Get the Lead Out -

See Johnny's Behavior, Learning Improve

Karl J. Mincin

Are our children becoming the modern day version of the canary in the coal mine? Just as death of the canary signaled toxins underground, children's sensitivity to increased toxicity in the environment may be signaled by learning and behavior problems.

A recent, large study examined the effects of long-term, low-level lead exposure on the emotions and behavior of children. Researchers tracked 300 children who lived in a lead smelting community in Australia, measuring their lead levels repeatedly from birth through childhood. Later they compared the lead levels with the children's behavioral and emotional profiles at age 11-13.

The findings state that "lifetime blood lead level was significantly associated with behavior problem scores for boys and girls." In boys these problems manifested primarily in "external" behaviors such as increased attention deficit and aggression. Girls with elevated lead levels exhibited more problems over a broader spectrum of both "internal and external" reactions, including anxiety, depression, aggression, and withdrawal. These associations remained strong even after statistical adjustment for possible confounding factors.

While cautioning against attributing the majority of emotional and behavioral problems in children to lead exposure, researchers nevertheless advised policy makers to treat low level lead exposure as a potential threat to children. Recent statistics show that a reduction in body tissue lead level of only one part per billion would save $2,000. per child in health-related costs. This figure, obviously, does not include the priceless savings in emotional costs to parents, teachers, and the children themselves. As an alternative to the chemical approach to detoxification, there are safer, equally effective nutritional approaches to lead removal.

Hair Mineral Analysis is more accurate, less costly – and, of course, less painful – than blood lead testing. It is especially useful in cases of past exposure to lead since this mineral can accumulate in the brain, nerves and soft tissues, without being detected by a blood test. [See diagram]

Additionally, Hair Analysis not only accurately detects lead and five other *toxic* minerals (mercury, arsenic, cadmium, aluminum, nickel, and copper*), but also provides body tissue levels of 15 essential *nutritional* minerals (such as calcium, magnesium, zinc, copper, chromium, potassium, sodium, germanium, selenium, manganese, vanadium, etc.)

This is important because lead not only has a direct toxic effect neurologically, but also exerts an indirect toxic effect by interfering with the body's utilization of nutritional minerals. For instance, lead can displace calcium in the bone with serious life-long consequences thereby weakening the skeletal structure. This is especially critical when it occurs in growing children, and is true even if children are consuming adequate calcium. In other words, lead is not only toxic in and of itself, but is an *anti* nutrient as well.

Lead poisoning, more common than recognized, is a very real problem not only in Australia, but globally. As noted, children are especially vulnerable to the effects of tiny amounts naturally occurring in the environment (soil, water, air), paints, ceramics, stained glass, soldered water pipes and food cans, newsprint, dolomite, and pewter ware – even less than the amounts found in the study of Australian children living near a lead smelter.

When kids are hair tested I routinely find not only elevated lead levels but increasingly higher levels of aluminum, mercury, copper, and in Skagit County, cadmium toxicity. (If a child has already had a hair test, and even if low levels of lead or other toxic elements were found, it is imperative to repeat the test in order to determine what changes, if any, have occurred.) These other toxic minerals will be covered in more detail in a future article, especially the current copper toxicity warning sounded to 450 water districts throughout Puget Sound. In the meantime, refer to the authors' March 1999 article for a full report on Hair Mineral Analysis. Hair test kits, or further information, is available from Nutrition Resource.

* Small amounts of copper are essential/nutritional up to a certain point, beyond which the mineral is toxic.

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