What are blue-green algae?
Cyanobacteria, sometimes called blue-green algae, are microscopic organisms that live in all types of water.

What is a blue-green algae bloom?
• Blue-green algae grow quickly, or bloom, when the water is warm, slow-moving, and full of nutrients.

What are some characteristics of blue-green algae blooms?
• Algae usually bloom during the summer and fall. However, they can bloom any time during the year.
• When a bloom occurs, scum might form on the water’s surface.
• Blooms can be many different colors, from green or blue to red or brown.
• As the bloom dies off, you might smell an odor that is similar to rotting plants.

What is a toxic bloom?
Sometimes, blue-green algae produce toxins, such as microcystins.
• The toxins can be present in the algae or in the water.

Other important things to know:
• Swallowing water that has algae or algal toxins in it can cause serious illness.
• Dogs might have more severe symptoms than persons, including collapse and sudden death after swallowing the contaminated water while swimming or after licking algae from their fur.
• There are no known antidotes to these toxins. Medical care is supportive.

You cannot tell if a bloom is toxic by looking at it.
## Exposure and Clinical Information

Information about the health effects from exposure to blue-green algae and toxins is derived from reports of animal poisonings.*

<table>
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<th>Potential exposure route</th>
<th>Likely Symptoms and signs</th>
<th>Time to symptom onset**</th>
<th>Differential diagnosis includes the following</th>
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| Swallowing water that is contaminated with blue-green algae (cyanobacteria) or toxins or licking it off fur or hair | **Hepatotoxins and nephrotoxins**  
Excess drooling, vomiting, diarrhea, foaming at mouth  
Jaundice, hepatomegaly  
Blood in urine or dark urine  
Malaise  
Stumbling  
Loss of appetite  
Photosensitization in recovering animals  
Abdominal tenderness  

**Neurotoxins**  
Progression of muscle twitches  
For saxitoxin, high doses may lead to respiratory paralysis and death if artificial ventilation is not provided. | Minutes to hours | Acetaminophen or NSAID overdose, rodenticide ingestion, aflatoxicosis and other hepatotoxin poisonings  
Pesticide poisoning, myasthenia gravis, other toxin poisoning |  
• Elevated bile acids, ALP, AST, GGT  
• Hyperkalemia  
• Hypoglycemia  
• Prolonged clotting time  
• Proteinuria  
• Presence of toxin in clinical specimens from stomach contents taken from animals that became ill |
| Skin contact with water contaminated with blue-green algae or toxin(s) | **Dermal toxins**  
Rash, hives, allergic dermatitis | Minutes to hours | Other dermal allergens | Blue-green staining of fur or hair |

NOTES:
1. Monogastric animals appear less sensitive than ruminants or birds; however, the dose-response curve is very steep in dogs—up to 90% of a lethal dose may elicit no clinical signs.
2. There are no known antidotes to these toxins. Medical care is supportive. Activated charcoal may be useful within the first hour, and atropine has efficacy with saxitoxin exposure.

*References are available at:  [http://www.cdc.gov/hab/links.htm](http://www.cdc.gov/hab/links.htm)