

MALARIA

Uncomplicated malaria

Symptomatic infection without signs of severity or evidence of vital organ dysfunction

Complicated (severe) malaria

- almost always due to *P. falciparum*
- suspect mixed infections if vivax / malariae malaria appear unusually severe

Danger signs of severe malaria

- changes in behaviour
- impaired consciousness
- jaundice
- parasitaemia > 2%
- continued vomiting
- hyperpyrexia
- oliguria
- severe metabolic acidosis

Complications of falciparum malaria

- cerebral malaria
- pulmonary edema / ARDS
- renal failure
- haemoglobinuria
- haemorrhage due to DIC
- shock
- hypoglycaemia
- severe anemia (Hb < 5 g%)

Uncomplicated Plasmodium falciparum infection

First line therapy		
<i>Preferred treatment</i> Artesunate / mefloquine (Artequine)	<10kg : Artesunate 25mg ODX 3d Mefloquine 125mg single dose	20-40kg: Artesunate: 100mg ODX 3d Mefloquine 250mg OD X 3d
D1-3: Artesunate 4mg/kg OD D1-3: Mefloquine 25mg/kg over 2 days or 8.3mg/kg daily	10-20kg: Artesunate 50mg ODX 3d Mefloquine 125mg ODX 3d	>40kg Artesunate 200mg OD X 3d Mefloquine 500mg OD X 3d
<i>Alternative treatment</i> Artemether / lumefantrine (Riamet)	5 -14 kg: D1: 1 tablet stat , 1 tablet 8 hours later D2-3 1 tablet BD 15 – 24kg: D1: 2 tablets stat, 2 tablets 8 hours later D2-3: 2 tablets BD	25 – 35kg: D1: 3 tablets stat, 3 tablets 8 hours later D2-3: 3 tablets BD >35kg: D1: 4 tablets stat, 4 tablets 8 hours later D2-3: 4 tablets BD
Second line therapy		
<i>Children < 8 years</i> Oral Quinine 10 mg salt/kg 8 hourly Oral Clindamycin 10 mg/kg BD	<i>Children > 8 years</i> Oral Quinine 10 mg salt/kg 8 hourly Oral Doxycycline: 3.5 mg/ kg OD	Total duration 7 days
Add primaquine 0.75mg/kg single dose OD if gametocytes present at any time during treatment. Check G6PD before giving primaquine.		

Complicated Plasmodium falciparum infection

First line therapy		
D1: IV artesunate 2.4 mg/kg on admission, then repeat again at 12h D2-7: IV artesunate 1.2mg/kg OD		
Second line therapy		
D1: IV Quinine loading 7mg/kg over 1 hour then infusion 10mg/kg over 4 hours then 10mg/kg q8hourly (Dilute quinine in 250ml D5%, run over 4 hours) or Loading 20mg/kg over 4 hours then IV 10mg/kg q8 hourly D2-7: IV Quinine 10mg/kg q8h AND Doxycycline (>8yrs) (3.5 mg/kg OD) or Clindamycin (<8yrs) (10 mg/kg/dose bd) given for 7 days		
Change to oral Quinine if able to tolerate orally. Maximum Quinine per dose = 600mg.		

Plasmodium vivax infection

First line therapy

Total chloroquine 25mg base/kg divided over 3 days

D1: 10 mg base/kg stat then 5 mg base/kg 6 hours later

D2: 5 mg base/kg OD

D3: 5 mg base/kg OD

PLUS

Primaquine* 0.25 mg base/kg daily for 14 days

Relapse

Repeat Choroquine and primaquine

*Check G 6 PD status before giving primaquine.

In G6PD deficiency, primaquine 0.75 mg base/kg once a week for 8 weeks.

Plasmodium knowlesi or malariae infection

First line therapy

Total chloroquine 25mg base/kg divided over 3 days

D1: 10 mg base/kg stat then 5 mg base/kg 6 hours later

D2: 5 mg base/kg OD

D3: 5 mg base/kg OD

Second line therapy

Treat as complicated Plasmodium falciparum

Treatment for Mixed infections

Treat as for Plasmodium falciparum

Malaria chemoprophylaxis

Preferred prophylaxis

Mefloquine 5mg/kg once a week

To start one week before travel and continued till 4 weeks after leaving endemic area

Alternative prophylaxis

Doxycycline 2mg/kg OD(max 100mg/day) in children >8 years old.

To start one week before travel and continued till 4 weeks after leaving

Notes:

• *Artequine/mefloquine*

- Artesunate + mefloquine is available in 3 formulations:
- Artequine Paediatric in pellets form for small children < 20kg
- Artequine 300/750 for those between 20-40kg
- Artequine 600/1500 for > 40kg

Caution:

- AS/MQ may cause seizure in children with epilepsy
- AS/MQ interact with quinine, choroquine and halofantrine may cause arrhythmia
- GIT symptoms such as abdominal pain, nausea, vomiting and diarrhea are the most common side effects. Others symptoms include headache, dizziness and insomnia, convulsions and other CNS symptoms.

• *Riamet*

Artemether-lumefantrine is available as co-formulated tablets containing 20mg of artemether and 120 mg of lumefantrine. Lumefantrine absorption is enhanced by co-administration with fat containing food or milk.