

Bedbug (*Cimex lectularis*) Prevention and Response Policy and Procedure

I. Purpose: To prevent the possibility of bedbugs being brought in with resident belongings and to describe processes and procedures to manage residents should a bedbug infestation occur.

Bedbugs are challenging pests to control and prevention is important. The bugs are usually transported on luggage, clothing and personal belongings and hide in tiny places, so inspections must be thorough.

II. Policy: ____ (LTCF) _____ will follow those recommendations described by the Centers for Disease Control and Prevention (CDC), World Health Organization (WHO), local and state health authorities pertaining to the control of bedbugs.

A. Upon admission:

1. A skin assessment will be done to look for suspicious bites by the admission staff. Residents and/or family will also be questioned as to where they are arriving from. If a resident is arriving from a facility other than their own home (hospital, Assisted Living Facility, family member home) the bedbug protocol should be initiated. Likewise, if there is any reason on admission assessment to suspect a resident is coming from their own home (or that of a family member) where bedbugs may be present (e.g., suspicious bites, recent infestation at the home, verbal comments) the bedbug protocol should be initiated.
2. Care should be taken to reassure residents upon admission that the possible presence of bedbugs or other parasites will not affect their admission status. Our concern is to protect them, all our residents and our facility by identifying parasites quickly and eliminating them.

Bedbug Protocol:

1. Residents who meet criteria for initiating the bedbug protocol (See Number 1 above) should have all personal belongings thoroughly inspected for evidence of bedbugs **PRIOR** to those items being brought to the resident's room). This includes all luggage, clothing, purses, personal bedding, pillows, footwear, personal furnishings, including alarm clocks, photo albums, books, framed pictures. If items are noted to have bedbugs on them, those items should be immediately either placed in a sealed plastic bag (preferably with a zipped lock closing or taped shut), or placed outside the facility (i.e. larger pieces of furniture). Items that can be laundered should immediately be laundered on the hot cycle and dried in the dryer on high heat for a minimum of 60 minutes (or sent out to contracted laundry service –clearly marked). For items that cannot be laundered, they should be maintained in a sealed bag and either disposed of in a garbage container **OUTSIDE** the facility (with resident/family consent). Furniture items noted to have bedbugs should be immediately removed to an outside area and covered in plastic until they can be properly treated by exterminator services (that specialize in bedbug extermination). **Staff should use gown and gloves during the belongings inspection and follow contact precautions.**

2. If clothing items brought in for admission with the resident appear clean, they will go immediately into the dryer for **30 minutes on high heat**. The resident should be given a hospital gown to wear while their clothing is being either laundered or in the dryer.
3. Toiletries need to be kept in a plastic case or container rather than a cloth case.
4. Purses, totes and any items not able to go in the dryer should be sealed in plastic bags and returned home with the family.

B. Suspected Infestation After Admission

If a resident is already admitted to the facility and a bedbug infestation is suspected, the following actions should be initiated by the nursing staff:

1. **Contact the Environmental Services/Housekeeping Supervisor immediately as well as the Nursing Supervisor and the Infection Prevention Nurse.** Either the Environmental Services/Housekeeping Supervisor (or Nursing Supervisor, if Environmental Services /Housekeeping Supervisor is not available) will initiate contact with pest control services under contract with the facility who will confirm the presence of bedbugs. Confirmation involves finding and identifying the bugs themselves. Place any bug found by staff into a specimen container for identification by pest control services.
2. **Remove the resident clothing immediately and place in a sealed bag.** Clothing should be laundered with hot water and detergent and heated in a dryer **over 120 degrees Fahrenheit for 30 minutes**. In the event that a resident is in a semi-private or larger room, this procedure will be followed for all residents in that resident room.
3. The resident room should be closed and residents moved to other rooms (until after their belongings are treated) until the room is inspected and cleared by pest control services.
4. Reducing clutter is a necessity. Belongings strewn about rooms afford many places for bedbugs to hide, and impedes inspection and treatment.

C. Containment of Infestation

If additional bedbugs are found while the resident is currently in the facility, the following actions will be initiated by pest control services:

1. A thorough inspection requires dismantling the bed and standing components on edge so that upper and lower surfaces can be examined. Things to look for are the bugs themselves, and the light brown, molted skins of the nymphs. Dark spots of dried bedbug excrement are often present along mattress seams or wherever the bugs have resided.
2. Successful treatment of mattresses and box springs is difficult and infested components may need to be discarded. Cracks and crevices of bed frames should be examined. (Bedbugs have an affinity for wood and fabric more so than metal or plastic).
3. Site-specific vacuuming, however, can help remove some of the bugs before treatment with insecticides. Afterward, dispose of vacuum contents in a sealed trash bag. Bed bugs (especially

eggs) can be difficult to dislodge. Optimum results will be achieved by moving and scraping the end of the suction wand along infested areas such as seams, tufts and edges of bedding, and the perimeter edge of flooring.

D. General Information and Education

Mode of transmission:

Direct contact with an infested person and their living space.

Period of Communicability:

As long as the bed bug remains alive on the infested person, clothing or personal items. An adult bed bug can live for up to one year.

Bedbugs are small, brownish, flattened insects that feed solely on the blood of the host. The common bedbug, *Cimex lectularis*, is the species most adapted to living with humans. Once bedbugs are introduced, they often spread room to room throughout a building. Unlike cockroaches that feed on filth, **the level of cleanliness has little to do with most bedbug infestations.**

Adult bedbugs are about ¼ inch long and reddish brown, with oval, flattened bodies. They are sometimes mistaken for ticks or cockroaches. The immatures (nymphs), resemble adults, but are smaller and somewhat lighter in color. Bedbugs do not fly, but can move quickly over floors, walls, ceilings and other surfaces. Female bedbugs lay their eggs in secluded areas, depositing up to five a day and 500 during a lifetime. The eggs are tiny, whitish, and hard to see without magnification (individual eggs area about the size of a speck of dust). When first laid, the eggs are sticky, causing them to adhere to substrates. Newly hatched nymphs are no bigger than a pinhead. As they grow, they molt (shed their skin) five times before reaching maturity. (See Appendix A) A blood meal is needed between each successive molt. Under favorable conditions (70-90°F), the bugs can complete development in as little as a month, producing three or more generations per year. Cool temperatures or limited access to blood meals extends the development time. Bed bugs are very resilient. Nymphs can survive months without feeding and adults for more than a year. Although *Cimex lectularis* prefers feeding on humans, it will also bite other warm-blooded animals, including pets.

Bed bugs are active mainly at night. During the daytime, they prefer to hide close to where people sleep. Their flattened bodies enable them to fit into tiny crevices – especially those associated with mattresses, box-springs, bed frames, and headboards. Characteristically these areas are marked by dark spotting and staining, which is dried excrement of the bugs. Also present will be eggs and eggshells, molted skins of maturing nymphs, and the bugs themselves. Another likely sign of bedbugs is rusty or reddish spots of blood on bed sheets, mattresses, or walls.

Bedbugs prefer to hide close to where they feed. However if necessary, they will crawl several feet to obtain a blood meal. Initial infestation tends to be around beds, but the bugs eventually may become

scattered throughout a room, occupying any crevice or protected location. They can also spread to adjacent rooms.

Bed bugs usually attack people at night while they are sleeping. Engorgement takes about 3-10 minutes, yet the person seldom knows they are being affected. The bedbugs don't actually bite the individual. The bedbug has a beak-like extension that they insert into the skin, secreting both an anesthetizing and anticoagulant agent, which is why individuals often do not wake when bedbugs are actively feeding. (See Appendix A) Symptoms thereafter vary with the individual, as it is dependent on individual immune response to the agents injected during the bedbug's feeding session. **Many people develop an itchy red welt or localized swelling, which appears in the morning. Bed bugs are suspected if the patient wakes up with itchy bites that they did not have when they went to sleep. The bites often occur in a line of 4 or 5 bites in a row.** (See Appendix A) Unlike flea bites, which occur mainly around the ankles, bed bugs feed on any bare skin exposed while sleeping (face, neck shoulders, arms, hands, legs, etc). The welts and itching are often attributed to other causes such as mosquitoes. For these reasons, infestations may go a long time unnoticed, and can become quite large before being detected. The possibility of bed bugs increases if the affected individual has been traveling, or had acquired used beds or furnishings before symptoms started to appear. (See Appendix A for similar insect/other source reactions)

Disease:

A common concern with bed bugs is whether they transmit disease. Although bed bugs can harbor pathogens in their bodies, transmission to humans is highly unlikely. For this reason, they are not considered a serious disease threat. Their medical significance is mainly limited to the itching and inflammation from their bites.

Treatment:

Antihistamines and corticosteroids may be prescribed to reduce allergic reactions, and antiseptic or antibiotic ointments to prevent infection. Infestations also may cause anxiety, embarrassment, and loss of sleep. In severe cases, a condition referred to as *delusory parasitosis* has developed. This condition is purely psychiatric in nature, as there is no evidence of actual infestation, but the individual is convinced that they are affected physically by the bedbugs. The condition can often develop after multiple infestations have occurred.

Appendix A:

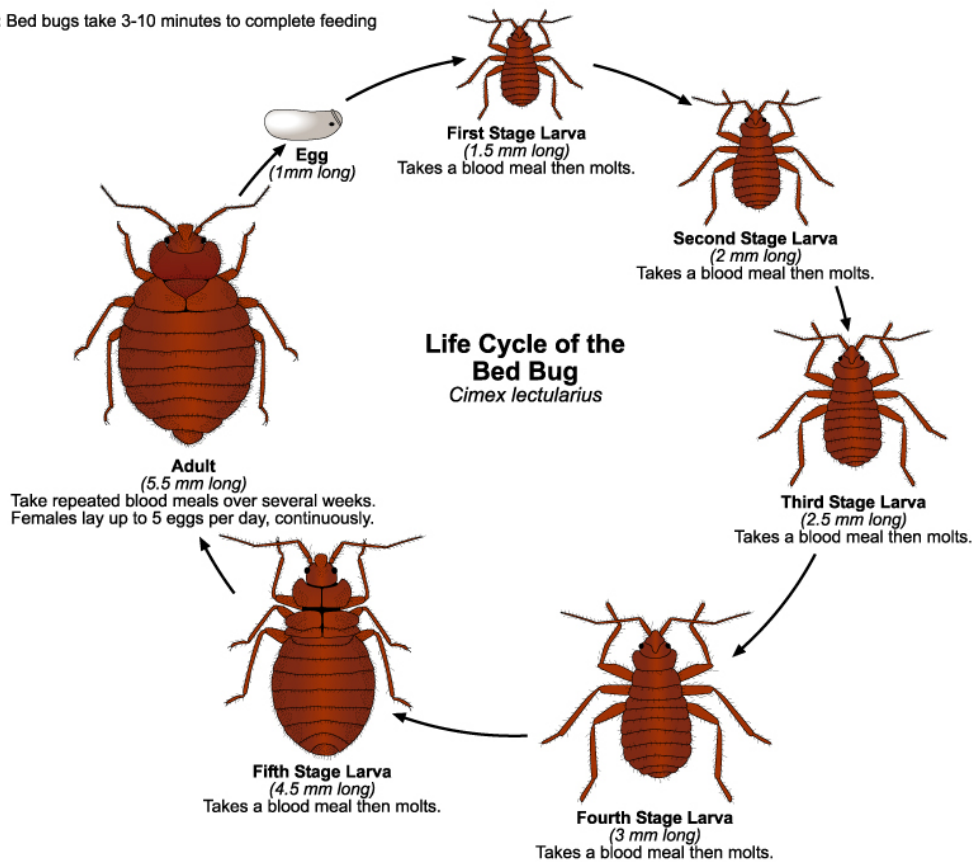
Bed Bug Feeding



Beak is used to inject anticoagulant and anaesthetic agent into host prior to feeding.

Lifecycle of a Bed Bug

Note: Bed bugs take 3-10 minutes to complete feeding



Source: Purdue University



Typical linear pattern of bed bug reaction.

Appendix B

Additional Resources:

CDC-EPA Joint statement on bed bug control in the US:

http://www.cdc.gov/nceh/ehs/publications/bed_bugs_cdc-epa_statement.htm

Pennsylvania Department of Health

http://www.emsnp.org/Info/EMSIB_2011006_BedBug.pdf

NYC Department of Health and Mental Hygiene

<http://www.nyc.gov/html/doh/bedbugs/html/home/home.shtml>

Connecticut Agricultural Experiment Station (CAES)

www.ct.gov/caes