Emergency Standby Treatment for Malaria

Who should take a malaria standby treatment kit?

You should consider taking a standby treatment kit if you are going to a high-risk malarial area for more than one week, unless you know there is both good quality health care available within 12 hours and that the recommended treatment for malaria is reliably available and of good quality. These kits are especially useful in Sub-Saharan Africa. You should remember that malaria symptoms can occur within 5-7 days of being bitten by an infected mosquito.

It is important to be taking malaria prophylaxis medication regularly and avoid mosquito bites while in a malarial region, as these reduce the chance of you becoming ill with malaria; however none are 100% effective. Malaria can quickly become serious or even fatal, so it is vital to get medical help as soon as possible if you become unwell. However, if help is far away then this treatment can buy you time to get to a reliable hospital for proper testing and treatment. You should only take a kit with you if you have first had a careful explanation about how to recognise the symptoms of malaria, and how and when to self-treat.

Malaria symptoms

Malaria symptoms are flu-like: fever and shivering, which may also be accompanied by headache, nausea and vomiting, diarrhoea, aching muscles and joints, backache or cough. If not treated promptly malaria can sometimes lead to coma, convulsions and death. However, sometimes malaria causes only very mild symptoms. Also several other conditions can mimic malaria, so obtaining an accurate diagnosis is important, especially in children and pregnant women. See our resources on ‘Malaria: Prevention & Treatment’ for more information.

When should you use the kit?

Wherever possible you should seek medical advice as soon as possible if you think you are going down with malaria - even if you are taking malaria prevention tablets.

You should use this kit if you develop symptoms suggestive of malaria AND

- EITHER you are unable to have this confirmed and treated within 12 hours (take to buy you time to get to a hospital)
- OR you are able to have malaria confirmed by a health worker but the recommended malaria treatment of reliable quality is not available
- OR you have a negative malaria blood slide test but are still suffering from the same or worsening symptoms.

Which standby treatment should you use?

There are a number of treatments available but malaria specialists currently recommend...
those listed in the table below. Options are listed in order of preference. You should always use a different standby drug from the one you are taking for malaria prevention. **Normal adult doses** are given unless otherwise stated.

**What should you do?**

If you are likely to need a standby treatment kit, read through the options listed below and decide in consultation with a travel health practitioner which one is most suitable for you. You can order these from InterHealth. Before you go overseas, and again before taking the medication read the Patient Information Leaflets and instructions enclosed with the kits.

Always try to get medical care if you suspect malaria and ensure that after starting standby treatment you seek out good medical advice as soon as possible. In the case of very high parasite counts the oral standby medication may not be effective. It is also possible that your symptoms have another cause - both good reasons for seeing a doctor as quickly as possible.

Unless advised otherwise, you should stop taking your malaria prevention tablets when using your malaria standby treatment kit. The Advisory Committee on Malaria Prevention for UK Travellers (ACMP) recommends that once you have completed your emergency standby medication you should restart your malaria prevention medication one week after you took the **first dose** of emergency standby medication. If your **malaria prevention** medication consists of mefloquine and your **standby treatment** included quinine, you should wait a minimum of 12 hours after completing the course of quinine before you restart the mefloquine. Always consult with a physician when using emergency standby treatment. **It is essential** young children or **pregnant** women with malarial symptoms are **seen by a doctor urgently**.

Many sources, such as the UK Malaria Guidelines, recommend that standby malaria treatment packs should be carried by people who are going to be more than 24 hours away from reliable medical care. At InterHealth we are aware of cases where people have succumbed to malaria much faster than this, therefore we recommend treatment kits to people who will be over 12 hours from reliable testing and treatment facilities.

**Leaving a malarious region**

Continue taking your malaria prevention tablets for the recommended period after leaving the last malarial region you are visiting. Symptoms of malaria can present up to 12 months after leaving a malarial area. So if you become unwell, and experience flu-like symptoms or fever get this checked out without delay at an Accident and Emergency Department or InterHealth if you are near London or Nairobi. You should always mention the possibility of malaria to any reception and medical staff so that they can organise a blood slide test to be carried out **urgently**.

If having left a malarial area you will not have access to expert advice if you fall ill (e.g. because you are going on holiday) **take the standby kit with you**.

**Counterfeit Medicines**

If there is any doubt about the reliability of the local health care facilities make sure that you source your emergency standby treatment kit before you travel. Counterfeit (fake) medicines are a growing problem throughout the world. The World Health Organization estimates many countries in Africa have areas where more than 30% of the medicines on sale can be counterfeit. A fair estimate of counterfeit medicines in developing countries is between 10% and 30%. Counterfeit medicines often look identical to the real thing but can be very dangerous and/or completely ineffective. We strongly suggest you obtain standby medication from a known reliable source preferably in your country of origin or before you leave for a malarial area.
<table>
<thead>
<tr>
<th>Recommended Malaria Treatment (Normal ADULT dose)</th>
<th>CHILDREN’S doses</th>
<th>Who for and other important information</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OPTION 1</strong>&lt;br&gt;Co-artemether (Riamet) tablets&lt;br&gt;FOUR tablets taken together followed by FOUR further tablets after 8, 24, 36, 48 and 60 hours. Total 24 tablets over 60 hours.&lt;br&gt;Co-artemether is artemether 20mg plus lumefantrine 120mg, and is one form of Artemesinin Combined Therapy (ACT), whose use is recommended by the World Health Organization.</td>
<td><strong>Children’s doses are to be taken at initial diagnosis and at 8, 24, 36, 48 and 60 hours - total of 6 doses.</strong>&lt;br&gt;5-&lt;15 kg ONE tablet per dose (total 6 tablets)&lt;br&gt;15-&lt;25 kg TWO tablets per dose&lt;br&gt;25-&lt;35 kg THREE tablets per dose (total 18 tablets)&lt;br&gt;35 kg and over FOUR tablets per dose (total 24 tablets)</td>
<td>This is a useful and effective standby treatment and is ideal for use in Sub-Saharan Africa. <strong>This is suitable whatever malaria prevention is being used but malaria prevention tablets should be discontinued until treatment with Co-artemether is completed - see notes above.</strong>&lt;br&gt;Co-artemether should not be used in pregnancy and breastfeeding, except in an emergency. Not suitable for those with heart rhythm disorders. It interacts with certain medicines - seek advice from your doctor or InterHealth.&lt;br&gt;The doses should ideally be taken with food containing some fat. The tablets can be crushed before giving to small children.</td>
</tr>
</tbody>
</table>

<p>| <strong>OPTION 2</strong>&lt;br&gt;Atovaquone plus Proguanil (A&amp;P) combination tablets&lt;br&gt;FOUR tablets as a single dose taken on 3 consecutive days (total 12 tablets).&lt;br&gt;A &amp; P (or Malarone brand) is atovaquone 250mg plus proguanil 100mg. | <strong>5-8 kg TWO paediatric Malarone tablets taken together daily for 3 days (total 6 tablets). Not to be used in children under 5 Kg</strong>&lt;br&gt;<strong>9-10 kg, THREE paediatric Malarone tablets taken together daily for 3 days (total 9 tablets)</strong>&lt;br&gt;<strong>11-20 kg ONE adult A &amp; P (or Malarone brand) tablet taken daily for 3 days (total 3 tablets)</strong>&lt;br&gt;<strong>21-30 kg TWO adult A &amp; P (or Malarone brand) tablets taken together daily for 3 days (total 6 tablets)</strong>&lt;br&gt;<strong>31-40 kg THREE adult A &amp; P (or Malarone brand) tablets taken together daily for 3 days (total 9 tablets)</strong> | Atovaquone &amp; Proguanil (Malarone) is an effective treatment for adults and children in areas where there is chloroquine resistant malaria e.g. sub-Saharan Africa, the Amazon basin and Oceania. <strong>This is a very effective treatment against the most serious form of malaria, P. falciparum, but does not always cure so-called benign P.vivax and P. ovale malaria.</strong>&lt;br&gt;It is NOT advised for those using A &amp; P or Malarone as malaria prevention. A &amp; P or Malarone should not be used in pregnancy unless the benefit to the mother outweighs any potential risk to the foetus. It should not be used when breastfeeding infants under 5 Kg.&lt;br&gt;The doses should be taken with food or a milky drink. In small children the tablets may be crushed and mixed with food or a milky drink just prior to administration. |</p>
<table>
<thead>
<tr>
<th>Recommended Malaria Treatment (Normal ADULT dose)</th>
<th>CHILDREN’S doses</th>
<th>Who for and other important information</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OPTION 3</strong>&lt;br&gt;Quinine sulphate 300mg tablets&lt;br&gt;TWO tablets every 8 hours for 5-7 days&lt;br&gt;PLUS&lt;br&gt;Doxycycline 100mg capsules&lt;br&gt;ONE twice daily for 7 days started at the same time as quinine.</td>
<td>This combination is not suitable for children under 12 years of age.</td>
<td>This is an effective treatment in most areas where there is chloroquine resistance, e.g. Sub-Saharan Africa, the Amazon basin and Oceania. This is best NOT used (unless you are under medical supervision) if you are taking mefloquine as malaria prevention as occasionally quinine and mefloquine can interact. It is NOT advised for those using Doxycycline as malaria prevention. This combination is not suitable in pregnancy, breastfeeding or in children under 12 years of age.</td>
</tr>
<tr>
<td><strong>PREGNANCY</strong>&lt;br&gt;Quinine 300mg tablets&lt;br&gt;TWO tablets every 8 hours for 5-7 days&lt;br&gt;PLUS&lt;br&gt;Clindamycin 150mg capsules&lt;br&gt;THREE capsules every eight hours for 7 days started at the same time as the quinine.</td>
<td>N/A</td>
<td>Malaria in pregnancy is extremely serious and intravenous treatment is usually indicated. Do not delay seeking medical advice urgently as well as starting the standby treatment. This is an unlicensed use of clindamycin. This combination may be used in lactating mothers but the infant should be observed for signs of diarrhoea, blood in stools and candidiasis (thrush, napkin rash). This is best NOT used (unless you are under medical supervision) if you are taking mefloquine as malaria prevention as occasionally quinine and mefloquine can interact.</td>
</tr>
</tbody>
</table>

We do not recommend Halofantrine (Halfan) as a treatment even though it is available and widely used in many parts of Africa. It can cause fatal heart problems and the World Health Organization has issued a strong warning about its use. We do not recommend chloroquine or amodiaquine as treatment as there is increasing resistance throughout much of the world. Fansidar is also no longer used.

Some countries use different regimes and combinations of treatments. Artemether should never be used on its own as this can lead to recrudescence (the recurrence of symptoms after a temporary abatement).
Sources

- World Health Organization www.who.int/ith
- The Health Protection Agency UK www.hpa.org/infections/topics_az/malaria
- The National Travel Health Network and Centre www.travelhealthpro.org.uk
- US Centers for Disease Control and Prevention www.cdc.gov/travel

InterHealth Authors

Charlotte McIver & Emley Pine

Last reviewed: June 2016

Copyright © InterHealth

While InterHealth endeavours to ensure that the information published in this guidance note is correct, InterHealth does not warrant the accuracy and completeness of the material in this guidance note. The information in this guidance note is for information only and should not be used for self diagnosis or self treatment. Readers are always encouraged to seek medical help from a doctor or other competent professional health adviser.