North Carolina Department of Health and Human Services
Division of Public Health • Epidemiology Section
Communicable Disease Branch

North Carolina Public Health

ATTENTION HEALTH CARE PROVIDERS:
Please report relevant clinical findings about this disease event to the local health department.

LYME DISEASE
Confidential Communicable Disease Report—Part 2
NC DISEASE CODE: 51

REMINDER to Local Health Department staff: If sending this form to the Health Care Provider, remember to attach a cover letter from your agency indicating the part(s) of the form the provider should complete.

Patient's Last Name	First	Middle	Suffix	Maiden/Other	Alias	Birthdate *(mm/dd/yyyy)* / /
						SSN

NC EDSS LAB RESULTS Verify if lab results for this event are in NC EDSS. If not present, enter results.

Specimen Date	Specimen #	Specimen Source	Type of Test	Test Result(s)	Description (comments)	Result Date	Lab Name—City/State
/ /						/ /	
/ /						/ /	
/ /						/ /	

NC EDSS PART 2 WIZARD COMMUNICABLE DISEASE

Is/was patient symptomatic for this disease? ☐Y ☐N ☐U
If yes, symptom onset date (mm/dd/yyyy): __/__/____
CHECK ALL THAT APPLY:
Meningitis ☐Y ☐N ☐U
Onset date (mm/dd/yyyy):_____
Lymphocytic meningitis ☐Y ☐N ☐U
Encephalitis ☐Y ☐N ☐U
Onset date (mm/dd/yyyy):_____
Encephalomyelitis/ meningoencephalitis ☐Y ☐N ☐U
Onset date (mm/dd/yyyy):_____
Radiculoneuropathy ☐Y ☐N ☐U
Onset date (mm/dd/yyyy):_____
Cranial neuritis, including Bell's Palsy ☐Y ☐N ☐U
Recurrent, brief attacks (weeks or months) of objective joint swelling in one or a few joints ☐Y ☐N ☐U
Arthritis ☐Y ☐N ☐U
Onset date (mm/dd/yyyy):_____
Extent: ☐ One joint ☐ Multiple joints
Specify location(s)_____
Type: ☐ Septic ☐ Reactive ☐ Other
Recurrent ☐Y ☐N ☐U
Erythema migrans (bulls-eye skin lesion) ☐Y ☐N ☐U
Onset date (mm/dd/yyyy):_____
Diameter of largest lesion _____ x _____
☐ Centimeters ☐ Inches
Number of lesions _____
Location of lesion(s) _____
Observed by health care provider ☐Y ☐N ☐U

Myocarditis ☐Y ☐N ☐U
Onset date (mm/dd/yyyy):_____
EKG obtained? ☐Y ☐N ☐U
Abnormal? ☐Y ☐N ☐U
Describe: _____
High degree (2nd or 3rd degree) **heart block** ☐Y ☐N ☐U
Onset date (mm/dd/yyyy):_____
Did patient have a reactive non-treponemal test for syphilis (i.e. VDRL, TRUST, RPR)**?** ☐Y ☐N ☐U
Did the patient have CSF-VDRL? ☐Y ☐N ☐U
Result
☐ Positive ☐ Negative ☐ Unknown
Did medical provider diagnose Lyme Disease ☐Y ☐N ☐U

REASON FOR TESTING
Why was the patient tested for this condition?
☐ Symptomatic of disease
☐ Tick bite without symptoms of disease
☐ Other_____
☐ Unknown

PREDISPOSING CONDITIONS
Any immunosuppressive conditions ☐Y ☐N ☐U
Specify _____
Autoimmune disease ☐Y ☐N ☐U
Specify:
☐ Systemic lupus erythematosus
☐ Rheumatoid arthritis
☐ Other
Other underlying illness ☐Y ☐N ☐U
Specify

CLINICAL FINDINGS
Other symptoms, signs, clinical findings, or complications consistent with this illness ☐Y ☐N ☐U
Specify: _____
Notes:

TREATMENT
Did the patient take an antibiotic as treatment for this illness? ☐Y ☐N ☐U
Specify antibiotic name:
_____
☐ Antibiotic name unknown
Date antibiotic began (mm/dd/yyyy) _____

Patient's Last Name	First	Middle	Suffix	Maiden/Other	Alias	Birthdate *(mm/dd/yyyy)*
						SSN

HOSPITALIZATION INFORMATION

Was patient hospitalized for this illness >24 hours? ☐ Y ☐ N ☐ U

Hospital name: _____

City, State: _____

Hospital contact name: _____

Telephone: (_____) _____ - _____

Admit date (mm/dd/yyyy): ____/____/____

Discharge date (mm/dd/yyyy): ____/____/____

CLINICAL OUTCOMES

Discharge/Final diagnosis: _____

_____

Survived? ☐ Y ☐ N ☐ U

Died? ☐ Y ☐ N ☐ U

Died from this illness? ☐ Y ☐ N ☐ U

Date of death (mm/dd/yyyy): _____/_____/_____

TRAVEL/IMMIGRATION

The patient is:

☐ Resident of NC

☐ Resident of another state or US territory

☐ None of the above

Did patient have a travel history during the 30 days prior to onset? ☐ Y ☐ N ☐ U

List travel dates and destinations _____

_____

_____

Additional travel/residency information:

VECTOR EXPOSURES

During the 30 days prior to onset, did the patient have an opportunity for exposure to ticks

If yes,

Exposed on (mm/dd/yyyy): _____

Until (mm/dd/yyyy): _____

Frequency

☐ Once

☐ Multiple times within this time period

☐ Daily

County of exposure _____

State of exposure _____

Country of exposure _____

Was the tick embedded? ☐ Y ☐ N ☐ U

How long? _____

☐ Hours

☐ Days

☐ Unknown

Notes:

CASE INTERVIEWS/INVESTIGATIONS

Was the patient interviewed? ☐ Y ☐ N ☐ U

Date of interview (mm/dd/yyyy): ____/____/____

Medical records reviewed (including telephone review with provider/office staff)? ☐ Y ☐ N ☐ U

Specify reason if medical records were not reviewed:

Notes on medical record verification:

GEOGRAPHICAL SITE OF EXPOSURE

In what geographic location was the patient MOST LIKELY exposed?

Specify location:

☐ In NC

City _____

County _____

☐ Outside NC, but within US

City _____

State _____

County _____

☐ Outside US

City _____

Country _____

☐ Unknown

Is the patient part of an outbreak of this disease? ☐ Y ☐ N

Notes:

VACCINE

Has patient/contact ever received vaccine for this disease? ☐ Y ☐ N ☐ U

Vaccine type _____

Date of administration (mm/dd/yyyy): ____/____/____

Source of this vaccine information

_____

Lyme Disease *(Borrelia burgdorferi)*

2011 Case Definition

CSTE Position Statement Number: 10-ID-06

NOTE: This surveillance case definition was developed for national reporting of Lyme disease; it is not intended to be used in clinical diagnosis.

Clinical description

A systemic, tick-borne disease with protean manifestations, including dermatologic, rheumatologic, neurologic, and cardiac abnormalities. The most common clinical marker for the disease is erythema migrans (EM), the initial skin lesion that occurs in 60%-80% of patients.

For purposes of surveillance, EM is defined as a skin lesion that typically begins as a red macule or papule and expands over a period of days to weeks to form a large round lesion, often with partial central clearing. A single primary lesion must reach greater than or equal to 5 cm in size across its largest diameter. Secondary lesions also may occur. Annular erythematous lesions occurring within several hours of a tick bite represent hypersensitivity reactions and do not qualify as EM. For most patients, the expanding EM lesion is accompanied by other acute symptoms, particularly fatigue, fever, headache, mildly stiff neck, arthralgia, or myalgia. These symptoms are typically intermittent. The diagnosis of EM must be made by a physician. Laboratory confirmation is recommended for persons with no known exposure.

For purposes of surveillance, late manifestations include any of the following when an alternate explanation is not found:

Musculoskeletal system. Recurrent, brief attacks (weeks or months) of objective joint swelling in one or a few joints, sometimes followed by chronic arthritis in one or a few joints. Manifestations not considered as criteria for diagnosis include chronic progressive arthritis not preceded by brief attacks and chronic symmetrical polyarthritis. Additionally, arthralgia, myalgia, or fibromyalgia syndromes alone are not criteria for musculoskeletal involvement.

Nervous system. Any of the following, alone or in combination: lymphocytic meningitis; cranial neuritis, particularly facial palsy (may be bilateral); radiculoneuropathy; or, rarely, encephalomyelitis. Encephalomyelitis must be confirmed by demonstration of antibody production against Borrelia burgdorferi in the cerebrospinal fluid (CSF), evidenced by a higher titer of antibody in CSF than in serum. Headache, fatigue, paresthesia, or mildly stiff neck alone, are not criteria for neurologic involvement.

Cardiovascular system. Acute onset of high-grade (2nd-degree or 3rd-degree) atrioventricular conduction defects that resolve in days to weeks and are sometimes associated with myocarditis. Palpitations, bradycardia, bundle branch block, or myocarditis alone are not criteria for cardiovascular involvement.

Laboratory criteria for diagnosis

For the purposes of surveillance, the definition of a qualified laboratory assay is:

1. Positive Culture for B. burgdorferi, or
2. Two-tier testing interpreted using established criteria [1], where:

    a. Positive IgM is sufficient only when ≤30 days from symptom onset
    b. Positive IgG is sufficient at any point during illness

3. Single-tier IgG immunoblot seropositivity using established criteria [1-4].
4. CSF antibody positive for B. burgdorferi by Enzyme Immunoassay (EIA) or Immunofluorescence Assay (IFA), when the titer is higher than it was in serum

Exposure

Exposure is defined as having been (less than or equal to 30 days before onset of EM) in wooded, brushy, or grassy areas (i.e., potential tick habitats) in a county in which Lyme disease is endemic. A history of tick bite is not required.

Disease endemic to county

A county in which Lyme disease is endemic is one in which at least two confirmed cases have been acquired in the county or in which established populations of a known tick vector are infected with B. burgdorferi.

Case classification

Confirmed: a) a case of EM with a known exposure (as defined above), or b) a case of EM with laboratory evidence of infection (as defined above) and without a known exposure or c) a case with at least one late manifestation that has laboratory evidence of infection.

Probable: any other case of physician-diagnosed Lyme disease that has laboratory evidence of infection (as defined above).

Suspected: a) a case of EM where there is no known exposure (as defined above) and no laboratory evidence of infection (as defined above), or b) a case with laboratory evidence of infection but no clinical information available (e.g. a laboratory report).

Comment

Lyme disease reports will not be considered cases if the medical provider specifically states this is not a case of Lyme disease, or the only symptom listed is “tick bite” or “insect bite.”

References

1. Centers for Disease Control and Prevention. Recommendations for test performance and interpretation from the Second National Conference on Serologic Diagnosis of Lyme Disease. MMWR Morb Mortal Wkly Rep 1995; 44:590–1.
2. Dressler F, Whalen JA, Reinhardt BN, Steere AC. Western blotting in the serodiagnosis of Lyme disease. J Infect Dis 1993; 167:392–400.
3. Engstrom SM, Shoop E, Johnson RC. Immunoblot interpretation criteria for serodiagnosis of early Lyme disease. J Clin Microbiol 1995; 33:419–27.
4. Centers for Disease Control and Prevention. Notice to readers: caution regarding testing for Lyme disease. MMWR Morb Mortal Wkly Rep 2005; 54:125–6