Malaria in the United States: Treatment Tables

CDC Malaria Hotline: (770) 488-7788 or (855) 856-4713 (toll free) Mon–Fri, 9 am–5 pm EST;
(770) 488-7100 after hours, weekends, and holidays

Table 1. Uncomplicated malaria: *Plasmodium falciparum* or unknown species[1,2,3] (If later diagnosed as *P. vivax* or *P. ovale*, see Table 2 for antirelapse treatment)

Drug Susceptibility (Based on where acquired)	**Recommended Adult Regimens**	**Recommended Pediatric Regimens**[4]
Chloroquine resistant or unknown resistance (All malaria-endemic regions except those in Central America west of Panama Canal, Haiti, and Dominican Republic)	**Listed in Order of Preference** **A. Artemether-lumefantrine Coartem®)**[5,6] (1 tab: 20 mg artemether and 120 mg lumefantrine) Adults: 4 tabs po per dose Three-day course: Day 1: Initial dose and second dose 8 h later Days 2 and 3: 1 dose BID **A. Atovaquone-proguanil (Malarone™)**[5,7] (Adult tab: 250 mg atovaquone and 100 mg proguanil) 4 adult tabs po QD x 3 days	**Listed in Order of Preference** **A. Artemether-lumefantrine (Coartem®)**[5,6](1 tab: 20 mg artemether and 120 mg lumefantrine) 5–<15 kg: 1 tab po per dose 15–<25 kg: 2 tabs po per dose 25–<35 kg: 3 tabs po per dose ≥35 kg: 4 tabs po per dose Three-day course: Day 1: Initial dose and second dose 8 h later Days 2 and 3: 1 dose BID **B. Atovaquone-proguanil (Malarone™)**[5,7] (Adult tab: 250 mg atovaquone and 100 mg proguanil; Peds tab: 62.5 mg atovaquone and 25 mg proguanil) 5–<8 kg: 2 peds tabs po QD x 3 days 8–<10 kg: 3 peds tabs po QD x 3 days 10–<20 kg: 1 adult tab po QD x 3 days 20–<30 kg: 2 adult tabs po QD x 3 days 30–<40 kg: 3 adult tabs po QD x 3 days ≥40 kg: 4 adult tabs po QD x 3 days

[1] Abbreviations: QD=once a day, BID=twice a day, TID=three times a day, QID=four times a day, h=hour(s), po=by mouth, IV=intravenous, tab(s)=tablet(s).
[2] If an antimalarial taken for chemoprophylaxis, a different drug should be used for treatment.
[3] Option A preferred, Options B and C adequate alternatives and should be used if more readily available than Option A. Option D should be used only if other options not available.
[4] Not to exceed adult dose.
[5] Administer with food to improve absorption.
[6] Artemether-lumefantrine can be used in pregnancy. Not for infants <5 kg or women breastfeeding infants <5 kg.
[7] Atovaquone-proguanil not recommended during pregnancy, in infants <5 kg, or in women breastfeeding infants <5 kg. May be considered if other treatment options not available or not tolerated, and benefits outweigh risks.

Table 1. (continued) Uncomplicated malaria: *P. falciparum* or unknown species (If later diagnosed as *P. vivax* or *P. ovale*, see Table 2 for additional treatment needed)

Drug Susceptibility (Based on where acquired)	**Recommended Adult Regimens**	**Recommended Pediatric Regimens**[4]
Chloroquine resistant or unknown resistance (cont from page 1) (All malaria-endemic regions except those in Central America west of Panama Canal, Haiti, and Dominican Republic)	**C. Quinine sulfate**[8] **plus doxycycline**[9]**, tetracycline**[9]**, or clindamycin**[10] Quinine sulfate: 542 mg base (650 mg salt) po TID x 3 or 7 days[8] Doxycycline: 100 mg po BID x 7 days Tetracycline: 250 mg po QID x 7 days Clindamycin: 20 mg/kg/day po divided TID x 7 days **D. Mefloquine**[11] Dose 1: 684 mg base (750 mg salt) po Dose 2 at 6 to 12 h: 456 mg base (500 mg salt) po	**C. Quinine sulfate**[8]**plus doxycycline**[9]**, tetracycline**[9]**, or clindamycin**[10] Quinine sulfate: 8.3 mg base/kg (10 mg salt/kg) po TID x 3 or 7 days[8] Doxycycline: 2.2 mg/kg po BID x 7 days Tetracycline: 25 mg/kg/day po divided QID x 7 days Clindamycin: 20 mg /kg/day po divided TID x 7 days **D. Mefloquine**[11] Dose 1: 13.7 mg base/kg (15 mg salt/kg) po Dose 2 at 6 to 12 h: 9.1 mg base/kg (10 mg salt/kg) po
Chloroquine sensitive[12] (Central America west of Panama Canal, Haiti, and Dominican Republic)	**Chloroquine phosphate (Aralen™ and generics)** Dose 1: 600 mg base (1,000 mg salt) po Doses 2 to 4 (3 additional doses) at 6, 24 and 48 h: 300 mg base (500 mg salt) po per dose; or **Hydroxychloroquine (Plaquenil™ and generics)** Dose 1: 620 mg base (800 mg salt) po Doses 2 to 4 (3 additional doses) at 6, 24 and 48 h: 310 mg base (400 mg salt) po per dose	**Chloroquine phosphate (Aralen™ and generics)** Dose 1: 10 mg base/kg (16.7 mg salt/kg) po Doses 2 to 4 (3 additional doses) at 6, 24 and 48 h: 5 mg base/kg (8.3 mg salt/kg) po per dose; or **Hydroxychloroquine (Plaquenil™ and generics)** Dose 1: 10 mg base/kg (12.9 mg salt/kg) po Doses 2 to 4 (3 additional doses) at 6, 24 and 48 h: 5 mg base/kg (6.5 mg salt/kg) po per dose

[8] Quinine to be given for 3 days, except for infections acquired in Southeast Asia where 7 days of treatment required. Quinine available in the US has 324 mg (salt) per capsule; therefore, 2 capsules for adult dosing. Pediatric dosing may need compounding pharmacy.
[9] Doxycycline or tetracycline combined with quinine preferred due to more efficacy data, but not recommended during pregnancy or in children <8 years old unless no other options and benefits outweigh risks.
[10] Clindamycin with quinine preferred option for pregnant women and children <8 years old.
[11] Mefloquine not recommended for infections acquired in Southeast Asia due to drug resistance. Not recommended if other options available or in patients with neuropsychiatric history.
[12] Regimens used to treat chloroquine-resistant *P. falciparum* infections may be used if chloroquine and hydroxychloroquine not available.

Table 2. Uncomplicated malaria: *P. vivax* or *P. ovale*[1,2]

Drug Susceptibility (Based on where acquired)	**Recommended Adult Regimen** (BOTH acute and antirelapse treatments recommended)	**Recommended Pediatric Regimen**[3] (BOTH acute and antirelapse treatments recommended)
Chloroquine sensitive (All malaria-endemic regions except Papua New Guinea and Indonesia)	**Acute treatment**[4]**:** **Chloroquine phosphate (Aralen™ and generics)** Dose 1: 600 mg base (1,000 mg salt) po Doses 2 to 4 (3 additional doses) at 6, 24 and 48 h: 300 mg base (500 mg salt) po per dose; or **Hydroxychloroquine (Plaquenil™ and generics)** Dose 1: 620 mg base (800 mg salt) po Doses 2 to 4 (3 additional doses) at 6, 24 and 48 h: 310 mg base (400 mg salt) po per dose **AND** **Antirelapse treatment**[5]**:** **Primaquine phosphate**[6,7,8] 30 mg base (52.6 mg salt) po qd x 14 days; or **Tafenoquine (Krintafel™)**[6,7,9] 300 mg po x 1 dose	**Acute treatment**[4]**:** **Chloroquine phosphate (Aralen™ and generics)** Dose 1: 10 mg base/kg (16.7 mg salt/kg) po Doses 2 to 4 (3 additional doses) at 6, 24 and 48 h: 5 mg base/kg (8.3 mg salt/kg) po per dose; or **Hydroxychloroquine (Plaquenil™ and generics)** Dose 1: 10 mg base/kg (12.9 mg salt/kg) po Doses 2 to 4 (3 additional doses) at 6, 24 and 48 h: 5 mg base/kg (6.5 mg salt/kg) po per dose **AND** **Antirelapse treatment**[5]**:** **Primaquine phosphate**[6,7,8] 0.5 mg/kg base (0.8 mg/kg salt) po qd x 14 days; or **Tafenoquine (Krintafel™)**[6,7,9] 300 mg po x 1 dose, only for patients ≥16 years old

[1] Abbreviations: QD=once a day, BID=twice a day, TID=three times a day, QID=four times a day, h=hour(s), po=by mouth, IV=intravenous, tab(s)=tablet(s).
[2] If an antimalarial taken for chemoprophylaxis, a different drug should be used for treatment.
[3] Not to exceed adult dose.
[4] Regimens used to treat chloroquine-resistant *P. vivax* infections may be used if chloroquine and hydroxychloroquine not available.
[5] Either option for antirelapse treatment recommended if chloroquine or hydroxychloroquine used for acute treatment. If regimens other than either chloroquine or hydroxychloroquine used for acute treatment, primaquine is the only option for antirelapse treatment.
[6] Primaquine and tafenoquine associated with hemolytic anemia in those with glucose-6-phosphate dehydrogenase (G6PD) deficiency. Prior to use, quantitative G6PD testing needed to confirm normal activity. For those with intermediate G6PD deficiency, weekly primaquine may be used (45 mg per week) for 8 weeks with close monitoring for hemolysis. Those with G6PD deficiency may be given chloroquine 300 mg base (500 mg salt) po weekly for 1 year from acute infection to prevent relapses.
[7] Primaquine and tafenoquine must not be used during pregnancy; pregnant patients with *P. vivax* and *P. ovale* infections should receive chloroquine 300 mg base (500 mg salt) po weekly after acute treatment for the remainder of pregnancy. After delivery, patients with normal G6PD activity can be given primaquine or tafenoquine depending on breastfeeding or continue with chloroquine prophylaxis for a total of 1 year from acute infection. Primaquine or tafenoquine can be used during breastfeeding if infant found to also have normal G6PD activity.
[8] Dose of primaquine in patients ≥70 kg should be adjusted to a total dose of 6 mg/kg, divided into doses of 30 mg per day.
[9] Tafenoquine can only be used if chloroquine or hydroxychloroquine administered for acute treatment due to limited data on efficacy when used in combination with other regimens.

Table 2. (continued) Uncomplicated malaria: *P. vivax* or *P. ovale*[1,2]

Drug Susceptibility (Based on where acquired)	**Recommended Adult Regimens** (BOTH acute and antirelapse treatments recommended)	**Recommended Pediatric Regimens**[3] (BOTH acute and antirelapse treatments recommended)
Chloroquine resistant (Papua New Guinea and Indonesia)	**Acute treatment (listed in order of preference):** **A. Artemether-lumefantrine (Coartem®)**[10] (1 tab: 20 mg artemether and 120 mg lumefantrine) Adults: 4 tabs po per dose Three-day course: Day 1: Initial dose and second dose 8 h later Days 2 and 3: 1 dose BID **B. Atovaquone-proguanil (Malarone™)**[11] (Adult tab: 250 mg atovaquone and 100 mg proguanil) 4 adult tabs po QD x 3 days	**Acute treatment (listed in order of preference):** **A. Artemether-lumefantrine (Coartem®)**[10] (1 tab: 20 mg artemether and 120 mg lumefantrine) 5–<15 kg: 1 tab po per dose 15–<25 kg: 2 tabs po per dose 25–<35 kg: 3 tabs po per dose ≥35 kg: 4 tabs po per dose Three-day course: Day 1: Initial dose and second dose 8 h later Days 2 and 3: 1 dose BID **B. Atovaquone-proguanil (Malarone™)**[11] (Adult tab: 250 mg atovaquone and 100 mg proguanil; peds tab: 62.5 mg atovaquone and 25 mg proguanil) 5–<8 kg: 2 peds tabs po QD x 3 days 8–<10 kg: 3 peds tabs po QD x 3 days 10–<20 kg: 1 adult tab po QD x 3 days 20–<30 kg: 2 adult tabs po QD x 3 days 30–<40 kg: 3 adult tabs po QD x 3 days ≥40 kg: 4 adult tabs po QD x 3 days

[10] Artemether-lumefantrine can be used in pregnancy. Not for infants <5 kg or women breastfeeding infants <5 kg.
[11] Atovaquone-proguanil not recommended during pregnancy, in infants <5 kg, or in women breastfeeding infants <5 kg. May be considered if other treatment options not available or not tolerated, and benefits outweigh risks.

Table 2. (continued) Uncomplicated malaria: *P. vivax* or *P. ovale*[1,2]

Drug Susceptibility (Based on where acquired)	**Recommended Adult Regimens** (BOTH acute and antirelapse treatments recommended)	**Recommended Pediatric Regimens**[3] (BOTH acute and antirelapse treatments recommended)
Chloroquine resistant (Papua New Guinea and Indonesia)	**C. Quinine sulfate**[12] **plus doxycycline**[13]**, tetracycline**[13]**, or clindamycin**[14] Quinine sulfate: 542 mg base (650 mg salt) po TID x 3 days Doxycycline: 100 mg po BID x 7 days Tetracycline: 250 mg po QID x 7 days Clindamycin: 20 mg/kg/day po divided TID x 7 days **D. Mefloquine**[15] Dose 1: 684 mg base (750 mg salt) po Dose 2 at 6 to 12 h: 456 mg base (500 mg salt) po **AND** **Antirelapse treatment**[16]**:** **Primaquine phosphate**[17,18,19] 30 mg base (52.6 mg salt) po qd x 14 days	**C. Quinine sulfate**[12] **plus doxycycline**[13]**, tetracycline**[13]**, or clindamycin**[14] Quinine sulfate: 8.3 mg base/kg (10 mg salt/kg) po TID x 3 days Doxycycline: 2.2 mg/kg po q12 h x 7 days Tetracycline: 25 mg/kg/day po divided QID x 7 days Clindamycin: 20 mg /kg/day po divided TID x 7 days **D. Mefloquine**[15] Dose 1: 13.7 mg base/kg (15 mg salt/kg) po Dose 2 at 6 to 12 h: 9.1 mg base/kg (10 mg salt/kg) po **AND** **Antirelapse treatment**[16]**:** **Primaquine phosphate**[17,18,19] 0.5 mg/kg base (0.8 mg/kg salt) po qd x 14 days

[12] Quinine available in the US has 324 mg (salt) per capsule; therefore, 2 capsules for adult dosing. Pediatric dosing may need compounding pharmacy.
[13] Doxycycline or tetracycline combined with quinine preferred due to more efficacy data, but not recommended during pregnancy or in children <8 years old unless no other options and benefits outweigh risks.
[14] Clindamycin with quinine preferred option for pregnant women and children <8 years old.
[15] Use only if no other options available. Not for use in patients with neuropsychiatric history.
[16] Primaquine is the only option if regimens other than either chloroquine or hydroxychloroquine used for treatment of acute infection.
[17] Primaquine associated with hemolytic anemia in those with glucose-6-phosphate dehydrogenase (G6PD) deficiency. Prior to use, quantitative G6PD testing needed to confirm normal activity. For those with intermediate G6PD deficiency, weekly primaquine may be considered (45 mg per week) for 8 weeks with close monitoring for hemolysis. Those with G6PD deficiency may be given chloroquine 300 mg (base) po weekly for 1 year from acute infection to prevent relapses.
[18] Primaquine must not be used during pregnancy; pregnant patients with *P. vivax* and *P. ovale* infections should receive chloroquine 300 mg (base) po weekly after acute treatment for the remainder of pregnancy. After delivery, patients with normal G6PD activity can be given primaquine depending on breastfeeding or continue with chloroquine prophylaxis for a total of 1 year from acute infection. Primaquine can be used during breastfeeding if infant found to also have normal G6PD activity.
[19] Dose of primaquine in patients ≥70 kg should be adjusted to a total dose of 6 mg/kg, divided into doses of 30 mg per day.

Table 3. Uncomplicated malaria: *P. malariae* or *P. knowlesi*[1,2]

Drug Susceptibility (Based on where acquired)	**Recommended Adult Regimens**	**Recommended Pediatric Regimens[3]**
Chloroquine sensitive (All malaria-endemic regions, no known resistance)	**A. Chloroquine phosphate (Aralen™ and generics)** Dose: 600 mg base (1,000 mg salt) po Doses 2 to 4 (3 additional doses) at 6, 24 and 48 h: 300 mg base (500 mg salt) po per dose; or **Hydroxychloroquine (Plaquenil™ and generics)** Dose 1: 620 mg base (800 mg salt) po Doses 2 to 4 (3 additional doses) at 6, 24 and 48 h: 310 mg base (400 mg salt) po per dose **B. Artemether-lumefantrine (Coartem®)**[4] (1 tab: 20 mg artemether and 120 mg lumefantrine) Adults: 4 tabs po per dose Three-day course: Day 1: Initial dose and second dose 8 h later Days 2 and 3: 1 dose BID	**A. Chloroquine phosphate (Aralen™ and generics)** Dose 1: 10 mg base/kg (16.7 mg salt/kg) po Doses 2 to 4 (3 additional doses) at 6, 24 and 48 h: 5 mg base/kg (8.3 mg salt/kg) po per dose; or **Hydroxychloroquine (Plaquenil™ and generics)** Dose 1: 10 mg base/kg (12.9 mg salt/kg) po Doses 2 to 4 (3 additional doses) at 6, 24 and 48 h: 5 mg base/kg (6.5 mg salt/kg) po per dose **B. Artemether-lumefantrine (Coartem®)**[4] (1 tab: 20 mg artemether and 120 mg lumefantrine) 5–<15 kg: 1 tab po per dose 15–<25 kg: 2 tabs po per dose 25–<35 kg: 3 tabs po per dose ≥35 kg: 4 tabs po per dose Three-day course: Day 1: Initial dose and second dose 8 h later Days 2 and 3: 1 dose BID

[1] Abbreviations: QD=once a day, BID=twice a day, TID=three times a day, QID=four times a day, h=hour(s), po=by mouth, IV=intravenous, tab(s)=tablet(s).
[2] If an antimalarial taken for chemoprophylaxis, a different drug should be used for treatment.
[3] Not to exceed adult dose.
[4] Artemether-lumefantrine can be used in pregnancy. Not for infants <5 kg or women breastfeeding infants <5 kg.

Table 3. (continued) Uncomplicated malaria: *P. malariae* or *P. knowlesi*[1,2]

Drug Susceptibility (Based on where acquired)	**Recommended Adult Regimens**	**Recommended Pediatric Regimens**[3]
Chloroquine sensitive (All malaria-endemic regions, no known resistance)	**C. Atovaquone-proguanil (Malarone™)**[5] (Adult tab: 250 mg atovaquone and 100 mg proguanil) 4 adult tabs po QD x 3 days	**C. Atovaquone-proguanil (Malarone™)**[5] (Adult tab: 250 mg atovaquone and 100 mg proguanil; peds tab: 62.5 mg atovaquone and 25 mg proguanil) 5–<8 kg: 2 peds tabs po QD x 3 days 8–<10 kg: 3 peds tabs po QD x 3 days 10–<20 kg: 1 adult tab po QD x 3 days 20–<30 kg: 2 adult tabs po QD x 3 days 30–<40 kg: 3 adult tabs po QD x 3 days ≥40 kg: 4 adult tabs po QD x 3 days
	D. Quinine sulfate[6] **plus doxycycline**[7]**, tetracycline**[7]**, or clindamycin**[8] Quinine sulfate: 542 mg base (650 mg salt) po TID x 3 days Doxycycline: 100 mg po BID x 7 days Tetracycline: 250 mg po QID x 7 days Clindamycin: 20 mg/kg/day po divided TID x 7 days	**D. Quinine sulfate**[6] **plus doxycycline**[7]**, tetracycline**[7]**, or clindamycin**[8] Quinine sulfate: 8.3 mg base/kg (10 mg salt/kg) po TID x 3 days Doxycycline: 2.2 mg/kg po BID x 7 days Tetracycline: 25 mg/kg/day po divided QID x 7 days Clindamycin: 20 mg /kg/day po divided TID x 7 days
	E. Mefloquine[9] Dose 1: 684 mg base (750 mg salt) po Dose 2 at 6 to 12 h: 456 mg base (500 mg salt) po	**E. Mefloquine**[9] Dose 1: 13.7 mg base/kg (15 mg salt/kg) po Dose 2 at 6 to 12 h: 9.1 mg base/kg (10 mg salt/kg) po

[5] Atovaquone-proguanil not recommended during pregnancy, in infants <5 kg, or in women breastfeeding infants <5 kg. May be considered if other treatment options not available or not tolerated, and benefits outweigh risks.
[6] Quinine available in the US has 324 mg (salt) per capsule; therefore, 2 capsules for adult dosing. Pediatric dosing may need compounding pharmacy.
[7] Doxycycline or tetracycline combined with quinine preferred due to more efficacy data, but not recommended during pregnancy or in children <8 years old unless no other options and benefits outweigh risks.
[8] Clindamycin with quinine preferred option for pregnant women and children <8 years old.
[9] Use only if no other options available. Not for use in patients with neuropsychiatric history.

Table 4. Uncomplicated malaria: Pregnant women[1,2]

Species and Drug Susceptibility (Based on where acquired)	**Recommended Adult Regimens**
Chloroquine resistant[3] ***P. falciparum*** (All malaria-endemic regions except Central America west of Panama Canal, Haiti, and Dominican Republic) ***P. vivax*** or ***P. ovale*** (Papua New Guinea and Indonesia)	**All trimesters: Artemether-lumefantrine (Coartem®)**[4] (1 tab: 20 mg artemether and 120 mg lumefantrine) Adults: 4 tabs po per dose Three-day course: Day 1: Initial dose and second dose 8 h later Days 2 and 3: 1 dose BID **All trimesters: Quinine sulfate plus clindamycin** Quinine sulfate: 542 mg base (650 mg salt) po TID x 3 or 7 days[5] Clindamycin: 20 mg/kg/day po divided TID x 7 days **If no other options, all trimesters: Mefloquine** Dose 1: 684 mg base (750 mg salt) po Dose 2 at 6 to 12 h: 456 mg base (500 mg salt) po **AND if *P. vivax* or *P. ovale*:** **Chloroquine** 300 mg base (500 mg salt) weekly until delivery, then consider antirelapse treatment (Table 2 for options and dosing) Antirelapse treatment with either primaquine or tafenoquine contraindicated during pregnancy
Chloroquine sensitive ***P. falciparum*** (Central America west of Panama Canal, Haiti, and Dominican Republic) ***P. vivax*** or ***P. ovale*** (All malaria-endemic regions except Papua New Guinea and Indonesia) ***P. malariae*** or ***P. knowlesi***	**A. Chloroquine phosphate (Aralen™ and generics)** Dose 1: 600 mg base (1,000 mg salt) po Doses 2 to 4 (3 additional doses) at 6, 24 and 48 h: 300 mg base (500 mg salt) po per dose; or **Hydroxychloroquine (Plaquenil™ and generics)** Dose 1: 620 mg base (800 mg salt) po Doses 2 to 4 (3 additional doses) at 6, 24 and 48 h: 310 mg base (400 mg salt) po per dose **Options above for chloroquine-resistant malaria parasites** **AND if *P. vivax* or *P.ovale*:** **Chloroquine** 300 mg base (500 mg salt) weekly until delivery, then consider antirelapse treatment (Table 2 for options and dosing) Antirelapse treatment with either primaquine or tafenoquine contraindicated during pregnancy

[1] Abbreviations: QD=once a day, BID=twice a day, TID=three times a day, QID=four times a day, h=hour(s), po=by mouth, IV=intravenous, tab(s)=tablet(s).
[2] If an antimalarial taken for chemoprophylaxis, a different drug should be used for treatment.
[3] Atovaquone-proguanil not listed due to insufficient data on its safety during pregnancy but may be considered if other treatment options not available or not tolerated, and benefits outweigh risks.
[4] Artemether-lumefantrine can be used in all trimesters in pregnancy per WHO evidence review and policy.
[5] Quinine to be given for 3 days for *P. falciparum* and *P. vivax* infections, except for *P. falciparum* infections acquired in Southeast Asia where 7 days of treatment required.

Table 5: Severe malaria[1,2,3,4,5]

Species and Drug Susceptibility (Based on where acquired)	**Recommended Adult Regimen**	**Recommended Pediatric Regimen**
All species, drug susceptibility not relevant for acute treatment of severe malaria If *P. vivax* or *P. ovale* infections, in addition to acute treatment listed here, antirelapse treatment needed (Table 2)	**IV artesunate:** Commercially available from major distributors. 1 dose=2.4 mg/kg IV doses (3 in total) at 0, 12 and 24 hours **PLUS follow-on treatment below**	
	If IV artesunate not readily available, give oral antimalarials while obtaining IV artesunate. When IV artesunate arrives, discontinue oral antimalarial and initiate IV treatment. Interim treatment options (Table 1 for dosing): • Artemether-lumefantrine (Coartem®) (preferred); or • Atovaquone-proguanil (Malarone™); or • Quinine sulfate; or • Mefloquine (only if no other options available) If oral therapy not tolerated, consider administration via nasogastric (NG) tube or after an antiemetic.	
	Reassess parasite density at least 4 hours after the third dose: **Parasite density ≤1% and patient able to tolerate oral medications:** Give a complete follow-on oral regimen. Options include (Table 1 for dosing): • Artemether-lumefantrine (Coartem®) (preferred), or • Atovaquone-proguanil (Malarone™), or • Quinine plus doxycycline or, in children <8 years old and pregnant women, clindamycin, or • Mefloquine (only if no other options available) **Parasite density >1%:** Continue IV artesunate, same dose, QD up to 6 more days (for a total of 7 days of IV artesunate) until parasite density ≤1%. When parasite density ≤1%, give complete follow-on oral regimen (Table 1 for options and dosing). **Parasite density ≤1% but patient unable to take oral medication:** Continue IV artesunate, same dose, QD up to 6 more days (for a total of 7 days of IV artesunate) until patient able to take oral therapy.	

[1] Abbreviations: QD=once a day, BID=twice a day, TID=three times a day, QID=four times a day, h=hour(s), po=by mouth, IV=intravenous, tab(s)=tablet(s).
[2] If an antimalarial taken for chemoprophylaxis, a different drug should be used for treatment.
[3] Laboratory-confirmed or suspected malaria cases with ≥1 clinical criteria for severe disease (impaired consciousness/convulsions/coma, severe anemia [hemoglobin <7mg/dl], acute kidney injury, acute respiratory distress syndrome, circulatory shock, disseminated intravascular coagulation, acidosis, jaundice [plus at least one other sign]); and/or parasite density ≥5%. Information on how to estimate parasite density available at www.cdc.gov/dpdx.
[4] Parasite density should be repeated every 12–24 hours until negative.
[5] Exchange transfusion no longer recommended based on a systematic review of the literature and analysis of US malaria surveillance data showing no added benefit.

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