



Public Health
Prevent. Promote. Protect.

BED BUGS

Clinton County Health Department
400 E. Clinton St. Frankfort, IN 46041
765-659-6385



Public Health
Prevent. Promote. Protect.

Bed Bugs 101 - I Have Bed Bugs, Now What?

Bed Bugs are increasingly becoming a problem within residences of all kinds, including homes, apartments, dormitories, cruise ships and shelters. "Bed Bugs 101" is written by Richard Cooper, entomologist and Vice President of BedBug Central, and is designed to help educate the public on this rapidly growing pest problem.

KEY POINTS:

- Bed bugs are best handled by a professional
- Physical methods such as vacuuming or hot laundering can be helpful
- Vacuums that are used to remove bed bugs can become infested
- Beds do not have to be thrown out, they can be saved by using an appropriate mattress & box spring encasement
- Sleeping in a different room or vacating the structure is not a solution and can make the problem more difficult to eliminate

1. **Contact a professional:**

The complete elimination of bed bugs requires highly trained and licensed individuals knowledgeable in bed bug biology, behavior, and the proper use of pesticides. There is little chance that you will be able to eliminate the problem on your own. Most commercially available pesticides are not designed for bed bugs and the use of these products (while they may kill some bed bugs) may only spread the bed bugs to remote areas and make the problem much more difficult to solve. While chemical remedies should only be handled by professionals, there are many non-chemical measures you can take to help eliminate the problem and speed up the results of your bed bug program. These techniques are discussed below.

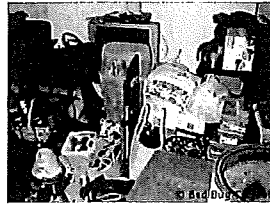
2. **Remove bed bugs**

Just because you have bed bugs does not mean that you have to wait for a professional to kill them. You can simply crush them with a rag (although this may stain surfaces) or remove them with a vacuum. **Regularly inspecting and vacuuming your mattress and box spring is a very effective way to reduce large numbers of bed bugs quickly.** However, it is important to note that bed bugs can readily infest vacuums. To reduce the likelihood of the vacuum becoming infested you should choose a vacuum that empties into a vacuum bag instead of a filter. A vacuum bag can be easily disposed of while a filter is difficult to completely empty and eggs can easily lodge in places that you cannot see. **Also, avoid using vacuum attachments that have brushes or bristles.** Instead use the open end of the hose. Vacuuming up a little bit of talcum/baby powder before you start vacuuming and just after you finish may also help reduce the survival rate of some of the bugs that are vacuumed up. As soon as you are done vacuuming, the vacuum bag should be tied shut in a trash bag and discarded outside of the home. You should also inspect the housing of the vacuum where the bag attaches to the hose as some bugs may escape the vacuum bag. If you have a bagless vacuum, the contents of the canister should be emptied into a trash bag and tied shut. The canister should then be washed to remove any

remaining bed bugs or eggs. If you are concerned about the vacuum becoming infested then you should not follow this recommendation.

3. **Eliminate clutter**

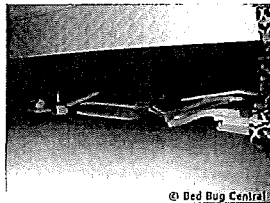
Clutter is a bed bug's best friend and a pest management professional's worst enemy. Clutter provides an infinite number of areas for bed bugs to hide and creates areas that cannot be effectively treated by your pest management professional. These areas are a safe haven for bed bugs. Cluttered areas can cause the complete failure of a bed bug control program. **If cluttered conditions persist, your pest management professional may only be able to reduce the number of bed bugs and never completely eliminate the problem.** Do your best to eliminate clutter.



Example of clutter in a room, unlimited areas for bugs to hide and lay eggs

4. **Do not store items under bed**

Related to #3, items stored under the bed give bed bugs additional undisturbed areas to hide protected from any chemical treatments.



Items left beneath an infested bed are a recipe for control failure

5. **Laundry items regularly**

Heat is deadly to bed bug. All stages of bed bugs including the eggs can be killed by exposing them to temperatures in excess of 120°F for at least twenty minutes. Hot laundering can be a highly effective method for dealing with any item that can be safely placed in a clothes dryer on high heat. Research has also indicated that if your dryer has standard temperature settings, even a low dry cycle will achieve temperatures high enough to kill bed bugs and their eggs. Linens should be laundered regularly (preferably weekly) in hot water and dried in the hot cycle of your dryer to kill any bed bugs or eggs on the items. Even if you do not see any bed bugs on the items, female bed bugs drop eggs randomly as they roam. These eggs are very tiny and will not be noticed on your linens. **Washing the linens will remove and kill these eggs.** Likewise, if your couch is infested, you can also remove the cushion covers (if possible) and launder them as well. Please be aware that bed bugs were demonstrated to be able to survive a cold wash cycle even with detergent present.



Public Health
Prevent. Promote. Protect.

BED BUGS

Clinton County Health Department
400 E. Clinton St. Frankfort, IN 46041
765-659-6385



Public Health
Prevent. Promote. Protect.

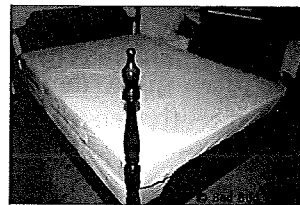
6. Install mattress and box spring encasements

There are many mattress and box spring encasements available to the consumer; however most of these encasements have not been designed specifically for use with bed bugs. Instead most encasements available to the consumer are designed to either protect the bed from becoming stained or provide relief for people with allergies to dust mites. This does not mean that they will be effective for bed bugs. It is very important to be sure that the encasement that you purchase has been specifically designed for bed bugs and has scientific data to support the effectiveness of the product.

Once beds are encased any bugs that may be trapped within the encasement will be unable to escape or feed and will eventually die. In addition, once the beds are protected, other bed bugs cannot penetrate the encasement and thus cannot infest the mattress or box spring. Instead, bed bugs are restricted to the surface of the encasement where they are easy to spot and remove. In addition to playing an important role in managing a bed bug infestation, encasements can also be a very useful pro-active tool to help aid in the early detection of bed bugs should they be introduced into a dwelling that was not previously infested. Finally, it is important that the encasements are kept in good condition. Any rips in the encasements will allow bed bugs to enter and exit the encasement.



Close-Up of Mattress and Box Spring Encasement



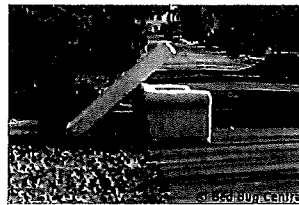
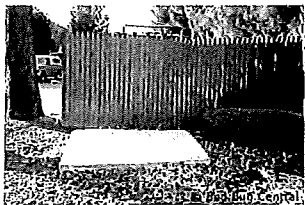
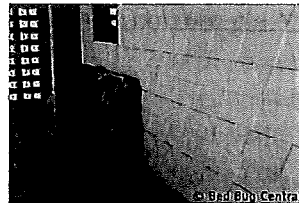
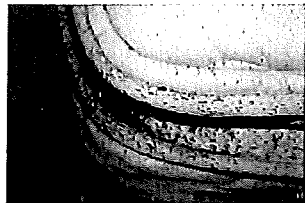
Fully Installed Mattress and Box Spring Encasement

7. Do not change where you sleep

Some people believe that they can avoid bed bugs by sleeping in a different area of their home. Once people identify that their bed is infested they will often begin sleeping in a different bedroom or on the sofa. Bed bugs have evolved over millions of years to be very adept at locating potential hosts to feed on. If you move to a different area of the home to sleep, the bed bugs will find you. Changing where you sleep is likely to promote the movement of bugs throughout the structure and make it more difficult to eliminate the infestation. **Even if you move out of your home, you risk bringing bed bugs with you to your temporary residence and infesting that area as well.** Not only can you spread the bed bugs, but when you return home the bugs will be waiting to greet you. Remember, bed bugs can survive many months, and in some cases up to a year or more without feeding. Although it sounds like a grim choice, it is best to continue sleeping in the infested area until the bed bugs are eliminated.

8. **Do not immediately throw items away**

For many people, the immediate reaction to a bed bug infestation is to throw the infested items away. This is unnecessary and could possibly make the problem worse. As items are carried through the home to be discarded, bed bugs can fall off of the item and be spread throughout the home to uninfested areas. Also, you are eliminating the harborage for these bed bugs and disturbing them. This may cause the bed bugs to move to find other places to live and spread the problem. In addition, discarded items are often picked up by other people (maybe even your neighbor), spreading the problem to new areas. In some circumstances when the item is in poor condition or is highly infested, discarding the item is the best option. However, this is best left to a professional so that the item can be discarded properly without spreading the problem.



Infested beds are often discarded without destroying them or sealing them in a plastic or other protective encasing. The end result is that bugs and eggs may be distributed along the path out of the dwelling as they are removed. Infested beds left outside in hallways, by dumpsters or curbside may be picked up by an unsuspecting party spreading the problem to a new location.

Article printed from <http://www.bedbugcentral.com>. Richard Cooper has more articles on bed bugs and their habits on the website.

BEDBUG FACT SHEET

Control Challenges

Cimex lectularius (Common Bedbug), *Cimex adjunctus* (Bat Bug), *Cimex hemipterus* (Tropical Bedbug)

Biology, Behavior, & Characteristics	What This Means To You
Bedbugs Are Nocturnal & Exhibit A “Shy” Behavior During Daytime	They Easily Avoid Detection Causing Populations To Grow
Bedbugs Are Thigmotactic (Prefers Tight Spaces)	They Will Hide In Every Crack & Crevice Available Within A Room Or Wall Void
Egg To Adult Development Ranges From 5-8 Weeks To Eight Months	Bedbugs Can Live Beyond Traditional Service Programs
Lifespan = Six Months To 1.5 Years	They Can Go Into A Dormant Stage & Reappear Several Months Later
Females Lay Eggs In Batches In 10-50 & Can Produce 200-500 During Lifespan	Uncontrolled Populations Can Grow Very Rapidly
Cements Eggs In Cracks, Crevices, & Wall Voids	Enhances Survival Rate Of Eggs By Avoiding Commonly Treated Areas
Can Go Without Feeding For 80-140 Days (One Study Showed 550 Days!)	False Sense Of Security (Control) Due To Lack Of Bites
Bedbugs Travel Very Well Within Wall Voids	Room-To-Room Movement Is Very Likely. Hiding In Wall Voids Makes Control Very Difficult
Rodents, Bats, Birds (Pests) + Pets (Dogs & Cats) Can Act As Hosts	These Hosts Can Move An Infestation Around A Structure