Malaria Prophylaxis PGD

Instructions for Pharmacists

Quick guide for use with Patient Assessment Form - Malaria Prophylaxis¹ (PDF)
- Updated March 2013 to include option to supply Malarone or generic atovaquone/proguanil.
- Updated December 2012 to include the supply of Lariam - this updated ‘quick guide’ is for use with the updated Patient Information Leaflet² and the updated Assessment Form³.

Patient and GP details

Parents or guardians can complete a ‘Patient Assessment Form’ for children.
1. No confirmation of patient ID is required unless Pharmacists judge this necessary.
2. Pharmacists must be confident only appropriate parents or guardians request treatment for children, following normal pharmacy procedures.
3. Only patients 16 years and over are eligible to request medication by PGD on their own behalf, not children.
4. Where an individual is between 16 and 18 Pharmacists must be confident the patient has capacity to make informed decisions about his/her own health care.
5. Entering a GP name and surgery is optional.
6. Where patients request a copy be sent to their GP, this should be faxed or posted within 3 months.
7. For patients weighing 45kg or less an accurate weight must be obtained.

Sources of information on Malaria Prophylaxis

Pharmacists are required to consult one of the following sources of information for recommended prophylaxis for areas patients plan to visit
1. Current NPA Malaria Prophylaxis Leaflet⁴ (requires NPA login)
2. NHS Fit for Travel website⁵ (has maps, no login required)

Notes

Where recommended prophylaxis advice differs between the NPA and the NHS, either of the recommended prophylaxis regimes may be supplied to patients.

Patients should be supplied with the prophylaxis advised by a doctor or nurse provided it is also advised in one or other reference sources.

Non Chloroquine-resistant areas

- Where chloroquine, proguanil or proguanil/chloroquine are the recommended drugs, these should be the first choice. Their supply is not covered by PGD. They can be sold ‘Over the Counter’.
- Malarone - atovaquone/proguanil, doxycycline or Lariam should NOT be supplied for areas where chloroquine, proguanil or proguanil/chloroquine are recommended unless these medications are contraindicated, or an informed patient, or parent or guardian, requests them.

Advice to patient - choice between Malarone - atovaquone/proguanil OR doxycycline OR Lariam

- Malarone - atovaquone/proguanil, doxycycline or Lariam are equally effective in preventing malaria (no anti-malaria tablets is 100% effective)
- **Lariam** is NOT suitable for people who are prone to depression or emotional and/or psychiatric disorders or people with a history of seizure disorders. Lariam is more likely than Malarone - atovaquone/proguanil or doxycycline to impair motor skills, including the ability to drive. Side effects of Lariam can be prolonged, possibly for months, even after stopping after stopping medication.

- Doxycycline can cause sensitivity to sunlight. People taking it are advised to avoid strong sun, and to use high factor sun creams. Doxycycline is more likely to cause GI side effects such as nausea and indigestion.

**Dose**

- Doxycycline and Malarone - atovaquone/proguanil tablets are taken once daily, Lariam once weekly.

- Doxycycline and Malarone - atovaquone/proguanil are started 2-3 days prior to entering a malarious area, Lariam at least one week before (preferably two and half weeks before). Doxycycline and Lariam are continued for 4 weeks after exposure, Malarone - atovaquone/proguanil for one week after.

**Children (duration of supply)**

- Malarone - atovaquone/proguanil can be supplied for children from 11kg upwards (approx 12 months old), Lariam for children from 6kg upwards (approx 3 months old). Doxycycline is not available by PGD to under 16s.

- Doxycycline or Malarone - atovaquone/proguanil can be supplied to adults for up to 12 weeks use. Malarone - atovaquone/proguanil can be supplied for persons under 16 years for up to 4 weeks. Doxycycline is not available by PGD to under 16s.

- Lariam can be supplied for adults and children for up to a year.

**Travel to multiple countries/areas**

**Moving from malaria areas to non malaria areas and back again**

If a traveller is moving from malaria areas to non malaria areas and back again with breaks in between they should complete their course of antimalarials each time they leave a malaria area. If they return to a malaria area before completing a course they should take prophylaxis continuously.

**Moving from non-chloroquine resistant to chloroquine resistant area and vice versa**

If a traveller is moving between an area where chloroquine and/or proguanil are effective, and an area of chloroquine and/or proguanil resistance, and there is not enough time to complete the full course of antimalarials before changing areas, then they should be advised to take either doxycycline, Malarone - atovaquone/proguanil or Lariam for the whole of the trip.

**Malarone - atovaquone/proguanil**

**Malarone - atovaquone/proguanil questions**

Exclude supply of Malarone - atovaquone/proguanil if any question answered ‘Yes’.

Malarone - atovaquone/proguanil supply is excluded in cases of:

- Allergy to Malarone - atovaquone/proguanil
- History of renal disease
- Pregnancy (or planning to become pregnant)
- Breast feeding

**Interactions for Malarone - atovaquone/proguanil**

Exclude supply of Malarone - atovaquone/proguanil in combination with the following

- Rifampicin, rifabutin, metoclopramide and tetracycline (reduced level of Malarone - atovaquone/proguanil, avoid combination)
- Warfarin and other coumarins (possible - increase in INR)
- Indinavir (reduced trough level Indinavir)

**How to take Malarone - atovaquone/proguanil**
Start 1-2 days before trip and continue for 7 days after
Take with food or milky drink, although can be taken on empty stomach if necessary
Malarone - atovaquone/proguanil can be crushed and mixed with food or drinks for children.
Stop taking if rash or other allergic reaction occurs
Repeat dose if vomiting occurs within 1 hour

Dose Instruction

Malarone - atovaquone/proguanil for adults and children over 40kg:
Malarone - atovaquone/proguanil adult (atovaquone/proguanil 250mg/100mg), one tablet daily started 1 to 2 days before entering malaria-endemic area and continued for one week after leaving

16 years and over: Maximum of 12 weeks supply (93 tablets)
Under 16 years: Maximum of 28 days supply (37 tablets)

Children and individuals 11kg to 40kg:
11-20kg - Malarone - atovaquone/proguanil paediatric (atovaquone/proguanil 62.5mg/25mg), 1 tablets once a day as a single dose, started 1 to 2 days before entering malaria-endemic area and continued for one week after leaving. Maximum 4 weeks supply.
21-30kg – Malarone - atovaquone/proguanil paediatric (atovaquone/proguanil 62.5mg/25mg), 2 tablets once a day as a single dose, started 1 to 2 days before entering malaria-endemic area and continued for one week after leaving. Maximum 4 weeks supply.
31-40kg – Malarone - atovaquone/proguanil paediatric (atovaquone/proguanil 62.5mg/25mg), 3 tablets once a day as a single dose, started 1 to 2 days before entering malaria-endemic area and continued for one week after leaving. Maximum 4 weeks supply.
Children over 40kg take an adult dose.

Doxycycline

Doxycycline Questions
Exclude supply of Doxycycline if any question answered ‘Yes’.
Patients are excluded in the case of:
- Allergy to Doxycycline or Tetracycline
- History of acid indigestion
- Liver disease
- Porphyria
- Myasthenia gravis
- SLE
- Pregnancy (or planning to become pregnant)
- Breast feeding

Interactions for Doxycycline
Exclude Doxycycline supply in combination with the following:
- Warfarin or other coumarins (INR and dosage monitoring required)
- Penicillin (concomitant use to be avoided, reduced efficacy of penicillin)
- Phenobarbital, carbamazepine, phenytoin or primidone, ciclosporin (significant interaction, Doxycycline may be ineffective, avoid combination)
- Retinoids

How to take Doxycycline
Take one 100mg capsule daily for 1-2 days prior to, during and for 4 weeks after exposure

Take same time each day

Take with food or milky drink reduces chance of indigestion

Avoid antacids taken within an hour of Doxycycline

Avoid exposure to strong sun/use high factor sun block

Avoid taking immediately before bed as lying down increases chances of indigestion

Stop taking if there is rash

Repeat dose if vomiting occurs within 1 hour

Dose Instruction

Doxycycline: “One 100mg capsule daily started 1 to 2 days before entering malaria-endemic area and continued until 4 weeks after leaving”. Maximum duration 12 weeks (113 caps).

Doxycycline NOT to be supplied to under 16s.

Lariam

Lariam Questions

Exclude supply of Lariam if any question answered ‘Yes’.

Lariam supply is excluded in the case of:

- Allergy to Lariam (mefloquine) or chloroquine or galactose intolerance
- Are you pregnant or breast-feeding or planning to become pregnant whilst taking Lariam?
- Current depression or significant anxiety problems
- Previous diagnosed with any of the following:
  - Epilepsy or fits
  - Psychiatric disorders
  - Disturbance of heart rhythm (arrhythmia)
  - Liver disease (not including past minor disorders)
  - Kidney or renal disease (not including occasion urine infections)

In some cases it may be necessary for Pharmacists to contact doctors to clarify the medical history, particularly where the significance of psychiatric and psychological conditions are in doubt.

Interactions of Lariam

Exclude - Co-administration to be avoided with Halofantrine (malaria treatment), quinine, quinidine and chloroquine.

Caution - Dose adjustment may be required of valproic acid, carbamazepine, phenobarbital or phenytoinIndinavir (reduced trough level Indinavir). Advise patient to consult a doctor before taking Lariam.

Interactions - ECG abnormality are possible with anti-arrhythmic drugs or beta-adrenergic blocking agents, calcium channel blockers, antihistamines or H1-blocking agents, tricyclic antidepressants and phenothiazine. Advise patient to consult a doctor before taking Lariam.

How to take Lariam

- Tablets should be taken once weekly, always on the same day.
- Start taking the tablets 10 days before departure
- Take the tablets throughout stay and for 4 weeks after
- The full course of tablets is at least 6 weeks, depending on length of stay
- Take with food or milky drink, although can be taken on empty stomach if necessary
- Tablet may be crushed and mixed with food such as jam or honey just before administration
- Repeat dose if vomiting occurs within 1 hour
Dose Instruction

Adult and child body-weight over 45kg:

Lariam should be given once weekly, always on the same day.

In order to ensure, before arrival in endemic area, that Lariam administration is well tolerated, it is recommended to start chemoprophylaxis with Lariam 10 days before departure (i.e. first intake 10 days before departure and 2nd intake 3 days before departure). Subsequent doses should be taken once a week (at a fixed day).

Treatment should be continued for 4 weeks after leaving a malarious area (minimum treatment period 6 weeks). The maximum recommended duration of administration of Lariam is 12 months.

Children and individuals 6-45kg: (Doses below are from the BNF and differ from SPC)

Lariam should be given once weekly, always on the same day.

Body-weight 6-16kg, Lariam one quarter of a tablet (mefloquine 62.5 mg) once weekly started 10 days before departure (i.e. first intake 10 days before departure and 2nd intake 3 days before departure) and continued for four week after leaving (minimum of at least 6 weeks)

Body-weight 16-25kg, Lariam one half of a tablet (mefloquine 125 mg) once weekly started 10 days before departure (i.e. first intake 10 days before departure and 2nd intake 3 days before departure) and continued for four week after leaving (minimum of at least 6 weeks)

Body-weight 25-45kg, Lariam three quarters of a tablet (mefloquine 187.5 mg) once weekly started 10 days before departure (i.e. first intake 10 days before departure and 2nd intake 3 days before departure) and continued for four week after leaving (minimum of at least 6 weeks)

Lariam is not recommended below 3 months. Children over 45kg take an adult dose.

Maximum duration of supply of Lariam by PGD is one year for both adults and children.

Restrictions on supply of medication

- ONLY patients in person, or parents or guardians, can complete and sign PGD patient forms, NOT representatives
- ONLY patients in person, or parents or guardians, can be supplied with medication, NOT representatives.
- ONLY Pharmacists with PGD rights can supply medication and sign for its supply, NOT delegates.

Record medication supplied

1. No repeats permitted - new assessment form required for each supply of medication.
2. Pharmacists are free to split packs if they choose.
3. Pharmacists set their own price for supply, payable by patients.
4. Retain form as a record of PGD for 8 years

Duration of trip and quantities required - Malarone - atovaquone/proguanil or doxycycline

<table>
<thead>
<tr>
<th>Dosage</th>
<th>Malarone - atovaquone/proguanil adult</th>
<th>Malarone - atovaquone/proguanil paediatric 11-20kg</th>
<th>Malarone - atovaquone/proguanil paediatric 21-30kg</th>
<th>Malarone - atovaquone/proguanil paediatric 31-40kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>100mg capsules 1 capsule daily</td>
<td>Atovaquone/Proguanil 250mg/100mg 1 tablet daily</td>
<td>Atovaquone/Proguanil 62.5mg/25mg 1 tablet daily</td>
<td>Atovaquone/Proguanil 62.5mg/25mg 2 tablets daily</td>
<td>Atovaquone/Proguanil 62.5mg/25mg 3 tablets daily</td>
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<tr>
<td>When to start</td>
<td>1-2 days before entering malaria area</td>
<td>1-2 days before entering malaria area</td>
<td>1-2 days before entering malaria area</td>
<td>1-2 days before entering malaria area</td>
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4 weeks
When to stop after leaving malaria area

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<tr>
<th>Duration</th>
<th>1 week</th>
<th>2 weeks</th>
<th>3 weeks</th>
<th>4 weeks</th>
<th>5 weeks</th>
<th>6 weeks</th>
<th>8 weeks</th>
<th>10 weeks</th>
<th>12 weeks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>36 caps</td>
<td>43 caps</td>
<td>50 caps</td>
<td>57 caps</td>
<td>64 caps</td>
<td>71 caps</td>
<td>85 caps</td>
<td>99 caps</td>
<td>113 caps</td>
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<td></td>
<td>16 tabs</td>
<td>23 tabs</td>
<td>30 tabs</td>
<td>37 tabs</td>
<td>44 tabs*</td>
<td>51 tabs*</td>
<td>65 tabs*</td>
<td>79 tabs*</td>
<td>93 tabs*</td>
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<td>16 tabs</td>
<td>23 tabs</td>
<td>30 tabs</td>
<td>37 tabs</td>
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<td>46 tabs</td>
<td>60 tabs</td>
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<tr>
<td></td>
<td>48 tabs</td>
<td>69 tabs</td>
<td>90 tabs</td>
<td>111 tabs</td>
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</tbody>
</table>

* Maximum length of Malarone - atovaquone/proguanil supply by PGD to persons under 16 years is 4 weeks.

### Duration of trip and quantities required - Lariam

<table>
<thead>
<tr>
<th>Dosage</th>
<th>Adults and Children over 45kg</th>
<th>Body-weight 25-45kg</th>
<th>Body-weight 16-25kg</th>
<th>Body-weight 6-16kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>One tablet (mefloquine 250mg)</td>
<td>One tablet (mefloquine 187.5mg)</td>
<td>Half a tablet (mefloquine 125mg)</td>
<td>Quarter of a tablet (mefloquine 62.5mg)</td>
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<td>once weekly</td>
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<tr>
<td>When to start</td>
<td>10 days before departure (i.e. first intake 10 days before departure and 2nd intake 3 days before departure)</td>
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<tr>
<td>When to stop</td>
<td>4 weeks after leaving malaria area</td>
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<tr>
<td>1 week</td>
<td>8 tablets</td>
<td>5 tablets*</td>
<td>4 tablets*</td>
<td>2 tablets*</td>
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<td>2 weeks</td>
<td>9 tablets</td>
<td>7 tablets*</td>
<td>5 tablets*</td>
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<td>3 weeks</td>
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<td>6 months</td>
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<td>24 tablets*</td>
<td>16 tablets*</td>
<td>8 tablets*</td>
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<tr>
<td>12 months</td>
<td>58 tablets</td>
<td>44 tablets*</td>
<td>29 tablets*</td>
<td>15 tablets*</td>
</tr>
</tbody>
</table>

* Does not allow for wastage.

### Links

2. https://www.pharmacypgd.co.uk/pharmacist/pgds/2/patient-information-leaflet-malaria