Infection Control: Bed Bugs

Bed bugs are tiny insects that feed on the blood of humans and animals, such as dogs, cats, mice, birds and bats. They tend to infest areas where people sleep, hiding during the day and coming out at night to feed on people sleeping in their beds. This is why they’re called bed bugs. A bed bug infestation can occur in any setting. As a nursing assistant, it’s important for you to be aware of how bed bugs are transmitted, and signs of infestation.

Bed bugs—An Increasing Problem

The bed bug, Cimex lectularius, was a very common problem in the US until the 1940’s. When the pesticide DDT came into use at that time, the bed bug populations were essentially wiped out. For the next 50 years or so, bed bugs were quite rare in the US.

Bed bug populations began gradually increasing in the US in the mid-1990’s. Possible reasons include increased international travel, restrictions on pesticide use, and bed bugs developing resistance to insecticides. A lack of awareness of the problem by the general population is also believed to contribute to their spread. Now, 20 years later, bed bug infestations have become a common problem in the US, once again.

The most common settings infested by bed bugs include hotel rooms, houses, apartments, and dormitories. They have also been known to infest hospitals, nursing homes, offices, schools, churches, public transportation, and movie theaters. Bed bugs are hardy insects that can thrive in almost any setting.

The Life Cycle

Bed bugs are small, flat, oval insects, reddish-brown in color. They can be easily seen with the naked eye. They are not often seen, however, because they tend to hide during the day and come out at night to feed on exposed skin on the host. They may find a host by sensing the carbon dioxide exhaled with each breath, as well as the body heat of the host. Bed bugs first find exposed skin on the host, feed for 5-10 minutes, then crawl back to their hiding places. They may not need to feed again for a week or longer. If there is no food source, bed bugs can normally live for many months without feeding.
A female bed bug typically lays several eggs a day during her lifespan, which is about one year. Eggs are laid in daytime hiding places, such as mattress seams, or under furniture or baseboards. The eggs are sticky, allowing them to adhere to vertical surfaces. The eggs hatch into nymphs, which must take a blood meal before continuing to develop. The nymphs develop through five stages before maturing into adults, shedding their shells at each stage and continuing to seek blood meals.

Bed bugs can live in most any environment that is comfortable for humans, and can infest any dwelling. They can infest even the cleanest, most well-maintained facilities and homes, so the presence of bed bugs does not imply filth or lack of proper care.

**Signs, Symptoms and Treatment**

It can be difficult to detect a bed bug infestation, especially at first, when there are just a few bugs. An inspection of the area will usually reveal common tell-tale signs if bed bugs are present. Bed bugs may be seen moving on the mattress edge or near other hiding places. There may be tiny dark dots or blood smears on the sheets, mattress edge, or walls, which is the fecal matter excreted by bed bugs. Their eggs or discarded shells may be seen, and if the infestation is severe, the room may have a characteristic sweet odor. Specially-trained dogs that “sniff out” bed bugs can be helpful for detection.

For many people, the first signs of a bed bug infestation are the bite marks they may leave on the body. Bed bugs suck blood through their piercing mouth-parts. Chemicals in the bed bug’s saliva can produce reactions in humans ranging from a small, red, itchy welt on the skin, to severe allergic reactions, including anaphylactic shock. The bites can occur anywhere on the body, and are often seen in groups of three or in a straight line. According to the CDC, bed bugs are not known to transmit diseases to humans, although some studies suggest they may carry drug-resistant bacteria, such as MRSA. Health problems from the bites are usually limited to allergic reaction and infection from scratching the bites. In most cases, no treatment is required for the bites, other than perhaps an antihistamine or cortisone cream to decrease itching. Antibiotic ointment may also be applied to reduce the risk of infection.

Even though the physical effects of bed bug bites are usually minimal, the psychological distress can be severe and long-lasting. Most people have a very difficult time sleeping comfortably, knowing that biting insects are likely to attack them once they are asleep. Anxiety, insomnia, nightmares, disgust, shame, and embarrassment are common in people dealing with bed bugs. These psychological effects can be ongoing, including a persistent feeling of itching or crawling on the skin, and continuous monitoring of the environment, for fear that the bed bugs will return after treatment.

In most cases, a professional exterminator is required to rid an area of bed bugs. Techniques include use of pesticides, vacuuming, and sealing hiding places with caulk. And because bed bugs are sensitive to heat, techniques such as steam cleaning or heating the entire area to a temperature of 120°F for several hours may be used. Treatment to eliminate bed bugs can be very costly.

**Preventing Transmission of Bed Bugs**

Bed bugs move from place to place by crawling. They move quickly, but do not have wings, and cannot fly or jump. They are excellent hitchhikers, however, and can be carried on belongings brought from home, such as luggage, purses, clothing and furniture. Bed bugs can be brought into the facility by anyone—staff members, visitors or patients.

New admissions and their belongings should be observed for signs of bed bugs, as well as keeping an eye out in all patient rooms. If you see evidence of bed bugs in a room, or observe bug bites on a patient’s body, let the nurse know promptly. Remain calm and professional, and don’t go directly into other patient rooms, to prevent spreading the bugs.

If bed bugs are suspected in a room, the facility’s plan should be put into immediate effect, such as calling the pest control company. Affected patients should be relocated to other rooms, but belongings should not be removed from the room, to prevent spread of the bugs.

If you are working in an area of the facility that has current or recent exposure to bed bugs, take measures to prevent carrying the bugs to another area or to your own home. Light-colored clothing makes it easier to see bugs that have crawled onto it. Wear a disposable gown and booties when entering the infested area. When leaving, remove the protective equipment and seal it in a plastic bag for disposal. Avoid sitting down or placing articles on beds or any upholstered furniture in the area. Take only essential articles into the area. When going home, a plastic liner placed on your car seat can help to keep any insects from getting into your car. As soon as you arrive home from work, remove your clothes, wash them in the washing machine, and take a shower. Then dry the clothes on high heat for at least 30 minutes to kill any bugs and their eggs.

Bed bugs are becoming an increasingly common problem in the US. By having an awareness of this issue, and taking proper precautions, you can help to decrease the chance of transmission of these pests.