

# Lyme Disease, Ehrlichiosis & Babesiosis

## Prevention and Control



### Outdoor Hazards and Preventive Measures

Lyme disease, a tick borne bacterial infection, is prevalent in Columbia County, New York, where Vovcha Tropa is located. However, there are other tick borne infections that may be transmitted by ticks in addition to Lyme disease, which include **EHRlichiosis and BABESIOSIS**. It is possible for a child to contract more than one tick borne infection after being bitten by a tick. Lyme disease is the leading cause of tick-borne infectious illness in the U.S. with about 16,000 cases reported annually. In the United States, Lyme disease is mostly localized to states in the northeastern, mid-Atlantic, and upper north-central regions and to several counties in northwestern California.

### Signs and Symptoms

- Within days to weeks following an infected tick's bite, 80 percent of patients will have a red, slowly expanding "bull's-eye" rash (called erythema migrans), accompanied by general tiredness, fever, headache, stiff neck, muscle aches, and joint pain.
- If untreated, some patients may develop arthritis, including intermittent episodes of swelling and pain in the large joints; neurologic abnormalities, such as aseptic meningitis, facial palsy, motor and sensory nerve inflammation, and inflammation of the brain; and rarely, cardiac problems.

### Tick Prevention Tips

A hike brings the chance of exposure to deer ticks which carry Lyme disease. Deer ticks hide in shady, moist ground litter and also cling to tall grass, brush, shrubs, and low tree branches. People and animals acquire ticks only by direct contact. When hiking, follow these precautions to prevent exposure:

- Wear light-colored clothing so you can more easily see ticks.
- Wear long sleeves buttoned at the wrist and long pants tucked into socks. Take a hat to protect your head.
- Walk in the center of trails to avoid brushing up against dense vegetation where ticks hide. Avoid sitting directly on the ground, use a blanket or towel.
- Do a tick check every few hours or more often if in heavily infested areas. Visually check clothing and exposed skin. At the end of the day, do a final, full-body tick check.
- Use an insect repellent containing DEET. Lightly spray clothing, especially children's, and avoid direct contact with skin.
- Remove ticks as soon as you detect them. Do not touch them directly, use a tweezers or tissue and do not crush the insect until it is separated from the skin and placed in a disposable container.

### Ehrlichiosis

Ehrlichiosis is a bacterial infection transmitted by infected Lone Star ticks, deer ticks, and wood ticks. Symptoms include fever, headache, malaise, muscle aches, nausea, vomiting, and decreased appetite that usually begin within 4 weeks of being bitten by an infected tick. Ehrlichiosis is diagnosed by a specific blood test that measures the quantity of antibodies against the *Ehrlichia* bacteria in the blood. Typical treatment for ehrlichiosis is the antibiotic doxycycline for 10-14 days.

### Babesiosis

Babesiosis is a protozoal infection of the body's red blood cells that is transmitted by the black-legged deer tick carried by mice in the United States. Initial presentation of babesiosis is subtle but broad, and may include fatigue, decreased appetite, sustained or intermittent fevers, shaking chills, muscle aches, and headache. Some may develop an enlarged liver or spleen, or a fine red rash. Symptoms usually become apparent within 1 to 3 weeks after exposure to an infected tick, but may take up to 9 weeks. Those without a spleen are at increased risk for babesiosis, as the spleen is needed to destroy infected red blood cells. It may be difficult to detect babesiosis, as only a small amount of protozoa is required to cause symptoms. A laboratory can examine the blood under a microscope to look for evidence of protozoa in the cells. Other lab tests may also assist in diagnosis. Although babesiosis is often self-limiting and does not require treatment, some persistent cases may require intravenous (IV) antibiotics.

If your child has had a tick removed at Vovcha Tropa, you will be notified by a letter at the end of camp. If your child exhibits the symptoms listed above and has had a tick removed, consider asking your child's physician to test your child for ehrlichiosis and babesiosis in addition to Lyme disease.