

Health Concerns Associated With Bed Bugs

What Activities Put Me At Risk for Encountering Bed Bugs?

Bed bugs are opportunists and are adapted to human activity. They live out their lives in close proximity to their sleeping human hosts. The following are common risk factors for bringing bed bugs to your home:

- Taking used or second-hand furniture (particularly mattresses and box springs), clothing, or electronics items into the home
- Working, visiting or staying in a shelter, hotel, youth hostel, group home, apartment building or dormitory where population turnover is high
- Travel, both domestically and internationally.

How Do You Know If Bed Bugs Are Biting?

When bed bugs feed, they inject a small amount of saliva under the skin. Most people react to bites. The proteins in the saliva can stimulate an immune response, leading to red, itchy swelling at the sight of the bite. Bed bug bite reactions may occur immediately or up to 14 days after the bite. Some individuals become sensitized over time and repeated exposures could lead to more severe localized or even generalized allergic reactions.

The following should be considered if you are experiencing bites and bed bugs are suspected:

- Bed bugs generally feed on exposed skin not covered by clothing. Bed bugs typically feed during the night in darkened conditions.
- Bed bugs may feed during daytime hours if they have been denied a host for long periods of time or if you are a day sleeper.
- Bed bug bite reactions may occur immediately, or up to 14 days after the bite.

A careful inspection of both the sleeping and living areas for the source of the irritation must occur. If bed bugs cannot be located after careful inspections, then other biting pests or allergens must be considered. A pest management professional can detect and confirm the presence of bed bugs.

Is There An Effective Treatment for Bed Bug Bites?

Eliminating the bed bug infestation is the best method of treating the bites. Treatment with topical or systemic anti-histamine or anti-inflammatory medications may provide some relief from a localized allergic reaction.

Topical insecticides (such as those used for head lice and scabies) and repellents have no effect on bed bugs, and their use in the hope of preventing further bites may be dangerous.



Are There Some Other Causes for Red, Itchy Swellings of the Skin?

Contact with topical or systemic allergens may cause hives or lesions that look like “bites”. Changes in the use of detergents for laundering, changes in medications, or allergic reactions to medications or materials in the environment can cause a range of skin reactions and

must also be considered if no insect culprit can be identified. A **thorough medical evaluation** is required to rule out a **biological cause** for the symptoms such as allergic reaction or other skin infection.

Bites from other insects and arthropods can have a similar appearance. These include mosquitoes, biting nuisance flies, fleas, ticks, mites, spiders, and sucking lice (pediculosis). **If a person thinks they are suffering from repeated bites, it is essential to attempt to identify the source.**

Some people react simply by coming in contact with dead bed bugs, cockroaches or any other type of bug or their body parts. This condition is known as chitin hypersensitivity. If you are one of these extremely sensitive people, it can be difficult to determine that the bed bugs are gone. Bite like symptoms can occur even after the bed bugs are gone.

Can Bed Bugs Spread Diseases?

1. There is no evidence in the literature that bed bugs transmit diseases to people.
2. Anemia has been reported in the elderly and young children living in homes that were heavily infested with bed bugs.
3. The presence of bed bugs in a dwelling can produce a range of physical and psychological discomfort for their human hosts, and infestations can be very difficult to remedy. As a result, bed bug infestations are considered a **public**

health nuisance. Dwellings that harbor bed bugs may fall under the authority of local jurisdictional laws that address public health nuisances, vermin, or sanitary housing conditions.

What Are Some Other Possible Health Effects from Bed Bugs?

1. In addition to suffering bites and associated skin responses, people often experience a strong repulsive reaction to the idea of being fed on by bugs when unconscious and unaware. This may manifest as mild to severe anxiety and stress.
2. Because bed bugs are moved by people, those suffering with an infestation may feel isolated from friends and family.
3. Treating a residence for bed bugs may be time-consuming and expensive. Individuals/family units living in bed bug-infested quarters may endure inconvenience, added financial costs, and psychological stress.
4. Some people are driven to take extreme actions to rid themselves and their homes of these pests, potentially harming themselves and their families with ineffective pesticide treatments or other hazardous methods.

Integrated pest Management

The Integrated Pest Management Philosophy

Integrated pest management (IPM) is an effective and environmentally sensitive approach to pest management that relies on a combination of practices. IPM programs use current, comprehensive information on the life cycles of pests and their interaction with the environment. This information, in combination with available pest control methods, is used to manage pest damage by the most common-sense and economical methods, and with the least hazard to people, property, and the environment.

IPM is not a single pest control method but, rather, a series of pest management evaluations, decisions, and controls. In practicing IPM, pest managers who are aware of the potential for pest infestation follow a four-tiered approach.

1. ***Set Action Thresholds***

Before taking any pest control action, IPM first sets an action threshold, a point at which pest populations or environmental conditions indicate that pest control action must be taken. Sighting of one live or dead bed bug does not always mean control is needed. Contact your pest management professional for an evaluation or if you are a tenant, contact your landlord immediately.

2. ***Monitor and Identify Pests***

Within the IPM framework, pest management professionals work to monitor for pests and identify them accurately, so that appropriate so that appropriate control decisions can be made in conjunction with action thresholds. This monitoring and identification ensures that, if necessary, the proper treatment conducted. See Polk County Manual for Prevention and Control of Bed Bugs, Inspection section.

3. ***Prevention***

As a first line of pest control, IPM programs work to prevent pests from becoming a threat. This approach is usually very effective and cost-efficient, plus it presents little to no risk to people or the environment. One key component of prevention is education: teach those affected the pertinent details of the pests and best control measures, so they will be knowledgeable and effective in their role of controlling the pests. See Polk County Manual for Prevention and Control of Bed Bugs, Prevention section and guidelines.

4. ***Control***

Once monitoring, identification, and action thresholds indicate that pest control is required, and preventive methods are no longer effective, IPM programs then evaluate the proper control method both for effectiveness and lowest risk. Treatment may include behavioral and environmental modifications to limit food and harborage

to the pest. In other instances this includes the use of pesticides and other means of killing the target pest. Evaluation of treatment looks at the effectiveness of your treatment and allows for the modification of the IPM plan to better control the pest. Control may include re-treatment. See Polk County Manual for Prevention and Control of Bed Bugs, Treatment section.

Strategies that DO NOT work:

1. Vacating premises for long periods of time. Abandoning rooms, apartments or whole facilities will not guarantee that bed bugs will be eradicated. Adult bed bugs can live without blood meal as long as 5 months and will wander within a building to find a new host.
2. **Using “Bug Bombs” or total release foggers.** While some of these products may be labeled for bed bugs, this delivery method is unlikely to control a bed bug infestation and can be very dangerous.
3. **Discarding beds and bedding.** Bed bugs may also be hiding in other places. New mattresses, if not protected, will become infested as well.

IPM for Bed Bugs

The objective of bed bug control is complete eradication. Due to their very nature as tiny, generally nocturnal insects prone to hiding, **bed bug control operations can be difficult, prolonged, and painstaking.**

Current best practices in bed bug control are changing at a rapid rate. The operations discussed here represent the state of bed bug management at the date of this document. New materials and techniques become available for use against bed bugs and, if successful, may radically change the nature of bed bug management. Updated information and new techniques can be found at the National Pest Management Association website www.pestworld.org.

Different types of buildings and facilities will necessarily adopt different bed bug management strategies. Health care facilities that serve a changing roster of patients will need to focus on prevention, while an apartment community will probably focus on discovery and tenant cooperation. Be sure to adapt your bed bug IPM program to fit the individual character of the facility you are serving whether it is a home, multi-unit housing, or other facility.

Professional Pest Control

A state certified pest management professional (PMP) with experience in controlling bed bug populations should actively participate in preparing a bed bug management plan for the situation. It is important to know that multiple methods might be needed to eradicate bed bugs, including pesticides, sanitation, and heat or freezing treatments. Ask the PMP to explain any potential side effects and precautions that you and co-residents must take. Multiple visits may be required.

Note: Tenants should always contact their property manager or landlord for the engagement of a pest management professional.

What to Look for When Hiring a Pest Management Professional

- The pest management company must be **licensed by the State of Iowa** and insured.
- Technicians must be **certified** in general pest management (Category 7A) **by the Iowa Department of Agriculture and Land Stewardship**. Request proof of certification prior to having the PMP work in the situation.
- It is highly recommended that the company should be a member of the national Pest Management Association and the Iowa Pest Management Association. Visit the Iowa Pest Management Association website for a list of members at www.iowapest.org.
- The company should have access to an entomologist. Extension Entomologists with Iowa State University can provide identification assistance.
- It is in your best interest that the PMP has experience with bed bug management. Ask for a copy of the company treatment procedures. It is in the best interest of the PMP and client to be straightforward and open when discussing details of service. Do not hire a PMP who is unwilling to explain details of their bed bug plan or who will not assist in educational meetings.
- Choose a company based on their quality of service, not the price. Get two or more proposals for service if possible and compare them.
- A pre-inspection should be conducted by the PMP to assess the scope of the work and provide a reasonable estimate.

- The proposed work must follow the steps of **Integrated Pest Management** since one management method may not be effective against bed bugs.
- The consumer should understand what guarantees are being offered. Bed bug management may be difficult to guarantee, because re-infestation from an outside source is possible.
- Multi-unit housing facilities or communal living facilities are advised to hire a PMP and work closely with them to manage bed bugs safely and effectively.