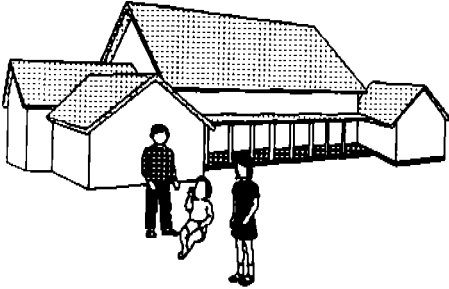




# Just the Facts

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## Approach to the Follow-Up of Elevated Blood-Lead Levels



### The Rationale for Measuring Blood-Lead Levels in Children

There are two purposes for measuring blood-lead levels in children: to confirm or dispute a clinical suspicion of lead poisoning, and to screen for elevated blood-lead levels in asymptomatic children.

After testing blood-lead levels in a child, practitioners will then be able to determine:

- ◆ The child's appropriate follow-up treatment based on measured blood-lead level.
- ◆ How to investigate the possible sources of lead in the child's environment if indicated by an elevated blood-lead level.

### Use of Screening Programs

Practitioners can measure blood-lead levels in groups of children for screening programs. Since children are a sensitive receptor for lead, these programs assess the lead burden in the community by looking at the measured blood-lead levels in children.

Practitioners can also use screening programs to:

- ◆ Note elevations in blood-lead levels.
- ◆ Assess possible sources of lead, thereby limiting further exposure.

- ◆ Recognize and address significant sources of lead to lessen further possible exposure to others in the community.

### The Results of Screening: Blood-Lead Levels in 10-15 Microgram/Deciliter ( $\mu\text{g}/\text{dl}$ ) Range

Confusion often exists while investigating lead sources. A common question arises regarding the blood-lead level above which practitioners must conduct "epidemiologic investigations." The Centers for Disease Control and Prevention's (CDC) document, *Preventing Lead Poisoning in Young Children*, suggests that "many children (or a large proportion of children) with blood-lead levels in the range of 10-14  $\mu\text{g}/\text{dl}$  should trigger community-wide childhood lead poisoning prevention activities."

This would involve educating the public concerning:

- ◆ Blood-lead level screening for those children not already screened.
- ◆ Lead in paint (particularly in older homes with peeling paint).
- ◆ Other sources of lead, such as water, soil, occupation, and hobbies.

This does not mean practitioners must test every child's home for lead in paint, water, and soil. The Environmental Protection Agency's estimates indicate:

- ◆ Healthcare Providers
- ◆ Screening
- ◆ Exposure Sources

◆ Children with blood-lead levels under 20 µg/dl do not have one overwhelming source of exposure.

◆ Blood-lead levels under 20 µg/dl reflect the ongoing exposures to small amounts in soil (variable by location), water (variable by type of plumbing, etc.), and other routes in combination.

However, practitioners must educate parents about the various routes of exposure and how to limit these routes.

### **Blood-Lead Levels Above 15 µg/dl**

The CDC suggests environmental investigation and intervention for children whose blood-lead level is persistently measured in the 15-19 µg/dl range and above. If practitioners find a number of children with blood-lead levels greater than 15 µg/dl through screening, the practitioners must:

◆ Consider whether some common source of exposure exists for the group.

◆ Focus questioning to detect the common source, to include a common place (such as a day-care center, a playground which may have lead in the soil, or a common water source).

◆ Attempt to find the common source through "epidemiologic investigation" for the primary prevention of exposure to others in the community.

### **The Role of the Practitioner**

The practitioner must:

◆ Be familiar with the possible sources of lead exposure in the particular community.

◆ Be able to determine the source's relative significance for a particular child.

◆ Be able to uncover unusual lead sources for the child by proper questioning; such sources may be related to parental occupation, hobbies or time spent outside the child's household.

◆ Be familiar with the treatment or appropriate referral for children with elevated blood-lead levels.

### **The Team Approach**

Preventive medicine activities are often the logical center of the team. Physicians or community health nurses can:

◆ Conduct interviews involving one or several children with elevated blood-lead levels.

◆ Conduct home visits to assess the condition of paint in the home, the location of the home, and other sources of exposure.

The practitioner must then:

◆ Coordinate with industrial hygiene for evaluation.

◆ Inform the post commander, the public affairs office, and other essential personnel.

### **Final Points to Consider**

Military families are mobile; practitioners must consider the blood-lead level exposure from prior homes at previous duty assignments, especially if the child has recently arrived onpost.

The persistence and resources that the practitioner uses to identify and eliminate the source(s) of lead should be proportional to the measured blood-lead level in the child.

For further details, contact the Clinical Preventive Medicine Directorate, DSN 584-2714 or Commercial (410) 671-2714; or the USACHPPM (Prov) Lead Team, DSN 584-2488 or Commercial (410) 671-2488.