



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
OFFICE OF THE SURGEON GENERAL
5109 LEESBURG PIKE
FALLS CHURCH VA 22041-3258



DASG-ZA

21 Jan 03

MEMORANDUM FOR EXECUTIVE SECRETARY, ARMED FORCES
EPIDEMIOLOGICAL BOARD

SUBJECT: Primaquine Prophylaxis for Malaria

1. Primaquine, the most effective drug to prevent relapse of the persistent liver forms of *Plasmodium vivax* and *Plasmodium ovale*, can potentially induce severe and possibly fatal hemolytic anemia in patients with glucose-6-phosphate dehydrogenase (G6PD) deficiency. The severity varies considerably among affected individuals. Primaquine should also be avoided during pregnancy as safe use has not been determined and the drug may be passed transplacentally to a G6PD-deficient fetus and cause life-threatening hemolytic anemia in utero.
2. When primaquine is considered for terminal prophylaxis, the Center for Disease Control and Prevention (CDC) recommends an assessment be made of the intensity and duration of exposure to relapsing malaria, as well as the potential risk of primaquine toxicity, especially when treating persons who may be G6PD deficient. Others have recommended that only patients with documented *P. vivax* or *P. ovale* infection are candidates for primaquine.
3. Since most malarious areas of the world (except Haiti) have at least one species of relapsing malaria, travelers to these areas have some risk of acquiring either *P. vivax* or *P. ovale*. However, this risk is extremely difficult to quantify. Prophylaxis with primaquine is generally indicated for persons who have had prolonged exposure in malaria-endemic areas, e.g., missionaries and Peace Corps volunteers. While the actual risk to the traveler with less intense exposure is difficult to define, with the exception of individuals G6PD deficient, most individuals can tolerate the standard regimen of primaquine.
4. The Navy and Air Force currently screen all military personnel at accession for G6PD deficiency. The Army currently does not prescreen. In 1998, a subcommittee of the Armed Forces Epidemiological Board (AFEB) recommended that prior to deployment to a *P. vivax* endemic area all personnel for whom primaquine is indicated should undergo G6PD screening.
5. Current DoD policy is to administer pre- and post-deployment medical assessments to all personnel deployed in support of military operations exceeding 30 days. Assessing risk of having acquired either *P. vivax* or *P. ovale* and screening for G6PD deficiency and pregnancy if primaquine is indicated would add additional value to the post-deployment medical assessment and target primaquine use according to current CDC guidelines.

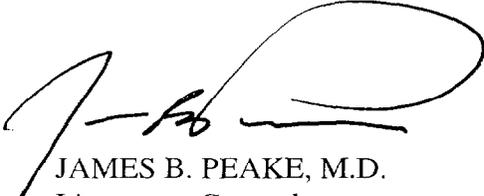
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6. Given these considerations, I request the AFEB:

- Evaluate whether G6PD screening is effective at preventing post-primaquine adverse events, and quantify the degree of effectiveness.
- If effective, make recommendations on the need to screen military personnel for G6PD taking into consideration the cost, availability and means of testing, alternative drugs (or regimens) available, prevalence of the trait in the military, and the potential to screen all individuals just after entry into the military or selectively screen prior to deployment, or after deployment at the time of prescribing prophylaxis.

In making this recommendation, the AFEB should consider the CDC guidelines, label indications and contraindications for primaquine, and current screening and prophylaxis practices being used by the Navy and the Air Force.



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Lieutenant General
The Surgeon General