

Vector-Borne Diseases

Mindfulness Minute: Incorporate protection from bug bites into your outdoor work to prevent vector-borne diseases.

Vector-borne diseases are those that are transmitted by the bite of a bug (vector). Mosquitoes and ticks live in every part of the United States and are the main carriers of vector-borne diseases in the U.S., but other bugs like fleas and kissing bugs can also carry disease. The CDC reports that vector-borne diseases are on the rise in the U.S. due to factors such as climate change, changes in land use/development, and increases in global travel and trade. These factors can cause movement of both vectors and vector-borne diseases to new areas and can cause vectors to be active for longer periods of time. In Tennessee, ticks can be encountered all year, and mosquitoes can be seen any time the weather is consistently 50 °F or more (typically March-October). People who spend time outdoors for work or recreation are at a higher risk of being bitten by bugs and being exposed to vector-borne diseases.

Follow this list of dos and don'ts to prevent bug bites:



Ticks in Tennessee can be vectors for Lyme disease, spotted fever rickettsioses (like Rocky Mountain spotted fever), ehrlichiosis, anaplasmosis, and more. Lone star tick bites can cause alpha-gal syndrome (red meat intolerance).

Do wear long, loose-fitting clothing to prevent bites. Tuck your pants into your socks and your shirt into your pants for additional protection.

Do use EPA-registered insect repellents for ticks, mosquitoes, and other bugs. These can have both artificial ingredients like DEET or natural ones like oil of lemon eucalyptus. Use this EPA tool to find the right one for you: <https://tiny.utk.edu/repellent>. Research whether treating clothing, shoes, and/or gear with 0.5% permethrin to prevent ticks is right for you.

Do check for ticks and take a shower as soon as possible after coming inside.

Do tumble dry clothes to kill ticks and other bugs. Store clothing, shoes, and gear in a large, sealable bag until you are able to dry them.

Do remove attached ticks with tweezers as soon as possible and monitor for symptoms. Keep the tick in the freezer in sealable bag with the date it was removed to bring to the doctor if symptoms occur, as identifying the tick can narrow down potential infections.

Do follow your veterinarian's guidance for area- and pet-specific flea, tick, mite, and mosquito prevention to protect both your pets and yourself.

Don't walk through brushy areas or high grass. Stay in the center of trails if possible.

Don't allow stagnant water to accumulate around work areas. Set buckets or other objects that can accumulate rainwater upside down or bring them inside to prevent mosquitoes from laying eggs in the water.



Twelve species of mosquitoes in Tennessee can be vectors for diseases such as West Nile virus, La Crosse encephalitis, and Eastern Equine Encephalitis. Local spikes of mosquito-borne diseases occur every year as a result of travel outside the country and have included dengue in Tennessee.

References:

CDC Vector-borne Disease Prevention: <https://www.cdc.gov/vector-borne-diseases/prevention/index.html>

TN.gov Tick-borne Diseases: <https://www.tn.gov/health/cedep/vector-borne-diseases/tick-borne-diseases.html>

TN.gov Mosquito-borne Disease: <https://www.tn.gov/health/cedep/vector-borne-diseases/mosquito-borne-diseases.html>

CDC Tick Bite Bot and Tick Bite Response: <https://www.cdc.gov/ticks/after-a-tick-bite/index.html>

EPA Insect Repellents: <https://www.epa.gov/insect-repellents>