

How to avoid Malaria and other diseases you might catch from insects

Q: What is malaria?

Malaria is a disease that is transmitted by mosquitoes to humans when an infected mosquito bites a person. It usually causes high fevers, chills, headaches, and body aches. The parasite, once in the human body, travels to the liver through the blood. The person does not get sick until the malaria parasite comes out of the liver. The parasite can stay in the liver for a very long time but the worst type of malaria usually comes out of the liver within two weeks after the bite.

Q: Why is malaria important?

There is *no vaccine* to protect you from malaria. Malaria commonly causes very serious disease and DEATH. People can die within 12 hours from the time they get their first symptoms. It is important to do all you can to prevent malaria which includes avoiding mosquito bites and taking a medicine while you travel and for a period after you return.

Q: What if I had malaria in the past, am I protected?

People do become partially immune (protected) against malaria if they have had it many times in the past. However, the immunity (protection) wears off quickly, usually within a year or two of the last malaria episode and within months of leaving an area where malaria occurs. Therefore, you are NOT PROTECTED against getting malaria even if you have had it many times in the past.

Q: How do I prevent mosquito bites?

There are many things you can do to prevent mosquito and other insect bites. This will not only protect you against malaria but may prevent other serious diseases like yellow fever, Japanese encephalitis, and Dengue fever. Mosquitoes that carry malaria generally bite from sunset until sunrise, but mosquitoes that bite during the day cause other diseases, so they are also best avoided.

Some simple things to avoid mosquito bites include:

- Wear *protective clothing* (long sleeve shirts and pants).
- Air-conditioning deters mosquitoes and windows that can be shut or at least with screens can help decrease the number of mosquito bites.
- Use a net over the bed (bednet) at night whenever possible. It is best if the bednet has been treated with chemicals (*ITN—insecticide treated bednet*). You can buy nets which have already been treated or you can treat your own with permethrin. There are also mosquito tents available that are more costly but are very convenient and can be bought in outdoor recreational stores or over the internet..

It is important to use mosquito repellants. The best mosquito repellant is *DEET* (N,N diethyl metatoluamide). It is important to use products that have 25-50% DEET in them. These are widely available from most pharmacies, grocery stores, and convenience stores. There are many brands (i.e. Repel, Off, Cutters). Simply look on the side of the product under "Ingredients" to make sure it contains DEET and to find the correct percentage. There are some DEET products available as a "slow-release" lotion (i.e. Ultrathon, Sawyer). These may contain less than 25% DEET but work well. DEET should be applied every 4-6 hours...and particularly before going to sleep. It is safe in kids and in pregnant women but you need to be careful not to get it into eyes or mouths. So, be careful not to put it on hands or near eyes of young children.

For the best protection you should *treat your clothing with permethrin* and use the DEET on your skin. Permethrin, the same chemical used on bednets, is safe and when clothes are properly treated, can last many weeks with one treatment. In the U.S. permethrin is available at outdoor recreation stores (i.e. REI Coop,) and can also be purchased over the internet. The best way to treat clothing is buying a formulation that you can prepare and dip your clothing in. If you have questions, ask your doctor or nurse to assist you. There are other repellants available but many do not protect as long or have as long a safety record as DEET.

Q: Can I use DEET on the skin and Permethrin on the clothes of my kids?

Yes. DEET is safe for use on kids. Do not apply more often than instructed on the bottle. In small children do not place close to eyes or on hands that they will place in their mouths. Insecticide treated bednets are very important for children and should be used around sleeping areas day and night.

Q: What medication should I take?

There are several medications available and you should discuss with your doctor or nurse which medication is best for you and your children. If you are going to an area with malaria it is *extremely important* that you, and your children, *take a medication* and take it as directed: start before you go, while you are there and after you leave the malaria area. Remember that you *must complete the medicine* as directed, which is frequently for up to a month after leaving the malaria area. Make sure you understand how to take the medicine before leaving the doctor/nurses office.

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Things to remember while you Travel (Carry with your travel documents):

Use Bednets, mosquito repellant and take your medicine as directed.

If you are diagnosed with malaria while traveling, you may take the treatment prescribed but continue to take the medicine given to you to prevent malaria.

If you develop a fever after return, even up to year after return, see a doctor immediately and be sure to tell your doctor that you visited an area with malaria and suggest that you be tested for malaria.