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# Ticks in Dogs

#### What are ticks?

Although ticks are commonly thought of as insects, they are actually arachnids similar to scorpions, spiders, and mites. All adult ticks have eight legs and have no antennae. Adult insects, by comparison, have six legs and one pair of antennae. Ticks are parasites that feed on the blood of their host, which can include pets and people.

Ticks are efficient carriers of disease because they attach firmly when sucking blood, feed slowly, and may go unnoticed for a considerable time while feeding. Ticks take several days to complete feeding.

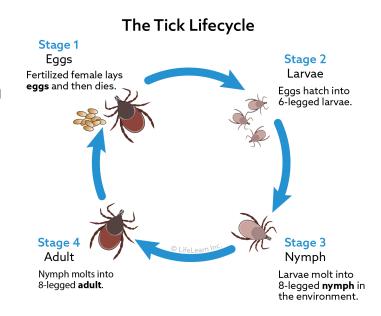
#### What are the different types of ticks?

There are two groups of ticks, sometimes called hard ticks and soft ticks. Hard ticks, like the common American dog tick, have a hard shield just behind the mouth parts (sometimes incorrectly called the head); unfed hard ticks are shaped like a flat seed. Soft ticks do not have the hard shield and they are shaped like a raisin. Soft ticks prefer to feed on birds or bats and are seldom found on dogs or cats.

# What is the tick's life cycle?

Ticks have four distinct life stages:

- 1. Egg
- 2. Six-legged larva
- 3. Eight-legged nymph
- 4. Adult



Females deposit from 3,000 to 6,000 eggs on the ground. Adult ticks seek host animals to feed on, and after engorgement on blood, they quickly mate. Male hard ticks usually die after mating with one or more females, although some may live for several months. Females die soon after laying their eggs in protected habitats on the ground. The life cycle requires from as little as 2 months to more than 2 years, depending on the species.

After the egg hatches, the tiny larva (sometimes called a seed tick) feeds on a host. The larva then develops (by shedding its skin, or "molting") into the larger nymph. The nymph feeds on a host and then molts into an even larger adult. Male and female adults feed and mate on the host; the female falls to the ground to lay her eggs, continuing the life cycle.

# How did my dog get ticks?

Ticks wait for host animals on the tips of grasses and shrubs. When a moving animal or person brushes the plant, the tick quickly lets go of the vegetation and climbs onto the host. This process is known as questing. Ticks can only crawl; they cannot jump or fly. Some species of ticks will crawl several feet toward a host. Some tick species can be active on winter days if the ground temperatures are above 32°F (0°C).

#### Are there certain ticks that I should be concerned about?

Although there are at least 15 species of ticks in North America, only a few of these species are likely to be encountered by your dog. They include American dog tick, lone star tick, deer or black-legged tick, and brown dog tick.

Other tick species may be encountered in various regions. Ask your veterinarian if you need additional information about a specific species.

#### American Dog Tick

The American dog tick feeds on a wide variety of hosts, including humans and dogs, but rarely infests homes. Adults are chestnut brown with white spots or streaks on their backs.

Engorged females become slate gray and may expand to a length of 1/2" (10–12 mm). Larvae and nymphs feed mostly on small rodents, while adults feed on dogs, cattle, other animals, and humans.

These ticks are widely distributed throughout the Midwest, the Pacific Northwest, and eastern United States, as well as eastern Alberta through to Nova Scotia, in Canada. They are attracted by the scent of animals, and humans most often encounter them near roads, paths, trails, and recreational areas. Although present all year round, American dog ticks are most numerous in the spring.

The female dog tick lays 4,000 to 6,500 eggs and then dies. The unfed larvae crawl in search of a host and can live up to 540 days without food. Nymphs can live without food for up to 584 days – over a year-and-a-half.

Adults crawl in search of dogs or large animals for a blood meal.

Adult American dog ticks can live for up to two years without food.



They can be found in a waiting position on grass or other low vegetation along roads, paths, and trails. As an animal passes by, the tick will crawl onto it and soon start feeding. The males remain on the host indefinitely, alternately feeding and mating. The females feed, mate, become engaged, and then drop off the animal to lay their eggs.

The American dog tick requires from three months to three years to complete a life cycle. It typically is dependent on climatic and environmental conditions for its eggs to hatch.

#### **Lone Star Tick**

Adult lone star ticks are various shades of brown or tan. Females have single silvery-white spots on their backs and males have scattered white spots. After feeding, females may be 1/2-inch (10-12 mm) long. Larvae and nymphs parasitize small wild animals, birds, and rodents, while adults feed on larger animals such as dogs and cattle. All three stages of the lone star tick will bite dogs and humans.

These ticks live in wooded and brushy areas and are most numerous near animal resting places and in the underbrush along creeks and river bottoms. Lone star ticks are present throughout the year, but peak populations may occur from March to July.



Regionally, they can be found in the Midwest, and eastern and southeastern United States. The range of the lone star tick may be expanding with the re-introduction and increased populations of white-tailed deer in many areas of the eastern US. It has also been reported in Ontario and Quebec in Canada.

# Deer Tick or Blacklegged Tick

All three active stages of the deer or blacklegged tick feed on a variety of hosts, including dogs and people. After the eggs hatch in the spring, the tiny larvae feed primarily on white-footed mice or other small mammals. The following spring, the larvae molt into pinhead-sized, brown nymphs that feed on mice, larger warm-blooded animals, and people.

In the fall, they molt into adults that feed primarily on deer, with the females laying up to 2,000 eggs the following spring. Adults are reddish-brown and have a dark brown or black shield-like shape between their mouth parts and body.

These ticks are usually found in wooded areas along trails. They are distributed throughout the Midwest and eastern

United States, as well as throughout Canada, with the highest proportion in Ontario. The larvae and nymphs are active in the spring and early summer; adults may be active in both the spring and fall.

The deer or blacklegged tick can transmit Lyme disease and possibly ehrlichiosis and anaplasmosis to dogs and people. The deer or blacklegged tick can also transmit Powassan virus to people.



# **Brown Dog Tick**

The brown dog tick (also known as the kennel tick) is found throughout most of the United States and Canada and can transmit Ehrlichia. This tick feeds on dogs, but rarely bites people. Unlike the other species of ticks, its life cycle allows it to survive and develop indoors, which means it can establish itself in colder climates. The brown dog tick is found primarily in kennels or homes with dogs, where it may be found hiding in cracks, behind radiators, under rugs and furniture, and on draperies and walls.

The adult is reddish-brown and usually attaches around the ears or between the toes of a dog to feed. After feeding, a female may engorge to 1/2" (10–12 mm) long. She then drops off the dog and crawls into a hiding place where she may lay as many as 5,000 eggs. This tick is tropical in origin and does not survive long, cold winters outdoors.



#### **Longhorned Tick**

The longhorned tick was first detected in 2017 in New Jersey, and as of 2023, these ticks have been found in Arkansas, Connecticut, Delaware, Georgia, Indiana, Kentucky, Maryland, Massachusetts, Missouri, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Rhode Island, South Carolina, Tennessee, Virginia, and West Virginia.

These ticks have been found on cats, dogs, livestock, and people. While it is not clear if these ticks carry bacteria and viruses that could cause disease in North America, in other countries, longhorned ticks transmit severe fever and thrombocytopenia syndrome virus (SFTSV) to people.

These ticks are unique in that the female tick reproduces and lays eggs without mating.



# What can I do to prevent my dog from getting ticks?

There are many tick preventatives available commercially. Some products are available over-the-counter, while others are only available through your veterinarian. There are effective preventatives that are typically applied monthly, to the skin at the back of the neck, to continuously control these external parasites. Other products are applied every three months for similar control. There are also chewable products that offer similar protection.

No effective tick preventative is completely without potential side effects, but the risk of getting a severe disease from tick exposure generally outweighs the risk of a side effect occurring. Your veterinarian will discuss the risks and benefits specific to your dog and will give you recommendations specific to your dog to keep them parasite free.

# What should I do if I find a tick on me or my dog?

Avoid touching the tick's body. Pressure on the tick's body can cause infectious agents in the tick to enter your pet.

Avoid home remedies, such as applying petroleum jelly or grease or touching the rear of the tick with a hot match. These methods do not work effectively and are not recommended, as they can cause the tick to salivate, increasing the chance of the pet getting a disease.

Wear gloves. You can contract infectious agents through mucous membranes or breaks in the skin simply by handling infected ticks. Ticks that infest dogs and other domestic animals can carry multiple diseases capable of infecting humans.

**Use a tool** such as fine-tipped tweezers, a tick twister, tick key, or a fine-tooth comb to grasp the tick as close to the skin surface as possible.

Pull the tick straight out with steady, even pressure. Continue applying steady pressure even if the tick does not release immediately. It may take a minute or two of constant, slow pulling to cause the tick to release. Avoid twisting or jerking



the tick as this may cause the mouth parts to break off and remain in the skin, increasing the chances of infection.

After removing the tick, thoroughly disinfect the bite area and your hands with soap and water. If you want to preserve the tick for identification, place it in a labeled and sealed container filled with rubbing alcohol. Your veterinarian can let you know if the tick needs to be tested further after identification.

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