

Sources, Transport, Exposure & Effects of PFAS UNIVERSITY OF RHODE ISLAND SUPERFUND RESEARCH PROGRAM



# WHAT ARE PFAS?



PFAS (per- and polyfluoroalkyl substances) are a large class of chemicals used in a wide range of consumer and industrial applications. Thousands of different PFAS are used to make stain-, water-, and oil-resistant products. PFAS are often called "forever chemicals" because they can remain in the environment indefinitely. PFAS are found all over the planet, and have been detected in the blood of more than 99% of the US population.

## HOW ARE WE EXPOSED?

PFAS are commonly found in products that are stain or grease-resistant, nonstick, waterproof or water resistant, and have historically been used in firefighting foam. PFAS transport in the environment can contaminate air and drinking water, causing further exposure. Anyone may be exposed to PFAS through through food and drink, clothing, items in the home, and dust.

## WHAT ARE THE HEALTH EFFECTS?

Extensive research has demonstrated the link between high PFAS exposure and adverse health effects. Not all people exposed to PFAS will develop health problems, but higher levels may indicate higher risk.

- <section-header>

   Penatal and Postnatal:

   extended time to conceive:

   elevated blood pressure for mother

   elow birth weight

   PTAS transfer via breastfeeding
- elevated cholesterol
- thyroid disease
- ulcerative colitis
- liver problems
- increased body weight
- diabetes
- kidney cancer
- testicular cancer
- prostate cancer
- bladder cancer
- allergies
- autoimmune diseases
- decreased protective response from vaccinations

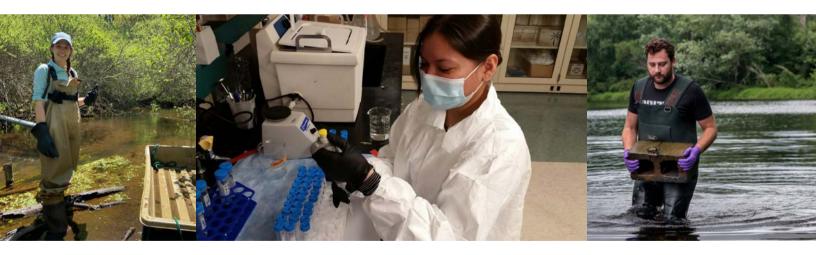
## WHAT CAN YOU DO?

- **Reduce exposure.** Avoiding PFAS is possible, even with common household items: takeout containers (eg., pizza boxes, wrappers), non-stick pots, pans, and utensils, popcorn bags, outdoor clothing and cloth products (eg., tents), stain- and/or water-repellent clothing, stain-repellent furniture and carpet, some cosmetics.
- Test your water. Public water data in Rhode Island is available at health.ri.gov/data/pfas. RIDOH's Private Well Program can provide additional guidance on testing well water for PFAS. Private well owners who are concerned about PFAS in their water can install water filters with reverse osmosis or activated carbon.
- Learn about the risks. Talk with your primary care provider about your health. Blood tests are available in some locations or via at-home kits.

#### WHAT IS **STEEP** DOING?

STEEP uses rigorous interdisciplinary science to understand PFAS exposure and engage with communities, with a vision to mitigate further impacts on human and environmental health. STEEP aims to:

- assess the distribution, transformations, and bioaccumulation of PFAS.
- characterize age-dependent processes affecting PFAS distribution and uptake, and assess critical adverse effects in humans.
- integrate, engage, and collaborate with stakeholders across multiple sites, disciplines, governments, and organizations.





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