LYME DISEASE

WHAT IS LYME DISEASE?

Lyme disease is an infection resulting from a deer tick infected with Borrelia *burgdorferi*, a spirochetal bacterium that can be found in infected ticks, causing symptoms ranging from mild to severe. Frequently, a rash develops (erythema migrans) which has a ring shaped appearance similar to a bull's eye usually at the site of the bite. Some people never get the rash but develop arthritis, nerve damage and heart problems. If diagnosed and treated early the disease is treatable. If left untreated symptoms can persist for several years.

HOW DO DEER TICKS INFECT PEOPLE WITH LYME DISEASE?

Ticks are generally found in wooded, brushy or grassy areas. They favor a moist, shaded environment especially areas with leaf litter and low-lying vegetation. They attach to people and animals. The ticks place their mouthparts through the skin and feed on the host's bloodstream. If the tick is infected it will pass the bacterium to the host through the bloodstream. A deer tick is smaller than a sesame seed and can be difficult to detect. They commonly attach to hairy sites on the body, i.e., groin, armpit and scalp.

This picture shows a person bitten by a deer tick. A "Bull's Eye" rash is sometimes associated with Lyme Disease.

WHAT ARE THE SYMPTOMS OF LYME DISEASE?

One or more of these symptoms characterizes the early stage of Lyme disease:

- Characteristic bull's eye rash
- Fever or chills
- Muscle or joint pain
- Headache
- Fatigue

These symptoms are vague and can be mistaken for other diseases or infections. A blood test is available to test for the disease.

WHAT ARE THE RISK FACTORS FOR LYME DISEASE?

- Living in areas where Lyme disease is present and has the highest incidence (Northeastern, mid-Atlantic and north central states).
- Having a prior history of Lyme disease
- Working outdoors, especially in grass or woods
- Hiking, camping, fishing and hunting in grassy or wooded areas
- Travel to areas with high incidence of Lyme disease
- Owning pets that are outdoors in a grassy or wooded environment

What Can You Do to Reduce Your Chance of a Tick Bite?

- Avoid tick-infested areas when possible. Avoid short cuts through heavily wooded tick infested areas
- Use caution when entering tick-infected areas. Stay on designated paths, avoid sitting on the ground and conduct frequent tick-checks
- Dress properly
  - Wear light colored clothing allowing you to more easily to see ticks
  - Wear long sleeved shirt and long pants reducing your skin exposure to ticks. Tuck your shirt into your pants and tuck your pants into your socks preventing ticks to enter under your clothing
- Use insect repellent approved by the EPA such as 30% DEET. Repellent can be applied to skin and clothing. Do not use anything stronger than 30% DEET as it may cause a systemic reaction. Wash off the repellents when you return inside
- Conduct frequent tick checks
  - Visually check clothing and skin
  - Check scalp, behind the ears and behind any joints
- Remove embedded ticks using fine tipped tweezers. Do not use a hot match, petroleum jelly, nail polish or other products. Grasp the tick firmly and as close to the skin as possible. With steady motion, pull the tick's body away from your skin. Do not be alarmed if tick's mouthparts remain in the skin. Cleanse area with antiseptic
- Check pet's fur

What is the Treatment for Lyme Disease?

The disease can be treated with one of several different antibiotics. Receiving treatment soon after infection prevents developing late stage Lyme disease. The vaccine for Lyme disease is no longer available.

See your doctor if you develop:

- A rash
- A fever
- Muscle aches
- Joint pain and inflammation
- Swollen lymph nodes
- Flu-like symptoms
- If possible, bring the tick with you to your doctor's appointment
- If the tick analysis confirms the bacteria is present.

Call 911 or your local emergency number if you develop:

- A severe headache
- Difficulty breathing
- Paralysis
- Chest pain or heart palpitations

Tick Analysis

Clongen Labs offer Tick Testing for Lyme's Disease by Polymerase Chain Reaction (PCR). This amplification assay of total tick DNA simultaneously detects theLy1 Chromosomal gene and Outer Surface Protein A genes in Borrelia burgdorferi, the causative agent for Lyme's Disease. Both dog ticks and deer ticks tend to carry the bacteria in their digestive system. (http://www.clongen.com)