

Frequently Asked Questions

What is *Borrelia miyamotoi*?

Borrelia miyamotoi is a type of bacteria that is closely related to the bacteria that cause tick-borne relapsing fever. It is more distantly related to the bacteria that cause Lyme disease.

How is *B. miyamotoi* spread?

B. miyamotoi is spread by the bite of an infected black-legged or "deer" tick (*Ixodes scapularis*). Deer ticks can also carry the germs that cause Lyme disease, babesiosis, anaplasmosis and Powassan virus. Deer ticks can spread more than one type of germ in a single bite.

When can I get *B. miyamotoi*?

Young ticks (nymphs) are most active during the warm weather months between May and July. Adult ticks are most active during the fall and spring but will also be out searching for a host any time that winter temperatures are above freezing.

What are the symptoms of *B. miyamotoi* infection?

Symptoms associated with *B. miyamotoi* include:

- Fever
- Chills
- Fatigue
- Headache
- Joint pain (arthralgia)
- Muscle pain (myalgia)

Other symptoms reported are:

- Nausea
- Dizziness
- Confusion
- Light sensitivity (photophobia)
- Vertigo
- Rash
- Shortness of breath (dyspnea)
- Abdominal pain
- Diarrhea
- Lack of appetite

How soon after a tick bite do symptoms occur?

The incubation period for *B. miyamotoi* can range from days to weeks. Specific ranges are unknown.

Is *B. miyamotoi* common?

It is not yet known how common this disease is in New Jersey. Results from a recent study suggest this is an infrequent cause of illness occurring during the late spring and summer (peak tick season).

Where do cases of *B. miyamotoi* occur?

B. miyamotoi cases have been reported in the Upper Midwest, Northeastern, and mid-Atlantic states of the United States.

What type of testing is available for patients who might be infected?

Diagnosis relies on signs and symptoms coupled with: Polymerase chain reaction (PCR) tests that detect *B. miyamotoi* DNA; or antibody-based tests. Tests are available from a limited number of CLIA-approved reference laboratories.

Some laboratories that offer testing in the New Jersey area include Quest Diagnostics (PCR and antibody tests) and Mayo Clinic Laboratories (PCR only).

How is *B. miyamotoi* treated?

Antibiotics are used to treat *B. miyamotoi*. Physicians have successfully treated patients with a 2-4-week course of doxycycline. Amoxicillin and ceftriaxone have also been used.

How can *B. miyamotoi* and other tick-borne diseases be prevented?

You can reduce your risk by taking these actions 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 by mowing lawns and trimming trees.
- Wear solid, light-colored clothing. This will make it easier to find a tick on your clothes.
- Tuck your pants into your socks and wear a long-sleeved shirt. This will help prevent a tick from attaching to your skin.
- Use insect repellents on yourself and your pets. There are two types of repellents effective for ticks. Repellents that contain DEET can be used on clothing and exposed skin. The other type of repellent contains permethrin and should **ONLY** be used on clothing. Always read and follow label directions carefully.
- Check yourself for ticks frequently when you are in tick-infested areas. Check again after returning from these areas and again before going to bed. Don't overlook some of ticks' favorite hiding places – on the scalp, behind the ears, under the arms, on the ankles, and in the groin.

What should I do if I find a tick?

- If you find a tick, remove it immediately before it attaches to the skin. Do not squeeze or crush it with bare hands.
- If a tick has already attached to the skin, use tweezers to grasp it by the head (not just the body) as close to the skin as possible. Pull steadily until the tick pulls out (expect some resistance).
- Never squeeze an attached tick, burn it, or cover it with Vaseline or any other substance. Doing so could force fluid from the tick into your skin.
- After removing a tick, disinfect the bite area and tweezers with alcohol, and wash your hands with soap and hot water.

How should I dispose of a tick?

Place the tick in a sealed container or small plastic bag and put it in the trash. Do not flush ticks down the toilet because they can easily survive in the water.

Where can I get more information?

- Your health care provider
- Your local health department
- NJ Department of Health <http://www.nj.gov/health>
- Centers for Disease Control and Prevention
<https://www.cdc.gov/ticks/tickborediseases/borrelia-miyamotoi.html>

This information is intended for educational purposes only and is not intended to replace consultation with a health care professional.

Adapted from Centers for Disease Control and Prevention