

Mercury Poisoning Linked to Skin Lightening Creams

FAQ for Health Care Providers May 2010

The Virginia Department of Health (VDH) identified several cases of possible mercury toxicity in residents using a skin whitening cream imported from Mexico. Ten individuals, including three small children, were found to have elevated levels of mercury. The areas in which the skin creams were stored in the household were also found to contain high levels of mercury. Inorganic mercury is generally added to these homemade skin cream products to “lighten” the complexion or to remove “blotchy” spots. Because these products are not under the control of the U.S. Food and Drug Administration, the product labels may not contain a complete list of ingredients.

How should health care providers respond?

VDH recommends that medical providers discuss the possibility of mercury exposure with patients who may be using non-prescription skin lightening creams. Patients reporting the use of mercury containing products should be evaluated for symptoms consistent with mercury exposure. Please encourage your patients to refrain from using imported products if there are no ingredients on the label, or if a product lists mercury as an ingredient. Individuals should not use any cosmetic or cream that lists any of the following on the label: “mercury,” “mercurio,” “calomel,” or mercury compounds such as “mercurous chloride.”

What are common sources of mercury?

All three chemical forms of mercury (inorganic, organic or methyl, and elemental) have toxic properties. Inorganic mercury is used in a number of homemade products, ranging from teething powders to skin lightening creams. In the past it was used in antiseptics, laxatives, and diuretics, but its use has since been banned in the United States. Some of these products are still available in the international marketplace.

What symptoms or health effects may result from exposure to inorganic mercury?

The clinical effects of mercury toxicity can become manifest in a variety of ways, depending on the route of exposure, the duration and intensity of the exposure, and the chemical form itself. Human case studies and animal studies suggest effects of chronic exposure to inorganic mercury may include skin sensitization, hypertension, increased heart rate, sensitivity to light, fatigue, gastrointestinal symptoms, and neurologic symptoms such as tremor, irritability, memory loss, and difficulty thinking. Chronic exposure to inorganic mercury may cause renal toxicity.

How can mercury affect children and pregnant women?

Young children and developing fetuses are more sensitive to the adverse effects of mercury. Children may become exposed when they are touched by family members who use homemade face creams. Also, family members may spread mercury to the food they handle and feed to children. Mercury passes from mother to fetus through the placenta and from the circulating blood stream into the brain. It can also pass to a nursing infant through breast milk. Fetuses may have higher levels of mercury in their blood than their mothers; exposing the fetus to high levels of mercury may lead to developmental problems as a child. In children, prolonged exposure to inorganic mercury may cause redness of the palms, irritability, and loss of appetite. Children poisoned by mercury may also develop neurologic, gastrointestinal, and renal problems.

What diagnostic test(s) should be used to determine if an individual has been exposed to mercury?

Tests are available that measure the amount of mercury in blood, urine, breast milk, and hair. Twenty-four hour urine sampling is the preferred testing standard for detecting inorganic mercury, however, spot urine and/or blood sample may also be used to screen for exposure. Most clinical laboratories have the technology to test for mercury. Because the elimination half-life of mercury is 30-60 days, a urine test may be able to detect a past exposure.

According to the CDC case definition, a biologic confirmed case is one in which elevated urinary or whole blood mercury levels (> 10 micrograms/liter) exist.

Can mercury poisoning be treated?

Yes. The most important and most effective treatment involves identifying the mercury source and ending the exposure. Once the exposure has been completely removed, individuals will usually recover without further treatment. Follow-up urine testing should be done to assure no renal damage has occurred.

Mercury poisoning can be treated by chelation therapy. Health care providers are encouraged to consult with a medical toxicologist or an experienced physician before initiating chelation therapy.

Who should I contact if I have more questions?

To obtain additional information regarding the health effects of mercury, please contact your Poison Control Center at 1-800-222-1222.

- Central and tidewater region <http://www.poison.vcu.edu/about.html>
- Blue Ridge and western region <http://www.healthsystem.virginia.edu/internet/brpc/>
- Northern region <http://www.poison.org/>

To report mercury poisoning thought to be associated with skin cream or cosmetics, please contact the Virginia Department of Health, Division of Environmental Epidemiology at (804)864-8182.

For more information on pediatric patients, please contact the Mid-Atlantic Center for Children's Health & Environment Pediatric Environmental Health Specialty Unit; www.health-e-kids.org, phone: (202) 471-4829, Toll Free (866) 622-2431, E-mail: MACCHE@cnmc.org.

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