

# Ehrlichiosis

- Ehrlichiosis is a bacterial infection transmitted by ticks.
- Clinical signs of ehrlichiosis may include fever, swollen lymph nodes, painful joints, and lethargy (tiredness).
- Ehrlichiosis can be fatal.

### What Is Ehrlichiosis?

Ehrlichiosis is a disease caused by bacteria of the *Ehrlichia* family. There are several species of *Ehrlichia* bacteria, and some of them can affect humans. Ehrlichiosis (whether it occurs in dogs or humans) is transmitted through the bite of a tick. The tick that most commonly spreads the disease is called the brown dog tick.

After the *Ehrlichia* organism enters the body through a tick bite, it affects the cells in the dog's bloodstream. White blood cells (needed to fight infection), red blood cells (needed for carrying oxygen throughout the body), and platelets (needed to help form blood clots) can all be affected.

### Signs of Ehrlichiosis

Ehrlichiosis has different phases of illness, which are called *acute*, *subclinical*, and *chronic*:

- In the **acute phase**, clinical signs occur about 1 to 3 weeks after an infected tick bites a dog. Clinical signs associated with this phase can include lethargy (tiredness), fever, appetite loss, and enlarged lymph nodes. In some cases, clinical signs can resolve without treatment. However, if the infection is not treated, it progresses to the subclinical phase.
- In the **subclinical phase**, the dog may appear completely normal because clinical signs are not observed. This phase may last many months or even years, but eventually the bacteria can reactivate and start to cause illness again.
- In the **chronic phase**, the dog may again show vague signs such as fever, lethargy, and appetite

loss. However, as the *Ehrlichia* organism affects the blood cells and bone marrow, clinical signs may include bleeding problems and anemia (an inadequate number of red blood cells). At this point, the bacteria may also affect the brain, causing seizures and incoordination.

Other clinical signs associated with ehrlichiosis can include joint pain and swelling as well as autoimmune disease, in which the dog produces antibodies (proteins that defend the body) that damage its own cells. If ehrlichiosis causes severe complications, death can result.

### Diagnosis of Ehrlichiosis

Clinical signs of ehrlichiosis can resemble those of other tick-associated diseases, such as Lyme disease and Rocky Mountain spotted fever. Additionally, dogs can be infected with ehrlichiosis and other tick diseases at the same time, so your veterinarian may recommend screening for other tick diseases during the diagnostic testing for ehrlichiosis.

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Your veterinarian may suspect ehrlichiosis based on a medical history that includes tick exposure and suspicious clinical signs. A CBC (complete blood cell count) may also show changes in white blood cells, red blood cells, or platelets that may increase suspicion. However, not all dogs develop these changes, so sometimes a CBC can have normal results even if a dog has ehrlichiosis.

Many veterinarians diagnose ehrlichiosis using a SNAP test. SNAP tests are a group of quick, convenient blood tests that can be performed at

## Common Conditions

your veterinarian's office. The available SNAP tests include the following:

- The **SNAP Heartworm RT Test** screens for heartworm infection.
- The **SNAP 3Dx Test** simultaneously screens for heartworm disease, Lyme disease, and ehrlichiosis.
- The **SNAP 4Dx Test** can diagnose four diseases at the same time: heartworm disease, Lyme disease, ehrlichiosis, and anaplasmosis (which is another disease that is transmitted to dogs through a tick bite).

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 gain more information about your dog's condition.

### Treatment of Ehrlichiosis

The main treatment for ehrlichiosis is antibiotic therapy. Doxycycline is commonly used and is an effective treatment for the disease. If ehrlichiosis has caused other complications, they may need to be treated separately, using different medications or therapies. Your veterinarian will evaluate your dog's condition and medical history and decide on the best course of treatment.

### Prevention of Ehrlichiosis

There is currently no vaccine against ehrlichiosis. Appropriate tick-control methods combined with periodic testing may be the best way to help protect dogs from this infection.

If possible, limit your dog's exposure to wooded areas or other places where ticks may hide; this can reduce the risk of infection. Frequently checking your dog for ticks and safely removing them is an important daily routine, particularly during tick season.