

**Karen R. Bowman, MN, RN, COHN-S**  
**Washington State Nurses Association (WSNA)**  
**Washington State Association of Occupational Health Nurses (WSAOHN)**  
**Karen Bowman & Associates, Inc.**

**Select Committee on Environmental Health 11/30/07**  
**Toxic Substances in Children's Products**

The WSNA and WSAOHN support legislation banning lead and prohibiting other toxic chemicals such as phthalates and cadmium in children's toys and products. This is just common sense. We all know that at high levels, lead can cause permanent brain damage and even death, and we've taken many effective steps to prevent such acute poisoning cases, but an under-addressed area is unregulated exposures to smaller amounts of lead in consumer products that kids are exposed to. We now need to address this cumulative exposure route. We know that the neurological impacts of lead are so great that there is no safe level of exposure to lead, so it is very concerning that our kids are putting items like toys in their mouths that contain lead.

Lead exposure is a serious problem for our kids in Washington State. According to a recent report from the Washington State Department of Health, of the 4,937 children tested in Washington State in 2006, approx. 1.1% (52) had blood lead levels (BLLs) greater than 10µg/dl (the current CDC standard). Extrapolating this percentage to the whole population of children in Washington State, that represents ≈ 5000 kids (White, J., 2007). The Childhood Blood Lead Registry has maintained a record of all blood lead test results on Washington children since May 1993, and according to an economic analysis conducted in 2005, the total lead exposure costs in Washington State alone add up to \$1.5 billion for 5-year old children (Davies, 2005). This is just lead exposure. This is one reason to be vigilant in identifying all routes of lead exposure for children.

The most sensitive target of lead poisoning is the nervous system. In children, neurological deficits have been documented at exposure levels once thought to cause no harmful effects. Exposure to lead can have a wide range of effects on a child's development and behavior. Even when exposed to small amounts of lead, children may appear inattentive, hyperactive and irritable. Children with greater lead levels may also have problems with learning abilities and reading, delayed growth and hearing loss.

Currently, the CDC recommends children's blood lead levels (BLLs) should be no greater than 10µg/dl, however new research demonstrates permanent neurobehavioral and developmental impacts at much lower levels of lead exposure (Gilbert, S., 2006). These impacts can include low birth weight, hyperactivity, developmental delay, and lowered IQ. There is now overwhelming data that demonstrates that the rate of intellectual decline is greater at lead levels below 10µg/dl. Overall, for every 1µg/dl of lead found in blood, you can expect to see a decrease of 0.87 IQ points (basically 1:1). However, looking at levels below 10µg/dl, the ratio increases to 1.37 IQ point for every 1µg/dl of blood lead (Gilbert, S., 2006). With this intellectual decline comes a decrease in the number of productive citizens and an increase of delinquent behavior and prison terms.

Children are so much more vulnerable to lead poisoning than adults, and are exposed to lead throughout their lives, and they absorb a much higher proportion of lead than juveniles or adults – up to 50% as opposed to 10% in adults (MMWR, 2007). When you are exposed to lead, it's carried to bone and other tissues such as the brain (White, J., 2007). 95% of the body's lead is stored in the bone, and during pregnancy, lead is released from the bone and again enters the bloodstream to harm the fetus. This is a child's first exposure to lead; still in the womb. Fetuses, infants and children under 48 months are at special risk from lead for a number of reasons: Fetuses exposed to lead in the womb, from a mother's lead levels, may be born prematurely and have lower weights at birth. Exposure in the womb, in infancy, or in early childhood also may slow mental development and cause lower intelligence later in childhood, and there is evidence that these effects are not reversible. The brain, nervous system and body are still developing and are more vulnerable to environmental toxins such as lead, and normal hand-to-mouth activity in young children expose them to higher risks of ingesting lead in contaminated environments and products like paint chips, toys, candy, jewelry, house dust and outside dirt (Bowman, K. 2006).

As an advanced practice community health nurse, I have serious concerns about childhood exposures to lead, not only for the individual child but for our society as a whole resulting from continued, cumulative, low dose exposures to lead. The recent recalls of toxic, lead ridden toys and the resulting media exposure, presents a perfect opportunity to comprehensively look at ways to reduce lead exposure for our children. Educating health care professionals, parents and the community about the risks of childhood lead exposure is critical. Many feel children are no longer at risk of lead exposure since we set limits on the amount of lead allowed in paint and gasoline back in the late '70's. Health professionals and parents alike are understandably stunned to find out that lead is currently a perfectly legal additive to many consumer products like vinyl toys or baby bibs or kid's jewelry.

The foundation of nursing practice is based in prevention; supporting health and wellness. As our scientific inquiry becomes more evolved and refined, we are continually re-evaluating the health impacts of exposure to lead. Let me be very clear, all current scientific and medical evidence demonstrates that there is no safe level of lead exposure for children. It is completely unacceptable that any amount of lead or other toxic chemicals be allowed in a product designed to be used by our children. The nurses of Washington State want action now that protects our most precious resource, our children, by banning lead and prohibiting phthalates and cadmium in children's products and toys. Furthermore we support new recommendations that lower the level of concern for lead from 10µg/dl to  $\leq 2\mu\text{g/dl}$ . We support a child's right to reach her/his full potential.

## References

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