



## **Tick Borne Diseases Are Very Serious**

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November 2012 - Ticks are small parasites that feed on the blood of a host, either animal or human. They walk on plants or are carried by birds or animals, waiting for a possible 'host' to walk by and when they get the opportunity, they attach to a person usually in a warm and moist place such as the armpit. Many times the tick is so tiny, so the person is unaware of its presence. The tick borne diseases that they carry can be very severe, even life threatening.

Occasionally these ticks carry bacteria and other infectious microorganisms and thus serve as a vector for spreading infections in humans. The longer the tick remains attached to the person's skin, the greater the risk for that person to get infected, especially if it is there for more than 36 hours.

According to Centers for Disease Control and Prevention, some of the most common ticks that carry infectious organisms that infect North Americans are the following:

*Ixodes scapularis*, a black legged tick found in northeastern and upper midwestern U.S., and *Ixodes pacificus*, found along the Pacific coast, are two ticks belong the same family that cause three major infectious diseases, *Borrelia burgdorferi*, Anaplasmosis and Babesiosis.

Lyme disease is caused by the bacterium *Borrelia burgdorferi* and is transmitted to humans through the bite of infected blacklegged ticks. A person who develops this condition may have a variety of symptoms affecting multiple organs. The most common complaints being fever, headache, fatigue, and a characteristic skin rash called erythema migrans. If left untreated, Lyme disease can spread to joints, the heart, and the nervous system.

Anaplasmosis, previously called human granulocytic ehrlichiosis (he), is a tickborne disease also transmitted to humans by *Ixodes* ticks and is infected by the bacterium *Anaplasma phagocytophilum*. Symptoms are similar to Lyme disease with fever, headache, chills, and muscle aches within 1-2 weeks of a tick bite.

Babesiosis is another disease caused by the bacterium *Babesia microti* that is carried by the *Ixodes scapularis* tick. Many people who are infected with *Babesia* do not have symptoms, while others will experience flu-like symptoms. This disease can also be severe, causing hemolytic anemia, a type of anemia characterized by jaundice and dark urine, disseminated intravascular

coagulation and even death. These severe forms of babesiosis usually occur in individuals with a weakened immune system or chronic conditions.

*Dermacentor variabilis*, *Dermacentor andersoni* and *Rhipicephalus sanguineus* are dog ticks that carry the bacterium *Rickettsia rickettsii* and in humans are causing so called Rocky Mountain spotted fever (RMSF). This disease can also cause fever, headache, as well as abdominal pain, vomiting, and muscle pain. Some individuals develop a rash and in some severe cases, can be life threatening if not treated promptly with antibiotics.

*Dermacentor variabilis*, *Dermacentor andersoni*, the same ticks causing RMSF, as well as a third tick called *Amblyomma americanum* are responsible for transmitting in humans a disease called tularemia. These ticks carry a bacterium called *Francisella tularensis* and infect both humans and animals such as rabbits and rodents. Symptoms vary depending on how bacterium enter the body. All cases of tularemia include fever. In some cases, there is an ulceration of the skin and enlargement of the lymph nodes. In other cases, the glands are affected. The third form of the disease affects the eye, causing inflammation of the eyes and enlarged lymph glands localized in front of the ear. Other cases of tularemia can cause sore throat and ulcers, and lastly the most serious form will affect the lungs, causing severe pneumonia.

References:

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