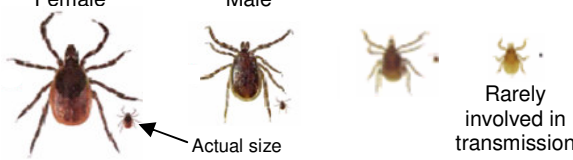
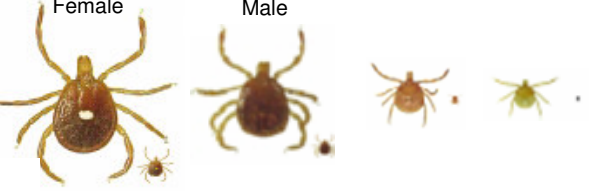
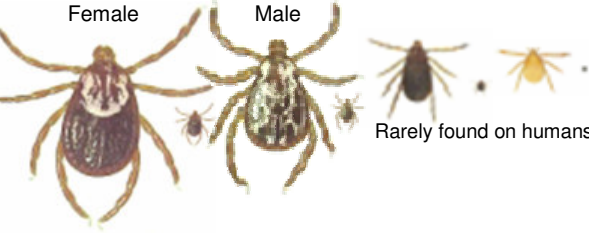


Just the Facts...

Protect Yourself from Tick-Borne Diseases

🦋 Ticks can carry and transmit (vector) a wide variety of disease-causing organisms (pathogens). Different kinds (species) of ticks generally transmit different pathogens, that is, they are considered vectors for specific disease organisms. Some ticks can be vectors for more than one kind of pathogen.

**Tick Species and Life Stages Most Likely to Bite Humans in the U.S.
And the Diseases They May Cause**

Tick Species	Disease	Pathogen
<p>Adults Nymph Larva</p> <p>Female Male</p>  <p>Rarely involved in transmission</p> <p><i>Ixodes scapularis</i> (blacklegged tick, a.k.a. the deer tick)</p>	<p>Lyme disease</p> <p>Human granulocytic anaplasmosis (HGA) aka Human granulocytic ehrlichiosis (HGE)</p> <p>Babesiosis</p>	<p><i>Borrelia burgdorferi</i></p> <p><i>Anaplasma phagocytophilum</i></p> <p><i>Babesia microti</i></p>
<p>Adults Nymph Larva</p> <p>Female Male</p>  <p><i>Amblyomma americanum</i> (lone star tick)</p>	<p>Human monocytic ehrlichiosis (HME)</p> <p>Southern tick-associated rash illness (STARI)</p> <p><i>Ewingii</i> ehrlichiosis in humans and Canine granulocytic ehrlichiosis in dogs</p>	<p><i>Ehrlichia chaffeensis</i></p> <p><i>Borrelia lonestari</i></p> <p><i>Ehrlichia ewingii</i></p>
<p>Adults Nymph Larva</p> <p>Female Male</p>  <p>Rarely found on humans</p> <p><i>Dermacentor variabilis</i> (American dog tick)</p>	<p>Rocky Mountain spotted fever (RMSF)</p>	<p><i>Rickettsia rickettsii</i></p>

🦋 Not all ticks are infected, so a tick bite does not necessarily mean you will get a disease. In addition, even if a tick is infected, it must be attached to your skin for at least several hours before it can successfully transmit the pathogens to you. Since you cannot tell if a tick is infected or not by looking at it, the sooner you remove attached ticks, the safer you will be. Ticks that are just crawling on your skin or clothing cannot make you sick.

🦋 Although most tick bites are caused by the three species of ticks shown in the table, there are additional tick species that do occasionally bite humans in more limited areas of the United States. They include: *Ixodes pacificus* (western blacklegged tick) which, to the naked eye, looks identical to *Ixodes scapularis* and transmits the same or closely related

pathogens as that tick species, but which is present only in the Pacific Coast states; *Dermacentor andersoni* (Rocky Mountain wood tick), which looks very similar to *D. variabilis*, and also transmits RMSF, but only in the Rocky Mountain states; *Rhipicephalus sanguineus* (brown dog tick), which is widespread and although not a frequent human biter, has recently been found to transmit RMSF to humans; and *Amblyomma maculatum* (Gulf Coast tick), which is present primarily in states along the Gulf of Mexico, and has been found to transmit a newly emerging human pathogen, *Rickettsia parkeri*.

🦋 Ticks go through several stages in their life cycle: egg, larva, nymph, and adult (male and female at this stage). For all tick species, the larva (sometimes called “seed tick”) is very tiny (a mere speck that has 6 legs); the nymph is a little larger (but still very small, about the size of a poppy seed, and has 8 legs); and the adult is larger still, is easy to see, and also has 8 legs. Although larval ticks will bite humans, they rarely transmit pathogens, but both nymphs and adults may do so.

🦋 A tick needs a blood meal from a host in order to molt (progress to the next stage of its life cycle), and to reproduce (mate and lay eggs) as adults. This feeding process continues for several days to a week until the tick is fully engorged with blood. It then releases its hold from the host, drops off, and subsequently molts or lays eggs. If the tick is infected with pathogens, it can transmit the infection to the host (this could be you!) during the feeding process.

TO BEST PROTECT YOURSELF FROM TICK BITES, DO THIS:

🦋 Wear the proper clothing:

- Long pants tucked into boots or socks;
- Long sleeves;
- Shirt tucked into pants;
- Light-colored clothing makes it easier to spot ticks.

🦋 Use these safe and effective insect repellents:

- Treat clothing with permethrin repellent. When ticks crawl onto the treated fabric, they absorb a tiny amount of permethrin, making them too sick to bite you. Follow application directions on the repellent label. One treatment remains effective through repeated launderings. For military uniforms, order aerosol (NSN 6840-01-278-1336, effective through 5-6 launderings), or impregnation (IDA) kit (NSN 6840-01-345-0237, effective through approximately 50 launderings).
- Apply DEET repellent to skin that is not covered by clothing. Follow application directions on the label. Only a thin, even coating is necessary. Military personnel should order NSN 6840-01-284-3982. This standard military repellent contains 33% DEET and one application lasts up to 12 hours. Products containing DEET in concentrations greater than 50% are *no* more effective.

🦋 Check yourself for ticks routinely:

- Use the buddy system to check each other for ticks;
- When you go indoors, remove your clothes and take a shower, checking your skin carefully;
- Placing your clothes in a hot dryer for 20-30 minutes will ensure that any ticks you failed to notice will be killed;
- Check children and pets carefully.

🦋 Remove attached ticks immediately:

- Grasp the tick’s mouthparts as close to the skin as possible with fine-tipped tweezers; pull back slowly and steadily with firm force until the barbed mouthparts can be eased out of the skin. Be patient.
- DO NOT squeeze the body of the tick or apply any substance, including petroleum jelly, finger nail polish, finger nail polish remover, repellents, pesticides, or a lighted match to the tick, while it is attached. These materials or methods are either ineffective, or worse, might force more infective fluid into the bite site.
- After removal, wash the bite site and apply an antiseptic.
- Save the tick for future identification should you develop disease symptoms. Preserve the tick by placing it in a clean, dry jar (or other sturdy container) and keeping it in the freezer. You may discard the tick after about one month, as tick-borne diseases will generally display symptoms within this time period.
- If you develop flu-like illness or rashes, or otherwise feel sick after the tick bite, seek medical attention immediately. Take the tick with you to the clinic. Prompt diagnosis and treatment will likely speed your recovery and prevent lingering symptoms.