



## Blue-Green Algae: Is it Poisonous to Dogs?

Did you know that as summer approaches, visits to the animal emergency room increase? Dangers like trauma (off leash, running around outside and getting hit by a car), poisonings (spring toxins like poisonous plants, fertilizers, etc.) and heat stroke are all more prominent. But there is one danger most pet owners aren't aware of: swimming in lakes. Next week we'll talk about the dangers of swimming in the ocean.

While I don't want to make you paranoid about allowing your dog to swim in a lake, I do want you to be aware of cyanobacteria dangers; I've seen it up and close. While visiting Madison, WI a few summers ago, I noticed what looked like blue or green iridescent paint on the surface of a lake: blue-green algae. Last year while visiting London, I saw some in the royal ponds, too.

Cyanobacteria (also known as blue-green algae) are microscopic bacteria found in freshwater lakes, streams, ponds and brackish water ecosystems.

Blue-green algae grow and colonize into "blooms." While blue-green algae aren't present in all bodies of water, when they are present you'll notice a "pea soup" or blue-green color floating on the surface of the water. Because the algae float, the thick, concentrated mats can be blown by the wind close to shore, making this potentially deadly poison easily accessible to livestock, pets and people.

Most blue-green algae blooms don't produce dangerous toxins, but unfortunately, certain types of blue-green algae *can* produce toxins; specifically microcystins and anatoxins, which are poisonous to two-legged and four-legged mammals alike. It's impossible to visibly distinguish dangerous algae from benign algae without appropriate testing. Swimming or drinking from water that's been contaminated with blue-green algae can result in severe, acute poisoning. Even small exposures, as little as a few mouthfuls of algae-contaminated water, can potentially result in fatal poisoning.

Clinical signs of poisoning are dependent on the toxin involved. One type results in liver failure, while the other type results in severe neurologic (central nervous system) signs.

With the blue-green algae that produce microcystins, symptoms include:

- Vomiting
- Diarrhea
- Not eating
- Black-tarry stool
- Weakness
- Lethargy
- Pale gums
- Jaundice (yellow) gums
- Shock
- Death

With the blue-green algae that produce anatoxins, symptoms include:

- Excessive drooling
- Excessive (eye) tearing
- Muscle tremors
- Muscle rigidity
- Inability to walk
- Difficulty breathing or blue gums
- Death



Immediate veterinary intervention is needed with any type of potential poisoning, but in general, once signs of blue-green algae poisoning have developed, the prognosis is very poor. Unfortunately, there is no antidote for the toxins produced by blue-green algae.

With any poisoning, the sooner you seek treatment the better the prognosis.

With blue-green algae, immediate veterinary attention is important. You can also call Pet Poison Helpline for assistance at 855-213-6680.

Better yet, keep your pet away from lake water — particularly if you notice that color. No need to be paranoid, but take a good look around at the lake shore before you and your pet romp in the water!

Dogs exposed to a neurotoxin variety will develop symptoms as soon as 15 to 20 minutes later. The nerve toxin will act on a dog's system rapidly, killing them within 30 to 60 minutes after leaving the water. Other species of blue-green algae that contain hepatotoxins will attack the liver and death can occur within 4 to 24 hours after exposure. Some dogs may be fine after swimming in blue-green-algae infested waters, only to develop symptoms after ingesting the toxins when they clean algae from their coats.

### **What to do if your dog is exposed to cyanobacterial toxins**

Although there is no known antidote to these toxins, supportive care may keep an animal alive. You haven't much time to act so get your dog to emergency veterinarian care immediately.

- Don't let your pet lick his/her fur. Muzzle your dog if you have to.
- Wash your pet with clean water as soon as possible, such as bottled water and towel off any visible algae (being careful not to touch it yourself).
- Do not use bleach or disinfectant to clean your dog as this will spread and release the toxins.
- If your dog has ingested toxic algae, and you have activated charcoal handy, administer it and induce vomiting. Using activated charcoal to absorb the toxins and flush them from his/her system may be helpful. Induced vomiting may also work by preventing the toxins still in the animal's stomach from affecting his/her other organs.



Some vets may administer atropine to regulate the animal's seizures. Because the toxins are excreted rapidly from the body within a few days, animals that survive the initial tissue damage have a good chance for recovery.

### **What Causes Blue Green Algae Outbreaks?**

In times of drought, lowered water levels and low air circulation combine to boost production of algae into overdrive. Normally, algae are equally distributed throughout the water, but large blooms are often followed by large die offs. The gas produced by

these die offs pushes the algae colony up to collect at the water's surface, creating a dangerous situation.

From this point, even a gentle breeze will serve to push the algae into a concentrated layer of scum, often near the water's edge where dogs and other animals are likely to ingest it while drinking.