

HEAVY METALS IN FOOD

WHAT ARE HEAVY METALS?

Heavy metals are metallic elements naturally present in the environment. Human activities can significantly increase their concentrations in soil and water. For example, the use of arsenic-based pesticides can introduce these metals into soils. Some heavy metals, like iron, zinc, and copper, are essential for human health. Other heavy metals, including arsenic, lead, mercury, and cadmium, are unnecessary for human function and are harmful even at very low levels. They are most commonly associated with human poisoning. Government campaigns target these heavy metals to reduce their presence in the food chain because they cause severe health issues, especially in children.





HOW ARE INFANTS AND CHILDREN Exposed to heavy metals in foods?

The amount of heavy metals in foods depends on the environment where they live (e.g., fish) or grow (e.g., vegetables) and how much the animal or plant absorbs. Heavy metals can also be introduced during food processing.

Examples of heavy metal food exposures include:

- Large, predatory fish can contain higher levels of mercury than smaller, non-predatory fish.
- Rice products can contain higher levels of arsenic than other grains.
- Fruit juices (especially apple/grape juice) and baby foods (especially sweet potatoes/carrots) may contain high levels of heavy metals.
- Ground cinnamon products can contain lead.
- Well water may contain arsenic, and older water pipes may contain and leach lead.

WHAT ARE THE HEALTH EFFECTS OF HEAVY METAL EXPOSURE?

Arsenic exposure can cause vomiting, abdominal pain, and diarrhea. Long-term exposure is linked to skin lesions, skin/bladder/lung cancers, diabetes, and cardiovascular disease. It is also toxic to the brain and hinders cognitive development in children.

Lead exposure can lead to decreased IQ, learning disabilities, attention disorders, and behavioral issues. Long-term lead exposure can lead to anemia (lack of red blood cells hemoglobin) in children and adults. Additionally, in adults it can cause hypertension, kidney and nervous system damage, reproductive issues, and cognitive decline.

Mercury and lead exposure is particularly harmful for brain development prenatally. Exposures in utero can result in cognitive deficits, motor skill impairments, and speech and language delays.

Cadmium exposure in children has been linked to lower IQ scores and a higher risk of Attention-Deficit/Hyperactivity Disorder (ADHD). Repeated exposure causes kidney damage and weak bones.





HOW CAN I REDUCE MY CHILD'S EXPOSURE To Toxic Heavy Metals?

- Avoid rice-based cereals, puffs, and teething biscuits. Choose products made from different grains such as oats, barley, quinoa, or bulgur.
- Rinse or soak rice overnight before cooking, as these steps can remove some arsenic. White basmati rice has lower levels of arsenic, while brown rice tends to have the highest levels.
- Offer sliced or pureed fruit instead of fruit juices.
- Wash and peel fruits and vegetables before serving.
- Eating a variety of fruits, vegetables, whole grains, and proteins that contain iron, zinc, vitamin C, and calcium can limit heavy metal absorption.
- Choose fish low in mercury, such as salmon, tilapia, cod, and chunk light (skipjack) canned tuna. Avoid shark, tilefish, swordfish, and solid/chunk white (albacore) canned tuna.
- Avoid certain spices, such as basil, oregano, thyme, and cinnamon. Better options include black/white pepper, garlic powder, saffron, and curry powder.
- Filter drinking and cooking water.
- Look for food brands that are committed to food safety and purity. <u>The Clean Label Project's</u> certification and purity labels can provide guidance.

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