Malaria is a common life-threatening disease in many parts of the world: Africa, Latin America, Caribbean, Asia, Eastern Europe, and the South Pacific. It is spread through Anopheles mosquitoes that carry the Plasmodium parasite and it can be a serious and sometimes fatal illness if not acted upon quickly. It is not a problem only in endemic countries but also a worldwide risk. These countries are visited by millions of travelers all over the world, that each year fall ill visiting risk areas. Also, well over thousands are reported with malaria after returning home.

### Accessing travel health and malaria information

Every traveler should undergo an individual risk assessment, always taking into consideration the destination country, including detailed itinerary with the risk of malaria that occur there, type of accommodation, season and weather and style of travel. Presence of antimalarial drug resistance in the risk country is also key.

Based on this risk assessment, the prevention methods may vary. Prevention of mosquito bites and specific medicines to prevent malaria are the most effective and common way to prevent the disease. A tropical medicine specialist must provide all the recommendations for every special case.

### Bite prevention

Vector control is the main way to prevent malaria transmission because it reduces the chance for a mosquito to acquire an individual. Insecticide-treated mosquito nets (ITNs) and indoor residual spraying (IRS) are effective, affordable and commonly used to prevent mosquito bites. But when traveling, individual protection is also very important.

**These are the easiest and most effective ways to protect yourself during your trip:**

- Wear a registered insect repellent. DEET, picaridin, eucalyptus oil or IR3535 provide long lasting protection against mosquitoes.
- Cover up with appropriate clothes like long-sleeved shirts and pants.
- Avoid being outside during dusk and down, when the mosquito is more active.
- Close windows and use air conditioning. If the mosquito is likely to be inside your home, sleep under a properly maintained bed net.

### Chemoprophylaxis for short-term visitors

Beginning a treatment before the trip allows the antimalarial agent to be in the blood before the traveler is exposed to the parasite. When prescribing a drug, it is crucial to study whether antimalarial resistance has been reported in the destination country. Other factors such as medical conditions, cost of medicines, potential side effects should be considered. Prophylaxis is not absolute. Breakthrough infection can always occur and risk avoidance is still necessary.

**Examples of medications used for chemoprophylaxis**

| Artemisinin combination therapy | Doxycycline |
| Chloroquine and Hydroxychloroquine | Mefloquine |

### Malaria clinical presentation

Malaria is always a serious illness and can be deadly. Travelers who experience any flu-like symptoms or headache should seek medical attention. Patients with malaria typically become symptomatic a few weeks after infection. Therefore, travelers who have the mentioned symptoms after returning home from a risk country are critical, even up to 1 year. Patients presenting suspect malaria symptoms after a trip to a tropical area have to be treated as a potential medical emergency and need to immediately inform a physician about their travel history.

**People may experience**

- Pain areas: in the abdomen or muscles
- Whole body: fatigue, chills, fever, night sweats
- Gastrointestinal: diarrhea, nausea, or vomiting
- Also common: fast heart rate, headache, mental confusion, or pallor

### Issues in malaria treatment

Malaria is an entirely preventable and treatable disease. The main goal of the treatment is to ensure the rapid and complete elimination of the parasite from the blood in order to prevent progression of uncomplicated malaria to severe disease, death, or chronic infection.

Artemisinin-based combination therapies (ACTs) are the most effective and most recommended treatment for uncomplicated malaria caused by *P. falciparum*. The type of ACTs is based on the results of efficacy in local strains of the parasite. For *P. vivax* infections, the preferred treatment is chloroquine. In areas with chloroquine *P. vivax* resistance, malaria should be treated with ACT.

**Standby or emergency self-treatment:** If you know you will be at high risk of developing malaria while traveling abroad, you should consider carrying a full reliable treatment supply of medicines to ensure access to a quality treatment.

### Getting healthcare abroad: useful links

The International Association for Medical Assistance to Travelers [www.iamat.org](http://www.iamat.org) country information by destination or health risk.

World Hospital Search [www.worldhospitalsearch.com](http://www.worldhospitalsearch.com) search for any hospital around the world accredited by Joint Commission International (JCI) that determine quality and patient safety around the world.

The International Society of Travel Medicine [www.istm.org](http://www.istm.org) global travel clinic directory.

Travel Health Online [www.tripprep.com](http://www.tripprep.com) information by destination, travel advice and travel medicine providers.

### Vulnerable travelers

**Pregnant women** Malaria can have harmful effects on pregnancies like increasing the risk of premature delivery, miscarriage and stillbirth. Pregnant women should not travel to malaria-endemic areas if they must go, they absolutely should take prevention medicines (mefloquine being the best choice) and avoid mosquito bites.

**Children** Children can rapidly develop high levels of the parasite in the blood and are at high risk of severe complications, including death. Preventive medicines should be taken calculating the pediatric dose and on the basis of body weight. Also, personal protection measures avoiding mosquito bites are crucial.

**Immuno compromised travelers** Selection of an appropriate prophylactic regimen should take into account the drug interactions with a traveler’s medications, including immunosuppressive agents and antivirals. Being immuno compromised, the most important question is: do the benefits of your trip exceed the risks?

### References

All the information for this poster was taken from the [World Health Organization (WHO)](http://www.who.int) and the [Center for Disease Control (CDC)](http://www.cdc.gov)