

PFAS and Health

What are PFAS?

Per- and polyfluoroalkyl substances (PFAS) are a group of manmade chemicals that were developed in the 1950s and have been distributed worldwide since. PFAS are extremely stable and break down very slowly in the environment. These chemicals are used in many commercial goods such as nonstick cookware, stain-resistant fabrics, water-resistant cosmetics, food packaging coatings, and fire-fighting foam as well as many industrial processes. Some PFAS chemicals, including PFOA and PFOS, have been phased out of use in the United States but many others, including GenX, are still used today.

How can I be exposed to PFAS?

Primary forms of exposure for adults and children are through food that has been grown or raised in PFAS contaminated soil and water, like fish and shellfish, from food that is packaged in materials designed to be resistant to steam and grease, like pizza boxes, fast food wrappers, and microwave popcorn bags, and from drinking contaminated water. Exposure can also occur from PFAS contaminated dust. People who work in industries that use PFAS are more likely to have higher levels as well.

Infant and toddlers have different PFAS exposures than older individuals. They can be exposed to PFAS through formula made with water contaminated with PFAS, breastmilk from women with current or past PFAS exposure, and from hand to mouth behavior. PFAS can also cross the placenta and enter umbilical cord blood.

Routine showering, bathing, or swimming are not major sources of exposure to PFAS. The most likely route of exposure to PFAS from bathing or recreational waters is swallowing or ingesting contaminated water. As a precaution, you may consider shorter showers or baths, especially for children who may swallow water while playing.

How can my health be affected?

Research on the health effects of PFAS is ongoing. Exposure to PFAS does not mean that you will have health problems now or in the future. While it's believed that immediate health risks for most people exposed to PFAS are low, the latest information indicates that fetuses and infants may be more vulnerable. Potential health effects associated with PFAS include:

- Increased cholesterol levels
- Changes in liver enzymes
- Small decreases in infant birth weights
- Increased chance of cancer, especially kidney, testicular and prostate cancers

- Increase chance of thyroid disease
- Increase chance of preeclampsia and gestational hypertension

However, all of the above associations are not consistent among human studies, and no causal relationship has been established.

If you have any concerns about your health and PFAS exposure, you should talk to your doctor. It is always good to have regular check-ups for possible health conditions.

Can I breastfeed if I am exposed to PFAS?

Research studies have shown that PFAS can be found in human breast milk and excreted through lactation. Long term exposure to PFAS can lead to a buildup of these chemicals in women of child-bearing age, which may increase exposure to the fetus and breastfed babies. However, the benefits of breastfeeding outweigh the risk of potential exposure to PFAS in breast milk.

Breastfeeding benefits both the baby and the mother. Breastfeeding moms can reduce further exposure to PFAS chemicals by drinking bottled water until their water systems have been tested for PFAS and treated if contamination is identified. If you have concerns about breastfeeding and PFAS, you should talk to your child's doctor. For additional information on breastfeeding, go to [Health: WIC: Breastfeeding Information](#)

Can PFAS exposure affect my pregnancy?

A few studies report an association between PFAS exposure in women and their ability to become pregnant and produce offspring. In men, a few studies have shown a weak association between PFAS exposure and their levels of reproductive hormones or semen quality. However, these associations are not consistent, and no causal relationship has been established.

A few studies have reviewed the relationship between preeclampsia and elevated blood pressure in pregnancy and PFAS. Some early studies showed a possible association with PFAS exposure and preeclampsia. However, these associations are not consistent among all pregnant women, and no causal relationship has been established.

Several studies report a possible association between elevated maternal and newborn blood PFAS levels and decreased birth weight. However, the association is not consistent and does not consistently show statistical significance.

Proper monitoring of blood pressure is a routine and important part of prenatal care. You should continue to go to all your prenatal visits and discuss any health concerns with your doctor.

Can PFAS exposure affect my vaccinations?

A few studies have reported that certain types of PFAS can reduce the immune response to some immunizations. However, these studies do not suggest re-evaluating the normal immunization schedule. Vaccinations do not need to be repeated.

How can I limit my exposure to PFAS?

PFAS are found in water, air, and soil at locations all across the globe. While eliminating all exposure to PFAS is unlikely, you can take measures to reduce your exposure to these chemicals.

If you live near sources of drinking water known to be contaminated with PFAS, filtration methods such as reverse osmosis and activated carbon treatment systems may reduce the levels of PFAS. If your drinking water comes from a private well, test the water and drink bottled or filtered water until the test results come back. If you get your water from a public drinking water system, reach out to your local water utility to learn about how they may be addressing PFAS.

Household dust can also be a significant source of PFAS exposure, especially for infants and young children. Keep floors and other surfaces free of dust to eliminate this exposure.

Where can I get more information about PFAS?

Agency for Toxic Substances and Disease Registry: [Learn about PFAS | ATSDR \(cdc.gov\)](#)

Environmental Protection Agency: [Meaningful and Achievable Steps You Can Take to Reduce Your Risk | US EPA](#)

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