Preventing Mosquito Bites

Many of the diseases that threaten travelers are transmitted by mosquitoes. One key element to avoiding disease is this basic but little-known fact: different types of mosquitoes bite at different times of the day. For example, those that spread malaria bite at night (from “dusk until dawn”), while mosquitoes that spread dengue fever bite during the day, primarily at dusk and dawn. If you are aware of the feeding habits of mosquitoes in the area you’re visiting, you can take action to prevent bites.

**Preventing bites while outdoors**

- Wear light-colored clothing that covers most of the body (long sleeves and long pants), weather permitting.
- Soak or spray your clothes with the insecticide permethrin. Do not apply permethrin directly to the skin.
- Use an insect repellent containing DEET, and reapply after swimming or heavy sweating. Adults and children over two months old can safely use preparations containing up to 35% DEET. The higher the concentration, the longer the repellent works. Although some repellents contain more than 35% DEET, the duration of protection does not increase proportionately to the DEET concentration.

Approximate duration of action:
- 10% DEET: 1-3 hrs
- 23% DEET: 4-6 hrs
- 35% DEET: 6-8 hrs
- 99% DEET: 10-12 hr

The duration of action of prolonged acting preparations such as "Ultrathon" and "Sawyer Controlled Release Deet" is not proportional to concentration of DEET.

It is possible to protect yourself from insects and the sun at the same time. Apply sunscreen first, and allow to remain on the skin for about 20 minutes before applying insect repellent. Note that the combined use of repellent and sunblock appears to reduce the efficacy of the sunblock by up to 33%. Reapply sunblock more often and/or use a higher SPF when using in conjunction with insect repellent.

**Prevent bites while you are indoors or asleep**

- Make sure that there is fly-wire (mosquito netting) on all of your windows.
- Use "knock-down" insect spray to kill mosquitoes in your room.
- Use mosquito coils or electric insecticide vaporizers if mosquitoes can get into your room.
- Use air-conditioning when possible, as it repels mosquitoes.
- Consider using a bed net soaked in or sprayed with a pyrethroid insecticide. Long-lasting pre-treated bed nets are available and last 3-5 years through repeated washings.

**Using pre-treated clothing and nets**

Bed nets treated with insecticide are more effective than untreated nets because they repel and kill mosquitoes. To ensure mosquitoes cannot enter any part of the net, tuck it under the mattress or make sure it touches the ground. Holes in the net should not be larger than 1.5 mm, and you should choose cotton nets rather than older, flammable nylon products.

Clothing can be treated with pyrethroid repellants as well. These will not emit an odor and are safe when used correctly, though they should not be used on the skin. Clothing treatments are available in spray and soak varieties. You can treat any clothing item except underwear and hats. The treatment will last a few weeks, through several washes. Only wash in cold water.

**Reduce mosquito breeding grounds**

This advice is more relevant if you are living permanently in a particular area. Mosquitoes breed in stagnant water and travel less than 500 yards from their hatching site to feed.

- Drain stagnant water from pot plants, drains, old tins, old tires, etc.
- Have local authorities spray walls with residual insecticides.
- Encourage local authorities to use a “fog” to kill adult mosquitoes and employ a larvicide to eradicate mosquito larvae.

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