



SOUTH CAROLINA FAMILY AND COMMUNITY LEADERS

Affiliated with
National Volunteer Outreach Network, Country Women's Council, U.S.A., Associated Country Women of the World
and in partnership with Clemson University Cooperative Extension Service

Don't Let the Bed Bugs Bite **Educator Guide**



Objectives:

Participants will:

1. Understand how bed bugs are transmitted.
2. Develop strategies to prevent bed bug infestation.

Are you wondering just how a hotel room or a home ends up with a bed-bug infestation? It comes down to simple hitchhiking.

Bed bugs can't fly, so they travel by catching a ride on unsuspecting people or on furniture or other items.

The most common ways infestations get started are:

- Travelers bring bed bugs home from infested hotels or motels in their luggage.
- Infested furniture brought into a home will cause an outbreak.
- Bed bugs hitch a ride by hanging on clothing.
- Family members living away from home (for example, at college) may bring them home on holidays.
- If a person moves into an infested home or apartment, they will have an instant infestation.

Research studies show between 85 percent and 90 percent of bed bugs will be found in the mattress and foundation/box springs or within 15 feet of the bed. If people have been sleeping on sofas, these can be infested, as well.

To help prevent bringing home unwelcome bed bug guests from hotels, the experts recommend inspecting hotel rooms for bed bugs before bringing luggage into the room. Bed bugs like to live in groups in cracks and other dark, tight places. These "hot spots" can often be identified because bed bugs leave small brown/black spots and smears (liquid feces) in these hiding places. Fecal spots may also be found on bed linens, pillows and mattresses. Bed bugs live in cracks as small as the width of a credit card.



Hotel and motel bed headboards are often fastened to the wall. People may need to lift the headboard off its hanger to inspect behind it. Even if no bed bugs are found, experts recommend not placing luggage on the floor near the head of the bed.

People can remove all of the bedding and examine it for fecal smears and bugs. Carefully examine the mattress and foundation. One common hiding place is in the wood framing of the foundation. Near the bed, look behind picture frames, within books, in telephones or radios, bedside furniture; also look along the edge of carpet.

Human bed bugs are found worldwide and are dispersed through human travel. During the last decade, there has been a significant increase in bed bug infestations in the U.S. The reason for this recent upsurge is unknown. Although bed bugs have never been shown to transmit diseases, people living in bed bug infested homes may experience psychological stress, anxiety and insomnia. Currently, treatment is difficult, but as time passes, pest control professionals should gain expertise in treatments and there will be new effective products developed.

Description and Habits

Bed bugs are reddish-brown, wingless and very flat. Adults are about 3/8 to 1/4-inches long. Immature stages may be light brown or yellowish in color until after they have fed and then they are darker. After feeding, they are bright red from the blood they have ingested and have a distended body and may look like a different insect altogether.

Bed bugs usually attack humans, but may feed on other warm-blooded animals, including pets. During the day, bed bugs hide in cracks and crevices near the bed or places where people sleep at night. At night, bed bugs come out of their hiding places to feed. Bites are most often found on the upper body: neck, arm and shoulders, but may be found on legs or ankles. Some people are sensitive to the bites which may become inflamed.

Bed bugs can live more than a year without food and can survive in infrequently-used hotel rooms or vacant apartment buildings until occupied by an unfortunate victim.

The bed bug belongs to the family Cimicidae. Other members of this family feed on bats and birds. Because bats can live in or near human dwellings, it is important to determine whether it is a bat bug or a bed bug before control measures are taken. When dealing with bat bug or bird bug infestations, eliminating bats or birds is the first step needed to solve the bug infestation.

Where Do They Hide?

Bed bugs are very flat and live in cracks and crevices around the bed. They produce liquid feces which are dark spots left on bedding or in hiding places. Bed bugs produce a musty sweet smell that may be noticeable in heavy infestations.

Studies have shown 85–90% of the bed bugs will be found in the mattress and foundation/box springs or within 15-feet of the bed, but some bed bugs may be found in locations farther away from the bed. If people have been sleeping on sofas, these are likely to be infested.



Examine the bed and foundation/box springs. Remove all the bedding and examine it for fecal spots/smears and bugs. Carefully examine the mattress and foundation. One common hiding place is the wood framing of the foundation. Remove the dust cover on the bottom of the foundation. Carefully examine the wood framing for cracks formed where wood pieces come together. Peel back where fabric is stapled to the wood frame.

Near the bed, look behind picture frames, within books, in telephones or radios, bedside furniture, look along the edge of carpet, next to the wall and even in electrical receptacles. Don't forget the closet. Bed bugs can be found in closets attached to clothing.

Managing Bed Bugs

Thoroughly clean infested rooms. Launder bedding and dry thoroughly in a hot dryer to kill all stages of bed bugs. Dry clean wool blankets. Vacuum infested areas thoroughly, including mattress, foundation/box springs, furniture, beds, headboards, sofas. Don't forget the void area underneath box springs. Vacuum the area where the carpet meets the wall, especially near the head of the bed. After you are finished, take the vacuum cleaner bag immediately to the trash. Steam cleaning carpets is good, but must be done before pesticide applications, so coordinate efforts with your pest control professional. If there is a serious bed bug infestation, removing wall-to-wall carpets may be helpful.

Some people recommend throwing mattresses away. If the mattress and foundation is in poor condition, this would be helpful. On the other hand, if the mattress is in good condition, you can encase the mattress with a zippered cover that is tightly woven to prevent the mattress from harboring bed bugs. These mattress covers are available for all sizes of beds. Keep the mattress cover on the mattress for at least a year to make sure all the bugs are dead. You will also need to encase the foundation. It is extremely important to eliminate clutter and reduce hiding places for bed bugs. Reduce clutter to the bare necessities to make treatments more effective.

Chemical Treatments

Non-chemical methods (vacuuming, steaming, laundering, mattress encasement) will be helpful in bed bug control, but, by themselves, are not likely to eradicate the bed bug population. This means insecticides must be used to treat bed bug harborage areas. Insecticide treatments in sleeping areas are a potential health risk so it is very important to use products which can be safely used in bedrooms.

All bed bug hiding places must be identified and treated. Use liquid treatments on surfaces and dusts in void areas. Because treating all the areas where bed bugs hide is difficult, experts recommend hiring an experienced pest control professional. Pest control professionals also have more choices of insecticides, which may improve the effectiveness of control.



Problems with Chemical Treatments

A recent study at Purdue University showed how difficult treatment can be. Researchers treated eight infested units of a 15-story apartment building. Professional-use products were used in bed areas, mattresses, foundations, and cracks and crevices where bed bugs were hiding. Every two weeks, bed bug-infested units were inspected and treated if live bed bugs were found. After four applications, two apartments still had bed bugs. These researchers concluded that successful eradication of bed bugs requires at least two visits, with considerable time needed to inspect and treat the unit, but some infestations may require four or more applications. In addition to insecticide treatments, these researchers also used non-chemical tactics, including the discarding of heavily infested furniture, steam machine applications and washing bedding materials every time bed bugs were found.

Summary

To prevent a bed bug infestation, remember these simple steps:

1. Inspect your surroundings when traveling or staying in a new environment
2. Use care when moving or handling used furniture
3. Know the signs of bed bug infestation
4. Follow guidelines for eradicating bed bugs
5. Call a professional if needed and...

Don't Let the Bed Bugs Bite!

Used with permission from Barb Ogg, Extension Educator, University of Nebraska Extension, Lancaster County
Adapted for use in SC by Dr. Deborah J. Thomason, Professor and Extension Specialist, Clemson University

