

# Fact Sheet

November 2008

## Information for healthcare professionals



Over the past few years, there has been a significant increase in reports of people suffering from bed bug infestations in Toronto. Bed bugs (*Cimex lectularius*) are nocturnal bloodsucking insects that attack humans and other mammals. Bed bugs can be found almost anywhere in the world where humans have established homes and cities. Anyone can get an infestation of bed bugs; however, vulnerable populations may have a particularly difficult time managing the required treatment and prevention strategies.

Early identification and diagnosis of bed bug bites is essential to managing this resurging insect.

### Epidemiology

Bed bugs reside in crevices of floors and walls, bedding, and upholstered furniture. They are wingless but can travel up to 20 feet in search of a human host. After feeding for 10 to 20 minutes the bedbug will return to its place of hiding. Bedbugs usually feed once a week and can survive for six months without feeding. Places with high turnover of residents are often associated with bedbugs.

Currently there is no evidence that bed bugs transmit blood-borne infectious diseases such as Hepatitis B, Hepatitis C or HIV. It has been determined that these viruses do not replicate inside the insect's body, and animal model studies have never been able to demonstrate insect-to-animal transmission.

Infestations, however, can cause anxiety, secondary infections, allergic reactions and financial hardship.

### History

You should suspect bed bugs in any patient with nocturnally acquired bites or rashes. The rash does not have to be pruritic. Patients may report seeing small flat bugs, typically at night. They may also report signs of an infestation –small reddish brown stains or spots on sheets or mattresses. Bite reactions occur on exposed body sites such as face, neck and extremities – most often the arms and shoulders. Clues to bedbugs as the cause may be staying in a place of high resident turnover (hotel, hostel, shelter, rooming house, etc.) or use of second hand furniture/mattresses. You should determine if the patient has certain fears about other diseases or beliefs about cleanliness around bedbugs as well as any impact this may be having on their emotional and social wellbeing.

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## Physical Examination



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Bites are typically erythematous or urticarial papules although other rarer reactions (bullae and vesicles) are possible. Purpuric macules may be the only manifestation in a nonsensitized patient. Note the location of the bites and determine if they correlate with exposed areas of skin (not clothed during sleep). The bites may be in a linear or clustered pattern. The classical distribution of the rash in linear groups of three is known as the “breakfast, lunch, and dinner sign.” Changes secondary to scratching include excoriations, eczematous dermatitis, and secondary infections.

## Diagnosis

Definitive diagnosis depends on identification of the bedbug. This can be done through a pest control company or Toronto Public Health (call 416-338-7600 or visit <http://www.toronto.ca/health/bedbugs/submittinganinsectsample.htm> about submitting a specimen). However, relying on the patient’s verbal reports of the bugs or their signs (spotting/stains on sheets/mattresses) may be enough to make an interim diagnosis.

The differential diagnosis of bed bug bites includes dermatitis herpetiformis, drug eruptions, ecthyma, other insect bites, pemphigus herpetiformis or scabies. Scabies tends to affect covered skin such as the axillae and periumbilical area. Fleas are only on the extremities, usually of pet owners. Both flea bites and scabies rarely affect the face.

## Treatment

Bed bug bites do not usually require any medical treatment. Creams with corticosteroids and oral antihistamines may be advised in more severe cases. Local antiseptic lotion or antibiotic cream can be applied if secondary infection occurs. The affected person should resist the urge to scratch the bites, as this may intensify the irritation and itching and may lead to secondary infection.

The best solution is to get rid of the bedbugs. This will require the use of a licensed pest control company. Elimination of bedbugs requires the removal of clutter and meticulous cleaning. Often a number of treatments over several weeks are required. Patients who are tenants need to refer this matter to their landlord. Toronto Public Health maintains a web site with lots of information on bedbugs <http://www.toronto.ca/health/bedbugs/> and also offers assistance over the phone.

Be sure to remind your patient that even the cleanest people can get bedbugs whether at home or a five-star hotel.

## References

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