

Once bedbug populations are identified, chemical controls can often be more harmful to people than the bedbugs themselves if they are not applied the right way. Therefore, seeking out professional assistance and following product labels is incredibly important.

### Finding them and getting rid of them

Begin with cleaning everything; this may help you locate other areas that are infested and allow you to remove some of the bedbugs before treatments are employed. The second step is to vacuum thoroughly, use attachments to vacuum along baseboards, molding and under furniture. Vacuum cushions, mattresses, and other fabric surfaces; this is a simple yet critical step that can be done often. Remember to dispose of the contents afterwards as live bedbugs may multiply or escape. This sort of cleaning is a good way to locate bedbugs, as well as a way to minimize and control their spread.

Trapping is a good way of identifying pests as well as the location of populations. There are several ways to collect/trap bedbugs, such as with sticky traps or petroleum jelly on legs of furniture. Because bedbugs cannot fly or jump – they must physically crawl from place to place, for instance, they must crawl up the leg of the bed in order to get there. By placing traps on the floor or on the legs by the bed or furniture you will likely be able to capture them in travel and confirm their presence. These methods are not meant to control bedbugs, rather a means of identifying where they may be located or traveling to.

Bedbugs will remain close to their food source; however, they can disperse over 100 feet if competition or resource limitations apply. When looking for bedbugs, begin within 5-10 feet of the bed or couch, if sleeping activity occurs there, and search outwardly. You may need to force them out of areas they are hiding in by using a thin item like a credit card to slide between small cracks and crevices.

It is important to understand the level of infestation you are dealing with in order to determine the next steps. If infested areas are not identified and missed during treatment efforts, populations will continue to multiply and you will have a difficult time getting ahead of them.

If personal search efforts have been employed and signs of bedbugs are still obvious, such as bites or collections, a more extensive search may be needed. An extermination company or scent detection dog may be the next step. Much like a drug or bomb dog, scent detection dogs have highly sensitive noses that can find bedbugs in areas that are virtually impossible for a human to find. Exterminators may also have options available to them to aid in locating bedbugs within your home.

If you are trying to decide if you can handle control by yourself or if a professional should be called, keep in mind that it is less expensive to address these concerns yourself first, but it is usually difficult unless you have caught it before they have spread. If you believe the problem is extensive, time is of the essence and a professional is the best option.

Positive identification is a must before treating any sort of pest problem. Using the wrong products may actually make your problem worse rather than better; therefore, it is necessary to find the source of the problem and have it correctly identified by a professional before chemical application and treatment measures take place.

Once the infested areas have been located and positive identification has been made, steps should be taken to begin minimizing their spread. Cleaning, de-cluttering, and disposing of items should occur. Wash everything you can! Place items such as pillows, cushions, stuffed animals, curtains, and bedding in the washer/dryer. Heat at 135 °C for 20-30 min. will kill all life stages of a bedbug.

Another important step is purchasing encasements for your beds. They are sealed covers, available to enclose the mattress and the box spring; these are a good idea to not only prevent bedbug infestations from occurring on your mattress but quarantine any populations that may already exist. They are a great way to preserve your mattress/box spring and eliminate a critical habitat. They need to remain on the bed for 12 months minimum. Bedbugs can live up to a year without a host, so leaving the cover on the bed is critical in ensuring they are eliminated at that location.

After cleaning and vacuuming, seal off items known to be free of bedbugs; this helps keep them from becoming newly infested and separates them from other areas that may still need treatment.

If you choose to use chemicals to control bedbugs in your home, remember the following things;

1. Always read the label on the product first. Never apply it in a way that is not consistent with its instruction or design. There are products manufactured to work in different ways, always employ treatments as they have been intended!
2. Bug bombs are not effective in treating bedbugs!
3. Use a combination of treatments, including aerosols, baits, and powders.
4. One application will not likely be enough—there are several life stages and one treatment may miss one or several of the insects. Eggs may not have hatched yet, leaving them unaffected by chemical treatments and nymphs/adults may be hiding in places that do not get exposed to the treatments being made.

If disposal of furniture is needed, wrap the furniture in plastic and clearly label it so that it is not picked up and they are spread to other locations. Do not donate the furniture and do not pick up furniture from unregulated sources. If you feel you need to contact a professional, call the Sioux Falls Health Department at **605-367-8284**, or look online or in the phone book for professionals in your area. Always contact your primary physician if you have a medical need.

# Approaching the Issue of Bedbugs



## What are bedbugs and how did they get here?

The common bedbug, is a small brownish-red insect with a flat, oval-shaped body. Its size and structure allow it to get into small spaces and cracks where it can seek harborage for reproduction and development. They feed primarily at night, and require a warm-blooded host in order to meet requirements for growth. Humans are the preferred host; however, they will feed on other animals if needed.

Bedbugs are wingless; therefore, they must get from place to place on something such as clothing or luggage or by simply crawling. Because these methods of transport are readily available, bedbugs have successfully spread across the country. The travel industry has been most affected, with hotels/motels, hostels, and airplanes serving as easy targets.

Bedbugs were a significant issue back in the 1950s; however, with the help of DDT and other pesticides, their numbers dropped and they were believed to be a problem of the past. Resurgence in bedbug numbers has occurred across the nation and health professionals are once again faced with controlling their spread.

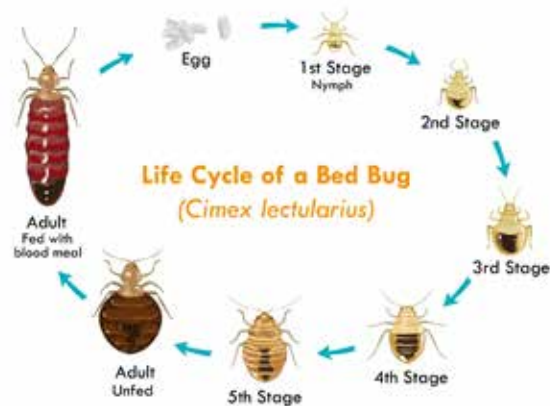
## Life cycle/biology of bedbugs

The female bedbug will seek out areas that meet three requirements: water, food, and shelter. Because humans are their main food source, they will often find harborage in areas close to people where they can feed without being harmed. This is usually close to a bed where people sleep, on mattresses, headboards, footboards, or end tables. The female can lay up to 7 eggs a week throughout their lifetime, which could result in over 500 eggs per female per lifetime!

The eggs are attached to a surface with a cement-like substance, making sure that they don't get dislodged. The eggs are very small and transparent making them difficult to locate. They will hatch approximately one week later to the first of five growth stages.

A nymph is a name for an immature insect. Bedbug nymphs begin very small (1 mm) and light in color. They require the blood of a host in order to progress to the next stage of development, progressively growing to 5-7 mm in size and getting darker as they mature. Without a host, bed bugs can live for months without a blood meal and remain dormant until resources are available. The nymphs will progress through the five stages over a period of about one month before becoming adults.

Adult bedbugs are approximately 7 mm in size and can live for approximately one year in favorable environments. As long as resources are available, they will thrive. You can imagine the number of bedbugs that can exist in an area if left unaddressed!



## How do I know if I have bedbugs?

### BITES

The first indication most people have that they might have bedbugs is bites. The bites alone cannot confirm the presence of bedbugs; however, it is a reason to look further. Bedbugs tend to feed on exposed skin areas such as the legs, arms, or neck, which can often help differentiate their bites from other insect bites.

Reactions from bites vary from person to person, just as they would with other insect bites. They can sometimes take two weeks to appear and can be very small and hard to see or large and swollen. The bites often occur in a straight line or patches instead of individual spots; however, this also is not a sure indication of bedbugs. The bites will likely itch and secondary infections can be introduced if the sites are itched open.



### SPOTS/TRAILS

The act of feeding takes only minutes and the bedbug will leave the host to digest. The fecal matter (waste) of the bedbug will leave dark reddish-brown spots on the surfaces they move across or in areas where they seek harborage. They will also shed their skins when progressing to the next growth stage (molting). The waste left behind will often leave a sweet, musky smell in areas with high populations.

### Places to look:

1. Mattress, seams, and box springs (underneath and in hidden corners and spaces).
2. Along baseboards in the room, especially the wall(s) closest to the bed.
3. Inspect all luggage, bags, laundry, and purses.
4. All other furniture around the home, underneath, in seams and crevices.
5. Cracks in walls, lifted wallpaper, under faceplates and pictures.



6. Along pipes or wiring within the walls.

There are other insects and pests that can leave similar markings (bites and waste) behind, such as mosquitoes, lice, fleas, spiders, scabies, ticks, and even cockroaches. Make sure you know what you are dealing with before applying chemical treatments as well as to save time and money in effectively eliminating the pest you have.

## Health risks

Bedbugs currently are not considered vectors of disease, meaning they cannot spread disease from one host to another. This is good news from a health perspective; however, there are other issues that come with bedbug infestations that are important to recognize.

First and foremost, the presence of bedbugs does not indicate a filthy or unsanitary environment—remember, they can hitch a ride on anything and therefore appear in places one may not expect. The most common problems associated with bedbug infestations are feelings of anxiety/stress, possible secondary infections from itching, sleeplessness, and the social stigmas that some feel are attached to their presence.