


Bed bugs – in homes, in schools, in childcare facilities, in medical centers, in fire stations!

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Integrated pest management team

Making life healthier and happier where people

live

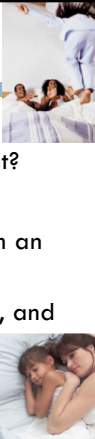
learn

heal



Questions

1. What are bed bugs?
2. How do I determine if they are present?
3. Do they pose health risks?
4. How do I avoid taking them home from an infested home?
5. How should schools, childcare facilities, and medical centers respond to bed bug introductions?
6. What should first responders know?




Hiding

Active

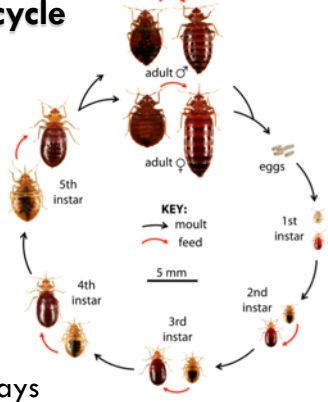


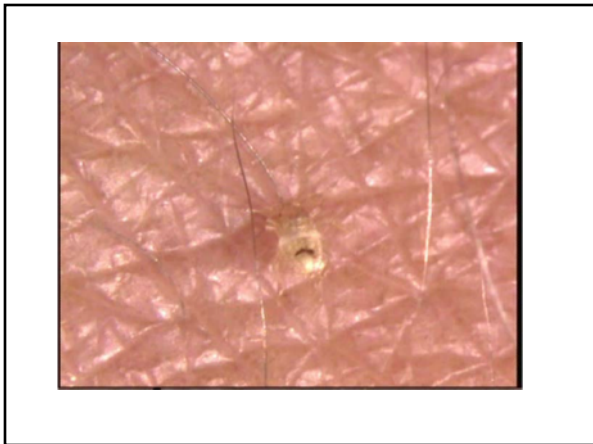
Bed bug life cycle

- Egg
- Nymph (5 stages)
- Adults

Need to feed on blood

21 to > 200 days



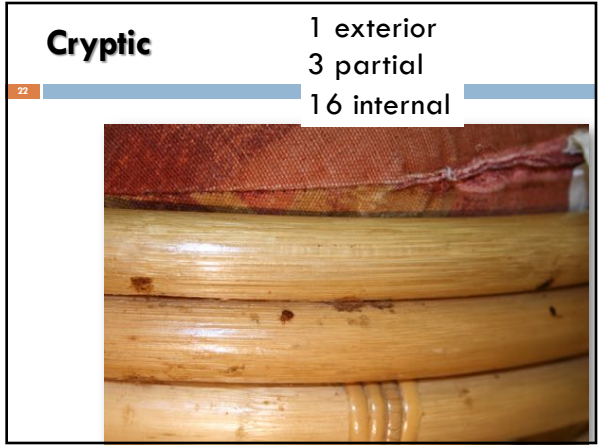
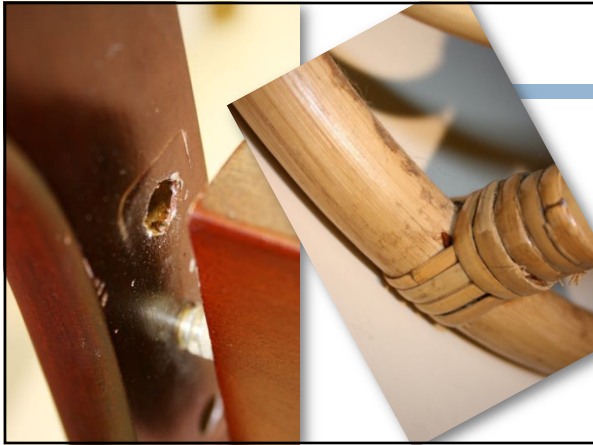


2) How do I determine if they are present?

Poop happens

The image contains several visual elements: a US penny coin with small dark spots (feces) scattered around it; a blue and white fabric with similar dark spots; and a small number '12' in a blue box.





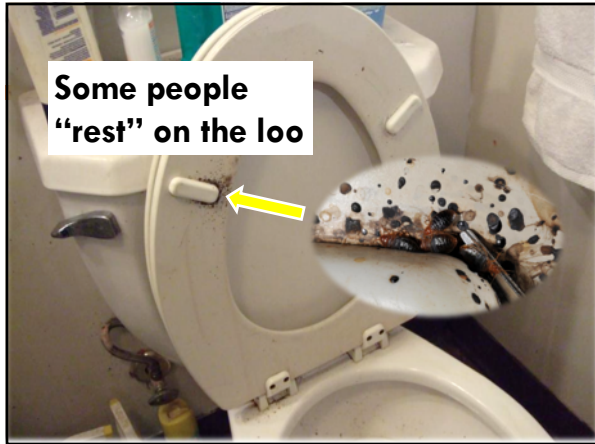
You may not realize what you are looking at

- Looks like mold
- But are actually bed bug aggregations

In a home, where do bed bugs hide?
(Top 3 locations)


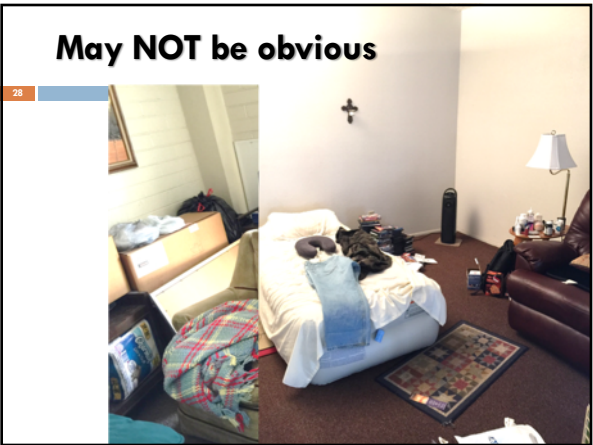
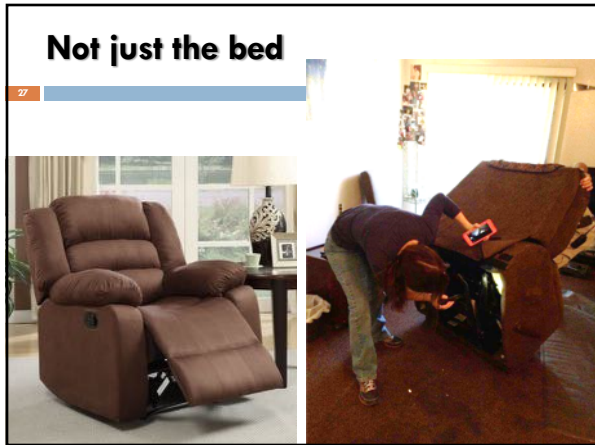
- a.) box springs
- b.) couches / chairs
- c.) mattresses
- d.) night stand / dresser
- e.) baseboards and moldings
- f.) head boards and bed frames
- g.) walls / ceilings
- h.) TV remotes
- i.) curtains / drapes
- j.) toilets

Where people rest



Places people rest

- 85% of bed bugs are found in or near the bed
 - mattress, box spring, bed frame, and headboard
- Inspect seams, under buttons and labels

Bed bug population increases

40 bed bugs are in a 70°F room on May 2.
By Nov 2 how many are there? 5,909





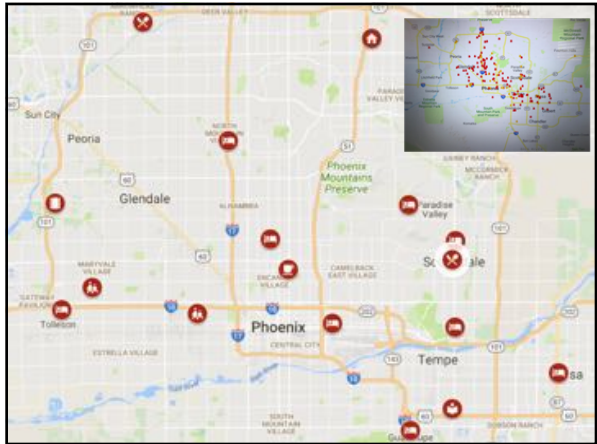
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Can You Get Bed Bugs On An Airplane?
Here's How To Avoid This Unfortunately
Very Real Possibility

By BRANDI NEAL | Aug 3 2018 | f




Alexander Hassenstein/Getty Images News/Getty Images



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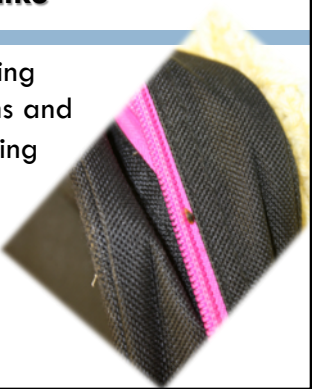
So how
paranoid
should you
be?



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Bed bugs hitchhike

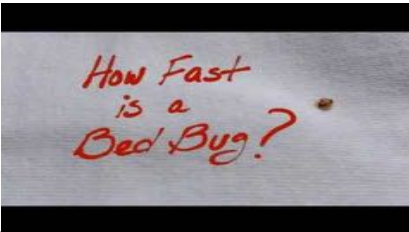
- Bugs fall off clothing and personal items and may be found roving on surfaces
- Transfer from one person to another is possible but unlikely



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They move and get moved around

Crawl at about an inch/second
&
Hitchhike



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Who are they after?

- People
- Rarely pets



Anyone can get bed bugs



3) Do they pose health risks?



Reactions to bites

- Bites may occur in lines - usually on exposed skin
- **Adults over 65 years of age tend to react less or not at all**



Bite reactions



Another reason for a "Selfie"





Bed bugs and health impacts

- Annoying biting pests causing swollen, itchy bumps
- Sleep loss
- Anxiety, stress, worry, desperation, and depression
- Blood loss, anemia

Bed bugs are not known to transmit disease causing pathogens effectively outside of lab studies

Moving and personal item loss

- Financial burden
- Psychological stress
- Physical stress
- Loss of residents sense of self and home





Stinky backpack in school

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Dichlorvos

4) How do I avoid taking them home from an infested home?

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- It is quite possible to work in infested homes without taking bed bugs home
- We do it all the time

Be a keen observer

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- Only finding **live** or **recently captured** bed bugs indicates an active infestation

If you know or suspect bed bugs are a problem:

- **Remain calm!**
- Wear protective **booties**
- Carry only essential items in
- Do not sit on upholstered furniture or bed
- **Sit on hard chairs** or bring your own chair
- Avoid placing anything on upholstered furniture, bedding, or on carpeted floors
- **Coveralls** or a Tyvek® suit if home has a severe infestation or chemical residues

If you interact with children:

- Use a **white sheet** to place on the ground
- Do **NOT** reuse the sheet if you are visiting multiple homes
- Double bag the sheet after use
- Having a **clothes dryer at work** is a convenient way to heat-treat sheets
- **Bed bug infestations alone are not grounds to place a child in care**



After leaving:

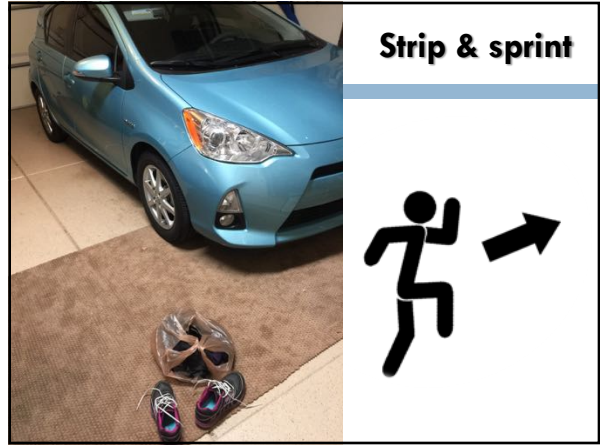
- **Record the infestation** in your notes
- When you return to your vehicle, remove booties immediately and **double seal in plastic bags**
- If you were wearing coveralls or a Tyvek® suit peel it off leaving it inside out and double bag it
- Check your clothing
- If you find a bug on yourself, place inside a **zip-lock bag** or throw in outdoor dumpster



Check yourself



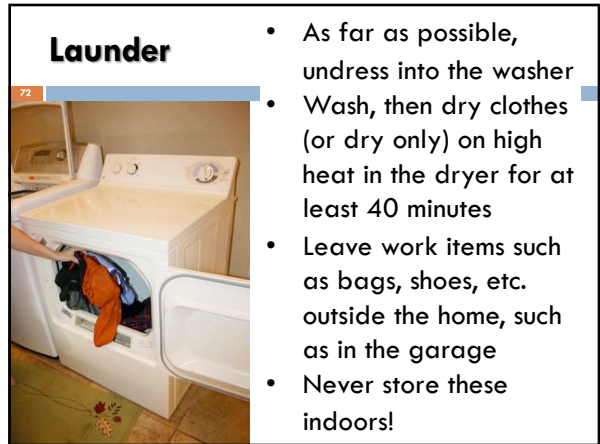
Strip & sprint



Showering removes bugs from your person



Laundry



- As far as possible, undress into the washer
- Wash, then dry clothes (or dry only) on high heat in the dryer for at least 40 minutes
- Leave work items such as bags, shoes, etc. outside the home, such as in the garage
- Never store these indoors!



Inspect and monitor your home

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Encasements

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Not all covers protect

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Passive monitors/traps

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Climb up interceptors Bed moat

Blackout trap CVT trap

5) How should schools, childcare facilities, and medical centers respond to bed bug introductions?

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Minimize the likelihood of bed bug transfer

- Between students
- From school/childcare center to home



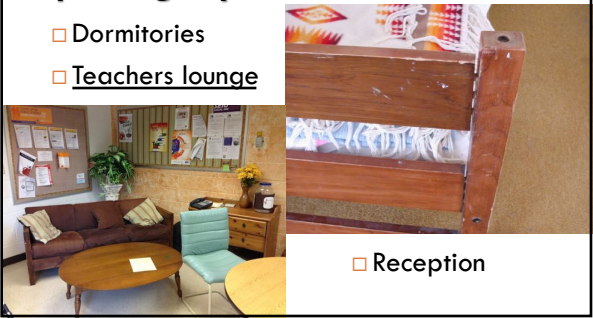
Bed bugs in schools and childcare centers generally do not thrive

- Most reports are roving bed bugs
- Rarely bed bug infestations occur
- Childcare settings are more prone






Bed bugs thrive in locations where people rest regularly for prolonged periods of time

- Dormitories
- Teachers lounge
- Reception




Class and student equipment


Bed bugs brought into school

- Clothing donation requests
- Blankets and towels for animal shelters
- Student supplies
- School trip gear




Students should **NOT** be sent home

- Bed bugs take months to remediate
- If parents can not work - less able to remediate infestations
- Long-term infestations more common
- Students **CAN** attend school without bed bugs




Facilitate attendance



You find a bed bug – stay calm

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Confirm

- Associated with person/belongings → Notify individual or responsible guardians
- Found on surface → Notices to staff


Send helpful literature home

Notify staff

Notify custodians

Environment Individual

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<ul style="list-style-type: none"> Have trained individuals inspect Deep clean Reduce clutter Monitor 	<ul style="list-style-type: none"> Work with individuals responsible for home environment Help individuals receive bed bug treatments
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Especially custodians, medical care staff and teachers

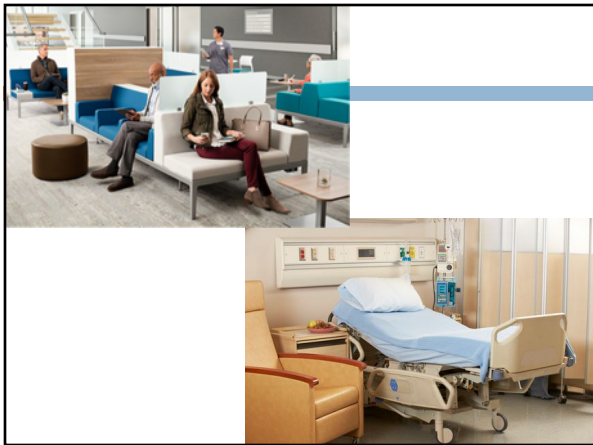
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Infestations require pest management specialists to eradicate

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Challenging situations

- Wheelchairs
- Oxygen concentrators
- Medical beds






6) What should first responders know?

Ambulance crew returns to Md. fire station after bed bug infestation

Volunteers cleaned the station, brought in an exterminator and treated the area with high temperatures to get rid of the bed bugs

Jul 23, 2019

- Bunker gear should be frozen to kill bed bugs
- How to ID bed bugs



FOX Local Live Mornings Bay Area People Weather Co


San Francisco Fire Department battling bed bug infestation

San Francisco fire stations infested with bed bugs

By Christine Gallo, 4/19/19

Fire fighters

<https://www.bedbugs.umn.edu/response-kit-firefighters>



Let's Beat the Bug!

Using Freezing Conditions to Kill Bed Bugs

Freezing bed bugs in a freezer will kill bed bugs if some specific conditions are met. Freezing causes ice to form inside the bed bug, causing injury or death. Freezing bed bugs will take 30-60 minutes to freeze at 0°F (-18°C).

- A freezer that is at or below 0°F (-18°C)
- Thick items
- Sealed plastic bags to put the items you want to freeze into
- A space thermometer

There are some things to think about to ensure that freezing is effective and that you don't cause damage to items you are freezing.

What can be frozen?

Most dry household items can be frozen, including:

- Cloth items that you cannot dry clean
- Mattresses
- Blankets
- Pillows
- Shoes
- Electronics without an LCD screen

What should I not freeze?

There are a few items that require caution when attempting to freeze or thaw:



- Medication
- Food
- Flammable liquids
- Flammable solids
- Flammable gases
- Flammable dusts
- Flammable aerosols
- Flammable liquids
- Flammable solids
- Flammable gases
- Flammable dusts
- Flammable aerosols

Water are required?

Freezing is very important. Do not try to freeze items in a freezer that does not reach 0°F. Freezing must be left in the freezer for at least a week to ensure that temperatures are low. Use the items you are freezing. Why items require more time. Start counting time when the center of the object has reached 0°F (-18°C) or eggs and small bed bugs may survive.

It is simply put my stuff outside or open the windows?


It will be cold enough for long enough to kill bed bugs. Sunlight, bright light, or heat by opening the windows and turning off the heat. Eggs will occur and you will not see the bed bugs.

Fire fighters are not likely to see this

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□ How to take precautions returning home



1 in 4 people have experienced bed bugs

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So what the heck are we doing about that?




Overwhelming need for community education



Bed bug policy and notification materials

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http://westernbedbugipm.ucanr.edu/Audience_Specific_Resources_355/Schools/



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7 mm or 1/4 inch

D-H Choe