Ohio | Department of Health

Mike DeWine, Governor
Jon Husted, Lt.Governor

Bruce Vanderhoff, MD, MBA, Director

MEMORANDUM

DATE: May 24, 2023

TO: Ohio Healthcare Providers

FROM: Bruce Vanderhoff, MD, MBA
Director of Health

SUBJECT: Tickborne Diseases Increasing -- Request for Provider Enhanced Surveillance

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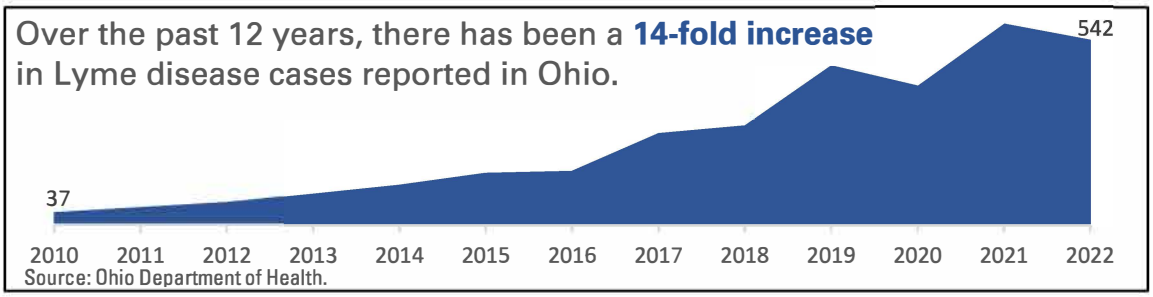
Since the first discovery of established blacklegged ticks in Ohio in 2010, Lyme disease has steadily increased and caused significant disease among Ohioans.

To ensure that as many cases are appropriately reported as possible, the Ohio Department of Health (ODH) is asking healthcare providers to consider Lyme disease and other tickborne diseases in their differential diagnosis for patients presenting with compatible symptoms. We also encourage providers to help increase patient awareness by providing patient education on tickborne disease prevention. This memo provides pertinent information about the diagnosis, treatment, and reporting of Lyme disease and other tickborne diseases.



Actions for Ohio Clinicians

1. **Increase patient awareness and education of tickborne diseases.** Direct patients to the ODH tickborne disease website for information, statistics, and prevention resources.

2. **Consider tickborne diseases as a differential diagnosis when evaluating patients with febrile illness, with or without a rash.** Many tickborne diseases present with non-specific clinical signs such as fever, headache, fatigue, and muscle aches. Some, but

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not all, tickborne diseases may present with a rash that can vary in presentation. See the attached document for various forms of erythema migrans (EM) rash associated with Lyme disease. For more information on symptoms of tickborne disease, visit https://www.cdc.gov/ticks/symptoms.html.

3. **Familiarize yourself with the laboratory tests available to diagnose tickborne illness.**

Lyme disease

- Use a two-tier approach to test for *Borrelia burgdorferi or Borrelia mayonii* infection using an enzyme immunoassay (EIA) or indirect immunofluorescence antibody (IFA).
- All specimens positive or equivocal by EIA or IFA should be reflexed for a Western immunoblot. Additional testing is not warranted if specimens are negative by EIA or IFA.

Note: In accordance with Centers for Disease Control and Prevention (CDC) guidance, an EM rash without laboratory confirmation is not considered specific enough to identify Lyme disease in Ohio; therefore, additional diagnostic testing is critical to identify cases.

Anaplasmosis, ehrlichiosis and spotted fever group rickettsiosis

- Perform IFA testing of at least two serum samples collected 2-4 weeks apart during acute and convalescent phases of illness or PCR from whole blood specimens collected during the acute state of illness.

Note: Serologic sensitivity is poor in the early stages of infection. If serology is negative in patients with possible early infection, repeat serology 3 to 4 weeks later which may demonstrate seroconversion.

Babesiosis

- A positive Babesia IFA result for immunoglobulin M (IgM) is insufficient for diagnosis in the absence of a positive IFA result for IgG (or total Ig). If the IgM result is positive but the IgG result is negative, a follow-up blood specimen drawn at least one week after the first is recommended. If the IgG result remains negative in the second specimen, the IgM result is likely a false positive.

Powassan Virus

- Contact the ODH Zoonotic Disease Program 614-995-5599 to arrange for testing by CDC.

4. **Promptly report suspected cases of tickborne infections to the local health department where the patient resides.**

5. **Remind patients to take preventive measures.** These include recognizing and avoiding tick habitats, using U.S. Environmental Protection Agency-approved insect repellents when outdoors, showering immediately after returning indoors, performing tick checks, and removing ticks promptly. When performing tick checks, patients should pay special attention to under the arms, in and around ears, inside belly button, backs of knees, in and around hair, between the legs, and around the waist.

Treatment for Tickborne Illness
If anaplasmosis, ehrlichiosis, Lyme disease, or spotted fever group rickettsiosis is suspected, patients of all ages, including children, should be treated promptly and appropriately with doxycycline. Anaplasmosis, ehrlichiosis, and spotted fever group rickettsioses are potentially fatal, and therapy should not be delayed pending diagnosis. Babesiosis can be treated with a combination of two prescription medications -- Atovaquone PLUS azithromycin or Clindamycin PLUS quinine. There is no medication to treat Powassan virus infection; clinical management is supportive. Additional information on treatment of tickborne diseases can be found at www.cdc.gov/ticks.

Additional Information

Tickborne Disease Information and Educational Materials

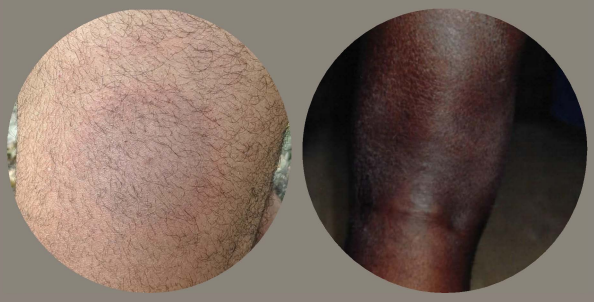
- **Ohio Department of Health: Tickborne Diseases in Ohio**
  www.odh.ohio.gov/tick
- **Centers for Disease Control and Prevention: Symptoms of Tickborne Illness**
  https://www.cdc.gov/ticks/symptoms.html
- **Centers for Disease Control and Prevention: Repellents and Bite Prevention**
  https://www.cdc.gov/ncezid/dvbd/about/prevent-bites.html
- **U.S. Environmental Protection Agency: Find the Repellent that is Right for You**
  https://www.epa.gov/insect-repellents/find-repellent-right-you
- **Centers for Disease Control and Prevention: Tickborne Disease Continuing Education for Healthcare Providers**
  https://www.cdc.gov/ticks/tbd_education/index.html
- **Ohio Department of Health: Request for Educational Materials**
  https://redcap.link/ZDPEducationalMaterialsRequestForm

Helpful Contacts

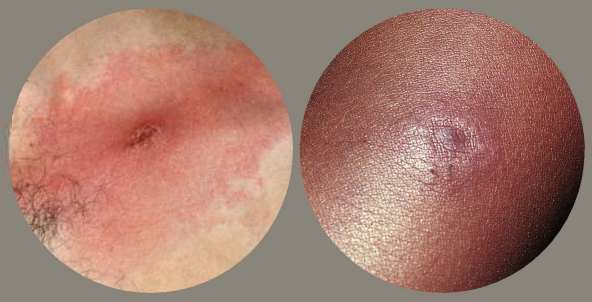
- **Find Your Local Health Department**
  https://odh.ohio.gov/find-local-health-districts
- **ODH Zoonotic Disease Program**
  Zoonoses@odh.ohio.gov
  614-955-5599

The Many Forms of Lyme Disease Rashes
(Erythema Migrans)

Faint colors and borders



Crusted centers



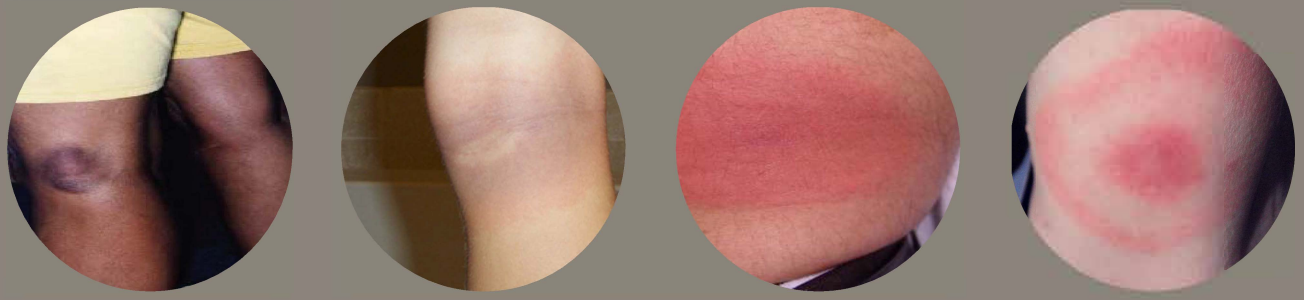
More than one rash



Different shapes and colors



Appearing anywhere on the body





Most people with Lyme disease develop an erythema migrans rash at the site of the tick bite. The rash usually expands slowly over several days reaching up to 12 inches or more (30 cm) across. **However, not all rashes are a sign of Lyme disease**. The redness in the picture to the left is caused by irritation to the tick bite — not a tickborne infection.

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Learn more about Lyme disease symptoms at
www.cdc.gov/lyme/signs_symptoms