

LEAD ... A Silent Killer

Lead is lurking
in surprising,
everyday places

*Third in a series about environmental health
and natural wellness*

By Dorothy Merritt, MD

Of all environmental toxins, lead is probably the most widely recognized as hazardous to our health. Now, for the first time in 20 years, U.S. health officials have lowered the threshold for lead poisoning in young children.

Lead is a heavy metal that causes major health problems in the U.S. population today—for all age groups, and even at low doses. In fact, 38 percent of the U.S. adult population has a lead level that puts them at high risk for developing vascular, neurological and degenerative disease.

Lead toxicity is not the same as lead poisoning. Lead poisoning is a political level that allows extra resources to be given out publicly to remove lead in the environment of children or occupational workers. All levels of lead are toxic to health and cause increased cardiovascular and neurological symptoms like tachycardia, high blood pressure, chest pain, shortness of breath, numbness/tingling, neuropathy, depression and more.

Young children, under the age of 6, are especially affected by even lower lead levels than originally believed. “There is no safe level of blood lead in children,” says Christopher Portier, of the Centers for Disease Control and Prevention. The new, lower level standard for young children was established in mid-May to 5 micrograms of lead per deciliter ($\mu\text{g}/\text{dl}$) of blood. The old standard was 10 micrograms. This means that hundreds of thousands more youngsters could be diagnosed with high levels of lead.

Lead can harm a child’s brain, kidneys and other organs. High levels in the blood can cause coma, convulsions and death. Lower levels can reduce intelligence, impair hearing and behavior and cause other problems. Attention deficit disorder and depression are eight times



LEAD IN WINE

Wines imported from a number of European countries contain seven heavy metals at potentially dangerous levels, reports researchers at Kingston University, London in the *Chemistry Central Journal*.

The Bureau of Alcohol, Tobacco, and Firearms reports that, for 432 wines tested in the bottle, the lead in domestic wines ranged from 1 to 521 parts per billion, with an average of 41.

The level in imported wines ranged from 4 to 673 parts per billion, with an average of 94.

The EPA limit for lead in drinking water is 50 parts per billion.

A single glass of wine, regardless of its level of contamination, is not poisonous. But if, like many people, you have the habit of drinking a glass of wine a day, the gradual accumulation of contaminants in your body might prove to be hazardous.

How did the heavy metals get into the wine? Lead gets into wine from the brass fittings on the barrels used to age the wine. Other metals, like arsenic and cadmium, come from pesticides.

Lead crystal wine glasses and decanters contain a small amount of lead, which releases into wine.

more common in young adults with a blood level of .7µg/dl, and there are many more social and criminal problems in adolescents exposed to lead during childhood.

LEAD IN THE SOIL

Although lead has been banned in the U.S. from paint, gasoline, and other sources since 1978, children can acquire lead poisoning by simply playing in contaminated soil. The EPA notes that it is not uncommon to find high levels of lead in soil in large urban areas because of decades of pollution from sources including flaking lead-based paint, dust from vehicles burning leaded gasoline, as well as by lead smelters and other factories—even those that have not been in operation since the 1930s.

Recent studies of the dirt left in Joplin, Missouri, where a tornado leveled the town and took off a lot of topsoil, are showing toxic levels in the exposed dirt now. Twenty percent of the average daily exposure comes from water. Major cities like Houston, Chicago and many others are now reporting big exposures that were previously not suspected. These sites must be cleaned up.

Pilot projects in the Oakland/San Francisco Bay area and New Orleans are using organic amendments like fish bones to clean up the land. Workers till fish bones into the soil requiring treatment, then cover it with 3–6 inches of clean soil and plants. Fish bones are made of the phosphate mineral apatite, which readily combines with lead to form pyromorphite, a stable crystalline mineral that can't be absorbed by the human digestive system. "We have seen reduction in bioaccessibility in some lab samples up to 50 percent within just a few weeks of treatment," says Steve Calanog of the U.S. Environmental Protection Agency (EPA).

LEAD IN THE BONES

For children, avoiding exposure is key to remaining lead-free. Adults are another story. Unfortunately, 90 percent of the lead a person has been exposed to is in his or her bones and is released into the body with age, particularly after 40. Menopausal women and andropausal men experience 4-10 times more bone turnover and are at higher risk for releasing stored lead into the blood stream and tissues where it can cause harm. Illness and disease cause bone lead to release faster and compounds existing medical conditions. People with chemotherapy treatment, hyperthyroidism, low vitamin

WHAT CAN YOU DO TO LOWER YOUR BLOOD LEAD LEVELS?

Dr. Merritt is specially trained in a procedure called EDTA chelation, which has been FDA approved since the 1950s for removal of lead from humans. Find more information on lead and EDTA at www.swwellness.com.

D3, low calcium and osteoporosis are all at increased risk.

Employees that have higher lead exposure risk at work are electricians, plumbers, painters, ceramic workers, munitions specialists, paint and ink manufacturers, electrical tower and generating station maintenance workers. The distribution of workers with blood lead levels that were 25 µg or greater showed 70 percent were in manufacturing, 17 percent in construction and the rest in mining and other service industry work. Employees involved in building finishing were by far exposed to the highest lead levels in their occupation.

PREVENTION AND TREATMENT

For people with multiple symptoms of lead toxicity there are prescription treatments like EDTA and DMSA that take the lead out. For people without symptoms, there are things you can do to keep the lead locked in the bones and away from tissues and blood, like taking calcium and vitamin D3, exercising and making sure your hormones are well balanced.

How do you determine if your lead levels are too high? Get a simple, inexpensive blood lead level once a year when you visit your doctor for your annual wellness exam. Ask your health care provider to request this on your lab slip. ●

Read articles I and II in Dr. Merritt's Environmental Health series at www.ChangeMediaOnline.com.

Lead Levels Linked to Cardiovascular Disease

Blood lead levels generally considered safe may be associated with an increased risk of death from many causes, including cardiovascular disease and stroke, according to a report in "Circulation," Journal of the American Heart Association.

A study published in "Circulation" tracked 13,946 adults for 12 years, comparing lead levels and cause of death. It found that those with a level between 2.6µg/dl and 10µg/dl were two-and-a-half times more likely to die of a heart attack than those with levels under 3.6, 89 percent more likely to die of stroke, and 55 percent more likely to die of cardiovascular disease.

In fact, there is an 800-900 percent increase in cardiovascular death in adults with excessive lead in their bones. This is higher than all current risk factors combined.

A simple and inexpensive blood test can determine your blood lead levels.

Dr. Merritt is a board certified internist who practices at MPCP in Texas City and has an interest in environmental medicine and lead toxicity.



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