

Veterinarian Reference

Blue-green Algae Blooms

When in doubt, it's best to stay out!

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.

To report a blue-green algae bloom or related health event:

Call your local or state health department

For More Information:

Call the National Center for Environmental Health Harmful Algal Blooms Program (HABISS), Centers for Disease Control and Prevention: 866-556-0544

<http://www.cdc.gov/hab/links.htm>



Exposure and Clinical Information

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

Potential exposure route	Likely Symptoms and signs	Time to symptom onset**	Differential diagnosis includes the following	Possible laboratory or other findings
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	Minutes to hours	Acetaminophen or NSAID overdose, rodenticide ingestion, aflatoxicosis and other hepatotoxin poisonings	•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
	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	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 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>