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Malaria prevention

It is sensible to find out whether there is a risk of malaria in the place you are visiting. If there is a risk, you can avoid getting malaria by taking steps to avoid mosquito bites, and in some cases by taking antimalarial medication. Malaria can be a life-threatening illness, so it is extremely important to consider prevention before travelling to an at-risk area.

How to prevent malaria

There is an **ABCD** for prevention of malaria. This is:

- **A**wareness of risk of malaria.
- **B**ite prevention.
- **C**hemoprophylaxis. This means taking antimalarial medication to prevent the disease.
- **D**iagnosis should be made promptly and treatment started quickly. Seek medical attention urgently if you become unwell after travelling to a high-risk area.

Malaria is a serious infection, so prevention is crucial.

Awareness of the risk of malaria

Before travelling it is important to find out if there is a risk of malaria where you are going. You can find this out on the [Fitfortravel website](#), or from your travel clinic or pharmacist.

The risk varies between countries and can depend on the type of trip. For example, back-packing or travelling to rural areas is generally more risky than staying in urban hotels.

In some countries the risk varies between seasons – malaria is more common in the wet season. In other countries, the risk varies depending on which part of the country you visit. One part of the country may be an area where there is a risk, and in other areas there is no or low risk.

In high mountainous areas there is often no risk, whilst in lower warmer areas there may be higher risk. The mosquito involved thrives in warm, humid conditions, so places with this sort of climate tend to be high-risk areas.

- Risk is particularly high in Africa, much of Asia and parts of South America.
- Western Europe and the United States of America are not areas of risk.

The main type of parasite and the amount of resistance to medication vary in different countries. Although risk varies, all travellers to malaria-risk countries should take precautions to prevent malaria.

The mosquitoes which transmit malaria commonly fly from dusk to dawn and therefore evenings and nights are the most dangerous time for transmission.

Malaria bite prevention

Insect repellent

You should use an effective insect repellent on clothing and any exposed skin. Diethyltoluamide (DEET) is safe, the most effective insect repellent and can be sprayed on to clothes. It lasts up to three hours for 20%, up to six hours for 30% and up to 12 hours for 50% DEET.

There is no further increase in duration of protection beyond a concentration of 50%. Because 50% DEET lasts longer, you do not need to apply it so often. It is also more effective in this higher concentration.

When both sunscreen and DEET are required, DEET should be applied after the sunscreen has been applied. DEET can be used on babies and children over 2 months of age. In addition, DEET can be used, in a concentration of up to 50%, if you are pregnant. It is also safe to use if you are breastfeeding. If you have sensitive skin you may find DEET irritating. Insecticides containing picaridin are a useful alternative.

Mosquito nets

If you sleep outdoors or in an unscreened room, ideally you should use mosquito nets impregnated with an insecticide (such as pyrethroid). The net should be long enough to fall to the floor all around your bed and be tucked under the mattress.

Check the net regularly for holes. Nets need to be re-impregnated with insecticide every six to twelve months (depending on how frequently the net is washed) to remain effective. Long-lasting nets, in which the pyrethroid is incorporated into the material of the net itself, are also available and can last approximately three to five years.

Covering-up bare skin

You should try to cover up bare areas with long-sleeved, loose-fitting clothing, such as long trousers and socks. If you are outside after sunset you should definitely cover up to reduce the risk of mosquitoes biting.

Clothing may also be sprayed or impregnated with permethrin, which reduces the risk of being bitten through your clothes.

Air-conditioners

Sleeping in an air-conditioned room reduces the likelihood of mosquito bites, due to the room temperature being lowered.

Mesh netting

Doors, windows and other possible mosquito entry routes to sleeping accommodation should be screened with fine mesh netting. You should spray the room before dusk with an insecticide (usually a pyrethroid) to kill any mosquitoes that may have come into the room during the day.

Other prevention methods

If electricity is available, you should use an electrically heated device to vaporise a tablet containing a synthetic pyrethroid in the room during the night. The burning of a mosquito coil is not as effective.

Herbal remedies have not been tested for their ability to prevent or treat malaria and are therefore not recommended. Likewise, there is no scientific proof that homeopathic remedies are effective in either preventing or treating malaria and they are also not recommended.

Antimalarial tablets

Antimalarial medication (chemoprophylaxis) helps to prevent malaria. The best medication to take depends on the country you visit. This is because the type of parasite varies between different parts of the world. Also, in some areas the parasite has become resistant to certain medicines.

To find out whether there is a risk of malaria in any country you're visiting, and whether you need to take antimalarial tablets, visit the **NHS Fitfortravel** site.

Be aware that antimalarials that you buy in the tropics or over the internet may be fake. It is therefore recommended that you obtain your antimalarial treatment from your pharmacist or a travel clinic.

Pharmacists can now provide the full range of antimalarial medications, so there's no need to see your GP or practice nurse for a prescription. Medications to protect against malaria are not funded by the NHS. You will need to buy them, regardless of where you obtain them.

"So now you can buy this medication over the counter, what might the benefits be? Well first, you should save some money."

Source: Michael Stewart

The type of medication advised will depend upon the area to which you are travelling. It will also depend on:

- Any health problems you have.
- Any medication you are currently taking.

- The length of your stay.
- Any problems you may have had with antimalarial medication in the past.
- Whether you are pregnant or breastfeeding.
- Age (some medicines cannot be used in children).

Names of medications which may be used are:

- [Chloroquine](#) (or [hydroxychloroquine](#) if you already take this for another condition).
- [Proguanil](#).
- [Doxycycline](#).
- [Mefloquine](#).
- [Atovaquone and proguanil combination](#).

You should seek advice for each new trip abroad. Do not assume that the medication you took for your last trip will be advised for your next trip, even to the same country. There is a changing pattern of resistance to some medicines by the parasites.

How to take antimalarial tablets

You must take the medication exactly as advised. This usually involves starting the medication up to a week before you go on your trip. This allows the level of medicine in your body to become effective. It also gives time to check for any side-effects before travelling.

It is also essential that you continue taking the medication for the correct time advised after returning to the UK. This will vary depending on the individual medicine but is likely to be between one and four weeks.

Because of the way the parasite infects your blood, it can still be spreading in your blood several weeks after being bitten. It is important to take your medicines for the correct amount of weeks after leaving an affected country, in order to prevent this.

Side-effects of antimalarial tablets

Antimalarial medication is usually well tolerated. The most common side-effects are minor and include:

- Headaches,
- Feeling sick (nausea).
- [Diarrhoea](#).

However, some people develop more severe side-effects. Therefore, always read the information sheet which comes with a particular medicine for a list of possible side-effects and cautions. To reduce possible side-effects, it is usually best to take the medication after meals.

If you are taking doxycycline then you need to use a high-factor sunscreen. This is because this medication makes the skin more sensitive to the effects of the sun.

A few people taking mefloquine may develop headaches or have problems with sleep (including difficulty sleeping ([insomnia](#)) or abnormal dreams). Mood may be affected.

Note: medication is only a part of protection against malaria. It is not 100% effective and does not guarantee that you will not get malaria. The advice above on avoiding mosquito bites is just as important, even when you are taking antimalarial medication.

Further reading

- [Malaria: guidance, data and analysis](#); Public Health England
- [NHS Fit For Travel: Travel health information for people travelling abroad from the UK](#); Health Protection Scotland
- [Guidelines for malaria prevention in travellers from the UK 2022](#); Public Health England Annual report, April 2023
- [Tickell-Painter M, Maayan N, Saunders R, et al](#); Mefloquine for preventing malaria during travel to endemic areas. Cochrane Database Syst Rev. 2017 Oct 30;10:CD006491. doi: 10.1002/14651858.CD006491.pub4.

- [World Malaria Report 2023](#); World Health Organization, November 2023
- [Malaria](#); NICE CKS, July 2023 (UK access only)

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