

Bed Bugs: The Facts



How do I know I have bed bugs?

Bed bugs (*Cimex lectularius*) are small, wingless, flat insects that are 1-7 mm in length, about the size of a tick. Initially they are clear and as they get older they become darker in color. Bed bugs feed on the blood of people and animals and are most active at night. Therefore, when looking for evidence of a bed bug infestation it is best to concentrate on areas in and around the bed or sleeping areas. However, as bed bug populations increase they may migrate to adjacent areas or to nearby rooms through small holes in the wall. Bed bugs usually stay within 8 feet of where people sleep, however, they can travel over 100 feet in a night. Bed bugs have also been known to feed on mammals (cats, dogs, birds, etc). Thus if you have a dog that sleeps on a couch at night the bed bugs could potentially be feeding on the dog at night and inhabiting the couch. Signs of a bed bug infestation include:

- reddish or brownish fecal spots on bed linens, mattresses, and adjacent walls and baseboards
- a musty, sweetish odor
- small, itchy, red welts on the skin

If you suspect the presence of bed bugs, a licensed pest control operator should be notified so your home can be inspected, the insects can be identified, and an extermination plan formed.

What is the life cycle of a bed bug?

Female bed bugs will lay about 3-5 eggs per day but can lay up to 12, producing as many as 500 in their lifetime. Typical sites for egg laying include crevices and folds in mattresses, in the joints of bed frames, behind wallpaper, and along baseboards. Eggs hatch in six to 10 days and nymphs develop into adults in approximately a month and a half. However, nymphs require a blood meal prior to each molt to reach full adulthood. An adult bed bug typically lives about nine months and can survive cold temperatures and periods of starvation for up to a year, thus bed bugs may already be present in apparently 'vacant' and 'clean' apartments or other housing situations.

What will a bite look like?

When a bed bug feeds on the blood of a person or animal, saliva is injected into the bite wound, which contains proteins that often cause some form of an allergic response from the host. The severity of this allergic reaction varies greatly, and some people may not realize they have been

bitten at all. However, most people experience some level of inflammation, swelling, reddening, and itchiness at the bite site. There is nothing unique about the bed bug bite, which is why the detected presence of the bugs themselves is needed for diagnosis of a bed bug infestation.

Where do bed bugs come from – are they a sign of dirty conditions?

Bed bug infestations are not directly related to sanitation levels. However, excess amounts of clutter in and around beds and sleeping areas will offer bed bugs numerous places to hide near potential blood meals. Bed bugs can enter the cleanest of homes by way of luggage or clothing during travel. They can also be found on used furniture, which is why it is a good idea to thoroughly inspect (and dismantle if possible) any piece of used furniture prior to bringing it into your home. Bed bugs can migrate to adjacent rooms through cracks, holes, and outlets in walls; infestations in multi-home buildings, such as apartment buildings, are most common.

Where do bed bugs like to hide?

Bed bugs like to hide in very discreet, dark, small spaces. Since they feed at night, they are generally found in and around the bed or sleeping areas near human bodies in which to feed upon. Areas to look for bed bugs include:

- beds (including the seams and crevices of the mattress and box springs)
- headboards
- blankets and clothing under the bed
- bedding dust ruffles
- carpets and baseboards
- creases of curtains
- inside drawers
- behind picture frames and loosened wall paper
- cracks and outlets in walls
- alarm clocks, telephones, smoke detectors, and other electronic devices
- piles of clothing
- books, magazines, newspapers, files

In addition to using a flashlight to locate bed bugs, carefully aiming a hot hair dryer into crevices and suspect areas will help force bed bugs out.

How do you get rid of bed bugs?

Getting rid of a bed bug infestation involves a combination of cleaning, room-modification, and insecticide administration by a knowledgeable, licensed pest control operator. The cost of effectively eliminating bed bugs may be significantly more than controlling other pests because bed bug control usually requires multiple visits by a licensed pest control operator and diligence on the part of those who are experiencing the infestation. Insecticide treatments must be applied more than once as per chemical label instructions to kill bugs that have hatched from eggs (which are not killed by insecticides) and adult bugs that may have been missed during previous treatments. General recommendations for addressing a bed bug infestation include:

- Contact a licensed pest control operator who is experienced and knowledgeable in the inspection, identification, and extermination process of bed bugs. The Colorado Department of Agriculture at 303-239-4140 can provide a list of licensed pest control operators. Using insecticides on your own can be dangerous, ineffective, and may even spread the infestation. If you cannot afford a licensed pest control service, and you choose to use pesticides, read the label and *follow the instructions very carefully*. Ensure that the label reads that it is effective against the treatment of bed bugs.
- Pesticides should never be sprayed on top of mattresses or sofas, although professional applicators may spray small amounts to the seams.
- If you are renting a property, contact your landlord or property manager to discuss a treatment plan.
- Launder all sheets, bedding, towels, and clothing that may have been in contact with the areas where bed bugs have been identified. It is a good idea to handle these materials carefully and put them in a bag as they are moved to the washing machine, as to avoid any accidental spread of the bugs. The high heat associated with drying is sufficient enough to kill the bed bugs; launder in hot water with detergent, followed by at least 20 minutes in a hot dryer. Once everything has been washed and dried, place the items away from known infestation sites and in a tightly closed bin or bag to prevent re-infestation.
- Vacuum your home, paying particular attention to the areas where an infestation has been identified. Use a vacuum attachment to reach corners and crevices. This should be done after an initial inspection and once a week thereafter for several months. After vacuuming, immediately place the vacuum cleaner bag or the contents of the canister in a plastic bag, seal it tightly, and throw the bag away in an outdoor container.
- If possible, carefully dispose of infested mattresses, box springs and other furniture. These items should be properly disposed of, as leaving them out on the street without properly treating them may allow the infestation to spread. It is best to carefully clean/vacuum these items and place them in large bags before moving them.
- If mattresses cannot be disposed of, buy a waterproof zippered mattress cover. These covers often say 'allergen rated' or 'for dust mites'. Scrub the mattress seams with a stiff brush to dislodge bed bugs and any eggs. Then enclose the mattress in the cover for at least one year. This will trap any remaining bed bugs inside the cover, killing them.
- Items such as pillows and blankets may also be placed in black plastic bags and placed in the hot sun for a few hours with a minimum temperature of 113°F.
- Search your homes for cracks and possible entry points in the walls and seal them with a high-quality, silicone-based sealant.
- Inspect anything that is mounted on the wall, no matter how high or low.
- Keep your home free of clutter.

Is it safe for me to return to work if I have a bed bug infestation in my home?

Although it is possible for bed bugs to be spread through clothing, it is very unlikely. Provided you have followed the suggested measures for eliminating an infestation, particularly the washing of clothing and bedding and keeping them in a secure place, it is safe for you to continue going to work. If you feel comfortable sharing your situation, it may be wise to alert your co-workers so they can be aware of their surroundings and watch for signs of bed bugs. Bed bug infestations often begin in multi-person dwellings, which could include office buildings.

Why are they so hard to kill?

Bed bugs are extremely small and can easily hide and burrow in tiny, narrow spaces, such as cracks in the wall, electrical outlets, and joints in furniture. Although they cannot fly, they crawl

as fast as an ant and routinely travel from their hiding place to a blood meal in one night. Since they are active primarily at night, they are difficult to detect during the hours people are generally awake and alert. In addition, bed bugs may remain dormant for long periods of time if blood meals are not available or if temperatures drop. Bed bugs that remain inactive and in hiding for an extended period of time may not be initially killed by insecticides, as treatment is most effective when the insecticide directly contacts the bed bug. The majority of available insecticides are also ineffective against eggs, so repeated applications are generally required to kill the bugs that have hatched from the eggs and the adult bugs that may have been missed during previous treatments. Recent evidence also suggests they may be able to sense and avoid certain chemical agents, such as cleaning detergents.

Do bed bugs transmit disease?

There is currently no evidence indicating bed bugs are capable of transmitting pathogens causing infectious disease in humans. However, some individuals may have moderate to severe allergic reactions to proteins found in bed bug saliva, thereby increasing inflammation and itchiness of the bites. Excessive scratching of bite marks may also cause secondary infections.

Why does the state health department not consider bed bug infestations a “public health” problem?

The communicable disease division of the state health department does not investigate bed bug outbreaks because there is no evidence that bed bugs transmit diseases to humans.

Who is responsible for getting rid of the bed bugs?

The health department can offer guidance on the prevention and elimination of bed bugs but is not responsible for mandating tenant/landlord issues in regards to legal and cost issues associated with bed bug infestations. Health departments may be able to provide more specific suggestions on local agencies and organizations involved in landlord/tenant and housing issues.

Organizations involved in housing regulations and tenant/landlord mediation include:

State of Colorado Community Housing Services Inc.

<http://www.chsico.org/>

303-831-1750

Colorado Legal Services

303-837-1313

City of Englewood

303-762-2369

Links to more extensive bed bug info or related resources:

Colorado State University – Bat bugs, bed bugs and relatives
<K:\GENERAL DC\Bed Bugs\Bat Bugs and Bed Bugs.mht>

US Dept of Veteran Affairs - Bed Bug Prevention in Veterans' Health Facilities
http://newyorkvsbedbugs.org/wp-content/uploads/2009/08/VA_Under_Secretary_Health_bed_bugs.pdf

Michigan Dept of Health Bed Bug Control Guidelines - contains a section about healthcare facilities
http://www.michigan.gov/documents/emergingdiseases/Bed_Bug_Manual_v1_full_reduce_326605_7.pdf

Bed Bug Prevention in Shelters & Group Living Facilities (Cornell U)
http://www.nysipm.cornell.edu/publications/bb_guidelines/

Central Ohio Bed Bug Taskforce
<http://centralohiobedbugs.org/healthpro.html>

Australian Bed Bug Control Manual (Very comprehensive, but the pesticide laws may differ from the U.S.)
http://medent.usyd.edu.au/bedbug/bedbug_cop.htm

NY Schools BB kit
http://www.opt-osfns.org/dsf/forms/Bed_Bug_Kit.pdf

Bed Bugs Go to School (Arizona CES)
http://mda.mo.gov/plants/ipm/pdf/ipm_bedbugs.pdf

Bed bugs and your apartment
<http://citybugs.tamu.edu/factsheets/biting-stinging/others/ent-3013/>

CDC - Bed bugs
<http://www.cdc.gov/parasites/bedbugs/>

Bed Bugs Authority by Statute (2011)

1. **Apartments:** Under DORA (Department of Regulatory Agencies, Division of Real Estate 3-894-2166).
 - a. *Statute 38-12-504* (Tenant responsibilities) “In addition to any duties imposed upon a tenant by a rental agreement, every tenant of a residential premises has a duty to use that portion of the premises within the tenant's control in a reasonably clean and safe manner. A tenant fails to maintain the premises in a reasonably clean and safe manner when the tenant substantially fails to: ...Promptly notify the landlord if the residential premises is uninhabitable as defined in section [38-12-505](#) or if there is a condition that could result in the premises becoming uninhabitable if not remedied.”
 - b. *Statute 38-12-505* (Landlord responsibilities) “Uninhabitable residential premises...Appropriate extermination in response to the infestation of rodents or vermin (*small, objectionable animals or insects*) throughout a residential premises.”
 - c. Recourse: upon the tenant to pursue in civil court on their own.
2. **Hotels / Motels:** Under CDPHE, DEHS “Public Accommodations Regulations 1973”
 - a. *Statute 25-1.5 101 (II) (h)* “Rodents and insects shall be controlled by establishing proper sanitary practices, vermin proofing of buildings, extermination, or other safe and effective control methods.”
 - b. Recourse: Civil penalties by the Department
3. **Mobile Home and RV Parks:** Under CDPHE, DEHS “Mobile Home Park Regulations 1973”
 - a. *Statute 25-1.5 101 (II) (h)* “Rodents and insects shall be controlled by establishing proper sanitary practices, vermin proofing of buildings, extermination, or other safe and effective control methods.”
 - b. Recourse: upon the tenant to pursue in civil court on their own.