



## *Bed Bugs*

*David Buchanan, MD*  
*Carmen Cleary, NP*

**C***imex lectularis* and *hemipterus*, or bed bugs, have plagued humankind since the beginning of recorded history. Although they have continued to affect people in developing countries throughout the modern era, bedbug infestations in the USA were relatively rare until recently. The resurgence is believed to have been caused by the use of less toxic pesticides, pesticide resistance, and the increase in international travel from countries where bed bugs are endemic. Bed bugs cannot fly and are transferred from place to place in luggage, bedding, and used furniture. Bed bugs feed primarily on human blood, but they can affect other mammals and birds.

### **Diagnosis**

The diagnosis of bed bug bites is suggested by the history and physical exam and is confirmed by characteristic findings in the living space or by a positive identification of the offending bug. Patients typically present with multiple pruritic bites that are usually noticed when arising in the morning. The bites appear over areas which are not covered by clothing during sleep and generally spare the intertriginous regions and areas under tight clothing that are commonly affected by scabies. Skin manifestations of the bites present in a variety of ways depending on the degree of immunological response.

The bites can present as:

- pruritic wheals (like mosquito bites);
- papules;
- groups of small vesicles with surrounding erythema and induration;
- bullous lesions which may resemble erythema multiforme;
- asthma exacerbations, anaphylaxis, or other systemic responses.

Lesions often have a central punctum and are arranged in a linear fashion in groups of 3 (often called “breakfast, lunch, and dinner”).

When bed bugs are suspected, the patient’s living space should be inspected. Bed bugs feed on humans but live near the buttons and seams of mattresses, behind loose wallpaper or baseboards, and near electrical plates and cracks in walls. Over time, the areas where the bugs live become stained with human blood and bedbug feces. The stains appear oily with a reddish brown or black color and give off a distinctive sweet odor.

Definitive confirmation of the infestation can be made by capturing and positively identifying the bugs. This can be difficult because the bugs feed during the pre-dawn hours. The biting can occasionally interrupt sleep, but most commonly the bites are first noted in the morning after the bugs have returned to their hidden living spaces. We recommend giving patients a specimen container and asking them to capture the bugs that they notice near their sleeping area. Adult bedbugs can live for over a year without feeding and therefore can be easily saved for the clinician to examine

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*Cimex lectularis*, the common bed bug, is brownish-red and approximately 5 mm in length. After a meal of human blood, the bed bug can swell to a length of over 7 mm.  
Photo by  
Carmen Cleary NP

Inspection of bedding in the early morning can sometimes help find bed bugs.

Bed bugs feed on human blood at night but hide during the day in the seams of mattresses, behind loose wallpaper or baseboards, and near electrical outlets.

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later. *Cimex lectularis*, the common bedbug, is light brown as a nymph and turns brownish red as it matures to adulthood. Before feeding, *Cimex lectularis* is approximately 5 mm in length and swells to over 7 mm after feeding. *Cimex hemipterus*, the tropical bedbug, is occasionally found in Florida and is distinguished by a longer pointed body.

who have fed on an infected host. However, this has not been proven scientifically; bed bugs have not been found to be vectors of disease in animal experiments, and the eradication of bed bugs has not been shown to reduce transmission rates of blood borne infections in heavily infested areas.

### Control

The primary treatment for bed bug infestation is extermination. In addition to pesticide spraying, the bugs' living spaces should be eliminated by caulking cracks, removing peeling wallpaper, repairing loose floor boards, and cleaning or removing infested mattresses and upholstered furniture. Consultation with a professional pest control company is recommended.

### Conclusion

Bed bugs are an increasingly common cause of pruritic rashes among homeless people in shelters. Diagnosis is suggested by finding bites on exposed areas upon awakening in the morning and by inspection of the affected bedding. Extermination of the bugs is necessary to prevent continued bites, but rashes from the bites resolve spontaneously. ■

Bites from bed bugs are itchy and resolve without treatment in 3-10 days.

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### Treatment

The bites resolve spontaneously in 3-10 days without treatment. The pruritis or itchiness can be managed with antihistamines and topical steroids if symptoms are severe. Bed bugs feed multiple times during their life cycle and may be potential vectors for infectious diseases. Blood-borne viruses such as hepatitis B and HIV have been isolated in bed bugs

### References

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