

Vector-Borne Disease Awareness: Mosquitoes, Ticks and Other Pests

Vectors are living organisms that can transmit infectious diseases between humans or from animals to humans.

Vector-borne disease is human illness caused by parasites, viruses and bacteria that are transmitted by vectors/pests. Symptoms of vector-borne diseases include fever, headache, rash, blurred vision, confusion, nausea and many others.

Bloodsucking pests ingest a disease-producing microorganism during a blood meal, and then inject a new host during a future blood meal.

Vector/Pest	Most Active Time	Diseases Carried	Where Are They Found?
Mosquitoes	Day and night	Malaria, yellow fever, West Nile Virus and many others	<ul style="list-style-type: none">Worldwide, except Iceland and AntarcticaPrefer stagnant water
Ticks	Day and night	Lyme disease, Rocky Mountain spotted fever and many others	<ul style="list-style-type: none">All over the world because they can live anywhere their host livesFound in tall grasses
Triatomine bugs (kissing bugs)	Night, usually to attack sleeping people	Chagas disease	<ul style="list-style-type: none">Southern U.S. and Latin America, not including Caribbean islandsFound in dark crevices
Sand flies	Dusk until dawn	Leishmaniasis	<ul style="list-style-type: none">Parts of Africa, the Middle East, Europe and Asia, as well as parts of Mexico, Central America and South AmericaPrefer cool, dark and humid spaces
Black flies	During the day when windspeeds are high	River blindness	<ul style="list-style-type: none">WorldwideFound near clear running water

Mechanical vectors are found worldwide and physically carry (usually on the feet) a disease-contaminated agent and deposit it where a human can ingest it (usually food or drink).

Common mechanical vectors:

- Cockroaches
- Houseflies

Common transmitted diseases:

- Dysentery
- Typhoid fever
- Cholera

Environment

- Inspect your area for:
 - Evidence of insects
 - Places insects like to live
- Make that area less hospitable to pests

Pest Management

- Seal openings
- Establish a barrier
- Eliminate breeding grounds
- Use insecticides as a last resort

Personal Factors

Awareness

- Be aware of the pests that surround areas where you work, live and travel
- Learn about foreign countries you visit – receive recommended vaccines and immunizations
- Inspect your body for tick bites after you have been in grassy areas

Limit Exposure

- Wear long pants and sleeves to limit exposed skin and prevent insect bites
- Wear light-colored clothing
- Apply insect repellent to exposed skin and clothing
 - Do not spray repellent in an enclosed area or near food
 - Never apply repellent to cuts, wounds, or inflamed and irritated skin
 - Spray repellent on the palm of your hand and apply a thin layer to your face
 - Use only enough repellent to lightly cover exposed skin and clothing
 - Apply sunscreen before applying repellent
- Use a fan to repel flying pests
- Use warm-colored LED lights instead of cool-colored LEDs or incandescent bulbs
- Avoid wearing fragrances and using scented laundry or bath products

How to Remove a Tick

1. Gather fine-tip tweezers and rubbing alcohol. If you don't have rubbing alcohol, use soap and water.
2. Using clean hands, clean the area around the tick with rubbing alcohol or soap and water.
 - Do NOT apply alcohol, fingernail polish, petroleum jelly or matches to ticks to remove them. These methods are ineffective and may damage skin or cause the tick to expel infectious fluids into the bite area
3. Use the tweezers to slowly and carefully pull the tick out.
 - Pull the tick straight up to prevent breaking its head or body. Avoid squeezing the body of the tick
 - If the head separates from the body during removal, remove it separately to avoid prolonged inflammation. If needed, enlist help from a medical professional who may also prescribe antibiotic treatment
4. Release the tick into a jar or zip-lock bag and take it to a doctor for testing. If you aren't going to have the tick tested, carefully dispose of it.
5. Clean the bite area and your hands with alcohol or soap and water.
6. For the next several weeks, monitor for a reaction. See a doctor if you experience a rash, fever, fatigue, headache, muscle pain or joint swelling and/or pain.
 - Consult a doctor if Lyme disease is prevalent in the area or if the tick was swollen, which indicates it may have been attached for an extended period. The doctor may prescribe antibiotics in these cases

Report Exposure

- If you think you have a vector-borne disease, do not panic
- If your exposure was at work, report it to your employer
 - Your employer can assess the situation and decide if professional pest control is needed
 - Reporting helps your employer identify controls and is often the first step to obtaining medical treatment. Your employer may monitor your condition to ensure your recovery
- If your symptoms are severe enough to see a doctor, your doctor will report necessary information to the appropriate public health organizations