Insect Bites

Most insect bites are harmless, producing a localized itch or sting, which can be uncomfortable, but generally does not produce any lingering effects. Certain insects, namely mosquitoes and ticks, may be carriers of diseases that may pose a serious risk to public health. Patients should have a general sense of how to properly identify insect bites and be aware of the symptoms that might indicate a bigger problem.

Mosquitoes are most prevalent at dawn and dusk, and they are typically most attracted to men and individuals with 'Type-O' blood. Typical symptoms include a soft, gradually darkening bump and itching at the site. Bumps may appear immediately or take up to two days to appear. The risk of contracting a mosquito-born disease is very low, although mosquitoes can transmit diseases such as West Nile Virus, St. Louis...
Ticks are small insects found in heavily wooded areas. They are attracted to warm, moist areas of the body, where they may attach firmly to the skin and begin drawing blood. While most ticks are not disease-carriers, a small percentage may transmit Lyme disease, Rocky Mountain spotted fever, Colorado Tick fever, Tularemia, or Ehrlichiosis. Ticks should be carefully removed immediately upon detection. Patients should be advised against methods such as applying alcohol or petrolatum to smother a tick, as this may cause the tick to inject infectious agents into its host. To remove a tick, patients should follow these steps:

• Grasp the tick with tweezers near its head.
• Pull straight back slowly and firmly, away from the skin.
• Wash the area carefully with soap and water.
• Save the tick in a jar or baggie and watch the site for signs of infection over the next week.

Patients who are unable to remove all of the tick should contact a medical provider. Most patients will experience few symptoms following the removal of the tick. Symptoms of a tick-borne disease will generally appear in the weeks following a tick bite and may include flu-like symptoms such as fever, headache, stiffness, muscle and joint aches, and overall weakness. Swelling or rash at the bite site should be evaluated.

First Aid
Most reactions to insect bites are mild, causing an itching or stinging sensation and mild swelling that should disappear within a few days. These reactions are triggered by the injection of venom or other substances into the patient’s skin. The severity of the patient’s reaction depends on his or her sensitivity to the substance.

Bites from bees, wasps, and hornets are usually the most painful. Bites from mosquitoes, ticks, and biting flies are generally milder. If a stinger is present, patients should scrape or brush it off with a straight-edged object. Affected areas should be washed with soap and water. Applying a cold pack will reduce pain and swelling, and many pharmacists have compounded formulations that have proved successful and can provide good coverage, even without the use of strong pesticides. These formulas may include citronella oil, oil of lemon eucalyptus, or tea tree oil in alcohol base.

Other preparations may offer relief, especially among patients with high sensitivity. A reliable home remedy is baking soda paste, prepared in a ratio of two teaspoons baking soda to one teaspoon water. Baking soda paste may be applied to the site 1 to 4 times daily. Other preparations include:

• Hydrocortisone
• Calamine
• Menthol
• Antihistamines

Dosage forms that are convenient to use include:

• Medication Sticks that can be applied directly to the bite
• Sprays
• Pastes

Insect Repellants
There are a number of ways to deter insects from biting. Nonchemical means include structural barriers such as using netting, window screens, and long-sleeved clothing when possible. Oil of citronella can also be very effective in deterring insects, and it doesn’t necessarily have to be applied directly to the skin. Oil of lemon eucalyptus is generally considered nontoxic and safe for children, though it should not be used in or around the eyes. It is structurally similar to menthol and is effective in repelling mosquitoes, biting flies, and ticks.

Direct-application pesticides such as oil of lemon eucalyptus, DEET, and Picaridin are also highly effective insect repellants, but must be used carefully. Oil of lemon eucalyptus is generally considered nontoxic and safe for children, though it should not be used in or around the eyes. It is structurally similar to menthol and is effective in repelling mosquitoes, biting flies, and gnats.

Permethrin, Picardin, and DEET are very effective, but must be used carefully. Permethrin should not be applied directly to the skin; it is recommended for use on clothing, shoes, and camping gear. Permethrin-treated clothing repels and kills ticks, mosquitoes, and other arthropods, and the effect remains intact even after laundering. For repellants containing DEET or Picardin, the Environmental Protection Agency recommends using just enough repellants to cover exposed skin. Repellants should never be used near the eye area or around a cut, wound, or irritated skin, and upon returning indoors, the patient should bathe immediately and always follow the manufacturer’s package directions closely.

Many patients and parents are concerned about the effects of pesticide repellants and prefer a safer, nontoxic alternative. Compounding pharmacists often have formulations that have proved successful and can provide good coverage, even without the use of strong pesticides. These formulas may include citronella oil, oil of lemon eucalyptus, or tea tree oil in alcohol base.

Conclusion
Mosquitoes, ticks, biting flies, gnats, and other pests are an unavoidable summertime presence. Patients should be counseled on effective means of repelling insects and proper first aid and should understand symptoms that might indicate an insect-borne infection. Many commercial products and compounds can successfully repel insects and treat affected skin.

Written by: Shannon Fields, BA, CPhT

COMPOUNDED FORMULATIONS FOR INSECT BITES:

<table>
<thead>
<tr>
<th>Rx</th>
<th>Itch Relief Spray (Hydrocortisone, Pramoxine, Diphenhydramine, and Menthol)</th>
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<tbody>
<tr>
<td>Dispense: 30 mL</td>
<td>Application: Spray affected area tid-qid prn</td>
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<table>
<thead>
<tr>
<th>Rx</th>
<th>Pink Paste (Aluminum Sulfate and Phenolated Calamine Paste)</th>
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<tbody>
<tr>
<td>Dispense: 30 g</td>
<td>Application: Apply topically to area bid</td>
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<table>
<thead>
<tr>
<th>Rx</th>
<th>Citronella Spray</th>
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<tbody>
<tr>
<td>Dispense: 30 mL</td>
<td>Application: Apply before exposure</td>
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<table>
<thead>
<tr>
<th>Rx</th>
<th>Camphor, Phenol, and Menthol Insect Bite Stick</th>
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<tbody>
<tr>
<td>Dispense: 1 stick</td>
<td>Application: Apply tid-qid prn</td>
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