Tick Talk

Tick Sweeping Program at TLCHD

The Toledo-Lucas County Health Department has begun a tick surveillance program with the overall goal of assessing the current tick population in Lucas County. In addition to identification of the species of ticks present in Lucas County, ticks collected are being tested for presence of bacterial pathogens.

Five parks within Lucas County have been selected as part of this program: Oak Openings, Pearson Park, Secor Metropark, Swan Creek Preserve Metropark, and Wildwood Preserve Metropark. Many factors influenced park selection for this program including, but not limited to, location within the county and number of visitors attending the park.

All parks, once selected by TLCHD staff, were contacted for permission to sweep for ticks at their location. It was decided to sweep in two different locations at each park: a prairie and a wooded section. This decision was made because different species of ticks prefer different habitats. Locations for tick sweeping were also identified to be outside of nesting areas of protected bird species in Lucas County.

Once a park was selected, staff from TLCHD performed, and continue to perform, weekly tick sweeps. Data collected at the time of the sweep consist of date/time of sweep, weather conditions, GIS coordinates and rough estimation of visitors to the specified location during the time of sweep.
### Current Sampling Results

Currently TLCHD has conducted sampling on five dates (5/14/2015-5/15/2015, 5/22/2015, 5/27/2015, and 6/3/2015). Identification data is currently available for sampling events that occurred in May 2015.

Sampling occurs weekly and, ideally, on days without inclement weather.

All ticks found in the month of May have been American Dog Ticks (*Dermacentor variabilis*). Of sixteen ticks found, seven were female and nine were male. The majority of the ticks found have been found in the prairie sampling area of Secor Metropark (n=14), one has been picked up from the wooded area at Secor Metropark and the additional one tick was picked up from Oak Openings Metropark’s wooded area. All ticks identified were adults.

Though sampling has not yielded a high count of ticks, it is not to say that ticks are not abundant around the areas being sampled. Numerous factors (e.g. weather, preference for specific areas, location of “hot spots” of tick populations) affect the results obtained.

### Ticks Collected from Sampling Date

![Graph showing the number of ticks collected by date and gender]

- **14-May**: 0 males, 1 female, total 1
- **22-May**: 2 males, 3 females, total 5
- **27-May**: 1 male, total 1

*Tick sweeps were conducted at additional parks, yet none were found on specified dates.*
Tick Infectious Disease Concerns

What are the most common symptoms of tick related illness?

- Fever/chills: With all tickborne diseases, patients can experience fever at varying degrees and time of onset.
- Aches and pains: Tickborne disease symptoms include headache, fatigue, and muscle aches. With Lyme disease you may also experience joint pain. The severity and time of onset of these symptoms can depend on the disease and the patient’s personal tolerance level.
- Rash: Lyme disease, southern tick-associated rash illness (STARI), Rocky Mountain spotted fever (RMSF), ehrlichiosis, and tularemia can result in distinctive rashes:
  - In Lyme disease, the rash may appear within 3-30 days, typically before the onset of fever. The Lyme disease rash is the first sign of infection and is usually a circular rash called erythema migrans or EM. This rash occurs in approximately 70-80% of infected persons and begins at the site of a tick bite. It may be warm, but is not usually painful. Some patients develop additional EM lesions in other areas of the body several days later.
  - The rash of (STARI) is nearly identical to that of Lyme disease, with a red, expanding “bulls eye" lesion that develops around the site of a lone star tick bite. Unlike Lyme disease, STARI has not been linked to any arthritic or neurologic symptoms.
  - The rash seen with Rocky Mountain spotted fever (RMSF) varies greatly from person to person in appearance, location, and time of onset. About 10% of people with RMSF never develop a rash. Most often, the rash begins 2-5 days after the onset of fever as small, flat, pink, non-itchy spots (macules) on the wrists, forearms, and ankles and spreads to the trunk. It sometimes involves the palms and soles. The red to purple, spotted (petechial) rash of RMSF is usually not seen until the sixth day or later after onset of symptoms and occurs in 35-60% of patients with the infection.
  - In the most common form of tularemia, a skin ulcer appears at the site where the organism entered the body. The ulcer is accompanied by swelling of regional lymph glands, usually in the armpit or groin.
  - In about 30% of patients (and up to 60% of children), ehrlichiosis can cause a rash. The appearance of the rash ranges from macular to maculopapular to petechial, and may appear after the onset of fever.

Tickborne diseases can result in mild symptoms treatable at home to severe infections requiring hospitalization. Although easily treated with antibiotics, these diseases can be difficult for physicians to diagnose. However, early recognition and treatment of the infection decreases the risk of serious complications. So see your doctor immediately if you have been bitten by a tick and experience any of the symptoms described here.
Meet the Possible Ticks of Lucas County

<table>
<thead>
<tr>
<th>Tick (scientific name)</th>
<th>Potential Pathogens/Diseases They Could Carry</th>
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<tbody>
<tr>
<td>American Dog Tick (Dermacentor variabilis)</td>
<td>Rocky Mountain Spotted Fever</td>
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<tr>
<td></td>
<td>Erlichiosis</td>
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<tr>
<td></td>
<td>Lyme disease</td>
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<td></td>
<td>Tularemia</td>
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<tr>
<td>Woodchuck tick (Ixodes cookei)</td>
<td>Powassan Virus</td>
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<tr>
<td>Blacklegged tick (Ixodes scapularis)</td>
<td>Anaplasmosis</td>
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<td></td>
<td>Babesiosis</td>
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<tr>
<td></td>
<td>Lyme disease</td>
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<tr>
<td></td>
<td>Powassan Virus</td>
</tr>
<tr>
<td>Brown dog tick (Rhipicephalus sanguineus)</td>
<td>Rocky Mountain Spotted Fever</td>
</tr>
<tr>
<td>Lone star tick (Amblyomma americanum)</td>
<td>Erlichiosis</td>
</tr>
<tr>
<td></td>
<td>Tularemia</td>
</tr>
<tr>
<td></td>
<td>STARI (southern tick-associated rash illness)</td>
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</tbody>
</table>

Tick Fact

Ticks Crawl Up: Ticks don't jump, fly, or drop from trees onto your head and back. If you find one attached there, it most likely latched onto your foot or leg and crawled up over your entire body. Ticks are "programmed" to try and attach around your head or ears. On their normal hosts, ticks also usually crawl up; they want to blood feed around the head, neck, and ears of their host, where the skin is thinner and hosts have more trouble grooming.

Blacklegged ticks & Lyme disease in Ohio

Number of Counties:
Blacklegged ticks present - 65
Lyme disease endemic - 24

*Lyme disease endemic county:
2 or more lab confirmed human cases with local exposure in county
Or
Infected ticks have been confirmed from county

Last updated 4/9/2015
Three Ticks of Public Health Importance
Spot Identification

**American dog tick**, *Dermacentor variabilis*
Ornamentation on ‘back’
- Adult Activity: Late March through July
- Adult Habitat: Grassy areas along paths and roads

**Blacklegged ‘deer’ tick** *Ixodes scapularis*
No Ornamentation
- Activity: All life stages bite. Active 12 months

**Lone star tick** *Amblyomma americanum*
Ornamentation
- Habitat: Forest & shrubs
- Activity: All life stages bite. April – August

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Photos courtesy the Tick Research Laboratory, Texas A&M University
http://tickapp.tamu.edu/

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**New Paradigm:**
*Ixodes scapularis* in Ohio

![Graph showing % Submissions by Month](chart.png)

- Larvae: Not Lyme Disease Vectors
HELP! I’ve Found a Tick

Remove an attached tick using fine-tipped tweezers as soon as you notice it. If a tick is attached to your skin for less than 24 hours, your chance of getting Lyme disease is extremely small; however, other diseases may be transmitted more quickly.

Over the next few weeks, watch for signs or symptoms of Lyme disease such as rash or fever. See a healthcare provider if these develop. For more information, see tick removal.

TLCHD Community Service and Environmental Health Staff can assist you in identifying the species of tick you have found, however, TLCHD does not provide laboratory testing on ticks. Resources for tick testing can be found on TLCHD’s website (www.lucascountyhealth.com).

Perform Daily Tick Checks

Check your body for ticks after being outdoors, even in your own yard. Conduct a body check upon return from potentially tick-infested areas by searching your entire body for ticks. Use a hand-held or full-length mirror to view all parts of your body and remove any tick you find. Take special care to check these parts of your body and your child’s body for ticks:

- Under the arms
- In and around the ears
- Inside the belly button
- Back of the knees
- In and around all head and body hair
- Between the legs
- Around the waist

Check your clothing and pets for ticks because ticks may be carried into the house on clothing and pets. Both should be examined carefully, and any ticks that are found should be removed. Placing clothes into a dryer on high heat effectively kills ticks.

Protect Yourself from Tick Bites

Know where to expect ticks. Blacklegged ticks live in moist and humid environments, particularly in or near wooded or grassy areas. You may come into contact with ticks during outdoor activities around your home or when walking through vegetation such as leaf litter or shrubs. To avoid ticks, walk in the center of trails and avoid tall vegetation.

Use a repellent with DEET (on skin or clothing) or permethrin (on clothing and gear). Repellents containing 20% or more DEET (N, N-diethyl-m-toluamide) can be applied to the skin, and they can protect up to several hours. Always follow product instructions! Parents should apply repellents to their children, taking care to avoid application to hands, eyes, and mouth. Products containing permethrin can be used to treat boots, clothing, and camping gear. Treated items can remain protective through several washings.

For detailed information about using DEET on children, see West Nile Virus: What You Need to Know about Mosquito Repellent.

For detailed information about tick prevention and control, see Lyme Disease Prevention and Control.

For detailed information geared to outdoor workers, see NIOSH Safety and Health Topic: Tick-borne Diseases.