

Be Sure to Check for Ticks

✓ Oak woodland is the primary tick habitat in coastal California. Nymphal ticks, which are responsible for most infections, are only about the size of a poppy seed and often infect people unknowingly because of their ability to anesthetize as they bite.

✓ A bath or shower will not disengage or drown an attached tick. The tick check itself is necessary. The most effective tick checks are not visual, but tactile.

Prompt & Proper Tick Removal Sometimes Prevents Infection

Picture a syringe filled with nasty bacteria whose needle is already in your skin. That's a tick, and if you squeeze that syringe, the tick will be more likely to regurgitate its stomach contents into your body, including disease if it is infected. If the tick is burned, smothered in Vaseline, twisted, or squished you will maximize your chances of infection.

There is only ONE proper way to remove a tick.

- Use tweezers only.
- Grasp the tick firmly at the base of the mouthpart hooked into the skin.
- Pull STRAIGHT out backwards, gently coaxing the tick to release. NO twisting.

To have a tick tested, save it in a closed container with a moist cotton ball. You can have it tested at IGenEX Labs in Palo Alto, igenex.com for all tick-borne diseases.

LOCAL INFORMATION

The Santa Cruz County Tick-Borne Disease Support Group meets the 4th Thursday of every month 7-9 pm at the Unitarian Universalist Fellowship Hall at 6401 Freedom Boulevard, Aptos (831) 662-2895

Online Santa Cruz County Yahoo Support Group SCLyme:
<http://health.groups.yahoo.com/group/SCLyme/>

Watsonville Lyme Education Group
(831) 899-1122 or (831) 761-2721

For testing see **IGeneX Labs**
igenex.com (800) 832-3200

Online Resources:
California Lyme Disease Association
www.lymedisease.org

ILADS: International Lyme & Associated Diseases Society at ilads.org

LymeNet.org Flash online

**PROMPT DIAGNOSIS AND
ADEQUATE TREATMENT
OF LYME DISEASE
IS IMPORTANT
TO PREVENT IT FROM
BECOMING CHRONIC
AND POTENTIALLY
DISABLING AND
DIFFICULT TO TREAT.**



LYME DISEASE is Endemic in SANTA CRUZ COUNTY

The average infection rate of adult ticks in Santa Cruz County is 5.67%*, almost twice the state-wide average for California. The Forest of Nisene Marks has the highest known rate of adult ticks infected with Lyme Disease in all of California. The infection rate in the Forest of Nisene Marks is 17.86%*, almost one in five ticks.

*Detection of *Borrelia burgdorferi*, *Ehrlichia chaffeensis*, and *Anaplasma phagocytophilum* in Ticks (Acari: Ixodidae) from a Coastal Region of California KEVIN HOLDEN, et al, *Journal of Medical Entomology* 40(4): 534-539 (2003)

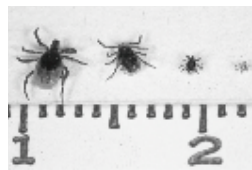
Lyme Disease, Anaplasmosis, Bartonella, and Babesiosis are four tick-borne diseases present in Santa Cruz County.

In 1979, Dr. Steere concluded: "The disease seems to occur in three distinct foci: along the northeastern coast, in Wisconsin, and in California..." Despite this, Lyme is still perceived as an East Coast threat. Unlike on the East Coast, California's mild winters put Californians at risk all year. The *Ixodes pacificus* tick is in 56 of California's 58 counties. A 1997 Sonoma study found 23% of a community was blood positive for Lyme (1.4%), Anaplasmosis (5%), or Babesiosis (17.8%) - 1 of 5 people! The California Department of Health Services (DHS) concluded: "...the risk of infection with these emerging tick-borne diseases, particularly in children, may be greater than previously recognized."

In California, nymphs that feed on the Western Fence Lizard will be uninfected as adults because the blood of the lizard kills the Lyme pathogen. As a result California was believed to have only 2-3% Lyme in adult ticks, until recently. Nymphs have been recognized to be the primary source of human infection. Nymphal tick infection rates in California vary widely, but are comparable with the rates of infection on the East Coast, in some areas

up to 41% MIR (Minimum Infection Rate). California's nymphal activities are highest in April, May and June.

In 2003 in the Journal of Medical Entomology San Jose State Department of Entomology published field studies from Santa Cruz County State Parks. They found that infection rates were higher than anywhere ever studied in California. Positive *Ixodes pacificus* ticks showed an average infection rate of 5.6% county-wide for Lyme Disease. The highest was the Forest of Nisene Marks with an astounding 17.86% infection rate, almost one of five *Ixodes pacificus* ticks. The next highest infection rate, by contrast, is only 6.19% at Big Basin - but still twice the adult tick infection rate statewide.



TICK-BORNE DISEASES

It is important to note, while speaking about tick-borne diseases, the label: "Lyme Disease" is sometimes misapplied to include a variety of overlapping symptoms that may be caused by different of the tick-borne diseases carried by the same type of tick. In actuality, there are several distinct pathogens in addition to *Borrelia burgdorferi*, the pathogen which causes Lyme Disease, that can be transmitted separately or in combination from the same tick bite. Although many of the symptoms may overlap, they may require different treatments. Some treatments are highly specific.

Lyme Disease is caused by a spirochete (as is syphilis), and testing for it can be tricky. Lyme Disease can come with a hallmark bull's-eye rash called Erythema Migrans, but the rash is not always present or may be uniformly red. Early symptoms are flu-like and the disease can become chronic and disabling, involving joint, nerve or heart tissue.

Anaplasmosis comes with no warning rash. Also known as Ehrlichiosis, there are two kinds, HGE & HME, Human Granulocytic and Human Monocytic Ehrlichiosis. San Jose State entomologists also studied Ehrlichiosis in Santa Cruz County in 2003. The positive adult *Ixodes pacificus* ticks showed an average countywide infection rate of 6.19% for HGE. At Sunset State Beach 16.6% of ticks tested were positive for HGE, at New Brighton 11.76%, and at Nisene Marks 10.71%. Symptoms may include fevers, chills, headache, nausea, muscle aches, diarrhea, and/or malaise.

Babesiosis is caused by a red blood cell parasite like malaria. The Babesia endemic to California and the Pacific Coast was discovered in Washington State, hence its designation WA1. The DHS did two more surveys in "geographically distinct" areas and found 3.8% and 16% rates of infection in actual Californians. Symptoms may include pulmonary complications, chills or sweats, and/or peripheral neuropathies.

**LYME CAN PRESENT LIKE
MULTIPLE SCLEROSIS or
FIBROMYALGIA**