



**AN INFECTION
CONTROL MODULE:
ALL ABOUT BED BUGS**



...Developing top-notch caregivers, one inservice at a time.



An Infection Control Module:

ALL ABOUT BED BUGS

We hope you enjoy this inservice, prepared by registered nurses especially for caregivers like you!

Instructions for the Learner

If you are studying the inservice on your own, please do the following:

- Read through **all** the material. You may find it useful to have a highlighting marker nearby as you read. Highlight any information that is new to you or that you feel is especially important.
- If you have questions about anything you read, please ask your supervisor.
- Take the quiz. Think about each statement and pick the best answer.
- Check with your supervisor for the right answers. You need **8 correct** to pass!
- Print your name, write in the date, and then sign your name.
- Email In the Know at feedback@knowingmore.com with your comments and/or suggestions for improving this inservice.

After finishing this inservice, you will be able to:

Explain why bed bugs have become a widespread problem recently.



Name at least four physical characteristics of a bed bug.



Describe at least three signs of a possible bed bug infestation.



List at least eight places where a bed bug might hide.



Discuss how you can help prevent bed bug infestations in your workplace.

THANK YOU!



Inside This Inservice:

Some Bed Bug History	2
Why You Should Care about Bed Bugs	3
Identifying Bed Bugs and Their Behavior	4-5
Bed Bug Bites!	6
Dealing with Bed Bugs	7-8
Frequently Asked Questions	9
Final Tips!	10

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A Risk Management Module: All about Bed Bugs

WHO'S BACK ON THE PROWL?

"I'm a thin brunette with red highlights. I love to take long, leisurely walks, especially in the evening. Sometimes, I take the bus to the movie theater.

Traveling is my hobby, whether it's a quick trip with a backpack or a longer journey with a big suitcase. I love to stay in hotels—plain or fancy, it doesn't matter. My goal is to visit every country around the world!

While I enjoy hanging with a group, I am just as happy being alone. I would really like a family some day...the more babies the better! In the meantime, I really like to curl up in bed with a snack, especially in the early morning hours."

This sounds like a profile from some online dating website, doesn't it? But, it is actually a description of the *Cimex lectularius*...the bed bug. Don't believe it? Here's the deal:

- Bed bugs are tiny brown insects that turn red after feeding on blood. They are also covered with small hairs that give them a striped or "highlighted" appearance.
- Bed bugs move about the same

speed as ants, but they will crawl up to 100 feet for a meal.

- In recent years, bed bugs have been found "hitchhiking" on public transportation (like buses) and in public areas (like movie theaters).
- Bed bugs like to travel. They are commonly found in hotels (even the cleanest ones) because they hop rides on people's luggage.
- While bed bugs might group together in a good hiding place, they are not social insects. So, they don't mind setting off on their own.
- Female bed bugs lay several eggs per day and, in their lifetime, may produce as many as 500 "babies".

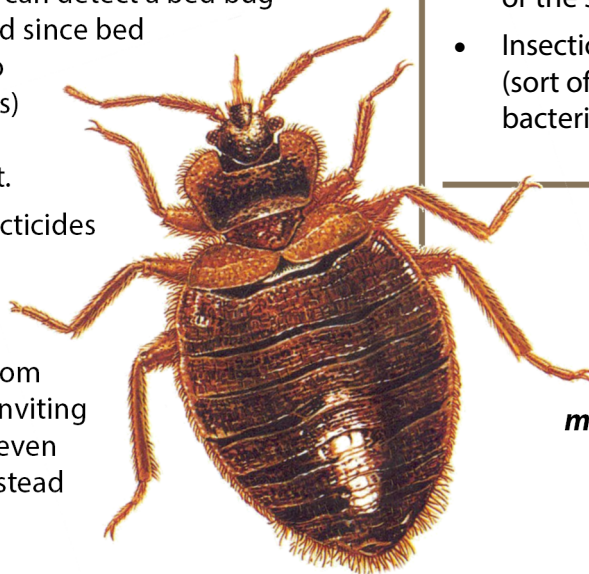
- Bed bugs enjoy feeding most in the wee hours of the morning. They feed on blood—preferably human.

Keep reading to learn more about bed bugs—and what you can do to help with this increasingly widespread problem.



A BIT OF BED BUG HISTORY...

- Bed bugs have been around for a long time. In fact, the ancient Egyptians, Greeks, and Romans wrote about them! In Colonial times, sailing ships were notoriously infested with bed bugs, sometimes forbidding passengers and colonists from bringing bedding on board.
- Before World War II, bed bugs were a fairly common part of life across the United States. Most Americans had been bitten by—or at least seen—a bed bug.
- Then, scientists created DDT—an insecticide that seemed like a dream come true. Because the effect of DDT lasted for months, it killed bed bugs as they came out of hiding. All they had to do was crawl where DDT had been used and they were “goners.”
- As home appliances such as washing machines and vacuums became more common, the bed bug population dwindled. In fact, from the early 1950s through the late 1990s, it was rare to find bed bugs in the U.S. Most “baby boomers” (and younger generations) have never seen a bed bug!
- So what happened? In the mid-1970s, DDT got a bad reputation for causing environmental problems—and it was banned. Pest control companies switched to using more environmentally friendly methods, such as setting bait traps for bugs. And, because bed bugs hadn’t been an issue for decades, nobody worried about them.
- Unfortunately, by the time anyone noticed that bed bugs were back, infestations were showing up all over the country—plus in Canada, Australia, and parts of Europe and Africa! Currently, there are no traps or monitors that can detect a bed bug population when it’s still small. And since bed bugs travel on things we bring into our homes (and healthcare facilities) such as luggage, furniture, and clothing, it’s hard to keep them out.
- Another problem with today’s insecticides is that they may be *repelling* bed bugs. This means that the bugs don’t want to be around the insecticide so they crawl around, from room to room, looking for a more inviting place to hide. Some bed bugs are even becoming active during the day instead of waiting until night time.



THINK about it!

Why Have Bed Bugs Made a Comeback?

The ban on DDT is only *one* reason why bed bugs are making it big these days. No one really knows the complete story, but scientists have come up with some possible theories. **How do you think the issues below have contributed to the current bed bug problem?**

- Increased worldwide travel.
- Temporary workers who live in groups and travel where the work takes them.
- More secondhand merchandise for sale—from thrift shops to flea markets.
- People not recognizing bed bugs or the signs of their infestation.
- Insecticide-resistant bed bugs (sort of like drug resistant bacteria).

“I bought one of those memory foam mattresses. It’s amazing. It actually molds to the shape of your bedbugs.”

~ Comedian Jimmy Fallon

WHO CARES?

You may be thinking that bed bugs have nothing to do with you. You don't have any at home and your workplace is sanitary. So why should you care about the growing bed bug population? Well...consider these facts:



- Cleanliness has *nothing* to do with getting bed bugs. They can be found anywhere—from a homeless shelter to a million dollar estate.
- Everyday, more cases are being reported of bed bugs showing up in both hospitals and nursing facilities.
- Bed bugs can be present in an area for weeks (or even months) before anyone notices a single bite.
- These tiny insects can survive for more than *a year* between feedings—as long as they have a nice place to hide.
- For every *ten* people across America, one of them has had a problem with bed bugs—or knows someone who does!
- When it comes to bed bugs, the more aware you are of what to look for, the less likely you are to expose yourself, your family, or your clients to an infestation.

MORE REASONS TO CARE ABOUT BED BUGS

- In the past few years, bed bugs have been found in hotels, motels, theaters, college dorms, military barracks, prisons, buses, trains, airplanes, healthcare facilities—and thousands of homes and apartment buildings. (And, again, it has *nothing* to do with housekeeping!)
- The tiny size and flat shape of a bed bug allows it to hide in every little crack and crevice. This means it's a lot easier to try to prevent an infestation than it is to get rid of one.
- Before biting someone, bed bugs inject their saliva which numbs the skin, making the bite painless. You, your family members, and/or your clients could be bitten without knowing it!
- Let's say that one room in your workplace is infested with 40 bed bugs. If they are ignored (and they have at least one human to feed on), that group of 40 can turn into 6,000 bugs within just six months!
- The more established a bed bug infestation becomes, the more likely it is to spread to adjoining rooms. So, the earlier it is discovered, the better!
- Bed bugs are nocturnal, meaning they are mainly active at night while people are sleeping. Unless you know what to look for, you may be exposed to an infestation without ever seeing a bug!
- Even though bed bugs can turn up anywhere, having an infestation at your workplace, or if you are in home care, at clients' houses, can have an impact on your organization's reputation in the community.
- If an infestation occurs in your workplace, it can cost hundreds or even thousands of dollars to get rid of it. That's money that could be spent on employee benefits or raises!



WHAT'S NEW?

Grab your favorite highlighter! As you read through this inservice, **highlight five things** you learn that you didn't know before. Share this new information with your supervisor and co-workers!



UNDERSTANDING BED BUG BEHAVIOR

As you keep a watchful eye out for bed bugs in your workplace, it helps to know how bed bugs behave. For example, bed bugs:

- Are attracted to body heat and carbon dioxide (which humans exhale with every breath).
- Prefer areas of the body *without* any hair. (“Bare” skin makes feeding easier.)
- Are nocturnal, hiding all day and coming out at night to feed. (Research shows that they prefer to eat between the hours of two and five in the morning.) Once they have engorged themselves on human blood, they crawl back to a cool, dark hiding place—leaving blood and fecal stains as they go.
- Have claws that help them climb—especially on wood, fabric, and paper. They also use their claws to climb up human bodies.
- Tend to breed within six feet of someone’s bed. In fact, more than 80% of bed bug infestations are found in a mattress and/or box spring.

WHERE DO BED BUGS LIKE TO HIDE?

The short answer to that question is: just about anywhere! Their tiny size and flat shape allow bed bugs to squeeze into most any crack or crevice. One general rule is to THINK SMALL! A bed bug can hide in any space where you can fit the edge of a credit card (or perhaps your name tag).

However, bed bugs like to stay close to their night time food source (people). So, in addition to pillows and bed linens, here are other likely hiding spots:

- In the tufts, seams, or folds of mattresses.
- On or in box springs.
- On bed frames, especially wooden ones.
- In or behind headboards, especially fabric ones or headboards that are attached to the wall.
- Under peeling paint or loose wallpaper.
- In the seams or between the cushions of upholstered furniture.
- Behind light switch plates or electrical outlet covers.
- Behind baseboards or under the carpet near a baseboard.
- In window or door frames.
- In the cracks found in old plaster walls.
- Inside nail or screw holes.
- Behind wall decorations like pictures, tapestries, or mirrors.
- Inside small electrical objects like an alarm clock, telephone, or clock radio.
- In wooden furniture, like a nightstand or bookshelf near the bed.
- Down inside cracks in a wooden floor.
- In the pleats of window drapes or a bed skirt.
- Among any items stored under or around a bed.

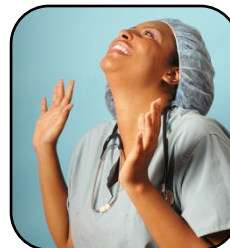


DON'T LET THE BED BUGS BITE!

Have you ever heard the rhyme, “Good night, sleep tight. Don’t let the bed bugs bite.”? Until recently, most Americans had never seen a bed bug, so that rhyme was just something silly to say to kids at bedtime. Now, with bed bugs back in the picture, it’s important to learn a bit about their bite! Here are some facts:

- Bed bug bites can be on any part of the body, although they occur most commonly on the upper body, neck, arms, and shoulders. Bed bugs do *not* burrow into the skin like ticks.
- You might see bites lined up in a neat row (from one bug biting as it crawls along the skin) or they might be clustered in a group (probably from more than one bug having “dinner”).
- Initially, the bites are painless because the bug’s saliva numbs the skin. This means the bites may go unnoticed for days.
- In fact, most people have little to no reaction to the bites. For some, the bug’s saliva causes an allergic reaction. Those people develop itchy red welts or swollen spots that look like blisters.
- Bites can itch for several days. If the person scratches them, they can become irritated—or even infected. Bed bug bites are not life threatening. However, clients who have weakened immune systems might be at risk for a secondary infection and bed bug bites have been known to trigger asthma.
- Fortunately, bed bug bites do *not* transmit diseases to humans! However, they can cause psychological distress leading to insomnia and anxiety.

IMPORTANT: A bed bug infestation cannot be “diagnosed” just by looking at bites. But if you see bite marks on a client that you suspect might be from a bed bug, tell your supervisor immediately! The sooner the problem is addressed, the better.



TIME 2 laugh!

All this talk of bed bugs is sort of creepy, right? So, how about a little medical humor to lighten things up?

To comply with confidentiality laws, all client files were kept in a locked file cabinet at the home care agency. But, on the front of the cabinet was a sign that said, “All client files are locked in here for safe keeping. The combination to the lock is 32, 16, 24.”



Kathy had a good laugh at herself the day that Mr. Jones told her that he was expecting his two daughters for a visit. He asked Kathy to keep an eye out for them. So, Kathy looked around the lobby of the facility, but there were only two old ladies sitting there. When she went back a little while later to check again, those same two old ladies were still there. Then, it hit Kathy. Her resident was 104 years old so those two old ladies *were* his daughters!

“Someone with a serious bed bug infestation could be bitten as many as 500 times per night.”

~ Dr. Mehmet Oz

YUCK...I SEE A BED BUG!



So...you're changing your client's bed linens and you spot some evidence that looks suspiciously like a bed bug infestation. What should you do?

First, look in one of the likely hiding places (see page 5) and try to collect a bug so it can be properly identified by an expert. You can capture one by gently placing a piece of tape over the insect. Once you've got hold of it, save the bug in a specimen container or a zip lock plastic bag.

Second, notify your supervisor and follow any other workplace procedures in place for dealing with bed bugs. **For example, you might be asked to:**

- Explain the situation to the client...and ask permission to examine his or her room or home.
- Remove the client's clothing and double bag it.
- Assess the client's skin for insect bite marks. If you see any, wash the bites with soap and water and encourage the client not to scratch them.
- Remove all sheets, blankets, pillowcases, mattress covers, towels, and other linens in the room. Place them in a plastic bag and tie the ends of the bag tightly.
- Put any items that may offer a hiding place for bed bugs into a plastic bag. Remember that *nothing* should be removed from the infested room unless it is securely bagged.
- Move furniture away from the walls to allow exterminators better access.
- Wash infested bed linens and garments in hot water (at least 120 degrees F).
- Place small items like toys, shoes, backpacks, and clothing in a clothes dryer. Run the dryer on high heat for *20 minutes* to kill all the bed bugs (and any eggs).
- Put a special bed bug-proof cover on the client's mattress and/or box spring.
- Relocate client to a clean room. Encourage the client to bring as few items as possible—and inspect those items thoroughly for bed bugs. You don't want to spread the bugs throughout your workplace!



THE NEXT STEP!

Apply what you've learned!

PREVENT THE PROBLEM

Seeing a bed bug or two in your workplace may not mean there is a serious infestation. However, even ONE bed bug is too many for a healthcare facility, right? So, what can you do to help prevent even one bed bug from living in your workplace? Think of *one* idea for each of these crucial times:

When helping to *admit* a new client, you could:

When *family members visit* and bring their loved one's favorite belongings from home, you could:

After an exterminator has finished getting rid of an infestation at your workplace, you could:

GETTING RID OF BED BUGS

Once bed bugs settle in to a room or building, it can be tough to get rid of them. Unfortunately, there are no good “do-it-yourself” remedies—it takes a professional exterminator to deal with the problem. And even then, it can be tricky...and expensive. For example, landlords of large apartment buildings in New York City have spent as much as \$80,000 to get rid of the pests!



Pest control professionals will inspect the area to see how far the infestation may have spread. In addition to insecticides, there are a number of ways to treat for bed bugs, including:

Steam treatments. For steam to kill bed bugs, it has to have several seconds of direct contact. But, using

too much steam on fabric surfaces can lead to mold and mildew. So, it's best left to the professionals!

Heat. Treating bed bugs with heat can be expensive and requires the removal of anything that might be damaged by high temperatures.

Deep freeze. Bed bugs can also be killed by freezing temperatures, but this requires *direct* contact. It's not enough to simply turn down the thermostat. And, bugs who are hiding under fabric are probably safe from the cold.

Canine sniffers. Trained dogs can find even the most well-hidden bed bugs—as long as their handlers lead them to where the bed bugs are hiding. If the *handler* fails to do a good job, the dog may not find the bugs.

For most bed bug infestations, it takes three to four treatments (over one to two months) to completely get rid of the problem.

DOING YOUR PART...

If your workplace (or a client's home) is being treated for bed bugs, there are things you can do to give the treatments a better chance of working. You may be asked to assist with the following tasks *in between* each pest control visit:

- Launder clothing, bedding, and other items regularly. Use the hottest water and hottest dryer setting possible for each type of fabric.
- Vacuum the area daily, paying special attention to creases, folds, cracks, and crevices. Don't use the vacuum brush since bed bugs might grab onto the brush fibers. Instead, use the plastic crevice tool or the open end of the hose. Be sure to empty the vacuum bag as soon as you are finished. Seal the vacuum bag inside a plastic bag and dispose of it immediately.
- Keep the bed away from the wall and make sure that no fabric from the bed touches the floor. (If your client has a bed skirt, suggest that they leave it off the bed for now.)

- Report any holes or cracks that you notice in the walls—and/or peeling paint or wallpaper. In a facility, maintenance workers can fix the issues. In a client's home, see if there are family members willing to do the job.
- Reduce the amount of clutter in the infested area. Remember...it's not a matter of cleanliness; clutter gives bed bugs more places to hide!
- Let your supervisor know if clients try to kill bed bugs on their own. Pesticides can be dangerous and must be handled with care.
- Follow any other instructions given by the pest control professionals.



FREQUENTLY ASKED QUESTIONS...

Q: My home health client has several pets. Does that increase the chance of bed bugs in the client's home?

A: No. Bed bugs aren't like fleas—they don't *live* on people or animals. They feed for a couple of minutes and then they go hide, sometimes for weeks! So you won't see bed bugs crawling on a client's pet. If the client has a bed bug problem, it is possible that some of the insects might be hiding in a pet's bedding (especially if the pet sleeps near the client's bed). If possible, wash the pet bedding in hot water and dry it in a hot dryer.

Q: Could I really bring home bed bugs from riding public transportation?

A: In theory, yes. A century ago, it was common to find bed bugs in trains, taxi cabs, and other forms of public transportations. Today, while there have been a few reports of bed bugs being found on buses and subways, it is a *rare* occurrence. However, if you hear of problems in your area, simply follow these tips:

- If possible, keep your bags/carry on items closed or sealed tight—and off of the floor.
- Be careful of overhead storage compartments as this is a prime area for bed bugs to drop off of or climb onto a rider's belongings.
- Do a visual inspection of your clothes when you exit. If you believe your clothes or bags have been exposed to bed bugs, wash/dry them at the highest setting you can (without damaging the items).

Q: My client has bed bugs. How do I avoid bringing them home with me?

A: Don't panic! Use personal protective equipment (PPE) like paper gowns, shoe covers, and latex gloves. (You can also try tucking your pants into your socks.) And, don't put your purse or work bag on the client's bed or bedroom floor—hang it from a door knob. When you leave the client's home, dispose of the PPE immediately in a sealed plastic bag and inspect your clothes—especially your pant legs. Change your clothes as soon as possible after leaving the client's home. Put the dirty clothes in a sealed plastic bag until you can wash them in hot water. Consider leaving your shoes in your garage or outside your door.

REMEMBER: Staying aware helps fight the battle against bed bugs—at home *and* at work.



CONNECT it now!

What Would You Do?

Imagine yourself in each of the three scenarios below. Based on what you've learned in this inservice, how would you deal with the situation?

⇒ Your best friend at work tells you she found an infestation of bed bugs in her home. She makes you promise not to tell anyone—and you know she would be very embarrassed if the word got out. But, she works with a number of patients every day. *Should you tell your supervisor or keep quiet?*

⇒ You work in homecare. One of your fellow aides asked your supervisor if you and he could switch clients. He says he needs a break from grumpy Mrs. Smith. Your supervisor okays the switch. On your first day with Mrs. Smith, you see signs of a serious bed bug problem. *Do you ask for your old client back? Do you confront your co-worker to ask about the bugs?*

⇒ Your client is sure she has bed bugs even though there is no sign of them. She wants you to check her entire room every day. *Do you do it? How else might you handle this situation?*





EMPLOYEE NAME
(Please print):

DATE: _____

- ***I understand the information presented in this inservice.***
- ***I have completed this inservice and answered at least eight of the test questions correctly.***

EMPLOYEE SIGNATURE:

SUPERVISOR SIGNATURE:

Inservice Credit:

<input type="checkbox"/> Self Study	1 hour
<input type="checkbox"/> Group Study	1 hour

File completed test in employee's personnel file.



A Risk Management Module: All about Bed Bugs

Are you "In the Know" about bed bugs?

Circle the best choice. Then check your answers with your supervisor!

- 1. Which of the following is NOT a characteristic of a bed bug?**
 - A. Able to fly
 - B. Has six legs
 - C. Brownish red
 - D. Feeds on blood
- 2. Bed bugs are attracted to a home or building because of:**
 - A. The smell of garbage.
 - B. The people living there.
 - C. Pets.
 - D. Electric lights.
- 3. Scientists believe that bed bugs have come back to the U.S. because:**
 - A. Of global warming.
 - B. The U.S. population has grown so much.
 - C. We no longer use the pesticide, DDT.
 - D. We use too many antibacterial products.
- 4. True or False**

It is impossible for a clean and sanitary workplace to get infested with bed bugs.
- 5. True or False**

Bloodstained sheets or dark spots on a mattress could be signs of bed bugs.
- 6. True or False**

Bed bugs can't live in an unoccupied room since they need to feed on a human every night to survive.
- 7. True or False**

Most bed bugs breed within six feet on a person's bed.
- 8. True or False**

Bed bug bites can transmit serious diseases to humans.
- 9. True or False**

Bed bugs can be killed by extreme temperatures—either very hot or very cold.
- 10. True or False**

Using personal protective equipment may keep you from spreading bed bugs from one client's room to another (or to your own home).