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WEST VIRGINIA Department of Health & Human Resources BUREAU FOR PUBLIC HEALTH

HEALTH ADVISORY #176

Increasing Incidence of Lyme Disease and Guidance for Appropriate Laboratory Testing

TO: **West Virginia Healthcare Providers, Hospitals and Other Healthcare Facilities**

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West Virginia Department of Health and Human Resources, Bureau for Public Health

DATE: **July 19, 2021**

LOCAL HEALTH DEPARTMENTS: Please distribute to community health providers, hospital-based physicians, infection control preventionists, laboratory directors and other applicable partners.

OTHER RECIPIENTS: Please distribute to association members, staff, etc.

Lyme disease (LD) is the most commonly reported tickborne disease in West Virginia. Last year, 1,062 LD cases were reported in the state and a dramatic increase in cases was seen in northwestern and central West Virginia. Recently tick bite-related emergency department visits have increased in West Virginia. This trend is expected, as tick exposures generally increase during spring and summer months and serves as an important reminder that tickborne diseases occur annually in West Virginia. Healthcare providers should have a heightened clinical suspicion for tickborne diseases in persons with clinically compatible symptoms and ensure appropriate testing. Suspect and confirmed cases of LD (including copies of lab results) should be reported to the local health department (LHD) within one week of diagnosis.

Healthcare providers should take great care to order the correct serologic tests in the proper order for diagnosis of LD. Appropriate testing should include a two-step testing approach consisting of an equivocal enzyme immunoassay (EIA) or immunofluorescent assay (IFA) screening followed by a confirmatory Western blot. Both steps can be done using the same blood sample. LHDs have reported an increase in cases with only Western blot results. Since the two-step approach is required to classify a case, these cases may be misclassified as “not a case.”

If the first step in the two-step approach is negative, no further testing is recommended, and an alternative diagnosis should be considered. If the first test yields positive or equivocal results, a Western blot should be run. Western blot tests for LD can detect two different classes of antibodies: IgM and IgG. IgM antibodies are made sooner, so testing for them can be helpful for identifying patients during the first few weeks of infection. If the patient has had symptoms for less than or equal to 30 days, an IgM and IgG Western blot should be performed. If the patient has had symptoms for more than 30 days, the IgG Western blot should be performed. The IgM should not be used if the patient has been ill for more than 30 days.

It is important to remember the following:

- The immunoblot should not be run without first performing an EIA or IFA.
- The immunoblot should not be run if the EIA or IFA tests are negative.
- A positive IgM immunoblot is only meaningful during the first 4 weeks of illness.
- If a patient has been ill for longer than 4-6 weeks and the IgG immunoblot test is negative, it is unlikely that he or she has LD, even if the IgM immunoblot is positive.
- Positive serologic evidence requires both the EIA (or IFA) and Western blot to be positive.

Updated CDC Recommendation for Serologic Diagnosis of Lyme Disease

In 2019, the Centers for Disease Control and Prevention (CDC) updated its recommendations regarding serologic diagnosis of LD to include a modified method in addition to the standard two-tier approach. This method still requires a strict two-step process. It is similar to the standard method, but two different EIAs are performed either sequentially or concurrently without the use of immunoblots (https://www.cdc.gov/mmwr/volumes/68/wr/mm6832a4.htm).

For more information on vectorborne diseases in West Virginia, visit the Office of Epidemiology and Prevention Services (OEPS) website at www.oeps.wv.gov. You may also contact your LHD or call the Division of Infectious Disease Epidemiology (DIDE) at (304) 558-5358, extension 2 or the 24/7 answering service at (304) 347-0843.