

Lyme Disease (Lyme Borreliosis)

Lyme disease is the leading arthropod-associated disease in the United States and is caused by the spirochete *Borrelia burgdorferi*, a corkscrew-shaped bacterium. It is associated with the bite of certain *Ixodes* ticks, particularly the blacklegged tick, *I. scapularis*, in the northeastern and northcentral United States and the western blacklegged tick, *Ixodes pacificus*, on the Pacific Coast. Other *Ixodes* ticks spread the disease in Europe and Asia. The disease has been reported from 49 states, as well as parts of Canada, and across Europe and Asia. Lyme disease was first recognized as a distinct clinical entity in a group of arthritis patients from the area of Lyme, Connecticut in 1975. In 1981, Dr. Willy Burgdorfer and co-workers discovered spirochetes in the mid-gut of some *I. scapularis* ticks from Long Island, New York and the bacterium was later named after him. A Lyme disease testing program by The Connecticut Agricultural Experiment Station and Connecticut Department of Public Health found the greatest prevalence in Connecticut in 1984 and 1985 was in towns east of the Connecticut River. The distribution of the tick and the risk of disease have since expanded dramatically from early foci in Connecticut, New York and Cape Cod, MA. Nationally, human case reports have been running around 20,000 to 24,000 cases annually. There were 23,305 cases reported in 2005, 19,804 cases reported in 2004, 21,273 cases in reported in 2003 and 23,763 cases were reported in 2002. Twelve states accounted for 95% of reported cases. In order of incidence (per 100,000 population) in 2002 they were Connecticut, Rhode Island, Pennsylvania, New York, Massachusetts, New Jersey, Delaware, New Hampshire, Wisconsin, Minnesota, Maine, and Maryland. Lyme disease is underreported, and these numbers may represent only 10-20% of diagnosed cases. National statistics are available through the CDC website, www.cdc.gov and local statistics may be available through state public health departments or on their websites. Lyme disease affects all age groups, but the greatest incidence of disease has been in children under 14 and adults over 40 years of age. In most cases, Lyme disease symptom onset occurs during the summer months when the nymphal stage of the blacklegged tick is active.