



Information for Healthcare Professionals about Prenatal Mercury Exposure

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Study of Mercury Levels in Newborns

- A study conducted by the Minnesota Department of Health (MDH) analyzed mercury levels from leftover blood spots from routine newborn screening of 1465 infants living in the area around Lake Superior (born 2008 – 2010 in Minnesota, Wisconsin and Michigan).
- Minnesota infants were enrolled with parental informed consent.
- Total mercury was measured so the form of mercury (elemental, inorganic, organic) is not known.
- Samples were anonymized; therefore individual results were not reported.

Study Results:

- Most infants had low or undetectable mercury levels. However, **8% of tested newborns had mercury levels above the US Environmental Protection Agency (EPA) Reference Dose (RfD) for methylmercury (5.8 µg/L).**
- The Minnesota results show a seasonal pattern with the highest levels found in summer. **This pattern suggests local fish consumption is an exposure pathway and supports the need to advise pregnant women and those planning a pregnancy to limit exposure to mercury, especially by choosing to eat fish low in mercury.**

Why is there a concern about prenatal mercury exposure?

- Exposure to mercury may have developmental consequences for fetuses, infants and young children. Methylmercury exposure from maternal fish consumption can adversely affect the fetal brain and nervous system.
- Impacts on cognition, memory, attention, language, and fine motor and visual spatial skills have been seen in children exposed to methylmercury *in utero*.

Recommendations for physicians

- No treatments, beyond limiting future exposure, are indicated for infants with elevated mercury levels.
- *Talk to pregnant women and those planning pregnancy*
 - Ask patients if they eat fish, frequency of consumption, and what species of fish they eat
 - Recommend patients follow the MDH guidelines for safe fish consumption (see back of page)
 - Ask about use of skin lightening creams that may contain mercury
 - Emphasize importance of well child visits to pick up early signs of developmental concerns
- *If high exposure is suspected* mercury screening could be considered
- *Order fish consumption brochures* for clinic waiting and exam rooms using the enclosed form or online at <http://www.health.state.mn.us/divs/eh/fish/forms/index.html>

Recommendations for patients

- *For most people fish consumption is thought to be the major source of exposure to mercury.* Older, bigger fish and fish that eat other fish have the highest levels of mercury. Because fetuses and infants are especially vulnerable to the effects of mercury, MDH recommends that all women of childbearing age follow the state's fish consumption advice found on the back of this sheet
- *Mercury levels will decline over time if exposures from fish and other sources are minimized.*
- *Eliminate exposure* to other possible sources of mercury
 - Broken fever and cooking thermometers
 - Cosmetics (e.g., skin lightening creams)
 - Ritualistic use of mercuricals

Where can I obtain more information?

- Quick Reference Guide for Clinicians Fish Consumption to Promote Good Health and Minimize Contaminants <http://www.arhp.org/publications-and-resources/quick-reference-guide-for-clinicians/fish-and-health>
- Additional information on mercury assessment: Minnesota Poison Control System (1-800-222-1222) or the Minnesota Department of Health: haz.health@state.mn.us

Guidelines for pregnant women, women planning pregnancy and children under age 15

Kind of fish	How often can you eat it?
Catfish (farm-raised), cod, crab, flatfish, herring, oysters, pollock, sardines, scallops, shrimp, tilapia, salmon (farm-raised or wild salmon, Pacific and Atlantic) and other purchased fish low in mercury	2 meals per week
OR	
Canned "light" tuna Minnesota caught: sunfish, crappie, yellow perch, bullheads	1 meal per week
AND	
Canned "white" tuna, Chilean sea bass, grouper, halibut, marlin, orange roughy, tuna steak Minnesota caught: Bass, catfish, walleye shorter than 20 inches, northern pike shorter than 30 inches, and other Minnesota game fish	1 meal per month
Shark, swordfish, tile fish, king mackerel Minnesota caught: walleye longer than 20 inches, northern pike longer than 30 inches, muskellunge	DO NOT EAT

Not all waters in Minnesota have been tested for contaminants in fish. Therefore, MDH provides two types of fish consumption advice.

- **State-wide safe eating guidelines:** <http://www.health.state.mn.us/divs/eh/fish/eating/safeeating.html>
- **Site-specific advice** is available for eating fish from lakes and rivers where fish have been tested.
 - **MDH Website:** <http://www.health.state.mn.us/divs/eh/fish/eating/sitespecific.html>
 - **Department of Natural Resources (DNR) Lakefinder (lakes only):** <http://www.dnr.state.mn.us/lakefind/index.html>
 - **DNR free app for Android cell phones:** search the Android Market for MN DNR LakeFinder: <http://www.dnr.state.mn.us/mobile/index.html>