

California Department of Public Health  
 Center for Infectious Diseases  
 Division of Communicable Disease Control  
 Infectious Diseases Branch  
 Surveillance and Statistics Section  
 MS 7306, P.O. Box 997377  
 Sacramento, CA 95899-7377

Local ID Number \_\_\_\_\_

(Please use the same ID Number on the preliminary and final reports to allow linkage to the same case.)

Report Status (check one)

Preliminary Final

## LYME DISEASE CASE REPORT

PATIENT INFORMATION					
Last Name	First Name	Middle Name	Suffix	Primary Language	
Social Security Number (9 digits)		DOB (mm/dd/yyyy)	Age	<input type="checkbox"/> English <input type="checkbox"/> Spanish <input type="checkbox"/> Other: _____	
Address Number & Street - Residence			Apartment/Unit Number		
City/Town		State	Zip Code		
Census Tract	County of Residence		Country of Residence		
Country of Birth		If not U.S. Born - Date of Arrival in U.S. (mm/dd/yyyy)			
Home Telephone		Cellular Phone/Pager		Work/School Telephone	
E-mail Address		Other Electronic Contact Information			
Work/School Location		Work/School Contact			
Gender <input type="checkbox"/> Male <input type="checkbox"/> Female <input type="checkbox"/> Other: _____					
Pregnant?		If Yes, Est. Delivery Date (mm/dd/yyyy)			
<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unk					
Medical Record Number		Patient's Parent/Guardian Name			
Occupation Setting (see list on page 6)		Other Describe/Specify			
Occupation (see list on page 6)		Other Describe/Specify			
Ethnicity (check one) <input type="checkbox"/> Hispanic/Latino <input type="checkbox"/> Non-Hispanic/Non-Latino <input type="checkbox"/> Unk					
Race* (check all that apply, race descriptions on page 6) <input type="checkbox"/> African-American/Black <input type="checkbox"/> American Indian or Alaska Native <input type="checkbox"/> Asian (check all that apply) <input type="checkbox"/> Asian Indian <input type="checkbox"/> Japanese <input type="checkbox"/> Cambodian <input type="checkbox"/> Korean <input type="checkbox"/> Chinese <input type="checkbox"/> Laotian <input type="checkbox"/> Filipino <input type="checkbox"/> Thai <input type="checkbox"/> Hmong <input type="checkbox"/> Vietnamese <input type="checkbox"/> Other: _____					
<input type="checkbox"/> Pacific Islander (check all that apply) <input type="checkbox"/> Native Hawaiian <input type="checkbox"/> Samoan <input type="checkbox"/> Guamanian <input type="checkbox"/> Other: _____					
<input type="checkbox"/> White <input type="checkbox"/> Other: _____ <input type="checkbox"/> Unk					
*Comment: self-identity or self-reporting The response to this item should be based on the patient's self-identity or self-reporting. Therefore, patients should be offered the option of selecting more than one racial designation.					
CLINICAL INFORMATION					
Physician Name - Last Name			First Name		Telephone Number

First three letters of  
patient's last name:

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<b>SIGNS AND SYMPTOMS</b>						
Symptomatic? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unk		Onset Date (mm/dd/yyyy)		Date First Sought Medical Care (mm/dd/yyyy)		Duration of Acute Symptoms (days)
Signs and Symptoms	Yes	No	Unk	If Yes, Specify as Noted		
Erythema migrans (EM)				Onset date (mm/dd/yyyy)	Location on body	EM size at examination, diameter (cm)
Brief recurrent attacks of swelling in one or a few joints				Onset date (mm/dd/yyyy)	Joint(s) affected	
Chronic progressive arthritis not preceded by brief attacks				Onset date (mm/dd/yyyy)		
Facial (VII) palsy or other cranial neuropathy				Onset date (mm/dd/yyyy)		
Radiculoneuropathy				Onset date (mm/dd/yyyy)		
Paresthesias, dysesthesias				Onset date (mm/dd/yyyy)		
Lymphocytic meningitis				Onset date (mm/dd/yyyy)		
Encephalomyelitis				Onset date (mm/dd/yyyy)		
Second or third degree atrioventricular block				Onset date (mm/dd/yyyy)		
Other signs / symptoms (specify)				Onset date (mm/dd/yyyy)		
<b>PAST MEDICAL HISTORY</b>						
Prior Lyme disease diagnosis? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unk				Specify diagnosis date(s) (mm/dd/yyyy)		
<b>PAST MEDICAL HISTORY - OTHER</b>						
Specify						
<b>HOSPITALIZATION</b>						
Did patient visit emergency room for illness? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unk			Was patient hospitalized? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unk		If Yes, how many total hospital nights?	
If there were any ER or hospital stays related to this illness, specify details below.						
<b>HOSPITALIZATION - DETAILS</b>						
Hospital Name 1	Street Address			Admit Date (mm/dd/yyyy)		
	City			Discharge / Transfer Date (mm/dd/yyyy)		
	State	Zip Code	Telephone Number	Medical Record Number	Discharge Diagnosis	
Hospital Name 2	Street Address			Admit Date (mm/dd/yyyy)		
	City			Discharge / Transfer Date (mm/dd/yyyy)		
	State	Zip Code	Telephone Number	Medical Record Number	Discharge Diagnosis	

First three letters of  
patient's last name:

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<b>TREATMENT / MANAGEMENT</b>				
Received treatment? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unk		If Yes, specify the treatments below.		
<b>TREATMENT / MANAGEMENT DETAILS</b>				
Treatment Type 1 <input type="checkbox"/> Antibiotic <input type="checkbox"/> Other	If Antibiotic, specify route	Treatment Name	Date Started (mm/dd/yyyy)	Date Ended (mm/dd/yyyy)
Treatment Type 2 <input type="checkbox"/> Antibiotic <input type="checkbox"/> Other	If Antibiotic, specify route	Treatment Name	Date Started (mm/dd/yyyy)	Date Ended (mm/dd/yyyy)
<b>LABORATORY INFORMATION</b> (Copies of laboratory reports must be included with case history.)				
<b>LABORATORY RESULTS SUMMARY</b>				
Specimen Type	Collection Date (mm/dd/yyyy)	Laboratory Name	Telephone Number	
Type of Test	Specify Test Results as Noted			
EIA / IFA <input type="checkbox"/> EIA <input type="checkbox"/> IFA <input type="checkbox"/> Not done	Antibody <input type="checkbox"/> IgG <input type="checkbox"/> IgM <input type="checkbox"/> Total <input type="checkbox"/> Unspecified <input type="checkbox"/> Other: _____	Specify titre or OD value	Interpretation <input type="checkbox"/> Positive <input type="checkbox"/> Negative <input type="checkbox"/> Equivocal <input type="checkbox"/> Unknown <input type="checkbox"/> Pending	
IgG Western Immunoblot <input type="checkbox"/> Done <input type="checkbox"/> Not done	Specify Bands Present <input type="checkbox"/> 18-20 <input type="checkbox"/> 21-24 <input type="checkbox"/> 28 <input type="checkbox"/> 30 <input type="checkbox"/> 35 <input type="checkbox"/> 39 <input type="checkbox"/> 41 <input type="checkbox"/> 45 <input type="checkbox"/> 58 <input type="checkbox"/> 66 <input type="checkbox"/> 88 <input type="checkbox"/> 93	Interpretation <input type="checkbox"/> Positive <input type="checkbox"/> Negative <input type="checkbox"/> Equivocal <input type="checkbox"/> Unknown <input type="checkbox"/> Pending		
IgM Western Immunoblot <input type="checkbox"/> Done <input type="checkbox"/> Not done	Specify Bands Present <input type="checkbox"/> 18-20 <input type="checkbox"/> 21-24 <input type="checkbox"/> 28 <input type="checkbox"/> 30 <input type="checkbox"/> 35 <input type="checkbox"/> 39 <input type="checkbox"/> 41 <input type="checkbox"/> 45 <input type="checkbox"/> 58 <input type="checkbox"/> 66 <input type="checkbox"/> 88 <input type="checkbox"/> 93	Interpretation <input type="checkbox"/> Positive <input type="checkbox"/> Negative <input type="checkbox"/> Equivocal <input type="checkbox"/> Unknown <input type="checkbox"/> Pending		
Other test	Specify Test(s)	Result(s)		
<b>EPIDEMIOLOGIC INFORMATION</b>				
<b>INCUBATION PERIOD: 30 DAYS PRIOR TO ILLNESS ONSET</b>				
<b>EXPOSURES/RISK FACTORS</b>				
<b>DID THE PATIENT PARTICIPATE IN ANY OUTDOOR ACTIVITIES IN WOODED, BRUSHY, OR GRASSY AREAS DURING THE INCUBATION PERIOD?</b>				
Outdoor Activity 1 <input type="checkbox"/> Hiking, camping, picnicking <input type="checkbox"/> Other recreational <input type="checkbox"/> Occupational / non-recreational	Describe Activity			
	Location	Date (mm/dd/yyyy)		
Outdoor Activity 2 <input type="checkbox"/> Hiking, camping, picnicking <input type="checkbox"/> Other recreational <input type="checkbox"/> Occupational / non-recreational	Describe Activity			
	Location	Date (mm/dd/yyyy)		
Outdoor Activity 3 <input type="checkbox"/> Hiking, camping, picnicking <input type="checkbox"/> Other recreational <input type="checkbox"/> Occupational / non-recreational	Describe Activity			
	Location	Date (mm/dd/yyyy)		
<b>EXPOSURES/RISK FACTORS - TICK BITE</b>				
Tick bite during incubation period? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unk	If Yes, describe	Date Noticed (mm/dd/yyyy)		
Where (county, habitat)?	Where (anatomic)?	Approximate Duration of Attachment		



**CASE DEFINITION****LYME DISEASE (2011)****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 (2<sup>nd</sup>-degree or 3<sup>rd</sup>-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.

<b>RACE DESCRIPTIONS</b>	
<b>Race</b>	<b>Description</b>
American Indian or Alaska Native	Patient has origins in <b>any</b> of the original peoples of North and South America (including Central America).
Asian	Patient has origins in <b>any</b> of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent (e.g., including Bangladesh, Cambodia, China, India, Indonesia, Japan, Korea, Malaysia, Nepal, Pakistan, the Philippine Islands, Thailand, and Vietnam).
Black or African American	Patient has origins in <b>any</b> of the black racial groups of Africa.
Native Hawaiian or Other Pacific Islander	Patient has origins in <b>any</b> of the original peoples of Hawaii, Guam, American Samoa, or other Pacific Islands.
White	Patient has origins in <b>any</b> of the original peoples of Europe, the Middle East, or North Africa.
<b>OCCUPATION SETTING</b>	
<ul style="list-style-type: none"> <li>• Childcare/Preschool</li> <li>• Correctional Facility</li> <li>• Drug Treatment Center</li> <li>• Food Service</li> <li>• Health Care - Acute Care Facility</li> <li>• Health Care - Long Term Care Facility</li> <li>• Health Care - Other</li> </ul>	<ul style="list-style-type: none"> <li>• Homeless Shelter</li> <li>• Laboratory</li> <li>• Military Facility</li> <li>• Other Residential Facility</li> <li>• Place of Worship</li> <li>• School</li> <li>• Other</li> </ul>
<b>OCCUPATION</b>	
<ul style="list-style-type: none"> <li>• Adult film actor/actress</li> <li>• Agriculture - farmworker or laborer (crop, nursery, or greenhouse)</li> <li>• Agriculture - field worker</li> <li>• Agriculture - migratory/seasonal worker</li> <li>• Agriculture - other/unknown</li> <li>• Animal - animal control worker</li> <li>• Animal - farm worker or laborer (farm or ranch animals)</li> <li>• Animal - veterinarian or other animal health practitioner</li> <li>• Animal - other/unknown</li> <li>• Clerical, office, or sales worker</li> <li>• Correctional facility - employee</li> <li>• Correctional facility - inmate</li> <li>• Craftsman, foreman, or operative</li> <li>• Daycare or child care attendee</li> <li>• Daycare or child care worker</li> <li>• Dentist or other dental health worker</li> <li>• Drug dealer</li> <li>• Fire fighting or prevention worker</li> <li>• Flight attendant</li> <li>• Food service - cook or food preparation worker</li> <li>• Food service - host or hostess</li> <li>• Food service - server</li> <li>• Food service - other/unknown</li> <li>• Homemaker</li> <li>• Laboratory technologist or technician</li> <li>• Laborer - private household or unskilled worker</li> <li>• Manager, official, or proprietor</li> <li>• Manicurist or pedicurist</li> <li>• Medical - emergency medical technician or paramedic</li> <li>• Medical - health care worker</li> </ul>	<ul style="list-style-type: none"> <li>• Medical - medical assistant</li> <li>• Medical - pharmacist</li> <li>• Medical - physician assistant or nurse practitioner</li> <li>• Medical - physician or surgeon</li> <li>• Medical - nurse</li> <li>• Medical - other/unknown</li> <li>• Military</li> <li>• Police officer</li> <li>• Professional, technical, or related profession</li> <li>• Retired</li> <li>• Sex worker</li> <li>• Stay at home parent/guardian</li> <li>• Student - preschool or kindergarten</li> <li>• Student - elementary or middle school</li> <li>• Student - high school</li> <li>• Student - college or university</li> <li>• Student - other/unknown</li> <li>• Teacher/employee - preschool or kindergarten</li> <li>• Teacher/employee - elementary or middle school</li> <li>• Teacher/employee - high school</li> <li>• Teacher/instructor/employee - college or university</li> <li>• Teacher/instructor/employee - other/unknown</li> <li>• Unemployed - seeking employment</li> <li>• Unemployed - not seeking employment</li> <li>• Unemployed - other/unknown</li> <li>• Volunteer</li> <li>• Other</li> <li>• Refused</li> <li>• Unknown</li> </ul>