

ARSENIC

Harmful Effects

Arsenic can damage the brain and nerves, skin, respiratory tract, liver and heart.¹ It can cause muscle weakness and fatigue.¹ Its ability to cause cancer has been known for over a century.¹

Warning Symptoms

Effects of arsenic exposure can include lesions or rashes of the skin and mucous membrane, chronic respiratory symptoms, numbness and/or tingling of the hands and feet, irritation of the respiratory tract and cardiac rhythm disturbances.² Arsenic also causes cancer.

Acute irritant symptoms can include cough, shortness of breath, and/or chest pain as well as irritation of the nose, eyes, larynx, and/or skin.³ Symptoms of arsenic exposure can include irregular heart rhythm, irritation of tissue exposed such as the respiratory tract for arsenic, which is inhaled.

Arsenic can deplete glutathione, the body's major antioxidant and detoxifier.¹ It can also impair the energy system of the body (the mitochondria).¹ Mitochondria are necessary to generate energy for all body functions and mitochondrial damage can cause fatigue.

Exposure

Arsenic exposure can occur from combustion processes of metals and other substances containing arsenic.¹ These include smelters of copper, zinc and lead, emissions from some glass manufacturers, some chemical manufacturers.¹ Other sources are contaminated drinking water, pesticides, some herbicides and other agricultural products.¹ Excretion is mainly through the urine. When inorganic arsenic is ingested, it has a half-life in the body of about 10 hours, with 50-80% being excreted within 10 days.¹ Some can accumulate.¹ Arsenic tends to seek out the skin, nails, and hair although hair arsenic can reflect past exposure or contamination.

Treatment

Arsenic effects can be reduced with adequate antioxidants, including glutathione. Other treatment includes B vitamins which help antioxidant function, including B12, B6, B1, B2 and B3.¹ Glutathione to be effective needs adequate selenium, in the form of selenomethione, often 200-400 mcg daily. All of these can be measured according to body need through SpectraCell Laboratories (800-227-5227). See chemicalinjury.net under New Treatment for more information on testing, dose levels, etc.

¹ Casarett and Doull's Toxicology: The Basic Science of Poisons, 6th edition, McGraw-Hill, New York, NY, 2001.

² LB Zablotska, *etal.*, "Protective effects of B vitamins and antioxidants on the risk of arsenic-related skin lesions in Bangladesh", *Environ Health Perspect* 116: 1056-1062.

³ L Friberg, G Nordberg, and V Vouk, editors, *Handbook of the Toxicology of Metals*, Vol II. Elsevier Press, New York, NY, 1986.