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Communicable Disease
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to send suggestions
or to be added to the
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The purpose of this two-page surveillance update is to promote the control and prevention of **communicable disease (CD)** by providing clinically relevant information and resources to healthcare professionals in DuPage County.



Under the Microscope Lyme Disease

For questions or to report a suspect or known case of Lyme disease, please call the DuPage County Health Department at (630) 221-7553.

Lyme disease is caused by the bacterium *Borrelia burgdorferi* and is transmitted to humans by the bite of an infected **black-legged tick** (*Ixodes scapularis*, also known as the **deer tick**).¹ The first clinical marker for the disease is usually a circular skin lesion (i.e., **erythema migrans [EM]**) that occurs in **70%-80% of patients** at the site of a tick bite after an **incubation period of 3-30 days** (average is about 7 days).¹ Typical symptoms include fever, headache, fatigue, and EM. **If left untreated, late manifestations can occur** involving the **joints** (e.g., arthritis in one or a few joints), **heart** (e.g., acute onset of atrioventricular conduction defects), and **nervous system** (e.g., facial or Bell's palsy).¹

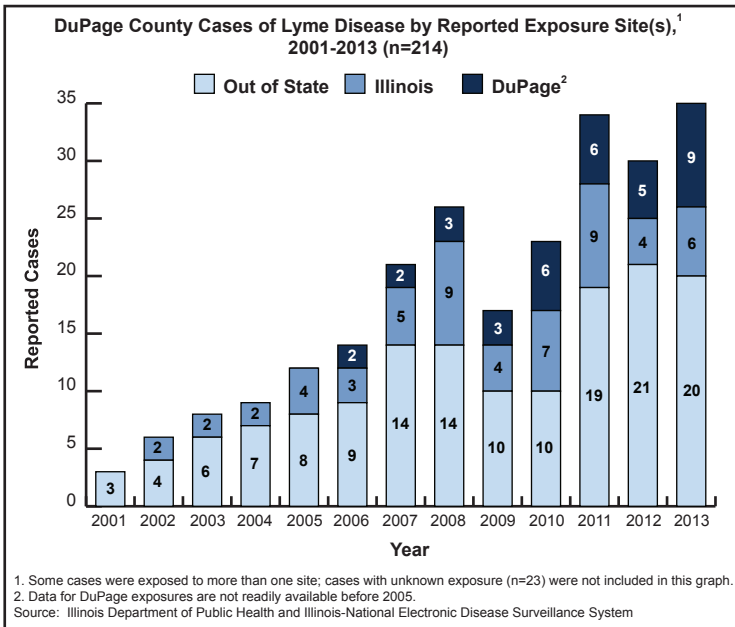
More than 30,000 cases of Lyme disease are reported to Centers for Disease Control and Prevention (CDC) each year, making it the **most commonly reported vectorborne illness in the U.S.**^{2,3} In 2012, **95% of Lyme disease cases were reported from 13 states:** Connecticut, Delaware, Maine, Maryland, Massachusetts, Minnesota, New Hampshire, New Jersey, New York, Pennsylvania, Vermont, Virginia, and Wisconsin.³

In 2012, Lyme disease was the seventh most common nationally notifiable disease; however, this disease does not occur nationwide and is **concentrated heavily in the Northeast and upper Midwest.**³ Although cases occur throughout the year, **most cases have onset in June, July, or August**, the three months in which ticks actively seek mammalian hosts and human outdoor activity is greatest.⁴

In a continuing effort to assess and monitor Lyme disease risk in Illinois, public health officials have **identified infected black-legged ticks in several counties throughout Illinois, including DuPage County.** The incidence of Lyme disease in Illinois has overall increased in recent years, with a number of cases **acquiring the infection within Illinois** (without a history of travel to regions previously known to be endemic, e.g., Wisconsin).⁵

Lyme disease is **diagnosed** based on **symptoms, physician-observed, objective physical findings** (e.g., EM \geq 5 cm, facial palsy, or arthritis), and the possibility of **exposure** to infected ticks (having been in wooded, brushy, or grassy areas, i.e., potential tick habitats, **less than or equal to 30 days before onset of EM**).^{1,4} Not all patients with Lyme disease will develop the characteristic bull's eye rash, and many may not recall a tick bite; **history of a tick bite is not required.**¹ Validated laboratory tests can be very helpful but are not generally recommended in a patient with recent onset (2-3 weeks) of a characteristic EM rash.⁴ However, **positive results of recommended two-tiered serologic testing can provide confirmation of infection in patients with musculoskeletal, neurologic, or cardiac symptoms.**^{4,6} Testing methods that have not been adequately validated can be misleading and are not recommended.⁴ Laboratory testing is not recommended for persons who do not have symptoms of Lyme disease.¹

Most cases of **Lyme disease can be treated** successfully with a course of appropriate antimicrobial therapy.^{5,6} Steps to **prevent** Lyme disease include using insect repellent containing DEET, light-colored, protective clothing, walking in the center of trails, removing ticks promptly and appropriately, showering soon after being outdoors, proper groundskeeping, and trimming vegetation.^{1,7} While it is a good idea to take preventive measures against ticks year-round, extra vigilance is indicated in **warmer months (April-September)** when ticks are **most active.**¹ The ticks that transmit Lyme disease can occasionally transmit other tickborne diseases as well (e.g., anaplasmosis).¹



References:

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