

FACT SHEET

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BED BUGS

What are bed bugs and where are they found?

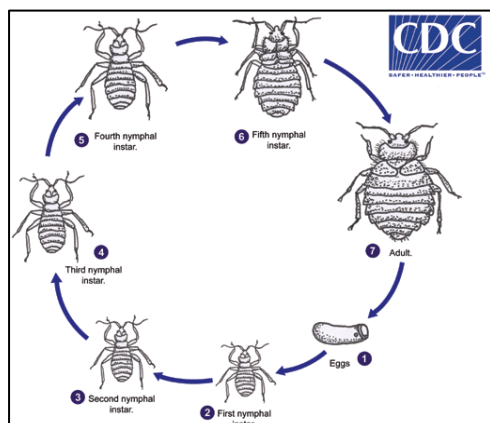
Bed bugs (*Cimex lectularius*) are a blood-feeding insect that has lived alongside humans for hundreds of years. They were almost completely eradicated in the United States and many European countries using the insecticide DDT, but started to reappear in the 1990s. The worldwide resurgence of bed bugs is a result of increased international travel, pesticide resistance, and general lack of awareness. Bed bug infestations can be extremely difficult to control.

How do I get bed bugs?

Bed bugs are great hitchhikers and are easily moved around on travelers' luggage, purses, boxes, furniture, and clothing. They can also migrate through shared buildings like barracks, dormitories, and apartment complexes in search of a person to feed on. Bed bugs are becoming common in nontraditional areas like offices, theaters, clothing stores, hospitals, and other gathering places.



Adult bed bug
Photo: G. Snodgrass, VID, APHC



Bed bug life cycle: nymphs need to feed on blood to grow. Diagram: CDC

What do bed bugs look like?

Adult bed bugs are a rusty red or mahogany color with oval, flattened bodies. They range in size from 1/4 to 3/8 inch long and are wingless. Newly hatched bugs (called "nymphs") look like miniature adults but are pale yellow-white until they feed on blood. The nymphs will feed on blood and shed their old skin (a process called "molting," which allows them to grow) five times before they reach adulthood.

There are several closely-related species that can be misidentified as bed bugs, including the eastern bat bug (*Cimex adjunctus*) and western bat bug (*Cimex pilosellus*). These species require bats to reproduce, but they will feed on humans to stay alive if no bats are available.

Do bed bugs pose a health risk?

While bed bugs do not transmit diseases, their bites are uncomfortable, and scratching the bites can lead to secondary infection. Infestations impact morale and can lead to anxiety and sleeplessness due to the psychological impact of being fed on while asleep. Bed bugs prefer to feed on exposed skin around the face, neck, upper torso, arms, and hands. Bed bugs feed for 3–15 minutes at a time every 5–7 days. While they prefer human blood, they will also suck blood from other animals including birds and bats. It is a myth that bed bug bites always come in sets of three.

What are the signs of a bed bug infestation?

Bed bug infestations are often well hidden, which makes them difficult to identify early. Bed bugs prefer to live in cracks and crevices and are commonly found behind headboards, tucked into mattress seams, and inside box springs. While bed bugs are associated with beds, they will also live in sofas, recliners, and other furniture where people sleep or sit for extended periods of time. Common signs of infestation are live or dead insects, spots of black or brown feces, shed skins from molting, and deposits of eggs. Occasionally, blood-fed bed bugs get smashed on bed linens, leaving blood smears. Heavily infested areas may have a distinctive, sweetish odor. In heavy infestations, bed bugs can be found hiding along, inside, or behind edges of carpeting, baseboards, window- and door-casings, pictures, moldings, loosened wallpaper, cracks in plaster, furniture, and electrical outlets.



Top: Bed bug adult, nymphs, and eggs with dried feces. **Bottom:** Adult bed bugs with fecal material on fabric. Photos: Dr. H. J. Harlan

How can I prevent a bed bug infestation?

Reduce your chances of bringing home bed bugs with the following methods:

- Know what bed bugs look like, and recognize the signs of an infestation.
- Inspect your room before unpacking. If you see signs of an infestation, immediately notify management and request a different room.
- Always store your luggage on the luggage rack instead of setting it on the floor.
- Inspect the luggage prior to repacking. As soon as you get home, put all clothing into the drier for at least 30 minutes to kill any hitchhikers. Bed bug eggs, nymphs, and adults are killed when exposed to temperatures of 115° F (46° C) for at least 15 minutes. Drying clothing will kill hitchhikers, and you can wait to wash clothing on another day.
- Check your luggage using a bright light. Luggage can be heat-treated by closing it in a black trash bag and leaving it in the sun for a day.
- In addition to using caution while traveling, avoid bringing home rental or secondhand furniture. If you do, examine these items carefully before bringing them into your home.

How are bed bugs infestations treated?

Nonchemical Methods: Contact preventive medicine services at your supporting military health clinic to help identify a possible bed bug. If you suspect you have bed bugs, you can take the following actions yourself:

- Inspect your mattress, box spring, bed frame, and headboard using a bright flashlight. Pay special attention to folds, seams, crevices, joints, and screw holes. Look for bed bugs and their shed skins, feces, and eggs.
- After you inspect, vacuum all surfaces of the mattress, box spring, and bed frame with a brush or crevice attachment using a scraping motion to dislodge bed bugs and eggs. Turn all items (including the bed frame) over to reach the underside. You will miss important hiding places if you skip this step.
- Repeat the above for any location where people have been sleeping/resting including sofas, fabric-covered chairs, and recliners.
- Dispose of vacuum contents in a sealed plastic bag.
- Launder all linens using the highest heat settings for washing and drying.
- Consider using a quality bed bug-impermeable case or cover to protect the mattress and box spring. Encasing both mattress and box spring will trap any bed bugs inside and ultimately kill them. It also provides a smooth outer surface that can easily be inspected, vacuumed, and cleaned.

Although heat and freezing can be used to kill bed bugs, pest management professionals should conduct these treatments to ensure they are both safe and effective.

Chemical Approaches: While active bed bug infestations can be effectively treated with pesticides, few chemicals provide effective long-term control, and preventive applications of pesticides for bed bug control are not recommended.

- If living on a military installation, always contact the residential housing office, who will coordinate pest management services for housing.
- Pest management professionals should treat confirmed infestations using pesticides that target the cracks and crevices of furniture, wall-mounted décor, door and window trim, baseboards, and similar sites.
- If applying pesticide yourself, always follow the directions on the pesticide label to ensure occupant safety.

Where can I find more information on bed bugs?

Armed Forces Pest Management Board Technical Guide 44, Bed Bugs – Importance, Biology, and Control Strategies. March 2012. <https://www.acq.osd.mil/eie/afpmb/docs/techguides/tg44.pdf>