

Bed Bug Basics

Bed bugs (*Cimex lectularius*) are blood-feeding insects that live in beds, and the cracks and crevices of furniture, walls, flooring, etc. Adult bed bugs are about a quarter of an inch in length (about the same length as an apple seed), oval in shape, and brown or reddish-brown in color. They are usually flat unless they have just had a blood meal. Bed bugs are generally most active during the night when they move between sleeping or stationary people and harborage areas (such as cracks and crevices). They do not have wings, and do not fly or jump, but they are able to crawl quite quickly when disturbed. Bed bugs prefer to feed on humans, but can feed on pets and may be found in pet bedding in an infested home.



Bed bugs have piercing-sucking mouthparts and feed on blood. However, they are not known to transmit disease-causing organisms.

Immature bed bugs look the same as adults, only smaller. Newly hatched bed bugs are virtually colorless, and gradually get darker as they grow. The adults mate, and females lay white eggs that resemble grains of salt that are often stuck to surfaces. They can be laid singly or in clusters.

Bed bugs can be found in very clean locations, unlike German cockroaches that are associated with unsanitary conditions. Bed bugs are expert hitch-hikers and anyone can inadvertently acquire them. Because they are most often found in places where people sleep, they occur most commonly in homes, hotels, shelters, dorms, barracks, and long-term care facilities. While bed bug sightings can occur in all the places people go, they are usually found breeding (sometimes in high numbers) in places where people sleep or are stationary for long periods of time.

Most bed bug activity occurs after dark, but they will feed during the day if they are hungry and have a stationary host. During the day you can see the tell-tale signs that indicate their presence. A flashlight and a magnifying glass are useful tools when inspecting for bed bugs. Signs of this pest include:

Actual bed bugs

Look closely in the seams of mattresses, box-springs, and in the joints of furniture in and close to sleeping areas.

Bed bug excrement

Bed bug excrement looks like dark spots or rusty stains on mattress fabric or bedding. Harborage areas can be indicated by spotting on walls or furniture.



Bed bug exoskeleton molts

Growing bed bugs molt, leaving their old exoskeleton behind. The molts look like transparent bed bugs.



Blood

Crushed bugs will leave a splat of blood on sheets. Using white or pale colored sheets helps verify a suspected infestation in a home.

Bed bugs have a distinct musty, sweet odor; some people are reminded of raspberries, while others are reminded of coriander. In relatively light infestations there may be no noticeable odor at all.

Bites on exposed skin after sleeping

People experience a range of reactions to the bites; some have no reaction, while others experience a reaction to the saliva injected while the insects feed. People may develop itchy, even painful welts immediately, or up to two weeks later. Repeated bites tend to generate more severe reactions, and heavy infestations of bed bugs can cause anemia in children and the elderly. Secondary infections occur due to the scratching of bites.

Avoid scratching! Over-the-counter antihistamines and topical hydrocortisone creams help reduce irritation.

Finding bug bites does not mean you have bed bugs in your home. There are many things that cause itchy bumps and welts to form, but if you notice bites on exposed skin after sleeping, take a moment to inspect sleeping areas for the other signs.

Preventing Bed Bugs

Don't Panic! All bed bug infestations can be remediated successfully when the appropriate management steps are followed.



Think twice before using retail pesticides and other chemicals! Misuse of these products could injure your family and yourself. Certain products make infestations far worse by encouraging the movement of bugs into wall voids, making remediation more challenging and expensive.

There are ways to minimize the chances of bed bugs arriving in your home in the first place; it is highly recommended that you take the following precautions:

- **Do not** move in second-hand furniture, curb-side items or items from a dumpster into your home **especially** mattress or box-spring items, unless you are absolutely certain the items come from a bed bug free location. If you cannot be 100% certain the items have never been exposed to bed bugs. **It's not worth the risk!**
- **Inspect** rented furniture very carefully before accepting it into your home. Avoid renting bedroom furniture if possible.
- **When travelling**, check motel/hotel rooms before unpacking or sleeping (at a minimum check the mattress, box-spring, and behind the headboard for any signs of bed bug activity). Even if you do not find

evidence of bed bug activity, avoid placing luggage on the bed or on the floor near the bed. Upon returning home, machine-wash and dry all clothing on a high heat or dry clean. Carefully check the outside and inside seams of luggage with a flashlight, looking for any movement. Store luggage in the garage or in an outdoor storage area.

- **Reduce clutter**, an uncluttered home is much easier to monitor and remediate.
- **Wash** bedding weekly and dry items on a high heat for an additional 40 minutes after the items are dry.
- **Avoid** moving bedding in and out of other locations as much as possible. If you take blankets and pillows from home to hotels, school, child care facilities, other homes, etc. wash and dry everything immediately upon returning.
- **Know** what is happening in your building. Bed bugs can move between homes in multifamily buildings.
- **Shared** articles such as vacuums, wheel chairs, etc. can harbor bed bugs. Inspect carefully and regularly.
- **Bed bugs** are sensitive to extreme temperatures in all of their life-stages. So tossing all clothing/bedding in a hot (140°F) dryer for 40 minutes is an effective way of killing them. If you suspect you have been exposed to bed bugs, rinse and leave footwear outside to dry. Inspect bags and items entering the home. Wash and dry clothes on a high heat, leaving dry clothes in the dryer for an additional 40 minutes on a high heat, or dry clean. Normal showering will remove bed bugs from your person.

Managing Your Home

- Inspect for bed bugs frequently, especially when changing bedding each week. Bed bugs hide in cracks less than 1 mm wide. Initially they are found in the seams, folds, and joints of mattresses, box-springs and headboards. As they breed and the population increases they can be found in areas farther from the bed (electrical outlets, floor cracks, fire alarms, baseboards, furniture, door frames, under carpeting, behind picture frames, in drapery folds and behind loose wall paper).
- Consider placing bed bug monitoring devices such as



Interceptor traps under bed legs. There are a number of bed bug traps available, and the simplest, relatively inexpensive ones work very well.

- Vacuuming is an effective way to remove bed bugs and the dirt that provides them shelter. Vacuum weekly (at a minimum) and discard bags or canister content into outdoor receptacles.
- Fit mattresses and box-springs with encasings designed to prevent the movement of bed bugs in and out of bed sections. If you can only afford one encasement, cover the box-spring, as this is the most favorable place for bed bugs. The higher quality encasements have been tested, and shown to be very effective. If an encasement tears, it should be replaced.
- Eliminate harborage opportunities by sealing cracks and crevices with a silicone-based sealant; glue down loosened wallpaper edges.
- Reduce clutter, especially in bedrooms.
- Minimize use of cardboard boxes for storage.

If Bed Bugs Arrive, Do Not Panic!



Bed bugs are a growing problem. Early detection and involvement of an experienced Pest Management Professional will help to minimize costs, uncomfortable bites, and stress.

The “Do not” list below references things that people tend to do that inadvertently make infestations spread and ultimately far more difficult to control. The “Do” list offers ways to safely manage the problem until a Pest Management Professional can eradicate the infestation.

Do not

- **Do not** move items in or out of infested rooms. If you need to remove clothing, wash and dry the items before using. Essential non-washable items should be inspected carefully before removal from the area. Clock-radios and other electronic items should not be removed at all. In general, move as little as possible.
- **Do not use foggers or bug bombs; many of the retail products are not effective against bed bugs, and may make the problem worse. Professionals use very specialized heat, cold, and/or professional chemical**

treatments which are only available to licensed professionals.

- **Do not** move infested beds or furniture outside. Items should be wrapped, **marked as bedbug infested**, and discarded in a manner that avoids spreading bed bugs throughout your home or to other people’s homes. Contact your facility manager; they may be helpful coordinating the wrapping and disposal of infested items.
- **Do not** host visitors while you are battling bed bugs. They may return to their own home with hitchhikers that set up residence in a new location.
- **Do not** move into another home in order to get away



from the bed bugs. There will be bed bugs on the articles, furniture and clothes you take with you. Additionally, bed bugs can survive for months without a blood meal and may still be alive even after an extended absence.

If you have to vacate your home, take as little as you can with you. Launder clothing and washable items immediately. Showering will effectively remove bed bugs from you.

Do

- **Do** report bed bug sightings to property managers as soon as possible. Bed bugs can multiply rapidly, and the sooner they are reported, the easier they are to control.
- **Do** follow the instructions given by Pest Management Professionals very carefully.
- **Do** wrap and mark bedbug infested items and articles in plastic bags and throw out in outdoor dumpsters.
- **Do** launder infested washable items and dry on a high heat for 40 extra minutes after they are dry.
- **Do** soak delicate fabrics in warm water and laundry soap for several hours before rinsing.
- **Do** cut, mark and plastic wrap mattresses and irreparably damage furniture so other people are not tempted to move infested items into another home.
- **Do** vacuum frequently and immediately remove the vacuum bag or empty the canister into a plastic bag and discard in an outdoor receptacle.
- **Do** carefully inspect the guest room and launder towels and linens after visitors depart.



Bed bugs have been with us throughout human history, remember:

- **Bed bugs can happen to anyone!**
- Bed bugs are **not** known to transmit disease organisms.
- **Do not** abuse pesticide products or chemicals; such actions can result in serious physical harm or death.
- **Every** situation can be resolved successfully.

Additional Information Resources

- EPA Bed Bug Information
www.epa.gov/bedbugs
- Guidelines for Prevention and Management of Bed Bugs in Shelters and Group Living Facilities
http://www.nysipm.cornell.edu/publications/bb_guidelines/
- National Pest Management Association Best Management Practices for Bed Bugs
<http://www.bedbugbmps.org/>
- National Pest Management Association International
<http://allthingsbedbugs.pestworld.org/>
- Joint Statement on Bed Bug Control in the United States from the U.S. Centers for Disease Control and Prevention (CDC) and the U.S. Environmental Protection Agency (EPA)
http://www.cdc.gov/nceh/ehs/publications/bed_bugs_cdc-epa_statement.htm

For more information, visit www.tchd.org or if you have any questions, please call your local Tri-County Health Department office