

# Christopher W. Shade, PhD

## Mercury and the human detoxification system: Sources and symptoms, function and dysfunction

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### **About the lecture:**

Mercury can have devastating effects on the functioning of the human organism. There are three main sources of mercury to the body - dental mercury amalgam, fish consumption, and vaccines – and several other potential sources (e.g. cosmetics, old mercury spills, coal-burning power plants). Each of these sources brings different forms of mercury, and each form of mercury differs in its mobility, its mode of toxicity, the compartments of the body affected, and the routes of excretion. This talk will give an overview of 1) the forms and exposure routes of the different sources of mercury, 2) the effects and symptomology of exposure to different forms, and 3) how the natural detoxification system works and how it gets disrupted leading to retention of mercury. This knowledge allows for an accurate design of individual treatment programs for mercury toxicity.

### **About Dr. Shade:**

Dr. Shade obtained B.S. and M.S. degrees from Lehigh University studying environmental geology and aqueous geochemistry and a Ph.D. from University of Illinois studying the environmental and analytical chemistries of mercury. During his Ph.D. work, Dr. Shade patented analytical technology for mercury speciation analysis; he founded Quicksilver Scientific LLC based on this technology. Shortly after starting Quicksilver Scientific, Dr. Shade began to apply his understanding of mercury chemistry to human aspects of mercury exposure and toxicity. He has since developed specific clinical analytical techniques for measuring mercury exposure and a comprehensive system for metals detoxification.

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