What to Do When a Tick Bites

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Ticks are more than just a nuisance; they can transmit disease-causing pathogens to people and pets. Quick and proper tick removal is the most important step in reducing the risk of pathogen transmission, as the likelihood of transmission increases the longer a tick remains attached. Knowing how to identify that a tick is biting, safely removing it and monitoring signs of illness can help protect you and your animals' health. This fact sheet provides practical tips for recognizing tick bites and removing ticks so you and your pets can safely enjoy the outdoors.

What Are Ticks?

Closely related to spiders, ticks are external parasites that attach to the skin of mammals, birds, reptiles and amphibians to feed on blood, mate and move to new locations. Ticks have specialized mouthparts that allow them to pierce the skin of a host and remain firmly attached for several hours to days while feeding. The host-seeking behavior of ticks is commonly referred to as "questing," in which they climb vegetation and extend their front legs to grasp clothing or fur of a passing human or animal (Figure 1). Ticks have four life stages: egg, larva, nymph and adult. After hatching, each subsequent life stage requires a blood meal to molt into the next life stage (for larvae and nymphs) or lay eggs (for adult females).

Figure 1: Adult female, blacklegged, or deer tick, *Ixodes scapularis*, questing on a blade of grass (Photo Credit, CDC).

Why Are Tick Bites a Concern?

Ticks are vectors for disease-causing pathogens that affect both humans and animals. These pests can cause a life-threatening allergic response (known as Alpha-gal syndrome), tick paralysis and can transmit pathogens that cause Lyme disease, Rocky Mountain Spotted Fever, Ehrlichiosis and Anaplasmosis. While preventing tick bites is by far the best method to protect yourself from developing a tick-associated problem, it's equally important to understand how to identify tick bites, safely remove ticks and monitor yourself and your animal companion(s) for signs of illness. See University of Tennessee Extension Publication W1403 Tick Bite Prevention Strategies for more information on protecting yourself and your companion animals from tick bites.

Identifying Tick Bites

Tick bites are often painless, which means you may not notice the bite until the tick is attached and feeding. Common signs of a bite include redness, swelling or a small, raised bump at the suspected bite site. Sometimes, attached ticks may look and feel like a raised mole, freckle or scab. Performing regular tick checks is the best way to identify a tick bite early and help prevent tick bites. This is especially important after spending time outdoors, particularly in grassy or wooded areas. Inspection tips are included in UT Extension Publication W1403 Tick Bite Prevention Strategies.

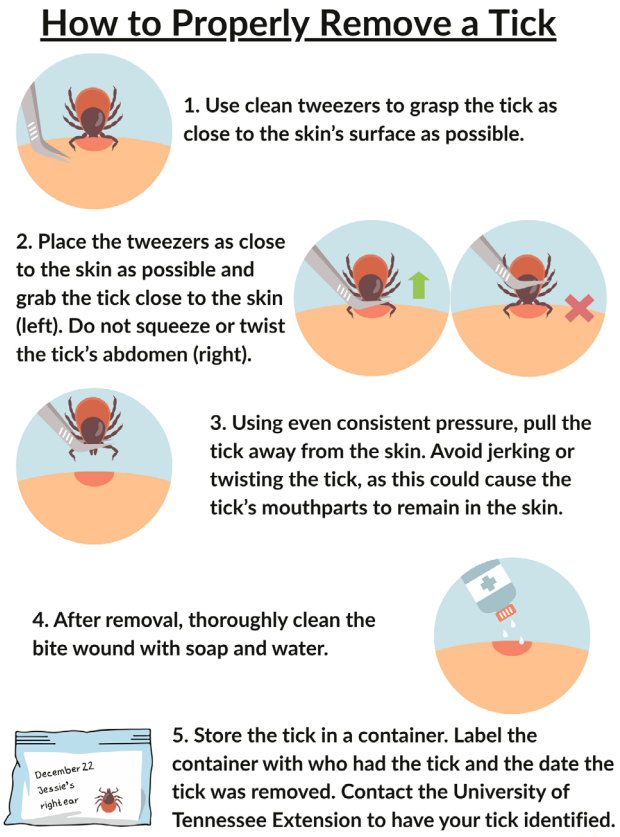

Figure 2. Graphic representation of correctly removing attached ticks. Graphic created by the UT Medical and Veterinary Entomology Lab using Canva.

How to Remove a Tick

Ticks should be removed as soon as discovered, which may be while they are still crawling on your clothing, shoes or skin or later when they have attached to your skin to feed. The longer a tick is attached, the more likely it is to transmit a pathogen associated with a tick-borne disease.

Follow these steps for proper tick removal and see Figure 2 for more details:

1. Use clean tweezers to grasp the tick as close to the skin's surface as possible.
2. Apply even, consistent pressure to pull the tick away from the skin. Avoid jerking or twisting the tick, as this could cause the tick's mouthparts to remain in the skin.
3. After removal, thoroughly clean the bite wound with soap and water, rubbing alcohol and/or hand sanitizer.

How to Properly Store a Tick

Store removed ticks by placing them in a tube with ethanol (e.g., hand sanitizer) or a sealable bag in the freezer. Label the storage container with the date the tick was removed and who it was removed from. If possible, use a permanent marker to draw a small circle around the bite site to help monitor the site. A rash that develops or spreads outside the circle should be evaluated by a medical professional. If you want your tick to be identified by a trained professional, you can submit ticks to the University of Tennessee using the Tick Intake Form referenced below.

When to Seek Medical/Veterinary Help

Contact a **medical provider** after a tick bite (or suspected bite) if you have a fever or rash within 30 days after a known tick bite or if you have other medical concerns related to your health or infection at the bite site.

The Centers for Disease Control and Prevention's tick bot webpage: "what to do after a tick bite" can help you determine next steps. The bot asks questions about tick attachment, time and other factors to help gauge your risk and determine next steps.

Contact a **veterinarian** if you observe the following in your animal:

- Acting differently than normal for them (e.g., not interested in play, isolating themselves, loss of appetite, sleeping more than normal)
- Appear stiff, lame or reluctant to move
- Shows swelling or signs of infection at the bite site
- Has pale gums, weakness or signs of anemia
- Begins coughing, breathing rapidly or shows neurological signs (e.g., unsteadiness, tremors)
- Encountered the tick at a location where tick-borne diseases are prevalent or you are unsure of the risk
- Many ticks are attached

Tick bites are common, but prompt removal, proper wound care and careful monitoring can significantly reduce the risk of pathogen transmission and complications. By performing regular tick checks, correctly removing ticks and recognizing early signs of illness, individuals can better protect themselves, their families and their animals. Awareness and preparedness are key to safely enjoying outdoor activities while minimizing the risks associated with ticks.

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