



MALARIA FACT SHEET

Agent: *Plasmodium falciparum*, *Plasmodium vivax*, *Plasmodium malariae*, and *Plasmodium ovale*

Brief Description: A mosquito-borne disease caused by any one of four species of *Plasmodium* parasite. Signs and symptoms are variable; however, most patients experience fever. In addition to fever, common associated symptoms include headache, back pain, chills, sweats, myalgia, nausea, vomiting, diarrhea, and cough. Untreated *Plasmodium falciparum* infection can lead to coma, renal failure, pulmonary edema, and death. The diagnosis of malaria should be considered for any person who has these symptoms and who has traveled to an area in which malaria is endemic. Asymptomatic parasitemia can occur among persons who have been long-term residents of areas in which malaria is endemic, and who have developed some degree of immunity. Although malaria is not endemic in Georgia, in recent years rare cases of autochthonous malaria (where a mosquito transmits malaria locally from human to human) have been described in Georgia.

Reservoir: Humans are the only important reservoir of human malaria.

Mode of Transmission: Malaria is transmitted by the bite of an infective female *Anopheles* mosquito. Transfusion of blood from infected persons and use of contaminated needles and syringes are other potential modes of transmission. Congenital transmission of malaria may also occur.

Incubation Period: Depending on the *Plasmodium* species, there are usually 7-30 days between the mosquito bite and the appearance of clinical symptoms.

Laboratory Criteria for Diagnosis: Demonstration of malaria parasites in blood films.

Diagnostic Testing: Blood smear

1. **Specimen Needed:** Thick and thin blood smears
2. **Outfit:** Blood smear
3. **Lab Form:** 3415
4. **Lab Test Performed:** Microscopic identification of organism from blood smears
5. **Lab Performing Test:** Parasitology Lab, Georgia Public Health Laboratory

Case Classification:

Confirmed:

1. Detection and specific identification of malaria parasites by microscopy on blood films in a laboratory with appropriate expertise in any person (symptomatic or asymptomatic) diagnosed in the United States, regardless of whether the person experienced previous episodes of malaria while outside the country.

Or

2. Detection of *Plasmodium* species by nucleic acid test in any person (symptomatic or asymptomatic) diagnosed in the United States, regardless of whether the person experienced previous episodes of malaria while outside the country.

Comment: A subsequent attack experienced by the same person but caused by a different *Plasmodium* species is counted as an additional case. A subsequent attack experienced by the same person and caused by the same species in the United States may indicate a relapsing infection or treatment failure due to drug resistance. Blood smears from doubtful cases should be referred to the National Malaria Repository, CDC for confirmation of the diagnosis.

Period of Communicability: As long as infective gametocytes are present in the blood of a patient, that person remains a source of mosquito infection. Untreated or insufficiently treated individuals may be a source of mosquito infection for up to three years, depending on the species. Transmission by transfusions may occur as long as asexual forms remain in the circulating blood. Stored blood may remain infective for at least a month. The mosquito remains infective for life.

Treatment: Due to changing patterns of drug-resistance, current recommendations can be obtained from the Centers for Disease Control and Prevention malaria website at <http://www.cdc.gov/malaria>.

Investigation: Determine history of previous infection or of possible exposure, such as travel to endemic countries. If there is a history of needle sharing, investigate and treat all persons who shared the equipment. In transfusion-induced malaria, donors should be located and their blood examined for malaria parasites and for antimalarial antibodies. Parasite-positive donors should receive treatment.

Reporting: Report cases **WITHIN 7 DAYS** to the local health department, District Health Office,

or the Epidemiology Section electronically through the State Electronic Notifiable Disease Surveillance System (SENDSS) at <http://sendss.state.ga.us>, or complete and mail CDC Form

54.1, ***Malaria Case Surveillance Report***

http://dph.georgia.gov/sites/dph.georgia.gov/files/related_files/document/ADES_malaria.crf_03.pdf for each reported case.

References:

1. Centers for Disease Control and Prevention. Imported Malaria and Use of Malaria Chemoprophylaxis by Travelers — Kentucky, Maryland, and United States, 1993-1994. *MMWR* 1996; 45(43): 944-947.
2. Centers for Disease Control and Prevention. Case Definitions for Infectious Conditions Under Public Health Surveillance. *MMWR* 1997; 46(RR10): 1-55.
3. Centers for Disease Control and Prevention. Malaria in an Immigrant and Travelers — Georgia, Vermont, and Tennessee, 1996. *MMWR* 1997; 46(23): 536-539.
4. Centers for Disease Control and Prevention. Probable Locally Acquired Mosquito-Transmitted *Plasmodium vivax* Infection — Suffolk County, New York, 1999. *MMWR* 2000; 49(22): 495-8.
5. Centers for Disease Control and Prevention. Transfusion-Transmitted Malaria — Missouri and Pennsylvania, 1996-1998. *MMWR* 1999; 48(12): 253-256.
6. Chin J, ed. Malaria. In: *Control of Communicable Diseases Manual*. 17th ed. Washington, DC: American Public Health Association, 2000: pp. 310-323.
7. Centers for Disease Control and Prevention. Malaria 2010 Case Definition. <http://www.cdc.gov/nndss/> (search for malaria under "Search Conditions")