

New York State Department of Health

Babesiosis

Updated: September 2008

What is babesiosis?

Babesiosis is a rare, severe and sometimes fatal tick-borne disease caused by various types of *Babesia*, a microscopic parasite that infects red blood cells. In New York state, the causative parasite is *Babesia microti*.

Who gets babesiosis?

Babesiosis is seen most frequently in the elderly or in immunocompromised individuals. Cases of this disease have been primarily reported during spring, summer and fall in coastal areas in the northeastern United States, especially Nantucket Island off the coast of Massachusetts and on Long Island in New York. Cases have also been reported in Wisconsin, California, Georgia, Missouri and some European countries. Babesiosis can be more severe in people who have had their spleen removed.

How is babesiosis transmitted?

Babesiosis is transmitted by the bite of an infected deer tick, *Ixodes scapularis*. Transmission can also occur via transfusion of contaminated blood.

What are the symptoms of babesiosis?

The disease can cause fever, fatigue and hemolytic anemia lasting from several days to several months. Infections can occur without producing symptoms.

When do symptoms appear?

It may take from one to eight weeks, sometimes longer, for symptoms to appear.

Does past infection with babesiosis make a person immune?

It is not known whether past infection with babesiosis can make a person immune.

What is the treatment for babesiosis?

While many people do not become sick enough with babesiosis to require treatment, there are effective therapies, usually either a combination of quinine and clindamycin or a combination of atovaquone and azithromycin. 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 after a tick bite.

What can be done to prevent babesiosis?

When in tick-infested habitat - wooded and grassy areas - take special precautions to prevent tick bites, such as wearing light-colored clothing (for easy tick discovery) and tucking pants into socks and shirt into pants. Check after every two to three hours of outdoor activity for ticks on clothing or skin. Brush off any ticks on clothing before skin attachment occurs. A thorough check of body surfaces for attached ticks should be done at the end of the day. If removal of attached ticks occurs within 36 hours, the risk of tick-borne infection is minimal.

Repellents can be effective at reducing bites from ticks that can transmit disease. But their use is not without risk of health effects, especially if repellents are applied in large amounts or improperly. Repellents commonly available to consumers contain the active ingredients DEET (N, N-diethyl-m-toluamide), picaridin (also known as KBR 3023), oil of lemon eucalyptus, permethrin, or botanical oils. DEET products have been widely used for

many years, but have occasionally been associated with health effects. Skin reactions (particularly at DEET concentrations of 50 percent and above) and eye irritation are the most frequently reported health problems. Picaridin and oil of lemon eucalyptus have been shown to offer long-lasting protection against mosquitoes but there are limited data regarding their ability to repel ticks. Products containing permethrin are for use on clothing only, not on skin. Rather than acting as a repellent, permethrin kills ticks and insects that come in contact with treated clothes. Permethrin can cause eye irritation. Insect repellents containing botanical oils, such as oil of geranium, cedar, lemongrass, soy or citronella are also available, but there is limited information on their effectiveness and toxicity. If you decide to use a repellent, use only what and how much you need for your situation. In addition:

- Be sure to follow label directions.
- Use repellents only in small amounts, avoiding unnecessary repeat application. Try to reduce the use of repellents by dressing in long sleeves and pants tucked into socks or boots.
- Children may be at greater risk for reactions to repellents, in part, because their exposure may be greater. Do not apply repellents directly to children. Apply to your own hands and then put it on the child.
- Do not apply near eyes, nose or mouth and use sparingly around ears. Do not apply to the hands of small children.
- After returning indoors, wash treated skin with soap and water.

How should a tick be removed?

Grasp the mouthparts with tweezers as close as possible to the attachment (skin) site. Be careful not to squeeze, crush or puncture the body of the tick, which may contain infectious fluids. After removing the tick, thoroughly disinfect the bite site and wash hands. See or call a doctor if there are concerns about incomplete tick removal. Do not attempt to remove ticks by using petroleum jelly, lit cigarettes or other home remedies because these may actually increase the chance of contracting a tick-borne disease.

How do I obtain information on a tick?

Tick identification services are available through the New York State Department of Health and some local health departments. The New York State Department of Health [Tick Identification Service](#) will tell you the species of the tick, whether it is engorged with blood and, if so, how long it may have been feeding. The Tick Identification Service will also report whether the mouthparts are present (if not, they may have remained in the skin and need to be removed, as you would a splinter). The Tick Identification Service will not tell you whether the tick is infected with disease-causing organisms. There is no charge for this service.

If you wish to have a tick identified, place it in a small jar containing rubbing alcohol, seal the container to prevent leakage and complete the [Tick Identification Submittal Form](#) . Mail the tick in the sealed container, along with the completed submittal form, to the New York State Health Department's Tick Identification Service, c/o HVCC Central Receiving, 80 Vandenberg Avenue, Troy, NY 12180. Once you send a tick to be identified it will not be returned.

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