HEALTH BASICS

Avoiding mercury in fish

Choosing lower-mercury fish reduces exposure while preserving seafood's nutritional benefits.

WHAT IT IS
Choosing lower-mercury fish while keeping seafood's nutritional benefits

WHERE IT COMES UP
Seafood choices, pregnancy advice, and local fish advisories

WHY IT MATTERS
Reducing exposure during fetal and childhood brain development

WHAT IT IS NOT
Not a disease or diagnosis

WHO TO ASK
Primary care clinician, obstetric clinician, dietitian, or poison service

HOW IT IS CHECKED
Blood mercury testing after a concerning exposure

Overview

Mercury is a metal found naturally in the environment. Human activities, including burning coal and some industrial processes, can also release it. In water, microorganisms can change mercury into methylmercury, a form that builds up in fish and shellfish.

Avoiding mercury in fish is not a disease or diagnosis. It means choosing seafood in a way that limits methylmercury exposure. It does not usually mean avoiding all fish.

Fish provides protein and nutrients such as omega-3 fats, vitamin D, vitamin B12, iodine, and selenium. These nutrients can support heart health and the development of a baby's brain and nervous system. The practical goal is to eat lower-mercury seafood while limiting or avoiding species known to contain more mercury.

This is especially important if you are pregnant, might become pregnant, are breastfeeding, or are choosing fish for a child. A developing brain is more sensitive to methylmercury than an adult brain.

How it works

Methylmercury enters the aquatic food chain through small organisms. Small fish eat those organisms, and larger fish eat the smaller fish. Mercury stays in the fish's tissues and becomes more concentrated as it moves up the food chain. This process is called bioaccumulation .

Large, long-lived predatory fish usually contain the most mercury. Examples on the US Food and Drug Administration's "Choices to Avoid" list include:

Mercury levels can differ between species and fishing locations. For example, canned light tuna generally contains less mercury than albacore, or "white," tuna. Bigeye tuna is a higher-mercury species and is different from the tuna usually sold as canned light tuna.

Cooking, rinsing, or removing the skin does not reliably remove methylmercury. It is spread through the fish's muscle rather than being limited to the skin or fat.

Store-bought seafood is covered by national food guidance. Fish caught by family or friends may need separate local advice because mercury levels can differ between lakes, rivers, and coastal areas.

- Shark, swordfish, king mackerel, and marlin
- Orange roughy and bigeye tuna
- Tilefish from the Gulf of Mexico

Why it matters for your health

Methylmercury can affect the brain and nervous system. The main dietary concern is repeated exposure over time, rather than a single ordinary fish meal.

During pregnancy, methylmercury can cross the placenta and reach the fetus. Higher exposure can interfere with development of the brain and nervous system. Young children are also more sensitive because their nervous systems are still developing.

This does not mean fish should routinely be removed from the diet during pregnancy. The FDA and US Environmental Protection Agency advise people who are pregnant or breastfeeding to eat 8 to 12 ounces each week from their lower-mercury "Best Choices" list. That is about two to three adult servings. Children can eat one to two smaller, age-appropriate servings each week.

Examples of lower-mercury choices include salmon, shrimp, pollock, tilapia, catfish, cod, sardines, and canned light tuna. The exact nutritional content differs between species, so eating a range of lower-mercury seafood can be useful.

People outside the United States should follow their national food guidance and local fish advisories. The names of fish and recommended serving sizes may differ.

What can go wrong

The situations related to mercury in fish include:

Methylmercury exposure often does not cause immediate warning signs. Possible neurological effects from substantial exposure can include tingling, poor coordination, muscle weakness, or changes in vision or hearing. These symptoms have many possible causes and do not show by themselves that mercury is responsible.

Arrange routine medical advice if you have been eating high-mercury fish frequently, especially during pregnancy, while breastfeeding, or when feeding a young child. Bring details about the fish species, serving size, source, and how often it was eaten. One high-mercury meal is not usually an emergency.

Contact a poison information service promptly after a known mercury spill, workplace exposure, or other unusual exposure. Do not vacuum spilled liquid mercury because this can increase mercury vapour in the air.

Seek emergency care for severe new symptoms such as trouble breathing, confusion, collapse, marked weakness, or sudden difficulty walking. These symptoms need urgent assessment regardless of their cause.

- Repeated high methylmercury exposure: This may occur when someone frequently eats high-mercury predatory fish
- Exposure during pregnancy or early childhood: The developing brain and nervous system are more vulnerable
- Mercury poisoning: This is uncommon from a typical mixed diet but can occur with substantial or unusual exposure
- Contaminated locally caught fish: Some waterways have advisories because of mercury or other pollutants
- Over-restricting seafood: Avoiding all fish without replacing its nutrients may remove a useful source of protein and omega-3 fats

What you can do

Check the species rather than relying only on a label such as "tuna" or "white fish." FDA and EPA charts group seafood into "Best Choices," "Good Choices," and "Choices to Avoid." If you are pregnant, might become pregnant, are breastfeeding, or are feeding a child, use the guidance written for that group.

For practical meal planning:

If there is no advisory for a fish caught by family or friends, US guidance recommends eating only one serving of that fish that week and no other fish during the same week. Local guidance takes priority when available.

A blood mercury test can help assess a recent or continuing methylmercury exposure. Testing is not routinely needed simply because you eat fish. Urine testing is generally more useful for some forms of non-dietary mercury exposure, while commercial hair tests can be difficult to interpret.

Ask a clinician or poison information service whether testing is appropriate before arranging it. If testing is done, interpretation should consider the type of mercury, timing, laboratory method, and your exposure history.

- Choose different fish from a recognised lower-mercury list
- Limit higher-mercury choices according to national guidance
- Check local advisories before eating self-caught fish
- Keep a short record of species and servings if exposure concerns you
- Ask how to replace seafood nutrients before cutting out fish entirely

Common questions

Do I need to stop eating fish?

Usually, no. Choosing lower-mercury species allows most people to keep the nutritional benefits of seafood while reducing exposure.

Is canned tuna safe?

The type matters. Canned light tuna is generally lower in mercury and appears on the FDA's "Best Choices" list. Albacore or white tuna contains more mercury and is listed as a "Good Choice," which is eaten less often under FDA guidance. Bigeye tuna is a high-mercury species to avoid during pregnancy and childhood.

Can cooking remove mercury?

No common cooking method reliably removes methylmercury from fish. Choosing a lower-mercury species is more effective.

What if I ate a high-mercury fish while pregnant?

One meal is not usually an emergency. Check the species and discuss repeated exposure with an obstetric or primary care clinician. A food record can help determine whether any follow-up

is useful.

Are fish oil supplements a substitute?

Fish oil supplements are processed differently from fish and are not a direct substitute for all seafood nutrients. Product quality and contents differ. Ask a clinician or dietitian if you need help meeting nutritional needs without fish.

Sources

- US Food and Drug Administration and Environmental Protection Agency: Advice about Eating Fish
- US Food and Drug Administration: Mercury Levels in Commercial Fish and Shellfish
- US Environmental Protection Agency: Health Effects of Exposures to Mercury
- Agency for Toxic Substances and Disease Registry: ToxFAQs for Mercury
- World Health Organization: Mercury and Health