

# Module 7- Dealing with Bed Bugs in Child Care Settings



Integrated Pest Management for  
Child Care Settings

# Bed Bugs in Child Care Settings

- Bed bugs are often introduced to schools and child care centers from infested homes.
- Bed bugs are not an issue of hygiene or poverty. Anyone can get them.
- They must be addressed immediately to protect children, families and staff and to prevent further spread.

# Proactive advice for child care businesses

- Create a protocol for dealing with a bed bug sighting or introduction.
- Decide who will identify the sample within 24 hours?
- How will parents be notified?
- Will there be a policy for repeat introducers?
- Recognize that a pest control service should be involved if bed bugs are an issue.

# Proactive advice for child care businesses

- At what point will the facility take action in the area where a bed bug was found?
- What will that action be?
  - Inspection and monitoring
  - Intensive cleaning
  - Some type of least-toxic treatment
  - Isolation of belongings may be needed if introductions are frequent.
- Educate staff and parents before bed bugs become an issue. Use flyers or meetings.

# What are bed bugs?

- Insects with six legs and no wings.
- They feed only on blood.
- They bite using a straw-like beak.
- They are very good at living with people and hiding out of sight.

# Recognize a bed bug

- Adults are  $\frac{1}{4}$  to  $\frac{1}{2}$  inch long
- Reddish-brown oval to round shape
- Feed on blood at all stages of life (except the egg)
- Can run quickly and will hide in small crevices



J. Gangloff-Kaufmann

Adult bed bug

# Young bed bugs (nymphs)

- Very small but not invisible
- Feed on blood
- Tend to cluster together and hide in crevices.



Tiny bed bug with a sesame seed

Photo by J.L. Gangloff-Kaufmann

# Bed bug eggs

- Tiny but visible, white, bean shaped
- Glued in place
- Resistant to many pesticides
- May be clustered together in hiding spots or spaced apart.





# Other signs of bed bugs

- Fecal stains of digested blood
  - Stains may soak into fabric.
  - Stains may dry as a dot on a non-porous surface.
- Tan or dark brown in color.



# Like magic marker stains



# Bed bug bites

- Bed bug bites vary among people from nothing to severe.
- Bites may be seen in lines.



- Look at a child's face, neck, arms, hands and feet for bites.
- This doesn't prove bed bugs but may be a clue.

# Behavior of bed bugs

- They do not jump or fly.
- Bed bugs hide and do not like being disturbed – they will run away.
- They hide in gaps as narrow as a credit card is thick. They often hide in groups.
- Bed bugs prefer darkness but will sometimes be active and bite in daylight.

# Behavior of bed bugs

- Bed bug females lay eggs. The young look like small adults.
- Pregnant females prefer to lay their eggs on wood, paper and fabric.
- Bed bugs are good hitchhikers.
- Transferred mainly on people's belongings.
- They can move on their own to new areas.

# Bed bugs in child care

- In child care, it may be difficult to say where bed bugs came from.
- Unlike most schools, child care involves napping. Children are more likely to be bitten in beds or cribs, while they sleep.
- Do not apply pesticides to cots, beds, cribs or any bedding.

# Introduction vs. infestation

- There is a difference between the two.
- Introductions happen when bed bugs drop off belongings into the facility.
  - It may not be a female – dead end...
  - It may not find a host – dead end...
  - It may be killed by human activity.
- BUT, it might be female, find a host and survive to lay eggs....

# Introduction vs. infestation

- Infestation happens when a female is introduced, finds a reliable host and lays eggs that hatch.
- Those eggs must survive to adulthood, feed and mate to develop an infestation.
- The likelihood is low in schools but higher in child care because of beds.



# Where to look is different

- Introduction – bed bugs will be found where personal belongings are stored, closets, cubbies, coat rooms, offices.
- Infestation – bed bugs will be found where people spend more time especially children napping.

# Estimate the problem

- High number of bed bugs (10-100+) = A confirmed infestation.
- Low numbers (1-10) = Multiple introductions or early low infestation.
- The longer a problem goes untreated, the more young bed bugs (nymphs) will be seen.

# How to inspect for bed bugs

- Begin inspection in sleeping areas, searching for fecal stains, eggs and bugs.
- Look at bedding, blankets, cots and crib mattresses.
- Look in gaps of the furniture and all seams of fabrics.



# How to inspect for bed bugs

- Continue inspection by carefully looking at diaper bags, cubbies, children's clothing and staff belongings.
- It is good to identify the source to stop the transfer of bed bugs into a facility.
- However, this is also a sensitive topic with legal consequences.



# So a bed bug was found

- Do not reach for pesticide as a first step!
- Many child care facilities prohibit all pesticide use.
- Only licensed professionals may legally use pesticides in child care facilities in many states.
- Use cleaning, organizing and heat as the main strategies against bed bugs.

# Basic protocol for treatment

- Clean the affected area more thoroughly than usual.
- Vacuum all floors, corners and rug edges.
- Wash tables, chairs and mats.
- Wash floors very well (do not use bleach).
- Temporarily remove area rugs for treatment.
- Steam clean rugs and furniture.

# Organizing for bed bugs

- Infestation will require good organizing to isolate toys, books and items from bed bug areas.
- Discard unnecessary items to lower the clutter, especially boxes and paper.
- Store unused items in clear plastic bags or bins.

# Cleaning for bed bugs

- Regular floor cleaning (vacuum and wash) will remove bed bugs from those areas.
- Extra cleaning of cribs, cots, bedding helps with inspection and removing bed bugs.
- Plush toys and soft items should go through a hot dryer (see the Bed Bug Free-Strategy)



# Heat kills bed bugs!

- Many items can be placed into a hot dryer such as clothes, linens, pillows, shoes coats, plush toys, delicate and wool items.\* see dryer protocol.
- Dryer on hot, 20 min.
- Don't bother to wash items first.
- Dry heat kills all stages.



# Using a dryer to heat items

- How do we know if the dryer is hot enough?
- Need 125 degrees, or slightly lower for more time.
- You will need:
  - Dryer of your choice
  - 3-4 dry towels
  - Meat thermometer



# Dryer Test - Steps 1-3

- Place **dry** towels into dryer.
- Set on **hot** and **regular** cycle (not fluff or press)
- Let dryer run for 20 minutes.

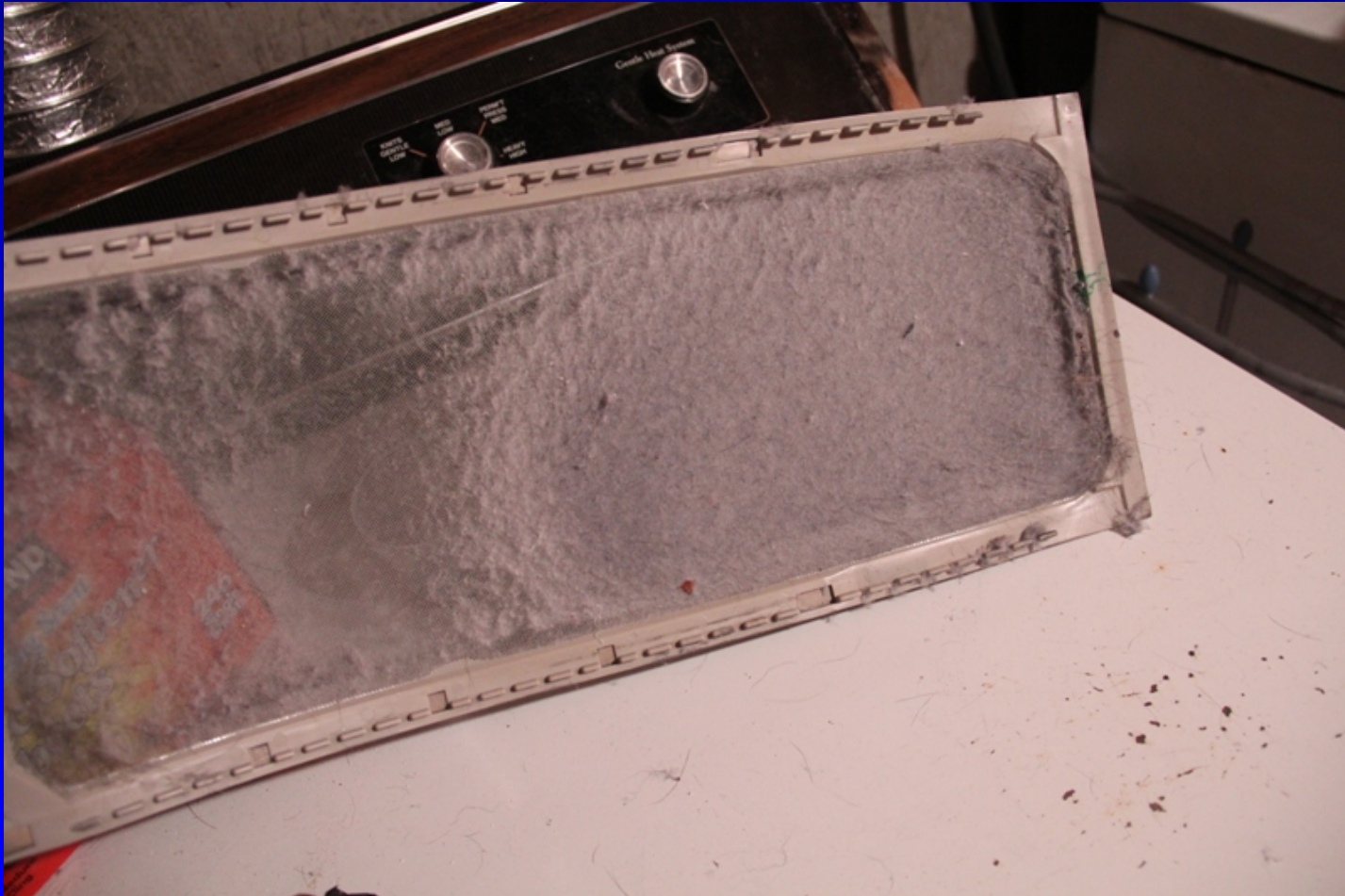


# Dryer Test - Steps 4-6

- After 20 min of drying open dryer and place meat thermometer inside beneath a layer of towels.
- Close dryer and wait 2 minutes.
- Look at temperature reading
- Over 125<sup>o</sup>? You're GOOD.
- Under? Choose another dryer.



# Check lint filters for signs of bed bugs after heat treatment



# Steam treatment



- Excellent choice for cribs and cots
- Great for rugs and carpet edges
- **Steam cooks and kills the eggs!**
- Can be done by facility managers.
- Must be done very slowly to reach high enough temperatures.

Wrap the steamer head to help develop heat.



Move the steam tip at a rate of one foot every ten seconds. 31

# If a child has a bed bug on their clothes or bag...

- Do not panic! Collect it in a tissue and baggie. Do not crush it. Place in the freezer.
- If a bed bug was found on the child's clothes treat as if they were soiled.
  - Change the child's clothing into something clean.
  - Isolate the clothing in a clear plastic bag.



# If a child has a bed bug on their clothes or bag...

- If a bed bug was found on the child's diaper bag, isolate the bag in a clear plastic bag.
- Have extra diapers on hand for the child.
- Inspect or isolate the child's coat and shoes.



# If a child has a bed bug on their clothes or bag...

- If a dryer is available, run items through the dryer according to the Bed Bug-Free Strategy\*.
- Contact the parents in a non-confrontational or judgmental way.
- Explain that a bed bug was found.
- Give them information on where to learn more, [www.nyc.gov/bedbugs](http://www.nyc.gov/bedbugs)

# If a staff member has bed bugs at home

- Staff are responsible for not bringing bed bugs to work.
- They should also seek treatment for their infestation.
- Make sure every item worn and brought into work is bed bug-free.

# If a staff member has bed bugs at home

## home

- Isolate staff belongings to prevent possible spread at work.



# Bed bug prevention

- Prevent bed bugs from entering the child care facility by:
  - Educating all staff and providing information to parents/guardians
  - Staff should use the “Bed Bug-Free Strategy”.
  - Parents/guardians should be required to follow it.

# Cooperation is critical

- Introduction can lead to infestation.
- Managing bed bug introduction in child care settings requires cooperation of all involved.
- Administrators, care takers, maintenance staff and parents must work together.

# Hiring a Pest Management Company

- Make sure the company is licensed and insured in your state.
- Technicians are skilled at working with bed bug infestations. Use references.
- The company uses IPM and acknowledges that child care settings are sensitive places.
- Company is skilled at low-risk pest management.

# Communicate with parents

- Parents may become alarmed at the thought of bed bugs in their child care facility.
- Prepare staff for parental reactions.
- Prepare parents/guardians for the possibility of bed bugs using outreach materials.
- Disclose bed bugs immediately, as you would lice.
- Do not incite panic, disgust, or alarm.



# The key to success

- Preventing bed bug infestation is the most effective way to protect your staff and children.
- Prevention measures are less costly than control.
- Use education to encourage prevention. Teach all parents, staff and custodians about bed bugs.

# Take away messages

- Bed bugs are common in the US today.
- Bed bugs do not carry disease and can be eliminated.
- Pesticides are not the best approach and should not be used by child care staff.
- Cleaning is a very important tool.
- Proactive measures are best. Be prepared and educate to prevent.