



Lyme Disease

Lyme disease is the most common vector-borne disease in the United States. It is caused by a spirochete bacterium, *Borrelia burgdorferi*, which is transmitted to humans through bites from the Western blacklegged tick (*Ixodes pacificus*) in much of the Western United States and by the blacklegged or deer tick (*Ixodes scapularis*). Western blacklegged ticks have been found in low prevalence in the Northwest regions of Arizona, but the Center for Disease Control and Prevention (CDC) found no laboratory confirmed evidence of Lyme disease.

Signs and Symptoms

Early symptoms of infection include malaise, fatigue, fever, headache, stiff neck, myalgias, migratory arthralgias, and lymphadenopathy. The best clinical marker is the Erythema Migrans (EM), or bull's eye rash, which occurs in 70-80% of all Lyme cases. EM's are described as a large (greater or equal to 5cm), gradually expanding, round red macule or papule often with a central clearing. EM lesions begin, on average, about 7 days after initial tick exposure. Later manifestations may involve the musculoskeletal, nervous, and cardiovascular systems, including: arthralgia, facial palsy, encephalomyelitis, fatigue, and paresthesia.

Diagnosis

The diagnosis of Lyme disease may be difficult because many other diseases cause symptoms such as fever, headache, fatigue, and body ache. Laboratory tests are often not sensitive, specific or consistent, and are frequently misinterpreted. The CDC recommended testing strategy involves a two-tier testing system. The first step uses a testing procedure called "EIA" (enzyme immunoassay) or rarely, an "IFA" (indirect immunofluorescence assay). If this first step is negative, no further testing of the specimen is recommended. If the first step is positive or indeterminate (sometimes called "equivocal"), the second step should be performed. The second step uses a test called an immunoblot test, commonly, a "Western blot" test. Results are considered positive only if the EIA/IFA and the immunoblot are both positive. If you think you may have Lyme disease, please consult with your medical provider for appropriate diagnostic tests and treatment.

Treatment

Early Lyme disease is treated with a short course of an oral antibiotic such as doxycycline, while late disease requires longer treatment with either oral or intravenous antibiotics.



In Maricopa County

Although Lyme disease is not present in Arizona, there are still cases in Maricopa County from residents who have traveled to an endemic area or relocated to Arizona from an endemic area. On average, there are about 1-10 confirmed or probable cases of Lyme disease each year in Maricopa County. All of the confirmed or probable cases were exposed outside of Arizona, in areas where Lyme disease is endemic.

Prevention

Reducing exposure to ticks is the best defense against Lyme disease and other tick-borne infections. There are several approaches you and your family can use to prevent and control Lyme disease.

- Use insect repellants containing from 10% to 35 % DEET when camping and hiking.
- Wear light-colored long pants and long sleeved clothing so that ticks are easier to spot before they attach to the skin.
- Remove ticks promptly, since attachment of more than 24 hours is required for disease transmission.
- Avoid overgrown brush by walking in the center of the trail, and remove brush from personal residences.

Resources

- [Centers for Disease Control and Prevention \(CDC\) Lyme disease webpage:](http://www.cdc.gov/lyme/) <http://www.cdc.gov/lyme/>
- [Arizona Department of Health Services Lyme \(ADHS\) Lyme disease webpage:](http://www.azdhs.gov/phs/oids/vector/lyme.htm) <http://www.azdhs.gov/phs/oids/vector/lyme.htm>
- [Arizona Department of Health Services 2013 Case Definitions \(ADHS\) 2013 Case Definitions:](http://www.azdhs.gov/phs/oids/pdf/casedefinitions.pdf) www.azdhs.gov/phs/oids/pdf/casedefinitions.pdf
- [Tick-Borne Diseases of the United States \(CDC\) A reference manual for health care providers:](http://www.cdc.gov/lyme/resources/TickborneDiseases.pdf) <http://www.cdc.gov/lyme/resources/TickborneDiseases.pdf>
- [Tick removal \(CDC\) A reference manual for properly removing ticks:](http://www.cdc.gov/lyme/removal/index.html) <http://www.cdc.gov/lyme/removal/index.html>