



DEPARTMENT OF HEALTH

BABESIOSIS: Fact Sheet

What is babesiosis?

Babesiosis is a malaria-like infection caused by a protozoan (one-celled parasite) called *Babesia microti*. This parasite invades and lives within red blood cells. Babesia is enzootic in southern New England (ie. it occurs everywhere), especially in areas with moderate to high rates of Lyme disease, such as Connecticut.

How do people get babesiosis?

Babesiosis is spread to people by the bite of an infected tick. In Connecticut, the tick that spreads babesiosis is the “deer tick”, *Ixodes scapularis*, the same tick that spreads Lyme disease. Not all deer ticks are infected. According to literature sources, the parasite may require 54 hours to enter the human body from an attached infected tick. However, some sources discuss shorter transmission times. People with babesiosis do not pose a risk to others; however, babesiosis can be spread if infected blood is used for a transfusion or congenitally (from mother to baby, during pregnancy or delivery).

Who is at risk of contracting babesiosis?

Although everyone is susceptible to the disease, people who spend time outdoors in tick-infested areas are at an increased risk of exposure. The disease is more severe in the elderly, in people who have weakened immune systems and especially in those who have had their spleens removed.

What are the signs and symptoms of babesiosis?

Infection caused by *Babesia microti* is often accompanied by no symptoms or only mild flu-like symptoms in healthy children and younger adults. Illness associated with this disease can be severe or fatal in the elderly, immunocompromised, and those with no spleen. Patients who become sick may experience fever, drenching sweats, muscle or joint pain and malaise. A breakdown of the red blood cells, called hemolytic anemia, may also occur. Less frequent symptoms may include nausea, vomiting, headache, shaking chills and skin rash. In some cases of illness, patients may develop jaundice accompanied by dark urine.

Serving the Greenwich Community Since 1887



Can complications occur?

In more serious cases, complications may include congestive heart failure, renal failure and acute respiratory distress syndrome.

How soon do symptoms appear?

The majority of symptoms start within 1-4 weeks after the bite of an infected tick. In the case of a blood transfusion, onset of illness is 6 to 9 weeks after the procedure.

How long can an infected person carry babesiosis?

The number of parasites in the blood is not an indicator of the severity of the disease. People can have parasites in their blood for weeks to months, but the infection can be eliminated with prescription treatment.

How is babesiosis diagnosed?

Babesiosis can be diagnosed by blood tests. Usually, to get confirmed results, blood needs to be drawn twice, once when you first get sick and again 4-6 weeks later.

What is the treatment for babesiosis?

While not everyone who becomes sick with babesiosis requires treatment, there are effective therapies available for those who do. The combination of quinine and clindamycin or a combination of atovaquone and azithromycin has been used effectively. It is possible to become infected with babesiosis and Lyme disease at the same time, so be sure to seek medical attention if you become ill within several weeks after a tick bite. In immunocompromised individuals, treatment can be difficult. In 2013, for the 1,134 patients diagnosed with babesiosis nationwide for whom information was available, 44% were reported to have been hospitalized for at least 1 day. The median hospital stay was 4 days. In spite of its ability to cause serious and even life-threatening disease, babesiosis is only occasionally fatal.

Is there a vaccine for babesiosis?

No vaccine exists for babesiosis.

When was babesiosis first identified?

In 1957, the first human case of babesiosis was identified in Yugoslavia. The first human case of babesiosis in Connecticut was reported from Stonington in 1988. In 1991, babesiosis was made a reportable disease in Connecticut and a nationally notifiable condition in 2011.

Where is babesiosis found?

Most cases of babesiosis in the United States occur in the Northeast and Upper Midwest, particularly in parts of New England, including Connecticut, New York State, and New Jersey, Wisconsin and Minnesota. The most endemic areas, however, are Nantucket, eastern and south central Long Island,

Shelter Island and Fire Island in New York. The first Greenwich case was identified in 1993. In 2014, 173 cases of babesiosis were reported in Connecticut; of these, 24 were among residents of Fairfield County.

How can babesiosis be prevented?

The best protection against babesiosis and other tick-borne infections is to avoid potential contact with ticks. When spending time outdoors in areas that ticks inhabit (tall grass and weeds, scrubby areas, woods and leaf litter) you should:

- Avoid tick-infested areas during peak transmission months of May through September.
- Wear light-colored clothing so ticks can be spotted easily. Early removal of ticks is important because the tick must remain attached for at least 24 hours before the transmission of *B. microti* occurs.
- Walk in the center of trails to avoid contact with overgrown grass and brush at trail edges.
- Known immunocompromised, especially persons who have had their spleens removed, should avoid tick-infested areas.
- Check clothing and skin very carefully (especially thighs, groin, arms, underarms, legs and scalp) after being outdoors in tick-infested areas and remove any ticks promptly.
- Examine pets for ticks daily and remove them promptly. Ticks may be carried in the home.
- Use tick repellants according to manufacturers' directions on clothes, especially on the lower parts of trousers.
- Wear long-sleeved garments and tuck in pants for added protection.
- Persons from known endemic areas may be screened for asymptomatic infections before being accepted as blood donors.
- Adults should spray insect repellants containing up to 40% concentration of DEET on clothes and on exposed skin (not face). Caution should be exercised when applying insect repellant to children. **Never Use Insect Repellants On Infants**. Always follow the manufacturer's instructions when applying repellants and wash treated skin when exposure is ended.
- When you bring a baby outdoors, never lay the baby down on the grass.
- Remove leaf litter, clear tall grasses and eliminate brush around your home in an effort to reduce the habitats of small rodents that may carry ticks.
- If acaricides (chemicals that kill ticks) are used on your property, always use a license professional pest control expert.

- Plant non-deer attracting shrubs and plants on your property to discourage tick-infested deer from coming near your home.

How should a tick be removed?

- It is important that a tick be removed as soon as it is discovered to reduce the likelihood of infection.
- Check after every 2 to 3 hours of outdoor activity for ticks attached to clothing or skin.
- Do not use petroleum jelly, hot matches, nail polish remover, or any other substance to remove a tick. By using these substances, you may actually increase your chance of infection.
- Remove the tick using fine-point tweezers. Grasp the tick mouthparts as close to the skin as possible and pull the tick out with steady pressure. Do not yank the tick out. Do not crush the tick's body as it may contain infectious fluids.
- Instruct children to seek adult assistance for tick removal.

What steps should be taken after removing the tick?

- Write on the calendar the date the tick was removed and the body part it was removed from.
- Place the tick in a small ziplock plastic bag, even if it is dead. Call the Greenwich Department of Health Laboratory at 203-622-7843 for instructions regarding tick analysis for tick-borne diseases.
- Contact your physician for recommendations on testing and treatment.

Resources for additional information

- The Greenwich Health Department: 203-622-7843, <http://www.greenwichct.org>
- The Connecticut State Department of Public Health, Epidemiology and Emerging Infections Program (EEI): 860-509-7994, <http://ct.gov/dph>
- The Connecticut Agricultural Experiment Station website at <http://www.ct.gov/caes>
- The Centers for Disease Control (CDC) website at <http://www.cdc.gov/parasites/babesiosis>