

Protect Yourself From Tick-Borne Illness

With diseases like Lyme and Powassan on the rise, it's more important than ever



Ticks may be tiny, but their bite can have a huge impact on your health. During the summer, up to 25 percent of these critters nationwide—and much more in some parts of the U.S.—may carry infections they can transmit to people. And that number may rise to about 50 percent in the fall.

Cases of Lyme disease, the best-known and most common tick-borne illness, have almost tripled in the past 20 years. According to the Centers for Disease Control and Prevention, Lyme has climbed from about 12,000 reported cases in 1995 to 38,000 in 2015. But the numbers could be up to 10 times higher, the CDC reports.

Your immune system naturally declines with age, potentially leaving you even more susceptible to these illnesses. A study published in 2016 in the journal *Cell Host & Microbe* found that older adults exposed to Lyme disease bacteria had lower levels of the protein IL-22, which helps fight off the illness. Here, what you must know to protect yourself.

WHY RATES ARE GOING UP

Lyme disease, which can—but doesn't always—cause a bull's-eye rash and flu-like

symptoms along with limb weakness and joint pain, is carried by the blacklegged tick, also called the deer tick because it often feeds on deer. “The blacklegged tick is much more widespread today than it was 20 years ago,” says Alison Hinckley, Ph.D., an epidemiologist with the CDC's Division of Vector-Borne Diseases. This tick, often found in woodlands, is in more than 45 percent of continental U.S. counties, a 45 percent rise since 1998, according to a 2016 study in the *Journal of Medical Entomology*.

Lyme disease rates are still highest in the Northeast. “It's established in areas such as the mid-Atlantic, but spreading in the Midwest across states like Ohio, Indiana, and Michigan, where it was largely absent 20 years ago,” says Paul Auwaerter, M.D., a Lyme disease expert and spokesman for the Infectious Diseases Society of America.

BEYOND LYME DISEASE

Ticks can pass along other illnesses, too. Experts have identified six new tick-transmitted infections just since 2000, including *Borrelia miyamotoi* and Heartland virus, which cause Lyme-like symptoms.

Many of the newer tick-borne diseases are uncommon, but most can be treated the same way Lyme disease is. (See “If You're Bitten,” on the facing page.)

But others can be life-threatening, including the Powassan virus, which can cause brain swelling, and Rocky Mountain spotted fever, which can lead to dangerous blood-vessel damage if untreated. Some are on the rise. Cases of ehrlichiosis, for instance, which can cause body aches and fever, jumped from 200 in 2000 to 1,302 in 2015. And up to 45 percent of people who get Lyme disease also get another infection from the same tick bite, often anaplasmosis, which has similar symptoms.

6 WAYS TO AVOID TICK BITES

If you live in or visit an area where ticks that can transmit disease are endemic, take these precautions:

Dress for protection. Wear long pants, long-sleeved shirts, and closed shoes, and tuck pants into socks when you're in wooded and grassy areas. “Ticks can cling to brush and shrubs, and live around lawns and gardens, especially at the edge of woods,” says Thomas Mather, Ph.D., director of the University of Rhode Island's Center for Vector-Borne Diseases. “All you have to do is dart into the pile of leaves at the edge of your property for a minute to be exposed.”

Apply repellent. Look for one with 15 to 30 percent DEET. Products with more than 30 percent are not more effective, and higher doses have been linked to rashes, disorientation, and possibly seizures.

Check for ticks. As soon as you come inside from areas that may harbor ticks, do a full-body tick search. Using a handheld or full-length mirror, focus under your arms, in and around your ears, inside your bellybutton, behind your knees, between your legs, around your waist,

and in your hair. Check dogs and cats for ticks after they've been outside, too.

Rinse off as soon as possible. A study published in the American Journal of Preventive Medicine in 2009 found that showering within 2 hours of spending time in a yard reduced the risk of developing Lyme disease by 58 percent.

Use heat. Tossing your clothes in a dryer on high heat for 10 minutes can kill any ticks on your clothing.

Treat your lawn. Applying an insecticide that contains bifenthrin or cyfluthrin to the perimeter of your yard, to perennial beds, where your lawn meets woods, and in any shady areas will reduce the likelihood of ticks there, Mather says.

Consider placing pesticide-containing bait boxes in your yard to trap mice that may carry ticks. Doing this reduced the prevalence of blacklegged ticks by more than 97 percent over two years, according to a study published this year in the Journal of Medical Entomology. "The mice come into contact with the pesticide, which kills any ticks on the mice or those that latch onto the mice over the next couple weeks," Mather explains.

IF YOU'RE BITTEN

An infected tick needs to be attached for at least 36 to 48 hours to transmit Lyme disease, says Michael T. Melia, M.D., an associate professor of infectious diseases at the Johns Hopkins University School of Medicine. If you find a tick on your body:

Remove it with fine-tipped tweezers. Grasp it as close to the skin's surface as possible. Pull upward steadily, without twisting the tick. Place it in a sealed bag or container and toss it in the garbage. Or flush it down the toilet. Then clean the area and your hands with soap and water.

Each day for several weeks, check the area where the tick was attached. If you spot a rash or have symptoms such as a fever, severe headaches, joint pain, or limb weakness, see a doctor. The Infectious Diseases Society of America recommends preventive treatment only if the attached insect is identified as a blacklegged tick, it's thought to have been attached for 36 hours or more, and the local rate of tick infection with Lyme disease is more than 20 percent. In these cases, a 200-mg dose of doxycycline within 72 hours of tick removal is appropriate for adults.

Safeguard Your Pets, Too



After a romp outside, your dog or cat may carry ticks into your house that have attached themselves. More than 6 percent of all dogs test positive for Lyme disease and about 3 percent for anaplasmosis or ehrlichiosis, according to the Companion Animal Parasite Council. To protect your family and keep pups and outdoor felines disease-free:

→**Vaccinate them.** If you live in an area with a high rate of Lyme disease, like the mid-Atlantic states, the Northeast, and the upper Midwest, talk with your vet about having your dog or cat vaccinated. The vaccine for dogs in tandem with a tick preventive will

give your pet the most protection, says Thomas Mather, Ph.D., of the University of Rhode Island.

→**Use a preventive product on them.** Many products on the market kill ticks, but it's ideal to use one that also repels them. Two that are claimed to do this—but have not been tested by Consumer Reports—are K9 Advantix II and the Seresto Collar.

→**Restrict them.** A solid fence will keep out wildlife that transmit ticks, such as deer. If you have an electric fence, use it to keep your pets from wandering into tick habitats, such as property edges that lead into deep woods.

Can Lyme Be Chronic?

You may have heard that for some people, Lyme disease can last far longer than expected and may require months of antibiotics. Up to 20 percent of people with the disease do experience lingering symptoms, such as fatigue, insomnia, muscle pain, and thinking problems, called post-treatment Lyme disease syndrome. But this usually resolves on its own. If you have symptoms after standard treatment (two to four weeks of taking the antibiotic doxy-



In some cases, a bull's-eye rash can indicate Lyme disease.

cycline), see a doctor. You may have another condition, such as fibromyalgia or babesiosis, a parasitic infection transmitted by blacklegged ticks. Symptoms may be due to residual inflammation from Lyme disease, so anti-inflammatory drugs may also help. Avoid extended antibiotic therapy. People who took antibiotics for three months fared no better than those taking a placebo, according to a 2016 study in the New England Journal of Medicine. More than two-thirds experienced adverse reactions such as diarrhea, nausea, or a rash. "This type of treatment won't help, and it can hurt you with side effects and by promoting the growth of drug-resistant bacteria," says Michael T. Melia, M.D.



LEARN

See a map of tick habitats in the U.S., at CR.org/tickguide.