



Wes Moore, Governor · Aruna Miller, Lt. Governor · Laura Herrera Scott, M.D., M.P.H., Secretary

August 18, 2023

Dear Colleagues:

We are writing to notify you that a **locally acquired** case of *Plasmodium falciparum* (*P. falciparum*) malaria has recently been identified in a Maryland resident in the National Capital Region, and to provide related recommendations and resources.

As you know, malaria is a medical emergency, and prompt diagnosis and treatment is critical. Therefore, we ask that you have a high index of suspicion for new malaria cases, including among individuals with recent travel to malaria-endemic countries, as well as other individuals with no travel but who have a fever of unknown origin or other signs or symptoms of malaria.

Malaria is more common in Maryland than perhaps many healthcare providers realize. Each year, approximately 200 cases of malaria are identified in Maryland among individuals with recent travel to malaria-endemic countries. In addition, the *Anopheles* species of mosquito that transmits malaria are present across the U.S., including in Maryland. Thus, there is a risk that local spread can occur when a person with malaria is bitten by an *Anopheles* mosquito that goes on to bite another person. Cases of locally acquired malaria in the United States are rare but do occur. Earlier this year, there were cases of locally acquired malaria identified in Florida (7 cases) and Texas (1 case), all of which were *P.vivax*.

Recommendations for Clinicians

- **Consider the diagnosis of malaria.**
 - Consider the diagnosis of malaria in any person with a fever of unknown origin or other signs or symptoms of malaria, particularly those with travel to a malaria-endemic country. Clinical manifestations of malaria can include fever, chills, headache, myalgias, fatigue, nausea, vomiting, and diarrhea.
 - Routinely obtain a travel history and consider malaria in a symptomatic person who traveled to an [area with malaria](#) in the weeks to months preceding symptom onset.
- **Diagnose and treat promptly. Malaria is a medical emergency. If not diagnosed and treated promptly, illness may progress to severe disease or death.**
 - Treatment recommendations for malaria vary by species and severity. Please refer to [CDC's Malaria Diagnosis and Treatment Guidelines for U.S. Clinicians](#) for specific detailed instructions. An algorithm for diagnosis and treatment of malaria is also available [here](#).

- Patients suspected of having malaria should be urgently evaluated in a facility, such as an emergency department, able to provide rapid diagnosis and treatment, within 24 hours of presentation.
- Order microscopic examination of thin and thick blood smears, and a rapid diagnostic test (RDT) if available, to diagnose malaria as soon as possible.
 - “BinaxNOW™,” a malaria RDT, is approved for use in the United States. RDTs are less sensitive than microscopy and cannot confirm each specific species of the malaria parasite or the parasite density.
 - Therefore, microscopy should also be obtained in conjunction with an RDT as soon as possible.
- If blood smears or RDT are positive and species determination is not available, antimalarial treatment effective against chloroquine-resistant *P. falciparum* must be initiated immediately.
- Artemether-lumefantrine (Coartem®) is the preferred option, if readily available, for the initial treatment of uncomplicated *P. falciparum* or unknown species of malaria acquired in areas of chloroquine resistance. Atovaquone-proguanil (Malarone®) is another recommended option. *P. vivax* infections acquired from regions other than Papua New Guinea or Indonesia should initially be treated with chloroquine (or hydroxychloroquine).
- IV artesunate is the first-line drug for treatment of severe malaria in the United States. Artesunate for Injection™ is approved by the FDA for treating severe malaria and is commercially available. More information on how to acquire IV artesunate in the United States can be found [here](#).
- Species determination is important because *P. vivax* and *P. ovale* can remain dormant in the liver and require additional antirelapse treatment; failure to treat the dormant hepatic parasites may result in chronic infection with relapsing episodes. Relapses may occur after months or even years without symptoms.
- After an urgent infectious disease consultation, if there are still questions about diagnosing and treating malaria, **CDC malaria clinicians are on call 24/7 to provide advice to healthcare providers, further information can be found [here](#).**
- **Ensure reporting to public health.**
 - **Suspected or confirmed locally acquired malaria is a public health emergency and should be reported immediately to your local health department.**
 - Imported (or travel-associated malaria) is also reportable in Maryland through routine reporting methods. See <https://health.maryland.gov/phpa/pages/what-to-report.aspx> for additional details on reporting. Note that for all malaria cases, any available remnant whole blood specimen (EDTA tube) should always be submitted to the MDH Laboratory, along with the stained slides, if available.
- **Prevent malaria.**
 - Discuss travel plans with patients; prescribe a CDC-recommended [malaria chemoprophylaxis](#) regimen and discuss [mosquito bite prevention](#) for those traveling to an international [area with malaria](#); encourage patients to adhere to the regimen before, during, and after travel. Malaria chemoprophylaxis is not needed domestically at this time.
 - Discuss [mosquito bite prevention](#) with all patients.

Malaria Background

Malaria is a serious and potentially fatal disease transmitted through the bite of an infective female anopheline mosquito. Malaria can also be transmitted congenitally from mother to fetus or to the neonate at birth, through blood transfusion or organ transplantation, or through unsafe needle-sharing practices. Malaria is caused by any of five species of protozoan parasite of the genus *Plasmodium*: *P. falciparum*, *P. vivax*, *P. malariae*, *P. ovale*, and *P. knowlesi*. Almost all cases of malaria in the United States are imported and occur in people traveling from countries with malaria transmission, many from sub-Saharan Africa and South Asia.

Clinical manifestations of malaria can include fever, chills, headache, myalgias, fatigue, nausea, vomiting, and diarrhea. Symptoms typically begin 10 days to 4 weeks after infection, although a person may feel ill as early as 7 days or as late as 1 year after infection. If not treated promptly, malaria may progress to severe disease, a life-threatening stage, in which mental status changes, seizures, renal failure, acute respiratory distress syndrome, and coma may occur. Malaria in pregnant people is associated with high risks of both maternal and perinatal morbidity and mortality. *P. falciparum* and *P. knowlesi* infections can cause rapidly progressive severe illness or death, while the other species are less likely to cause severe disease. Laboratory abnormalities can include anemia, thrombocytopenia, hyperbilirubinemia, and elevated transaminases.

If you have additional questions, please contact your local health department or the Maryland Department of Health Infectious Disease Epidemiology and Outbreak Response Bureau at 410-767-6700.

Sincerely,

A handwritten signature in black ink, appearing to read "Monique Duwell". The signature is fluid and cursive, with the first name "Monique" and last name "Duwell" clearly distinguishable.

Monique Duwell, MD, MPH
Chief, Center for Infectious Disease Surveillance and Outbreak Response
Maryland Department of Health