

TRAIN FOR SUCCESS INC.
BED BUGS PREVENTION AND TREATMENT 2 HR

Bed Bugs Prevention and Treatment 2 hr

Prepared by Michelle Broomfield RN

TRAIN FOR SUCCESS INC.

BED BUGS PREVENTION AND TREATMENT 2 HR

Purpose

The purpose of this course is to review information regarding Bed bugs (*Cimex lectularius*), to educate and reinforce the knowledge of nurses; APRN, RN, LPN, CNA, HHA who are working in the health care environment, as well as other Professionals and students, individuals regarding Bed bugs (*Cimex lectularius*). The course reviews how Bed bugs are transported, strategies to prevent bed bugs infestation, treating bed bug bites, removing/ getting rid of bed bugs and important information regarding the use of pesticides that are registered by the U.S. Environmental Protection Agency and the available resources.

Objectives / Goals

After successful completion of this course the participants will be able to:

1. Define Bed bugs (*Cimex lectularius*),
2. Describe Signs and Symptoms of Bed Bug Infestation,
3. Discuss how Bed bugs are transported,
4. Describe 5 strategies to prevent bed bugs infestation,
5. Discuss 5 methods to treatment bed bug bites,
6. Describe the at-risk population,
7. Discuss the use of pesticides.

Introduction

Bed bugs (*Cimex lectularius*) are small, flat, parasitic insects that feed on the blood of humans and animals while they are sleeping.

Bed bugs are reddish-brown in color; they do not have wings and they range in size from 1mm to 7mm.

Bed bugs (*Cimex lectularius*) can live for several months without a blood meal (CDC. Gov 2017).



CDC.GOV 2017 Retrieved from <https://www.cdc.gov/nceh/ehs/Topics/bedbugs.htm>

Location

Bed bugs are found across the globe from North and South America, to Africa, Asia and Europe. Although traditionally, the presence of bed bugs has been seen as a problem in developing countries, it has recently been spreading rapidly in various parts of the United States, Canada, the United Kingdom, and other parts of Europe (CDC. Gov 2017).

Bed bugs have been found in resorts as well as five-star hotels and their presence is not determined by the cleanliness of the living conditions where they are found (CDC. Gov 2017).

Bed bug infestations usually occur around areas where people sleep or near the areas where people sleep.

Bed bug infestations are found in areas such as:

- Apartments,
- Shelters,
- Rooming houses,
- Hotels,
- Cruise ships,
- Buses,
- Trains,
- Dorm rooms and more.

TRAIN FOR SUCCESS INC.
BED BUGS PREVENTION AND TREATMENT 2 HR

The bed bugs hide during the day in places such as:

- Seams of mattresses,
- Box springs,
- Bed frames,
- Headboards,
- Dresser tables,
- Inside cracks or crevices,
- Behind wallpaper, or
- Any other clutter or objects around a bed.

Spread of Diseases

Bed bugs are not known to spread disease. The presence of the bed bugs can cause itching and loss of sleep. Sometimes the itching can lead to excessive scratching. When the individual scratches the bites excessively, this can increase the chance of a secondary skin infections, but there are no reports of diseases. (CDC.gov 2017).

Health Risks

When the bed bug bites an individual, the bite can affect each person differently. Sometimes the bite marks may not be present, for some people a small bite marks may be seen while others may experience a serious allergic reaction.

All serious allergic reactions will require immediate medical attention.

Signs and Symptoms of Bed Bug Infestation

Bed bug infestation can be identified by the bite marks on the skin; face, neck, hands, arms, feet, or any other body parts while sleeping. Sometimes the bite marks may take a very long time to develop (may take as long as 14 days to develop) (CDC. Gov 2017).

Some other clues when determining if bed bugs have infested an area, include:

- The bed bugs' exoskeletons after molting,
- Bed bugs in the fold of mattresses and sheets,

TRAIN FOR SUCCESS INC.
BED BUGS PREVENTION AND TREATMENT 2 HR

- Rusty –colored blood spots due to the blood-filled fecal material that they excrete on the mattress or nearby furniture, and
- A sweet musty odor.

Bitten by a Bed Bug

It is difficult to tell if you have been bitten by a bed bug unless you find the bed bugs or signs of infestation. When the bed bugs bite, they inject an anesthetic and an anticoagulant that prevents a person from realizing they are being bitten (CDC.gov 2017).

Oftentimes, people do not realize that they have been bitten by a bed bug until the bite marks appear on their skin.

The bed bug bite marks are similar to that of the mosquito or the flea bites; a red area, slightly swollen and may itch and become irritating. The bite marks can appear on random areas on the skin or may appear in a straight line (CDC. Gov 2017).

TRAIN FOR SUCCESS INC.
BED BUGS PREVENTION AND TREATMENT 2 HR

Some other symptoms of bed bug bites may include:

- Insomnia,
- Fatigue,
- Anxiety, and
- Skin problems (from excessive scratching of the bites).

As mentioned earlier, bed bug bites may affect everyone differently. Some people may have no reaction and may not develop any bite marks or any visible signs of being bitten. Other individuals may experience allergic reactions to the bed bugs and may react adversely to the bites.

Some of the allergic symptoms can include enlarged bite marks, painful swellings at the bite site, and sometimes on rare occasions, anaphylaxis which is a more severe allergic reaction (CDC.gov 2017).

Bed bugs Transport from one location to another

Bed bugs are often transported from place to place as people travel from the infested location to another. The bed bugs can travel in the folds and seams of luggage, bedding, bags, clothing, furniture, and on any other objects that they come into contact with.

Bed bugs have small, slim, flat bodies that allow them to fit into the smallest of spaces where they can stay for a long time.

Most of the time, people do not realize that they are transporting the bed bugs as they travel from location to location and infesting areas as they travel.

Watch for signs of bed bugs;

You may see the bed bugs themselves,

You may see their shed skins,

You may see their droppings in mattress seam,

You may see their droppings on other items in the bedroom,

You may see blood stains on the sheets.

At Risk Population

Everyone is at risk for getting bed bugs when they visit the infested area. For those who travels frequently, shares living and sleeping quarters where other people have previously slept, these individuals have a higher risk of being bitten and/ or spreading a bed bug infestation.

Health care workers who travel to various homes with bed bug infestation are at high risk for getting bed bugs.

Some of the healthcare providers include Home health care workers such as:

- Nurses,
- Home Health Aides,
- Certified Nursing Aides,
- Physical Therapists,
- Speech Therapists,
- Occupational Therapists,
- Emergency First Responders.

Preparation for Encountering Bed Bugs

Protecting your clothing and equipment.

Healthcare providers as well as emergency first responders, who frequently visit patients within their home or residents, are at high risk for encountering bed bugs.

To avoid picking up the bed bugs and transporting them to another patient or to other locations or health care settings, it is best to implement strategies such as;

- Making sure that your uniform is as simple as possible,
- Avoid shirts with pockets,
- Avoid shirts with cuffs,
- Avoid pants with cuffs,
- Avoid cargo pockets,
- Avoid clothing with multiple zippers.

TRAIN FOR SUCCESS INC.
BED BUGS PREVENTION AND TREATMENT 2 HR

Other prevention strategies include:

Wearing simple shoes that can be placed in a hot dryer,

Wearing paper shoe covers when entering the home/resident and placing the shoe covers into a sealed plastic bag before you enter your vehicle,

When there are multiple home healthcare workers or first responders entering the home at the same time, there is high risk that someone will pick up the bed bugs on their clothing or equipment.

If bed bug evidence is found, have plastic bags available to lay on the floor before kneeling down to work on a patient (emergency first responders).

Place your bags or equipment down on the plastic bags.

Avoid placing canvas bags containing medical supplies or oxygen on upholstered furniture, bedding, or on carpeted floors.

If your equipment has become infested, it is best to bag the equipment on the way out and follow up with cleaning the equipment.

Treatment and Prevention

The best way to prevent bed bugs is to perform regular inspections for the signs of an infestation. According to the Centers for Disease Control and Prevention (CDC), bed bug bite usually does not lead to a serious medical threat. The best way to treat the bites is to avoid scratching the affected areas and applying antiseptic creams or lotions and taking an antihistamine (CDC. Gov 2017).

Insecticide Spraying

When bed bug infestations are discovered, this is commonly treated by insecticide spraying. It is best to contact a professional pest control company that is experienced with treating bed bugs as the bed bugs can develop resistance and the right insecticide needs to be used for effectiveness.

According to the Centers for Disease Control and Prevention (CDC), pesticides may not be effective and can be dangerous if not used properly. If pesticides will be used, follow these rules:

Use only pesticides that are registered by the U.S. Environmental Protection Agency (look for the U.S. EPA Registration Number on the label) and make sure they are labeled to control bed bugs,

Never use outdoor pesticides indoors,

TRAIN FOR SUCCESS INC.

BED BUGS PREVENTION AND TREATMENT 2 HR

Never apply pesticides directly to your skin /body; there are no repellents registered to control bed bugs that can be used on the human body (CDC.GOV 2017).

Treatment after the bed bugs bite

A variety of treatments are available for bed bug bites. Some of the treatment options include:

Antibiotics,

Antihistamines,

Topical corticosteroids,

Oral corticosteroids,

Epinephrine and more.

Treatment options for both cutaneous and/ or systemic reactions from the bed bug bites, have not been evaluated in any clinical trials and there is no evidence that outcomes differ significantly from those receiving no treatment (CDC.gov 2017).

In the case of secondary infection, topical antiseptics and /or antibiotics as well as systemic antibiotics may be needed.

It is recommended that minimal symptomatic treatment and good hygiene be used to prevent itching and secondary infections as these measures are usually sufficient treatment for most bed bug bite cases.

TRAIN FOR SUCCESS INC.
BED BUGS PREVENTION AND TREATMENT 2 HR

Strategies to avoid bringing bed bugs home

If you stay in a facility, such as a hotel;

Place your bags on a suitcase stand instead of placing them on the bed or floor and keep the suitcase stand away from the wall or furniture.

When you return home from any areas where you suspect bed bug infestation, wash the clothing from the trip or areas of infestation and put them in a hot dryer.

New or used furniture;

Always check new or used furniture before bringing them inside the house. Check in the seams, if cushions are present, check the around the edges and seams, look under all the cushions.

Strategies to get rid of a bed bug problem in your home

Some effective strategies, to get rid of the bed bugs include:

Cleaning and removing clutter from the house,

Cleaning and removing clutter from the bedroom,

Moving the bed away from the furniture or walls,

Vacuuming windows and the floors daily,

Vacuuming the sides and the seams of mattresses,

Vacuuming the box springs and furniture,

Always empty the bag or the vacuum immediately and dispose of the contents outside in a sealed bag or container,

Wash all sheets, blankets, pillowcases, bed skirts and use heated dry (place them in a hot dryer for at least 30 minutes),

It is recommended the you use mattress and box spring covers (the kind used for dust mite control) and place duct tape over the zippers,

Seal all crevices and cracks as well as any openings where wires or pipes come into the home.

TRAIN FOR SUCCESS INC.
BED BUGS PREVENTION AND TREATMENT 2 HR

As mentioned earlier;

Use only pesticides that are registered by the U.S. Environmental Protection Agency (look for the U.S. EPA Registration Number on the label) and make sure they are labeled to control bed bugs,

Never use outdoor pesticides indoors,

Never apply pesticides directly to your skin /body; there are no repellents registered to control bed bugs that can be used on the human body (CDC.GOV 2017).

Resources

Click the links below:

[Preventing Bed Bug Infestations](#)

[Bed Bug Fact Sheet.](#)

[Bed Bug Information.](#)

[Vector Control for Environmental Health Professionals \(VCEHP\).](#)

[National Pesticide Information Center.](#)

[Bed Bug Prevention for Emergency Facilities and Patient Transport.](#)

[Bed Bugs - What They Are and How to Control Them.](#)

TRAIN FOR SUCCESS INC.
BED BUGS PREVENTION AND TREATMENT 2 HR

Bibliography

Burton, M., Smith, D.W. & Ludwig, L.M. (2019) Fundamentals of Nursing Care; Concepts, Connection & Skills (3rd ed.) Philadelphia, PA: F.A. Davis Company

Cohen, B.J., Hull, K.L. (2015) Memmler's The Human Body in Health and Disease (13th ed.) Wolters Kluwer Health.

cdc. gov (2017) Bed Bugs. Retrieved from
<https://www.cdc.gov/nceh/ehs/Topics/bedbugs.htm>

cdc. gov (2017) Bed Bugs FAQs. Retrieved from
[cdc.gov/parasites/bedbugs/faqs.html](https://www.cdc.gov/parasites/bedbugs/faqs.html)

cdc. Gov (2017) Vector Control for Environmental Health Professionals (VCEHP). Retrieved from [cdc.gov/nceh/ehs/elearn/vcehp.html](https://www.cdc.gov/nceh/ehs/elearn/vcehp.html)

Hazard, A., Vallerand, A.H. & Sanoski, C.A. (Ed). (2019). Davis's Drug Guide for Nurses (16th ed.) Philadelphia, PA: F.A. Davis Company

Miller, D. (NA) Bed Bug Prevention for Emergency Facilities and Patient Transport, Retrieved from <http://www.vdacs.virginia.gov/pdf/bb-emt1.pdf>

TRAIN FOR SUCCESS INC.
BED BUGS PREVENTION AND TREATMENT 2 HR

npic. Orst.edu (2019) National Pesticide Information Center; Bed Bugs.
Retrieved from <http://npic.orst.edu/pest/bedbug/index.html>

WWW. Health.ny.gov (2017) Bed Bugs - What They Are and How to
Control Them. Retrieved from
<https://www.health.ny.gov/environmental/pests/bedbugs.htm>