

BEDBUGS

Identifying and controlling bedbugs

GUIDE FOR BUILDING OWNERS, ADMINISTRATORS AND MANAGERS

- Best ways to fight bedbug infestations
- How to prevent infestations

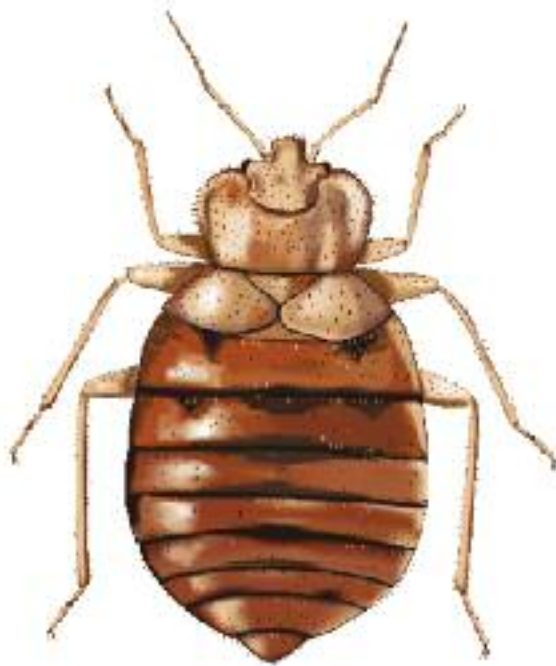


Table of contents

Bedbugs: Getting to the root of the problem	1
To get rid of bedbugs, you need to	1
They're back!	1
No one is to blame	1
What causes bedbugs to spread?	1
Bedbug biology	2
What do bedbugs look like?	2
How do bedbugs feed?	2
What is a bedbug's life cycle?	2
Where do they live?	3
Do they prefer dirty homes?	3
Can they live on humans?	3
How do bedbugs move around?	3
Health problems linked to bedbugs	4
Do bedbugs transmit diseases?	4
What are the effects of bedbug bites on skin?	4
What other health problems can they cause?	4
Prevention methods	5
What specific measures should be taken in sites where many people circulate or where used items are shared or sold?	5
Control methods	6
What are the most effective control methods?	6
The occupant of the apartment - What should he do?	6
The building owner, administrator or manager - What should he do?	7
The pest controller - What should he do?	8



BEDBUGS: GETTING TO THE ROOT OF THE PROBLEM

To get rid of bedbugs, you need to:

1 Know they are there

An occupant must inform the owner or person in charge of pest control as soon as possible that there are bedbugs in the apartment.

2 Act quickly

Building owners or administrators are responsible for contacting qualified pest controllers (exterminator having a government issued license) to find solutions to the problem.

3 Use effective control methods that are not harmful to health

Several control methods should be considered, not only the use of insecticides. Pest controllers should only use insecticides that have been approved for use against bedbugs. To limit health impacts on occupants, the use of insecticides should be kept to the minimum required. Treatments must be repeated until bedbugs have completely disappeared.

4 Cooperate

Without the cooperation of occupants, building owners or administrators and qualified pest controllers, it is difficult to effectively eliminate bedbugs in an apartment or building.

They're back!

Although they had almost disappeared in the early 1950s, bedbugs are back in Montréal, as in most large cities on the planet. Bedbug infestations have been reported in homes and apartment buildings, as well as in hotels, motels, health institutions, shelters, student and senior citizens' residences, etc.

No one is to blame

The fear of being blamed for a bedbug infestation can discourage some people from reporting the presence of bedbugs in their apartment, which only aggravates the problem. A number of factors can explain the presence of bedbugs in a building, and the apartment with the most severe infestation is not necessarily the source of the problem. Rather than trying to find a guilty party, efforts should be made to identify effective solutions.

What causes bedbugs to spread?

- Greater movement of individuals (moving, tourism, etc.).
- Use of second-hand objects (sale and exchange of used furniture and clothing).
- Lack of knowledge about bedbugs has led to the implementation of ineffective extermination methods.



BEDBUG BIOLOGY

What do bedbugs look like?

The scientific name for bedbugs is *Cimex lectularius*. A bedbug is a flat, oval-shaped, brownish and wingless insect 4 to 7 millimetres long. The female is rounder and the male longer.



How do bedbugs feed?

Bedbugs feed at night, exclusively on human blood. They feed every 3 to 7 days. They are attracted by vibrations, heat, odours and carbon dioxide (CO₂) released by an individual. At the beginning of an infestation, bedbugs usually feed on only one person in the household.



What is a bedbug's life cycle?

Female adults lay 2 to 5 eggs a day, or between 300 to 500 eggs over their lifetime.



There are three main stages of development in the bedbug's life cycle:

- Egg: White, one millimetre long, hatches in 10 to 14 days. The eggs are deposited in clusters in a variety of locations (cracks and crevices, inside walls, etc.).
- Nymph: Looks like an adult insect, but smaller. Same as adults, nymphs feed on blood, but are more vulnerable if they don't feed. Nymphs turn into adults in about one month.
- Adult: Life span is about 5 months, if it feeds regularly. However, adults can survive in a dormant state for over a year, if they don't feed.



Where do they live?

Especially in bedrooms, where they feed on the blood of people who are sleeping. Bedbugs avoid light and hide mostly in the following places:

- along the seams of mattresses;
- in box springs and bed frames;
- in cracks and crevices in walls, floors and furniture;
- behind pictures on walls;
- along baseboards;
- inside electrical outlets.

They can also live in any object that provides a dark, narrow space where they can easily hide. A crack wide enough to fit the edge of a credit card can harbour bedbugs.



Bedbugs on a mattress

Do they prefer dirty homes?

Bedbugs can infest clean homes as well as dirty ones. However, the number of hiding places available (cracks, crevices, cluttered rooms) can help bedbugs survive and multiply quickly.

Can they live on humans?

Unlike lice or other parasites, bedbugs don't usually live on humans. Nonetheless, if there is a serious infestation, bedbugs can exceptionally take up residence in the clothing or on the body of a person who has a severe physical or mental disability that prevents him or her from getting rid of them.

How do bedbugs move around?

Bedbugs are often transported from place to place in objects in which they are hiding. For example, they can use bags, suitcases, backpacks, clothing, mattresses, furniture, bedding, laptop computers, or even wheelchairs as hiding places and means of transportation.

Bedbugs are wingless, and therefore can only get around on their own by walking. This is why they don't usually move far from beds. If they are very numerous, some bedbugs will migrate by walking to other rooms (the living room, for instance), or even to adjacent apartments.

In an apartment building, the laundry room can facilitate the spread of bedbugs. They are carried in bedding or clothing and can survive a cold or lukewarm water wash; they can contaminate the washer and items that will be put into it later.



HEALTH PROBLEMS LINKED TO BEDBUGS

Do bedbugs transmit diseases?

Bedbugs do not transmit diseases to humans.

What are the effects of bedbug bites on skin?

The first clue that there are bedbugs in a home are bites on the skin. Bedbugs bite especially the arms, but all body parts exposed during the night are likely to get bitten.

Bites, or lesions, are often clustered in groups of 3 or 4 and look like mosquito bites. They disappear within two weeks. Bedbug bites can cause intense itching. Creams and allergy medications can be used to relieve itching. Scratching lesions can result in skin infections and leave scars.



What other health problems can they cause?

- **Sleep disturbances**
Itching caused by repeated bites during the night can cause sleep disturbances, fatigue and anxiety, and greatly reduce the quality of life of people who are the victims of bedbug infestations.

- **Social isolation**
Individuals struggling with bedbug infestations can feel ashamed and become socially isolated. Consequently, they might hesitate to talk to people who could help them with this problem, thus delaying necessary interventions, which gives bedbugs time to spread further.

PREVENTION METHODS



Prevention is key to avoiding bedbug infestations.

Everyone can help to prevent an infestation:

- Find out more about bedbugs so you can detect them more easily: watch for bites on the skin, black spots along mattress seams, and blood on sheets and pillows.
- Notify the owner or person in charge of insect control of the presence of bedbugs as quickly as possible.
- Regularly vacuum all rooms, mattresses and box springs, especially along the seams, folds and bed frames.
- Avoid, if possible, rugs, carpets and wallpaper, since these provide hiding places for bedbugs.
- Remove clutter (objects and furniture) from apartments and common areas.

What specific measures should be taken in sites where many people circulate or where used items are shared or sold?

In addition to introducing the measures above, the building owner or administrator should develop and implement a prevention plan for **areas where many people circulate**, such as hospitals, medical clinics or hotels, and for sites where **many used objects are shared or sold**, such as second-hand furniture or clothing exchange counters or stores.

If such a plan is not developed, the risks of major infestation are much greater. Several conditions must be met for the plan to succeed:

- Participation of various stakeholders in planning preventive measures.
- Development of an action plan to react as soon as bedbugs are detected.
- Identification of people responsible for implementing the action plan, to ensure they can be contacted easily should a problem arise.
- Information about bedbug prevention and control measures given to everyone living on site.

CONTROL METHODS

What are the most effective control methods?

Several methods have been tried to get rid of bedbugs. One solution that is often considered is the application of insecticides, which should only be done by qualified pest controllers to minimize potential health impacts. In all cases, the participation of **everyone** affected by the infestation (building occupants and owners, pest controllers) is required to solve the problem.

► THE OCCUPANT OF THE APARTMENT

What should he do?

- Tell the owner as soon as possible that there are bedbugs.
- Avoid trying to solve the problem himself.
- Never spray insecticides on people and mattresses, because this could be harmful to health.
- Avoid moving infested objects or furniture into common areas of the building.
- Never leave infested mattresses or furniture out on the street. Most objects can be treated. Those that can't be treated should be made unusable to prevent other people from using them and spreading bedbugs elsewhere.
- Allow inspection and control in all rooms of the apartment.
- Get the apartment ready for the pest controller:
 - Reduce clutter in rooms to limit the number of hiding places.
 - Put clothing and bedding in hermetically sealed bags. Empty the bags directly into the washing machine, and wash in hot water. Clean clothes and bedding must be kept in different hermetically sealed bags until there are no more bedbugs in the apartment.
- Vacuum twice a week. Seal the vacuum cleaner bag and throw it in the garbage outside the building. If you have a bagless vacuum cleaner, empty the contents into a hermetically sealed bag which should immediately be placed in the garbage outside the building. The vacuum container must be cleaned out after each use, according to the manufacturer's instructions.
- Avoid bringing new furniture or mattresses into the house before the bedbugs have been completely eliminated.



▶ THE BUILDING OWNER, ADMINISTRATOR OR MANAGER

What should he do?

As soon as he is informed of the presence of bedbugs, he is responsible for taking steps to correct the situation. He must:

- Avoid trying to solve the problem by himself. For example, he should not apply insecticide. This should be left to qualified pest controllers only. Improper use of these products can result in bedbugs moving to other places in the apartment rather than in their being exterminated.
- Hire a qualified pest controller.
- Allow the qualified pest controller to visit all apartments and all rooms in the building.
- Ask the pest controller to come back a second time, as is generally recommended.
- Remove clutter from common areas and avoid storing contaminated objects in these spaces (mattresses, furniture, clothing, bedding, etc.).
- Seal cracks and crevices in apartments and common areas, to prevent bedbugs from hiding there.
- Where there are recurrent infestations, remove rugs, carpets and wallpaper since these are places where bedbugs can hide.



CONTROL METHODS (CONTINUED)

▶ THE PEST CONTROLLER

What should he do?

- Inspect all rooms and all apartments where bedbugs are likely to be found:
 - At least all apartments adjacent to the one that is infested must be inspected.
- Use several methods to eliminate bedbugs:
 - Use hot steam on mattresses, box springs, and bed frames that are not damaged (damaged mattresses should be destroyed before being thrown out, to prevent other people from using them). Although some insecticides are approved for use on mattresses, this practice should be discouraged to protect the health of the occupants.
 - Apply insecticide approved by Health Canada for use against bedbugs, according to the manufacturer's instructions:
 - along crevices in walls and floors;
 - in cracks in furniture – it is better to treat rather than throw out infested furniture that is in good condition;
 - behind pictures on walls;
 - in other places likely to harbour bedbugs.



Objects suspected of harbouring bedbugs should not be moved until it is certain that there are no more bedbugs in them. Only objects that cannot be decontaminated (e.g. mattresses with holes) should be discarded, outside, once they have been rendered unusable.



- Give safety and prevention instructions to occupants:
 - People and pets should leave the apartment when insecticide is being applied.
 - They can return 6 hours after application and wait at least 48 hours before walking barefoot on treated surfaces.
 - Pregnant women should wait at least 24 hours before returning to the apartment and 48 hours before walking barefoot on treated surfaces.

- Air out the premises after the treatment is applied.
- It is highly recommended to repeat the treatment within one month of the first application, because currently approved insecticides (permethrin and cyfluthrin) don't kill the eggs. A second treatment ensures that newly hatched insects are also eliminated and that the initial treatment was effective.
- Make sure bedbugs have been eliminated: It is recommended to go back for a follow-up visit 2 to 4 weeks after each insecticide application. If eradication is not complete, identify the causes and implement the appropriate measures to eliminate bedbugs effectively.

Photo : The Villager (NYC)

FOR MORE INFORMATION

Ville de Montréal
3-1-1
www.ville.montreal.qc.ca

Info-Santé
8-1-1

Direction de santé publique de l'Agence de la santé
et des services sociaux de Montréal
www.santepub-mtl.qc.ca

Québec Poison Control Centre
1 800 463-5060

The pamphlet *Don't let the bedbugs bite* is intended for the general public and contains helpful tips for preventing infestations and effective bedbug extermination. It is available from Ville de Montréal borough offices and Accès Montréal offices, and on the following Web sites: Ville de Montréal (www.ville.montreal.qc.ca/habitation); Direction de santé publique de l'Agence de la santé et des services sociaux de Montréal (www.santepub-mtl.qc.ca) and Office municipal d'habitation de Montréal (www.omhm.qc.ca).

We wish to thank Phil Pellitteri of the University of Wisconsin for the use of his photographs of bedbugs.

Produced by: Ville de Montréal and Direction de santé publique de l'Agence de la santé et des services sociaux de Montréal, July 2010.

Studio de design graphique, Ville de Montréal 000337-2091 (06-2010)

ISBN – 978-2-7647-0899-6

