



CD Tip: Bed Bugs

Information Provided by Erik Foster, Zoonotic Disease & Special Projects Section
fostere@michigan.gov

Tip 1: Identification and/or Verification of Infestation

It is important to identify actual bed bug specimens before proceeding with environmental treatment considerations. Bites alone are not sufficient evidence as environmental treatment is based on the type, scope, and severity of an insect infestation. Below are signs that can aid in identifying a bed bug infestation:

Environmental Signs

What they look like:

- Visible to the naked eye, small (3/16 inch or smaller), flattened, wingless, adults reddish brown coloration
- Often confused with other pests such as carpet beetles, ticks, cockroach nymphs
- Suspected bed bugs can be identified by most pest management companies, or by Michigan State University Diagnostic Services (www.pestid.msu.edu).

Where bed bugs hide:

- NOT only in the bed. Bed bugs will initially be found within two meters of a human host, but as infestations progress they will spread further from the bed.
- Often more numerous in the box spring, bed frame, headboard/footboard than the mattress
- Hide in dark cracks and crevices in furniture, electronics, switch plates or electrical outlets, and within the structure of a building

Other signs of bed bugs:

- Small blood spots from bites may be found on bedding
- Bed bug fecal spots (dried blood) may be found on the seam of the mattress or box spring, or anywhere where bed bugs hide

Clinical Signs/Symptoms

Bites:

- Normally occur on exposed skin while sleeping; bites may appear in rows
- Bite reactions and reaction times may vary (some people do not react to bites), ranging from: a) no reaction w/barely visible punctum; b) 2-5 mm itchy, red, raised, inflamed lesions; or c) rarely complex skin reaction (hypersensitivity, secondary infection, keloid formation)
- Treatment for bites is supportive and may include topical antihistamines, corticosteroids, or antibiotics
- Symptoms of bites normally resolve within two weeks if an infestation is controlled

Other biting arthropod considerations:

- Bed bug bites may be indistinguishable from bites of other insects, even a physician cannot "diagnose" bed bugs based on bites alone.
- It is important to consider other biting insects if bed bug specimens have not been verified
- Fleas are a common indoor pest associated with pets or animal infestations; mites may be associated with bird or rodent infestations; during the summer mosquitoes and other biting flies (no-see ums) are common. Make sure window and door screens are secure and in good repair.

Tip 2: What to do When Bed Bugs are Confirmed

Bed bug infestations may lead to severe stress and anxiety. Increased stress and anxiety may exacerbate the perception of itching, or lead to 'phantom' itching. People may lose sleep, miss work, or become socially isolated. These effects may lead people to take drastic and/or dangerous actions such as immediately disposing of all furniture or belongings, or applying dangerous chemicals to themselves or their environment. Below are tips on what TO do and what NOT to do once bed bugs are confirmed:



Top: Five bed bug stages (fed and unfed) in relation to a human hand. **Above:** Hidden bed bugs and eggs on a bed frame, dark fecal spots are also evident where bed bugs hide.

DO NOT

- Do not immediately throw away infested bedding or furniture. Often items can be treated, and moving infested items through the home, building, or facility may spread the bugs.
- Do not apply chemicals including head lice or scabies creams, or insect repellents in an attempt to control bed bugs. Bed bugs do not live on the body, they live in the environment, and products applied to the body will be ineffective or dangerous.
- Do not use “bug bombs” as they are not effective and may expand infestations.

DO IMMEDIATELY

- Encase the mattress and box spring in infested bedrooms with a zippered mattress cover. If the mattress cover is not guaranteed against bed bugs, tape over the zipper when the cover is in place.
- Organize clutter and vacuum; DO NOT move potentially infested items from the bedroom to other areas of the home.
- Notify your landlord/property management, facility manager, or if you are a homeowner contact a pest management professional.
- Follow all pre-treatment instructions given to you by landlord/property manager, facility manager, or pest management professional.

Tip 3: Treatment Considerations

Bed bug treatment is difficult and time consuming. Professional treatment is expensive, which may lead residents or property managers to attempt their own pest control. Before beginning any treatment consider the following issues related to housing types and treatment methods:

Housing Type

- Renters must notify their landlord or property manager immediately. Bed bugs may spread from apartment through walls, conduits, or common areas in a building. For disputes between renters (non-subsidized) and landlords, please refer the tenant to the code enforcement or property maintenance department in their locality.
- For complaints or disputes, tenants living in Section 8 housing may contact their voucher granting agency. For those living in subsidized buildings or public housing, HUD is the licensing authority.
- A matrix of referral agencies by housing type can be found in the appendix of Michigan’s Bed Bug Manual at www.michigan.gov/bedbugs

Treatment Methods

- If attempting do-it-yourself (DIY) treatment, residents and property managers MUST consider the following:
 - The pesticide label is the law. Pesticides must be applied according to the label instructions for the type of insect, area of application (indoors/outdoors/surfaces, etc.), and amount used.
 - Be careful when applying pesticides to surfaces that people come into contact with regularly
 - Use a combination of methods including reducing clutter, vacuuming, laundering clothing and bedding, mattress encasement, heat, and pesticides. Pesticide application alone will not rid residents of bed bugs.
- Restricted-use pesticides may only be applied by a certified pesticide applicator. For more information contact the [Michigan Department of Agriculture](http://www.michigan.gov/ag).
- When hiring a professional to eradicate bed bugs, ensure they are licensed, experienced in bed bug control and preferably a member of a professional organization such as the [Michigan Pest Management Association](http://www.michiganpest.org).

Tip 4: Resources

The Michigan Department of Community Health Bed Bug website: www.michigan.gov/bedbugs

- General information, fact sheets, links to training, *The Bed Bug Control Manual* geared to Michigan residents
- U.S. Centers for Disease Control and Prevention: <http://www.cdc.gov/parasites/bedbugs/>
- Frequently asked questions, biology, publications, and resources for health professionals
- U.S. Environmental Protection Agency: www.epa.gov/bedbugs/
- Identification, treating, and preventing bed bugs, myths, pesticide information
- New York City Department of Health and Mental Hygiene: www.nyc.gov/html/doh/bedbugs
- Bed bug prevention, getting rid of bed bugs safely, healthy homes guide (multiple languages)