

Veterinarian Reference for Cyanobacterial Blooms



Dogs, livestock, and other animals can suffer severe illness or death within minutes to days of swallowing toxins from cyanobacterial blooms. Providing supportive medical care soon after exposure can save an animal's life.

Cyanobacterial Bloom Basics

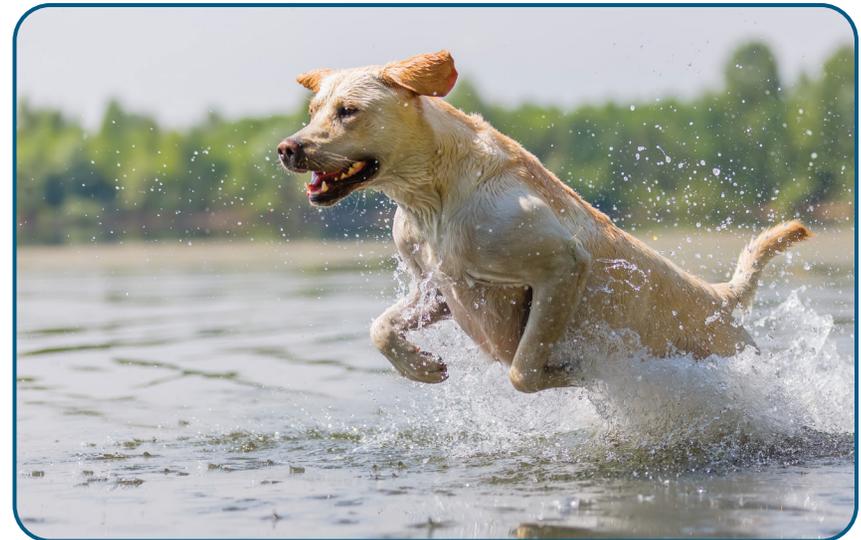
Cyanobacteria (also called blue-green algae) can grow quickly, or bloom, when water is warm, slow-moving, and full of nutrients. Cyanobacterial blooms are most commonly found in fresh water, such as lakes, rivers, and streams. These blooms can discolor the water and look like foam, scum, mats, or paint on the surface, but some blooms are hard to see because they grow below the water's surface. These blooms sometimes produce toxins (cyanotoxins) that can be lethal to animals.

Exposure and Health Impacts

- Dogs and other animals are often exposed by drinking contaminated water, swallowing water while swimming, or licking cyanobacteria from their fur.
- Dogs and other animals can become seriously ill or die suddenly after exposure. Signs depend on how they were exposed, how long they were exposed, and the types of toxins they were exposed to.
- Monogastric animals appear to be 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.

Tests and Treatments

- There are currently no clinically available tests or designated treatments.
- Medical care is supportive. There are no known antidotes to these toxins.
- Activated charcoal may be useful within the first hour, and atropine has efficacy with saxitoxin exposure.
- There is some evidence that treatment with cholestyramine may be helpful for dogs exposed to microcystins.



Exposure and Clinical Information

Information about the health effects is derived from reports of animal poisonings and may be species-dependent*

POTENTIAL EXPOSURE ROUTE	LIKELY SIGNS	TIME TO SYMPTOM ONSET	DIFFERENTIAL DIAGNOSIS	POSSIBLE LABORATORY OR OTHER FINDINGS
Swallowing water that is contaminated with cyanobacteria or cyanotoxins or licking cyanobacteria off fur or hair	Hepatotoxins and nephrotoxins <ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Acetaminophen or NSAID overdose Rodenticide ingestion Aflatoxicosis Other hepatotoxin poisonings 	<ul style="list-style-type: none"> 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 <ul style="list-style-type: none"> Progression of muscle twitches For saxitoxin, high doses may lead to respiratory paralysis and death if artificial ventilation is not provided 	Minutes to hours	<ul style="list-style-type: none"> Pesticide poisoning Myasthenia gravis Other poisoning 	Presence of toxin in clinical specimens from stomach contents taken from animals that became ill
Skin contact with water contaminated with cyanobacteria or cyanotoxins	Dermal toxins <ul style="list-style-type: none"> Rash, hives, allergic reaction 	Minutes to hours	<ul style="list-style-type: none"> Other dermal allergens 	Blue-green staining of fur or hair

*References are available at: <https://www.cdc.gov/habs/publications.html>.

Advise animal owners: You cannot tell if a bloom is toxic just by looking at it. When in doubt, it's best to stay out!

Reporting Illnesses

Call your local or state health department to report a cyanobacterial bloom or related health event.

Exposure Questions

Contact your local Poison Control Center at 1-800-222-1222 for questions about exposures to cyanobacterial blooms.
 Call the ASPCA Animal Poison Control Center at 1-888-426-4435 or the Pet Poison Helpline at 1-855-764-7661 for questions about animal health.
 (Note: there is a fee for these calls.)

More Information

Visit www.cdc.gov/habs for more information about cyanobacterial blooms.