

DRAFT GUIDELINE FOR

MALARIA CONTROL/TREATMENT

IN EMERGENCIES

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GUIDELINE FOR MALARIA CONTROL/TREATMENT IN EMERGENCIES

DIAGNOSIS AND TREATMENT:

- DIAGNOSIS using RAPID DIAGNOSIS TEST (RDT)
- TREATMENT FOR MILD FALCIPARUM MALARIA WITHOUT COMPLICATION:
 - a. FIRST-LINE : combination of ARTESUNATE AND AMODIAQUINE
 - b. SECOND-LINE : QUININE AND TETRACYCLINE OR DOXYCYCLINE:

Table 1: First –line treatment for Malaria falciparum

Day	Drug	Number of tablet/day by age group				
		2 – 11 months	1 – 4 years	5 – 9 years	10 – 14 years	≥ 15 years
1	Artesunate	½	1	2	3	4
	Amodiaquine	½	1	2	3	3-4
2	Artesunate	½	1	2	3	4
	Amodiaquine	½	1	2	3	3-4
3	Artesunate	½	1	2	3	4
	Amodiaquine	¼	½	1	1½	2
	Primaquine	*)	¾	1½	2	2-3

Drug Presentation:

Artesunate: 50 mg/tablet

Amodiaquine: 200-mg/tablet ≈ 153 mg amodiaquine base/tablet.

All cases (except pregnant women and children less than 1 year) should be given **Primaquine** tablet (1 tablet contains 15 mg primaquine base) with the dose of 0.75 mg base/kg BW/orally, as a single dose on the first day (day I of taking tablet).

The dosages stated in the above table are based on rough estimation when body weight is not taken. **The recommended dose based on the body weight** is as follows :

Artesunate: 4 mg/kg BW as a single dose/day/orally, given on day I II and III, together with Amodiaquine : 25 mg base/kgBW for 3 days divided by : 10 mg base/kgBW/day/orally for day I and II, continued with 5 mg base/kgBW/orally on day III .

In case of **treatment failure using the first-line drugs**, give second-line drugs as mention in table 2 below :

Table 2. Treatment with second-line drugs for Falciparum Malaria

Day	Name of drug	Number of tablet/day by age group					
		0-1 month	2-11 months	1-4 years	5-9 years	10-14 years	≥ 15 years
1	Quinine	*)	*)	3 x 1/2	3 x 1	3 x 1 1/2	3 x 2
	Tetracycline / doxycycline	-	-	-	-	-	4 x 1/1x1
	Primaquine	-	-	3/4	1 1/2	2	2 – 3
2 - 7	Quinine	*)	*)	3 x 1/2	3 x 1	3 x 1 1/2	3 x 2
	Tetracycline / doxycycline	-	-	-	-	-	4 x 1/1x1

Notes:

*) Quinine:

Quinine given to children < 1 year old should be based on the body weight (body weight should be measured). Dose of quinine: 30 mg/kgBW/day(divided into 3 doses at 8-hourly).

- I. Doxycycline should not be given to pregnant women and children less than 8 years
- II. Dose of doxycycline for children 8 – 14 years: 2 mg/kg BW/day
- III. If doxycycline is not available, give Tetracycline
- IV. Dose of Tetracycline: 25-50 mg/kgBW/4 doses/day or 4 x 1(250 mg) for 7 days; Tetracycline should not be given to children less than 12 years and pregnant women.
- V. Primaquine should not be given to pregnant mothers and children less than 1 year.
- VI. Dose of Primaquine: 0,75 mg/kgBW as a single dose.

- **TREATMENT OF VIVAX/OVALE MALARIA: FIRST-LINE USING CHLOROQUINE AND FOR THE SECOND-LINE WITH QUININE.**

If by laboratory finding *P vivax/ovale* was found, give treatment according to table 3 below:

Table 3. Treatment of malaria vivax/malaria ovale

Day	Drug	Number of tablet based on age group					
		0 - 1 month	2 - 11 months	1 - 4 years	5 - 9 years	10 - 14 years	≥ 15 years
1	Chloroquine	¼	½	1	2	3	3 - 4
	Primaquine	-	-	¼	½	¾	1
2	Chloroquine	¼	½	1	2	3	3 - 4
	Primaquine	-	-	¼	½	¾	1
3	Chloroquine	1/8	¼	½	1	1 ½	2
	Primaquine	-	-	¼	½	¾	1
4-14	Primaquine	-	-	¼	½	¾	1

Dosages based on body weight for Plasmodium vivax and Plasmodium ovale:

- Chloroquine : day I & II = 10 mg/kgBW/day III = 5 mg/kg BW
- Primaquine : 0,25 mg/kgBW /day for 14 days.

If there is **treatment failure using first-line drug**, give second-line drug as in table 4 below

Table 4. Treatment of malaria vivax/malaria ovale (Chloroquine resistant)

Day	Name of drug	Number of tablet based on age group					
		0-1 month	2-11 months	1 - 4 months	5 - 9 years	10-14 years	≥ 15 years
1 - 7	Quinine	*)	*)	3 x ½	3 x 1	3 x 1 ½	3 x 2
1 - 14	Primaquine	-	-	¼	½	¾	1

Dose based on body weight : - Quinine 30 mg/kgBW/day (divided into 3 doses)

- Primaquine 0,25 mg/kgBW.

• TREATMENT OF SEVERE MALARIA WITH ARTEMETER AND QUININE INJECTION

Drugs for severe malaria

First-line :Artemether injection intramuscularly, for 5 days.

Each ampoule contains Artemether 80 mg/ml.

Dosage and mode of administering Artemether:

For adults: initial dose 160 mg (2 ampoule) IM on day 1 followed by 80 mg (1 ampoule) IM on day 2 to 5.

For children, depends on body weight:

Day 1 : 3.2 mg/kgBW/day

Day 2 – 5 : .1.6 mg/kgBW/day

Second-line : Quinine drip/per infuse

How to give Quinine drip: Adult dose (including pregnant women) : Quinine HCl 25 % dose 10 mg/KgBW (1 ampoule contains 2 ml = 500 mg Quinine HCl 25 %) dissolved in 500 ml dextrose 5 % or NaCl 0,9 % given for 8 hours, repeated with the same solution every 8 hours until the patient is able to take oral drug.

Or :

Quinine HCl 25 % (**per-infuse**), dosage 10mg/KgBW/4 hours given every 8 hours, repeated with the same solution and the same dose every 8 hours until the patient is able to take oral drug.

For children : Quinine HCl 25 % (**per-infuse**) dosage 10 mg/kgBW (for infants < 2 months : 6-8 mg/kgBW) diluted with 5-10 cc dextrose 5 % or NaCl 0,9 % per kg BW given for 4 hours, repeated every 8 hours until the patient is able to take oral drug.

If a Quinine drip is not possible, quinine can be given by intramuscularly in the form of quinine antipirine – the dose: 10 mg/kg BW (single dose) as a pre referral treatment for malaria.

The complete treatment guidelines for malaria can be found in: Management of Malaria Cases (Tatalaksana kasus Malaria) developed by the Directorate General of CDC & EH, Directorate of Vector Borne Disease year 2003.

PREVENTION:

- PREVENTION FROM MOSQUITO BITES WITH LONG LASTING INSECTICIDE TREATED NET (LLITN) OR INSECTICIDE TREATED mosquito NET (ITN).
- TO REDUCE THE NUMBER OF VECTOR BREEDING SITES: LARVACIDE using: BTI, ALTOSID etc
- SPRAYING THE INDOOR (NOT OUTDOOR) HOUSE WALLS OR TENTS WITH INSECTICIDE ETOFENPROX, LAMDA-CYHALOTHRINE, BENDIOCARB, etc
- PROPHYLACTIC DRUG: **DOXYCYCLINE**
 - a. FOR VISITORS > 8 YEARS OF AGE: 1 TABLET 100 mg.
 - b. FOR ADULT VISITORS 1 TABLET/DAY SINCE 1 WEEK BEFORE DEPARTURE UP TO 1 MONTH AFTER COMING BACK.
- MAPPING OF THE PONDS IN A RADIUS OF 2 KM TO THE HOUSES OR REFUGEE CAMPS.