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Methylmercury and Pregnancy

This sheet talks about the risks that exposure to methylmercury can have during pregnancy. With each pregnancy, all women have a 3% to 5% chance of having a baby with a birth defect. This information should not take the place of medical care and advice from your health care provider.

What is methylmercury?

Methylmercury is a toxic form of mercury found mostly in water, soil, plants and animals. Methylmercury (organic mercury) is different from elemental mercury (thermometers, dental amalgams).

Where does methylmercury come from?

Mercury is found in the air and comes from a variety of natural and man-made sources. When mercury enters water such as lakes, rivers and streams, it is changed into methylmercury.

How can I be exposed to methylmercury?

You can be exposed to methylmercury by eating contaminated fish. Fish absorb methylmercury through the water in their gills and from their food. Almost all fish contain at least small amounts of methylmercury. Methylmercury in small amounts is not likely to be harmful, but large amounts have been found to be toxic to humans.

Do some fish contain more methylmercury than others? What are some of the fish that I should be concerned about?

In general, eating fish is an important part of a healthy diet. However, the Food and Drug Administration (FDA) advises pregnant women, women who are planning to become pregnant within one year, nursing mothers, and children under the age of 6 years to avoid fish that contain high levels of methylmercury. Fish that are large, have long life spans, and eat other fish are more likely to contain higher amounts of methylmercury than small fish. The following large fish have the highest levels of methylmercury, and should be avoided during pregnancy: shark, swordfish, king mackerel, and tilefish.

I am pregnant. What kind of fish can I eat, and how much?

A typical serving of fish is 3 to 6 ounces. For women who could become pregnant or who are

currently pregnant, the FDA suggests that you may safely eat 12 ounces a week (340 grams, or two average meals) of most types of cooked fish including store bought small ocean fish (salmon, pollock, catfish), shellfish (king crab, shrimp), or canned fish (including light tuna). Fish sticks and fast-food fish are likely made from fish with lower levels of methylmercury.

Canned albacore (white) tuna and fresh tuna steaks typically have higher mercury levels than canned light tuna. Whales contain higher levels of mercury than fish and may also contain other contaminants.

Can I eat fish caught by family and friends from local waters?

Freshwater fish caught from local waters may contain high levels of methylmercury and may not be safe to eat. The Environmental Protection Agency (EPA) and state and local health departments monitor freshwater lakes and streams. You can check with your local agency to see if the fish is safe to eat. Freshwater and saltwater fish from contaminated waters will likely have higher levels of methylmercury; and the amount of methylmercury found in the fish can be higher than the levels found in the water.

To be safe, shouldn't I just stop eating fish completely during pregnancy?

No. Fish provide beneficial protein, essential nutrients and omega-3 fatty acids, which are all important for your health and the growth and development of your baby. Some studies have found that women who eat fish during pregnancy have better pregnancy outcomes than women who do not eat fish. You can maximize the benefits of fish by choosing fish with low mercury levels.

How long can methylmercury stay in my body?

Methylmercury is removed from the body slowly through urine, feces, and breast milk. If fish

containing methylmercury are eaten prior to or during pregnancy, the developing baby may be exposed to methylmercury that has accumulated in the mother's tissues and organs. The amount of time it takes to remove half of the body's methylmercury stores is approximately 70 to 80 days.

What if I ate more than the recommended amount of fish in a week during my pregnancy?

One week's consumption of fish probably would not greatly change the level of methylmercury in your body. If you eat a lot of fish during one week, you can limit your fish consumption for the next week or two.

Can methylmercury affect my developing baby?

Yes, at high levels. Methylmercury crosses the placenta and can be found in the baby's blood at levels higher than those in the mother. The baby's brain is the most sensitive organ to the effects of methylmercury exposure. The brain continues to develop throughout the entire pregnancy, so exposure at any time in pregnancy may be of concern.

The effects of methylmercury on human pregnancies have been documented by several epidemics that occurred many years ago in Japan and Iraq. Children were born with birth defects following the contamination of their mothers' fish supply by methylmercury. These were extreme situations where a number of adults also became sick and died from the contamination, although some of the mothers had mild or no symptoms. The birth defects seen were small head size, cerebral palsy, developmental delay and/or mental retardation, blindness, muscle weakness, and seizures.

There have also been studies that have found that high levels of methylmercury during pregnancy may affect a baby's brain development. The reported effects have not been consistent, possibly due to other beneficial components of fish.

Women in the U.S., who generally do not depend upon fish for their protein intake, are unlikely to consume enough fish to cause harmful effects in a pregnancy. However, all women who are pregnant or may become pregnant are advised to follow the FDA guidelines for fish consumption to help reduce the chances for exposure to harmful levels of methylmercury.

Can I be tested to find out if I have high levels of methylmercury in my body?

Yes. Blood and hair can be tested to determine exposure to methylmercury. Blood tests are better for detecting methylmercury immediately following exposures. Hair may be able to detect ongoing (chronic) exposure. However, these tests can be hard to interpret. A urine test is not helpful in

testing for methylmercury. You should discuss your exposure with your doctor to determine if testing would be appropriate. There is no standard recommendation to screen women for methylmercury levels prior to or during pregnancy.

Is it dangerous to eat fish and breastfeed my baby? What if blood tests showed that I have high levels of methylmercury?

A woman who is breastfeeding should follow the same FDA guidelines described above for eating fish. One study reports that methylmercury levels in a mother's breast milk are similar to levels found in her blood. Very few studies have been done to evaluate breastfed infants whose mothers had high levels of methylmercury. However, if tests during pregnancy or after delivery show high levels of methylmercury in your system, then you should discuss the safety of breastfeeding with your doctor.

Is it a problem if the father of the baby is exposed to methylmercury?

Studies in experimental animals have shown that mercury can change the shape and movement of sperm. In humans, the research data are not clear. Some studies have suggested that high levels of mercury may cause infertility while other studies have not. There is no information suggesting that a father's exposure to methylmercury can cause birth defects or mental retardation in his children.

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If you have questions about the information on this fact sheet or other exposures during pregnancy, call OTIS at 1-866-626-6847.