



Mefloquine (Lariam®)

Information for Unit Leaders



A Collaborative Effort of DHCC, AFIERA, NEHC, USACHPPM, & WRAMC

Latest Update: April 12, 2004

Mefloquine (Lariam®) is a widely used prescription medicine that is highly effective at preventing malaria, especially in areas where malaria has developed a resistance to other preventive medicines. Malaria is transmitted through the bite of an infected mosquito. Each year more than 300 million cases of malaria are diagnosed world-wide and more than 1 million people die of the disease. Malaria occurs in over 100 countries and territories around the world. The best way to deal with malaria is to prevent it. Most people can take mefloquine to prevent malaria without side effects but, in rare cases, it may cause physical and potentially serious nervous system and behavioral problems.

HOW IS MEFLOQUINE USED?

Mefloquine is one of a few medicines recommended by the Centers for Disease Control and Prevention to prevent malaria, especially in areas where malaria has become resistant to other medications. It offers the advantage of being taken once a week rather than once a day. You should closely supervise service members to ensure that they begin taking the medicine at least one week before deployment (or 2 to 3 weeks if instructed by your unit's health care provider), continue to take it once a week during deployment, and take it for 4 weeks more after leaving a malaria area. It may be easier to remember and supervise and the medicine itself will be more effective if it is taken on the same day of each week.

Alcohol may interfere with the medicine's effectiveness. Advise troops against alcohol use if they are taking mefloquine.

WHAT INFORMATION SHOULD MY TROOPS RECEIVE ABOUT MEFLOQUINE?

The U.S. Food and Drug Administration developed a Medication Guide for mefloquine in 2003 in collaboration with its manufacturer. This Medication Guide provides information on the risks of malaria, the risks and benefits of taking mefloquine to prevent malaria, and the rare but potentially serious side effects, including mental side effects, associated with this medicine. The Medication Guide must be given to anyone prescribed mefloquine. The Medication Guide is also available at <http://www.fda.gov/medwatch/SAFETY/2003/LariamMedGuide.pdf>. Advise troops to take medicines properly and to know the potential side effects. You should visit your troops clinic and ensure all mefloquine users receive both the Medical Guide and counseling on proper use and potential side effects.

WHAT ARE COMMON SIDE-EFFECTS?

Side effects occur among people who take mefloquine at rates similar to other malaria medicines, although most people do not experience them. These side effects can include inability to sleep, unusual dreams, lightheadedness, headaches, dizziness, visual disturbances, ringing in the ear, rash, irritability, and gastrointestinal symptoms, such as nausea, vomiting, and diarrhea. Vomiting and nausea are often the most common side effects.

You can help to prevent vomiting by ensuring that service members take mefloquine with a meal and at least 8 ounces (a cup) of water. If you notice these side effects in someone in your unit, send the service member to a health care provider as soon as possible.

WHAT ABOUT BEHAVIORAL SIDE EFFECTS?

The relationship between mefloquine and suicide has been a source of controversy and public discussion. Service members may be familiar with the controversy and raise questions or concerns. These concerns should be addressed openly, honestly and with appropriate sensitivity. Such questions and concerns may constitute a sound reason to seek medical care.

Rare instances of suicide in patients taking mefloquine have been reported but no studies have proven that mefloquine use results in suicide, suicidal ideas, suicide attempts, or any other violent behavior. Even so, you should be alert for any signs of talk or activity related to suicide and immediately send service members that you are concerned about for a medical evaluation.

Other behavioral side effects may include anxiety, paranoia (suspicion of everyone), depression, agitation, restlessness, mood changes, panic attacks, forgetfulness, hallucinations (seeing or hearing things that are not there), aggression, and psychotic behavior (delusions or decreased "reality testing"). Potential side effects that can impair reaction time and thinking include nerve problems, confusion and disorientation,

convulsions, psychosis, nightmares, dizziness, and loss of balance.

Send service members showing changes in behavior for a medical evaluation — especially if they operate heavy equipment or carry a weapon while taking the medication. Delay could put the service member or your unit at risk.

Side effects may occur more commonly among those who consume alcohol while taking mefloquine. Advise service members to avoid use of alcoholic beverages while taking this mefloquine.

Side effects may be reported to the FDA and drug manufacturers through the MEDWATCH program. Normally, this is best done through the military medical system. However, a report of adverse side effects can be initiated by anyone.

Note that normal reactions to deployments and combat stress may be similar to both the common and behavioral side effects of mefloquine.

WHO SHOULD NOT TAKE MEFLOQUINE?

Service members should not take mefloquine if they have depression or had depression recently, have had recent mental illness, have had seizures, or are allergic to mefloquine or related medications such as quinine or quinidine. Send such service members to a health care provider to determine if they should use a different anti-malaria medication.

CAN MEFLOQUINE BE USED DURING PREGNANCY OR BREASTFEEDING?

Malaria is a severe illness that is dangerous to the mother and the unborn baby. Send pregnant female service members in your unit to a health care provider to determine the most effective and appropriate anti-malarial medication. Advise women of childbearing age to use a reliable birth control method while taking the medicine and for up to three months after the last dose to avoid getting pregnant. Pregnant women should discuss all medications, including mefloquine, with a health care provider prior to use.

WHAT SHOULD SERVICE MEMBERS TELL THEIR HEALTH CARE PROVIDERS?

Always advise service members to be open and honest with their health care provider. Withholding information from the provider can be dangerous to their health. This information will help the health care provider determine if mefloquine is the best medicine to use.

Service members must tell their health care provider about any history of:

- Depression, mental illness, or seizures.
- Allergies to mefloquine or related medications.
- Heart disease.
- Pregnancy or breast feeding.
- Liver problems.
- Taking medications, including non-prescription medications and dietary or herbal supplements.

Also advise them to tell their provider if they plan to drink alcohol, since that may interfere with mefloquine's effectiveness.

BLOOD DONATIONS

Advise service members that if they spent six months or less in a malarial area, they cannot donate blood for one year after leaving that area. If they spent more than six months in a malarial area or if they had malaria, they cannot donate blood for three years after leaving the area or after successful malaria treatment.

WHAT ELSE WILL HELP TO PREVENT MALARIA?

No medicine is 100 percent effective. Therefore, ensure that service members carry out prevention efforts including proper wearing of the uniform, proper use of bed netting at night, and proper use of insect repellents on clothing and skin. Specifically, ensure that they:

- Eliminate mosquito-breeding sites by emptying water collected in outdoor containers or debris.
- Remain in well-screened areas, particularly at dawn, dusk, and early evening when mosquitoes are most active.
- Use mosquito nets.
- Wear loose clothing that covers most of the body.
- Soak or spray bed nets and tents with permethrin.
- Wear permethrin treated clothing with DEET insect repellents on exposed skin.
- Apply insect repellent that contains DEET (N,N-diethylmetatoluamide) to any exposed skin when traveling in environments with biting insects.

WHAT ARE THE SYMPTOMS OF MALARIA?

If service members develop fever, chills, and other flu-like symptoms including headache while in or after returning from an area with malaria, you should think about malaria and send these individuals to the unit health care provider for diagnosis and treatment without delay.

WHERE CAN I GET MORE INFORMATION?**Mefloquine information may be found at the following web sites:**

FDA Mefloquine (Lariam) Medication Guide -- <http://www.fda.gov/medwatch/SAFETY/2003/LariamMedGuide.pdf>

FDA Mefloquine Medication Label -- http://www.fda.gov/medwatch/SAFETY/2003/Lariam_PI.pdf

Malaria information may be found at the following web sites:

Centers for Disease Control and Prevention -- <http://www.cdc.gov/ncidod/dpd/parasites/malaria/default.htm> and

<http://www.cdc.gov/travel/diseases/malaria/index.htm>

PDHealth.mil -- <http://www.pdhealth.mil/malaria.asp>

CHPPM Deployment Medication Information Sheet (DMIS)

<http://chppm-www.apgea.army.mil/dmis>

DoD Deployment Health Clinical Center at Walter Reed Army Medical Center

Phone: 866.559.1627 Toll free from Europe: 00.800.8666.8666 Internet URL: <http://www.pdhealth.mil/>

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