

# BED BUGS

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## **PUBLIC HEALTH ISSUE:**

The common bedbug (*cimex lecturlarius*) is the species most commonly found in human living environments. This species is found in temperate climates throughout the world and feeds on blood. The bedbug belongs to the family **Cimicidae** because it lives by hematophagy which means that this insect feeds on the blood of humans and other warm-blooded hosts. This insect is named after the habitat that it prefers to reside in which is the mattresses of beds.

Adult bedbugs are reddish-brown, flattened, oval and wingless, with microscopic hairs that give them a banded appearance. These insects are visible with the naked eye. Adults grow to 4 to 5 mm ( $1/8^{\text{th}}$  –  $3/16^{\text{th}}$  of an inch) in length. Newly hatched nymphs are translucent, lighter in color and become browner as they molt and reach maturity which takes about 5 weeks. Bedbugs are often compared to lentils or apple seeds in size.

When feeding, bedbugs typically feed just before dawn with a peak feeding period just before sunrise. They can be observed to feed at anytime during the day or evening. They can reach their host by crawling, and sometimes, they climb the walls to the ceiling and jump down on a location by feeling a heat wave. They are attracted to warmth and the presence of carbon dioxide from their hosts. The insect pierces the skin of its host by two hollow tubes. With one tube, it injects saliva, which contains anticoagulants and anesthetics, while with the other tube, it withdraws the blood. The insect typically has a feeding period of approximately 5 minutes. The bites are not usually felt for minutes or hours later.

Bedbugs can live up to a year to eighteen months without a feeding. They normally try to feed every 5 to 10 days. Bedbugs that go dormant from lack of food can live longer than a year while well-fed bedbugs live between 6 to 9 months. A host may have bites on sites in a variety of places on the body and the bite patterns may be in a row or in clusters. The bites appear as raised bumps or a flat welt and are often accompanied by intense itching. The raised bump or welt is a result of an allergic reaction to the bite and may not appear until approximately 9 days later than the initial feeding.

There have been no known cases of bedbugs passing disease from host to host. There has been extensive testing conducted in a laboratory setting to determine that bedbugs cannot pass disease from one host to another. Bedbugs are considered to be more of an annoyance than a disease causing entity.

Bedbugs were thought to be eradicated about 50 years ago in the United States and elsewhere with widespread use of DDT. The cause of the resurgence of bedbugs is still uncertain, but most believe it is related to increased international travel and the use of new pest-control methods that do not affect bedbugs. The use of baits instead of the use of insecticide sprays is believed to have contributed to the increase of prevalence of the bedbug population.

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## **ROLE OF THE HEALTH OFFICER:**

Health officers can serve a role in the detection of bedbugs and provide technical assistance in regards to providing recommendations for licensed pest extermination companies to treat and exterminate the bedbugs if found in a dwelling. Health officers can conduct the appropriate enforcement actions in accordance with RSA 48A:14 for Minimum Housing Standards for Rental Property for the infestation of pests. (Please refer back to the Housing section of this manual for RSA48A:14.) The infestation of bedbugs may be enforced differently in the cities and larger towns depending upon their housing codes (if applicable).

Bedbugs thrive in places and dwellings that have high occupancy levels such as hotels, motels, or bed and breakfasts where people can carry the bedbugs back to their homes in their luggage. When coming back from traveling, people should thoroughly inspect their luggage and clothing before putting items away. People can inadvertently pick up bedbugs by purchasing used furniture, mattresses or clothing that is infested and bringing those products back to their household. If an area is severely infested, bedbugs may actually crawl onto the clothing of a visitor and be carried away in people's clothing so health officers need to take special care when conducting inspections in places of heavy infestation to assure that they do not carry that infestation to their own homes. Bedbugs may travel between units in multi-unit dwellings and be carried between households via pets

Bedbugs like to hide in the daylight hours so it may be difficult to locate them on the initial inspection if there is not a heavy infestation. There has been recent use of dogs to sniff out the hiding places of bedbugs. Bedbugs like to hide in dark places like mattress ribbing and around the label of the mattress as well as in the mattress interior. They also like to hide in bed frames, nearby furniture, in the baseboard, electrical outlets, lighting fixtures, walls and in any clutter that is in the bedroom that may be near the host, but they can also travel up to 100ft to feed.

For more information contact:

<p style="text-align: center;"><b>NH Division of Public Health Services</b> <b>29 Hazen Drive</b> <b>Concord, New Hampshire 03301</b> <b>1-800-852-3345 ext. 4781, or (603) 271-4781</b></p>
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