

Lyme Disease Tests and Vaccine

- Lyme disease is transmitted to dogs (and humans) through the bite of an infected tick.
- Many veterinarians use a SNAP test to diagnose Lyme disease.
- The SNAP test requires only a small amount of blood and a few minutes to perform.
- Sometimes additional laboratory testing is recommended.
- Vaccination and careful tick control measures can help protect dogs from Lyme disease.

What Is Lyme Disease?

Lyme disease is an infection caused by the *Borrelia burgdorferi* bacterium. Lyme disease is transmitted through the bite of an infected tick and can affect many species, including dogs and humans.

Ticks of the *Ixodes* species (called *deer ticks*) are known to transmit Lyme disease when they attach to a host and feed. Because the tick must be attached for more than 24 hours to transmit Lyme disease, frequent inspection for ticks (and quick removal) can reduce the risk of disease transmission.

Lyme disease is more common in certain areas of the United States, including the Northeast, Mid-Atlantic, and upper Midwest.

Clinical Signs of Lyme Disease

Clinical signs may not appear for several months after a dog is infected with Lyme disease. In fact, many dogs fail to display any obvious clinical signs at all. When signs of infection are noted, they may include the following:

- Lethargy (tiredness)
- Fever
- Painful joints
- Loss of appetite

Clinical signs may seem to resolve on their own, only to reappear at a later time. Lyme disease has also been linked to long-term complications involving the joints, kidneys, heart, and nervous system.

Diagnosis

Lyme disease is usually diagnosed based on a medical history that includes the possibility of tick exposure, suspicious clinical signs, and results of diagnostic testing.

Several tests can identify the *Borrelia burgdorferi* organism in blood or tissues. In addition, a test (called a *quantitative C6 antibody test* or *QC6 antibody test*) can measure the level of antibodies to help your veterinarian determine whether treatment is recommended. However, many veterinarians test for Lyme disease using a test called a *SNAP test*.

Vaccination and careful tick control measures can help protect dogs from Lyme disease.

SNAP tests are a group of quick, convenient, blood tests that can be performed at your veterinarian's office. There are various SNAP tests for different purposes:

- **SNAP Heartworm RT Test**—screens for heartworm infection
- **SNAP 3Dx Test**—simultaneously screens for heartworm disease, Lyme disease, and ehrlichiosis (another tick-borne disease that can affect dogs)
- **SNAP 4Dx Test**—simultaneously screens for heartworm disease, Lyme disease, ehrlichiosis, and anaplasmosis (also a tick-borne disease that can cause illness in dogs)

SNAP testing is very accurate and is a good way to identify dogs that may be infected with one or more of these diseases. SNAP testing is also very convenient because it uses a very small amount of blood and takes only a few minutes to perform.

In some cases, your veterinarian may recommend additional testing to follow up a SNAP test result or

to look for other evidence of illness related to heartworm disease or one of the tick-borne infections. Testing may involve sending additional blood samples to a laboratory for further analysis or performing other diagnostic tests to obtain more information about your dog's condition.

Why Should Dogs Be Tested for Lyme Disease?

Tick-borne diseases such as Lyme disease, ehrlichiosis, and anaplasmosis pose a risk to dogs in many areas of the country. Because clinical signs are not always apparent, periodic testing is a good way to identify dogs that have been infected. Even dogs that receive year-round tick control products and don't spend a lot of time outside are at risk for exposure to tick-borne diseases. Testing helps identify dogs that need treatment for one of these infections or an adjustment in the type of tick control being used.

Your veterinarian can tell you about the risk of Lyme disease, ehrlichiosis, and anaplasmosis to dogs in your area. In some cases, your veterinarian may not recommend testing for all of the diseases. Even if you live in an area where tick-borne diseases are less common, be sure to ask your veterinarian what tick prevention measures can help protect your dog.

Treatment

Treatment of Lyme disease generally consists of administration of antibiotics and (if necessary) other medications to temporarily help control joint pain and other clinical signs. Some dogs show dramatic improvement after only a few days of receiving

antibiotics, but most veterinarians recommend a 28- to 30-day course of treatment. Relapses are not uncommon, so pet owners are advised to monitor their dogs carefully for signs of illness.

Prevention

Several vaccines are available to help prevent disease caused by *Borrelia burgdorferi*, the Lyme disease organism. An initial vaccination is followed by a booster vaccine 2 to 4 weeks later (in accordance with label recommendations) and annual boosters, as long as the risk for disease exposure remains.

The Lyme vaccine is not necessarily recommended for all dogs. Ask your veterinarian about the risk of Lyme disease where you live and whether the Lyme vaccine is recommended for your dog.

There are currently no vaccines to protect dogs from other tick-borne diseases, such as ehrlichiosis and anaplasmosis. Appropriate tick control methods combined with periodic testing may be the best ways to help protect dogs from these diseases. Being "tick savvy" can also help protect your dog from Lyme disease exposure:

- Check your dog (and yourself) frequently for ticks, and remove them promptly.
- Use a reliable method of tick control (several spot-on products kill and repel ticks).
- If possible, avoid tall grass or wooded areas where ticks are likely to hide.
- If you routinely take your dog camping or walking in wooded areas, ask your veterinarian about the best ways to control ticks.