PFAS – Sensitive Populations

Ohio Department of Health

What are PFAS?

Per- and polyfluoroalkyl substances (PFAS) are a group of man-made chemicals applied to many consumer products to make them waterproof, stain-resistant, or nonstick. PFAS are also used in some cosmetics, fast food packaging, and a type of firefighting foam called aqueous film forming foam (AFFF), which is used mainly on large spills of flammable liquids, such as jet fuel.

PFAS can get into the environment at places where they are made, used, stored, or disposed. In the environment, PFAS do not break down easily and may stay in soil and water for a long time.

What is a Sensitive Population?

Coming into contact with chemicals (like PFAS) is called "exposure." Whether a person gets sick may depend on how long they were exposed (duration), how often they were exposed (frequency), and how much PFAS they were exposed to (dose). Personal factors like age, lifestyle, and other illnesses may also contribute. Additionally, some people cannot tolerate chemical exposure as well as others. These groups of people are called "sensitive populations".

Who are the sensitive populations for PFAS?

Infants and Young Children

Because infants and young children are still developing, they may be more sensitive to the harmful effects of PFAS. They can also be more exposed than adults because of their behaviors. Children drink more water, eat more food, and breathe more air per pound of body weight than adults. They also tend to explore the world around them by putting their fingers, toys, and other objects into their mouths, which leads to a higher risk of exposure to PFAS dust from household goods like upholstery and carpeting.

Fetuses

Similar to young children, fetuses are developing and may be at higher risk of certain health effects. PFAS can pass from the mother through the umbilical cord if the mother is exposed to PFAS before and/or while pregnant. Studies have shown that fetuses exposed to PFAS may be born at a slightly lower weight.

Pregnant and Nursing Women

Because pregnant and nursing women tend to drink more water, they may be exposed to more PFAS. A higher dose of PFAS makes them more at-risk of developing health conditions. According to the Centers for Disease Control and Prevention (CDC), studies have shown that pregnant women with PFAS in their blood may be at higher risk of pre-eclampsia and high blood pressure.

Nursing women can pass PFAS to their children through breast milk. **According to the CDC, the benefits of breastfeeding outweigh the risks of PFAS in breast milk.** Breastfeeding can reduce a child's risk of certain conditions like asthma, obesity, and sudden infant death syndrome (SIDS). Breastfeeding can also lower a mother's risk of high blood pressure, type 2 diabetes, and ovarian and breast cancer. Women who are nursing should try to reduce their exposure to sources of PFAS as much as possible.

What are the Health Effects of PFAS Exposure for a Sensitive Population?

Sensitive populations are at risk of the same health effects from PFAS exposure as the average person. However, where it may take a large amount of PFAS to make the average person sick, someone in a sensitive population may get sick after being exposed to a lesser amount.

Scientists are still learning about the health effects of exposure to mixtures of PFAS. Some, but not all, studies in humans with PFAS exposure have shown that certain PFAS may:

- Affect growth, learning, and behavior of infants and children;
- Lower a woman's chance of getting pregnant;
- Interfere with the body's natural hormones;
- Increase cholesterol levels;
- Affect the immune system; or
- Increase the risk of certain cancers.

Being exposed to PFAS does not mean you will necessarily have health effects.

Whether you get sick from exposure to any chemical depends on how much you were exposed to (dose), how long you were exposed for (duration), and how often you were exposed (frequency).

How Can Sensitive Populations Protect Themselves from PFAS?

PFAS may be present in drinking water, food, and many consumer products. While avoiding exposure to all sources of PFAS may not be possible due to its widespread use, following the recommendations below can help a person reduce their exposure greatly:

- Treating water that contains PFAS for drinking, cooking, making ice, and preparing infant formula is one way to reduce exposure. See the PFAS **Whole House** or **Point of Use Treatment** fact sheets for more information at **pfas.ohio.gov**.
- Be an informed consumer and research whether manufacturers are using PFAS in the household products you buy, especially anything labeled waterproof, nonstick, or stain-resistant. Certain brands of stain-resistant carpeting and upholstery, stain-resistant or waterproof clothing, fast food packaging (like pizza boxes and microwave popcorn bags), nonstick cookware, and some cosmetics and personal care products are known to contain PFAS.
- Clean and dust the surfaces in your home often to reduce PFAS dust from products like carpet, upholstery, and clothing that were manufactured or treated with PFAS.

For More Information:

For more information on PFAS, including the health effects of PFAS, PFAS in drinking water, water testing and treatment, and other PFAS activities in Ohio, visit the Ohio PFAS webpage at **pfas.ohio.gov**.

For more information on PFAS and your health, contact the ODH Health Assessment Section at **BEH@odh.ohio.gov** or at **(614) 728-9452**.

For more information about PFAS and breastfeeding, visit the CDC's **PFAS and Breastfeeding webpage**.

Always talk with your doctor or primary care provider if you are concerned about your health or have medical questions.