

Bed Bugs

Bed bugs, *Cimex lectularius*, have been around for thousands of years. They are a human **parasite** (organism living in, with, or on another organism) from the insect family Cimicidae, which thrives in temperate and tropical regions worldwide. Bed bugs are exclusively **hematophagous** (they feed only on blood). They are small but visible to the naked eye, wingless, yellow to reddish brown in color, oval shaped, and have prominent eyes. They can hide in the cracks and crevices of mattresses, in box springs, on the backboards of beds, and behind loose wallpaper baseboards, and they can travel in furniture, luggage, clothing, and other personal belongings. The stigma commonly associated with bed bugs is mostly unwarranted because infestation is not necessarily attributable to lack of hygiene. International travel, immigration, and resistance to insecticides have contributed to a resurgence in reports of infestations with these insects in developed countries. Bed bugs are predominantly night feeders, attracted to warm-blooded animals, including humans. There is currently no scientific evidence that these blood-sucking insects spread diseases such as human immunodeficiency virus (HIV). The April 1, 2009, issue of *JAMA* includes an article about bed bugs.

SIGNS AND SYMPTOMS

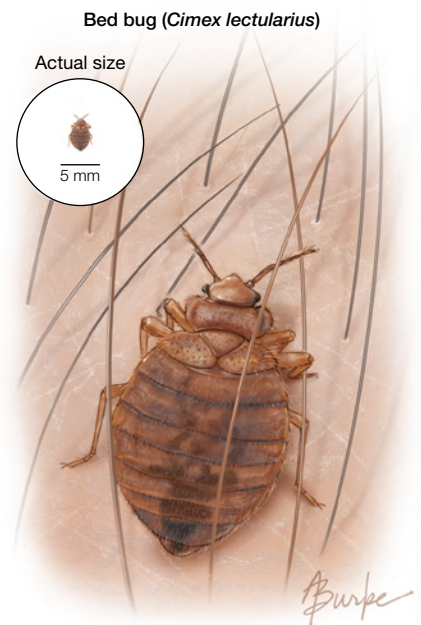
- In many cases there is no reaction and barely any visible evidence of a puncture from a bite.
- The most common reaction is the development of small inflamed **pruritic** (itchy) bumps where each bite occurred. These usually resolve in a week or 2.
- An allergic reaction to the bed bug bite can cause a complex skin reaction that results in **urticaria** (inflammation and swelling of the skin) at the site of the bite. This may evolve into a more widespread **bullous** (fluid-filled bump) rash over the subsequent days and may become complicated by secondary bacterial infections.
- Rarely, asthma occurs as a systemic type of an allergic reaction caused by bed bug bites and may be accompanied by more extensive urticaria and **anaphylaxis** (severe and sometimes fatal reaction to an allergen resulting in breathing difficulties, low blood pressure, and eventually shock if untreated).

TREATMENT

- There is no definitive treatment for bed bugs.
- Symptomatic relief for pruritic bites can be obtained using over-the-counter topical antihistamines or topical corticosteroids. Topical, oral, or intravenous antibiotics may be required when secondary bacterial infections occur.
- Urgent intramuscular injection with an antihistamine, corticosteroid, or **epinephrine** (adrenaline) may be required for some individuals who develop a systemic allergic reaction to bed bug bites.

PREVENTION

- Bed bugs are difficult to eliminate.
- Proper identification by thorough inspection of areas thought to be at risk of infestation including hotel rooms or other unfamiliar locations. Items like mattresses, box springs, and bedding purchased from resale shops should be carefully inspected before bringing them into the home.
- Vacuuming mattresses and box springs may help.
- Covering mattresses and box springs with encasements that prevent escape of bed bugs may help.
- Insecticides in the same class as those used to prevent malaria transmitted by mosquitoes in tropical countries have been moderately effective, but bed bugs are developing resistance to these and there is some concern about the health effects of these insecticides on humans.



FOR MORE INFORMATION

Centers for Disease Control and Prevention
www.cdc.gov/eid

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