

# Malaria Information



# WICKER PHARMACY

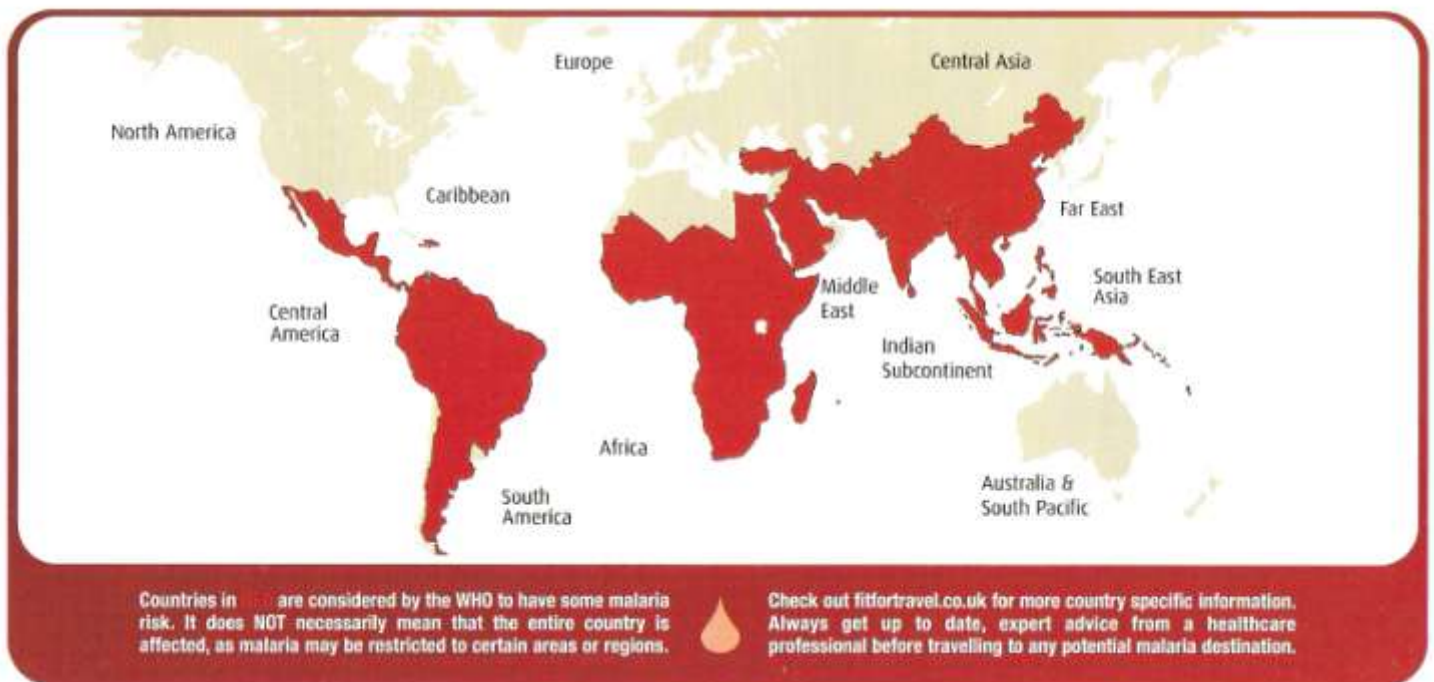
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## What is it?

An infection caused by the *Plasmodium* parasite (of which there are four types) and is transmitted by the female Anopheles Mosquito. It is a tropical disease found in certain areas of the world (see map below):



About 2000 British travellers arrive back in the UK each year with Malaria and this figure is increasing with more people travelling abroad, climate changes and increasing resistance to prophylactic (preventative) medicines. If not treated, malaria can be fatal and **recent figures show that about nine British travellers die each year** from the disease.

The parasite has a fairly complex lifecycle as it survives in the mosquito before transmission to humans:

- Infected female Anopheles Mosquito bites human to feed and injects the parasites into the blood.
- Parasites move into the liver cells where they are able to multiply without being attacked by the human immune system.
- Parasites then invade the red blood cells and multiply before causing the cells to burst. This releases the parasites which are then able to invade more red blood cells. This happens about every two to three days, which means that symptoms usually stop between phases of parasite release. Parasite release corresponds with the fevers and chills of infection.
- If the person is bitten again, the mosquito will pick up the parasite and be able to transfer it to another person.

The signs and symptoms of malaria usually start between 10 days and six weeks after infection, but can take up to one year to develop. The type of *Plasmodium* parasite causing the infection will affect the exact symptoms experienced and their severity. *P. falciparum* causes the most severe symptoms and is also called malignant malaria. *P. vivax*, *P. malariae* and *P. ovale* cause Benign malaria which is less severe and more easily treatable than the malignant version.

Headache, alternating fever and chills, muscle and joint pains, diarrhoea and vomiting are the main symptoms and are easily confused with flu. They continue for weeks if not treated, but do resolve with successful treatment. Malignant malaria results in much more serious symptoms including anaemia, low blood pressure, jaundice and kidney failure. In very serious cases the brain and central nervous system can be affected which may result in death.

It is possible for the symptoms of *P. falciparum* to develop from initial symptoms to death within 24 hours. **You must inform your doctor** if you fall ill after returning from a holiday in an area where Malaria is present.

## Prevention

There are two ways to prevent infection:

### Prophylactic (Preventative) Medication

Malaria prophylaxis medication needs to be started before travel and continued for up to four weeks afterwards, depending on the type taken. It is extremely important to remember to take the whole course. As it is not 100% effective other precautions should be carried out too.

Exactly which medication should be taken varies from area to area as resistance to some types has occurred. The latest guidance can be obtained from the Pharmacist, Nurse and MASTA.

Even if you are visiting your country of origin which is in a malaria area, you will need prophylaxis as any acquired immunity is lost within six months of leaving the country.

Some can be purchased over the counter from the pharmacy, while others are only available on prescription. There are contra-indications to use, so the

pharmacist or GP should be consulted. Doses will also vary depending on whether a child or adult is taking the medication.

### **Paludrine/Acloclor Travel Pack (Proguanil 100mg Tablets + Chloroquine 250mg Tablets)**

- Available over-the-counter
- Proguanil 200mg daily and chloroquine base 300mg weekly, taken with food
- Start ONE WEEK before and continue for FOUR WEEKS after travel
- Side-effects include: nausea, mouth ulcers, dizziness and upset stomach

### **Paludrine (Proguanil 100mg Tablets)**

- Available over-the-counter
- 200mg daily taken with food
- Start at least two days, but preferably ONE WEEK before and continue for FOUR WEEKS after travel
- Side-effects include: mouth ulcer and upset stomach

### **Malarone (atovaquone 250mg and proguanil 100mg Tablets)**

- Prescription only
- One tablet daily taken with food
- Start TWO DAYS before and continue ONE WEEK after travel
- Side-effects include: headache and upset stomach

### **Doxycycline 100mg Capsules**

- Prescription only
- 100mg daily
- Start TWO DAYS before and continue for FOUR WEEKS after travel
- Side-effects include: increased sensitivity to the sun, vaginal thrush, upset stomach, rashes

### **Larium (Mefloquine 250mg Tablets)**

- Prescription only
- 250mg weekly taken with food
- Start TWO WEEKS before and continue FOUR WEEKS after travel
- Side-effects include: nausea, headache, dizziness (can affect driving), hallucinations

## Other Prevention

This is essential as medication is not 100% effective, so it is therefore better to avoid being bitten in the first place.

- Wear long light-coloured cotton clothing to cover the wrists and ankles before dawn, in the evening and when going out at night (the Female anopheles only bites at night)
- Use insect repellent, ideally with 50% DEET (diethyltoluamide) (applied on top of suncream). DEET can be used during pregnancy and while breast feeding.
- Use mosquito nets, coils and plug-in devices depending on the type of accommodation and where air-conditioning is not present.
- Mosquito nets should be impregnated with permethrin for the best protection and not have any large holes in them.
- Avoid areas of standing water as this is where the mosquitoes gather and lay their eggs

## Other tips

- Check which vaccinations you need for the area of travel and remember that immunity can take some time to develop, so check at least eight weeks before travel.
- Remember to take enough of any regular medication with you
- Remember travel insurance
- Remember at least a basic First Aid Kit, including anti-histamines should bites occur
- Report any flu-like illness which occurs especially within three months of return, but also up to one year after return.

## Further references

- Fit for Travel [www.fitfortravel.scot.nhs.uk](http://www.fitfortravel.scot.nhs.uk)
- MASTA [www.masta.org](http://www.masta.org)
- The Pharmacist
- Practice Nurse
- NHS Direct [www.nhsdirect.nhs.uk](http://www.nhsdirect.nhs.uk) 0845 46 47
- Patient UK [www.patient.co.uk](http://www.patient.co.uk)
- National Travel Health Network and Centre [www.nathnac.org/travel](http://www.nathnac.org/travel)

## Malaria Medication Price Guide

These figures have been provided as a guide only and are subject to change. The figures are based on May 2007 prices. Please check exact prices at the time of purchase. The numbers of tablets required have been calculated according to current guidelines for the relevant products – see page 4.

### Over-The-Counter Medicines:

	Number of weeks in Malaria area					
	One	Two	Three	Four	Eight	Twelve
<b>Paludrine/Avloclor Travel Pack</b> (Proguanil 100mg Tablets + Chloroquine 250mg Tablets)		£15.50				
<b>Paludrine</b> (Proguanil 100mg Tablets) [200mg Daily]	£13.10 (one box)	£13.10 (one box)	£26.20 (two boxes)	£26.20 (two boxes)	£26.20 (two boxes)	£39.30 (three boxes)
<b>Avloclor</b> (Chloroquine 250mg Tablets) [300mg Weekly]	£1.96 (one box)	£1.96 (one box)	£1.96 (one box)	£1.96 (one box)	£3.92 (two boxes)	£5.88 (three boxes)

### Prescription Only Medicines:

	Number of weeks in Malaria area					
	One	Two	Three	Four	Eight	Twelve
<b>Larium</b> (Mefloquine 250mg Tablets) [250mg Weekly]	£15.89 7 tablets	£18.16 8 tablets	£20.44 9 tablets	£22.70 10 tablets	£33.79 14 tablets	£40.86 18 tablets
<b>Doxycycline 100mg Capsules</b> [100mg Daily]	£6.75 37 caps	£8.03 44 caps	£9.31 51 caps	£10.59 58 caps	£15.70 86 caps	£20.81 114 caps
<b>Malarone</b> (Atovaquone 250mg and Proguanil 100mg Tablets) [One Daily]	£42.02 16 tablets	£60.40 23 tablets	£78.78 30 tablets	£97.16 37 tablets	Not licensed	Not licensed

## Malaria Risk Assessment

Please complete the form below and we will then be able to provide advice as to whether any form of anti-malarial is required and an estimate of the cost. The shaded areas will be completed by the pharmacist.

<b>Destination(s):</b>				<b>Type of Accommodation:</b>			
<b>Duration of Stay:</b>				<b>Time of Visit (Month/Year):</b>			
<b>Travellers Details:</b>							
Name	Age	Any Medical Problems?	Regular Medicines?	Pregnant? Breast Feeding?	Recommendation (OTC/POM)	Quantity	Approx Price
						<b>TOTAL</b>	<b>£</b>

The information given in the risk assessment table is correct to the best of my knowledge. The use of anti-malarial treatment has been explained and I understand the advice given by the pharmacist and in the Malaria information booklet. I understand that the information I have supplied is only to enable you to give suitable advice and will be kept in the strictest of confidence.

Signature.....

Date .....

**For Pharmacy Use Only:**

Was a supply made?	Yes / No
Referral to a GP?	Yes / No

<b>Please tick to show the following topics have been covered with the patient:</b>	
Treatment with two different types of tablets (where appropriate) has been explained.	
Dosage adjustment in children (by weight, rather than age if possible).	
Underlying conditions that may affect choice of regime such as epilepsy, psoriasis, renal impairment or depressive illness.	
Interactions. Doxycycline: oral contraceptives, photosensitivity (3-4% patients). Mefloquine: seizure history, psychiatric disturbances including depression, Zyban. Chloroquine: epilepsy.	
You should refer all pregnant travellers to their doctor. OTC products require folic acid supplementation and POMs have restrictions.	
Breast fed infants require prophylaxis.	
Advice on the required travel vaccinations is available. The vaccines are supplied by the doctor.	
Linked Products: Sun screens, repellent, needles etc.	

The action specified was based on the information given to me by the patient, which is to the best of my knowledge correct.

Pharmacists Signature .....

Date .....