Health Effects Linked to Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS)

Some scientific studies suggest that certain PFAS may affect different systems in the body. NCEH/ATSDR and our partners are working to learn more about how exposure to PFAS might affect people's health—especially exposure to PFAS in water and food.

What are some possible health effects from exposure to PFAS?

Although more research is needed, some studies in people have shown that certain PFAS may

- affect growth, learning, and behavior of infants and older children
- lower a woman's chance of getting pregnant
- interfere with the body's natural hormones
- increase cholesterol levels
- affect the immune system and
- increase the risk of cancer

At this time, scientists are still learning about the health effects of exposures to mixtures of PFAS.

Should I have my blood tested for PFAS?

Talk to your doctor or other health professionals (for example, regional Pediatric and Environmental Specialty Units or PEHSUs) if you want or need to know your blood PFAS levels.

- Although, tests can measure the amount of PFAS in your blood, the results won't tell you how PFAS will affect your health now or in the future. The test results will only tell you and your health care provider if you have been exposed to PFAS.
- Blood testing for PFAS is not a routine test offered by most doctors or health departments.
- Keep in mind that most people in the United States have one or more specific PFAS in their blood, especially perfluorooctane sulfonic acid (PFOS) and perfluorooctanoic acid (PFOA).

Blood tests for PFAS are most useful when they are part of either a scientific investigation or a health study.

- A scientific investigation can show the levels of PFAS in people within a community that may have been exposed to the substances.
  - » For example, scientists can use the results to estimate the highest and lowest levels of PFAS levels in a specific community or PFAS levels in special groups, such as children. Additional information can show other factors that may affect test results, like your age and job, where you get your drinking water, and how long you have lived in the area.
- Scientists can compare investigation results to those in other communities, track trends in exposure over time, and use results to show the need for health studies or actions in the future.

NCEH/ATSDR – National Centers for Environmental Health/Agency for Toxic Substances and Disease Registry
PFOS – Perfluorooctane Sulfonic Acid
PFOA - Perfluorooctanoic Acid

Agency for Toxic Substances and Disease Registry
Division of Community Health Investigations
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Reducing Your Exposure to Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS)

EPA has developed a lifetime health advisory for perfluorooctane sulfonic acid (PFOS) and perfluorooctanoic acid (PFOA) in drinking water. If the amount of PFAS in your water is over the lifetime health advisory level, you can take steps to lower your exposure.

- EPA's lifetime health advisory for PFOA and PFOS provides a guideline to protect everyone from these PFAS in drinking water, including the most sensitive populations (unborn babies and nursing infants) from levels of exposure that can harm health.
- The lifetime health advisory applies to someone who drinks water containing PFOA and PFOS every day over a lifetime, not over just a few weeks, months, or years.
- The EPA lifetime health advisory for PFOS and PFOA is 70 parts per trillion (ppt) in drinking water, either individually or combined.
- You can use this lifetime health advisory level to check water test results. If PFOS and/or PFOA levels in your drinking water are over 70 ppt, consider using a different water source (like bottled water). Use the alternate water source for any purpose that involves swallowing water. (See below)
- Some states have derived their own drinking water guidelines for PFAS.
- Although we only have drinking water guidance values for a small number of PFAS right now, more may become available in the future. Current drinking water guidance values may be revised as the science progresses.

How can I lower my exposure to PFAS?

PFAS are present at low levels in some food products and in the environment (air, water, soil etc.), so you probably cannot prevent PFAS exposure altogether. However, if you live near known sources of PFAS contamination, you can take steps to reduce your risk of exposure.

- If your drinking water contains PFOA and PFOS above the EPA Lifetime Health Advisory, consider using an alternative or treated water source for any activity in which you might swallow water:
  - Drinking,
  - Food preparation,
  - Cooking,
  - Brushing teeth, and
  - Preparing infant formula.
- Check for fish advisories for water bodies where you fish.
  - Follow fish advisories that tell people to stop or limit eating fish from waters contaminated with PFAS or other compounds.
  - Research has shown the benefits of eating fish, so continue to eat fish from safe sources as part of your healthy diet.
- Read consumer product labels and avoid using those with PFAS.

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PFOA - Perfluorooctanoic Acid

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