Lyme Disease in California

Lyme and other tick borne disease information for California is excellent compared to other Western states. This is mainly due to the efforts of the California Lyme Disease Association (CALDA) and an enlightened California Department of Public Health.

Despite these efforts, most physicians in California remain uneducated about Lyme disease and rarely consider it in differential diagnosis mistakenly believing the disease is “rare” in the West. HMO’s and major health plans discourage the appropriate diagnosis and treatment of Lyme disease because of potentially large expenses. The HMO penetration rate in California is over 40%. [http://kff.org/other/state-indicator/hmo-penetration-rate/](http://kff.org/other/state-indicator/hmo-penetration-rate/)

Kaiser is headquartered in California and is a well-known denier of Lyme disease. California is one of the relatively few states that have passed legislation protecting physicians who provide long-term treatment to Lyme disease victims. In 2005, CALDA worked on and supported legislation amending Section 2234.1 of the Business & Professions Code to extend the physician protection provision in an alternative medicine bill to physicians who treat persistent Lyme disease, provided they meet certain conditions. The Senate committee amendment specifically recognizes in statute the treatment of “persistent Lyme disease.”

**Major resources**

**CALDA – California Lyme Disease Association**
California Lyme Disease Association (CALDA) is a non-profit corporation acting as the central voice for all tick-borne disease issues. The site provides comprehensive information about Lyme disease in California and nationally.
CALDA played a major role in the investigation by the Connecticut Attorney General into the Lyme disease guidelines issued by the Infectious Diseases Society of America (IDSA). CALDA is also publisher of the Lyme Times, the only national print journal dedicated to Lyme disease.
http://www.lymedisease.org/

CALDA Lyme Policy Wonk
Lorraine Johnson, JD, MBA is an attorney advocate on issues related to the medico-legal and ethical aspects of Lyme disease. Lyme Policy Wonk is a blog that focuses on medico-legal ethics and health care policy issues in Lyme disease.

Maps

Lyme risk map of California
The ticks that carry Lyme disease have been found in all but two counties in California.
http://www.lymedisease.org/california/california_map.html

Mapping the national distribution of blacklegged ticks in 1998
http://wildlifehealth.tennessee.edu/lyme_gradient/map.htm

Where tick-borne diseases are found (from IDEXX, a veterinarian testing laboratory)
http://www.dogsandticks.com/diseases_in_your_area.php

Note; the well-executed and thorough tick studies by entomologist Robert Lane, Ph.D of UC Berkeley played an important part in the appropriate recognition of Lyme disease in California. Many of his tick and Lyme disease studies can be found on the Internet.

State provided information

Lyme disease in California
The link below provides a number of links for Lyme disease information issued by the California Department of Public Health.
http://www.cdph.ca.gov/healthinfo/discond/Pages/LymeDisease.aspx
Tick borne diseases in California
Provides information on other tick-borne diseases found in California.
http://www.cdph.ca.gov/HealthInfo/discond/Pages/TickBorneDiseases.aspx

Tick identification brochure

Lyme Disease Advisory Committee (LDAC)
The mission of the Lyme Disease Advisory Committee (LDAC) is to make recommendations to the California Department of Public Health (CDPH) on strategies to enhance the awareness of the public and the medical community about Lyme disease in California, and thereby reduce exposure to, and suffering from, this and other tick-borne diseases.
http://www.cdph.ca.gov/services/boards/ldac/Pages/default.aspx

U.C. Davis – Lyme disease in California
“In most areas of northern California where Lyme disease occurs, only about 1 to 2% of the adult Ixodes pacificus ticks and 2 to 15% of the nymphal ticks, on average, are infected with Borrelia burgdorferi. However, Lyme disease transmission risk can be highly localized. In one woodland site in Mendocino County, for example, 41% of the nymphs were found to contain Lyme disease bacteria.”
http://www.ipm.ucdavis.edu/PMG/PESTNOTES/pn7485.html

Studies

Stanford researchers find surprising level of tick-borne disease risk on local trails - Study reveals mysterious pathogen in higher concentrations than thought in trailside ticks in the San Francisco Bay Area.

DENSITY AND SPATIAL DISTRIBUTION OF IXODES PACIFICUS (ACARI: IXODIDAE) IN TWO RECREATIONAL AREAS IN NORTH COASTAL CALIFORNIA
http://www.ajtmh.org/content/62/3/415.full.pdf

Mitochondrial DNA sequence variation in Ixodes pacificus
Note; Examines genetic variation in tick populations of western states. Map of areas studied -

http://www.nature.com/hdy/journal/v83/n4/fig_tab/6886110f1.html#figure-title

PREDICTING DENSITY OF IXODES PACIFICUS NYMPHS IN DENSE WOODLANDS IN MENDOCINO COUNTY, CALIFORNIA, BASED ON GEOGRAPHIC INFORMATION SYSTEMS AND REMOTE SENSING VERSUS FIELD-DERIVED DATA
http://www.ajtmh.org/content/74/4/632.full

SPATIAL PATTERNS OF LYME DISEASE RISK IN CALIFORNIA BASED ON DISEASE INCIDENCE DATA AND MODELING OF VECTOR-TICK EXPOSURE
http://www.ajtmh.org/content/75/4/669.full

Variation in the density of questing Ixodes Pacificus in California
http://www.jstor.org/pss/3285817

A newly identified intraerythrocytic Babesia-like organism, WA1, and its relatives were recently shown to be infectious for humans in the western United States (1989)
http://www.ncbi.nlm.nih.gov/pmc/articles/PMC107933/

News articles

There have been numerous news articles about Lyme disease in California. A few of the more notable ones are listed below.

Lyme Disease Is A Ticking Epidemic
Comments by Dr. Raphael Stricker, a Lyme and tick-borne disease specialist in San Francisco.

Sleuthing Lyme

Lyme Disease Often Misdiagnosed
http://www.smdailyjournal.com/article_preview.php?id=63155

Support groups
California has a number of support groups throughout the state. Below is a link to the California support groups listed by CALDA. http://www.lymedisease.org/california/california_support_groups.html

CALDA has also set up a national network of moderated online patient support and information groups. The California group is located at http://health.groups.yahoo.com/group/californialyme.