LYME DISEASE

The United States has nearly 4,000,000 people that have been diagnosed with Lyme disease, with 476,000 projected new cases each year. It is estimated that there may be 10-times this number that have Lyme disease but have not been diagnosed.

Lyme disease is one of the fastest growing infectious diseases in the country and one of the most difficult to diagnose. Experts in the medical and scientific community, as well as key legislators, have deemed Lyme disease as an epidemic, a national public health crisis, and a growing threat.

Lyme disease is caused by the bacterium Borrelia burgdorferi and is commonly transmitted to humans through the bite of infected blacklegged ticks. Typical symptoms include fever, headache, fatigue, and a characteristic skin rash called erythema migraines. If left untreated, infection can spread to joints, the heart, the brain, and the nervous system. Lyme disease is diagnosed based on symptoms, physical findings (e.g., rash), and the possibility of exposure to infected ticks.

Ticks become infected with Lyme disease when they feed on infected wild animals such as birds and rodents. The bacteria and related infections are transmitted to humans when the tick attaches and feeds. These ticks are very small and their bites are painless. These two factors make it very difficult to notice whether or not someone has been bitten. Ticks are found in wooded areas, leaf litter, and tall grass.

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THREE STAGES OF LYME DISEASE

- Stage 1: the first 48 to 72 hours after an infection
- Stage 2: the days to weeks following infection as it spreads
- Stage 3: the time after initial infection if it is left untreated, known as chronic Lyme

Stage 1 Lyme disease is treatable with antibiotics if diagnosed and addressed within the first 48 to 72 hours. As time passes and the infection spreads.

Stage 2 and Stage 3; treatment and diagnosis becomes more difficult. Symptoms worsen and can range from flu-like to neurological illnesses including paralysis. All systems of the human body can be affected by the disease.

One person can have up to 50 painful symptoms that cycle on a weekly basis because of the systemic and cyclical nature of the bacterial disease. The bacteria can cause joint pain, migraines, nerve damage, paralysis, eye problems, and insomnia among many other symptoms.

FREmedica's Lyme Frequency Support Program works to relieve the symptoms of Lyme disease by supporting the immune system with frequencies it is deficient in. Over a thousand people diagnosed with Lyme have experienced lifestyle improvement and sometimes elimination of symptoms of chronic Lyme disease through FREmedica's Lyme Frequency Support Program.



LYME SYMPTOMS

Lyme disease is a master of disguise. Even seemingly minor, but new and persistent symptoms may preview other and worse issues in the future. Lyme disease can mimic or cause symptoms from the following:

Fybromyalgia	Thyroid Disorder (too high or low)
Chronic Fatique Syndrome	Alzheimer's
Lupus	Attention Deficit Disorder
Multiple Sclerosis	Asperger's Syndrome
ALS (Lou Gehrig's Disease)	Autism Spectrum Disorders
Rheumatoid Arthritis	Tourette's Syndrome
Parkinson's	Depression
Guillain-Barré Syndrome	Bipolar Disorder
Bell's Palsy	Obsessive-Compulsive Disorder
Sjogren's Syndrome	Other Psychiatric Disorders
Hypercoagulation	Other Diseases



SYMPTOM SEVERITY

75% of chronic Lyme patients experiences severe or very severe symptoms. 63% describe two or more symptoms as severe or very severe.



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LYME FORECASTING MODEL



A Bayesian spatio-temporal model for forecasting the prevalence of antibodies to Borrelia burgdorferi, causative agent of Lyme disease, in domestic dogs within the contiguous United States, Published: May 4, 2017.

Source: Journals, Plos One: A Bayesian spatio-temporal conditional autoregressive (CAR) model was used to analyze these data, for the purposes of identifying significant risk factors and for constructing disease forecasts.

Lyme disease is a global issue. Along with the many cases documented in Canada and the United States, several European countries are also seeing devastating numbers of new patients each year

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LYME IS A GLOBAL ISSUE



Source: WHO, World Health Organization

Lyme disease is most common in forested areas of the northeastern U.S., Central and Eastern Europe, Japan, Northwest China, and Eastern Russia, but there have also been cases all over Western Europe, in Canada, in most states of the U.S., Mexico, Brazil, South Korea, Taiwan, Turkey, and other countries.

As the blacklegged ticks migrate further north due to climate change, their population spreads, and the risk of infection increases.

