


Bed Bugs in the home and on their way to school – how can IPM help?

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You are a cockroach.



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Pest management must include managing introductions



Find pests that get in before an infestation grows

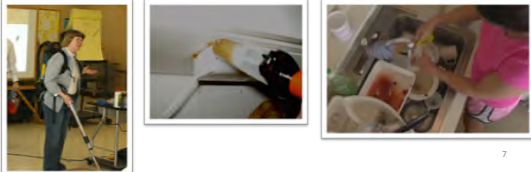


and...



Take action

Use more than one control method
 Methods must be economical and pose the least possible risk to people, property, and the environment



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Integrated Pest Management (IPM)

1. Inspect and monitor
2. Identify
3. Determine the scale of response
4. Respond
 - Non-chemical control
 - Changing people's behavior
 - Chemical control
 - Biological control
5. Evaluate effectiveness

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Google: **Pest Prevention by Design**

Authoritative guidelines for designing pests out of structures




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Questions?

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Bed bug behavior

- Most active at night
- Hide in cracks and crevices, often in groups
- Cannot fly, jump, or burrow into skin... they crawl
- Hitchhike on coats, bags, furniture, wheelchairs...




Bed bug crawling into a screw hole to hide

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Where bed bugs live

Beds, sofas, bedside tables, recliners, picture frames...



● = Hot Spot

Areas at-risk for introduction and infestation

- Introduction is likely where people
 - frequently travel
 - set down personal belongings
 - sit or lay down for long periods of time
- Infestation is likely where bed bugs can
 - Crawl (upholstered furniture or bedding)
 - Feed on a person for 5 minutes without being detected
 - Hide in cracks or folds

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Areas prone to introduction vs. infestation

| Area | Introduction? | Infestation? |
|------|---------------|--------------|
| | | |
| | | |
| | | |
| | | |
| | | |

●●● High
 ●● Medium
 ● Low

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Interview

- Find out where people sleep
- Find out where people put the things that come in/out of the unit
- Note financial, physical, or cognitive limitations that could influence treatment
- Use a flashlight and look around sleeping areas and areas where introduction is likely

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Inspection


- Always use a flashlight
- If bed bugs are found, inspect all adjacent units
- Two types
 - Visual
 - Scent detecting canine



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Monitoring

- Trap and kill bed bugs
- Determine how bad the infestation is
- Two types
 - Passive
 - Active



Passive, moat-style interceptor

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Include the resident in the plan

- Encourage patience and cooperation
- Ask residents to NOT: fog/bomb, use their own pesticides, throw away items, change too much until a professional arrives to inspect and treat
- Give them control options: vacuum with a pantyhose, clothes dryer for 30 minutes on high heat, encasement and interceptors, isolate belongings in plastic totes/bags
- Give them an idea of the treatment timeline

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Prevent introduction and spread: residents

- Keep coats, backpacks, purses, and bags off beds, recliners, and sofas at home and while out
- Inspect used furniture carefully before bringing it home—avoid it if possible
- Look for signs when sleeping away from home

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Advice for staff, health aides, and contractors

- 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 fabric-covered furniture that has many crevices with plastic or metal items
 - Have residents set their belongings in plastic totes during meetings

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Treatment options

| | |
|--|--|
| <ul style="list-style-type: none"> • Pesticides <ul style="list-style-type: none"> • Spray • Dust • Fumigation • Heat <ul style="list-style-type: none"> • Dryer • Steam • Container • Whole unit | <ul style="list-style-type: none"> • Freezing <ul style="list-style-type: none"> • Liquid CO₂ • Chest freezer • Vacuuming • Isolation <ul style="list-style-type: none"> • Encasements • Clear bags • Closed plastic containers • Interception devices |
|--|--|


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Questions?

| | |
|---|---|
| <p>In-house options (minimum training)</p> <ul style="list-style-type: none"> • Encasement • Monitoring • Quick (15 min) visual inspection • Steam • Clothes Dryer • Vacuum • Heat chamber (FL model) • Diatomaceous Earth (APPLICATOR'S LICENSE) • Resident training/support | <p>Leave it to the experts</p> <ul style="list-style-type: none"> • Canine inspection • Whole-unit heat treatment • Pesticide application • Thorough inspection • Active Monitoring |
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IPM resources




Websites

- The Northeastern IPM Center's IPM in Multifamily Housing website and blog: www.stoppests.org
- The National Pesticide Information Center: <http://npic.orst.edu/>
- Insects in the City: <http://citybugs.tamu.edu/>

Resource

- Pest Prevention by Design Guidelines



Thank you for protecting our kids.

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