



# TOWNSHIP OF MORRIS

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## Information About Ticks and Tick-Borne Diseases

### General Information

It's that time of year again. Time for swimming, hiking, biking and TICKS!!!! Ticks can be a real nuisance and can carry several different tickborne diseases, but with a little bit of information and some tips on prevention, you can reduce your risk of getting any of the tick-borne diseases. Three ticks, called vectors, are responsible for most of the tick-borne disease transmission in New Jersey: black-legged tick (deer tick), lone star tick, and the American dog tick. Ticks pass through four stages of development: egg, larva, nymph and adult. In the larval, nymphal, and adult stages, these ticks must locate and obtain a blood meal from a host animal to complete its life cycle. The host animal differs by disease but includes the white-footed mouse, meadow vole, birds and white-tailed deer. Humans are considered incidental hosts.

### Tick Activity/Habitat

The peak activity of the adult deer tick is between mid-October and early December, becoming inactive when the temperature falls, and resuming activity from mid-March through April. The peak activity of nymphal deer ticks is late May to early June, but these ticks can be observed from April through July. Larval deer ticks are most abundant in late July and August. Lone star ticks have a similar peak activity but do not have an activity period in the fall. Adult lone star ticks are abundant during April and May. Nymphal lone star ticks are active in May and July, and larvae are most abundant in August and September. American dog tick adults appear in May and again in September, while larvae and nymphs are most prevalent in May-June and July-August, respectively.

Unfavorable habitats for deer ticks include open sunny areas such as lawns, athletic fields and other recreational areas, croplands and wetlands. In wooded residential areas, deer ticks can be found in wooded areas and along woodland edges. However, landscaped areas with dense ground cover plants also provide a suitable habitat for deer ticks. Dense shrub layer, leaf litter, and other plant debris play an important role in the survival of larvae and nymphs by maintaining conditions of high humidity. Lawns immediately adjacent to

woodland edge may support low numbers of ticks. Lone star ticks are most commonly found in forested areas, while American dog ticks are associated with field habitats. All three species can be encountered in the woodland edge.

### Transmission

Ticks require an extended period of time to insert their mouthparts and begin feeding. Generally, black-legged ticks must be attached for 24-36 hours before transmission of the Lyme disease-causing spirochete occurs. In New Jersey, 40-45% of adult black-legged ticks are infected with Lyme disease spirochetes, while nymphs are infected at about one-half that rate. Larvae are rarely infected. The lone star tick and the American dog tick also require an extended period of attachment for transmission to occur, but research on this and infection rates are not well defined.

### Tick-borne Diseases

**Lyme disease** is a multi-systemic, inflammatory bacterial disease. Within 1 to 2 weeks after being infected, a "bull's-eye" rash can develop at the tick bite site accompanied by fever, headache, and muscle or joint pain. Some people may have Lyme disease and not have any early symptoms. However, others can have a fever and other "flu-like" symptoms without a rash.

**Rocky Mountain Spotted Fever** is a rickettsial disease with sudden onset of fever, which may persist for 2-3 weeks in untreated patients, malaise, muscle pain, severe headache, chills and conjunctivitis. A spotted rash may appear on the palms and soles in about 50% of infected patients. The incubation period is 3-14 days.

**Human Granulocytic Ehrlichiosis** is a rickettsial disease characterized by fever, chills, malaise, headache, muscle aches/pain, nausea, vomiting and cough. The incubation period is 1-3 weeks.

**Human Monocytic Ehrlichiosis** is a rickettsial disease characterized by fever, headache, muscle aches/pain, anorexia, diarrhea, abdominal pain and confusion. The incubation period is 1-3 weeks.

**Babesiosis** is a protozoan disease characterized by fever, chills, headache, muscle pain, fatigue and anemia, which can persist for several days to months. The incubation period is variable ranging from 1 week to 1 year. Tick-borne diseases are treated using antibiotics. Babesiosis also requires treatment with an antiparasitic agent.

### Prevention

You can reduce your risk by taking the following precautions to avoid tick bites, or to safely remove a tick if you are bitten:

- Avoid wooded areas, with dense shrubs and leaf litter, where ticks like to

hide.

- Make your yard less attractive to ticks: mow lawns and prune trees.
- Wear light colored clothing to make ticks easier to see. Tuck pant legs into socks and shirt into pants. Ticks will be forced to crawl on the outside of clothing, where they can be more easily seen and removed.
- Personal insect repellents containing DEET can be used on skin or clothing. Repellents containing permethrin should be used on clothing only. Read and follow label directions carefully.
- Examine yourself frequently for ticks while in tick-infested areas. Perform a full-body exam on yourself, children, and pets after leaving possible tick habitats.
- Remove attached ticks promptly.

### **If bitten by a tick:**

1. Use fine-point tweezers to grasp the tick's mouthparts close to the skin.
2. Apply steady outward pressure.
3. Do not use petroleum jelly, noxious chemicals, or hot objects to remove ticks. Improper removal can increase the chances of infection.
4. In most circumstances, treating persons who only have a tick bite is not recommended. Occasionally, people who are bitten by a tick may be given a single dose of doxycycline as a preventive measure if they live in a high endemic area for Lyme disease.
5. Individuals who are bitten by a tick should remove the tick promptly and may wish to consult their health care provider. Persons should promptly seek medical attention if they develop any signs and symptoms of any tick-borne disease.
6. Ticks that have been removed from a person can be tested by a laboratory to determine if the tick has been infected with any of the tick-borne diseases. However, this method can provide false information since not all bites result in a blood meal and therefore transmission of the tick-borne disease agent.
7. Only those bites which result in lengthy attachments and engorgements should be considered for testing. Several methods can be employed to reduce the amount of ticks on your property.

For Additional Information

- [Assessment and Management of Vector Tick Populations in NJ](#)
- [NJ Dept of Health and Senior Services](#)

- [Centers for Disease Control \(CDC\)](#)
- [Governor's Lyme Disease Advisory Council](#)