

# CUYAHOGA COUNTY BOARD OF HEALTH

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The Cuyahoga County Board of Health (CCBH) receives reports of Lyme disease cases from the Ohio Department of Health (ODH) and conducts follow up surveys of areas frequented by the case. Cuyahoga County reported 46 cases of Lyme disease in 2017. Ohio has seen an increase in Lyme disease cases the last few years and our neighboring States of New York and Pennsylvania have been reporting a higher increase of incidence of the disease for the same time frame. Some of the Lyme disease cases in Ohio were people who were exposed to deer ticks outside of the State of Ohio.

Lyme disease is spread in the eastern United States by the black-legged tick. It is a three-host tick that has a two year life cycle. During the larval stage, the tick attaches to small mammals (mice, chipmunks, etc.) to obtain their first blood meal. The first blood meal is often taken from the rodent, typically a mouse, which may be carrying the Lyme Disease bacterial agent, *Borrelia burgdorferi*. The next stage, or the nymph, can attach to medium size animals, including dogs, raccoons, deer, and even humans. It is in the nymph stage that Lyme disease is transmitted to humans. As shown in in slide #2, titled “Lyme Disease”, the nymph stage of the black legged tick is very small and hard to see on your body. After a blood meal, the nymph later molts to the adult stage and then crawls to a large mammal, most commonly a white-tail deer or a human. This is another opportunity for an infected black legged tick to transmit the bacterium to a human. After digesting the blood meal, the adult will later mate and lay eggs. Please refer to the attached slides #2 and #3 titled “Lyme Disease” and “Lyme Disease in Ohio”.

Lyme disease may take anywhere from three to thirty (3-30) days for the first sign of infection, which is usually a circular rash at the site of the tick bite. This rash may develop up to twelve (12) inches in diameter and appear to look like a bulls-eye. Patients experience the symptoms of fatigue, chills, fever, headache, muscle and joint pain, and swollen lymph nodes. Lyme disease can be cured if treatment is administered early in the course of the illness with antibiotics. Symptoms may sometimes last months or years even if treated with antibiotics. Please refer to slide #4 titled “Tick-borne Diseases in Ohio”.

Prevention measures include avoiding areas that are likely to be infested with ticks, especially in the spring and summer when ticks in the nymph stage feed. Another primary prevention measure involves the application of insect repellent containing DEET to clothes or exposed skin and follow label directions. You can reduce the number of ticks around your home by removing leaf litter, brush and wood piles around your home and at the edge of your yard. By clearing trees and brush in your yard, you can reduce the likelihood that deer, rodents, and ticks will live there. Please refer to the diagram on the next page.

Some communities have initiated deer culling in order to help prevent car/deer collisions. It also can help reduce the amount of damage deer do to residential landscaping and minimize the

5550 Venture Drive ♦ Parma, Ohio 44130

Direct: 216-201-2000 ♦ Fax: 216-676-1311 ♦ TTY: 216-676-1313 ♦ [www.ccbh.net](http://www.ccbh.net)

Terrence M. Allan, R.S., M.P.H. Health Commissioner

potential for the elimination of natural flowers and bushes that affect the balance of nature in an area. The reduction of a local deer population may also help reduce the tick abundance in an area. The resulting reduction in tick density may be low enough to interrupt the enzootic cycle and transmission of Lyme disease to humans.

Create a Tick-Safe Zone in your backyard



- |                 |                                   |  |
|-----------------|-----------------------------------|--|
| <p><b>1</b></p> | <p><b>Tick zone</b></p>           | <p>Avoid areas with forest and brush where deer, rodents, and ticks are common.</p>                              |
| <p><b>2</b></p> | <p><b>Wood chip barrier</b></p>   | <p>Use a 3 ft. barrier of wood chips or rock to separate the "tick zone" and rock walls from the lawn.</p>       |
| <p><b>3</b></p> | <p><b>Wood pile</b></p>           | <p>Keep wood piles on the wood chip barrier, away from the home.</p>   |
| <p><b>4</b></p> | <p><b>Tick migration zone</b></p> | <p>Maintain a 9 ft. barrier of lawn between the wood chips and areas such as patios, gardens, and play sets.</p> |
| <p><b>5</b></p> | <p><b>Tick safe zone</b></p>      | <p>Enjoy daily living activities such as gardening and outdoor play inside this perimeter.</p>                   |
| <p><b>6</b></p> | <p><b>Gardens</b></p>             | <p>Plant deer resistant crops. If desired, an 8-ft. fence can keep deer out of the yard.</p>                     |
| <p><b>7</b></p> | <p><b>Play sets</b></p>           | <p>Keep play sets in the "tick safe zone" in sunny areas where ticks have difficulty surviving.</p>              |

*Based on a diagram by K. Stafford, Connecticut Agricultural Experiment Station*

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