

Is lead bogging your brain?

By Karl J. Mincin

Despite years of progress in reducing lead contamination in the environment, this pervasive heavy metal toxin stubbornly refuses to break down — remaining a hidden threat to the developing brain and thinking ability (neurocognitive health) of children. At a recent joint meeting of the Pediatric Academic Societies and American Academy of Pediatrics in Boston, several teams of investigators reported new findings linking even low-dose lead exposure to problems in child and adolescent development.

Bruce P. Lanphear, M.D., M.P.H., of the Children's Hospital Medical Center of Cincinnati, and his co-researchers report that blood levels of lead even well below the levels of lead even well below the level currently defined as toxic (greater than 10 parts per billion) in children are associated with poorer cognitive

skills. The team evaluated data for 4,853 American children between the ages of six and 16 and found that as blood lead levels rise, starting at concentrations as low as 2.5 parts per billion, scores for reading, math and other basic skills significantly drop. This relationship is independent of race, region of the country, parental education and other socioeconomic factors.

"These data suggest that 12.8 million (35 percent) U.S. children and adolescents who were born between 1972 and 1988 and who had a blood lead concentration in excess of 2.5 parts per billion are adversely affected by environmental lead exposure," the study concluded. Dr. Lanphear argues that the current limit of 10 parts per billion is "inadequate to protect children," and should be at least half that amount.

While the possible damaging effects of lead exposure on cognitive ability in children are disturbing

enough, the potential negative impact on behavior may be just as profound.

Psychiatrist Herbert L. Needleman, M.D., of the University of Pittsburgh and others presented strong evidence that lead exposure is an important risk factor for juvenile delinquency. Compared to a group of controls, youths arrested and charged in a local juvenile court had bone lead levels that were, on the average, nearly seven times higher than their peers. Higher lead levels made males twice as likely, and females almost eight times more likely, to be arrested for delinquent behavior.

"Early lead exposure accounts for between 11 percent and 37 percent of arrested delinquents," the study asserts. Reducing lead exposure should be a primary prevention strategy against delinquency in adolescents, Dr. Needleman and his colleagues argue.

Parental education would undoubtedly play a strong role in such a prevention program. According to a survey by Pediatrician Hans B. Kersten, M.D., of Saint Christopher's Hospital for Children in Philadelphia, this education is much needed. Based on interviews with more than 240 parents of young infants, Dr. Kersten discovered that parents at an inner city pediatric clinic, like their suburban counterparts, have some basic knowledge of lead exposure and lead poisoning, yet know relatively little about specific methods of prevention and importance of nutrition.

Analysis of hair, blood and urine analyzes short-term and long-term exposure to lead and other toxins, as well as nutrient adequacy, for a thorough assessment of major minerals in the body affecting behavior, mood and thinking ability. Hair testing is also especially helpful for monitoring the effectiveness of treatment and preventive therapies.

Karl J. Mincin is a clinical nutritionist in practice locally for 30 years. His practice focus is nutrition assessment, the process of determining individual nutrient and toxic element status. He may be reached at Nutrition Resource at 360-770-8486.

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