Updates on the WHO guidelines for malaria: Malaria in Pregnancy

RBM Partnership to End Malaria –Malaria in Pregnancy Working Group 22nd Annual Meeting

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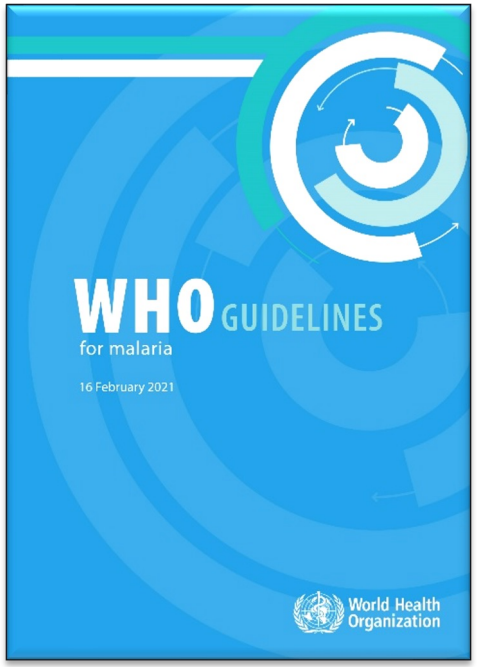
Global **Malaria** Programme

World Health Organization

WHO guidelines for malaria



- WHO Guidelines for Malaria (2021)
  - These consolidated guidelines replace the two pre-existing WHO guidelines for the treatment of malaria (3rd edn), and for malaria vector control.
  - The WHO Guidelines for malaria include the following sections:
    - Prevention (Vector control, Preventive chemotherapies and Vaccine)
    - Case Management
    - Elimination and prevention of re-introduction
    - Surveillance
  - As new evidence becomes available, the existing recommendations are reviewed and updated following the process for **WHO's living guidelines.**
- First published in February 2021 and updated on periodic basis: 4th (latest) update released on 3rd June 2022
- Available online at WHO website: https://www.who.int/publications/i/item/guidelines-for-malaria

New chemoprevention recommendations

- The updated chemoprevention recommendations reflect the paradigm shift, outlined in the introduction, to provide greater flexibility to NMPs to adapt control strategies to suit their settings. Standard processes have been used to develop evidence-based recommendations which are not unduly restrictive. We no longer specify strict age groups, transmission intensity thresholds, numbers of doses or cycles, or specific drugs. The effectiveness of a chemoprevention programme will be influenced by a host of contextual and other factors (e.g. intensity of malaria transmission, extent of seasonal variation in transmission, the age group targeted by the chemoprevention programme, the preventive efficacy of the drugs used, the frequency of dosing, duration of protection of each treatment course, availability of drugs, coverage achieved, adherence to the recommended regimen) and by the mix of interventions being deployed in each setting. NMPs are therefore encouraged to consider local data to determine how best to tailor chemoprevention strategies to local needs and determine which age groups should be targeted where, for how long, how frequently, and with which drugs. Subnational tailoring is increasingly needed, for example to recognize the variation in duration of the transmission season even within a country, meaning that 3, 4, 5 or more cycles of SMC may be warranted in different subnational areas.

Intermittent preventive treatment in pregnancy (IPTp)

Strong recommendation for , Moderate certainty evidence

Updated

Intermittent preventive treatment of malaria in pregnancy (2022)

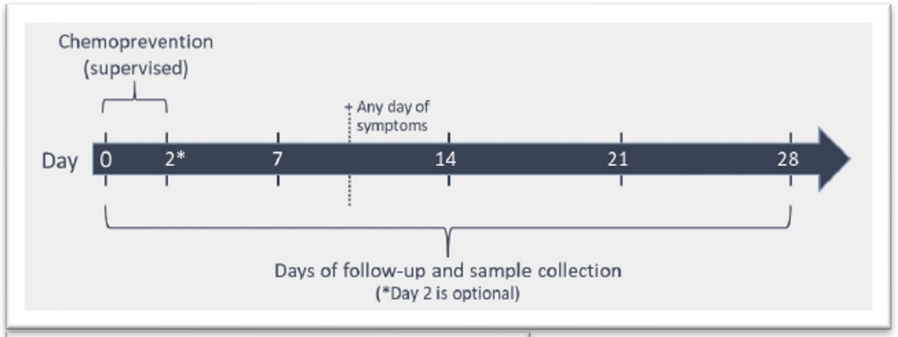
In malaria-endemic areas, pregnant women of all gravidities should be given antimalarial medicine at predetermined intervals to reduce disease burden in pregnancy and adverse pregnancy and birth outcomes.

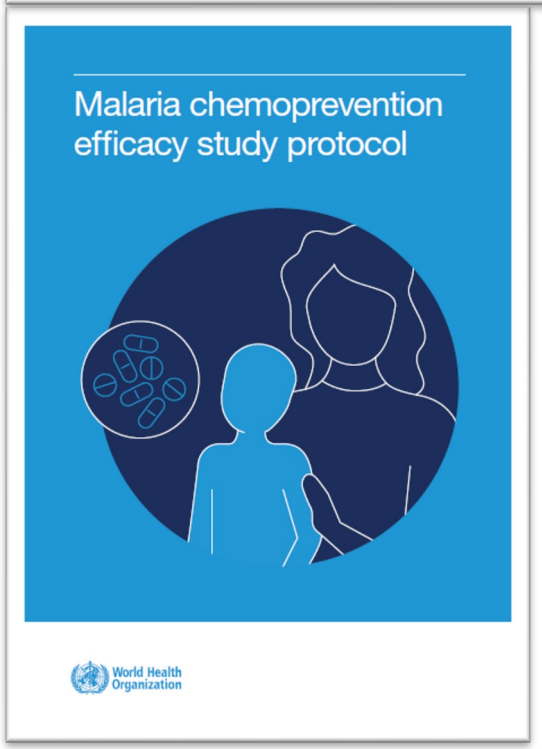
- *SP has been widely used for malaria chemoprevention during pregnancy and remains effective in improving key pregnancy outcomes.*
- *IPTp-SP should start as early as possible in the second trimester and not before week 13 of pregnancy.*
- *Doses should be given at least one month apart, with the objective of ensuring that at least three doses are received.*
- *ANC contacts remain an important platform for delivering IPTp. Where inequities in ANC service and reach exist, other delivery methods (such as the use of community health workers) may be explored, ensuring that ANC attendance is maintained and underlying inequities in ANC delivery are addressed.*
- *IPTp is generally highly cost-effective, widely accepted, feasible for delivery and justified by a large body of evidence generated over several decades.*

Support for adoption, adaptation and implementation

- **IPTp at community level**
  - **New field manual under development (2022)**
- PMC (IPTi+)
  - Implementation Guide available for IPTi
  - Pilots underway to inform expansion of IPTi and transition to PMC.
    - Adoption Framework and Implementation Guide to be developed (2022)
- SMC
  - Implementation Guide available for SMC
    - Update planned before the end of the year (2022)
- IPTsc (school children)
  - Adaptation and implementation guidance to be developed
- PDMC (post discharge)
  - Adaptation and implementation guidance to be developed

Malaria chemoprevention efficacy study protocol (CPES)





https://gmp.cmail20.com/t/d-l-fhjlikl-tyuykkotr-c/

Inclusion criteria	
All CPES	▪ Eligible for chemoprevention for SMC, PMC, IPTp and IPTsc as per the current recommendations ▪ Able and willing to comply with the study protocol and follow-up schedule ▪ Provides informed consent/parent or guardian provides informed consent on behalf of child
Additional intervention-specific inclusion criteria	
IPTp	▪ For women ≥ 18 years[a] after the first trimester of pregnancy
Exclusion criteria	
All CPES	▪ Symptoms of malaria (axillary fever ≥ 37.5 °C and/or history of fever in the past 48 hours) ▪ Known allergy to the medicine provided ▪ Sulfadoxine-pyrimethamine (SP) should not be given to individuals receiving a sulfa-based medication for treatment or prophylaxis, including co-trimoxazole (trimethoprim–sulfamethoxazole). This medicine is widely used in HIV-positive individuals (infants and pregnant women) as prophylaxis against opportunistic infections. ▪ Individuals receiving azithromycin should be excluded from the study due to the antimalarial activity of azithromycin.
Additional intervention-specific exclusion criteria	
PMC, SMC, IPTsc	▪ Presence of severe malnutrition according to WHO's child growth standards
IPTsc[b]	▪ Females of menstruation age (> 12 years) unable or unwilling to take pregnancy test due to socio-cultural constrains

[a] Could include adolescents between 12 and 17 years of age but may need specific ethical approval and informed consent from parents/guardian.

[b] Could include adolescents between 12 and 15 years of age but may need specific ethical approval and informed consent from parents/guardian for pregnancy testing.

Malaria Diagnosis

All suspected malaria cases should have a parasitological test (microscopy or RDT) to confirm the diagnosis.

The results of parasitological diagnosis should be available within less than two hours of the patient presenting.
In the absence or delay, patients with suspected severe malaria, and other high-risk groups, should be treated on clinical grounds.

Treatment of uncomplicated falciparum malaria

- Treat children and adults with uncomplicated *P. falciparum* malaria (excluding pregnant women in their first trimester*) with an ACT.
  - artemether plus lumefantrine; artesunate plus amodiaquine; artesunate plus mefloquine; dihydroartemisinin plus piperaquine; artesunate plus sulfadoxine-pyrimethamine; artesunate plus pyronaridine*

* Updates in progress

new recommendations
Finalised; official release in October 2022

- Reducing transmissibility of treated *P. falciparum* infections
  - In low transmission areas, give a single dose of 0.25mg/kg primaquine along with ACT to patients with P. falciparum malaria (excluding pregnant and breastfeeding women and infants aged <6 months) to reduce transmission. G6PD testing is not required.

Uncomplicated malaria in special groups

Treating uncomplicated *P. falciparum* malaria in special risk groups

First trimester of pregnancy

Treat pregnant women with uncomplicated *P.falciparum* malaria during the first trimester with 7 days of quinine + clindamycin.
Strong recommendation

Infants less than 5kg body weight

Treat infants weighing < 5 kg with uncomplicated *P. falciparum* malaria with ACT at the same mg/kg bw target dose as for children weighing 5 kg.
Strong recommendation

Patients co-infected with HIV

In people who have HIV/AIDS and uncomplicated *P. falciparum* malaria, avoid artesunate + SP if they are being treated with co-trimoxazole, and avoid artesunate + amodiaquine if they are being treated with efavirenz or zidovudine.
Good practice statement

Non-immune travellers

Treat travellers with uncomplicated *P.falciparum* malaria returning to non-endemic settings with ACT.
Strong recommendation, high-quality evidence

new recommendation Finalised; Official Release in October 2022

Primaquine for radical cure

- The G6PD status of patients should be used to guide administration of primaquine for preventing relapse.
- To prevent relapse, treat *P. vivax* or *P. ovale* malaria in children and adults with a 14-day course (0.25-0.5 mg/kg bw daily) of primaquine in all transmission settings, unless contraindicated*.
- In people with G6PD deficiency, consider preventing relapse by giving primaquine base at 0.75 mg/kg bw once a week for 8 weeks, with close medical supervision for potential primaquine-induced haemolysis.
- When G6PD status is unknown and G6PD testing is not available, the decision to prescribe primaquine must be based on assessment of the risks and benefits of adding primaquine.

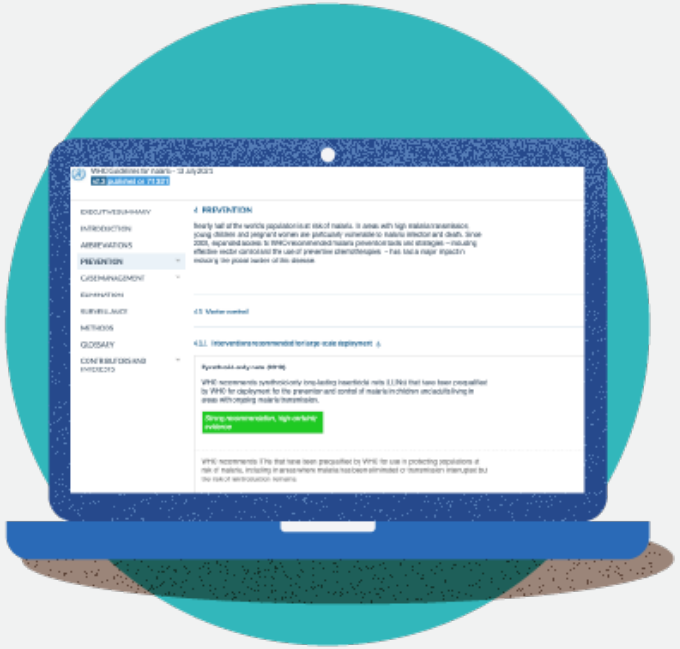
new recommendation finalised. Official release in October 2022

* ***primaquine is contraindicated in pregnant women, infants aged less than 6 months, breastfeeding women and people with G6PD deficiency***

Treatment of severe malaria

- Treat children and adults with severe malaria (including infants, pregnant women in all trimester, and lactating women) with intravenous or intramuscular artesunate for at least 24 hours and until able to tolerate oral medication.
- Once the patient has received at least 24h of parenteral therapy, and can tolerate oral therapy, complete treatment with 3 days of ACT
- Children weighing <20 kg should receive a higher dose of artesunate (3 mg/kg/dose) than larger children and adults (2.4 mg/kg/dose) to ensure an equivalent drug exposure.
- If parenteral artesunate is not available, use artemether i.m. 3.2mg/kg following by 1.6mg/kg daily in preference to quinine for treating children and adults with severe malaria

How to access WHO malaria guidance

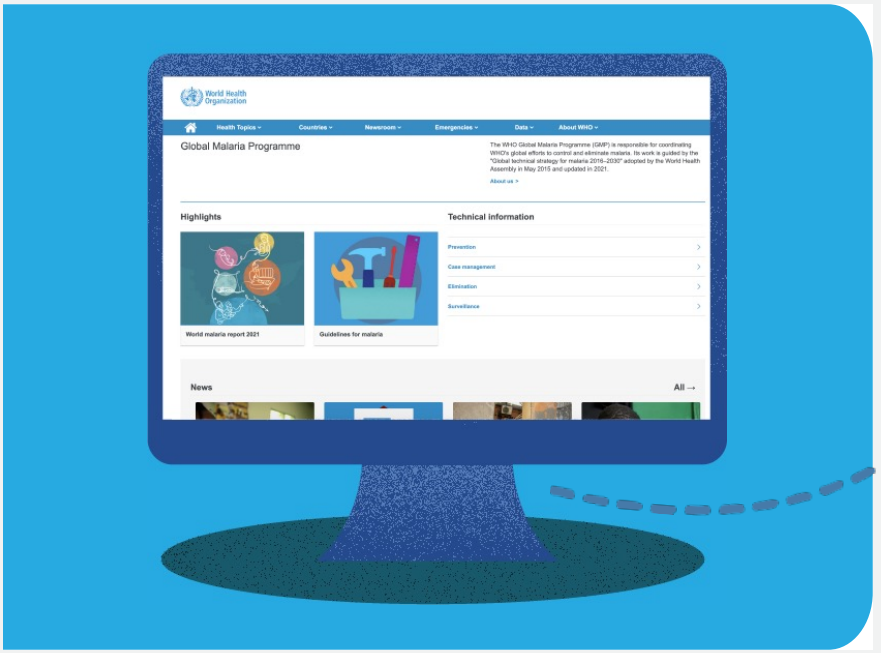


1 WHO Global Malaria Programme website

2 MAGICapp

3 WHO Malaria Toolkit app

Ways to access WHO malaria guidance



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The WHO Global Malaria Programme website is the main gateway through which national malaria programmes and partners can access the most up-to-date malaria guidance.

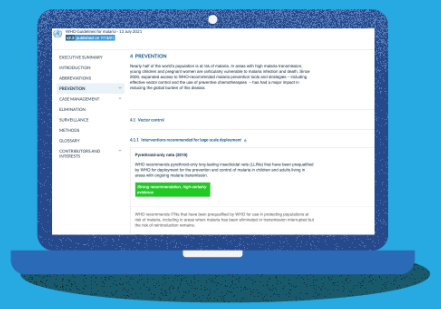
The new consolidated *WHO Guidelines for malaria* bring together all current WHO recommendations on malaria in one easy-to-navigate web-based platform.

They are a living resource that will be updated periodically as new evidence becomes available.

Ways to access WHO malaria guidance

WHO's malaria guidance can also be found on 2 digital platforms:

2



Through MAGICApp, you can access a consolidated set of all WHO malaria guidance, including:

- All official WHO recommendations
- Operational manuals
- Handbooks
- Frameworks
- And links to other resources

3

All WHO recommendations can also be accessed through an easy-to-navigate mobile "Malaria Toolkit app".

The app is available for iOS devices and Android devices.

In addition to the WHO recommendations, it provides the latest data and trends from the *World malaria report*.

Discussion