AMAZON MALARIA INITIATIVE (AMI)/ RAVREDA
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WHO, Geneva
The WHO Guidelines for the treatment of malaria (MTG)...

...provide comprehensible, global and evidence-based guidelines for the formulation of policies and protocols for the treatment of malaria

- provide a framework for development of specific diagnosis and treatment protocols in countries
  - Taking in account national and local malaria drug resistance pattern and health services capacity

- It is not a clinical management manual for the treatment of malaria


www.who.int/malaria/docs/TreatmentGuidelines2010.pdf
Contents and scope of the MTG

- Malaria diagnosis and treatment – policies and strategies from a **clinical** and a **public health** perspective
  - **What to use** – in diagnosis, curative/palliative treatment
  - **How and where to use**
    - Indications, contraindications and precautions
    - Best practices in clinical management
    - Strategies for the use of medicines
...provides evidence based recommendations for the treatment of:

- uncomplicated malaria
- severe malaria

- in special groups (young children, pregnant women, HIV/AIDS)
- in travellers (from non-malaria endemic regions)
- in epidemics and complex emergency situations
Formulation of Recommendations for Malaria Treatment

Based on evidence - on a consideration of the safety, efficacy, overall cost-benefit
  – from a clinical and a global public health perspective
  – Considering, in the case of a medicine, procedure or a strategy, the benefits against the
    • the risks,
    • burden of cost
    • the implications for the health system,
    • the feasibility of implementation
Current Recommendations including updates in the 2nd edition (2010)
Malaria Diagnosis

- Prompt parasitological confirmation by microscopy or alternatively by RDTs is recommended in all patients suspected of malaria before treatment is started.

- Treatment solely on the basis of clinical suspicion should only be considered when a parasitological diagnosis is not accessible.
Treatment of Uncomplicated Falciparum Malaria

- Artemisinin-based combination therapies (ACTs) are the recommended treatments for uncomplicated falciparum malaria.

- The following ACTs are recommended:
  - Artemether + lumefantrine; artesunate + amodiaquine; artesunate + mefloquine; artesunate + sulfadoxine-pyrimethamine, and dihydroartemisinin + piperaquine.

- Second-line antimalarial treatment:
  - Alternative ACT known to be effective in the region;
  - Artesunate plus tetracycline or doxycycline or clindamycin. Any of these combinations to be given for 7 days; and
  - Quinine plus tetracycline or doxycycline or clindamycin. Any of these combinations should be given for 7 days.
Treatment of Uncomplicated *falciparum* malaria

- Artemisinin-based combination therapies should be used in preference to non-artemisinin based combination (sulfadoxine-pyrimethamine + amodiaquine).

- ACTs should include at least 3 days of treatment with an artemisinin derivative

- Dihydroartemisinin + piperaquine (DHA+PPQ) is an option for the treatment of uncomplicated *P. falciparum* malaria worldwide

- Single dose of primaquine (0.75mg/kg) used for its antigamecytocidal action in the treatment of falciparum malaria, especially in the pre-elimination and elimination programmes.
Treatment of severe malaria

- Severe malaria is a medical emergency. Full doses of parenteral antimalarial treatment should be started without delay with whichever effective antimalarial is first available.

- For adults, artesunate i.v. or i.m
  - Quinine remains an acceptable alternative.

- For children (especially in the malaria endemic areas of Africa) the following antimalarial medicines are recommended as there is insufficient evidence to recommend any of these antimalarial medicines over another:
  - artesunate i.v. or i.m.
  - quinine (i.v. infusion or divided i.m. injection)
  - artemether i.m.

- Give parenteral antimalarials for a minimum of 24hrs once started (irrespective of the patient's ability to tolerate oral medication earlier), and, thereafter, complete treatment by giving a complete course of:
  - an ACT
  - artesunate + clindamycin or doxycycline
  - quinine + clindamycin or doxycycline.
Treatment of vivax malaria

- Chloroquine combined with primaquine is the treatment of choice for chloroquine-sensitive infections.

- In areas with chloroquine resistant *P. vivax*, ACTs (with partner medicines with long-half lives) is recommended for the treatment of *P. vivax* malaria.

- At least a 14-day course of primaquine is required for the radical treatment (0.25 – 0.5mg/kg/day).

- In mild - moderate G6PD deficiency, primaquine 0.75 mg base/kg bw given once a week for 8 weeks. In severe cases, primaquine is contraindicated.
Special Groups

Pregnancy

● **First trimester:**
  – Quinine + clindamycin
  – An ACT is indicated only if this is the only treatment immediately available, or if treatment with quinine + clindamycin fails or compliance issues with a 7-day treatment.

● **Second and third trimesters:**
  – ACTs known to be effective in the country/region or artesunate + clindamycin or quinine + clindamycin
Special Groups

Lactating women
- Lactating women should receive standard antimalarial treatment (including ACTs) except for dapsone, primaquine and tetracyclines.

Infants and young children
- ACTs with attention to accurate dosing and ensuring

Travellers returning to non-endemic countries:
- atovaquone-proguanil
- Artemether + lumefantrine
- dihydroartemisinin + piperaquine
- quinine + doxycycline or clindamycin.
Next Steps

- Wide dissemination

- Review and updates of national guidelines

- Updates of relevant treatment manuals and algorithms (e.g. IMCI, severe malaria)

- Begin the process of review of evidence for the preventive use of antimalarial medicines for inclusion in the next edition of the Guidelines
### National treatment policy (current?)

<table>
<thead>
<tr>
<th>Country</th>
<th>Treatment (pregnancy)</th>
<th>ACT Adoption</th>
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<tbody>
<tr>
<td>Bolivia</td>
<td>AS+MQ</td>
<td>CQ+PQ 2001</td>
</tr>
<tr>
<td>Brazil</td>
<td>AL, AS;AM;QN, QN; (AS+AQ -2nd &amp;3rd trimester); CQ for vivax</td>
<td>CQ+PQ(7d) 2006</td>
</tr>
<tr>
<td>Colombia</td>
<td>AS+MQ, QN(3d)+CL(5d), QN(7d), QN; (AS+AQ -2nd &amp;3rd trimester); CQ for vivax</td>
<td>CQ+PQ 2004</td>
</tr>
<tr>
<td>Ecuador</td>
<td>AS+SP; AL, QN+T,D,CL, CQ+PQ</td>
<td>CQ+PQ 2004</td>
</tr>
<tr>
<td>Guyana</td>
<td>AL, QN+T, CQ+PQ</td>
<td>CQ+PQ 2004</td>
</tr>
<tr>
<td>Peru (Amazon area)</td>
<td>AS+MQ (one province); AS+SP</td>
<td>CQ+PQ 2001</td>
</tr>
<tr>
<td>Suriname</td>
<td>AL, QN(7d)</td>
<td>CQ+PQ 2004</td>
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