

Information for Dog Owners

There are several uncommon, but potentially serious diseases that dogs may encounter in California wetland areas through ingestion or open wounds:

Canine Pythiosis

This and further information can be viewed at: <http://pythiosis.com/>

What is Canine Pythiosis?

- A relatively new pathogen, *Pythium insidiosum*, has rarely been documented in the California Central Valley over the last 10 years.
- It is a parasitic oomycete, commonly called water mould, and is common in tropical and subtropical regions of the world. It is more common in the Gulf of Mexico and East Coast areas, but can rarely be found in cooler and drier areas of the U.S. as well. The zoospores are thought to be hosted by aquatic plants such as water lilies, submerged grasses and rice.
- Infection is contracted by exposure of open wounds or by ingestion.
- Because it is so uncommon, many veterinarians are unaware of it, and thus have difficulty in making an early diagnosis.

What are symptoms of Canine Pythiosis?

- Vomiting diarrhea, loss of appetite, lethargy, weight loss, occasional fever, abdominal mass, and enlarged lymph nodes. Vomitus that looks like coffee grounds, and bloody diarrhea indicate gastric bleeding.
- Skin lesions may occur if open wounds have been exposed, and are characterized by swollen, non-healing wounds with pus-filled nodules and draining sinus tracts that often enlarge rapidly.

What is the treatment for Canine Pythiosis?

- Early diagnosis is important, since *P. insidiosum* lesions progress rapidly. Diagnosis is made by use of biopsies, blood tests and abdominal radiographs.
- Even with treatment, pythiosis is commonly fatal. But early diagnosis increases the chances that treatment will be effective. Treatments may include surgery, anti-fungal drugs and immunotherapeutic drugs.

If your dog is exhibiting the symptoms of these diseases, and your veterinarian is having difficulty making a diagnosis, consider asking your veterinarian to check for pythiosis, blue-green algae toxicity, or leptospirosis.

Blue-Green Algae (Cyanobacteria) Blooms

Information from: NY State Department of Environmental Conservation and California Department of Public Health. This and further information can be viewed at: <http://www.dec.ny.gov/chemical/77118.html> and <https://www.cdph.ca.gov/HealthInfo/environhealth/water/Pages/Bluegreenalgae.aspx>

What are blue-green algae blooms?

- Blue-green algae (cyanobacteria) are microscopic bacteria that occur naturally in lakes and streams.
- Blooms are likely to occur more often in warmer months when conditions are optimal (warm temperatures, elevated nutrient levels, and lack of water flow).
- A blue-green algae bloom can be hard to distinguish from other types of algae. While it's often described as looking like pea soup or spilled green paint, it can take other forms as well (turquoise or green tint, thick or thin viscosity, may get blown into a "mat")

View photo gallery at:
<http://www.dec.ny.gov/chemical/81962.html>

What's the concern about blue-green algae blooms?

- While most blue-green algae blooms are not harmful, some blooms can produce toxins that pose risks to humans, pets, livestock and wildlife.
- It is not possible to determine the presence of toxins without testing. Thus all blooms should be considered potentially toxic.
- Exposure may occur through ingestion, dermal contact, or aspiration/inhalation. Ingestion of just a few mouthfuls of severely contaminated water may result in poisoning. After leaving the water, dogs can also be poisoned by grooming their fur and paws.

What are the symptoms of toxic blue-green algae exposure?

- Symptoms of poisoning depend on the cyanobacterium/toxin involved:
- Ingestion of *Microcystins* can result in liver damage/failure. Symptoms include: vomiting, diarrhea, blood in stool or black/tarry stool, weakness, pale mucous membranes, jaundice, seizures, and disorientation. Death often occurs within 12-24 hours of exposure.
- Ingestion of *Anatoxins* result in neurotoxicity. Symptoms include: excessive salivation, muscle tremors, muscle rigidity, seizures, paralysis, blue discoloration of skin and mucous membranes, and difficulty breathing. Symptom onset is rapid (30-60 minutes), and death from respiratory paralysis can quickly follow the onset of symptoms.
- Symptoms of skin contact include dermatitis (irritated, red skin or hives).

What is the treatment for toxic blue-green algae exposure?

- Treatment is limited and often unsuccessful due to the rapid onset of symptoms. Immediate, aggressive veterinary treatment may be helpful. Treatments may include anti-seizure medication, intravenous fluids and oxygen.

What should I do to protect my dog??

- Keep pets out of water with blue-green algae blooms. Wash your pet if they have been exposed.
- If your dog exhibits the above symptoms, seek immediate care.

Where have blooms occurred in California (as of 2013)?

- Blue-green algal blooms have been reported for a number of water bodies, including: Klamath River (Siskiyou County), Big Lagoon and Eel River, (Humboldt County), Clear Lake (Lake County), Lake Isabella (Kern County), Crowley Lake (Mono County), Lake Elsinore (Riverside County), San Francisco Bay Delta & Stockton Channel (San Joaquin County), Pinto Lake (Santa Cruz County), Sacramento River (Sacramento County), Russian River (Sonoma County).

Leptospirosis (Weil's Disease)

Information from: County of Los Angeles Public Health-Veterinary Public Health. This and further information can be found at: <http://www.publichealth.lacounty.gov/vet/Leptospirosis.htm>

What is Leptospirosis?

- Leptospirosis is a disease caused by the bacteria *Leptospira interrogans*.
- It can infect humans, dogs, livestock, and many other animals.

Infection occurs by direct or indirect contact with the urine of an infected animal through the eyes, nose, mouth, or broken skin. Exposure to water or mud contaminated with infected urine can spread the disease.

- Because infection can be transmitted through contact with urine, a person caring for a dog with *Leptospirosis* should wear gloves, especially when cleaning up urine.

What are symptoms of Leptospirosis?

- Symptoms in dogs include: fever, vomiting, abdominal pain, diarrhea, lack of appetite, lethargy, stiffness, muscle pain.
- Symptoms in humans include: high fever, headache, chills, muscle aches, vomiting, jaundice, red eyes, abdominal pain, diarrhea, rash.
- Left untreated, Leptospirosis can eventually lead to kidney damage, meningitis, liver failure, respiratory distress or death.

What is the treatment for Leptospirosis?

- Veterinarians can perform tests to confirm Leptospirosis. Antibiotic treatments are often highly successful, especially if diagnosed early.

What should I do to protect my dog?

- Consider vaccinating your dog for *Leptospirosis*
 - Local data suggest that a variety of *Leptospira* serotypes (strains) of bacteria may have caused illness in dogs.
 - The 4-way vaccines (protecting against 4 strains of the bacteria) are a better choice for protection than the 2-way vaccines.