

Lead and the effects of long-term exposure

Introduction

Lead is a soft, blue-gray metal that has historically been mined and used in commercial operations, such as making automotive batteries and computers. Lead can be found in old paint, pottery, and until 1988, was in gasoline. Although lead-based paint has been banned for nearly 30 years, the primary sources of lead exposure for most children are ingestion of deteriorating lead-based paint in older homes, lead-contaminated dust, and lead-contaminated residential soil.

The exposures of children under age 6 are of particular concern due to the serious nature of the long-term effects, which include slow development, learning disabilities, and reduced intelligence. This brief will examine the prevalence of elevated blood lead levels in children under 6 years of age in Riverside County. In addition, it will briefly describe the behaviors which increase exposure risk among children.

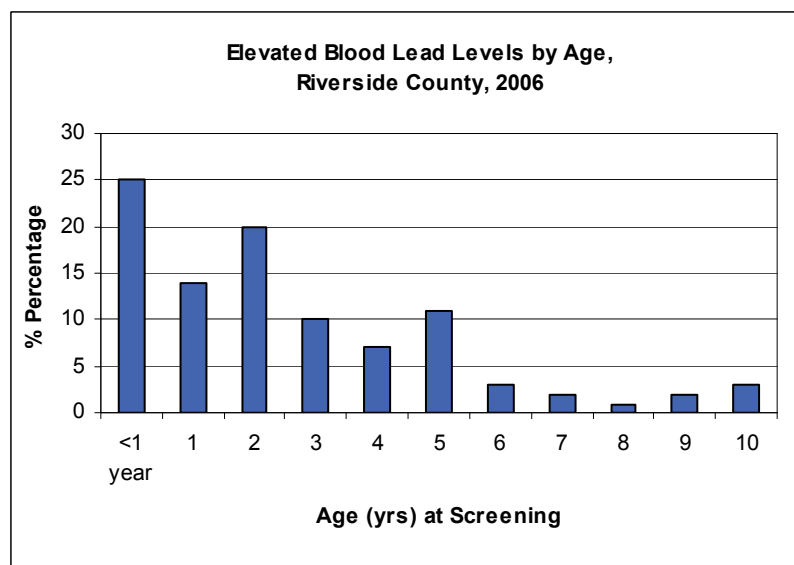
Elevated Blood Lead Levels in Children

Children under age 6 are exposed to more lead due to their hand-to-mouth behavior (putting toys and objects in their mouth). The Centers for Disease Control and Prevention's (CDC) definition of elevated BLLs in children under age 6, is 10 micrograms per deciliter of whole blood ($\mu\text{g}/\text{dL}$). However, recent studies have revealed that blood lead levels as low as $5\mu\text{g}/\text{dL}$ may be of concern for developing children.

Lead screening data allows for age and regional comparisons among those screened and those with elevated blood lead levels (BLLs). The CDC estimated US prevalence of elevated BLLs ($\geq 10 \mu\text{g}/\text{dL}$) for those under 6 years of age, to be 1.6 percent. The average BLL for children 1-5 years old was $1.9 \mu\text{g}/\text{dL}$ in 2002, a decrease from the $15.0 \mu\text{g}/\text{dL}$ levels prior to the leaded gasoline ban (1976-80) (CDC, 2005). In 2006, over 22,000 children under age 6 were screened for lead in Riverside County. Of those screened, less than 0.5 percent ($n=106$) had elevated BLLs of $\geq 10 \mu\text{g}/\text{dL}$. This is lower than the CDC's national prevalence estimate of 1.6 percent. In 2006, the average BLL for children ages 1-5 who were screened in Riverside County was $2.89 \mu\text{g}/\text{dL}$.

When examining elevated BLLs among all ages screened, children under 6 represented 87 percent of those with elevated BLLs. These data stress the importance of screening children under age 6 as they are at greatest risk for exposure to, and absorption of lead.

Riverside County has programs aimed at providing education, screening information and lead removal assistance. For further information on lead exposure and available resources, visit the Department of Public Health's website at www.rivcoph.org



Suggested Citation

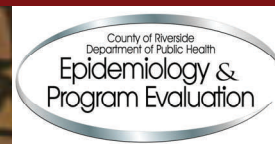
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Reference:

Centers for Disease Control and Prevention 2005. *Blood lead levels-United States 1999-2002*. MMWR 54(20):513-516.



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