

How to Move and Leave Bed Bugs Behind



Once bed bugs have been confirmed in the living area of an individual or family, there may be good reason to move them to a different area or apartment while the infested one is treated. However bed bugs may be transferred with personal belongings, causing more trouble in the new living space. Some suggestions for moving to a new location without bringing bed bugs are as follows:

- Place **all** belongings in clear plastic bags that are sealed tightly. Sort items by type (clothes, towels, sheets and blankets) and keep things that are known to be infested away from clean items.
- Have each individual shower and change into clean clothing and shoes and bag up the current (possibly infested) clothes for laundering.
- Educate the resident about protecting themselves from bed bugs and what to look for using fact sheets from this manual.
- Before personal belongings can be accessed in the new home, they **MUST** be bed bug free, or the process will be repeated.
- Provide or obtain access to laundry.
- Follow all laundering and cleaning steps for personal belongings.
- Keep items that cannot be sanitized inside clear plastic bags (electronics, appliances, books, etc.) and ask a professional pest manager how these items should be treated. Aerosol pesticides may be recommended for a faster solution. Storage of these items for one year is a non-toxic choice, but may be difficult due to space or needs. If items are kept warm, storage time is reduced.
- Provide vinyl or bed bug proof covered mattresses for the beds of each member of the household. Also cover box springs if they are present.
- Provide contact information for a person who will respond to bed bug complaints, in case bed bugs show up again.
- Whether you move permanently or temporarily, leave furniture behind if possible to allow it to be treated. Treat furniture before moving it. Take with you as few items as possible at first.
- Pets must be relocated during treatment. Leave behind their bedding and cages, unless these items can be thoroughly washed.

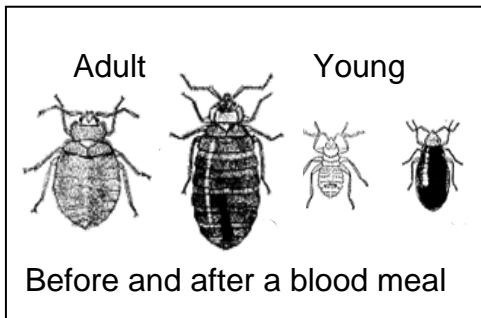
How to Protect You and Your Family from Bed Bugs



Introduction

In the past ten years bed bugs have become a serious pest in the US. Bed bugs, like mosquitoes, are insects that feed on blood. Bed bugs live in the home, especially in and around the bed, and usually bite at night when people are sleeping. They will feed at any time of day if necessary.

Bed bugs have three main stages of life, the egg, the young and the adult. Young bed bugs can vary in size from poppy seed to sesame seed, and adults can be as big as an apple seed. All are tan or brownish-red in color. They may be full of blood, as seen in the drawing to the left.



The first sign of bed bugs is usually a group of bites. If you experience bites, look for bed bugs in your bed or where you have slept recently. Have you been outside in warm weather? They could be mosquito or flea bites or something else. Everyone reacts differently to bed bug bites. Some people don't react at all, and others develop itchy lumps.

Fast Facts about Bed Bugs

Bed bugs:

- Do **not** transmit diseases to people
- May trigger asthma
- Can **not** fly or jump, but **can** run fast
- Are large enough to be seen
- Can be transported in personal belongings
- Are often found on thrown out furniture
- Can travel through a building
- Can be difficult to control
- Can be eliminated and prevented



Bed bug droppings and egg shells. Photo by Gary Alpert.

Where to Look for Bed Bugs

- Check the sheets, pillows and blankets for stains.
- Look under the mattress and pillows.
- Check the seams and puckers of the mattress and box spring.
- Look at the bed frame for bugs and stains.
- Check the floor and moldings.
- Look inside and underneath drawers.
- Radios, phones, clocks near the bed or on a nightstand may also be hiding places for bed bugs.



Bed bug adult and droppings on a mattress. Photo by Harold Harlan.

How to Help Yourself

- Don't panic, bed bugs are not life threatening.
- Call your building manager, landlord or social service provider immediately if you think there may be bed bugs in your room or bed.
- Follow all instructions given to you.
- Wash and dry your clothing and bedding on hot. 30 minutes of heat kills bugs and their eggs.
- Wash donated clothing before wearing.
- Do not take furniture or items from the street, they may have bed bugs!
- Do not try to use pesticides on your own.
- "Bug bombs" are not effective for bed bugs.
- Talk to others about it; bed bugs are common today in all types of housing. Everyone should be aware.
- Cooperate with those trying to help you.



Bed bugs and residue on back of vinyl molding. Photo by Louis Sorkin.

Prevent the spread of bed bugs by following these steps and talking about it. Ask for help!

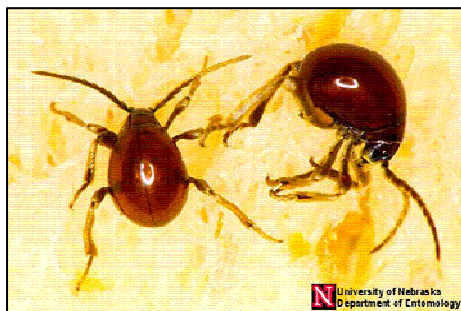
Correct identification! Bed bugs may be confused with other household insects such as cockroaches, carpet beetles, or spider beetles. If you find an insect that may be a bed bug, **SAVE IT** in a container for identification! **These are not bed bugs:**



German cockroaches

Young roaches look like bed bugs. Look for rectangular egg cases and fecal pellets. The color is more brown than red.

Carpet and warehouse beetle adults and larvae may appear in beds feeding on hair and feathers. Larvae may shed tiny hairs that cause itching but these do not bite.



Shiny spider beetles are often confused with bed bugs and ticks. They feed on dried plant material, seeds, or dried meat and do not bite humans.

What Can I Do About Bed Bugs?



Do I have bed bugs?

Bed bugs are a growing problem in all types of living situations. If you have seen bed bugs or have itchy bites that could be from bed bugs DON'T PANIC, but seek help quickly.

There are many steps that you must take to help get rid of bed bugs. Read on:

1. - **Seek advice.** Contact your building or facility manager and arrange for someone to check for bed bugs. If you see bugs, capture them on sticky tape or on a tissue and store them in a plastic bag in the freezer for identification. Insects found where you live could be one of many things. Don't assume that they are bed bugs. Do not move belongings until confirming you have bed bugs. See References for a list of Cooperative Extension diagnostic laboratories.
2. – Prepare to clean your living space thoroughly if someone confirms that bed bugs are present. Cleaning includes the following:
 - Wash and dry all clothing on hot settings. Drying on HIGH for at least 30 minutes is more important than washing to kill bed bugs.
 - Washing and drying bed sheets, blankets and pillow cases at high temperatures. Again, drying on HIGH is most important.
 - Shoes, pillows, curtains, coats, plush toys can all be placed into a dryer at a medium to high temperature.
 - Picking up and organizing your personal belongings to reduce the amount of clutter in your living space.
 - Providing access to all walls, closets, space around the bed and furniture for an inspector to search for and get rid of bed bugs.
 - Storing cleaned items in plastic bags away from the problem
 - Vacuuming and washing the floors, or letting a cleaning crew come in to clean.
 - Dispose of vacuum bags immediately, they will contain live bed bugs.
2. – Prepare to follow more thorough instructions given to you by the management. Prepare to cooperate and do what is required to eliminate bed bugs. Without your cooperation, the bugs will not be eliminated. There are no simple ways to kill bed bugs.
3. – Do not buy or plan to use any over the counter “bug bombs” or insect killers on your own. You will only spread the bed bugs further into your living space and belongings.
4. – Do not pick up discarded items on the street. Although there are many valuable items being tossed away, **today** many of these items, including clothes and shoes, are already infested with bed bugs. **Avoid taking these items. Any used furniture, even bought, should be inspected.**

Room Preparation Checklist for Bed Bugs



Preparation of a room for treatment is essential to the successful management of bed bugs. Most pest managers prefer to conduct an inspection BEFORE any cleaning or rearranging has occurred. This gives the pest manager a sense of the full extent of the problem and prevents the disturbance and spread of bed bugs before treatment. However, once bed bugs are located and the size of the problem has been estimated, room preparation must be done, and usually by the resident. Some clients may need help and the pest control professional or building management must be sensitive to this.

Suggested room preparation steps include:

- Remove all blankets, sheets, covers, pillows, bath towels, and drapes/curtains from the bed and room and place them into bags for transport to the laundry.
- Empty drawers and closets and place belongings into plastic bags. Place all clothing and coats into bags for transport to the laundry. Shoes, pillows, and children's plush toys should be bagged for the laundry.
- Plastic toys, books, electronics, and anything that cannot be washed should be bagged separately for inspection.
- The room should be empty of all cloth and plush items, except plush furniture. If possible, the pillows of plush furniture should be removed and laundered.
- Move furniture at least 18 inches away from the walls. People may need help with this.
- Remove outlet covers and switch plates on all walls.
- Picture frames should be removed from the walls and cleaned or treated.
- People and pets must leave the area during treatment and wait the stated amount of time before reentering, usually 4 hours.
- If there is a fish tank in the household, it should be covered with a towel or plastic, because fish are very sensitive to many pesticides.
- All clothing, linens and other items must be cleaned (free of bed bugs) and kept isolated until the client is moved to a new room or location, or until the bed bug problem is eliminated.
- Make sure the pest control professional can get to all furniture, closets, beds, and baseboards to inspect and treat.

Cleaning and Laundry Checklist for Bed Bugs



Pesticides, alone, will not eliminate a bed bug infestation. Inspecting and cleaning the living area and all personal belongings are critical for bed bug control and elimination. Cleaning should occur before pesticides are used. Follow all the recommended steps as they apply to the individual situation:

- Seal all clothing and linens in large clear plastic bags. Clear bags are good because bed bugs can be seen inside them.
- Seal shoes, coats, pillows, children's plush toys, and small rugs and mats in large clear plastic bags.
- Personal belongings should be inspected carefully, cleaned, and sealed in plastic bags or bins. Do not use cardboard boxes, bed bugs can hide in folds and will deposit eggs there.
- All clothes, linens, pillows, shoes, coats, and children's plush toys should be treated by placing them into a HOT dryer for 30 minutes. Do not overstuff the dryer, heat must reach all items.
- Keep cleaned items separate from items that have not been checked or cleaned.
- Unless you are sure that there are no bed bugs on personal belongings, these should remain in the bag or bin until they can be carefully inspected or washed.
- The room should be emptied of all personal belongings and floors thoroughly vacuumed with a brush attachment (which should later be washed in hot water and detergent).
- The mattress and box spring should be vacuumed to remove any live bugs and debris and immediately encased or prepared for treatment.
- Hard furniture, floors, and walls should be washed liberally with soapy water.
- Outlets and electrical switch plates should be opened and inspected for signs of bed bugs, but not washed!
- Wash in and around any non-electric heating units (such as steam pipes or radiators).

References

A list of publications that have been valuable in the development of this manual and that contain more information about bed bugs, their biology, and control:

Anonymous. Bed Bugs – A Handbook for Shelter Operators. City of Toronto, Shelter, Support, and Housing Administration. (Found at www.toronto.ca/housing/info-agenices-shelters.htm, July 2008).

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Myles, T., Brown, B., Bedard, B., Bhooi, R., Bruyere, K., Chua, A., Macsai, M., Menenzes, R., Salwan, A., Takahashi, M. *Bed Bugs in Toronto*. Centre for Urban and Community Studies, University of Toronto, Research Bulletin #19. 2003.

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Potter, M.F. A Bed Bug State of Mind. *Pest Control Technology*. October 2005.

Reinhardt, K., Siva-Jothy, M.T. Biology of the Bed Bugs (Cimicidae). *Annual Review of Entomology*. 2007. 52:351-374.

Slaughter, J.R., Zanol, K., Rezvani, H., and Flax, J.F. Psychogenic Parasitosis, a case series and literature review. *Psychosomatics*, 39: 491-500. 1998

For a database of Cooperative Extension diagnostic laboratories for identification of specimens see: <http://www.csrees.usda.gov> . Click on the “Local Extension Offices” link.

Glossary of Terms

Aerosol – A liquid contained under pressure that is released in the form of fine liquid particles, in a mist.

Arthropod – Any invertebrate belonging to the phylum Arthropoda, with a segmented body, jointed legs, a chitinous exoskeleton, and undergoing molts. This includes the insects, spiders and other arachnids, crustaceans, and others.

Crack and crevice treatment – the application of small quantities of pesticide in a building into small openings, such as those found around moldings, between floor boards, expansion joints, and beneath furniture or appliances.

Encasement – A completely sealed and zippered cover for a mattress or box spring, that may be constructed of plastic or breathable fabric.

Fogger – A device that spreads a liquid chemical in the form of fine liquid particles, like a mist.

Fumigation – To use a gas or vapors of a chemical to kill or repel pests.

HEPA – High-efficiency particulate arresting, or capturing fine particulates through filtration.

Instar – The developmental stage of an arthropod, between each molt until maturity.

Integrated Pest Management (IPM) – A systematic approach to managing pests which focuses on long-term prevention or suppression with minimal impact on human health, the environment and non-target organisms. IPM incorporates all reasonable measures to prevent pest problems by properly identifying pests, monitoring population dynamics, and utilizing cultural, physical, biological or chemical pest population management methods to reduce pests to acceptable levels. (NY State DEC definition)

Pesticide – A pesticide is any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest. Pests can be insects, mice and other animals, unwanted plants (weeds), fungi, or microorganisms like bacteria and viruses. The term pesticide also applies to herbicides, fungicides, and various other substances used to control pests. Under United States law, a pesticide is also any substance or mixture of substances intended for use as a plant regulator, defoliant, or desiccant. Insecticide is the more specific term used for substances to control arthropod pests.

Pesticide resistance – The genetic change of pest species targeted by a pesticide resulting in decreased susceptibility to that chemical.