



## Day-to-Day Prevention

- ◆ Bed bugs are excellent hitchhikers, so be extra careful when traveling (see tips below).
- ◆ Change and wash bedding regularly.
- ◆ Do not bring second-hand furniture into your home unless you have thoroughly inspected and cleaned the items first.
- ◆ Reduce clutter.

## Traveling Tips

- ◆ Inspect mattress and headboard with flashlight.
- ◆ Keep bags, luggage, and backpacks off the bed. Inspect and then use a luggage rack.
- ◆ Never place clothes, or jackets, on bed or couch. Do not store clothes in dresser.
- ◆ If you are concerned about exposure, after travel, seal all items in plastic bags until time for washing or treatment.
- ◆ Unpack clothes directly into washer / dryer.
- ◆ Inspect luggage closely with flashlight and magnifying glass for bed bugs upon returning home.

## Bites and Disease

**Bed bugs are not known to transmit disease.** Bites are often painless and occur at night while you are sleeping. Some people suffer allergic reactions and develop painful swelling.

The important thing is to act fast — before they have time to multiply.

Pesticide Safety First!  
Read the Label.

## How to Hire a Pest Control Operator

- ◆ Call several licensed and insured companies, compare services and get written estimates.
- ◆ Insist on and check references.
- ◆ Look for companies that:
  - ◆ offer an IPM solution
  - ◆ offer both chemical and non-chemical treatment options
  - ◆ give a pre-treatment check-list
  - ◆ perform pre-treatment inspection
  - ◆ recommend both interceptors and encasements
  - ◆ offer two or more service visits and follow-up



## Before Using Pesticides

- ◆ Some pesticides are considered minimum risk. EPA does not register and check for effectiveness of these products. These products do not have EPA registration numbers on the label.
- ◆ Never use outdoor pesticides indoors.
- ◆ Some pesticides and total release foggers are highly flammable. Improper use may cause a fire.
- ◆ Never overuse pesticides. More is not better!
- ◆ Read, understand, and follow the label-use directions.

For more information on bed bugs and IPM go to:  
**[www.epa.gov/bedbugs](http://www.epa.gov/bedbugs)**  
**Pesticide Poisoning: Call 1-800-222-1222**

# Bed Bug

## Prevention, Detection and Control

Bed bugs are parasites that seek out sleeping people or animals for a blood meal. After feeding, they hide. It is challenging, but not impossible, to prevent, detect and control bed bugs due to their small size and ability to squeeze into cracks and crevices, where they are often unnoticed.

Pesticides alone generally will not eliminate bed bugs. Effective bed bug control requires Integrated Pest Management (IPM). IPM is an environmentally sensitive approach to pest management that relies on knowledge of the pest, plus common sense practices, such as inspection, monitoring, reducing clutter, the use of physical barriers, and the judicious use of pesticides.



Be Alert, Be Aware,  
Bed Bugs Could be Anywhere!



735F12013



Early detection and prompt response will avoid larger problems.

## Bed Bug Identification

- ◆ Eggs: tiny, white, and glued to surfaces.
- ◆ Nymphs are light colored, from 1/16th".
- ◆ Adults are rusty red, apple seed sized, 3/8".
- ◆ Six legs, oval, flattened from top to bottom.
- ◆ Do not jump or fly, but are good runners.
- ◆ They tend to congregate together.
- ◆ They can live several months without a blood meal.
- ◆ **Important:** Capture several examples of the pest and have them identified by a qualified expert before taking any further actions.

## Signs of Bed Bugs

- ◆ Small, whitish shed skins and rusty spots on bed linens which are droppings and blood stains from crushed bugs.
- ◆ Live bed bugs of any size.
- ◆ Eggs and casings among droppings or in crevices where adults hide.
- ◆ An offensive, sweet, musty odor from the bed bugs when infestations are severe.
- ◆ You may have red, itchy welts or rashes from bites; however, bite marks are **not** a reliable indication of a bed bug infestation.

## Where do Bed Bugs Hide?

- ◆ Mattresses, box springs, bed frames and head boards (along seams and piping, under handles and labels).
- ◆ Under the thin dust cloth on bottom of box spring.
- ◆ Seams and fabric folds in curtains and under furniture, including chairs and sofas.
- ◆ Under wall-to-wall carpeting and padding.
- ◆ Anywhere there are cracks, crevices or nail holes in walls, and under wood moldings and baseboards.
- ◆ Under loose wallpaper and seams, and where ceiling and wall meet.
- ◆ In and behind picture frames and mirrors.
- ◆ Clothing and clutter stored in closets, under beds and elsewhere.
- ◆ Inside switch plates, electrical outlets, clocks, computers, phones, televisions and smoke detectors.
- ◆ On and in recently used luggage, backpacks and bags.



Don't pass bed bugs onto others!

Caulk cracks and spaces      Interceptor under leg



## Integrated Pest Management

### 1. Physical Control Methods

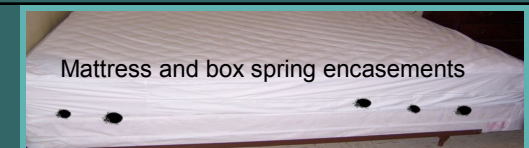
- ◆ Vacuuming reduces bed bug populations. Clean and vacuum bed bug prone areas daily. Immediately seal and dispose of vacuum bag.
- ◆ Install encasements on mattress and box spring.
- ◆ Install bed bug interceptors under bed and furniture legs.
- ◆ Make the bed an island: Keep bed away from wall and do not let bedding touch the floor.
- ◆ Remove clutter where bed bugs can hide.
- ◆ Isolate infested items in sealed plastic bags or containers. Treat items in hot dryer for 30 min.
- ◆ Clean and scrub seams / folds with detergent.
- ◆ Seal cracks where bed bugs can hide.
- ◆ If you live in an apartment or other multi-family dwelling, and you see a bed bug, contact your landlord immediately.

### 2. Non-chemical Controls

Items that cannot be washed or dried may be steamed, heated or frozen using specialized equipment. Raising the indoor temperature with a thermostat or space heaters will not work, nor will placing items in the home freezer. Contact a bed bug management professional for advice.

### 3. Pesticide Controls

Pesticides are an important part of the IPM toolbox. Please view cautions listed — over.



Bed bugs are no one's fault.  
They don't discriminate -  
anyone can have them.





Centers for Disease Control and Prevention

CDC 24/7: Saving Lives. Protecting People.™

---

## Bed Bugs FAQs

---

### What are bed bugs?

Bed bugs (*Cimex lectularius*) are small, flat, parasitic insects that feed solely on the blood of people and animals while they sleep. Bed bugs are reddish-brown in color, wingless, range from 1mm to 7mm (roughly the size of Lincoln's head on a penny), and can live several months without a blood meal.

### Where are bed bugs found?

Bed bugs are found across the globe from North and South America, to Africa, Asia and Europe. Although the presence of bed bugs has traditionally been seen as a problem in developing countries, it has recently been spreading rapidly in parts of the United States, Canada, the United Kingdom, and other parts of Europe. Bed bugs have been found in five-star hotels and resorts and their presence is not determined by the cleanliness of the living conditions where they are found.

Bed bug infestations usually occur around or near the areas where people sleep. These areas include apartments, shelters, rooming houses, hotels, cruise ships, buses, trains, and dorm rooms. They hide during the day in places such as seams of mattresses, box springs, bed frames, headboards, dresser tables, inside cracks or crevices, behind wallpaper, or any other clutter or objects around a bed. Bed bugs have been shown to be able to travel over 100 feet in a night but tend to live within 8 feet of where people sleep.

### Do bed bugs spread disease?

Bed bugs should not be considered as a medical or public health hazard. Bed bugs are not known to spread disease. Bed bugs can be an annoyance because their presence may cause itching and loss of sleep. Sometimes the itching can lead to excessive scratching that can sometimes increase the chance of a secondary skin infection.

### What health risks do bed bugs pose?

A bed bug bite affects each person differently. Bite responses can range from an absence of any physical signs of the bite, to a small bite mark, to a serious allergic reaction. Bed bugs are not considered to be dangerous; however, an allergic reaction to several bites may need medical attention.

### What are the signs and symptoms of a bed bug infestation?

One of the easiest ways to identify a bed bug infestation is by the tell-tale bite marks on the face, neck, arms, hands, or any other body parts while sleeping. However, these bite marks may take as long as 14 days to develop in some people so it is important to look for other clues when determining if bed bugs have infested an area. These signs include:

- the bed bugs' exoskeletons after molting,
- bed bugs in the fold of mattresses and sheets,
- rusty-colored blood spots due to their blood-filled fecal material that they excrete on the mattress or nearby furniture, and

- a sweet musty odor.

## How do I know if I've been bitten by a bed bug?

It is hard to tell if you've been bitten by a bed bug unless you find bed bugs or signs of infestation. When bed bugs bite, they inject an anesthetic and an anticoagulant that prevents a person from realizing they are being bitten. Most people do not realize they have been bitten until bite marks appear anywhere from one to several days after the initial bite. The bite marks are similar to that of a mosquito or a flea -- a slightly swollen and red area that may itch and be irritating. The bite marks may be random or appear in a straight line. Other symptoms of bed bug bites include insomnia, anxiety, and skin problems that arise from profuse scratching of the bites.

Because bed bug bites affect everyone differently, some people may have no reaction and will not develop bite marks or any other visible signs of being bitten. Other people may be allergic to the bed bugs and can react adversely to the bites. These allergic symptoms can include enlarged bite marks, painful swellings at the bite site, and, on rare occasions, anaphylaxis.

## How did I get bed bugs?

Bed bugs are experts at hiding. Their slim flat bodies allow them to fit into the smallest of spaces and stay there for long periods of time, even without a blood meal. Bed bugs are usually transported from place to place as people travel. The bed bugs travel in the seams and folds of luggage, overnight bags, folded clothes, bedding, furniture, and anywhere else where they can hide. Most people do not realize they are transporting stow-away bed bugs as they travel from location to location, infecting areas as they travel.

## Who is at risk for getting bed bugs?

Everyone is at risk for getting bed bugs when visiting an infected area. However, anyone who travels frequently and shares living and sleeping quarters where other people have previously slept has a higher risk of being bitten and or spreading a bed bug infestation.

## How are bed bugs treated and prevented?

Bed bug bites usually do not pose a serious medical threat. The best way to treat a bite is to avoid scratching the area and apply antiseptic creams or lotions and take an antihistamine. Bed bug infestations are commonly treated by insecticide spraying. If you suspect that you have an infestation, contact your landlord or professional pest control company that is experienced with treating bed bugs. The best way to prevent bed bugs is regular inspection for the signs of an infestation.

---

*This information is not meant to be used for self-diagnosis or as a substitute for consultation with a health care provider. If you have any questions about the parasites described above or think that you may have a parasitic infection, consult a health care provider.*

---

Page last reviewed: January 10, 2013

Page last updated: January 10, 2013

Content source: Global Health - Division of Parasitic Diseases and Malaria

Notice: Linking to a non-federal site does not constitute an endorsement by HHS, CDC or any of its employees of the sponsors or the information and products presented on the site.

---

Centers for Disease Control and Prevention 1600 Clifton Rd. Atlanta, GA 30333, USA  
800-CDC-INFO (800-232-4636) TTY: (888) 232-6348 - [Contact CDC-INFO](#)

# Bed Bugs: What Schools Need to Know

Recently, the Austin community have seen an increased number of bed bug infestations plaguing residents. As bed bugs infest more and more homes, they may find their way into schools. When this happens, the school needs to take proactive action to prevent infestation and stop them from spreading in the school setting.

## What are bed bugs?

Bed bugs are small, brownish, flattened insects that feed on the blood of people while they sleep. Although the bite does not hurt at the time, it may develop into an itchy welt similar to a mosquito bite. Bed bugs do not transmit disease, but they can cause significant itchiness, anxiety, and sleeplessness. Bed bug infestations are also very difficult and expensive to control.

Usually, bed bugs will hide during the day and only come out to feed during the night. Unlike head lice, they do not live on a person. However, they can hitchhike from one place to another in backpacks, clothing, luggage, books, and other items.



## Could my classroom be infested?

Actual bed bug infestations in schools are uncommon. More commonly, a few bed bugs will hitchhike to school from an infested home by hiding in a student's clothing or backpack. Bed bugs that hitch a ride into the school in one student's backpack could be carried home by another student, making the school a potential hub for bed bug spread. This is not a minor concern – bed bugs are very expensive and difficult to eradicate.

If a school plans to use pesticides to control pests indoors, then they are required under Michigan law to have an **integrated pest management (IPM)** plan in place. If a bed bug infestation is suspected or a number of students are getting bitten during class, the school should contact a **licensed pest management professional** for assistance.



## What if I find a bed bug on a student?

If a bed bug is found on a student, it may indicate that the student has bed bugs at home. However, bed bugs can crawl onto or off of a person (or their belongings) at any time, so it is also possible that the bed bug was brought to school by someone else. If a suspected bed bug is found on a student or a student's belongings, the following procedures should be followed:

- The student should be discreetly removed from the classroom so that the school nurse or a qualified individual can examine the student's clothing and other belongings. Any bugs found should be removed and collected for identification. Try to keep the specimens as intact as possible.
- If a confirmed bed bug was found on a student, then the school principal or nurse should contact the student's parents or guardian to inform them of the bed bug presence on their child. Consider sending a bed bug inspection form home, a sample is provided at the end of this document. Educational materials, such as those available at <http://www.dshs.state.tx.us/phs/bedbugs.aspx> should also be provided to the family.
- The school principal or nurse or center program director should consider notifying the affected class or classes. A sample notification letter is provided at the end of this document.
- Students should not be excluded from school due to bed bugs unless repeated efforts have been made to remedy an infestation. Schools should not be closed due to bed bug presence, if pest management is necessary it will normally be targeted to certain areas of the school.
- Ongoing pest management that includes the use of pesticides indoors should be overseen by the school principal or designee and must conform to the school's integrated pest management plan.



## What can I do to eliminate bed bugs from my classroom?

- DO NOT allow untrained staff to apply pesticides on school property. By law, only IPM trained applicators can apply pesticides (even ready-to-use products like sprays) in schools, and in compliance with the school's IPM plan.
- Backpacks, lunchboxes, and other items that travel back and forth to school can also be inspected daily and sealed in plastic containers to prevent bed bugs from getting into them at home.
- Hard surfaces can be cleaned with standard cleaning products.
- If bed bugs have been found repeatedly in a particular classroom, have the room inspected by a pest management professional or other trained staff.

# What if one of my students has an infestation at home?

When a student is dealing with an infestation at home, it is important to be sensitive to their problem. Although bed bugs have nothing to do with cleanliness or socioeconomic status, there is still a stigma that can come with having bed bugs. As a result, parents may be hesitant to admit to having bed bugs, and students may not want others to know they have an infestation at home. Students living in an infested home may also feel anxious or tired during the school day.

Schools should work with the parents of any student living in an infested home to develop strategies for preventing the further spread of bed bugs.

- Determine if the infested home is being treated. Home remedies and do-it-yourself treatments are usually insufficient and could cause negative health effects or produce potential hazards in the home.
- If a parent lacks the financial resources to hire a pest management professional, they can reference the online resources at: <http://www.dshs.state.tx.us/phs/bedbugs.aspx>.
- In an infested home, parents should store their child's freshly laundered clothing in sealed plastic bags until they are put on in the morning. This prevents bed bugs from hiding in the clothing and being carried to school.
- Backpacks, lunchboxes, and other items that travel back and forth to school can also be inspected daily and stored in sealed plastic containers at home to prevent bed bugs from getting into them.
- At school, the student could be provided with plastic bags or bins in which to store their belongings in order to prevent any bed bugs from spreading to other students' belongings.
- If bed bugs are finding their way into the school, consider notifying the affected classes. A sample notification letter is provided at the end of this document.
- Continue to use these measures until successful treatment of the home has been verified.

## Additional Resources

- Texas Bed Bug Resources  
<http://www.dshs.state.tx.us/phs/bedbugs.aspx>
- Central Ohio Bed Bug Task Force  
<http://centralohiobedbugs.org/>
- Model IPM Plan for Michigan Schools  
[http://www.michigan.gov/documents/mda\\_A\\_Model\\_Integrated\\_Pest\\_Management\\_Policy\\_for\\_Michigan\\_Schools4\\_130114\\_7.pdf](http://www.michigan.gov/documents/mda_A_Model_Integrated_Pest_Management_Policy_for_Michigan_Schools4_130114_7.pdf)



Resource: Michigan Bed Bug Working Group



*Bed bug images provided by U.S. Centers for Disease Control and Prevention*

*Bed bug bite image provided by University of Sydney Department of Medical Entomology*

*Bed bugs in baseboard image provided by Ohio State University Extension Entomology*

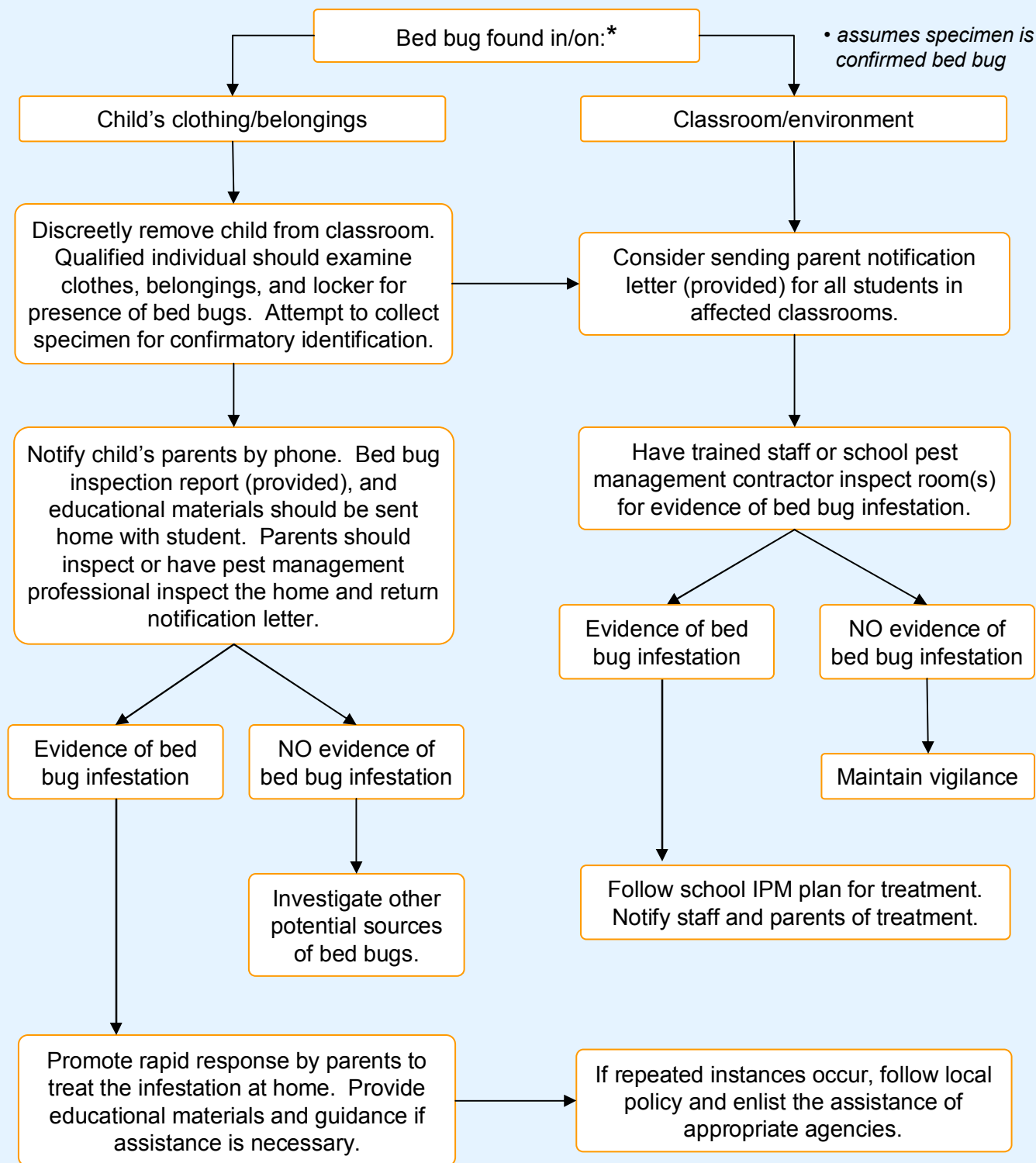
# Bed Bugs: School Response Flowchart

## **School Responsibility:**

*Providing a healthy, pest-free environment in which students can excel*

## **Parent/Caregiver Responsibility:**

*Providing a safe and healthy living environment for the student*



**See the Schools and Daycares section of Michigan's Bed Bug Prevention and Control Manual for detailed instructions.**

Michigan Bed Bug Working Group (May 2010)

