

KEY FACTS ABOUT ARSENIC EXPOSURE

What is arsenic?

- Arsenic is a toxic element. It occurs naturally in rocks and soils, and can occur in groundwater.
- The main toxic form of arsenic is inorganic arsenic. Water arsenic compounds are inorganic and toxic.
- There are also organic forms of arsenic in seafood. Seafood arsenic compounds are not toxic.

How are people exposed to arsenic?

- Naturally occurring arsenic in groundwater is a major source of inorganic arsenic exposure. Groundwater contamination occurs when, under certain conditions, naturally occurring arsenic deposits in bedrock dissolve and seep into groundwater.
- The main exposure to arsenic is via ingestion of drinking and cooking water, because arsenic is poorly absorbed through the skin. However, treating all water in the home is the most effective way to reduce arsenic exposure.
- During gestation, the developing fetus is exposed to arsenic via passage across the placenta from mother's blood to the baby's blood. In contrast, *breast-milk is safe* and does not contain inorganic arsenic.

What are the health risks associated with arsenic exposure?

- Arsenic is a well-established carcinogen, causing liver, bladder, kidney, lung, and skin cancer.
- Other associated health effects associated with arsenic exposure include heart disease, diabetes, immune effects, and respiratory problems.
- In children, exposure is also associated with deficits in intelligence.

Why are pregnant women and children especially vulnerable?

- Arsenic crosses the placenta and may affect fetal development.
- Infants and children may be more sensitive to the effects of arsenic than adults.
- In utero and early life arsenic exposure has been linked to adverse health effects later in life, including increased risks of respiratory disease, cardiovascular disease and certain cancers as adults.

Why should we have our well tested for arsenic?

- Arsenic has no smell, taste or color when dissolved in water, even in high concentrations.
- Testing a water sample is the only way to know how much arsenic is present in a well.
- EPA regulations and testing are limited to public water sources, not private wells. **If your family gets their drinking/cooking water from a private well**, you should have your water tested for arsenic.

What do test results mean?

- In New Jersey, the standard for arsenic is 5 micrograms per liter (abbreviated as "µg/L"). If arsenic levels are greater than 5 micrograms per liter, we encourage the use of bottled and/or properly treated water for all drinking and cooking, and encourage the installation of a treatment system.
- Importantly, a negative test for arsenic does not mean that your water is safe with respect to other water quality parameters.

How can people reduce their exposure to arsenic?

- The most immediate option is to switch to bottled water for all drinking and cooking. Note that simple water filters (such as the activated carbon filters) available in the hardware store are NOT effective for arsenic removal. Note also that boiling water DOES NOT remove arsenic from water.
- If your water has elevated arsenic, information on treatment options and treatment providers is available at http://www.nj.gov/dep/pwta/Arsenic_Treatment.pdf and tinyurl.com/arsenichelp.
- Long-term, families should strongly consider either installing an appropriate treatment system or connecting to a public water supply if possible. If a treatment system is installed, water should be tested annually to ensure water is safe for arsenic and the system is working. The State of NJ has a 0% interest 10-year [loan program](#) to help homeowners spread the initial cost of buying and installing the units.

Should people be tested for urine or blood arsenic levels?

- We do not recommend testing for urine or blood arsenic levels at this time. Several types of tests are available; however, results can be difficult to interpret because there are no widely accepted standard values to distinguish "normal" from "elevated" test results. Test results can also be misleading if seafood was consumed during the week prior to arsenic testing, as the forms of arsenic derived from seafood are not toxic and complicate the interpretation of internal arsenic levels.
- Instead, you are encouraged to take action to ensure that you are using a safe water source for drinking and cooking. Once the source is reduced, blood levels of arsenic will also rapidly decline.