

## INSECT BITE PREVENTION

### WHY PREVENT INSECT BITES?

Avoiding insect bites while traveling is vital for prevention of malaria, dengue fever, Zika and other serious diseases. Protect yourself both day and night from insect bites.

### TIPS FOR AVOIDING INSECT BITES

- > Use insect repellents on your skin (see below)
- > Learn about the feeding and nesting habits of insects at your destination. Ask your hosts about seasonal or local pests.
- > Wear protective clothing such as long pants, long-sleeved shirts and hats. Consider permethrin treated clothing-see information below.
- > Do not walk barefoot
- > Sleep in well-screened areas, air-conditioned rooms or use (mosquito) netting around your bed
- > Clothing and bed nets may be treated with *permethrin* insecticide prior to travel
- > Avoid using products that contain fragrances as they may attract insects

### INSECT BEHAVIORS & HABITS

#### Mosquitoes

Mosquitoes are most likely to bite at dawn and dusk, however:

- > Mosquito species that carry malaria and Japanese encephalitis bite from dusk until dawn (nighttime)
- > Species that carry dengue fever, chikungunya fever, Zika, and yellow fever bite during the day (daytime)



#### Ticks

- > Ticks transmit diseases such as Lyme disease and African tick bite fever by burrowing into your skin
- > Humans pick up ticks from brush, grass, and trees. Animals, including dogs, also carry ticks.
- > In a tick-infected area, check your skin at least once daily, especially along your hairline and armpits
- > Remove ticks with tweezers or a tick removal tool. Use slow, steady pressure to remove. Pull perpendicular to the skin at the site of the attachment. Do not use a match to remove ticks.



Appointments: 206.685.1011

Flies

Black fly

Black flies and bite throughout the day and can transmit serious disease, such as river blindness (onchocerciasis)



Sand fly



Sandflies are active at night and can transmit a disease called Leishmaniasis.

Tsetse fly

Tsetse flies can transmit African Sleeping Sickness (African trypanosomiasis) and are active during the daytime



**PROTECTING YOURSELF FROM BUGS**

The following products are used to avoid insect bites and can be purchased at the any pharmacy, including the Hall Health Pharmacy, along with outdoor supply stores.

DEET (N,N-diethylmetatoluamide)

- > Controlled-release lotion formulations of DEET have a long and safe track record
- > DEET is the most effective repellent against mosquitoes, chiggers, ticks, fleas and biting flies
- > Avoid contact with the eyes, mouth, and synthetic materials. DEET is toxic if swallowed.
- > The CDC suggests use of 30-50% controlled-release DEET concentrations for adults
- > Concentrations up to 30% are considered safe for children two months and older
- > Strengths greater than 50% do not provide better protection but may last longer. These are not generally recommended.
- > DEET can damage plastics

Appointments: 206.685.1011



<b>Brands</b>	<ul style="list-style-type: none"> <li>&gt; 3M Ultrathon® (34% DEET) lotion</li> <li>&gt; Cutter Backwoods® (40% DEET) pump spray or aerosol</li> <li>&gt; Off! Deep Woods V® (25% DEET) pump spray or aerosol</li> <li>&gt; Sawyer® Controlled-Release (20-30% DEET) lotion</li> </ul>
<b>Effective against</b>	Mosquitoes, ticks, flies, sandflies, chiggers, fleas, midges
<b>Duration</b>	Varies by brand, 6-13 hours
<b>Children</b>	2 months or older
<b>Pregnancy</b>	<ul style="list-style-type: none"> <li>&gt; Use during 1<sup>st</sup> trimester in high-risk areas.</li> <li>&gt; Considered safe in 2<sup>nd</sup> and 3<sup>rd</sup> trimester</li> </ul>
<b>Pros</b>	Most studied repellent; low risk
<b>Cons</b>	<ul style="list-style-type: none"> <li>&gt; May have oily texture, strong smell</li> <li>&gt; May damage plastics &amp; synthetics</li> </ul>

PICARIDIN (KBR3023)

- > Picaridin is available in concentrations from 7-20%
- > Often as effective as DEET but need more frequent application
- > Pleasant smell
- > Less skin irritation than DEET
- > Does not damage plastic



<b>Brands</b>	<ul style="list-style-type: none"> <li>&gt; Avon Skin-So-Soft Bug Guard Plus® pump spray or aerosol (10% picaridin)</li> <li>&gt; Cutter Advanced® wipes (5.75% picaridin)</li> <li>&gt; Sawyer® aerosol (20% picaridin)</li> <li>&gt; Natrapel Eco-Spray® (20% picaridin)</li> </ul>
<b>Effective against</b>	Mosquitoes, ticks, flies
<b>Duration</b>	5-12 hours per application
<b>Children</b>	Depends on brand; 2 months or older
<b>Pregnancy</b>	Not studied in pregnancy; use if traveling to high-risk areas
<b>Pros</b>	Pleasant smell; less skin irritation than DEET; does not damage plastic or synthetics
<b>Cons</b>	<ul style="list-style-type: none"> <li>&gt; Shorter duration of protection</li> <li>&gt; Limited data on safety</li> </ul>

Appointments: 206.685.1011



Oil of Lemon Eucalyptus (PMD or citriodiol)



- > Approved by EPA and CDC as a “biopesticide repellent”
- > Pleasant smell
- > Less skin irritation than DEET
- > Does not damage plastic

<b>Brands</b>	<ul style="list-style-type: none"> <li>&gt; Cutter Lemon Eucalyptus® aerosol or pump spray (30% oil of lemon eucalyptus)</li> <li>&gt; Repel Plant-Based Lemon Eucalyptus® pump spray (30% oil of lemon eucalyptus)</li> </ul>
<b>Effective against</b>	Mosquitoes, ticks, flies, midges
<b>Duration</b>	4-6 hours per application
<b>Children</b>	3 years and older. Do not use on infants.
<b>Pregnancy</b>	Not studied in pregnancy; use if traveling to high-risk areas
<b>Pros</b>	Pleasant smell; less skin irritation than DEET; does not damage plastic or synthetics
<b>Cons</b>	<ul style="list-style-type: none"> <li>&gt; Shorter duration of protection</li> <li>&gt; Limited data on safety</li> </ul>

Permethrin

- > Permethrin is a synthetic version of a substance found in chrysanthemums called *pyrethrum*
- > It effectively repels and kills insects with direct contact
- > Permethrin is available as a spray for clothing and as a liquid for soaking clothing or bed nets
- > Generally, permethrin is effective for six washes. If clothing is ironed after application, permethrin can last up to 12 washings.
- > Pre-treated clothing and bed nets are available



<b>Brands</b>	<ul style="list-style-type: none"> <li>&gt; Sawyer Clothing, Gear and Tents® trigger spray, pump spray and aerosol (0.5% permethrin)</li> <li>&gt; Insect Shield® pump spray (0.5% permethrin)</li> </ul>
<b>Effective against</b>	Mosquitoes, ticks, flies, sandflies, chiggers, fleas, midges, mites, lice
<b>Duration</b>	6 washings with spray, 12 washings with spray & ironing, 70 washings with clothes treated by Insect Shield®
<b>Children</b>	No restrictions
<b>Pregnancy</b>	No restrictions
<b>Pros</b>	Odorless, invisible & long-lasting
<b>Cons</b>	Will wash out over time; low risk of skin rash

Appointments: 206.685.1011



Mosquito nets (bed nets)

If you are traveling to a high-risk area, consider using a mosquito or bed net to protect yourself while you sleep. You can purchase mosquito nets online.



**BEE STINGS**

Talk to your provider if you are allergic to bee stings. Consider carrying an antihistamine such as Benadryl® and/or hydrocortisone cream. If you have a history of a severe reaction to bee stings, carry epinephrine, such as an EpiPen®.

Appointments: 206.685.1011

