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Ticks and Tick-Borne Illness in Kansas

With our recent warm weather, you may notice that ticks are out and about. Ticks are small, slow moving wingless parasites that feed on human and animal blood. Ticks can be classified into two groups: soft ticks (*Argasidae*) and hard ticks (*Ixodidae*). Generally, the ticks that target humans and dogs are hard ticks. Hard ticks have a hardened shell, and the head sticks out in front of the body.

Ticks cannot jump, drop from trees, or move very quickly. Most of the time, ticks land on animals using the ambush technique. They crawl onto grass, branches, and other plants, usually within a few feet of the ground, and wait for a good host. When a person or animal brushes against the vegetation, they crawl onto them and find a spot to feed.

In Kansas, humans usually encounter the lone star tick, American dog tick, brown dog tick, and the deer tick, or blacklegged tick. Female lone star ticks have a single white spot on their back, while male lone star ticks have a few white or yellow lines on the edges of their back. American dog ticks have a white to tan mottled color on their backs. Brown dog ticks are reddish brown and have no markings on their backs. They prefer to feed on dogs but will bite humans if no dogs are available to them. Adult female deer ticks have a two-toned back. Near the head of the female deer tick is a dark brown to black semi-circle, and the rest of the back is orange-brown. The back of a male deer tick is nearly all black.

In Kansas we see a few different types of tick-borne diseases. Different ticks can transmit different diseases, so it is important to know what type of tick bit you. This will make diagnosis easier if you become sick from a tick bite.

The lone-star tick can transmit Ehrlichiosis, Rocky Mountain Spotted Fever and other Spotted Fever Group Rickettsioses (SFGR), and Tularemia. The American dog tick can transmit Rocky Mountain Spotted Fever and Tularemia. The deer tick can carry Lyme disease. Tularemia and Lyme disease usually requires the tick to be attached for over 24 hours, while Ehrlichiosis and Rocky Mountain Spotted Fever, can be transmitted within a few hours.

Lone-star ticks can also cause a condition called Alpha-gal syndrome, also known as red meat allergy. This condition causes a person to develop allergies (often hives or nasal congestion) after consuming red meat. It is not yet clear how long a tick must be attached before it can cause Alpha-gal syndrome.

While tick bites often seem like a fact of life in Kansas, there are several steps you can take to prevent tick born illnesses. First is to stick to trails instead of going into tall grass or weeds. Using insect repellents with DEET or permethrin works well to discourage ticks, although permethrin can only be applied to clothing, not to skin. Light colored clothing makes it easier to spot ticks before they reach the skin.

If you have been hiking or out in tall grass, it is a good idea to check for ticks, shower, wash and dry your clothes as soon as you can. While a washing machine might not kill a tick, the heat of a dryer will kill any ticks. If you are bitten by a tick, promptly remove it to reduce chance of disease transmission. It is best to use fine point tweezers to remove the tick. If you pull it off with your fingers, you may squeeze the tick, causing it to release more saliva into your bloodstream and put you at higher risk of a tick-borne illness. Save the tick in a vial with rubbing alcohol so it can be identified if you become ill after the bite. Be sure to monitor tick bites for discoloration, swelling, or rash. Should you notice any issues with the bite or develop any flu-like symptoms see a physician and have the tick identified.