



Printable Physician Factsheet for Lyme and Tick-borne Disease in Illinois

Sources: Centers for Disease Control and Prevention (CDC), Illinois Department of Public Health (IDPH), *Trends in Parasitology*

Ticks are a growing health threat throughout Illinois. Although you may be most familiar with the blacklegged deer tick that can transmit Lyme disease, others, such as the Lone Star tick, American dog tick, and Gulf Coast tick, are on the rise and may carry disease-causing pathogens that also impact public health. **Each year, approximately 476,000 people contract Lyme disease**, according to the Centers for Disease Control and Prevention (CDC). Outdoor jobs, outside activities, and pets increase the likelihood of encountering infected ticks. Preventing exposure to ticks and recognizing the signs and symptoms of tick-borne diseases for early intervention can go a long way in reducing the long-term symptoms experienced by patients.

Tick Attachment Times

Throughout a tick's two- to three-year lifecycle, it'll feed on multiple warm-blooded hosts as its food source. The longer a tick is attached to its host, the greater the risk it transmits an infection. However, the attachment times for tick-borne diseases vary, and some diseases can be transmitted in a matter of minutes. Therefore, even if a tick is attached for a short time, it's still possible for a person to become infected by a tick-borne disease.

Symptoms of Lyme Disease

The initial symptoms of Lyme disease and other tick-borne diseases may be general, flu-like in nature, and similar to other diseases, which may lead to the tick-borne disease being undiagnosed or misdiagnosed.

The bullseye rash (erythema migrans or EM rash) commonly associated with Lyme disease occurs in less than half of all Lyme infections. When present, a bullseye rash is *the* telltale symptom of a Lyme disease infection.

Other symptoms include fatigue, fever, chills, headaches, cognitive impairments, muscle and joint pain, neck pain, facial paralysis (Bell's palsy), and an overall unwell feeling. Additionally, some people will develop cardiac, neurologic, and psychiatric symptoms. Early testing may not show an infection, as it could take up to six weeks to develop enough antibodies to be detected on a test.

Diagnosis and Testing for Lyme Disease

Many physicians, scientists, and government officials are beginning to recognize the need for more accurate Lyme disease testing. **"The accuracy of the test depends upon how long you've been infected,"** the CDC states. The highest rates of accuracy occur four to six weeks after the initial infection.

Lyme disease tests are a two-step process called standard two-tiered testing (STTT), which includes an ELISA and, if positive, a follow-up with the Western blot. But the STTT is 40 years old and has limitations: Though readily available, **the test was designed to detect only one strain of one species of borrelia – usually *Borrelia burgdorferi*.** The testing misses infections caused by other species or strains, leading to false negatives and missed or delayed diagnoses.

Additionally, current testing measures antibodies the body makes to the infection, which can take up to six weeks to develop, so testing multiple times may be necessary. When evaluating a patient for Lyme disease, **factors such as the signs and symptoms of the tick-borne disease, the likelihood of exposure to infected ticks, the potential of other diseases to cause similar symptoms, and laboratory tests (when indicated) should be taken into account**, the CDC states. No testing exists to demonstrate that a patient has been "cured" of Lyme disease.

* The CDC supports the development of new Lyme disease testing methods.

How to Remove a Tick:

- Do not squeeze or twist the tick
- Do not cover the tick with any substance, including essential oils, soap, or oil
- Do not burn with a match

Attempts to burn or smother the tick may cause the tick to regurgitate pathogens, increasing the chances of infection. Instead, do the following:

1. With fine-tipped tweezers, grasp the tick as close to the skin as possible.
2. Pull upward with firm, even pressure.
3. If the head remains in the skin, see if you can pull it out but don't dig and rip the skin.
4. Clean the bite area.
5. Keep the tick! It can be tested. Place it in a sealable bag to send it to a tick testing site. Do not crush it.

Check the rest of your body for more ticks.

Where to send a tick for testing:

Results in 3 days: tickreport.com

Results in 24 hours: ticknology.org

There is a fee for tick testing. Follow company directions for mailing. Tick testing is not to be used as diagnostic, however, it is a helpful tool.

Get **FREE** tick identification through **INHS Medical Entomology Lab.**

Visit: medical-entomology.inhs.illinois.edu/research/free-tick-identifications/

