BED BUGS
CIMEX LECTUCLARIUS

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Photo taken by Department of Public Heath

Bed Bug Bites

- Painless
- Allergic response to anti-coagulant saliva
- Have not been shown to transmit diseases
- Increased sensitization can occur over time

	Egg	Nymph	Adult
Color	White	Clear white color	Brown to mahogany
Distinctive attributes	Oval shaped eggs	Wingless with flat body	Wingless with flat body
Length	1 mm.	1-3 mm.	3-4 mm.
Reproduction & Growth	Hatch between 4-21 days. 10 days on average.	Molt 5 times, requiring blood meal each molt	Lay 1-5 eggs per day; 200-500 per life.
Food		Blood	Prefer human blood
Habitats	Found in cracks, crevices, box springs, bed frames, etc.	Same places as adults	In any stage bed bugs are found in bedrooms, carpets, closets, inside walls, cracks and crevices.

Bed Bug Hiding Places

- Tend to congregate in cracks and crevices
- Prefer old hiding places that have fecal stains
- Pioneering bed bugs

Bedbug Dispersal

1. Active Stowaway

2. Passive Stowaway

3. Migration

Return of the Bug

- Target Specific Baits vs. Broad Spectrum Insecticides
- Increased International Travel

Insecticide Resistance

- DDT – resistance “was first reported in the late-1940s and was so widespread a decade later that other products were already being recommended as alternatives.” (*Pest Control 9/06*)
- Pyrethroids – “are not providing more than 50% mortality as residuals and as direct contact insecticides.” (PCT Magazine 12/06)

- Components of IPM for bed bug eradication.

1. Education/Communication
2. Inspection/ Assessment
3. Develop a site specific (unit/tenant) plan
4. Monitor and keep records of pest findings, bites, actions taken and results
5. Evaluate effectiveness and continue monitoring

Create a Team

Primary

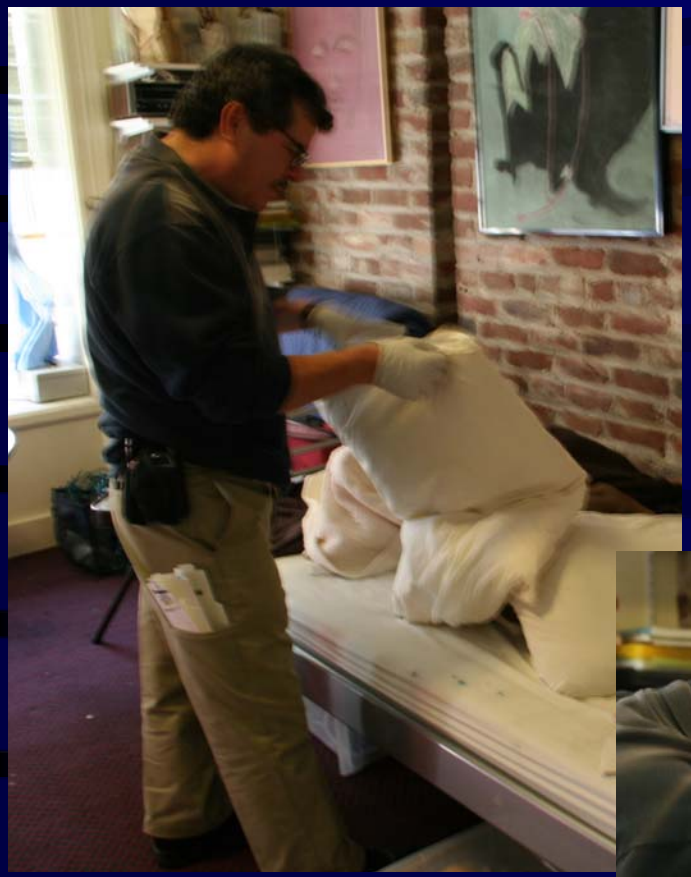
- Tenant
- Pest Management Professional
- Building Owner/Manager
- Building Maintenance

Intermediary

- Department of Public Health
- Social Services
- Physicians

A Case Study

Inspection



Non-Chemical Treatment Options

- Heating – 120F for 2 hours
- Freezing – 0F for 4-7 days or with Dry Ice
- Steam – 220F dry steam
- Encasement
- Disposal of infested items
- Physical removal via vacuum
- Barriers and traps

Vacuuming removes visible bed bugs from the equation

- 220F Dry Steam kills instantly

Criticsms of Steam

- Blow Out - Dead
- Short Range – Use for cracks and crevices only, use soapy water attachment .

Applying Insecticidal Dust

Seal ‘em out

Keep ‘em in

Chemical Application

- Insect Growth Regulator & Residual Pyrethroid
- Repeated 2-3X @ Two Week Intervals

Monitors

Clutter and poor sanitation allow infestations to remain hidden and make bed bugs more difficult to eradicate.

New Tools

- ThermaPure Heat Treatment
  - Can test multiple locations with probes
  - Synergism of heat and boric acid/dessicants
  - Some items cannot be heated
  - Fire Safety concerns
- Bed bug sniffing dogs
  - Can quickly alert bed bug activity
  - Cannot differentiate between old and new activity
  - Not enough research available testing efficacy of field work

In Conclusion

- Bed bugs reproduce rapidly
  - Resistance
- Continual monitoring and quick action is needed
- Prevention and physical destruction bed bugs must be emphasized
- Bed bug detecting dogs are a good inspection tool
- Good Feng Shui = ease of treatment

Power point presentation developed by the Pestec Team