State of California—Health and Human Services Agency

Local ID Number: _____

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

# ANAPLASMOSIS CASE REPORT

*Jurisdictions that choose to use this form should send completed forms to the Surveillance and Statistics Section by mail through your communicable disease reporting staff. For jurisdictions participating in CalREDIE, entry of information into the CalREDIE form will facilitate investigations and surveillance. This form is only for cases of anaplasmosis. Ehrlichiosis cases should be reported using the Erhlichiosis Case Report Form. Spotted fever rickettsioses (such as Rocky Mountain spotted fever) should be reported on the appropriate Spotted Fever Rickettsioses Case Report form. Cases of typhus and other non-spotted fever rickettsioses should be reported on the Typhus and Other Non-Spotted Fever Rickettsioses Case Report form.*

## PATIENT INFORMATION

| *Last Name* | *First Name* | *Middle Name* | *Suffix* |
|---|---|---|---|
| | | | |

| *Social Security Number (9 digits)* | *DOB (mm/dd/yyyy)* | *Age* | |
|---|---|---|---|
| | | | ☐ Years ☐ Months ☐ Days |

| *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*
☐ Female ☐ Trans female / transwoman ☐ Genderqueer or non-binary ☐ Unknown
☐ Male ☐ Trans male/ transman ☐ Identity not listed ☐ Declined to answer

| *Pregnant?* ☐ Yes ☐ No ☐ Unknown | *If Yes, Est. Delivery Date (mm/dd/yyyy)* |
|---|---|
| | |

| *Medical Record Number* | *Patient's Parent/Guardian Name* |
|---|---|
| | |

| *Occupation Setting (see list on page 8)* | *Other Describe/Specify* |
|---|---|
| | |

| *Occupation (see list on page 8)* | *Other Describe/Specify* |
|---|---|
| | |

*Primary Language*
☐ English
☐ Spanish
☐ Other: _____

*Ethnicity (check one)*
☐ Hispanic/Latino
☐ Non-Hispanic/Non-Latino
☐ Unknown

*Race(s)*
*(check all that apply, race descriptions on page 7)*

*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.*

☐ American Indian or Alaska Native

☐ Asian *(check all that apply, see list on page 7)*
- ☐ Asian Indian
- ☐ Bangladeshi
- ☐ Cambodian
- ☐ Chinese
- ☐ Filipino
- ☐ Hmong
- ☐ Indonesian
- ☐ Japanese
- ☐ Korean
- ☐ Laotian
- ☐ Malaysian
- ☐ Pakistani
- ☐ Sri Lankan
- ☐ Taiwanese
- ☐ Thai
- ☐ Vietnamese
- ☐ Other: _____

☐ Black or African-American

☐ Native Hawaiian or Other Pacific Islander *(check all that apply, see list on page 7)*
- ☐ Native Hawaiian
- ☐ Samoan
- ☐ Fijian
- ☐ Tongan
- ☐ Guamanian
- ☐ Other: _____

☐ White

☐ Other: _____

☐ Unknown

## ADDITIONAL PATIENT DEMOGRAPHICS

*Sex Assigned at Birth*
☐ Female ☐ Unknown
☐ Male ☐ Declined to answer

*Sexual Orientation*
☐ Heterosexual or straight ☐ Questioning, unsure, or patient doesn't know ☐ Declined to answer
☐ Gay, lesbian, or same-gender loving ☐ Orientation not listed ☐ Unknown
☐ Bisexual

First three letters of patient's last name: | | | |

## CLINICAL INFORMATION

| *Physician Name - Last Name* | *First Name* | *Telephone Number* |
|---|---|---|
| | | |

### *SIGNS AND SYMPTOMS*

| *Symptomatic?* ☐ Yes ☐ No ☐ Unknown | *Onset Date (mm/dd/yyyy)* | *Date First Sought Medical Care (mm/dd/yyyy)* |
|---|---|---|
| | | |

| Signs and Symptoms | Yes | No | Unk | If Yes, Specify as Noted | |
|---|---|---|---|---|---|
| Fever | | | | *Highest temperature (specify °F/°C)* | |
| Muscle pain | | | | | |
| Headache | | | | | |
| Nausea or vomiting | | | | | |
| Rash or other cutaneous lesion | | | | *Location / size / appearance* | |
| Chills | | | | | |
| Sweats | | | | | |
| Joint pain | | | | *Joint(s)* | |
| Eye pain | | | | | |
| Abdominal pain | | | | | |
| Diarrhea | | | | | |
| Cough | | | | | |
| Hypotension | | | | *Date measured (mm/dd/yyyy)* | *Systolic / Diastolic* |

*Other signs / symptoms (specify)*

### *HOSPITALIZATION*

*Did patient visit the emergency room for illness?*
☐ Yes ☐ No ☐ Unknown

| *Was the patient hospitalized?* ☐ Yes ☐ No ☐ Unknown | *If Yes, how many total hospital nights?* ☐ *Still hospitalized as of* _____ *(mm/dd/yyyy)* |
|---|---|

*During any part of the hospitalization, did the patient stay in an intensive care unit (ICU) or a critical care unit (CCU)?*
☐ Yes ☐ No ☐ Unknown

*If there were any ER visits or hospital stays related to this illness, specify details in the Hospitalization – Details section on next page.*

First three letters of patient's last name: | | | |

## HOSPITALIZATION – DETAILS

| | | | | | |
|---|---|---|---|---|---|
| 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 |

## TREATMENT / MANAGEMENT

| | |
|---|---|
| Received treatment? ☐ Yes ☐ No ☐ Unknown | If Yes, specify the treatments below. |

## TREATMENT / MANAGEMENT DETAILS

| | | | | |
|---|---|---|---|---|
| Treatment Type 1 ☐ Antibiotic ☐ Other | If Antibiotic, specify route | Treatment Name | Date Started (mm/dd/yyyy) | Date Ended (mm/dd/yyyy) |
| Treatment Type 2 ☐ Antibiotic ☐ Other | If Antibiotic, specify route | Treatment Name | Date Started (mm/dd/yyyy) | Date Ended (mm/dd/yyyy) |

## OUTCOME

| | | |
|---|---|---|
| Outcome? ☐ Survived ☐ Died ☐ Unknown | If Survived, Survived as of _____(mm/dd/yyyy) | Date of Death (mm/dd/yyyy) |

## LABORATORY INFORMATION

### LABORATORY RESULTS SUMMARY - SEROLOGY

| | | | |
|---|---|---|---|
| Specimen Type 1 | Collection Date (mm/dd/yyyy) | Type of Test | Antigen |
| | Results | Laboratory Name | Telephone Number |
| Specimen Type 2 | Collection Date (mm/dd/yyyy) | Type of Test | Antigen |
| | Results | Laboratory Name | Telephone Number |

### LABORATORY RESULTS SUMMARY - OTHER

| | | | | | |
|---|---|---|---|---|---|
| Hematology? ☐ Yes ☐ No ☐ Unknown | Collection Date (mm/dd/yyyy) | WBC | HCT | Hb | Platelets |
| Serum chemistry? ☐ Yes ☐ No ☐ Unknown | Collection Date (mm/dd/yyyy) | ALT | | AST | |
| Other laboratory diagnostics performed (e.g., PCR, buffy coat smear)? ☐ Yes ☐ No ☐ Unknown | | If Yes, describe | | | |

First three letters of patient's last name: | | | |

## EPIDEMIOLOGIC INFORMATION

**INCUBATION PERIOD: UP TO 14 DAYS BEFORE ILLNESS ONSET**

### *ANIMAL AND INSECT EXPOSURES*

| | |
|---|---|
| *Observe any of the following during incubation period at or around home?*<br>☐ Dogs ☐ Cats ☐ Rodents ☐ Opossums ☐ Fleas ☐ Ticks | *Describe* |

| | | |
|---|---|---|
| *If pets in the home, how often are they treated with flea prevention medication?* | *Type(s) of Treatment* | *Date(s) of Last Treatment (mm/dd/yyyy)* |

| | |
|---|---|
| *Observe any of the following during incubation period away from home?*<br>☐ Dogs ☐ Cats ☐ Rodents ☐ Opossums ☐ Fleas ☐ Ticks | *Describe* |
| *If any cats were observed, were they feral / stray, indoor, or outdoor cats?*<br>☐ Feral / stray ☐ Indoor ☐ Outdoor ☐ Other:_____ | |
| *Did the patient spend any nights living outside, without shelter, in the past 21 days (including in a car, unsheltered on the street, or in a temporary shelter)?*<br>☐ Yes ☐ No ☐ Unknown | *Describe* |
| *Did patient recall any insect bites in the 10 days prior to illness?*<br>☐ Yes ☐ No ☐ Unknown | *If Yes, specify all locations, type of insect bite, and dates below.* |

### *INSECT BITE HISTORY - DETAILS*

| | | | |
|---|---|---|---|
| Bite 1 | *Location (city, county, state, country)* | *Date of Insect Bite (mm/dd/yyyy)* | *Type of Insect Bite*<br>☐ Flea ☐ Tick ☐ Other:_____ |
| Bite 2 | *Location (city, county, state, country)* | *Date of Insect Bite (mm/dd/yyyy)* | *Type of Insect Bite*<br>☐ Flea ☐ Tick ☐ Other:_____ |

### *EXPOSURES / RISK FACTORS – TRANSFUSION / TRANSPLANTATION*

| | |
|---|---|
| *Was patient's infection transfusion or solid-organ-transplantation associated?*<br>☐ Yes ☐ No ☐ Unknown | *If Yes, describe* |
| *Was patient a blood donor identified during a transfusion investigation or a solid-organ donor identified during a transplantation investigation?*<br>☐ Yes ☐ No ☐ Unknown | *If Yes, describe* |

### *TRAVEL HISTORY*

| | |
|---|---|
| *Did patient travel **outside county of residence** during the **incubation period**?*<br>☐ Yes ☐ No ☐ Unknown | *If Yes, specify all locations and dates below.* |

### *TRAVEL HISTORY – DETAILS*

| Travel Type | State | Country | Other location details (city, resort, etc.) | Date Travel Started *(mm/dd/yyyy)* | Date Travel Ended *(mm/dd/yyyy)* |
|---|---|---|---|---|---|
| ☐ Domestic ☐ Unknown ☐ International | | | | | |
| ☐ Domestic ☐ Unknown ☐ International | | | | | |
| ☐ Domestic ☐ Unknown ☐ International | | | | | |

First three letters of patient's last name: | | | |

## ILL CONTACTS

| *Any contacts with similar illness (including household contacts)?* ☐ Yes ☐ No ☐ Unknown | *If Yes, specify details below.* |
|---|---|

## ILL CONTACTS - DETAILS

| | | | | | |
|---|---|---|---|---|---|
| *Name 1* | *Age* | *Gender* | *Telephone Number* | *Type of Contact / Relationship* | *Date of Contact (mm/dd/yyyy)* |
| | *Street Address* | | | *Exposure Event* | *Illness Onset Date (mm/dd/yyyy)* |
| | *City* | *State* | *Zip Code* | *Occupation* | |
| *Name 2* | *Age* | *Gender* | *Telephone Number* | *Type of Contact / Relationship* | *Date of Contact (mm/dd/yyyy)* |
| | *Street Address* | | | *Exposure Event* | *Illness Onset Date (mm/dd/yyyy)* |
| | *City* | *State* | *Zip Code* | *Occupation* | |

## EPIDEMIOLOGICAL LINKAGE

| *Epi-linked to known case?* ☐ Yes ☐ No ☐ Unknown | *Contact Name / Case Number* |
|---|---|

## NOTES / REMARKS

## REPORTING AGENCY

| *Investigator Name* | *Local Health Jurisdiction* | *Telephone Number* | *Date (mm/dd/yyyy)* |
|---|---|---|---|

*First Reported By*
☐ Clinician ☐ Laboratory ☐ Other (specify):_____

## DISEASE CASE CLASSIFICATION

*Case Classification (see case definition on page 6)*
☐ Confirmed ☐ Probable ☐ Suspect

## STATE USE ONLY

*State Case Classification*
☐ Confirmed ☐ Probable ☐ Suspect ☐ Not a case ☐ Need additional information

First three letters of patient's last name: | | | |

## CASE DEFINITION

**ANAPLASMOSIS (2024)**

### BACKGROUND

Anaplasmosis is a tickborne disease caused by the bacterium *Anaplasma phagocytophilum*. *Ixodes scapularis*, or the blacklegged tick, is the primary vector in the northeastern and midwestern United States. The western blacklegged tick, *Ixodes pacificus*, is the principal vector along the West Coast (1). Anaplasmosis typically presents 5 to 14 days after a tick bite with a combination of nonspecific clinical symptoms, such as fever, fatigue, and headache. Illness is often accompanied by laboratory abnormalities including leukopenia, thrombocytopenia, and mildly elevated liver enzymes (1; 2; 3).

### CLINICAL CRITERIA

**Objective clinical evidence**: fever as reported by patient or healthcare provider, anemia, leukopenia, thrombocytopenia, any hepatic transaminase elevation, or elevated C-reactive protein.

**Subjective clinical evidence**: chills/sweats, headache, myalgia, or fatigue/malaise.

### LABORATORY CRITERIA

**Confirmatory laboratory evidence:**

- Detection of *A. phago*cytophilum DNA in a clinical specimen via amplification of a specific target by polymerase chain reaction (PCR) assay, nucleic acid amplification tests (NAAT), or other molecular testing, **OR**
- Serological evidence of a four-fold change[1] in IgG-specific antibody titer to *A. phagocytophilum* antigen by indirect immunofluorescence assay (IFA) in paired serum samples (one taken in the first two weeks after illness onset AND a second taken two to ten weeks after acute specimen collection)[2], **OR**
- Demonstration of anaplasmal antigen in a biopsy or autopsy sample by immunohistochemical methods, **OR**
- Isolation of *A. phagocytophilum* from a clinical specimen in cell culture with molecular confirmation (e.g., PCR or sequencing).

**Presumptive laboratory evidence:**

- Serological evidence of elevated IgG antibody reactive with *A. phagocytophilum* antigen by IFA at a titer ≥1:128 in a sample taken within 60 days of illness onset, **OR**
- Microscopic identification of intracytoplasmic morulae in leukocytes in a sample taken within 60 days of illness onset.

Note: The categorical labels used here to stratify laboratory evidence are intended to support the standardization of case classifications for public health surveillance. The categorical labels should not be used to interpret the utility or validity of any laboratory test methodology.

[1] A four-fold change in titer is equivalent to a change of two dilutions (e.g., 1:64 to 1:256).

[2] A four-fold rise in titer should not be excluded as confirmatory laboratory criteria if the acute and convalescent specimens are collected within two weeks of one another.

### CRITERIA TO DISTINGUISH A NEW CASE FROM AN EXISTING CASE

A person previously reported as a probable or confirmed case-patient may be counted as a new case-patient when there is an episode of new clinically compatible illness with confirmatory laboratory evidence.

### CASE CLASSIFICATION

**Confirmed**

- Meets confirmatory laboratory evidence **AND** at least one of the objective or subjective clinical evidence criteria.*

**Probable**

- Meets presumptive laboratory evidence with fever as reported by patient or healthcare provider **AND** at least one other objective or subjective clinical evidence criterion (excluding chills/sweats),* **OR**
- Meets presumptive laboratory evidence without a reported fever but with chills/sweats **AND**
  - at least one objective clinical evidence criterion, **OR**
  - two other subjective clinical evidence criteria.*

**Suspect**

- Meets confirmatory or presumptive laboratory evidence with no or insufficient clinical information to classify as a confirmed or probable case (e.g., a laboratory report only).*

**Patients should not be classified as cases for both anaplasmosis and ehrlichiosis based on serologic evidence alone.*

*(continued on page 7)*

## CASE DEFINITION (continued)

### COMMENTS

*A. phagocytophilum* is closely related to *Ehrlichia* spp. bacteria, and many patients are tested using serologic panels that include targets for both species. As a result, it is not uncommon for jurisdictions to receive positive antibody results for both *Anaplasma* and *Ehrlichia* spp. with the same collection date for a single patient. Public health agencies should use a combination of titer levels, information about the location of possible exposures, clinical manifestations, and the incidence of a particular disease in the geographic areas of exposure to help determine the appropriate disease type for individual patients. Patients should not be classified as cases for both anaplasmosis and ehrlichiosis based on serologic evidence alone.

### REFERENCES

1. Biggs HM, Behravesh CB, Bradley KK, et al. Diagnosis and Management of Tickborne Rickettsial Diseases: Rocky Mountain Spotted Fever and Other Spotted Fever Group Rickettsioses, Ehrlichioses, and Anaplasmosis — United States. MMWR Recomm Rep 2016;65(No. RR-2):1–48. DOI: http://dx.doi.org/10.15585/mmwr.rr6502a1
2. Hamilton, R., Pandora, T. R., Parsonnet, J., & Martin, I. W. (2021). Clinical Decision Support Trees Can Help Optimize Utilization of Anaplasma phagocytophilum Nucleic Acid Amplification Testing. *Journal of Clinical Microbiology*, 59(9), e0079121. https://doi.org/10.1128/JCM.00791-21
3. MacQueen D, Centellas F. Human Granulocytic Anaplasmosis. Infect Dis Clin N Am 2022;36: 639–654. https://doi.org/10.1016/j.idc.2022.02.008

## RACE DESCRIPTIONS

| Race | Description |
|---|---|
| American Indian or Alaska Native | Patient has origins in **any** of the original peoples of North and South America (including Central America). |
| Asian | Patient has origins in **any** 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 **any** of the black racial groups of Africa. |
| Native Hawaiian or Other Pacific Islander | Patient has origins in **any** of the original peoples of Hawaii, Guam, American Samoa, or other Pacific Islands. |
| White | Patient has origins in **any** of the original peoples of Europe, the Middle East, or North Africa. |

## ASIAN GROUPS

- Bangladeshi
- Bhutanese
- Burmese
- Cambodian
- Chinese
- Filipino
- Hmong
- Indian
- Indonesian
- Iwo Jiman
- Japanese
- Korean
- Laotian
- Madagascar
- Malaysian
- Maldivian
- Nepalese
- Okinawan
- Pakistani
- Singaporean
- Sri Lankan
- Taiwanese
- Thai
- Vietnamese

## NATIVE HAWAIIAN AND OTHER PACIFIC ISLANDER GROUPS

- Carolinian
- Chamorro
- Chuukese
- Fijian
- Guamanian
- Kiribati
- Kosraean
- Mariana Islander
- Marshallese
- Melanesian
- Micronesian
- Native Hawaiian
- New Hebrides
- Palauan
- Papua New Guinean
- Pohnpeian
- Polynesian
- Saipanese
- Samoan
- Solomon Islander
- Tahitian
- Tokelauan
- Tongan
- Yapese

First three letters of patient's last name: | | | |

## OCCUPATION SETTING

- Childcare/Preschool
- Correctional Facility
- Drug Treatment Center
- Food Service
- Health Care - Acute Care Facility
- Health Care - Long Term Care Facility
- Health Care - Other
- Homeless Shelter
- Laboratory
- Military Facility
- Other Residential Facility
- Place of Worship
- School
- Other

## OCCUPATION

- Agriculture - farmworker or laborer (crop, nursery, or greenhouse)
- Agriculture - field worker
- Agriculture - migratory/seasonal worker
- Agriculture - other/unknown
- Animal - animal control worker
- Animal - farm worker or laborer (farm or ranch animals)
- Animal - veterinarian or other animal health practitioner
- Animal - other/unknown
- Clerical, office, or sales worker
- Correctional facility - employee
- Correctional facility - inmate
- Craftsman, foreman, or operative
- Daycare or child care attendee
- Daycare or child care worker
- Dentist or other dental health worker
- Drug dealer
- Fire fighting or prevention worker
- Flight attendant
- Food service - cook or food preparation worker
- Food service - host or hostess
- Food service - waiter or waitress
- Food service - other/unknown
- Homemaker
- Laboratory technologist or technician
- Laborer - private household or unskilled worker
- Manager, official, or proprietor
- Manicurist or pedicurist
- Medical - emergency medical technician or paramedic
- Medical - health care worker
- Medical - medical assistant
- Medical - pharmacist
- Medical - physician assistant or nurse practitioner
- Medical - physician or surgeon
- Medical - registered nurse
- Medical - other/unknown
- Military - officer
- Military - recruit or trainee
- Protective service - police officer
- Protective service - other
- Professional, technical, or related profession
- Retired
- Sex worker
- Student - preschool or kindergarten
- Student - elementary or middle school
- Student - high (secondary) school
- Student - college or university
- Student - other/unknown
- Teacher/employee - preschool or kindergarten
- Teacher/employee - elementary or middle school
- Teacher/employee - high (secondary) school
- Teacher/instructor/employee - college or university
- Teacher/instructor/employee - other/unknown
- Unemployed - seeking employment
- Unemployed - not seeking employment
- Unemployed - other/unknown
- Other
- Refused
- Unknown