



# Bed Bugs

Occupational and Environmental Safety  
& Health (OESH)

Winnipeg Regional Health Authority  
(WRHA)



# Bed Bugs

- Bed Bug Biology
- Assessing for Bed Bugs
- New Infestation
- Prevention
- WRHA Bed Bug Protocol
- Working in Infested Areas
- Management of Bed Bugs
- Safety Information and Pest Control Products
- Provincial Initiatives and Strategies



# Bed Bugs



In the past few years, there has been a significant resurgence of bed bugs world wide.

Canada was virtually bed bug free for about 50 years.



# Bed Bugs

- Safety & environmental concerns have led to greater restrictions of pesticides
- Bed bugs have developed resistance to many widely used pesticides
- Increased domestic and international travel provides opportunities for spread of bed bugs

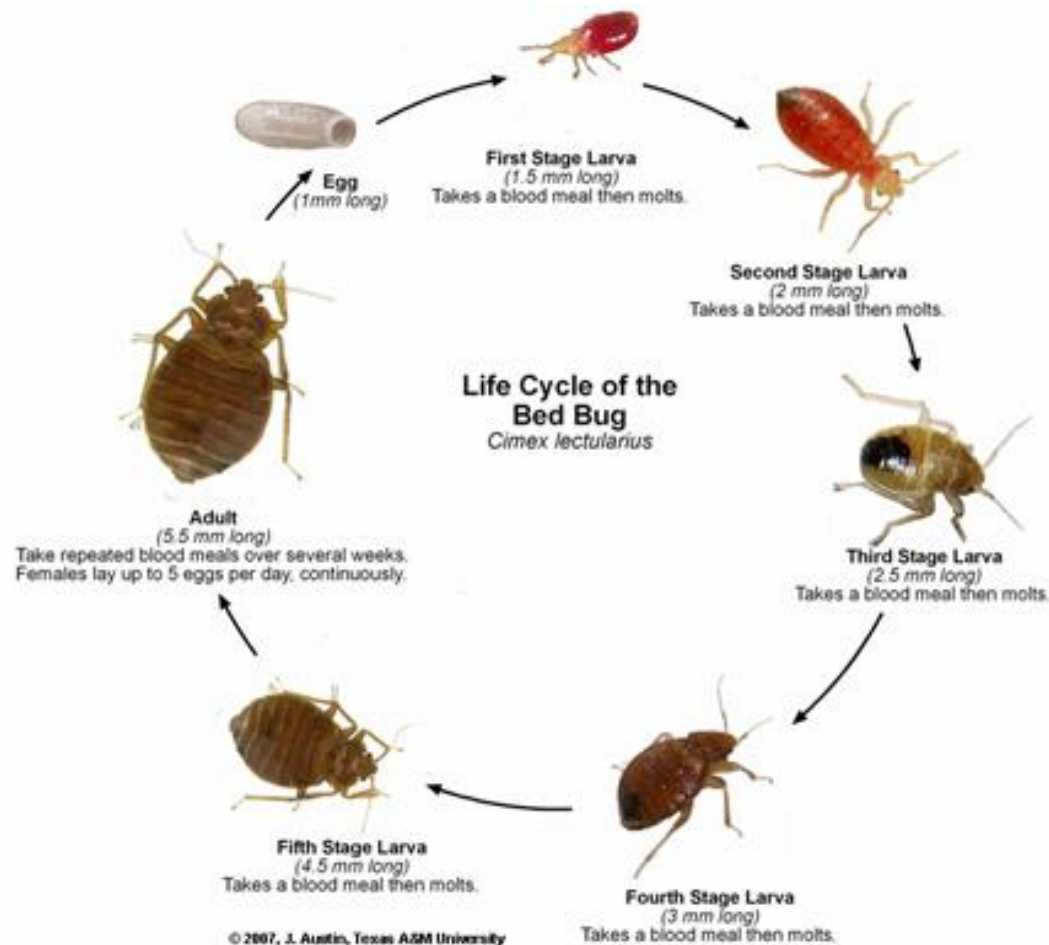


# Bed Bug Biology

- Bed bugs are small, oval, brown insects about the size of a flax or apple seed (6 mm)
- After feeding they swell in size and can become bright or dark red
- They are wingless and cannot fly or jump



# Bed Bug Biology



# Bed Bug Biology



**SAFE**  
HEALTH CARE

**S** SPOT THE HAZARD  
**A** ASSESS THE RISK  
**F** FIND A SAFER WAY  
**E** EVERYDAY



Winnipeg Regional  
Health Authority  
*Caring for Health*

Office régional de la  
santé de Winnipeg  
*À l'écoute de notre santé*

# Bed Bug Biology

- A newly hatched adult female will feed and mate
- Female lays eggs 3 to 6 days later
- Lays approximately 3 eggs per day or 5 to 7 eggs per week





# Bed Bug Biology

- Over the life span of 6 to 18 months female lays 200 to 500 viable eggs
- Eggs laid close to female's harbourage site



# Bed Bug Biology

- Females prefer to lay eggs on textured surfaces such as fabrics, wood, behind pictures, in furniture, along the edges of baseboards, under floor boards,
- However, eggs may be found anywhere in an infested dwelling



# Bed Bug Biology

- Eggs are attached with a sticky substance that acts as cement
- Eggs hatch within 7 to 10 days as first instar
- Each of the 5 bed bug nymphal instars is a smaller version of the adult



# Bed Bug Biology

- Bed bugs go onto hosts only to feed, usually at night
- 90% of their time is spent protected in hidden places, usually near where the person sleeps
- A blood meal is required for instars to molt, for egg production in females and sperm production in males



# Bed Bug Biology



# Bed Bug Biology

- Adult bed bugs can survive for a surprisingly long time without a blood meal – sometimes longer than 2 years
- Bed bugs prefer human blood but will feed on the blood of other animals (such as family pets)



# Bed Bug Biology

- The bite of a bed bug is painless
- Feeding may take 3 to 12 minutes
- If disturbed by the host may withdraw mouthparts and re-insert in a new location leaving the characteristic row of bites (breakfast, lunch and supper)



# Bed Bug Bites





# Bed Bug Biology

- Bed bugs are not known to spread disease
- Bites can cause an allergic reaction. Frequent scratching can lead to infections.



# Bed Bug Biology

- Psychological symptoms may be the most profound effect of infestations
  - Mild to severe anxiety & stress
  - Social isolation
  - Financial stress
  - Harm to self through extreme control measures (pesticide exposure)



# Assessing for Bed Bugs

## **What to look for:**

- Bed bugs live or dead
  - Usually near areas where people sleep
- Cast skins
  - Looks like the empty shells of bed bugs about the same size as the bug stage that left it



# Assessing for Bed Bugs

- Eggs
  - About 1 mm long, white
- Fecal stains & droppings
  - Frass -- droppings which appear as small black spots
  - May look like granules of brown sugar
  - Blood spots on sheets and pillows



# Fecal Matter/Blood Spots



# Assessing for Bed Bugs

## **Where to look:**

- **Mattress:**
  - Top and bottom seams, along each side of piping material
  - Under mattress handles, inside air holes
  - Use alcohol or baby wipes – if spots dissolve into reddish brown colour – could indicate bed bug droppings



# Hiding Spots



# Assessing for Bed Bugs

- Box Spring
  - Points where the box spring sits on the bed frame (lift slowly)
  - Top surface, inside folds of material
  - Along seams and where fabric is attached to frame
  - Underneath fabric cover (turn over and remove thin cloth layer)





# Assessing for Bed Bugs

- Bed frame and headboard
  - Check for bugs along the joints and the wall behind
- Other furniture and items:
  - Bedside tables
  - Electronics such as clocks, radios, remote controls, lamps



# Assessing for Bed Bugs

- Inspecting upholstered furniture
  - Inspect pillows and cushions
  - Look at underside of couches and chairs
  - Pay special attention to staples, screw holes



# Assessing for Bed Bugs

- Room perimeter:
  - Moldings or joint between the floor and wall closest to the bed
  - Edges of wall-to-wall carpet, area rugs
  - In electrical switch and outlets
  - Under loose wallpaper
  - If on walls or ceiling, may be moving from room above



# Assessing for Bed Bugs

- Other locations
  - Television remote controls
  - Telephones, cell phones
  - Lamps, alarm clocks
  - Computers and other electronics
  - Cardboard boxes in closets and under bed



# Assessing for Bed Bugs

- You may see bed bugs crawling on the clothing of a client
- Questions about bed bugs can be incorporated into a medical assessment



# Assessing for Bed Bugs

Sample questions:

- Have you stayed in a place where you think you may have been exposed to bed bugs in the past three months?
- Has anyone in your family been bitten by bed bugs or do they have bites or blisters that you are concerned about?



# Assessing for Bed Bugs

- Bed bugs, lice, scabies and other things can cause medical concerns. Do you need help with a bed bug, or any other pest issue?



# New Infestation

- The first step is to ensure that the found specimen is positively identified as a bed bug
- If you are not able to find a sample, place double sided tape or monitors in areas where the bug was seen





# New Infestation

- A professional pest controller may be contracted to assist in identification, monitoring and treatment



# New Infestation

- In community setting, if client resides in apartment, landlord is responsible for setting up pest control services
- In private home, it is client's responsibility to treat infestation



# New Infestation

- Regular laundering and drying of clothing in a medium to hot dryer will kill all stages of bed bugs
- Items that can't be laundered can be placed in a hot dryer
- A normal dryer load run for 15 to 20 min. (once items are dry) is an effective control method



# New Infestation

- Mattresses may be encased in a bed bug proof encasement
- Room should be thoroughly cleaned, including vacuuming of mattress
- Remember to discard vacuum bag sealed in plastic



# New Infestation

- Treatment of room should be done by professional pest controller
- In areas where clients may be sensitive to pesticide residues (such as personal care homes) steam or heat treatment may be preferred



# How to prevent bed bugs from entering facilities

- Education is the key to prevention
  - Clients/patients/residents and their families should be provided with information:
    - about bed bugs
    - how bed bugs are introduced to health care facilities
    - who they should contact if they have questions about bed bugs
    - what they can do if they have bed bugs at home



# Prevention

- Caregivers should be provided with information (doctors, nurses, HCAs, housekeeping)
  - How to recognize symptoms of bed bug bites
  - How to identify infestations
  - What steps to take when learning of an infestation
  - How to assist the pest controller during service



# Prevention

- Inspections should be conducted daily
  - Check for evidence around the bed area and on upholstered furniture and medical equipment such as wheelchairs
  - Document reports of bites by clients





# Prevention

- Upholstered furniture in common areas such as waiting rooms or lounges should be replaced with vinyl, plastic or metal furniture



# Prevention

- Vacuum rooms and upholstered furniture regularly
- Reduce clutter to decrease hiding spots for bed bugs
- Seal tears in wallpaper, gaps or cracks in walls or baseboards, etc.



# Prevention

- Upon admission to a facility, or during visits to receive care, client/resident/patient should be discouraged from bringing personal items into the facility
- If client is known to have an infestation at home, personal items such as coats, boots, purses, etc. should be placed in a plastic bag during the duration of the visit



# Prevention

- If client has bed bugs crawling on clothing, it may be necessary to have client shower and provide clean clothing during visits to facilities.



# Prevention

- It may be necessary to designate a particular room for interviewing potentially infested clients
- Room should have minimal furniture (not upholstered) and double-sided tape placed around perimeter of room



# Prevention

- Legs of desks or tables may be wrapped with double-sided tape or moat style interceptors used under legs of furniture



# Prevention

- Items such as wheelchairs or walkers can also harbour bed bugs and should be checked carefully
- A stiff brush may be used to dislodge bed bugs from cracks and crevices



# Prevention

- For programs that receive donations from the community, or personal items brought into a facility, bags containing items should be opened over a bed sheet or plastic sheet with double sided tape applied around the perimeter of the sheet
- Items can be sorted, inspected and wiped clean or bagged for laundry and bed bugs will be trapped by tape.





# Bed Bug Protocol

- WRHA/WIS Community Health Services Protocol for Bed Bugs in Client and Staff Homes
- Available in the OESH section of the WRHA website, section 2, Occupational Health
- [www.wrha.mb.ca](http://www.wrha.mb.ca)



# Bed Bug Protocol

- Client has suspected or confirmed bed bug infestation:
- Client Visits
- Staff Working in Infested Home
- Laundry
- Staff Transporting in Their Vehicle Clients Who Have Known Bed Bug Infestation in Their Home
- Clients Coming Into Residential Facilities or Day Programs



# Bed Bug Protocol

- Clients Visiting Primary Care Sites or Attending Interview Type Appointments



# Bed Bug Protocol

- Management of Bed Bugs:
- Preparation for Management
- Re-Opening the Site/Room Following Application of Pest Control Treatment
- Safety Information and Pest Control Products



# Client Visits

- Try and meet clients outside of infested areas
- To minimize transference: do not bring bags, purses, and coats into infested area
- Do not store items in infested areas
- Do not place items on beds, couches, chairs
- Do not bring possibly infested items into another home



# Working in Infested Home

- If client complains of a rash or bite, ask when they first noticed the rash or bite.
- Ask client if they have seen any insects and ask them to describe them.
- A confirmation will need to be made with a pest control specialist.



# Working in Infested Home

- Bed bug precautions need to be implemented for all confirmed cases of bed bug infestations.
- Precautions should be used if you will have contact with client's bedding, clothing or upholstered furniture.



# Working in Infested Home

- Precautions to take prior to providing care:
- Disposable gown
- High top booties with pant legs in booties
- Gloves
- Body suit (if infestation is severe)





# Working in Infested Home

- Precautions to take prior to leaving client's home:
- Remove gowns, booties, gloves, place in plastic bag and seal for disposal
- Perform hand hygiene
- Dispose of bag in an outside garbage
- Do not store items (gowns, gloves, booties) in infested areas



# Clients Visiting Primary Care Sites

- Clients with visible evidence of bed bugs on them or who have a history of bed bug infestation should be placed in a room designated for seeing bed bug infested clients



# Clients Visiting Primary Care Sites

- Room should be prepared as follows:
- No upholstered furniture
- A hall tree for hanging coats, bags
- Double sided tape applied to baseboards around perimeter of room to seal opening between baseboard and flooring, and baseboard and wall



# Clients Visiting Primary Care Sites

- Double sided tape to be applied along sides of door frame, across top of door frame, across threshold of entryway
- Double side tape to be applied to legs of tables and chairs
- Items stored in room should be sealed in plastic bags
- Flooring and furniture should be vacuumed after client leaves
- Vacuum bag and contents to be placed in plastic bag and seal for disposal



# Management of Bed Bugs

- A professional pest control specialist should be enlisted to ensure safe, effective control
- If the use of chemicals is an issue, a pest control specialist can provide information regarding non-chemical control methods
- In hotels, apartments, other multiple-type dwellings, inspect adjoining units, side, above, across, below



# Management of Bed Bugs

- It is not advisable to spray pant legs and shoes with insecticide prior to exposure to bed bugs
- Chemical exposures are an occupational hazard, can cause physical symptoms



# Safety Information and Pest Control Products

- Pest control company shall provide MSDSs for all insecticides used
- Notices posted on doors of treated units
- The employer shall ensure all workers who will be entering the treated areas have received training regarding the hazards and protective measures they are to follow
- The employer shall provide personal protective equipment as required including proper fitting, training in care and use



# Safety Information and Pest Control Products

- General guide: Treated premises can be entered 6 hours after treatment
- If respiratory conditions, 24 hours after treatment





# Bed Bugs – Initiatives and Strategies

1. Provincial bed bug inquiry line: 1 – 855-3MB-BUGS or 1 – 855 – 362 – 2847, [bedbugs@gov.mb.ca](mailto:bedbugs@gov.mb.ca)
2. Bed bug website: [www.manitoba.ca/bedbugs](http://www.manitoba.ca/bedbugs)
3. Bed Bug Coalition: 20+ organizations, non profit, private sector, first nations, all three levels of government



# Bed Bugs – Initiatives and Strategies

4. Bed Bug Program Coordinator
5. Government of Mb partners and participates in Provincial Bed Bug Symposiums
6. Print ads in provincial daily, weekly, specialty publications



# Bed Bugs – Initiatives and Strategies

- 3 Phase Low-Cost Bed Bug Preventative Materials program
- Currently Phase 1 and 2
- Phase 1: Working with partners at the Professional Property Management Association (PPMA) of Manitoba to ensure tenants and buildings are protected from infestations



# Bed Bugs – Initiatives and Strategies

- Phase 2: Other qualifying organizations will be able to purchase products
- Phase 3: All members of the public will be able to purchase products such as mattress covers



# Bed Bugs – Initiatives and Strategies

- Treatment and prevention Grants program will be available to provide financial assistance for affected and vulnerable non profit organizations
- A “Bug and Scrub” Program will use community organizations to assist the most vulnerable prepare infested units for treatment and help educate Manitobans about preventing the spread



# Bed Bugs – Initiatives and Strategies

- Hiring a half-time, term PHI to work on bed bug initiatives, bed bug messaging, fact sheets and best practices for PHIs who are dealing with bed bug issues

