

What is mercury?

Mercury is a naturally occurring metal that is not considered necessary for our bodies to function. It has three forms: elemental, inorganic, and organic.

What are some sources of mercury?

Mercury is released into the atmosphere from natural and industrial sources. It becomes distributed in ground water, soil air, and eventually works its way into the food chain.

Elemental mercury is the silver liquid found in compact fluorescent light bulbs, instruments used for calibration and pressure measurement, as well as older thermometers.

Inorganic mercury can be found in waterproofing products, explosives, paints and dyes, photography processes, some folk remedies, and batteries.

Organic mercury can be found in products used to preserve tissues and those that eliminate germs and insects. The most common source of organic mercury is fish.

How do mercury exposures occur?

Mercury exposures can occur by improper clean up of spills or by not wearing the proper safety equipment at work and then breathing in contaminated air. Other exposures may result from eating fish that contain mercury or skin contact with mercury based products.

How can mercury affect my health?

The different forms of mercury affect different organs in the body when exposed suddenly or in large amounts.

Elemental mercury is well absorbed by the lungs when it is heated (for example, through vacuuming). Initially there are no symptoms but within several hours the mercury vapour begins to irritate the mouth and throat, and causes a fever, headache, and cough. It may cause a metallic taste in the mouth, nausea, and vomiting. Shortness of breath and fast breathing can also occur. These symptoms often disappear within a week, although they may persist. Some of the inhaled mercury gets absorbed into the brain and builds up. Eventually effects such as weakness, vision changes, tremors, sleep and memory difficulties, and mood changes may be seen.

Inorganic mercury can be irritating and may burn tissues. It is most concerning when swallowed since it can burn the mouth and intestinal tract causing drooling, pain, bleeding, and tissue damage. Some of the mercury can get absorbed into the blood possibly leading to kidney damage and to a permanent accumulation of mercury in the brain tissues causing similar mental changes as those associated with elemental mercury.

Organic mercury can be found in different types of chemical compounds and depending on the type can cause different symptoms when swallowed. Some organic mercury compounds such as some cleaning fluids and insecticides, act like inorganic compounds causing the same symptoms. Other types of organic mercury, like that found in fish, do not cause noticeable symptoms but do get absorbed and build up in the liver, kidney, blood, brain, hair, and skin. Symptoms are often delayed by weeks to months and include difficulty speaking, worsening balance, progressing lack of coordination, negative changes to hearing and sight, and severely affected mental abilities.

It is important to realize that sudden or large exposures to any of the three forms of mercury result in very specific symptoms. However, continued exposure to small amounts of any of the forms result in accumulation of mercury in the brain tissues leading to slow but progressive negative changes in brain function.

Is there a medical test that can determine if I have been exposed to mercury?

Yes. In situations where the history and symptoms fit with mercury exposures a medical doctor can order specific blood and urine tests to be collected and sent to an appropriate laboratory.

Does an elevated level of mercury always mean that I have mercury poisoning?

No. Because mercury is found in all parts of our environment, we will all have detectable mercury levels. Too much exposure to high levels of mercury can sometimes lead to health symptoms.

The need to treat a mercury level depends on the patient's history of exposure, their actual mercury level results, and their symptoms.

What is the treatment for mercury exposures?

The main treatment is to remove the source of the mercury and prevent re-exposure. This may involve use of proper protective equipment on the job or with hobbies. It may involve discontinuation of folk remedies and supplements. Some patients, depending on test results, mercury levels, and symptoms, may require medications called chelators, to help remove some of the mercury from their bodies.

What are chelators and when would they be used?

Chelators (kee-lay-tors), attach to some metals and remove them from the body, but they also remove good minerals. Chelators can cause damage to other organs and can cause life threatening allergic reactions. Because of these dangers it is important that patients be assessed by a medical doctor and that appropriate tests are performed at an appropriate laboratory.

This decision to chelate should be made by a medical doctor after considering the history of exposure, the test results, and the patient's symptoms.

Does mercury cause cancer?

Currently there is not enough information to state whether all mercury causes cancer or not. Mercuric chloride and methyl mercury have shown increases in certain types of cancer in mice.

Where can I get more information?

If you have questions about mercury, call PADIS (Poison and Drug Information Service) at 1-800-332-1414. Information Specialists are available 24/7 to help answer your questions.