



Occupational Health Surveillance Program

Division of Epidemiology, Environmental and Occupational Health

Your Mercury Exposure

at Work, at Home, and in the Community

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This publication has advice and information to help you find out how you have been exposed to mercury and protect yourself from further exposure.

Mercury Can Make You Sick

Repeated exposure to ***breathing mercury metal vapor*** affects the human **brain, spinal cord, eyes, and kidneys**. It may cause mood changes; inability to concentrate; memory loss; a fine shaking, tingling, or loss of feeling of the hand, tongue, or eyelid; discoloration of the cornea and lens of the eye; disturbances of vision; and kidney disease.

Swallowing mercury compounds can cause **nausea, vomiting, and diarrhea**. Severe kidney damage can occur. Some mercury compounds can cause irritation of the skin and eyes on contact.

If a ***pregnant woman eats large amounts of fish contaminated with methylmercury***, her **unborn child may develop damage to vision, hearing, taste, smell, memory, and mental ability**. Infants and children are also at high risk from methylmercury-contaminated fish and possibly breast milk.

Very high exposure to breathing mercury metal vapor in the air can **poison quickly**. Symptoms begin with cough, chest pain, trouble breathing, and upset stomach. Chemical pneumonia, which can be fatal, can then develop.

Children are more susceptible than adults to mercury poisoning. They can get "pink disease" with a rash over the body, chills, swelling and irritation of hands, feet, cheeks, and nose, light sensitivity, trouble sleeping, and heavy sweating.

How Exposure to Mercury Can Occur

There are ***four main types of mercury***. The first type, mercury metal, accounts for most exposure at work, at home, and in the community environment. Exposure to the second type, methylmercury, only occurs from eating some types of fish. Exposure to the other two types of mercury are less common.

Exposure to any form of mercury on a repeated basis, or even from a single high exposure, can cause

mercury toxicity. If you are exposed to mercury from more than one source, these exposures will add up.

1. **Mercury metal** is a silver-gray liquid. When exposed to the air or if spilled, mercury metal vapor gets into the air where it can be breathed into the lungs. The warmer the temperature, the more quickly the mercury gets into the air. Mercury can also be absorbed through the skin but is not harmful if swallowed. If spilled mercury is not cleaned up completely, it easily gets spread around. Mercury can be spread around work, car, and home from shoes, clothing, hair and other objects with tiny drops of mercury metal on them.

Some of the places mercury metal is found are:

- - dental fillings and medical equipment,
 - some light bulbs, including fluorescent, high intensity, mercury vapor, high-pressure sodium, and metal halide,
 - some clock pendulums,
 - some athletic shoes, toys, and cards that light up or make noise.
 - mercury metal is sold in botanicas for use in folk medicine, sometimes under the Spanish name "azogue".
2. **Methylmercury** may be taken into the body by eating certain saltwater and freshwater fish, especially larger fish at the top of the food chain, such as shark, swordfish, large mouth bass, and chain pickerel.
 3. **Inorganic mercury compounds** are found in old alkaline and some button batteries. They are also found in some over-the-counter drugs such as thimerosal tincture, merthiolate tincture, some types of mercurochrome, some ointments and nasal sprays, and some herbal medicines. Inorganic mercury compounds may be harmful if breathed or swallowed.
 4. **Phenylmercury** is used to control the growth of fungus in some interior latex paints manufactured before 1991, some exterior and oil base paints, some caulks, some eye-area cosmetics, toiletries, and other products. When these products are used, mercury metal vapor gets into the air and can be breathed. Phenylmercury can also pass through the skin and is toxic this way or if swallowed.

All types of mercury, except methylmercury, can contaminate drinking water or be released to create air pollution. Workplaces which may release mercury into the air, soil, or water include municipal incinerators, power plants, hazardous waste sites, dentist offices, hospitals, and manufacturers of products containing mercury listed in numbers 1., 3., and 4. above.

Tests for Mercury Exposure

Mercury can be measured in urine, blood, and hair

will help determine how much has gotten into your body. If you suspect exposure at home, testing other family members can help to see if this is true. All positive tests should be repeated to be sure they are correct.

Urine- A urine test is the best test to evaluate ongoing exposure to mercury, such as exposure at work. This is not the right test for mercury from fish. If urine results are elevated, there is an exposure source which is not fish. Results greater than 20 micrograms per liter (20 ug/L) may indicate a hazardous level of mercury in the body.

Blood- A blood test measures recent exposure to all types of mercury, including mercury from fish. Results greater than 2.8 micrograms per deciliter (2.8 ug/dL) may indicate a hazardous level of mercury in the body.

Urine and Blood -If you want to evaluate other sources of mercury exposure in addition to exposure from

fish, both a urine and a blood test should be performed at the same time. If the blood test is elevated and the urine test (taken at the same time) is normal, fish ingestion is probably the source of mercury exposure. If both tests are elevated, exposure is coming from some exposure source besides fish.

Hair- This test is not recommended except in unusual cases to test a mother's hair to estimate her child's exposure before birth.

***Find Out Where Your Mercury Exposure Is Coming From!
Have Your Test Repeated To Make Sure It Is Correct!***

Who Can Help?

YOUR DOCTOR can order a mercury test for you and repeat any positive result to be sure it is correct. He or she can explain what the results mean to your health and help you identify and eliminate your source(s) of exposure.

YOUR EMPLOYER can tell you if you are exposed to mercury on the job. If you are, your employer can

YOUR UNION can help work with your employer to reduce exposure to mercury on the job.

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION

- Can help you determine if there is mercury used at your workplace and workplaces in your community. Call the Community Right To Know Program at 609-292-6714.
- Can give you information on mercury in fish. Call 609-984-6070 or 609-748-2020.

NEW JERSEY DEPARTMENT OF HEALTH AND SENIOR SERVICES

- Can give you information about avoiding mercury at work and cleaning up mercury spills at work safely. Call the Occupational Disease and Injury Services at 609-984-1863.
- Can give you information about avoiding mercury in your community, making sure your drinking water is safe, and cleaning up mercury spills in your home. Call [Consumer and Environmental Health Services](#) at 609-984-2193.
- Can give you information about avoiding mercury in fish, herbal medicines, and other consumer products. Call Consumer Health Services at 609-588-3123.

NEW JERSEY POISON INFORMATION AND EDUCATION SYSTEM can give your doctor information on treatment of mercury toxicity. Call 1-800-POISON-1 (1-800-764-7661), 24 hours a day, 7 days a week.

YOUR COUNTY RECYCLING PROGRAM

containing batteries, bulbs, and other items containing mercury.

***Mercury is regulated in the workplace, drinking water, and fish.
Ask for more information from your State Government!***

How to Avoid Mercury

YOUR CHECKLIST

- ***If you fish, and/or consume fresh or saltwater fish***, follow the advice contained in the New Jersey

Department of Health and Senior Services brochure entitled *A Guide to Health Advisories for Eating Fish and Crabs Caught in New Jersey Waters*

- ***Avoid spilling mercury in your home.***
(alcohol) or digital thermometer.
- ***Clean up any mercury contamination in your home or car,*** but never use a broom, vacuum cleaner or washing machine because these will spread the mercury contamination. Contact the Department of Health and Senior Services for safe clean-up procedures.
- ***Check the labels on products before you buy them.*** If something has mercury in it, you may want to avoid it.
- ***When painting, caulking***
- If you have a private well and ***suspect your water is has mercury in it,*** have it tested. If you use public water and suspect it has mercury in it, check with your water company.
- If you are concerned about mercury in ***teeth fillings*** available.

IF YOU WORK WITH MERCURY:

- ***Report the following to your supervisor and union,*** if there is one:
 - any mercury spills or visible mercury on floors and work surfaces,
 - exposure or health problems,
- ***Wear protective equipment*** like gloves, clothing, covers for hair and shoes, and respirators, if available.
- ***Avoid taking mercury home:***
 - change into work clothes and shoes before beginning work each day,
 - keep your street clothes and shoes in a clean place,
 - remove mercury from your work clothes and shoes before you take them off; use a special mercury vacuum to do this, if available,
 - shower at work at the end of the day,
 - launder your work clothes at work.

Don't Let Mercury Into Your Body!