

## Blue-green Algae

These questions and answers provide information to address health concerns about exposure to blue-green algal toxins in surface waters (lakes, rivers, streams and reservoirs).

### What are blue-green algae?

Blue-green algae, technically known as **cyanobacteria**, are microscopic organisms that are naturally present in lakes and streams. They usually are present in low numbers. Blue-green algae can become very abundant in warm, shallow, undisturbed surface water that receives a lot of sunlight. When this occurs, they can form blooms that discolor the water or produce floating rafts or scums on the surface of the water.

### What are the potential health effects from drinking or coming in contact with water containing blue-green algae?

Some blue-green algae produce toxins that could pose a health risk to people and animals when they are exposed to them in large enough quantities. Health effects could occur when surface scums or water containing high levels of blue-green algal toxins are swallowed, through contact with the skin or when airborne droplets containing toxins are inhaled while swimming, bathing or showering.

Consuming water containing high levels of blue-green algal toxins has been associated with effects on the liver and on the nervous system in laboratory animals, pets, livestock and people. Livestock and pet deaths have occurred when animals consumed very large amounts of accumulated algal scum from along shorelines.

Direct contact or breathing airborne droplets containing high levels of blue-green algal toxins during swimming or showering can cause irritation of the skin, eyes, nose and throat and inflammation in the respiratory tract.



Surface water affected by blue-green algae often is so strongly colored that it can develop a paint-like appearance.



Under some environmental conditions, blue-green algae can become so abundant that they form floating rafts or scums on the surface of the water.

Recreational contact, such as swimming, and household contact, such as bathing or showering, with water not visibly affected by a blue-green algae bloom is not expected to cause health effects. However, some individuals could be especially sensitive to even low levels of algal toxins and might experience mild symptoms such as skin, eye or throat irritation or allergic reactions.

There is less information available about the potential health effects of long-term exposure to low levels of blue-green algal toxins. Some limited evidence from human studies suggests that long-term consumption of untreated surface waters containing high levels of blue-green algal toxins could be associated with an increased risk of liver cancer. However, people in these studies also were exposed to other factors associated with liver cancer. As a result, it is unknown whether algal toxin exposure contributed to this risk.

Long-term, continuous exposure to algal toxins in the Northeast is unlikely, because blue-green algal blooms are likely to occur only during the hottest part of the summer. New York State public water supplies that use surface water sources also have operational controls to minimize the introduction of blue-green algae in drinking water.

### **How do I know if I am being exposed to blue-green algae?**

People should suspect that blue-green algae could be present in water that is visibly discolored or that has surface scums. Colors can include shades of green, blue-green, yellow, brown or red. Water affected by blue-green algal blooms often is so strongly colored that it can develop a paint-like appearance.

Unpleasant tastes or odors are not reliable indicators of blue-green algal toxins or other toxic substances, because species producing blue-green algal toxins may or may not also produce chemicals that affect the taste or odor of drinking water. Similarly, the absence of unpleasant tastes and odors does not guarantee the absence of blue-green algal toxins.

## **Avoiding exposure to blue-green algae**

**Never drink untreated surface water, whether or not algae blooms are present.** Untreated surface water may contain other bacteria, parasites or viruses, as well as algal toxins, that all could cause illness if consumed.

**People not on public water supplies should not drink surface water, even if it is treated, during an algal bloom** because in-home treatments such as boiling and disinfecting water with chlorine or UV and water filtration units do not protect people from blue-green algal toxins.

**If washing dishes in untreated surface water is unavoidable, rinsing with bottled water may reduce possible residues.** While we don't know if water containing low levels of blue-green algal toxins could leave residues on dishes, taking this precaution may help reduce possible exposures.

**People, pets and livestock should avoid contact with water that is discolored or has scums on the surface.** Colors can include shades of green, blue-green, yellow, brown or red. If contact does occur, wash with soap and water or rinse thoroughly with clean water to remove algae.

**Stop using the water and seek medical attention if needed** if symptoms such as skin, eye or throat irritation, allergic reactions or breathing difficulties occur while in contact with untreated surface waters. However, swimming, bathing or showering with water not visibly affected by a blue-green algae bloom is not expected to cause health effects.

### **Where to get more information**

NYS Department of Health  
Bureau of Toxic Substance Assessment  
ph: 800-458-1158 ext. 2-7820



NYS Department of Health  
Center for Environmental Health  
547 River Street, Troy, NY 12180