



Communicable Disease Case Reporting and Investigation Protocol **MALARIA**

I. IDENTIFICATION AND DEFINITION OF CASES

- A. **Clinical Description:** A parasitic infection caused by *Plasmodium vivax*, *P. ovale*, *P. malariae*, or *P. falciparum*. The disease is characterized by fever, chills, sweats, headaches, muscle pains, nausea, and vomiting. Depending upon the species, acute illness may develop into a variety of syndromes with severe complications including confusion, coma, neurologic focal signs, severe anemia, respiratory difficulties, and death. The infection is transmitted by a bite of an infected *Anopheles* mosquito and symptoms may appear seven to 30 days after the infective bite. Malaria may also be transmitted transplacentally, through blood transfusion, organ transplant, or use of shared needles and syringes contaminated with blood. Relapses may occur even after the patient has fully recovered after months or years without symptoms because certain species have dormant liver stage that may reactivate. Malaria can be treated with antimalarial drugs.
- B. **Laboratory Criteria:**
- Detection of malaria parasites in thick or thin peripheral blood films by microscopy and calculating the percentage of red blood cells infected with asexual malaria parasites (parasitemia), **OR**
 - Detection of species-specific parasite DNA in samples of peripheral blood by Polymerase Chain Reaction (PCR), **OR**
 - Detection of circulating malaria-specific antigens using rapid diagnostic test (RDT).
- C. **Wisconsin Surveillance Case Definition:**
- **Confirmed:** Any person (symptomatic or asymptomatic) who is laboratory confirmed by microscopy detection of malaria parasites on blood films (i.e., positive malaria smear) or by PCR and diagnosed in the United States, regardless of whether the person has experienced previous episodes of malaria while outside the country.
 - **Suspected:** Any symptomatic or asymptomatic person who is tested for malaria parasites by RDT only and diagnosed in the United States, regardless of whether the person has experienced previous episodes of malaria while outside the country.

II. REPORTING

- A. **Wisconsin Disease Surveillance Category II – Methods for Reporting:** This disease shall be reported to the patient's local health officer or to the local health officer's designee within 72 hours of recognition of a case or suspected case, per Wis. Admin. Code § [DHS 145.04 \(3\) \(b\)](#). Report electronically through the Wisconsin Electronic Disease Surveillance System (WEDSS), or mail or fax a completed Acute and Communicable Disease Case Report ([F-44151](#)) to the address on the form.
- B. **Responsibility for Reporting:** According to Wis. Admin. Code § [DHS 145.04\(1\)](#), persons licensed under Wis. Stat. ch. [441](#) or [448](#), laboratories, health care facilities, teachers, principals, or nurses serving a school or day care center, and any person who knows or suspects that a person has a communicable disease identified in [Appendix A](#).
- C. **Clinical Criteria for Reporting:** Clinically compatible illness.
- D. **Laboratory Criteria for Reporting:** Laboratory evidence of infection by microscopy, molecular methods, or RDT. All positive results should be reported.

III. CASE INVESTIGATION

- A. **Responsibility for case investigation:** It is the responsibility of the local health department (LHD) to investigate or arrange for investigation of suspected or confirmed cases as soon as is reasonably possible. A case investigation may include information collected by phone, in person, in writing, or through review of medical records or communicable disease report forms, as necessary and appropriate.

B. Required Documentation:

1. Complete the WEDSS disease incident investigation report, including appropriate, disease-specific tabs. This may be facilitated by completing a [CDC Malaria Case Surveillance Report Form](#).
2. Upon completion of investigation, set WEDSS disease incident process status to “Sent to State.”

IV. PUBLIC HEALTH INTERVENTIONS AND PREVENTION MEASURES

- A. In accordance with Wis. Admin. Code § [DHS 145.05](#), local public health agencies should follow the methods of control recommended in the current editions of *Control of Communicable Diseases Manual*, edited by David L. Heymann, published by the American Public Health Association, and the American Academy of Pediatrics’ *Red Book: Report of the Committee on Infectious Diseases*, unless otherwise specified by the state epidemiologist.
- B. Blood donors should be questioned about history of malaria or malaria exposure. In general, most travelers to an area with malaria are deferred from donating blood for one year after their return. People who have lived in malaria risk areas will be deferred for three years.
- C. People diagnosed with malaria cannot donate blood for three years after successful treatment and should remain free of symptoms during that time.
- D. The parasite is transmitted by the bite of an infected female *Anopheles* mosquito. Non-immune travelers who will be exposed to mosquitoes in malaria risk areas should regularly use malaria suppressive drugs. Insect repellents regularly applied to the skin, as well as night spraying and bed nets are recommended. It is very important to continue taking all prescribed anti-malarial medication, even after returning to the U.S.

V. CONTACTS FOR CONSULTATION

- A. Local health departments and tribal health agencies:
<https://www.dhs.wisconsin.gov/lh-depts/index.htm>
- B. Bureau of Communicable Diseases, Communicable Diseases Epidemiology Section: 608-267-9003
- C. Wisconsin State Laboratory of Hygiene: 1-800-862-1013

VI. RELATED REFERENCES

- A. Heymann DL, ed. Malaria. In: *Control of Communicable Diseases Manual*. 20th ed. Washington, DC: American Public Health Association, 2015: 372-389.
- B. Pickering LK, ed. Malaria. In: *Red Book: 2015 Report of the Committee on Infectious Diseases*. 30th ed. Elk Grove Village, IL: American Academy of Pediatrics, 2015: 528-535.
- C. Centers for Disease Control and Prevention. Nationally notifiable infectious conditions, United States, 2017.
<https://wwwn.cdc.gov/nndss/conditions/>
- D. Centers for Disease Control and Prevention. Malaria surveillance-United States, 2013. *MMWR* 2016; 65:1-22