

For the few of you who spend much of your time working outdoors, Lyme disease may be something you have heard about. If not, be warned. Lyme disease has become the most common tick-borne illness and is one of the fastest growing infectious diseases in the United States. It has been reported in 48 states and most provinces in Canada, and the ticks are spreading geographically; not surprising given the suburban edge effect which is so popular for deer habitat, and mild winters which allow deer populations to continue

to increase. The disease is caused by a bacterium, *Borrelia burgdorferi*, which is carried by ticks (deer and rodents mainly). The highest risk areas are: New England, the mid-Atlantic states, the upper Midwest and the Pacific Northwest.

While Lyme disease has been identified as a problem for some time, one of the initial difficulties with this disease was the fact that it had so many different symptoms that could appear like

other problems. This was further complicated by tests that were sometimes inaccurate; some medical professionals who did not actually believe in the disease ("it's all in your head" school of medicine); and a failure to recognize the actual geographic occurrence of the problem through much of North America. Experts believe it is underreported by as much as ten times.

This was a problem because the only way to successfully treat the disease has been through identification and a course of antibiotics. The sooner this occurs the fewer and less severe the symptoms, but permanent immunity may not develop and reinfection is possible.

Of the many problems in identifying the disease are: 1) the size of the ticks (smaller than wood ticks) and nymphs (the size of a period on

this page) made them easy to miss; 2) the characteristic "bull's-eye" rash did not always develop in the first three days to weeks after the bite or could easily be overlooked; and 3) flu-like symptoms were either vague or nonexistent (headache, fever, fatigue, joint aches, muscle aches and stiff neck).

While any early symptoms would disappear, the disease could eventually reveal itself in a variety of problems affecting the joints, tendons, heart or nervous system, resulting in arthritis, heart abnormalities such as heart block and myocarditis (inflammation of the muscular walls of the heart), as well as:

- ▶ skin lesions at multiple sites, not just the site of the tick bite;
- ▶ irregular heart beat, palpitations and fainting;
- ▶ intermittent joint swelling associated with inflammation (pain, heat and redness); and
- ▶ paralysis of the muscles on one or both side of the face, known as Bell's palsy.

SmithKline Beecham Biologicals has developed a vaccine for Lyme disease, LYMERix™ [Lyme Disease Vaccine (Recombinant OspA)]. It's been approved by the FDA and is expected to be available soon. The vaccine reportedly prevents the development of the disease in many cases. Questions remain and it's not clear yet whether booster shots will be necessary over time, based on the levels of antibodies required for prevention, and the long-term effects.

The vaccine is administered in a three-injection series with some side effects (injection-site reactions, flu-like symptoms and rash). LYMERix apparently works by inducing antibodies which enter the body of an infected tick when it feeds, entering the gut of the tick and killing it before it can transmit the bacterium to the would-be victim (www.lymerix.com).

Call the Lyme Disease Foundation at 800/886-LYME or their website at www.lyme.org for more information. **LM**

Agree/Disagree? Comments/Questions? Column Suggestions? Let Nancy Stairs know at 440/891-2623. Fax: 440/891-2675. E-Mail: nstairs@advanstar.com

Get in 'Lyme' for a new vaccine



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