *Recommendations on Medical Management of Childhood Pb Exposure and Poisoning* and any additional information requested by the health care provider.
- Further steps by public health then depend on the specific magnitude of the elevation:
  - **5-7.49 mcg/dL:** YHD sends the parent/guardian an advisory letter and educational brochures, with a copy going to the ordering clinician.
  - **7.5-10 mcg/dL:**
    - ◆ YHD conducts a phone interview with the parent/guardian to identify possible sources of the Pb exposure.
    - ◆ YHD sends the parent/guardian an action plan letter (including a recommended date of repeat testing as determined by the ordering clinician) and educational brochures.
    - ◆ YHD sends the ordering clinician a copy of the action plan letter.

- **10-44 mcg/dL:**
  - ◆ YHD establishes telephone contact with parent/guardian to introduce the concern about the result and to request permission to establish a referral for home visiting nursing services to evaluate the home, exposure risks, and to facilitate further medical evaluation and follow-up.
  - ◆ YHD sends the parent/guardian educational brochures and a recommendation for repeat blood Pb testing with the ordering clinician.
  - ◆ YHD sends the ordering clinician a copy of the visiting nursing service referral.
  - ◆ The visiting nursing service updates YHD on the outcome of the intervention and follow-up.
- **>44 mcg/dL or higher:** YHD initiates an urgent consultation involving the ordering clinician, YHD Health Officer, and a public health nurse, while also facilitating a referral to PEHSU.

### **Abatement:**

If a child's blood Pb elevations persist and are definitively attributed to the structural home environment (e.g., Pb based paint, window glaze or other construction products), the owner of the home may be directed to remediate the problem using a contractor certified to conduct such work.

### **Consultation:**

To discuss a child with an elevated Pb level or to get consultation related to Pb screening, please contact the public health nurse at the Health District, (509) 249-6541. To address blood lead elevations in adults, contact the Washington Department of Labor & Industries at (800) 423-7233.

### **Additional Resources:**

- Northwest Pediatric Environmental Health Specialty Unit Pb Fact Sheets <http://depts.washington.edu/pehsu/factsheets>  
Phone: 206-221-8671 / Fax: 206-744-9935
- Washington Tracking Network (to assess lead exposure risk by geography) <https://fortress.wa.gov/doh/wtn/wtnib/>
- Washington State Department of Health Pb Poisoning Prevention Program  
<http://www.doh.wa.gov/ForPublicHealthandHealthcareProviders/HealthcareProfessionsandFacilities/ProfessionalResources/BloodLeadTestingandReporting>
- Washington State Department of Labor & Industries (adult blood Pb elevations)  
<http://www.lni.wa.gov/Safety/Research/OccHealth/Lead/default.asp>  
<http://www.lni.wa.gov/claimsIns/Providers/default.asp?source=FF>
- Washington State Department of Ecology <http://www.ecy.wa.gov/programs/hwtr/dangermat/lead.html>
- Environmental Protection Agency [www.epa.gov/lead](http://www.epa.gov/lead)

#### **Lead Anticipatory Guidance for Parents of Young Children**

1. Keep your child away from peeling paint and home repairs that disturb lead paint.
2. Report peeling paint to your landlord. If your landlord does not make repairs, contact your local tenant's rights organization.
3. Frequently wash hands, toys, pacifiers, bottles, and other items your child places in his or her mouth.
4. Clean floors, windowsills, and dusty places often with wet mops and wet cloths.
5. Avoid using health remedies (such as azarcon, greta, payloah) and eye cosmetics (such as kohl, kajal, surma) from other countries. Some of these products have been found to contain high levels of lead.
6. Use caution when using candies, spices, snack foods, and children's toys and jewelry made in other countries. These items may contain lead.
7. Use only cold water for making baby formula, drinking, and cooking. Let the water run for at least 60 seconds before use.
8. Keep your child away from work clothes and tools of household members who do construction work or other work and hobbies that may expose them to lead.
9. Wash work clothes separately from other laundry. Remove shoes and work clothes before entering your home.
10. Use safe work methods when doing home repair that disturbs paint. For information on lead-safe work methods, see [EPA's lead webpage](http://www.epa.gov/lead) at [www.epa.gov/lead](http://www.epa.gov/lead).

# RECOMMENDATIONS FOR BLOOD LEAD TESTING OF CHILDREN IN WASHINGTON STATE

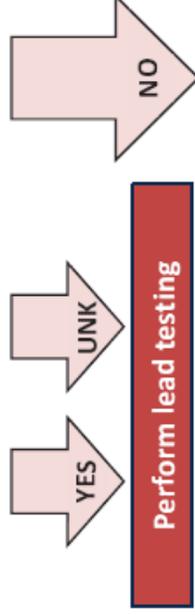
The Department of Health recommends screening children using the below algorithm at 12 and 24 months of age.

## Does the child have any of the following risk factors:

- Lives in or regularly visits any house built before 1950.\*
- Lives in or regularly visits any house built before 1978 that has recent or ongoing renovations or remodeling.
- From a low income family; (defined as incomes <130% of the poverty level)\*\*
- Known to have a sibling or frequent playmate with elevated blood lead level.
- Is a recent immigrant, refugee, foreign adoptee, or child in foster care.
- Has a parent or principal caregiver who works professionally or recreationally with lead. (See sidebar for examples.)
- Uses traditional, folk, or ethnic remedies or cosmetics (such as Greta, Azarcon, Ghasard, Ba-baw-san, Sindoor or Kohl.)

\* Screening may not be indicated if the home has previously undergone lead abatement or tested negative for lead after remodeling.

\*\* Federal law mandates screening for all children covered by Medicaid.



## Healthcare providers should consider testing additional children per clinical judgment, such as:

- Child whose parents have concerns or request testing (including older children that have risk of exposure).
- Child living within a kilometer of an airport or lead emitting industry, or on former orchard land.
- Child with pica behavior.
- Child with neurodevelopmental disabilities or conditions such as autism, ADHD, and learning delays.

Healthcare providers are encouraged to use the [Department of Health's Lead Risk Index Map](#) to better understand which areas in their community are at higher risk for lead exposure. See <https://fortress.wa.gov/doh/wtn/WTNIBL/>

Interpretation and Medical Management of Blood Lead Levels:

If blood lead level is  $\geq 5$  mcg/dL: See [PEHSU Recommendations on Medical Management of Childhood Lead Poisoning](#)

## LEAD RISK EXPOSURE EXAMPLES:

### Occupations and Hobbies:

- Remodeling and demolition
- Painting
- Work or visit gun range
- Mining, smelting, battery recycling
- Making lead fishing weights or ammunition
- Stained glass
- Soldering and welding

### Consumer Products:

- Pottery or porcelain with lead glaze
- Informally imported foods, candies and spices
- Antique furniture and inexpensive jewelry



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# Blood Lead Level Reporting

**FOR OFFICE USE ONLY**

DOH ID Number

Date Received

## PATIENT INFORMATION

Patient's Name (Last, First, Middle Initial)

Telephone

Street Address

City

State

Zip

County

Age

Date of Birth

Sex  Male  Female  Unknown

Race

American Indian or Alaskan Native  African American  
 Caucasian  Asian or Pacific Islander  Unknown  
 Other: \_\_\_\_\_

Ethnicity

Hispanic  Non-Hispanic  
 Unknown

Refugee  Immigrant  International Adoptee

If yes, country from

Arrival Date

## PROVIDER INFORMATION

Medical Provider

Telephone

Clinic Name and Street Address

County

City

State

Zip

## LABORATORY RESULTS

Reporting Laboratory

Telephone

Laboratory Performing Tests (If different from reporting laboratory)

Telephone

Date Sample Received

Blood Lead Level  $\mu\text{g/dl}$

Sample Type

Venous  Capillary  Unknown

## OTHER INFORMATION

Reason for Test

Childhood Screening  Clinical Suspicion  Occupational Monitoring  
 Unknown  Other:

Follow-up Test

Yes  No  Unknown

Occupation (If patient is more than 15 yrs; Of parents if less than 15 yrs)

Industry

Employer (If patient is more than 15 yrs; Of parents if less than 15 yrs)

Telephone

### MAIL or FAX COMPLETED FORM TO:

Washington State Department of Health  
 PO Box 47846  
 Olympia, WA 98504-7846  
 Fax: 360-236-3059

### FOR MORE INFORMATION:

Call 1-800-909-9898 (Toll Free in WA)  
<http://www.doh.wa.gov/ehp/lead>

# YAKIMA HEALTH DISTRICT

1210 Ahtanum Ridge Drive  
Union Gap, WA 98903



**Reporting Line: (509) 249-6541 (8:30am to 4:30pm)**

After hours Emergency: (509) 575-4040 #1

Toll Free: (800) 535-5016 x 541



Confidential Fax: (509) 249-6628



<http://www.yakimapublichealth.org>

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Notifiable Condition <i>(includes confirmed and probable cases)</i>	Cases				
	Jan – May	Jan – May	Jan – May	Total Cases by Year	Total Cases by Year
	2016	2015	2014	2015	2014
Campylobacteriosis	36	57	23	153	97
Chlamydia	675	661	604	1597	1504
Cryptosporidiosis	1	3	5	7	7
Genital Herpes - Initial	34	54	20	111	60
Giardiasis	12	7	5	25	16
Gonorrhea	190	147	125	376	406
Hepatitis A acute	0	0	0	0	0
Hepatitis B acute	0	0	0	0	0
Hepatitis B chronic	3	8	6	18	11
Hepatitis C acute	2	0	2	1	2
Hepatitis C chronic	117	94	126	223	300
HIV/AIDS Cumulative Living	199	194	191	196	195
HIV/AIDS Deaths	1	1	0	3	2
HIV/AIDS New	5	0	2	5	8
Meningococcal Disease	0	0	0	0	1
Pertussis	4	8	10	11	18
Salmonellosis	8	14	10	49	53
Shigellosis	1	1	7	2	14
STEC (enterohemorrhagic E. coli)	10	8	5	20	15
Syphilis - Primary and Secondary	8	3	4	7	15
Tuberculosis	2	7	1	12	4

**Notifiable  
Conditions  
Summary  
Jan - May  
2016**