

## Bed Bugs for the Medical Service Provider



The common bed bug, *Cimex lectularius*, has re-emerged as a significant pest of humans in the United States, Canada, Europe, Australia, and other developed countries after a 40 year period of near absence. Other species of Cimicids will bite humans, especially the tropical bed bugs, but the most common pest is *C. lectularius*.

The adult bed bug is a flattened, reddish-brown insect that cannot fly or jump. Juveniles are small and pale. Bed bugs hide in tight spaces close to where the host sleeps. Humans are the main host and blood is the only food source. A blood meal is needed for each stage of growth, including egg-laying, so bed bugs feed often. Their population can increase dramatically in a short period of time if the issue is overlooked or ignored.

Bed bugs have not been shown to vector diseases, despite their evolution as a blood-feeding pest of humans. Medical issues associated with bed bugs include multiple itchy bites and inflammation, secondary skin infection, a minor potential for anemia from blood loss, minor risk of anaphylaxis, stress, anxiety, sleeplessness, and the potential for overexposure to pesticides used in their control.

### **Skin and other reactions:**

Bed bugs have piercing-sucking mouth parts. They inject anticoagulant/anesthetic saliva to the wound, which causes varying degrees of inflammation. For many people bites go unnoticed. For others, bites can be extremely itchy, showing up most commonly upon awakening, since bed bugs mainly feed during the night and early morning hours.

#### **Bed bug bites 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 may also have a central punctum or puncture wound. Bites occur in clusters or lines, in open areas of the skin, and where clothing is not tight.

(From: The Health Care of Homeless Persons: A Manual of Communicable Diseases and Common Problems in Shelters and on the Streets– Part I – Bed Bugs. Healthcare for the Homeless Council. 2006. D. Buchanan and C. Cleary)

### **Treatment of bites:**

Bed bug bites are generally self-resolving in 3-10 days but bites may result in scarring. Topical or oral antihistamines can bring relief. Ultimately, effective and long term bed bug control is required to resolve this condition. Mental health support may be required for some sufferers.

### **Delusory parasitosis or mystery bites**

Delusory parasitosis (DP), also known as Ekbom's Syndrome, is the feeling or fear that one is being infested with parasitic organisms, which may be accompanied by an actual physical sensation of itching or crawling on the skin. Sufferers may scratch, injure themselves, apply pesticides to their skin or surroundings, and often compulsively gather evidence of the infestation. Evidence may be in the form of marks on the skin, particles of cloth, fibers, and other debris, and carefully recorded observations of the parasite behaviors. Often, sufferers seek insect or mite related causes, and they may have unshakable beliefs that their bodies or surroundings are infested with bed bugs, mites, fleas, and other real and imaginary organisms.

It is critical to determine whether an insect or mite is present in the living area before considering treatments, especially pesticide use, which may exacerbate itching or other medical conditions. Bed bugs have become common enough to consider as a causal agent, but bed bugs are not the only possibility. Scabies is a condition where mites burrow into the skin resulting in lesions and open sores. This occurs on the hands, wrists and elbows, but can be all over the body. Scabies must be diagnosed through microscopic examination of skin scrapings taken from the edge of the affected area. More information on scabies can be found in medical literature. Bird mites will bite people but do not burrow into the skin or live on people. They are usually present when birds nest in vents, window sills, or air conditioning units of a living space. Rodent mites occasionally bother humans, especially when pet rodents are kept (hamsters, gerbils) or when pest rodents are present in the home. Fleas can be present when domestic or even wild animals are living in or close to the home or room. Positive and accurate identification of a biting arthropod may require the expertise of an entomologist skilled in diagnostics.

If no arthropod can be identified in the living environment, yet the individual insists that their symptoms are

real, or if they have inflicted damage upon themselves as a result of a perceived infestation, other causes must be explored. Commonly, DP sufferers have medical or psychogenic causes of itching and prickly sensations.

#### **Symptoms of DP may be caused by a wide variety of conditions including, but not limited to:**

Diabetes, hyperthyroidism  
Medications  
Drug abuse  
Hormonal changes  
Mild allergies to environmental stimuli, such as detergents  
Dementia  
Anxiety, depression  
Paranoia  
Nutritional deficiencies  
Central nervous system infections

For a more complete treatment of delusional parasitosis see the following references:

- \* Slaughter, J.R., Zanol, K., Rezvani, H., and Flax, J.F. Psychogenic Parasitosis, a case series and literature review. *Psychosomatics*, 39: 491-500. 1998
- \* Hinkle, N. Delusory Parasitosis, *American Entomologist*. 2000, 46(1):17-25