

Mercury in Fish

Fish is an important source of nutrients and can be a good part of a healthy diet. It is high in protein, low in saturated fat, and contains iron and omega-3 fatty acids. Omega-3 fatty acids prevent heart disease and are beneficial for children's brain and vision development. Yet, all types of fish and shellfish have some levels of mercury in them and certain types have higher levels of mercury than others.

What is mercury?

Mercury is an element that is naturally present in the environment and exists in three forms—element or metallic mercury (a silvery metal that is liquid in room temperature), organic and inorganic compounds. Mercury is used in inks, adhesives, medical devices such as blood-pressure instruments and thermometers, and as a catalyst in manufacturing processes. The “silver” fillings or dental amalgams, still widely used in most parts of the world, generally have 50 percent mercury. Mercury is a neurotoxin that is especially dangerous to the developing nervous system of unborn babies and young children. Methyl mercury (organic mercury) is particularly harmful to the developing brain.

How are we exposed?

Exposure to inorganic and elemental mercury is rare. It typically happens by inhalation or ingestion. Indoor air pollution after spills of elemental mercury and outdoor air pollution from industrial emissions are the most important sources of inhaled mercury. In some ethnic groups, mercury compounds are used for cosmetics and certain sects use them in religious ceremonies. Dental amalgams can also expose people to inorganic mercury. The main source of human exposure to organic mercury is from eating contaminated fish. Mercury released into the air through industrial pollution can accumulate in streams and oceans, turn into methyl mercury, and be absorbed by fish.

Why is mercury dangerous?

Mercury is a toxic chemical that can build up in the body and cause a wide range of problems. All forms of mercury can affect the kidneys and brain. Symptoms can include irritability, tremor, shyness, changes in vision or hearing, and memory problems. Mercury can cross the placenta and affect the neurological development of the fetus. The brain is especially susceptible to damage. Mercury exposure can affect children's learning, movement and behavior.

Who is at greater risk?

Although most people are not at risk by eating fish, some types of fish contain higher levels of mercury that may harm unborn babies or young children. Risks also depend on the amount of fish eaten and the levels of mercury in the fish. Larger fish that eat other fish or fish that are long-lived tend to have higher levels of mercury than smaller fish.

The Food and Drug Administration (FDA) and Environmental Protection Agency (EPA) are advising women who may become pregnant, pregnant women, breastfeeding mothers, and young children to keep their seafood consumption to a minimum and eat fish that are lower in mercury. Pregnant women are advised to avoid shark, swordfish, king mackerel, and tilefish.

Minimizing the risk

To get the potential health benefits of eating fish and minimize your risk of eating too much mercury:

- Eat no more than 8 ounces of fish per week.
- Use fish varieties that are considered lower in mercury. Catfish, salmon, canned light tuna, and pollock are some commonly eaten fish that are low in mercury.
- Check local advisories about the safety of fish caught in your local area.

References and Resources

The Dietary Guidelines for Americans, https://www.dietaryguidelines.gov/sites/default/files/2021-03/Dietary_Guidelines_for_Americans-2020-2025.pdf

The American Academy of Pediatrics: Fish, Shellfish, and Children's Health: An Assessment of Benefits, Risks, and sustainability, <https://publications.aap.org/pediatrics/article/143/6/e20190999/37157/Fish-Shellfish-and-Children-s-Health-An-Assessment>



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