

Integrated Pest Management for Bed Bugs

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Outline

- Introduction to IPM
- Bed Bugs



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Pests cause problems

- Trigger/cause asthma and allergies
- Bite
- Contaminate food
- Lead people to overreact and ignore pesticide labels
- Transmit disease
- Hitchhike in belongings
- Violate housing codes

IPM makes homes healthier!

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Priority pests

- **Cockroaches** cause asthma in infants, trigger asthma attacks, and contaminate food.
- **Rodents** such as mice and rats carry diseases, bite, destroy property, may cause fires, and may trigger asthma attacks.
- **Bed Bugs** and their bites are a nuisance and are expensive to eliminate.

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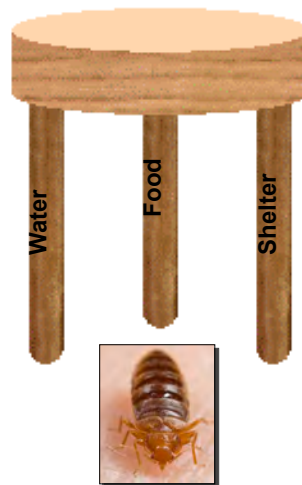
What is IPM?

- **Integrated:** Uses multiple approaches that work together.
 - Inspection, monitoring and identification
 - Establishment of threshold levels
 - Employment of multiple control measures
 - Evaluation of effectiveness
- **Pest:** What the multiple approaches work to fight.
- **Management:** Use of the most economical means with the least possible risk to people, property, and the environment.

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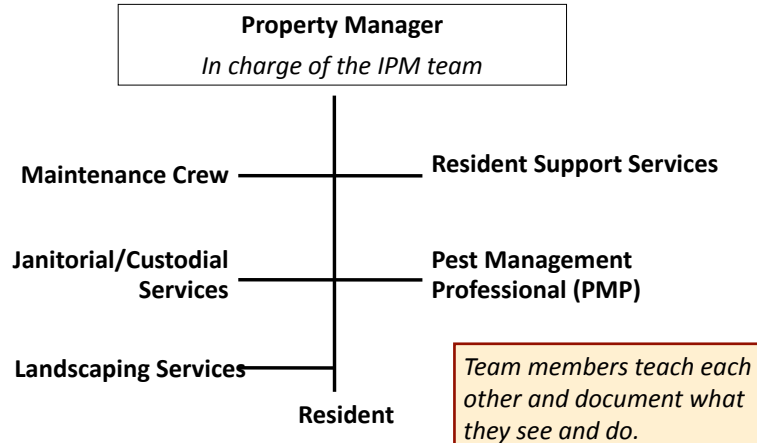
What all pests need

- Food
- Water
- Shelter



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The IPM team



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Resident

- Monitors unit for problems
- Reports presence of pests, leaks, and mold
- Helps and educates neighbors
- Notifies management of disabilities or when assistance is needed to participate in an IPM program
- Gives PMP access to unit
- Prepares unit for PMP visit according to instructions
- Follows lease regarding
 - Housekeeping
 - Sanitation
 - Trash removal and storage



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Maintenance Staff

Inspection & monitoring

- Monitor common areas for pests
- Report observations, problems, and actions

Control

- Seal cracks
- Fix leaks
- Eliminate moisture problems
- Install barriers to pest entry and movement
- Keep common areas clean and sanitary (especially trash chutes and dumpsters)
- Possibly assist with unit preparation

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Resident Support Service Staff

- Get assistance for residents who are unable to prepare their unit for the PMP due to financial or physical limitations
- Educate residents about:
 - Pests
 - Proper housekeeping
 - Reporting presence of pests, leaks, and mold
- Enforce lease provisions regarding:
 - Housekeeping
 - Sanitation
 - Trash removal and storage
- Encourage residents to allow PMP into unit

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Pest Management Professional

- Qualifications to consider
 - Green Shield, GreenPro, or Ecowise (in CA)
 - Association membership: National Pest Management Association
 - PMP certification: Associate Certified Entomologist (ACE) or Board Certified Entomologist (BCE)
- Follows contract to get paid
 - Notifies PHA of upcoming visits
 - Communicates with staff *and* residents
 - Inspects and monitors for pests
 - Identifies pests
 - Recommends pest-proofing strategies
 - Applies effective and compatible pesticides
 - Documents everything: observations, pesticide usage, suggestions
 - Follows-up quickly when needed

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The results of the team approach

- An inspection and monitoring system that finds pests
- A reporting system that identifies areas of improvement
- Units are prepared to receive effective treatment
- Communication that empowers all
- Fewer pests and a healthier environment

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Questions?

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Bed Bugs

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Bed bugs are health hazards

Bed bugs do not transmit disease, but they are a pest of public health significance. They

- cause secondary infections after people scratch their bed bug bites;
- result in stress, loss of work, loss of sleep, and financial burden;
- are unwelcome in our homes and workplaces.

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What is a bed bug?

- A blood-sucking insect
- Most active at night
- Usually feeds at night



Adult bed bug feeding on a human

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Bed bug life cycle



Bed bugs at various stages of growth.

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Bed bug behavior

- Hide in cracks and crevices, often in groups.
- Cannot fly, jump, or burrow into skin...they crawl.
- Hitchhike on bags, furniture, wires, or pipes.



Bed bug crawling into a screw hole to hide.

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Can be confused with...

- Ticks
- Cockroach nymphs
- Other kinds of bug bites



Tick



Mosquito Bites



Cockroach Nymph



Bat Bug

Signs of bed bugs

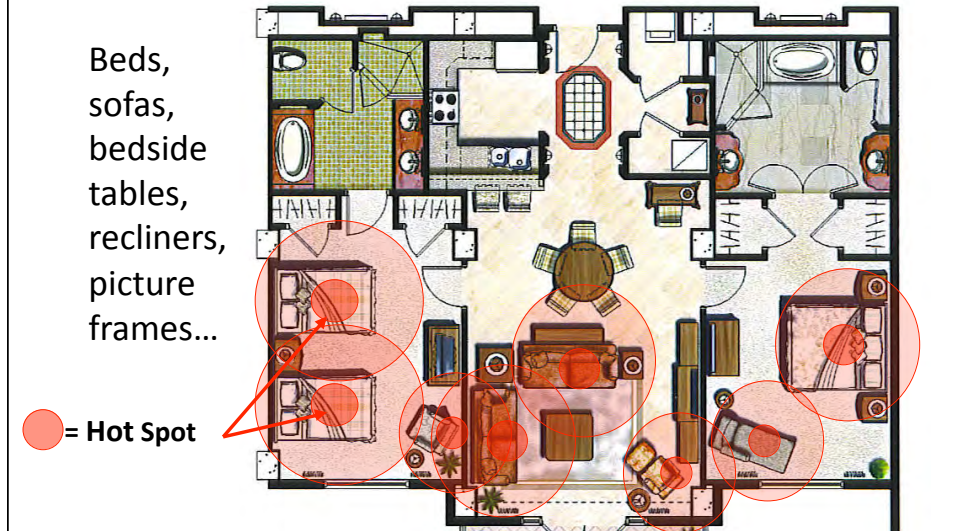
- Bites
- Blood spots
- Shed skins
- Dead bed bugs
- Live bed bugs



Bed bug signs on a mattress seam

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Where bed bugs live

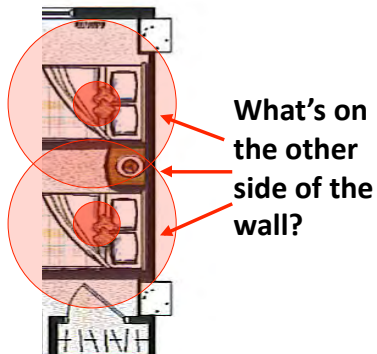


Where to look

1. Beds
 2. Bedding
 3. Baseboard/carpet edges
 4. Furniture
 5. Upholstered furniture
 6. Walls and ceilings
 7. Clothing
 8. Appliances
- (in order of most to least often infested)

How do bed bugs spread?

- Through walls along wires and pipes
- On anything coming from an infested unit (furniture, backpacks, laundry...)



How to prevent getting bed bugs

Advice for residents:

- Keep coats, backpacks, purses, and bags off beds, recliners, and sofas.
- Don't bring home used furniture.
- Look for signs before sleeping.

Advice for staff:

- Always inspect
- Do not set belongings or equipment on furniture
- Keep clothing simple or wear covers
- Kill any bed bugs on fabric using a dryer

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How to prevent staff from getting bed bugs

- In units:
 - Avoid sitting or placing items on potentially infested surfaces
 - Wear a protective layer when moving infested items
- In the main office/community areas:
 - Replace furniture with fabric and many joints with plastic or metal items
 - Have residents set their belongings in plastic totes during meetings

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Got bed bugs? Now what?

If found and controlled early in the infestation, the spread of bed bugs can be stopped.

The first responses should be to:

- Report the problem—keep records
- Not throw the mattress out—cover it
- **Not spray or bomb—leave this to the PMP**
- Prevent carrying the bed bugs to other places



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Got bed bugs? Now what?

- Make sure residents understand and are able to follow site-specific instructions from the PMP
- If there is an infested item, the PMP may have the resident:
 - Encase
 - Destroy, dispose, and replace with metal or plastic
 - Heat treat in a dryer then isolate in bags or containers

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Items to offer residents

- Fabric mattress encasements
- ClimbUp interceptors
- Dissolvable laundry bags



Interceptor

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Management Methods

- Inspections
- Monitors
- Non-Chemical Treatment Methods
- Pesticides

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Non-Chemical Treatment Methods

- Disposal of Infested Items
- Isolation in Plastic Containers or Bags
- Using Metal Furniture
- Laundering
- Steaming
- Mattresses and Box Spring Encasements
- Freezing
- Vacuuming
- Ambient Heat Treatment

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Prevention and control: Targeted chemical use

- Sanitation first!
 - Maintenance staff and residents should not spray. Spraying should be a last resort and done only by a PMP.
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- Read the ENTIRE pesticide label before buying, using, storing, or disposing of a product.
 - The label is the law!
 - Follow the label directions closely.

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Evaluating Pesticides

- Risk = Toxicity + Risk of Exposure
- Signal words are linked to toxicity:
 - CAUTION** = slightly toxic
 - WARNING** = moderately toxic
 - DANGER** = severe skin or eye irritation
 - DANGER-POISON** = highly toxic
- Pesticide search tool: www.epa.gov/pesticides/bedbugs/

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A review of what you should do

- Take preventative action through education, PPE and furniture choice
- Have a system in place for identifying infestations
- Hire a qualified contractor
- Ensure units are prepared for the contractor's treatments

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Questions?

- Evaluation of control methods:
www.nchh.org/Portals/0/Contents/bedbug_report.pdf
- Guidelines:
www.vdacs.virginia.gov/pesticides/bedbugs.shtml
- Government sponsored:
www.epa.gov/pesticides/bedbugs/
- CT Coalition Against Bed Bugs:
www.ct.gov/caes/cwp/view.asp?a=2826&q=437580
- Dr. Gale Ridge: Gale.Ridge@ct.gov

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