

# Veterinarian Reference

## Cyanobacteria blooms. *When in doubt, it's best to stay out!*

### What are cyanobacteria?

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

### What is a cyanobacteria bloom?

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

### What are some characteristics of cyanobacteria blooms?

- Cyanobacteria 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, cyanobacteria produce toxins, such as microcystins.
- The toxins can be present in the cyanobacteria cells or in the water.

### Other important things to know:

- Swallowing water that has cyanobacteria or cyanobacterial toxins in it can cause serious illness.
- Dogs might have more severe symptoms than people, including collapse and sudden death after swallowing the contaminated water while swimming or after licking cyanobacteria 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.**



### To report a cyanobacteria bloom or related health event:

- Call your local or state health department

### For more information:

- <http://www.cdc.gov/nceh/hsb/hab/default.htm>

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National Center for Environmental Health

Division of Environmental Health Hazards and Health Effects



# Exposure and Clinical Information

Information about the health effects from exposure to cyanobacteria and toxins is derived from reports of animal poisonings.\*

POTENTIAL EXPOSURE ROUTE	LIKELY SYMPTOMS AND SIGNS	TIME TO SYMPTOM ONSET**	DIFFERENTIAL DIAGNOSIS	POSSIBLE LABORATORY OR OTHER FINDINGS
Swallowing water that is contaminated with cyanobacteria or toxins or licking it off fur or hair	<b>Hepatotoxins and nephrotoxins</b> <ul style="list-style-type: none"> <li>• Excess drooling, vomiting, diarrhea, foaming at mouth</li> <li>• Jaundice, hepatomegaly</li> <li>• Blood in urine or dark urine</li> <li>• Malaise</li> <li>• Stumbling</li> <li>• Loss of appetite</li> <li>• Photosensitization in recovering animals</li> <li>• Abdominal tenderness</li> </ul>	Minutes to hours	Acetaminophen or NSAID overdose, rodenticide ingestion, aflatoxicosis and other hepatotoxin poisonings	<ul style="list-style-type: none"> <li>• Elevated bile acids, ALP, AST, GGT</li> <li>• Hyperkalemia</li> <li>• Hypoglycemia</li> <li>• Prolonged clotting time</li> <li>• proteinuria</li> <li>• Presence of toxin in clinical specimens from stomach contents taken from animals that became ill</li> </ul>
	<b>Neurotoxins</b> <ul style="list-style-type: none"> <li>• Progression of muscle twitches</li> <li>• For saxitoxin, high doses may lead to respiratory paralysis and death if artificial ventilation is not provided.</li> </ul>	Minutes to hours	Pesticide poisoning, myasthenia gravis, other toxin poisoning	Presence of toxin in clinical specimens from stomach contents taken from animals that became ill
Skin contact with water contaminated with cyanobacteria or toxin(s)	<b>Dermal toxins</b> <ul style="list-style-type: none"> <li>• Rash, hives, allergic reaction</li> </ul>	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/nceh/hsb/hab/default.htm>