

How To Remove Ticks

Compiled by Melissa Kaplan

Ticks, including tick larvae and nymphs (the two life stages that precede the metamorphosis into the adult tick form) favor a moist, shaded environment, especially areas with leaf litter and low-lying vegetation in wooded, brushy or overgrown grassy habitat. You do not need to be an avid outdoorsperson to come into contact with infected ticks. Since many mammals other than deer and dogs are hosts to the *Ixodes* ticks that carry *Borrelia*, *Babesia*, *Bartonella* and *Ehrlichia*, infected ticks may be brought into suburban and urban settings by wildlife moving through the areas during the day and night. Your dog or cat can bring them into the house, or you may get them sitting out in your yard. Other types of animals are hosts to ticks carrying these organisms, including other mammals and other mammals. Other arthropods, such as mosquitoes, may turn out to successfully carry tickborne organisms.

One of the biggest sources of ticks isn't wild animals, but your pet dogs and cats. The other major source of ticks is just being outdoors in areas where ticks are likely to be. *Borrelia*, and possibly other parasitic organisms living in the ticks, drives the ticks to climb up weeds and grasses and remain there during the day, waiting for a warm-blooded host to walk by close enough to grab onto their clothing or skin. When you are walking on hillside paths, the ticks will be congregated on plants on the uphill side of the path. So, the very ground on which you walk, the grasses you brush by or picnic on, and the fallen log you rest on are the most likely places humans will come into contact with *Ixodes pacificus* in California, Oregon, and Washington.

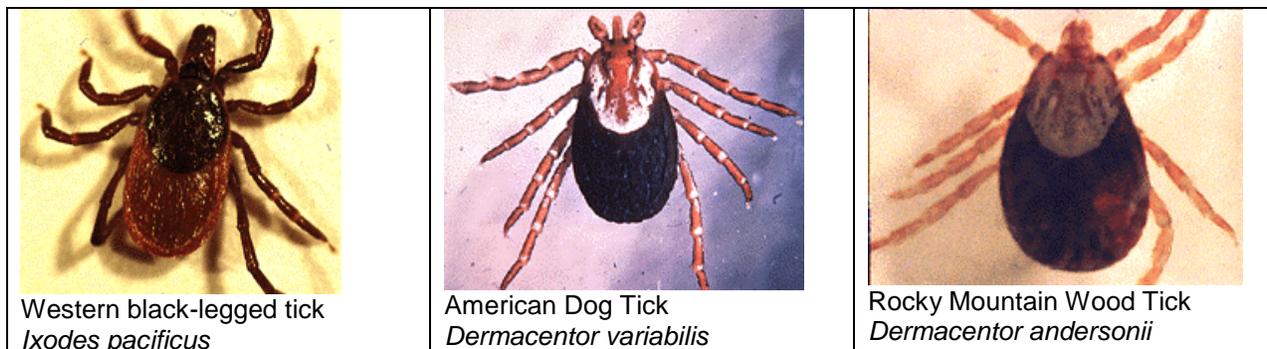
Thus, one must become familiar with all the signs of these tickborne diseases in order to seek appropriate testing and proactive, preventive treatment. Since only 50 percent or less of people finding ticks actually get the bull's-eye rash (erythema migrans)--or any rash--from a tick bite, one cannot rely on the presence or absence of such a rash to determine likelihood of infection.

Remove the tick properly. Using sharp pointed tweezers, or specially made tick tweezers, grasp the tick as close to your skin as possible, as close to its embedded mouthparts as you can. If you squeeze the body or head, you risk compressing the guts and salivary glands and expelling even more organisms through their mouth into your body.



Do not twist the tick or turn the tweezers as you pull out the tick. Pull out straight with a *slow, steady motion*. Twisting may force more organisms into your body, and may result in the head or more of the mouthparts being left in your body.

Do not apply any substances to the tick before removing it - no alcohol or nail polish, no petroleum jelly or other ointments, and do not try to burn it out or otherwise convince to let go of you. It won't let go. It will just happily keep on sucking your blood and pumping pathogens into you.



Save the tick or any nymphs or larvae that you find on you. Store them in a clean glass jar or film container, tightly lidded and labeled with the date you pulled the tick off you and the location you were when you acquired the tick.

Ideally, you should have the tick tested right away to see what it contains. *Ixodes pacificus* is currently the only western tick associated with *Babesia*, *Bartonella*, *Borrelia* and *Ehrlichia*, but other ticks, such as the *Dermacentor variabilis* (American Dog tick) can carry pathogenic organisms causing diseases in humans and domestic pets (in this case, Rocky Mountain spotted fever and tularemia); *Dermacentor andersonii* is also a vector for RMSF.

A good rule of thumb: *have all ticks tested regardless of species*. There is a fee associated with tick testing.

Ticks can be sent to

IgeneX Inc.
797 San Antonio Rd.
Palo Alto, CA 94303
800.832 3200 www.igenex.com

or delivered to your county's public health laboratory:

Public Health Laboratory
3313 Chanate Road
Santa Rosa, CA 95404
707-565-4711

Marin County HHS
Public Health Lab
415- 499-6849

Mendocino Public Health Lab
501 Low Gap Road, Basement
Ukiah, CA 95482
707-463-4145

SOURCES

Centers for Disease Control & Prevention. Lyme Disease Prevention & Control
www.cdc.gov/ncidod/dvbid/lyme/prevent.htm

Vredevoe, Larisa PhD. Ticks Commonly Encountered In California. University of California, Davis. <http://entomology.ucdavis.edu/faculty/rbkimsey/caticks.html>

Vredevoe, Larisa PhD. Background Information on the Biology of Ticks. University of California, Davis. <http://entomology.ucdavis.edu/faculty/rbkimsey/tickbio.html>

Zimmer, Carl. Parasite Rex. Free Press, Inc. 2000.

