

Lead Exposure Linked To Violent Crime and Delinquent Behavior

Lead inhibits the bodies of growing children from absorbing iron, zinc and calcium, minerals essential to proper brain and nerve development. Lead also disrupts the normal release of dopamine, a powerful neuro chemical that controls an array of brain functions. Lead becomes lodged in bones and teeth, leaching into the bloodstream for years. Lead exposure causes physical changes in actual brain structure and can disrupt key brain chemistry that controls inhibition, learning and impulsiveness.

Medical research has established a connection between early childhood lead exposure and future criminal activity, especially of a violent nature ([Needleman et al. 1996](#); [Needleman et al. 2002](#); [Wright et al. 2008](#)). Numerous studies link elevated bone or blood lead levels with aggression, destructive and delinquent behavior, attention deficit hyperactivity disorder and criminal behavior ([Bellinger et al. 1994](#); [Nevin 2000](#); [Needleman et al. 2002](#); [Needleman 2004](#); [Braun et al. 2006](#); [Wright et al. 2008](#)). Broader research links lead exposure to antisocial and destructive behavior in humans and animals ([Canfield et al. 2004](#); [Froehlich et al. 2007](#); [Surkan and Zhang 2007](#)).

Even very low levels of lead exposure can cause significant neurologic damage to children and stunt normal brain growth. Such exposure is linked to cognitive and behavioral impairment which influences learning disabilities in children and violent behavior in teens. Low doses of lead can cause a broad range of functional problems such as loss of self-control, shortened attention span and a host of learning disorders that often cause lead-exposed children to perform poorly in school and ultimately to drop out. ([Lanphear et al. 2005](#); [Wilson et al. 2006](#); [Chen et al. 2007](#); [Bellinger 2008a](#), [2008b](#)).

The U.S. Department of Housing and Urban Development tracked lead consumption in paint and gasoline over the past century and discovered that as the amount of lead released into the environment in paint and auto exhaust rose and fell through the decades, so did a broad range of reported violent crimes - including rape, robbery, assault and murder. The variation in childhood gasoline lead exposure from 1941 to 1986 explains nearly 90% of the variation in violent crime rates from 1960 to 1998; and the reduction in use of lead paint explains 70% of the variation in murder rates from 1900 to 1960 ([Nevin 2000](#)). Implementation of the Clean Air Act and the resultant drop in lead poisoning in the 1970s and 1980s accounts for one-third of the drop in crime throughout the 1990s ([Reyes 2007](#)).