



Healthcare Provider Clinical Guidance Potential Cyanotoxin Exposure

June 6, 2018

What is the current situation?

- A bloom of cyanobacteria is underway in Detroit Lake.
- Water from the North Santiam River, downstream of the lake, is used by several communities for drinking water.
- Small amounts of two cyanobacteria-related toxins have been found in the City of Salem's drinking water distribution system. As a result, the City of Turner, Suburban East Salem Water District and Orchard Heights Water Association are affected.
- Most people may still safely drink the water. A *do not drink* advisory is in place for people considered at increased risk from toxin exposure in the above communities.
- The level at which a drinking water advisory for vulnerable populations is recommended by the environmental protection agency is 0.3 micrograms per liter for a 10-day exposure of *Microcystin*.
- The levels of cyanotoxins detected were just slightly above that amount. Indicating the risk for vulnerable populations is low, so the risk of symptoms from exposure of these toxins is also very low.
- To help you re-evaluate risk as additional test results are received, you may find updated test results from the City of Salem (<https://www.cityofsalem.net/Pages/water-quality-test-data.aspx>)
- Updated information on the drinking water advisory is available at (<https://www.cityofsalem.net/Pages/drinking-water-advisory.aspx>)
- Updated information on the recreational advisory for Detroit Lake is available at (<http://www.oregon.gov/oha/ERD/Pages/HealthAdvisoryIssuedMay23DetroitLake.aspx>)

What are cyanobacteria?

- Cyanobacteria, also called blue-green algae, are single-celled organisms that grow in water.
- In warm weather, when nutrients are plentiful, and water flow is low, they may grow quickly or "bloom", sometimes producing toxins.

What toxins are involved?

- In the current bloom, two toxins, *Microcystin* and *Cylindrospermopsin* have been detected.

What are the health effects of these toxins?

- *Microcystin* can damage the liver; it also can cause self-limited nausea, vomiting, and diarrhea.
- *Cylindrospermopsin* can cause liver and kidney injury. It can also cause nausea, vomiting and diarrhea.
- We have found no evidence in the literature that these toxins are carcinogenic or teratogenic, or that they cause other long-term health effects.
- Some cyanotoxins can injure the nervous system. None of these have been detected in the affected drinking water.

Which people might be at increased risk?

- The likelihood of any illness resulting from exposures at the levels detected in drinking water is low. Those who might be at increased risk, particularly if toxin levels rise, include:
 - Infants, children age 5 and under
 - People with compromised immune systems
 - People receiving dialysis treatment
 - People with pre-existing liver conditions
 - Pregnant women or nursing mothers
 - Pregnant and breast-feeding mothers should not drink tap water but should drink bottled or well water instead.
 - Mothers who breast-feed their infants should continue to do so if they are drinking bottled or well water. The benefits of breast-feeding are believed to outweigh any possible risks to infants.
 - As a precautionary measure, the elderly and other sensitive populations should consider following these advisory instructions.

What are the key treatment considerations if you suspect toxin-induced illness?

- There are no screening or diagnostic tests available for cyanotoxins to determine whether a patient has been exposed.
- There are no antidotes and treatment is supportive.
- For most patients, the key is to avoid dehydration or electrolyte problems, as with any other cause of vomiting and diarrhea.
- For those with underlying liver or kidney disease, evaluation might be prudent, along with guidance to ensure people avoid any further exposure.
- If you suspect cyanotoxin-related illness and would like further guidance, contact the Oregon Poison Center at 1-800-222-1222.