

Ticked Off

Ticks are unpleasant little creatures, with a well-deserved bad rap in medicine. Few organisms have been associated with the spread of as many diseases. Although Lyme disease probably comes to mind most often when thinking about tick-borne illnesses, it may be one of the least important and most easily treated. Globally, ticks spread a score of illnesses, including tularemia, Rocky Mountain spotted fever, tick paralysis, ehrlichiosis, babesiosis, relapsing fever, anaplasmosis, Colorado tick fever, and others.

When and where to worry about ticks

Ticks spread disease because they feast on the blood of mammals a few times during their life cycle. Unlike mosquitoes and black flies, which can cover great distances in search of prey, ticks are much more passive. They ready themselves on grasses and similar plants, waiting for a host to brush by so that they can hop aboard. Like mosquitoes, they have a complex sensory system which allows them to detect approaching mammals by their exhaled carbon dioxide, and then to position themselves.

New York State has several species of ticks, including some in the Adirondacks. The settings in which they are most likely to attach to humans are environments in which one is walking in or up against brush. Thus, open summits and trails are unlikely spots in which to be attacked.

Preventing tick attachment

Oviously, the most effective way in which to prevent contact with and attachment by ticks is with a physical barrier. For the hiker, this generally means long pants tucked into the socks or, for a more classic outdoor user appearance, gaiters. If the weather

demanding short pants, gaiters still offer a degree of protection, and are a nice "leave no trace" accessory, allowing one to take a proper bearing, straight through the middle of those muddy trails!

Chemistry offers additional protection. Permethrin, a compound with decades of use as a treatment for lice and scabies, is also a potent tick repellent. Permethrin is applied directly to clothing, and comes in a variety of forms such as Sawyer® SP657 Clothing Insect Repellent. A big advantage of permethrin is that it actually kills or disables ticks, rather than simply repelling them. Many ticks found on permethrin-treated clothing are dead, and thus, unable to get onto exposed skin while clothing is being taken off.

DEET, my preferred agent for application to the skin for repelling mosquitoes and black flies, is less effective against ticks. Species of ticks seem to vary in their sensitivity to DEET; some will happily walk over DEET-treated skin en route to an untreated patch. Picaridin, a new (at least in the U.S.) alternative to DEET, has little published data regarding its effectiveness against ticks.

For the purists who eschew "chemicals," there are those suggesting that more natural compounds such as citronella and eucalyptus oils have tick-repelling properties. Such oils are chemicals themselves, and evidence that they are effective is scanty at best.

If all else fails

Although the above measures should minimize the chances of ticks coming into contact

with skin, they are not the only line of defense. Ticks do not lodge and start their "blood meal" the moment they contact skin. Instead, they travel around a bit, seeking an ideal spot to settle. This gives one the opportunity to check the skin (especially in hairy areas, near waistbands, under socks, etc.).

Although textbooks provide nice illustrations, remember that ticks are tiny and absent a magnifying glass it may be difficult for the non-expert to identify them. It is probably enough to know that a dark moving object about the size of a sesame seed on one's skin is not good.

Finally, if one identifies a lodged tick, it needs to be removed. Most of the methods one may have heard of (Vaseline, hot match, alcohol, etc.) have been discredited. The preferred approach is actually simple. Grasp the tick as close to the skin as possible with fine tweezers and gently pull it out; try to avoid squeezing the body of the tick. Usually, this allows the animal to come out whole, but if a bit of the mouth remains it is not serious; the risk to health comes from the contents of the tick's body.

In the absence of tweezers, a sharp pocket knife can be used to "shave" the tick off gently. While saving the tick for possible later identification is often recommended, in the backcountry this may not be practical.

There is no evidence that any type of preventive antibiotic after tick exposure is safe or effective. Nonetheless, consult a physician immediately for symptoms developing within a few days or weeks after tick exposure, especially fever, rash, or generalized achiness.

—Tom Welch, MD

Tom Welch is professor and chair of pediatrics at Upstate Medical University in Syracuse and an active member of the Wilderness Medical Society. He is a licensed professional guide and a certifying instructor for the Wilderness Education Association, and has guided groups in the Adirondacks, Montana, and Alaska. More information is available at his Web site and blog: www.adirondoc.com.