



# Mosquitoes and Mosquito-Borne Risks

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## Introduction

Whether you remain on campus, travel elsewhere in the metropolitan area, or visit other regions in the United States or abroad, you are likely to encounter mosquitoes. Some of these mosquitoes may simply annoy you, but others may pose a distinct risk to health because they may transmit (vector) viruses or other organisms



that can cause serious illness or death. Hence, it is wise to remain mindful of your risks and to pursue efforts to protect your health.

## Massachusetts

In Massachusetts, the main mosquito-related risks to people currently include West Nile virus (WNV) and eastern equine encephalitis virus (EEEV or 'triple E' virus). Mosquitoes acquire either kind of virus by feeding upon an infected bird. The mosquito may then transmit the virus several days later as she bites again in search of blood.

Risks are seasonal and dependent upon geographic location, the time of day, the weather, and your activities. Be aware that whereas some kinds mosquitoes attack mainly at night, yet others are active during the day or during dawn and dusk. Hence, be mindful of mosquitoes at any hour. Infections may be inapparent (without symptoms) or they may lead to illness and death.

## West Nile Virus

West Nile virus is transmitted mainly by a mosquito that thrives in organically fouled water in sites such as street catch basins, area drains, clogged rain gutters, and open waste receptacles. To reduce the abundance of these mosquitoes, catch basins and area drains are treated with environmentally appropriate biological larvicides by the mosquito control districts serving Boston and Cambridge, and by licensed personnel serving the Harvard campuses.

## Eastern Equine Encephalitis Virus

Eastern equine encephalitis virus can be transmitted by any of several other kinds of mosquitoes that occur mainly in or near cedar swamps, cattail wetlands, and other wetland habitats. Because these habitats are difficult to treat, interventions tend to rely upon the application of mists of mosquito adulticides delivered by trucks or aircraft.

Risk of EEEV within Boston and Cambridge is historically small. Risk of exposure increases beyond these



metropolitan areas.

## Other Mosquito-Borne Infections

Travelers may encounter diverse other mosquito-borne infections (such as yellow fever, dengue, and Chikungunya) elsewhere in the United States and abroad. Whether on campus or elsewhere, consider steps you can take to reduce your mosquito-associated risks.

## Personal Protection

### Avoidance

If you are outside and encounter mosquitoes, consider retiring to the indoor environment.

### Attire

Most kinds of mosquitoes will not bite through clothing. Cover up exposed skin to reduce opportunities for mosquitoes to bite.

### Repellents

Several kinds insect repellents are registered by the EPA (Environmental Protection Agency) for use on skin and clothing. They can dramatically (though transiently) reduce the level of annoyance and risk from mosquitoes. always read, understand, and follow the label instructions.

## Environmental Management

### Source Reduction

Many kinds of mosquitoes will exploit small collections of water in containers such as buckets, trash barrels, cans, tarps, and disused tire casings.



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Indoors, some mosquitoes will develop in water contained within water jugs, dishes under plant vases, and even in rarely used floor drains. Mosquitoes may develop in less than one week in warm conditions.

Accordingly, empty, cover, or screen water-holding containers. If you see containers or puddles that retain water for a week or more, contact EHS or your building manager.

## Exclusion

Screened windows and doors effectively keep most mosquitoes outdoors. Repair and install screens, as permitted and appropriate. The draft produced by fans can reduce human-mosquito contact.

When traveling abroad or camping locally, sleep more safely and comfortably by protecting yourself with bed nets or screened tents. Long-lasting insecticide-treated nets that are in good condition and used appropriately can significantly protect your health while you are abroad.

## Pesticide Applications

Licensed pesticide applicators distribute environmentally appropriate larvicides to designated sites on Harvard properties. Homeowners may contract for such services or apply these products on their own properties.

Regional mosquito control agencies may apply mists of adulticides in some communities to reduce the abundance of mosquitoes on the wing. This can also reduce risks of mosquito-borne infection. Note that only Harvard-qualified licensed pesticide applicators are authorized to use pesticides on Harvard property.

## Travel Health

Contact Harvard University Health Services (HUHS) or your own clinician long before you travel abroad for guidance on vaccinations and medications you should consider to protect yourself against malaria, yellow fever, and diverse other health concerns.

## Resources



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Resources and links for more information:

- [Massachusetts: Mosquitoes and Ticks](#)
- [Massachusetts: Mosquito Control and Spraying](#)
- [Centers for Disease Control and Prevention \(CDC\): Mosquitos](#)
- [CDC Yellow Book](#)
- [EPA: Repellents: Protection against Mosquitoes, Ticks and Other Arthropods](#)
- [Boston: Mosquito Control](#)
- [Cambridge: Mosquito-borne Diseases](#)
- [HUHS Travel Clinic](#)