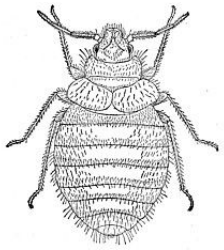
Michigan Department of Community Health

MDCH

Fact Sheet

Bed Bugs

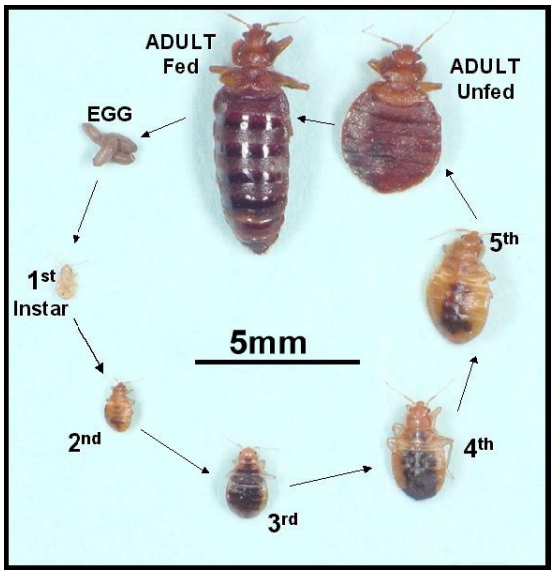


Yes, bed bugs are real, and not the product of urban myth or fables. Recently bed bugs have made a resurgence in the U.S., infesting hotels, apartment complexes, and homes nationally. Although not known to transmit any human disease, they leave a trail of potentially itchy or painful bite reactions, and costly extermination bills in their wake. International travel and tighter environmental regulations on pesticides are thought to be contributors to the recent comeback in the U.S. and many other countries. This fact sheet is designed to describe what bed bugs are, and how citizens can deal with infestations and protect themselves during travel.

What are bed bugs?

Bed bugs are insects, more specifically "true bugs". True bugs have piercing mouthparts that in most species are used for feeding on plants. However, some species of bugs will feed on animal tissues. Bed bugs have mouthparts, which are adapted to feed almost painlessly on the blood of people. Human-associated bed bugs found in the U.S, *Cimex lectularius*, have a flat, oval-shaped body with no wings, and are 4–7mm long. Their color is shiny reddish-brown but after a blood meal they become swollen and dark brown in color (see picture below). There are three stages in the bed bug's life cycle: egg, nymph and adult (see picture below). The eggs are white and about 1mm long. The nymphs look like adults but are smaller. Complete development from egg to adult takes from four weeks to several months, depending on temperature and the availability of food. Both male and female bed bugs feed on the blood of sleeping persons at night. In the absence of humans they can feed on mice, rats, chickens and other animals. Feeding takes about 10–15 minutes for adults, less for nymphs, and is repeated about every three days. Bed bug nymphs can survive for considerable periods (months) without feeding, depending on environmental conditions.

Adult Bed Bug



Life cycle of the human bed bug, *Cimex lectularius*. The stages include egg, nymph (5 instars), and adult.

Can I get diseases from bed bugs?
There are currently no known cases of disease associated with bed bug bites. Most people are not aware that they have been bitten. Bed bug bites usually just look like little red bumps; sometimes resembling mosquito bites, but people who are more sensitive to the bite can have localized allergic reactions (see picture below). If that happens, check with your doctor, who might recommend an antihistamine or a topical cream to relieve any itching or burning. Scratching the bitten areas may lead to infection.

How do bed bugs get into my home?
Bed bugs are often carried into a home on objects such as furniture and clothing, or in luggage from a recent trip. Once in the home bed bugs are mostly found in the bedroom or place where people sleep, and can be found in areas such as:

- Seams, creases, tufts, and folds of mattresses and box springs
- Cracks in the bed frame and head board
- Under chairs, couches, beds, dust covers
- Between the cushions of couches and chairs
- Under area rugs and the edges of carpets
- Between the folds of curtains
- In or under drawers or drawer rails
- Behind baseboards, and around window and door casings
- Behind electrical plates and under loose wallpaper, paintings and posters
- In cracks in plaster
- In telephones, radios, TV's, and clocks

Bed bugs can also travel to adjacent rooms or apartments along pipes, electrical wiring and other openings.

Reaction to bed bug bites. Bites are usually clustered on areas of the body not covered by night clothing.

Blood spots on a mattress seam are often grouped. This is an indication of a current or past infestation of bed bugs.

What can I do if I have bed bugs in my home?
The best method to deal with bed bugs is Integrated Pest Management (IPM), which combines a variety of techniques and products that pose the least risk to human health and the environment.

1. The first step in any IPM program is the identification of the pest to be managed.
    a. Don't assume you have bed bugs because someone in the house has bites of an unidentified origin. Fleas can also be a problem when infestations reach high levels, and management considerations can differ. Consult with your local health department, county MSU Extension office, or a licensed professional Pest Control Operator (PCO), to confirm that you have bed bugs.
    b. Inspect your mattress, box spring and bed frame, particularly in the folds, crevices, underside, and other locations bed bugs like to hide, as outlined above. Pay particular attention for small, dark spots on sheets or the mattress. This may indicate locations where bed bugs have bitten and passed some of the blood meal.
2. Seal your mattress/pillows with a plastic or hypoallergenic, zippered cover. This will keep bed bugs out of the mattress, or eventually kill any bed bugs trapped within. Do NOT apply any pesticide to mattresses or to surfaces that would be in direct human contact, except when the

pesticide label specifically states that the product can be applied in that manner. Pesticides can be harmful to people and pets. READ and UNDERSTAND the label.

3. Wash all your linens and place them in a hot dryer for 20 minutes. Also freezing (-5 C) for five days will work. Less time at lower temp.

*****It is not always necessary to discard bedding or mattresses*****

4. Use a nozzle attachment on a vacuum to capture the bed bugs and their eggs. Eggs may be difficult to vacuum as they are cemented to substrates, scraping may be necessary. Vacuum all crevices on your mattress, bed frame, baseboards and any objects close to the bed. It is essential to empty the vacuum immediately and properly dispose of the bag or contents by placing in a sealed plastic bag or container, or by placing sealed contents in the freezer (-5 C) for five days.
5. Remove all unnecessary clutter, this provides harborage for bed bugs.
6. Seal cracks and crevices between baseboards, on wood bed frames, floors and walls with caulking. Repair or remove peeling wallpaper, tighten loose light switch or outlet covers, and seal any openings where pipes, wires or other utilities come into your home (pay special attention to walls that are shared between apartments).
7. Monitor daily by setting out glue boards or sticky tape (carpet tape works well) to catch the bed bugs as they move from their harborage. Closely examine any items that you are bringing into your home. Note: Furniture put out by someone else for collection could be infested with bed bugs or other pests. Use caution.
8. Consult a licensed PCO to discuss options that pose the least risk to humans and the environment.

Once the bed frame has been inspected, and the mattress cleaned and sealed with a cover; a bed net can be used to keep additional bugs away while treatment commences.

<u>Note:</u> Chemical treatment may be part of an IPM plan. If you choose to treat the infestation with an insecticide, call a licensed, Professional Pest Control Operator for more information. Use the least toxic product available and follow all manufacturers' instructions.

How can I keep from bringing bed bugs home with me?

- Hang clothing in the closet farthest from the bed.
- Place luggage on the folding luggage rack most hotels provide.
- Place luggage in the dry cleaning bag often provided in hotel rooms, tie the ends shut.
- Check your clothing and luggage before you depart for home.
- Second hand furniture should be thoroughly inspected before bringing it home. It is recommended not to bring home mattresses from unknown sources.

Additional informational pamphlets are available from the Michigan Department of Agriculture that will compliment this Bed Bugs Fact Sheet, through their Community IPM Education Program Series of Pamphlets:

MSU Pesticide Education Program Extension Bulletin(s)
E-2725 "What Does A Pesticide Label Say"?
E-2760 "Choosing a Pest Control Company"?
E-2778 "Integrated Pest Management in the Home"

The Michigan Department of Agriculture also maintains a list of all licensed Commercial Pest Control firms and a list of all Pesticides that are registered for sale in Michigan, which could be used for the control of Bed bugs.

Some of the information in this Fact Sheet was adapted from *Bed Bugs are back! An IPM Answer* by Dr. Jody Gangloff-Kaufmann and Jill Shultz – Summarized by the Toronto Department of Public Health