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| **General Protective Measures** |

**Avoid outbreaks.** To the extent possible, travelers should avoid known foci of epidemic disease transmission. The CDC website provides information on regional disease transmission patterns and outbreaks (www.cdc.gov/travel).

**Be aware of peak exposure times and places.** Exposure to arthropod bites may be reduced if travelers modify their patterns of activity or behavior. Although mosquitoes may bite at any time of day, peak biting activity for vectors of some diseases (such as dengue and chikungunya) is during daylight hours. Vectors of other diseases (such as malaria) are more active in twilight periods (dawn and dusk) or in the evening after dark. Avoiding the outdoors or focusing preventive actions during peak hours may reduce risk. Place also matters; ticks are often found in grasses and other vegetated areas. Local health officials or guides may be able to point out areas with increased arthropod activity.

**Wear appropriate clothing.** Travelers can minimize areas of exposed skin by wearing long-sleeved shirts, long pants, boots, and hats. Tucking in shirts, tucking pants into socks, and wearing closed shoes instead of sandals may reduce risk. Repellents or insecticides, such as permethrin, can be applied to clothing and gear for added protection.

**Check for ticks.** Travelers should inspect themselves and their clothing for ticks during outdoor activity and at the end of the day. Prompt removal of attached ticks can prevent some infections.

**Bed nets**. When accommodations are not adequately screened or air conditioned, bed nets are essential to provide protection and to reduce discomfort caused by biting insects. If bed nets do not reach the floor, they should be tucked under mattresses. Bed nets are most effective when they are treated with a pyrethoid. Pretreated, long-lasting bed nets can be purchased for traveling, or nets can be treated after purchase. Nets treated with a pyrethroid insecticide will be effective for several months if they are not washed. Long-lasting pretreated nets may be effective for much longer.

**Insecticides and spatial repellants.** An increasing array of products to be used as spatial repellents (containing active ingredients such as metofluthrin and allethrin) is becoming commercially available. These augment the aerosol insecticides, vaporizing mats, and mosquito coils that have been available for some time. Such products can help to clear rooms or areas of mosquitoes (spray aerosols) or repel mosquitoes from a circumscribed area (coils, spatial repellents). Although many of these products appear to have repellent or insecticidal activity under particular conditions, they have not yet been adequately evaluated in peer reviewed studies for their efficacy in preventing vector borne disease. As such, travelers should supplement the use of these products with topical or clothing repellents or bed nets in areas with the potential for vector borne disease transmission or if biting arthropods are noted. Since some products available internationally may contain pesticides that are not registered in the United States, it may be preferable for travelers to bring their own. Insecticides and repellent products should always be used with caution, avoiding direct inhalation of spray or smoke.