



MALARIA LIFE CYCLE

SPECIES OF MALARIA WITH THEIR CHARACTERISTICS

	Vivax/ovale	Malariae	Falciparum	Knowlesi
Geography	Temperate and tropical	Tropical only	Tropical only	Only SEA: Malaysia, Burma, Indonesia, Thailand
Fever cycles ¹	48 hours	72 hours	Irregular	24 hours
Usual symptoms	Fevers, chills, fatigue	Fever, chills, fatigue	Varies ²	Sudden onset, respiratory failure, kidney failure, in adults
Chloroquine sensitivity	Chloroquine in most locations.	Chloroquine in most locations	Chloroquine is useless unless combined with chlorpheniramine. This combination may not work everywhere. It works in Africa.	Chloroquine works very well
Alternatives to chloroquine	Quinine, ACT's ³ , fansidar	Same as vivax/ovale	Quinine in most places; mefloquine; ACT's	Unknown; use only chloroquine
Prognosis	Good over the short term; poor over the long term if untreated; relapses indefinitely.	Good over the short term; poor over the long term. Causes nephrotic syndrome, a kind of kidney failure. Does not relapse indefinitely.	Poor over the short term if untreated; kills or is cured; relapses only until 9 months. Patients develop immunity.	Kills adults rapidly; children tolerate it better

¹ Most people don't have regular cycles of fever and chills. This row gives the timing for those who do.

² This usually presents like ordinary malaria in the beginning. Then it becomes severe: cerebral looks like encephalitis or meningitis; blackwater fever causes black urine, jaundice, and rapid death from kidney failure. algid causes vomiting and diarrhea and jaundice; bilious remittent causes liver failure, kidney failure, vomiting; choleraic causes a massive, watery diarrhea; pulmonary malaria causes lung damage and death from respiratory failure.

³ Artemisinin combination drugs.

TREATMENT OPTIONS IN ACUTE MALARIA

Drug	Good for	Advantages	Disadvantages
Chloroquine	Vivax, Ovale, Malariae, Knowlesi	Old, relatively safe, cheap, readily available	Falciparum is resistant; in the Pacific, Vivax may be resistant. It tastes terrible
Chloroquine plus chlorpheniramine	All kinds	Cheap and works well, readily available	Impossible to use with children ⁴ . It may not work in the Western Hemisphere.
Quinine	All kinds, most places but not SEA	Old, cheap, rapid onset, readily available in developing countries, injectable form available.	Occasionally causes blindness, not reversible. Drops the blood sugar. Short-acting, must be taken for 7 days or taken with a longer-acting medication. Tastes terrible. Should not be given IM. IV must be given slowly.
Artemisia annua tea	All kinds, so far	Cheap, grows in gardens, rapid onset	Very short acting, must be taken 4x daily for a whole week. Tastes terrible
Artemisinin combination drugs	All kinds, so far	Rapid onset, need only take it for 3 days	Expensive, difficult to find it.
Mefloquine	Mainly falciparum, reportedly other kinds also.	Readily available, long-lasting; single dose, easy to find, tablets are double scored, making it easy to use for children.	Expensive, causes nightmares, may cause seizures. Tastes terrible. Malaria other than Falciparum tends to break through.
Fansidar	Vivax, Ovale, Malariae. In some areas, Falciparum	Old, relatively safe, cheap, readily available. Long-acting.	Contraindicated in sulfa allergy. Much falciparum is resistant. Onset of action is 2-3 days. Occasional life-threatening side-effects occur.

⁴ The reason for this is that chlorpheniramine is such a small tablet, it cannot be divided into halves or quarters accurately.