



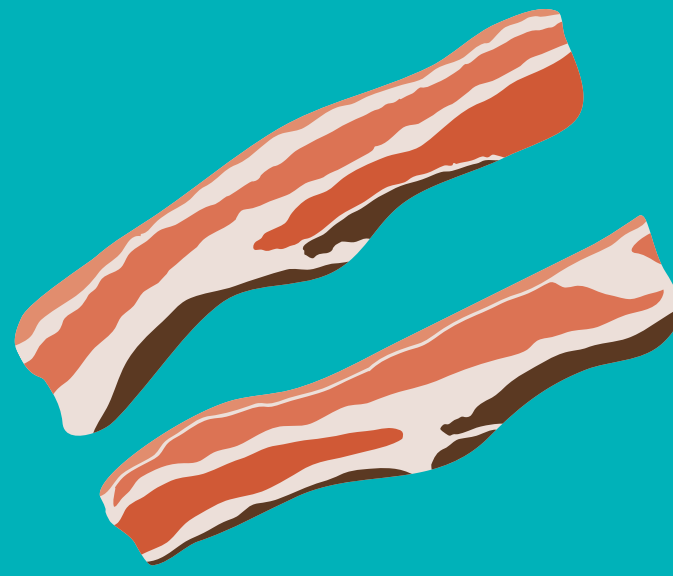
# NITRATE AWARENESS

## What is in Your Water?



### WHAT IS NITRATE?

Nitrate occurs naturally as part of the nitrogen cycle, but it also is generated through human activity, often times through agricultural practices. Nitrogen fertilizers can break down into nitrate and then seep into our groundwater. The United States Environmental Protection Agency (EPA) mandates that public water systems keep nitrate contamination levels under 10 mg/L due to its associated health risks.



### PROCESSED MEATS

Nitrate can be found in highly processed meats such as bacon, ham and sausage. It is often used as a preservative and can improve the color of the raw meat. A diet high in processed meats can lead to high nitrate consumption, and put you at risk for certain health effects.

### DRINKING WATER

A common way you might consume nitrate is through drinking water, as nitrate can infiltrate the groundwater we rely on for drinking. While public water is tested and treated for nitrate contamination, private well owners are responsible to test their water and make sure it is safe.



### INFANTS

Consuming too much nitrate can interfere with the ability of blood to carry oxygen. The result in infants is methemoglobinemia, also called blue baby syndrome. Bottle-fed babies under six months old are at the highest risk of getting methemoglobinemia. This illness can cause the skin to turn a bluish color from a lack of oxygen, and result in serious illness or death.



### PREGNANT WOMEN

During pregnancy, it is common for a woman's methemoglobin levels to be higher than normal. Therefore, pregnant women are particularly susceptible to methemoglobinemia. Additionally, pregnant women exposed to high nitrate concentrations in their drinking water are at greater risk of pre-term births, birth defects, and miscarriages.



### WHAT ARE THE HEALTH IMPACTS?

There are certain populations that are more susceptible to negative health outcomes. These include pregnant women, infants, children, and individuals with oxygen transport issues. Scientific research, including studies carried out at the University of Nebraska Medical Center, is ongoing regarding the health effects of nitrate consumption. These studies include research on the effects of nitrate consumption on thyroid disease and cancer, specifically colorectal, bladder, ovarian, and kidney cancers. Further research is needed to fully understand these potential health impacts.



### WHAT CAN YOU DO?

First and foremost, know what you're consuming. Check labels for nitrate preservatives and TEST YOUR WATER. Nitrate is odorless, tasteless and colorless. If you find high nitrate concentrations in your water (over 10 mg/L), you need to immediately switch to a safe source of drinking water, such as bottled water. Next, take the necessary steps to ensure your home has clean water. This may include installing a reverse osmosis system or digging a new well.

### WANT TO LEARN MORE?

Talk to your doctor if you have questions or concerns about the health impacts related to consuming nitrate. Additionally, visit the University of Nebraska's website on this topic for more information.



<https://water.unl.edu/category/water-and-health>

