

Malaria:

Know your enemy



The 25th April is World Malaria Day and in this article ANDRÉ MARAIS tells us more about this disease, its cause

and its prevention. Malaria is a common and potentially life-threatening disease in tropical and subtropical countries, which could be prevented in most instances with appropriate precautions. The disease occurs when a human being is bitten by an infected female *Anopheles* mosquito.

Recognising the malaria mosquito

Recognising these mosquitos and their behavioural features is important and may prevent you from being bitten.

- They are relatively small (about 8 mm long) and look dark brown to black in colour with dark spotted wings.

- Their posture when resting or feeding is distinctive: head down, body at an angle, and hind legs raised. This is different from the horizontal position maintained by most other species of mosquitos. They fly more quietly and their bite is more subtle.
- They prefer clean water for the development of larval stages and seldom fly beyond 1–2 km of their larval site.
- *Anopheles* mosquitos generally feed between sunset and dawn near ground level. Therefore, they are more likely to bite one's feet and lower legs.

In South Africa, malaria transmission occurs mainly in the north-eastern part of the country, including the low altitude areas of Limpopo, Mpumalanga and KwaZulu-Natal.

The elderly at higher risk

As with all life-threatening diseases, malaria poses a greater health risk to the elderly, owing to the higher number of co-morbidities and age-related physiological changes. It is important to take precautions and to diagnose and treat these infections as early as possible to avoid the increased risk of death in the elderly population. This risk is estimated to be almost six times higher in the 60-plus age group, including prolonged hospitalisation and a longer time to diagnose the disease.

Older people account for a significant proportion of travellers. Those who are travelling to endemic malaria areas should plan well in advance and seek advice from their healthcare practitioners about taking



a suitable prophylactic agent before travelling.

Precautions against malaria: medication

Taking precautions when visiting affected areas lowers the risk of contracting malaria. However, no prophylaxis is 100% effective.

Some prophylactic medications have to be administered a week before one enters the affected areas, while others may be taken only a day or two before travelling.

It is also important to discuss the possible side effects of the prophylactic agents, such as nausea, an upset stomach, drowsiness or dizziness, and to enquire about medication to treat or prevent these side effects, which require special consideration, since older patients may already suffer from dizziness and are at greater risk of falling.

Take only medicines that have proved effective in preventing malaria (currently only mefloquine, doxycycline and atovaquone/proguanil), as recommended by your healthcare professional. Always remember to disclose medical conditions (especially epilepsy, previous head trauma and cardiovascular disease) to your doctor, because selecting a suitable prophylaxis may be problematic with certain co-morbid diseases.

Elderly people who use anticoagulant therapies such as warfarin should avoid travelling to malaria areas if possible, because treating these patients has been associated with a much higher incidence of adverse events, including increased risk of bleeding or clotting.

There is a myth that taking a prophylaxis against malaria would mask the symptoms. This is quite inaccurate, and should not hinder any traveller from taking the prescribed medication, as it would put him or her at a much higher risk of contracting the disease. An appropriate prophylaxis would considerably reduce the chances of developing malaria. Should malaria still occur in the presence of an inadequate prophylaxis, the symptoms would present with the same intensity as when no prophylaxis was taken.



Many alternative products and herbal supplements claim to be effective in the prophylaxis and treatment of malaria. This is seldom the case and the efficacy of these entities has not been proven scientifically. Remedies such as garlic and vitamin B may be used in addition to the prophylaxis, but should never replace prescribed anti-malarial drugs.

Another common myth is that drinking gin and tonic prevents malaria. Although tonic water contains quinine, it will not provide protection against malaria. To obtain the required amount of quinine from gin and tonic, one would need to consume approximately 70 litres of tonic water!

Precautions against malaria: anti-mosquito measurements

Equally importantly, general anti-mosquito measures that should always be adhered to:

- Remain indoors between dusk and dawn
- Wear suitable long-sleeved and light-coloured clothes and socks
- Always apply mosquito repellent to exposed skin, and repeat the application as directed on the label or use mosquito aerosol spray
- Keep doors and windows closed if they are not protected with insect barrier screens or nets
- Use a fan or air conditioner to hinder mosquitos from landing
- Sleep with a mosquito net, and be sure to tuck in sides and check for tears

- Use mosquito mats, burn coils or utilise electrical repellent devices that are registered mosquitos deterrents.

In addition to prescribed malaria prophylactic agents, a few natural remedies are known to be beneficial in preventing mosquito bites. These include lavender oil lotions and sprays for bedding, or lavender oil burned with coarse salt to repel mosquitos. Eucalyptus leaves are often placed in braai fires. The citronella soap, lotion and candles are also popular. Vinegar can be poured into small containers and placed around a room, and mixing equal amounts of baby oil and Dettol has been described in the past.

Early detection important

The early detection of malaria is important, since it presents with flu-like symptoms such as fever, headache, chills, muscular pain, fatigue, nausea and vomiting. Symptoms of malaria commonly develop 10–14 days after an infected mosquito bite. This period may be prolonged if prophylactic drugs have been taken. Over-the-counter malaria home test kits can be used if malaria is suspected. The test may be repeated every 12 hours if the symptoms persist, after which diagnosis must be confirmed by a doctor, who will request a formal malaria blood test. Malaria is regarded as a medical emergency, and often warrants hospital admission and monitoring for 24–48 hours to ensure that complications do not occur. It is therefore important to keep your travel records updated, and to disclose your travel history to your doctor when these symptoms are present, so that this potentially fatal disease may be accurately diagnosed and treated. ■

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