SUMMIT COUNTY PUBLIC HEALTH
1867 WEST MARKET STREET · AKRON, OHIO 44313-6913
PH: 330-926-5600 FX: 330-923-6436 WWW.SCPHOH.ORG

TICKS IN OHIO

Lone Star Tick female
(Amblyomma americanum)

- Becoming a major nuisance tick in Ohio
- Primary vector of Human Monocytic Ehrlichiosis
- Animal hosts include small birds and rodents

Blacklegged Tick (Ixodes scapularis)

- Primary vector of Lyme Disease in Eastern US
- The first sign of a Lyme infection is usually a circular rash called "erythema migrans"
- The female is larger than the male
- A major vector of Human Granulocytic Ehrilichiosis
- Formerly called the **Deer Tick**

American Dog Tick
(Dermacentor variabilis)

- Primary vector of Rocky Mountain Spotted Fever
- Most common tick encountered in Ohio
- Feeds on a wide variety of medium to large size mammals
- As larvae and nymphs feeds on small mammals (mice and shrews) and birds

Brown Dog Tick
(Rhipicephalus sanguineus)

Left to Right: female, male

- Feeds almost exclusively on dogs
- Found in homes and kennels
- Relatively rare
- Usually found on dogs that have been recently kenneled.

Of the 12 species of ticks known to occur in Ohio, the most frequently encountered is the **American Dog Tick**, (Dermacentor variabilis). The adult American dog tick feeds on a wide variety of medium to large size mammals, such as raccoons, ground hogs, opossum, dogs, and humans. As larvae and nymphs, ticks feed on small mammals (mice and shrews) and birds. The second most commonly encountered tick in Ohio is Ixodes cookei, sometimes called the ground hog tick. This species can be found on a variety of medium to large mammals (ground hogs, raccoons, dogs, cats, mink, fox, and humans). It is probably a nest parasite or at least found near animal burrows. It is believed that pets carry these ticks from the field to where humans can pick them up.

The American Dog Tick is a three-host tick, each development stage feeds on a different host. A tiny larva has six legs. It feeds on rodents such as the meadow vole and white-footed mouse for 3 to 6 days, and then drops from the host. After about a week, it casts off its skin to become an eight-legged nymph. The nymph feeds for a similar length of time on another small mammal, and then drops to the ground, where, after 2 to 3 weeks, it becomes an eight-legged adult. Adults prefer larger mammals, including dogs and humans. The male (see figure) mates with the feeding female after his brief blood meal and does not become distended with blood. The female feeds for 7 to 10 days, drops to the ground, and after several days lays thousands of eggs. The female usually dies shortly after the eggs begin to hatch. Adults are most abundant from mid-April to mid-July. American dog ticks prefer overgrown vacant lots, waste farm fields, weedy roadsides, and edges of paths and hiking trails.

They wait on grass and weeds for a suitable host to brush against the vegetation. Once on the host, they crawl upward, seeking a place to attach and take a blood meal.

Tick Avoidance

- Stay out of weedy, tick-infested areas.
- Make frequent personal inspections.
- Examine children at least twice daily. Pay special attention to the head and neck.
- Check clothing for crawling ticks.
- Keep dogs tied or penned in a mowed area as they may bring ticks into the home or yard. Check them daily. If ticks are found, follow tick removal instructions.
- If exposure to a tick-infested area is unavoidable, tuck pant cuffs into socks or boots. Wearing light-colored clothing makes it easier to find crawling ticks.

Tick Removal

If a tick should become attached to you or your pet, remove it as soon as possible. Prompt removal reduces the chance of infection by Rocky Mountain spotted fever (RMSF) and Lyme Disease (LD).

- Using tweezers or wear rubber gloves, grasp the tick close to the skin, and with steady pressure, pull it straight out.
- Do not twist or jerk the tick, as mouthparts may be left in the skin. Take care not to crush or puncture the tick during removal.
- Use of a hot match or cigarette to remove a tick is NOT recommended as this may cause the tick to burst. Spotted fever may be acquired from infected tick body fluids that come in contact with broken skin, the mouth, or eyes.
- Avoid touching ticks with bare hands. Tick secretions can be infectious. Spotted fever can be acquired through self-inoculation into a small scratch or cut.
- After removing a tick, thoroughly disinfect the bite site and wash hands with soap and water.
- Ticks can be identified by contacting Summit County Public Health (SCPH) at (330) 926-5600 or fax (330) 923-6436. Ticks can be safely disposed of by sticking them to tape and putting them in the trash.

Spotted Fever (or tick typhus, Rocky Mountain Spotted fever)

Adult American Dog ticks are the primary transmitter of spotted fever in Ohio. Symptoms appear 3 to 12 days after tick contact. There is a sudden onset of symptoms that include fever, headache, and aching muscles. A rash usually develops on the wrists and ankles on the second or third day of fever. The rash then spreads to involve the rest of the body, including the palms and soles. If you experience fever following tick contact, see your physician.

It is important to receive the appropriate antibiotics as soon as possible if spotted fever is suspected. Most fatalities can be attributed to a delay in seeking medical attention.

Lyme Disease

The most prevalent tick-borne disease of humans in the U.S. is Lyme disease (about 10,000 cases annually), named after Lyme, Connecticut where cases were first reported in 1975. The nymphal stage of the **Black-legged tick** is usually responsible for transmission of this bacterial disease to humans in the U.S. The nymph (in unfed condition) is about the size of a flat-pinhead and pale brown in color. Be alert for a red, ring-like lesion developing at the site of a tick bite within 2 to 32 days.

Fever or headache may also be present. Immediate antibiotic therapy reduces the risk of subsequent arthritic, neurologic, or cardiac complications developing days to years later.

Endemic areas in the United States include the east coast from Massachusetts to Virginia, Pennsylvania, Wisconsin, Minnesota, the Upper Peninsula of Michigan, northern California, Oregon, and southern Washington.

There is evidence that the tick that carries Lyme disease is becoming endemic in Ohio. The spirochete-type bacterium, Borrelia burgdorferi, has never been isolated or identified from any Ohio (resident) animals or ticks, despite the fact that hundreds of Ixodes ticks have been tested and more than one hundred susceptible rodents have been tested.

The distribution of Lyme Disease in the United States is strongly linked to the distribution of the principal tick vectors. The principal vector for the Northeastern and Midwestern United States is the Black-legged tick, Ixodes scapularis.

The Deer tick, (Ixodes dammini), was described as a new species and as the vector of Lyme disease, but recent reports have stated that both ticks are actually one in the same, and therefore should be called the "Black-legged tick."

Tick Control

Two methods are recommended for tick control or management. First, weeds or grass should be mowed along with brush removal. This reduced cover raises the ground temperature and lowers the humidity so the ticks dry out and die. In addition, it eliminates suitable habitat for the immature (larval and nymphal) tick hosts, which includes small rodents such as the white-footed mouse and the meadow vole. Second, limit access of dogs and children to "tick" habitats. Dog control is important to reduce tick infestations. Dogs should be de-ticked daily by an adult. If chemical control is necessary, apply one of these materials outdoors according to label directions and safety precautions: chlorpyrifos (Dursban), diazinon, bendiocarb (Ficam D or G) or carbaryl (Sevin). Only the licensed, trained pesticide operator or applicator can apply restricted use materials such as fluvalinate (Mavrik, Yardex), bendiocarb (Ficam W), dioxathion (Deltic), propetamphos (Safrotin), cyfluthrin (Optem, Tempo), cypermethrin (Cynoff), deltamethrin (Suspend) or tralomethrin (Saga).

Materials labeled for brown dog ticks indoors include residual crack and crevice injection treatment with Baygon, Diazinon, or activated pyrethrum in Silica Aerogel. Fogs include pyrethrum. On dogs, use pyrethrins, rotenone or d-Limonene. On cats, use rotenone or d-Limonene. Many veterinarians also maintain dipping vats for treating tick-infested dogs.

Repellents containing deet (Cutters, Detamide, Diethyl-toluamide, Off) or permethrin (Permanone) applied to the socks and pant legs are useful. Some use citronella oil (Avon Skin So Soft).