

PESTICIDE SAFETY

Care must always be taken to prevent accidental exposure to pesticides even though all registered products are considered safe to use if handled properly.

A properly labeled residual insecticide should be applied, according to its label directions, to each infested site and possibly to a small radius surrounding each site. Pay special attention to cracks and crevices, seams, tufts, folds and edges. When planning and conducting any such treatment, consider the opposite side of any involved wall, floor or ceiling (at least for inspection). On-board ship PT 565 (NSN: 6840-00-823-7849) and Gentrol (NSN: 6840-01-318-7416) can be used. **Insecticides with repellent properties should not be used as they can cause populations to spread to other areas.**

If your ship is going to be treated with pesticides it is recommended that you:

- Vacate immediate area during treatment.
- Arrange to be out for 4 to 8 hours after the application (24 hours if you have respiratory ailments, allergies or are sensitive to chemicals).
- Air out the site, if feasible, when you return.
- Always follow the advice of the certified pesticide applicator. Re-entry time will depend on how and where the pesticide is used.
- Avoid washing decks and treated surfaces, if possible.



SELF-CARE

Bed bugs do not transmit blood-borne disease. Suggestions for the treatment of bites include:

- Report to sick call to alert medical department that your rack may be infested.
- Resisting the urge to scratch;
- Washing affected areas with antiseptic soap to reduce the risk of infection;
- Applying an ice pack frequently to relieve swelling;
- Ointments or lotions can be applied to ease itching
- **See your medical department if the bite develops into an infection.**

In rare cases people can have a serious allergic reactions to bed bug bites. Skin irritation, swelling or infection may be due to other medical conditions or insect bites other than bed bugs.

SOURCES OF INFORMATION

Navy Environmental and Preventive Medicine Unit 2
Website: <http://navymedicine.med.navy.mil/nepmu2/>

Navy Entomology Center of Excellence
Website: <http://www-nehc.med.navy.mil/NECE/index.htm>

Armed Forces Pest Management Board
Website: <http://www.afpmb.org>

U.S. Army Center for Health Promotion and Preventive Medicine
Website: <http://chppm-www.apgea.army.mil/>

Centers for Disease Control and Prevention
Website: <http://www.cdc.gov/>

Note: If assistance is needed for the control of bed bugs or any other pests, contact your nearest Navy Environmental and Preventive Medicine Unit.



SHIPBOARD GUIDE TO BED BUG CONTROL



Photograph by G. Alpert.

Information regarding the control of bed bugs on ships using integrated pest management.

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PURPOSE

Bed bug infestations are becoming more prevalent in the U.S. and have recently infested U.S. Navy ships. When dealing with bed bug control it is important to know that quick action is essential, with the goal being complete eradication. **Spread of populations to other areas must be prevented at all costs.** Re-inspections will be required over several months. Failure to act quickly and effectively can result in having to control populations in additional spaces or even in service members homes. This pamphlet will provide the ships crew and medical department with information on:

- 1) Identification of bed bugs;
- 2) Prevention of bed bug infestation;
- 3) Control of bed bugs within ships using an integrated pest management approach;
- 4) Information on pesticide safety and applicable regulation; and
- 5) Who to contact for further information.

IDENTIFICATION

Bed bugs are small, brownish, flattened insects (4-5 mm long) that feed on the blood of humans, birds, and other mammals.

- Bed bugs are flightless but can crawl quickly over floors, walls and ceilings.
- They can also hitch rides or move around on clothing, furniture, purses, luggage, sea bags and backpacks.
- Females lay their eggs in secluded areas, depositing up to five a day (200-500 in a lifetime). The eggs are tiny, whitish, and barely visible (size of a dust speck).
- Bed bugs are very resilient. Nymphs can survive months without feeding and the adults for over a year.



Photo by B. Pannkuk

SIGNS OF AN INFESTATION

Bed bugs are most active in warmer weather, coming out to feed at night and hiding in cracks and crevices during the day.

- Bed bugs do not have nests like ants or bees but tend to congregate in habitual hiding places.
- Bed bugs prefer to hide close to where they feed, however if necessary, they will crawl more than 100 feet to obtain a blood meal.
- Most infestations start around beds and spread throughout a room and beyond.
- Bed bugs usually bite people at night while they are sleeping.
- The bites can occur on any exposed skin and the symptoms vary with the individual.
- Some people develop an itchy welt or localized swelling, while others have little or no reaction. (Picture on back page)
- Blood stains (black/red), spots of fecal material on sheets, pillows, mattress/box springs are also signs of infestation.
- Unpleasant sweet musty odor may occur with a severe infestation. During the early part of an infestation bed bugs are found about the tufts, seams, and folds of mattresses and bed covers; later they spread to cracks and crevices in bed frames and box springs. If allowed to multiply, they establish themselves behind baseboards, door casings, moldings, in chairs, loosened wallpaper, beneath lagging and partitions.

CONTROL OF BED BUGS

Bed bugs are difficult to deal with and require the combined efforts of the crew, its medical department and/or PMTs/Corpsmen. A combination of thorough and repeated surveillance, preparation prior to treatment, chemical treatment, and pest proofing is recommended to effectively control bed bugs.

Non-chemical control/inspection done by crew members includes:

- 1) **Laundering all clothes and linens suspected of infestation on hot settings, transported in sealed bags to prevent the spread of insects.** Store in sealed bags until chemical treatment is completed.
- 2) Clean thoroughly, especially along edges/moldings and within bed frames and drawer. If a vacuum is used, dispose of vacuum bag in a sealed plastic bag and remove from ship immediately.
- 3) Eliminate all clutter and remove and inspect all belongings from bed, lockers and drawers. If free of bed bugs, store in tight fitting containers or bags.
- 4) Pay close attention to any cracks/seams in bed, curtains and cloth straps within bed frame.
- 5) If it's a heavy infestation, mattresses and fabric items may have to be discarded.
- 6) Examine display boards, electrical outlets on walls and any other items/fixtures near beds.
- 7) **Check belongings when moving on and off the ship.**

Pesticide Application :

- 1) Multiple berthings must be serviced by a **certified pesticide applicator** (IDC/PMT).
- 2) Be prepared for more than one treatment.
- 3) Re-inspection is **absolutely essential** and should take place until absence of bed bugs is confirmed.

