

Malaria Cases in the U.S. Reach 40-Year High: Information and Guidance for Clinicians

This program was presented by the Centers for Disease Control and Prevention.

Malaria is a global public health problem that CDC has been actively involved in since the agency's inception in the 1940s. Although transmission of malaria was interrupted in the U.S. during World War 2 and eliminated by 1951, the steady increase in malaria cases over the past three years is of great concern to CDC. In 2011, the most recent year with available data, over 1900 cases of malaria were reported in the U.S. This number is the highest since 1971, and represents a 14 percent increase from 2010. In 2011, five people died from malaria or associated complications. Malaria can be reintroduced into areas where it was previously eliminated, so imported cases can potentially pose a large health threat.

In the vast majority of U.S. cases, malaria infection is acquired abroad, primarily in individuals visiting friends and relatives in sub-Saharan Africa or south Asia. The vast majority of these malaria cases and deaths are preventable and occur because travelers do not take an antimalarial drug for prophylaxis, take the wrong drug, or take the wrong dose.

Clinicians play an important role in preventing malaria infection in their patients who travel. In general, preventing malaria infection in travelers involves a few basic steps:

1. Taking an antimalarial drug, if indicated, before, during, and after the trip.
2. Using insect repellent.
3. Sleeping in accommodations that are air-conditioned, well-screened, or under insecticide-treated bed-nets. And,
4. Wearing protective clothing.

During office visits, clinicians should ask their patients whether they intend to travel abroad in the near future and if so, determine whether they will be traveling to a malaria endemic area. Malaria occurs in approximately 100 countries in parts of Africa, Asia, the Middle East, Eastern Europe, Central and South America, the Caribbean, and Oceania. The CDC malaria website details where malaria transmission occurs and the appropriate antimalarial drug to prescribe.

A travel history should be obtained from all patients seeking care for febrile illness. Fever in returning travelers from malaria-endemic areas should always prompt an immediate evaluation for malaria. Diagnosis of malaria in the U.S. is typically done through microscopy, where thick and thin blood smears are prepared and read for the presence of malaria parasites. A set of three negative slides spaced between 12 and 24 hours apart are needed to rule out malaria. A thick and thin smear should yield three key pieces of information: the presence or absence of malaria parasites; the species of malaria; and the parasitemia, or parasite density.

An alternative to microscopy is the use of rapid diagnostic tests which rely on the detection of antigens in patients' blood. Unlike microscopy, rapid diagnostic tests cannot be used to estimate the parasitemia. While PCR and serology tests exist for malaria, they should not be used for diagnosis of acute infections.

Once a malaria diagnosis is confirmed, the next step is to classify the case as either "uncomplicated" or "severe" malaria. Uncomplicated malaria is defined by the absence of signs of severe malaria. Signs of severe malaria include a parasitemia of five percent or more, neurological involvement, acute respiratory distress syndrome, severe anemia, and end-organ involvement, among others. Severe malaria should be treated with intravenous antimalarials, regardless of species. Uncomplicated malaria is treated with oral antimalarials.

The choice of antimalarial depends on the species of malaria and where the infection was likely contracted. CDC treatment guidelines are accessible through its malaria website: cdc.gov/malaria. CDC experts are available to consult on malaria prevention, diagnosis, and treatment through the CDC malaria hotline: (855) 856-4713.

As part of ongoing surveillance, all malaria cases diagnosed in the U.S. should be reported to CDC, and blood specimens from diagnosed cases should be sent to CDC or state laboratories for confirmation of species and for drug resistance testing.

For the most accurate health information, visit www.cdc.gov, or call 1-800-CDC-INFO.