

Epidemiology Update

Bed Bugs

Bed Bugs Key Findings

- ◆ Bed bugs infest a very small percentage of residences.
- ◆ The bite of a bed bug has not been shown to spread disease.
- ◆ Bed bugs do not jump or fly and are usually not transmitted from person to person. Bed bugs are spread between residences when they hide and are transported in luggage, furniture, or other items.
- ◆ Bed bugs are difficult to control without help from a pest control professional. Consult with a licensed pest control operator who has experience with bed bugs. Remember that commercial insecticides should only be applied by a licensed pest control operator.
- ◆ To prevent the spread of bed bugs to your home, use caution when buying used furniture, do not bring free furniture items left by the curb for disposal into your home, and always inspect clothing and luggage after traveling.

Introduction

This *Epidemiology Update* presents information about bed bugs. This issue is different in that it does not present data. Past issues have profiled disease data in Hennepin County.

This issue of *Epidemiology Update* is one in a series of reports from Hennepin County Human Services and Public Health Department – Epidemiology available at:

<http://www.hennepin.us/EpiUpdates>

Background

Reports of bed bugs in hotels, motels, dormitories, apartments, and houses in the United States have increased in the past few years; **however, bed bugs infest only a very small percentage of residences.** The increase in reports has triggered a new awareness of bed bugs in the general public and increased media coverage¹. This issue of the *Epidemiology Update* will provide general bed bug information and tips for residents and travelers to avoid bringing bed bugs into their homes, as well as, information for controlling a bed bug infestation.

Bed bugs occur nearly worldwide. Prior to the mid-twentieth century, bed bugs were common in United States homes, but infestations quickly receded after the introduction of the synthetic pesticide DDT following World War II. In the 1980s bed bug infestations were seldom reported in the United States and many other developed countries. The recent resurgence of bed bugs in the late 1990s has been blamed on environmental and social factors, such as changes in pest control methods, increased resistance to insecticides, use of less persistent pesticides, and an increase in international travel and commerce. The National Pest Management Association has reported a 71% increase in bed bug reports between 2000 and 2005².

Background Cont.

Bed bugs (*Cimex lectularius*) are wingless parasitic insects with a small (up to 1/4" long) flattened body. Bed bugs feed on the blood of humans and certain animals and are nocturnal feeders. After feeding, the color of a bed bug changes from brown to purplish-red. Bed bugs live close to areas where people sleep, rest, or sit for long periods of time. Bed bugs move quickly, feed at night, and do not like bright light. The small, flat shape of the bed bug's body allows it to easily hide in small spaces (under bed mattresses, in furniture, in cracks and crevices of walls, etc.) during the day.

Because several different types of insects look like bed bugs, carefully compare suspect bugs with good reference images to confirm their identity. If still unsure about the identity of bugs in the home, contact a pest control expert.



Enlarged picture of a bed bug taken from University of Minnesota Extension Office, *Prevention and Control of Bed Bugs in Residences*:

<http://www.extension.umn.edu/distribution/housingandclothing/DK1022.html>

Spread

Bed bugs do not jump or fly. Rather they quickly crawl to find a human host, feed for less than 5 minutes, and then hide. Bed bugs like to hide in small places; therefore, it is possible that bed bugs will crawl into luggage, beds, or furniture that is being moved from one place to the next. It is also possible for bed bugs to crawl through small spaces between units in a hotel or apartment building. Because bed bugs can survive for many months without feeding (some reports estimate 9 to 12 months), they may already be present and hidden in apartments or homes that appear to be free of pests.

Symptoms

A resident may not know he/she has a bed bug infestation until he/she notices painless bites typically on the head, neck, arms, hands, or legs. The bites may become irritated and inflamed and scratching may cause the bites to become infected. The bite of a bed bug has not been shown to spread disease³. No studies to date have linked bed bug bites to the transmission of any infectious diseases. Bed bug bites may precede secondary infections such as impetigo, erythema, lymphangitis, and allergic reactions⁴. Healthcare providers may recommend an antihistamine or corticosteroid to reduce allergic reaction and inflammation due to bed bug bites⁵. A person living in a home with bed bugs may also experience stress, anxiety, and insomnia.

Bed bugs feed at night, so oftentimes a person may not be aware that he/she was bitten or the bites may be mistaken for bites from another pest, such as fleas or mosquitoes.

Children, students, and others living in households containing bed bugs should not be excluded from childcare settings, schools, or other activities. Individuals living in homes with a bed bug infestation should carefully inspect any bags or items they carry with them out of the home to childcare settings, schools, or other activities. People visiting a home with bed bugs should not place any bags or other items on the floor and should inspect items before leaving the residence. If you suspect you were in a location with bed bugs, remove any affected clothing/items in an area with a non-carpeted floor and wipe the floor area with a wet cloth to contain any bed bugs.

Signs of Bed Bugs

Keep in mind that bed bugs can be present in any residence and it is a misconception that bed bugs are only found in crowded, unclean, or urban locations.

Suspect bed bugs if:

- You or your family members notice bites after sleeping that were not there when you went to bed.
- You see blood stains from crushed bugs or dark red spots (bed bug fecal material) on bed sheets, mattresses, and around the bed. Cast skins, which are empty shells of bed bugs as they grow from one stage to the next, may be present.
- You notice live, crawling bed bugs – usually found around the seams and in the folds of bed mattresses or in crevices of the bed frame. In heavier infestations, live bed bugs may be found further away from the bed (window and door frames, electrical boxes, cracks in floors and ceilings, within furniture, behind picture frames on walls, etc.).



Image of bed bugs and fecal spots on a bed mattress taken from University of Minnesota Extension Office, *An Advisory to Returning Students Regarding Bed Bug Infestations*:

http://www.ipmctoc.umn.edu/Student_Advisory_Regarding_Bedbugs.pdf

Control

After confirming a bed bug infestation in the home, **consult a licensed pest control operator who has experience with bed bugs before beginning any control activities.** Tenants should contact their property manager or landlord to discuss their respective obligations and agree on a plan to manage the infestation. Generally, landlords are legally required to contract with a licensed pest control operator.

Control plans will be made on a case by case basis; the control plan may include the following activities:

- Reduce clutter to limit hiding places for bed bugs.
- Thoroughly clean infested rooms – vacuum carpets, upholstered furniture, bed mattresses, bed frames, etc. It may be necessary to move and disassemble furniture during cleaning. Steam cleaning, heating and freezing treatments are sometimes also an option.
- Wash all bedding and affected clothing in hot water and dry in a hot dryer for at least 20 minutes before using again.
- Caulk or seal all holes in ceilings, walls, and around baseboards.
- Various insecticide treatments may be needed. The insecticides available are commercial products requiring special equipment and training and are not readily available in “over-the counter” products.

Insecticides should be applied by a licensed pest control operator.

DO NOT apply any insecticides to bed mattresses, bedding or linens. Work with a certified pest control operator to determine how insecticides will be used and applied in your residence. Insecticide treatments may require you to leave your home for a few hours or even several days. Multiple treatments may be needed to fully control the problem. Bed bug treatment can be a complex process.

Prevention

Several steps can be taken to avoid bringing bed bugs into your residence:

- When traveling, inspect your hotel/motel/resort/hostel room for signs of bed bugs (inspect seams and folds of bed mattress and bedding and cracks and crevices of bed frame).
- Before returning home from traveling, always carefully inspect clothing and baggage. Pay attention to cracks, crevices, seams, and folds of suitcases and luggage.
- Use caution when buying used furniture. Inspect all furniture and avoid buying used bed mattresses and bed frames. Taking free furniture items left by the curb for disposal or behind places of business is not recommended. Remember the presence of bed bugs is not limited to just beds and mattresses, but could also be found in other furniture and electronics in a home with a bed bug infestation.
- Seal cracks and crevices in residences to eliminate bed bug harborage sites.

For More Bed Bug Information

- University of Minnesota Extension Service Bed Bug webpage <http://www.ipmctoc.umn.edu/>
- Harvard School of Public Health Bed Bug webpage <http://www.hsph.harvard.edu/bedbugs/>

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