

Cryptococcosis in Dogs

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Cryptococcosis is caused by a fungus, *Cryptococcus neoformans*, which is widespread in the environment and can infect dogs, cats, and people. While this fungus is widespread, it infects a relatively small number of animals. It is primarily a problem in animals that have a deficient or suppressed immune system. This fungus is well known in human medicine as the disease that infects up to 20% of AIDS patients. The organism is relatively easy to diagnose and treatment can be performed successfully if instituted early.

Where is it found?

Cryptococcus is widespread throughout all of North America. The fungus has been isolated from several different locations including soil, fruits, and even the skin of healthy people. While it can be found almost anywhere, the primary source of exposure to people and animals is in bird excreta. Even more specifically, it appears to be very closely associated with pigeon feces. The high body temperature of pigeons prevents them from becoming infected, but the fungus can pass through their GI tract and become concentrated in their feces. The high level of creatinine in pigeon feces also creates an environment that is desirable for *cryptococcus* and if the fungus is protected from drying or sunlight it may live for up to two years.

How do pets or people become infected?

Pets and people contract the *Cryptococcus* infection primarily by inhaling the fungal particles. After the particles are inhaled they can take up residence in the nasal cavities or lungs. Some studies have shown that in a population of healthy dogs, up to 14% of them had *Cryptococcus* present in their nasal cavities. In a similar study of healthy cats, up to 7% contained the organism in their nasal passages.

After *Cryptococcus* reaches the lungs or nasal cavity it can do one of several things. In most healthy animals the fungus remains isolated and never creates any symptoms of problems. In animals with a suppressed immune system, e.g., from excessive steroid use, the disease can progress and create granulomas, [pneumonia](#), or systemic disease and symptoms.

What symptoms are present?

Dogs that become infected with *cryptococcus* are usually young adult dogs of any breed. The Cocker Spaniel appears to have a slightly higher incidence of the disease than other breeds. Dogs have a different variety of symptoms than cats. In one study, 75% of infected dogs showed abnormal neurological signs, 64% had eye or vision problems, 42% had severe weight loss and loss of appetite, and 20% of the dogs had skin lesions. Fever, nasal discharge, and a cough were present in a small percentage of the dogs.

How is it diagnosed?

Diagnosis can be successfully achieved by several different methods. One of the fastest and easiest ways to get a diagnosis is to examine the discharge from the nose or skin lesions. *Cryptococcus* is usually present in high numbers in the discharge and can be identified under the microscope. A blood test is also available to identify the fungus. The latex agglutination test is the most widely used and accurate of the blood tests and can be performed by a veterinarian. Identification of the organism through cultures or biopsies can also be used.

How is it treated?

Dogs are usually treated with oral [itraconazole](#) or ketoconazole. As with cats, these treatments can be expensive and must be continued for several months or longer to be effective. Due to the cost, toxicity, and long use required with all oral antifungal agents, the pet owner needs to work closely with the veterinarian to determine which treatment option is going to be best for their pet.

Because of the high incidence of an underlying immunosuppressing disease with cryptococcal infections, a complete work-up of all infected animals should be performed. The underlying condition should be treated to ensure the success of treating the cryptococcal infection.

How can you prevent it?

There are currently no vaccinations available to prevent *cryptococcus*. *Cryptococcus* is primarily only contracted from the environment, so the best prevention is to keep pets away from areas that are contaminated with the fungus, especially areas with pigeon feces. Transmission from infected animals to other animals or people is extremely rare and not considered a risk.