Pinkston, J. B., Gouvier, W. D., Browndyke, J. N., & Varnado, P. J.  
**Chronic Neuropsychological Effects of Long-Term Mercury Exposure: A Longitudinal Study.**

Although the short-term deleterious effects of mercury exposure have been explored, the residual, chronic, effects of mercury poisoning have received far less attention. Mercury poisoning has been attributed to deficits in cognition including problems with intellectual functioning, attention, and memory. It has also been seen as the impetus for changes in personality including depression, anxiety, and paranoia.

We present a case of long-term (approximately 4 years), daily, sublethal exposure to inorganic mercury vapor in an adult male. The patient (MR) was exposed to the mercury vapor while cleaning hospital equipment (mercury manometers) without taking protective precautions.

Two neuropsychological evaluations, including personality testing, were performed status post mercury exposure. The first evaluation took place approximately 2 years following the cessation of mercury poisoning; the second evaluation was conducted approximately 3 years chronic status postexposure. Both evaluations were performed by a trained and experienced psychometrist using standardized measures and were conducted as part of an ongoing forensic evaluation.

MR showed intelligence, memory, and achievement scores within normal limits on both evaluations, though his Verbal IQ significantly improved (18 points) on the second evaluation. Tests of language and gross motor strength were also within normal limits on both evaluations as was one measure of set switching. Although mildly impaired initially, MR showed improvement to normal limits on the second evaluation on one measure of dexterity, a measure of speech perception, and a measure of frontal lobe functioning. Conversely, MR showed deterioration in sensory/perceptual testing and another measure of dexterity from the first to second evaluation. Both verbal fluency and linear tracking tasks were mildly impaired on both evaluations. Personality testing revealed clinical levels of depression and anxiety, which worsened from one evaluation to the next with prominent MMPI elevations including D, Sc, Pa, and Pt.

MR experienced approximately 4 years of daily, sublethal, exposure to mercury vapor poisoning. His early symptoms (bleeding gums, muscle tremors, feelings of persecution, depression) suggested, and laboratory testing confirmed, the presence of mercury poisoning. Neuropsychological testing chronic status postexposure revealed a profile of continued psychological disturbance, including pronounced personality changes as well as persistent mild neurocognitive deficits on sensory/perceptual testing as well as dexterity and frontal lobe tasks along with preserved intellectual functioning.

Porter, S., Hopkins, R. O., Weaver, L. K., Bigler, E. D., & Blatter, D. D.  
**White Matter Atrophy and Neuropsychological Outcome Following Carbon Monoxide Exposure.**

Carbon monoxide (CO) poisoning can cause white matter damage and neuropsychological impairments. The corpus callosum (CC), a white matter structure, has not previously been examined for evidence of damage following CO poisoning. We hypothesize that there will be CC atrophy following CO poisoning and that neuropsychological impairments related to CC atrophy may be found.

Sixty-two consecutive adult CO-poisoned patients were evaluated in a prospective within subject study. Each patient had MRI scans and neuropsychological testing within 24 hours (day of exposure) and at 6 months postexposure. The neuropsychological tests administered: Orientation, Digit Span, Digit Symbol, Block Design, Trail Making, and Story Recall. Serial quantitative analysis of the CC was conducted using quantitative