

Bed Bug Bites and the Bites of Other Arthropods

Bites are usually the early warning sign of a bed bug infestation. Bed bugs feed only on blood. Each life stage feeds, except the egg. They insert the fine stylets from their beak directly into the skin in search of a tiny blood vessel, and may move and bite repeatedly until they find the right spot. At each point the beak releases saliva into the skin. The saliva contains proteins and enzymes that will cause an allergic reaction in many people. Allergic reactions vary widely from practically no reaction, to small itchy red or white bumps, to blisters or pustules. Not every person in a household will react the same way and many times only one person will show signs of bites, leading others to believe it cannot be bed bugs.



Bed bug bites on a woman's leg. Photo from www.bedbugger.com.

It is difficult, if not impossible, to distinguish bed bug bites from those of other biting pests without other circumstantial evidence that will link to a specific pest. It is critical to confirm bed bugs in the sleeping or living area through inspection to be sure that bites are caused by bed bugs. Bed bug bites can resemble mosquito and flea bites.

If you or someone you know has bites, consider the following:

- Bed bugs tend to feed on exposed skin, but can feed under loose clothing.
- Bed bugs primarily feed at night in the dark, in a typical situation.
- Under stressed conditions bed bugs may feed during the day. Stressed conditions include:
 - *Bed bugs have no access to hosts because people are not sleeping nearby*
 - *When bed bugs are disturbed by cleaning or pesticides they may move to other areas*
 - *As the numbers increase, bed bugs may spread due to overcrowding*
- Bed bug bite reactions can take a few minutes or as many as 14 days to appear.
- If bed bugs cannot be located in sleeping areas after multiple inspections, other biting pests must be considered.
- If local temperatures are over 60° F and the individual is outdoors or has unscreened windows open, mosquito bites must be considered. Mosquitoes can also breed in standing indoor water in basements or unused sinks, toilets, drains, refrigerator pans, pet water dishes, plants, or dirty fish or reptile tanks. A quick inspection will help identify these conditions.
- Pets or wildlife, including raccoons, squirrels, rabbits, and rodents may carry fleas that bite humans, especially in warmer months.

There are other causes of bites and lesions aside from bed bugs. While bites can vary, the activities of the person bitten may help determine the cause.



- **Mosquitoes** – Generally, mosquitoes feed at dawn and dusk, but at least one species bites during the day. In most people, a wheal and flare reaction is common and occurs quickly. Mosquito bites are usually associated with warm weather and being outdoors. A torn or missing window screen allows mosquitoes into the living area.



- **Head, body, and pubic lice** – Lice live on the human body, feeding by penetrating the skin. Head lice live on the scalp among hairs, body lice live in clothing and feed on adjacent skin, and pubic lice feed among the hairs of the pubic region. Look for signs of lice and their eggs (nits) in the hair and clothes.



- **Ticks** – Most often associated with natural areas, such as grassy shorelines and wooded areas, ticks are rarely encountered indoors unless pets bring them inside. Ticks insert their mouth parts into the skin and remain attached to feed on blood. They usually remain attached for a long period of time (1 to 3 days), become greatly engorged with blood and are much more noticeable for these reasons.



- **Fleas** – Flea bites are usually associated with the presence of animals serving as flea hosts, such as pets and occasionally wildlife. Fleas tend to leave multiple bites on the arms and legs.



- **Bird and rodent mites** – Associated with birds, rats and mice nesting in or on the building. Bird mites are usually spotted when young birds and their parents leave the nest. Mites may be seen on windowsills or air conditioning units. Most mites do not live long off the host but will bite people, if they get onto the skin. They do not cause serious bites or transmit disease. Mites should be cleaned up with soap and water. Birds should be discouraged from nesting on the building or in AC units. Rodents should be exterminated from the building and access points permanently sealed. Trapping rodents helps remove the source of mites, unlike rodenticides, which result in dead rodents within walls, which can attract other pests.



- **Scabies** – The scabies mite (human itch mite) is a parasite that burrows in layers of the skin creating small lesions containing mites and eggs. Scabies is transferred among humans by close contact. This is a medical problem that should be confirmed by a doctor and treated with scabicial cream or lotion applied to the body. **Scabies are not a pest management issue**, and do not require treatment of a room or home, however bedding and clothes should be laundered at high temperatures for sanitation reasons.



- **Spiders** – Spiders have paired mouth parts, like jaws and leave behind one or two puncture wounds when they bite. Bites are usually associated with some localized pain; however spider bites are relatively rare in the Northeastern United States, where venomous spiders are uncommon.

For more information about arthropod bites, please see *Physician's Guide to Arthropods of Medical Importance, 4th Edition*. 2003. Jerome Goddard, Ph.D., CRC Press, New York, NY