

paint ([Bose-O'Reilly, McCarthy, Steckling, et al, 2010](#)). Elemental mercury (also called *metallic mercury* or *quicksilver*) is nontoxic if ingested and if the gastrointestinal tract is healthy (e.g., has no fistulas). However, mercury is volatile at room temperature and enters the bloodstream after it is inhaled. Chronic exposure produces symptoms ranging from nonspecific (e.g., anorexia, weight loss, memory loss, insomnia, gingivitis, diarrhea) to severe (e.g., tremors, extreme behavior changes, delirium). The classic form of mercury poisoning is called **acrodynia** (or “painful extremities”).

Nursing Alert

Mercury thermometers are no longer recommended because if they are broken, the inhaled vapors can cause toxicity. To prevent inhalation, clean up spilled mercury quickly, using disposable towels and rubber gloves and washing the hands well afterward.

Heavy metals have an affinity for certain essential tissue chemicals, which must remain free for adequate cell functioning. When metals are bound to these substances, cellular enzyme systems are inactivated. Treatment involves **chelation**, use of a chemical compound that combines with the metal for rapid and safe excretion.

Lead Poisoning

Poisoning from lead has been a problem throughout history and throughout the world. In the United States, the problem became apparent in the early 1900s when white lead was added to paints and when tetraethyl lead was added to gasoline as an antiknock compound. Lead content in paint was decreased in 1950; and in 1978, the use of lead in household paint was banned. The use of lead in paint and leaded gasoline has been banned in the United States. After this change in policy, the average blood lead level (BLL) in the United States for people 1 to 74 years old dropped from 12.8 mcg/dl in 1980 to 1.3 mcg/dl in 2010 ([Centers for Disease Control and Prevention, 2013](#)). However, children continue to be exposed to lead; an estimated 0.8% of children in the United States 1 to 5 years old had BLLs of more than 10 mcg/dl in 2010, and more