

## Control of Bedbugs in Hotel Rooms



Photo: Reuters

**Cimicidae in Mattress Seam**



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Bedbugs are a biting, nuisance pest that are easily spread by human activities and can ruin the reputation of a hotel or motel. In spite of numerous studies, bedbugs have never been associated with the transmission of a disease. However, bedbug bites can cause itchy welts that may become infected sores when scratched by the victim. Additionally, bedbug infestations may cause considerable psychological distress and embarrassment to their victims as well as being costly and difficult to eliminate.

Bedbugs are often found hiding in the cloth seams and folds or under buttons on items such as mattresses, box springs, upholstered furniture, and cushions. They may also typically reside in any crack, crevice, or void within 5 ft. of a bed, but they may move to a bed to feed each night from harborages as far as 20 ft away.

The presence of bedbugs can often be determined by a thorough examination of bedding and furnishings in the suspect room. Bedbugs often leave accumulations of dark brown or black fecal stains on furniture, walls, or bedding near their harborages. There may also be blood stains seen on used bed sheets. Heavily infested areas will have a semi-sweet, pheromone odor produced by the bedbugs.

Depending on the number of potential harborages in a hotel room, a thorough professional bed bug control job may require up to several hours of work per room. In addition to sanitizing cloth items such as bedding, mattresses, cushions, upholstery, and curtains, places to treat with a residual insecticide should include:

1. bed frames and cracks or voids in bed frames;
2. cracks, voids, and drawers in bedside tables;
3. cracks, voids, and the undersides of chairs, cabinets, and other furniture frames;
4. cracks behind or under baseboards;
5. cracks in wooden flooring;
6. under area rugs and along the edges of wall-to-wall carpeting;
7. cracks around window frames and door frames;
8. crevices around curtain rods and fixtures;
9. the voids containing electrical, telephone, or cable outlets;
10. crevices or voids in bedside lamps, phones, and clocks;
11. under picture frames; and
12. under loose wallpaper.



## **Pre-treatment Preparation.**

Prior to the arrival of a pest control professional, infested rooms should be stripped of all bedclothes, cushions, and removable cloth items. All furniture should be moved away from walls, and all items should be removed from furniture drawers. To prevent bedbug contamination of other areas of the hotel, launderable items should be sealed in plastic bags for transport to the laundry. If possible, these items should be washed in warm or hot water and dried with hot air (minimum air temperature 120°F for at least 20 minutes). If washing is not possible, drying in hot air alone will kill any bedbugs that are present.

Carpets and all furniture should be thoroughly vacuumed, paying special attention to cracks, crevices, drawers, and voids. Mattresses and box springs should be removed from bed frames and vacuumed along all seams, folds and uneven surfaces. Filled vacuum cleaner bags should not be left in the vacuum cleaner to be used in uncontaminated rooms. They should be tightly sealed in a plastic bag before discarding.

Bedbugs are able to travel between rooms through wall cracks or along electrical, ventilation or pipe conduits. Therefore it is recommended that all rooms adjacent to (beside, above and below) the infested room be thoroughly inspected for the presence of bedbugs.

## **Treatment of Mattresses, Cushions, and Upholstery**

Infested mattresses, cushions, and upholstery are treatable and do not need to be discarded. Sanitizers and insecticides can be effectively used to clean and treat mattresses, cushions and upholstery. Disposal of mattresses should be at the discretion of the hotel owner and based on the poor physical condition of the mattress rather than the fact that it came from a room that contained some bedbugs.

Mattresses, box springs, and upholstery should be treated with a product that is labeled for use on these items. Several sanitizers (Sterifab<sup>®</sup>, Microban<sup>®</sup>, and Microban X-580<sup>®</sup>) are approved for use on mattresses and upholstery. These products sanitize mattresses as well as kill any bedbugs and eggs on contact. During application, the liquid sanitizer should be directed into all crevices, cracks, tufts, borders, buttons, creases, folds, seams, and irregular surfaces on the mattress or upholstery. Several residual pyrethroid insecticide products (Suspend SC<sup>®</sup>, DeltaDust<sup>®</sup>, and Bedlam<sup>®</sup>) are also labeled for limited use on mattresses (seam, tuft, and fold treatment only). Drione<sup>®</sup> dust is also labeled for limited use on mattresses and box springs. When possible, treatment of mattresses and upholstered furniture should be done in a separate, isolated room that is well ventilated.

If there is any possibility that a mattress or box spring treatment did not kill all bedbugs or their eggs, they can be placed inside a zippered, cloth or plastic mattress cover. When left in place for a year, the mattress cover will starve the bedbugs by preventing their exit to feed.

## **Treatment of Cracks, Crevices, Furniture, and Other Parts of the Room**

When possible, the entrance to all cracks, crevices, and voids in walls and furniture should be sealed with a silicone sealant.

The residual insecticides used to treat cracks or crevices should not act as a repellent to the bedbugs. Many of the pyrethroid insecticides that are commonly used for cockroach control can have repellent effects that will drive bedbugs away from treated areas. Repellency may prevent the bedbugs from getting a toxic exposure to the insecticide and may even drive bedbugs into other parts of a building. Although deltamethrin (Suspend SC<sup>®</sup>), cyfluthrin (Tempo SC<sup>®</sup>, Tempo WP<sup>®</sup>, or Intruder HPX<sup>®</sup>), and lambda-cyhalothrin (Demand CS<sup>®</sup>) are pyrethroid insecticides, they are relatively odorless and will not have repellent effects on bedbugs. The organophosphate insecticide chlorfenapyr (Phantom<sup>®</sup>) is also effective and non repellent. Many of the insecticides labeled for bedbug control can be applied as a spray to bed frames, furniture, walls, floors, and carpets. Always refer to the label for application information and cautions to be sure the insecticide is used appropriately.

Voids containing electrical outlets and switches should be treated with a dust formulation. Use of liquid insecticides in these spaces may result in electrocution. A silica aero-gel dust (Drione<sup>®</sup>) is odorless, has very long residual activity, and kills bugs by desiccation. Drione<sup>®</sup> is labeled for use in electrical outlets, switch boxes, and some electrical appliances. A deltamethrin dust (Deltadust<sup>®</sup>) is also labeled and effective for bedbug control in voids and some cable outlets.

Hydroprene (Gentrol<sup>®</sup>) an insect growth regulator is labeled for bedbug control may be added to an insecticide spray mix for additional control. Its residual activity will prevent juvenile bedbugs from becoming adults, and that will prevent adult reproduction/egg laying.

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