Insect Bites and Stings

Insects, including mosquitoes, lice, ticks, fleas, bees, wasps, and bedbugs, live all over the world. They can be found in cities and rural areas; outdoors or inside any type of home, dwelling, or shelter; and in both developed countries and the developing world.

Insects carry diseases on their bodies, in their blood, in their saliva, or in their venom. When an insect bites an animal or a human, those diseases can be transmitted (passed on from the insect). Sometimes the organisms that cause a disease (bacteria, viruses, or parasites) stay in the animal or human without causing that disease. That type of infected animal or human is called a host. Usually, insect bites infect a person or an animal and produce the symptoms of a disease. Insect bites are responsible for causing many types of diseases and therefore lead to illness and death for millions of people worldwide.

Some Important Insect-Borne Diseases

- Malaria
- West Nile virus
- Yellow fever
- Dengue fever
- Lyme disease
- Rocky Mountain spotted fever
- Chagas disease
- Plague
- Viral encephalitis
- River blindness (onchocerciasis)
- Leishmaniasis

First Aid for Insect Bites and Stings

- If a person receives a large number of bee stings, if the stings are in the mouth or throat, or if a person experiences shortness of breath or throat swelling after an insect bite or sting, call 911 in the United States or Canada for emergency assistance.
- Quickly remove any part of a bee stinger left in the skin.
- Cleanse the area with soap and water.
- Use caution removing ticks from under the skin so that no part of the tick body is left there.
- Apply ice to the area to relieve pain.
- Over-the-counter pain relievers such as acetaminophen or ibuprofen can be used.
- For guidance in the United States, you can reach a poison center by calling (800) 222-1222.

Preventing insect bites

- Use netting where flying insects are common
- If skin is exposed use DEET insect repellent and wash off after use.
- Wear light-colored, long-sleeved shirts long pants, and boots to cover skin
- Drain standing water to prevent mosquito habitats (eg, gutters, kiddie pools)
- Keep inside areas clean
- Use caution near beehives, wasp nests, anthills, and in infested areas

FOR MORE INFORMATION

- World Health Organization
  www.who.int
- American College of Emergency Physicians
  www.emergencycareforyou.org

To find this and previous JAMA Patient Pages, go to the Patient Page index on JAMA’s website at www.jama.com. Many are available in English and Spanish: A Patient Page on bedbugs was published in the April 1, 2009, issue; one on West Nile virus in the July 23/30, 2003, issue; one on Lyme disease in the June 20, 2007, issue; and one on malaria in the November 10, 2010, issue.