Diseases Fact Sheet - PFAS

South Dakota Department of Health
Division of Disease Prevention & Control - 605-773-3737

This fact sheet is provided for informational purposes only. It is not a substitute for medical care. We are not able to answer personal medical questions. Please see your healthcare provider concerning appropriate care, treatment, or other medical advice.

What are PFAS?

The term PFAS refers to a large family of synthetic chemicals called perfluoroalkyl and polyfluoroalkyl substances (1). They are commonly called "forever chemicals" due to their persistence in the environment and in biological systems. PFAS are useful in a wide variety of applications, because they are water resistant, grease resistant, stain resistant, non-stick, non-corrosive, and non-reactive. Examples of common PFAS include:

- PFOA (perfluorooctanoic acid)
- PFOS (perfluorooctane sulfonate)
- PFHxS (perfluorohexane sulfonate)
- PFNA (perfluorononanoic acid)
- PTFE (polytetrafluoroethylene)

Where are PFAS found?

PFAS are found in many consumer products as well as industrial, medical, and military applications. (1, 6)

- Water-repellant clothing and materials
- Stain-resistant carpet and fabric
- Non-stick cookware
- Grease-, oil-, and water-resistant products (such as pizza boxes)
- Cosmetics (waterproofing and smoothing products)
- Some firefighting foams (aqueous film-forming foam/AFFF)
- Biosolids from wastewater treatment plants used as agricultural fertilizers
- Semiconductor manufacturing and components
- Medical equipment and durable medical devices (heart valves, vascular grafts)

PFAS may also be found in significant amounts in the soil, water, or air near industrial sites where PFAS are manufactured or used, near military installations, airports, or fire stations where AFFF has been used, and in some landfills and wastewater treatment plants. (1, 6)

How might I be exposed to PFAS?
The main routes of human exposure to PFAS are through ingestion of food or beverages containing PFAS or through inhalation of airborne PFAS-containing dust or particles. PFAS may also be transferred from a mother who has been exposed to PFAS to her baby through the placenta or breastmilk. Absorption of PFAS through the skin is minimal. (1, 6)

Once ingested or inhaled, PFAS remain in the body for a few days to a few decades or more, depending on the specific chemical and its properties. Most PFAS are not metabolized, so they must be excreted in order to be removed from the body. The primary route of excretion is through the urine (7).

What are the health effects of PFAS?
Although there are thousands of unique PFAS chemicals, only a few have been studied to any extent to determine their effect on human health.

In 2022, the National Academies of Science, Engineering, and Medicine (NASEM) issued a report based on the available PFAS literature at the time (2, 3). The findings from this report indicate that the health effects most strongly associated with PFAS include:

- Increased cholesterol levels
- Increased risk of kidney cancer
- Immune system effects (lowered response to vaccines)
- Lower birth weights

The report also included health effects that have some evidence of an association with PFAS. These include:

- Changes in liver enzymes
- Increased risk of testicular cancer
- Pregnancy-induced hypertension or preeclampsia

If you decide to speak to your healthcare provider about your potential PFAS exposure, these resources can give you a good place to start the discussion.

- Testing for PFAS (ATSDR)
- PFAS Blood Testing: What You Need to Know (PFAS Exchange)
- Speaking to your healthcare provider about exposures to PFAS (ANHE)

How can I reduce my exposure to PFAS?
Although PFAS are widely found in the environment, individual exposure may be reduced with some relatively easy steps. When purchasing items, read labels carefully, as PFAS may be used in some surprising places. (4, 5)

- Avoid non-stick cookware and utensils

- Avoid water-repellent and stain-repellant clothing, furniture, and carpet
- Do not buy disposable items (such as paper plates) that may be coated for resistance to grease or moisture
- Consider alternatives to waterproof cosmetic items
- Use home water filtration systems such as reverse osmosis or granular activated carbon

Resources for Health Professionals

- ATSDR PFAS Resources for Clinicians and Environmental Health Professionals
- National Academies PFAS Exposure, Testing, and Clinical Follow-Up (2022)
- ANHE PFAS Guidance for Clinicians
- PFAS Exchange for Clinicians

Additional Information

- Environmental Protection Agency (EPA)
- PFAS Exchange
- Agency for Toxic Substances and Disease Registry (ATSDR)
- South Dakota Department of Agriculture & Natural Resources

References

1. PFAS and Your Health. (2025). Agency for Toxic Disease Registry. https://www.atsdr.cdc.gov/pfas/about/index.html
2. Guidance on PFAS exposure, testing, and clinical follow-up. (2022). National Academies of Sciences, Engineering, and Medicine (NASEM). https://www.ncbi.nlm.nih.gov/books/NBK582439/
3. Health Effects: PFAS Information for Clinicians – 2024. Agency for Toxic Disease Registry. https://www.atsdr.cdc.gov/pfas/hcp/clinical-overview/health-effects.html
4. How to Prevent PFAS Exposure. (2024). Agency for Toxic Disease Registry. https://www.atsdr.cdc.gov/pfas/prevent-exposure/index.html
5. Meaningful and Achievable Steps You Can Take to Reduce Your Risk. (2025). Environmental Protection Agency. https://www.epa.gov/pfas/meaningful-and-achievable-steps-you-can-take-reduce-your-risk
6. Our Current Understanding of the Human Health and Environmental Risks of PFAS. (2025). Environmental Protection Agency. https://www.epa.gov/pfas/our-current-understanding-human-health-and-environmental-risks-pfas
7. ToxGuide for Perfluoroalkyls. (2020). Agency for Toxic Substances and Disease Registry. https://www.atsdr.cdc.gov/toxguides/toxguide-200.pdf