May 1, 2013

Reminder it is Tick Season

Arkansas has some of the highest levels of tickborne diseases of any state in the nation and we are expecting another big year. In 2012, over 900 cases of tickborne diseases (TBD) were reported to the Arkansas Department of Health (ADH). These included the four diseases: Anaplasmosis, Ehrlichiosis, Rocky Mountain spotted fever, and Tularemia. Five of these cases resulted in death. Cases were found in 63 counties, with illnesses occurring every month of the year but peaking in June. Because many of these illnesses go unreported, the actual number of persons sick from tick-related disease is much higher.

According to Susan Weinstein, DVM, MPH, Zoonotic Disease Section Chief at the Arkansas Department of Health, “Tick-related illnesses are serious and can be deadly if not treated properly. It is very important that people realize the seriousness of the infections that some ticks can carry, and to see their doctor if ill. Thankfully, we can prevent many of these infections if we become aware of the risks and take some simple precautions.

If left untreated, some of these infections can spread to joints, the heart, and the nervous system. Steps to prevent disease include using insect repellent, removing ticks promptly, applying pesticides, and reducing tick habitat.

Several tickborne illnesses are common in Arkansas.

Rocky Mountain spotted fever (RMSF) is the most common tickborne disease in Arkansas. RMSF is caused by the bacterium Rickettsia rickettsii. This bacterium is carried mostly by the American dog tick, but also by the brown dog tick. Not all ticks are infected. It takes an infected tick several hours to spread disease after attaching to a person. Most RMSF cases occur between June and August when tick populations and outdoor activities are highest. Half of all people with RMSF do not remember being bitten by a tick.

Anaplasmosis is a tickborne disease caused by the bacterium Anaplasma phagocytophilum. It was previously known as human granulocytic ehrlichiosis (HGE). Anaplasmosis is spread to humans by bites primarily from the blacklegged tick. In Arkansas, these ticks are commonly found in shady areas along roads, meadows and woods. The risk of picking up these ticks is greater in wooded or brushy areas and in the edge area between lawns and woods.
Ehrlichiosis is the name used to describe several bacterial diseases that affect animals and humans. Human ehrlichiosis (formerly called human monocytic ehrlichiosis or HME) is caused by *Ehrlichia chaffeensis* (first recognized in 1986 from a patient infected at Fort Chaffee, AR) and *Ehrlichia ewingii*. These bacteria are spread to humans by the bite of the lone star tick.

Tularemia is a disease of animals and humans caused by the bacterium *Francisella tularensis*. Rabbits, hares and rodents are especially susceptible and often die in large numbers during outbreaks. Humans can become infected through several routes, including:

- Tick bites, including the American dog tick and the lone star tick
- Deer fly bites
- Skin contact with infected animals, especially hunting and skinning infected rabbits
- Ingestion of contaminated water
- Inhalation of contaminated dusts or aerosols
- Contact as a result of bioterrorism

Lyme disease is not native to Arkansas. However, individuals who have travelled to other parts of the country, especially the Northeast and Midwest, might have become infected while visiting out of state.

Southern tick-associated rash illness (STARI) causes a ‘bull’s eye’ appearing rash similar to Lyme disease following bites of the lone star tick. The rash may be accompanied by fatigue, fever, headache, muscle and joint pains. The cause of STARI is not known but is presumed to be from a tickborne infection.

According to the CDC the following ticks are in Arkansas:

- American dog tick – mostly spreads Rocky Mountain spotted fever, but can also spread tularemia. These ticks like to feed on dogs and other medium sized mammals, but they will also feed on humans.
- Blacklegged tick (deer tick) – spreads anaplasmosis and in other parts of the United States, Lyme disease. Larvae and nymphs feed on small mammals and birds, while adults feed on larger mammals and will bite humans on occasion. It is important to note that the pathogen that causes Lyme disease is maintained by wild rodent and other small mammal reservoirs, and is not transmitted everywhere that the blacklegged tick lives. In some regions, particularly in the southern U.S., the tick has very different feeding habits that make it an unlikely vector in the spread of Lyme disease.
- Brown dog tick – spreads Rocky Mountain spotted fever in the Southwest U.S. Dogs are the main host for these ticks.
- Lone star tick – can spread ehrlichiosis, tularemia, and is the causal agent for Southern Tick Associated Rash Illness (STARI). The white-tailed deer is the main host for these ticks.
Symptoms of tickborne diseases can include the following:
- fever
- headache
- muscle pain
- abdominal pain
- nausea
- vomiting
- rash

Ticks do not jump, fly or fall out of trees. They wait on low growing plants for a host (person or animal) to pass by. When a host brushes against the plant, the tick will cling to fur or clothing. Once on the host, the tick will crawl upward, looking for a place to attach and begin feeding. In Arkansas, ticks can be active all 12 months, but are most active in spring–summer (April–September).

Reduce the risk of getting disease from ticks by following these steps:
- Avoid tick-infested areas such as tall grass and dense vegetation.
- Tuck your pants into your socks or boots.
- Wear light-colored clothing to make it easier to find crawling ticks.
- Use products with no more than 30% DEET for your skin when you are in areas that could have ticks and use permethrin on clothing and gear. Make sure to follow all directions on the bottle.
- Check yourself, your children and your pets often for ticks.
- Bathe or shower within two hours after being where ticks live to find and wash off ticks that may be crawling on you.

To remove a tick from your skin use a pair of clean fine-tipped tweezers, grab the tick as close to the skin as possible. Pull the tick upwards at a steady pace. This prevents the mouth parts from breaking off and staying in your skin. If the mouth parts do break off, clean the tweezers and attempt to remove the mouth parts. If you cannot remove the parts just leave them in. Clean the bite area and your hands with soap and water.

References:
1) Centers for Disease Control (CDC) tick website: [http://www.cdc.gov/ticks/index.html](http://www.cdc.gov/ticks/index.html)
2) CDC tickborne illness website: [http://www.cdc.gov/ticks/symptoms.html](http://www.cdc.gov/ticks/symptoms.html)

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If you wish to receive future health alerts or the communicable disease newsletter you must sign up at [https://health.arkansas.gov/codespearreg](https://health.arkansas.gov/codespearreg) in order to receive it. If you have any questions or concerns please feel free to contact Dirk Haselow via phone at (501)-661-2169, fax at (501)-661-2300, or e-mail at Dirk.Haselow@arkansas.gov.