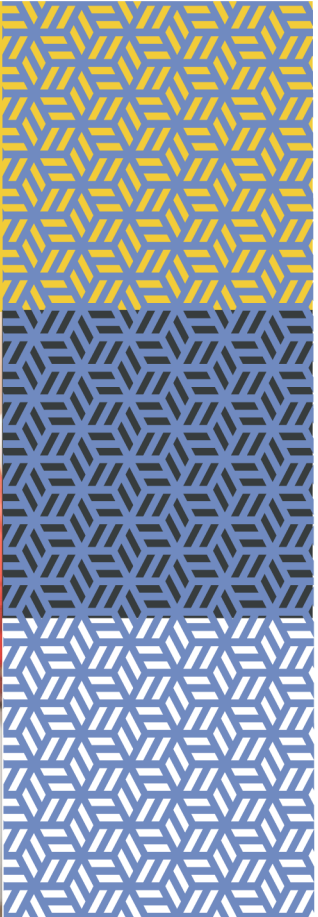


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Risk control
Combating Bed Bugs
Higher Education



In partnership with



Combating Bed Bugs

Higher Education

Introduction

Bed bugs have been in the news across the UK and Europe with outbreaks of infestations in locations from Paris¹ to London² becoming widely reported.

Media attention is putting additional pressure on Institutions to manage and eradicate infestations before there is public harm, adverse publicity, or civil claims. The Chartered Institute of Environmental Health reported that the UK has seen a 65% increase in the number of reported bed bug outbreaks in the last 12 months³.

Bed bugs have been documented as human parasites for over 3,500 years. The first documented mention of bed bugs is in the ancient Egyptian Ebers Papyrus which has been dated back to 1550 BC. This ancient medical document describes remedies for bed bug bites. There are numerous other documents and books which mention bed bugs. One of the more famous quotes which is still used today by parents tucking their children into bed at night was from the 1886 book "Boating Trips" by Henry Parker Fellows, which mentions the famous words, "Good night, Sleep tight, don't let the bed bugs bite"⁴.

Throughout history, bed bugs have been a persistent problem. Bed bugs cause discomfort, sleepless nights, and even health issues. In medieval Europe, bed bugs were widespread; infesting homes, castles and even some of the finest houses. The introduction of improved hygiene practices and the use of certain insecticides helped to reduce their prevalence during the 20th century, but bed bugs have made a resurgence in recent years, becoming a global problem once again.

Bed bugs would have evolved naturally in environments where warm blooded animals slept and rested i.e. caves or dens. Over time bed bugs have adapted and moved with their hosts to new settings and locations. Today bed bugs can be seen to have used their ability to adapt to new environments and have taken advantage of our modern-day lifestyles. Bed bugs can now be found in any number of alternative locations around the world from beds in hotels, houses, cinemas, trains⁵, hospitals, offices and even libraries².

In modern society bed bugs continue to offer Institutions and even the Pest Control professional's challenges. The bed bug's elusive nature and ability to hide in small crevices makes them hard to detect. In addition to the ability to hide, their ability to reproduce quickly and develop resistance to insecticides has made them extremely difficult to eradicate.

What are Bed Bugs?

Bed bugs are small parasitic insects from the genus *Cimex* which feed on the blood of humans and animals. Bed bugs are primarily nocturnal, drawn to the heat and carbon dioxide given off by warm blooded animals which they bite and feed off.

There are 2 main species of bed bugs which bite humans, *Cimex lectularius* the common bed bug, and *Cimex hemipterus* which is found mostly in the tropics.

Bed bugs are found in most countries around the world but after WW2 bed bugs were considered nearly eradicated in western developed countries.

The bed bugs ability to quickly become resistant to pesticides and society's access to affordable international travel has allowed these small parasitic hitchhikers to begin their global travels once again.

Bed bugs live for between 6 – 12 months and typically require a blood feed every 7-10 days but can go for up to 4 or 5 months without feeding⁶. Mostly active at night or in the dark, bed bugs will come out to feed and then return to their lair which tends to be a dark secluded area where they are not going to be disturbed.

Health Effects

Health risks include infection, allergies, and psychological damage.

Individuals with asthma can find this condition irritated and triggered by the presents of bed bugs due to their droppings and shed skins.

Bed bugs are parasitic biting insects which feed on the blood of humans and animals. Each bite is between 2-5mm in length and typically show, not as a single bite, but in lines or zig zag patterns. Bites tend to be on exposed skin, for example, arms, legs, faces or necks.

In most cases bites cause hives and itching, excessive itching and exposure to bed bug detritus can exacerbate eczema and rashes.

Bed bug bites and the subsequent itching can result in wounds becoming infected, this can in turn trigger severe reactions. In extreme cases this can result in anaphylaxis³.

Due to the nocturnal nature of the bed bug, infestations become active at night. People trying to rest and sleep in rooms that are infested tend to be bitten in their sleep. As such people staying in these rooms can suffer from sleep deprivation and other psychological issues associated with sharing a room with a biting parasite.

Bed Bug Lifecycle

Bed bugs have a multi staged lifecycle. Starting as an egg the bed bug goes through 5 nymph stages before becoming a mature adult. Adult females lay their eggs in secluded places such as nooks and crannies commonly found in bedrooms⁶.

Female bedbugs can lay up to 10 eggs a day and up to 500 in their lifetime³. Bed bug eggs are sticky when first laid which helps them attach to the surface that they have been laid on. The eggs are approximately 1mm long, light in colour, shaped like a small rice grain with a cap at one end. Bed bug eggs take a week to hatch but this can depend on room temperatures.

Once hatched, the emerged bed bug nymph is very small, straw in colour and hard to detect on light backgrounds. As the newly emerged nymphs feed and grow. Bed bug nymphs undergo 5 moulting's until they emerge as fully grown bed bugs.

Locating Bed Bugs

Bed bugs typically sit in dark quiet areas where they are not going to be disturbed. Any nook, cranny or crevice in a room, piece of furniture or item of clothing can hold a bed bug which is why they are so hard to find and treat.

Site surveys conducted by Pest Control professionals can require some quite invasive and in-depth procedures. Carpet edges will need to be loosened, beds will need to be taken apart, mattresses will need to be removed, and headboards removed from beds. Cupboards will be emptied, drawers removed, and any soft furnishing will need to be examined in depth. The Pest Control professional will inform the premises owner or tenant on what to expect and what they need to do to prepare for their visit.

Common areas for bed bug detection include:

Mattresses: Bed bugs like to hide in areas that they cannot be seen. Areas such as the seams and ribbing on mattresses are common areas to find them. Mattresses with buttons or labels are very susceptible to harbourage especially on the underside of the mattress.

Box Springs: The bed box spring is a complex structure with lots of joints and areas for bed bugs to hide. This is one of the most common areas to find bed bugs. Key areas to examine are on the underside of the box spring where the dust cloth meets the frame. In depth investigations may require the dust cloth to be removed.

Bed frames: Bed bugs can often be found in the cracks and joins in the frame of the bed. Depending on the style and structure material of the bed these areas can be difficult to see into.

Carpet edges: Bed bugs will use the carpets to their advantage, hiding in the edging against the skirting boards or underneath the carpets in the joints of floorboards. Carpets will need to be loosened for the Pest Control professionals to conduct a thorough investigation and treatment.

Bed bugs are not just found in bedrooms. Bed bugs can be found in any area which people or animals can be found resting in. Furniture such as sofas, office chairs and curtains can all provide suitable environments for bed bugs to thrive. In recent news even a library in London was found to have a bed bug infestation².

Legal Requirements

The legal implications of bed bug infestation can vary depending on specific circumstances. However, there are some common legal considerations that may arise in such situations. Most claims will be for personal injuries or psychological injuries resulting from bites, or damages for costs associated with professional Pest Control interventions.

Duty of care: Universities owe a duty of care to students within halls of residence, which includes providing a safe and clean environment. If an institution fails to take reasonable steps to prevent or address a bed bug infestation in their buildings or to hand over property for rent which is infested, it may be considered a breach of this duty of care.

Negligence: If an institution fails to maintain its buildings or housing stock in a fit and proper state of repair or fails to respond promptly to complaints which leads to a bed bug infestation, affected students may have a legal claim for negligence. To succeed in such a claim the students would typically need to prove that the Institution owed them a duty of care, breached that duty, and that the breach caused them harm or damages.

Contractual agreements: Institutions typically have a contract with their students, often referred to as a Fixed Term Agreement or Licence Agreement. Depending on the specific provisions within these agreements, a bed bug infestation may result in a breach of contract claim if the Institution fails to provide the level of cleanliness and comfort agreed upon at the start of the agreed tenancy.

Health and Safety Regulations: Institutions are subject to health and safety regulations. The Health and Safety at Work Act 1974⁷ requires the employer to “conduct his undertaking in such a way as to ensure, so far as reasonably practicable, that persons not in his employment who may be affected thereby are not thereby exposed to risks to their health and safety”.

It is important to note that legal implications can vary significantly depending on the specific circumstances, and the extent of the infestation.

Risk Assessment

The Management of Health and Safety at Work Regulations 1999⁸ require employers to make a suitable and sufficient assessment of health and safety risks. Risk assessments should be written in conjunction with COSHH assessments which will be required under the Control of Substances Hazardous to Health Regulations 2002⁹ for any harmful chemicals used in the treatment of an infestation. The assessments should take into consideration not only staff, but others who may be staying in or using the buildings. Management should review all Risk Assessment Method Statements provided by professional Pest Controllers to ensure that the mitigation measures laid out in the documents are suitable for the location and buildings. Different strategic options, inspection regimes and treatments should be considered for different areas.

Communal areas within halls of residence and other Institution owned buildings offer various levels of risk and will potentially require different monitoring strategies to manage each of the area’s unique requirements.

General public safety: Institutions should be inspecting assets and implementing good hygiene practices. Any reports from students or staff alleging to have seen or been bitten by bed bugs should be taken seriously.

In the event of an allegation or sighting by staff of bed bugs: The report should be recorded formally and an investigation undertaken. This report should trigger the Institutions bed bug protocol. A professional Pest Control company should be called to inspect and treat any infestation as soon as possible.

Changes to usage of an area reported as having bed bugs: After treatment, the university officers and students should be on a heightened level of alert. Bed bugs are notoriously difficult to treat and detect and can lay dormant for months. If undetected bed bugs can multiply and infest again.

Alert other students and building managers: Bed bugs have evolved to travel unnoticed on their hosts. Bed bugs can hitch rides in clothing and luggage, therefore staff and students traveling between buildings can unknowingly spread bed bugs. To minimise the risk of late detection it would be prudent to notify the managers of other Building Managers of potential outbreaks.

Prevention Strategies

Institutions are reliant on the vigilance and reporting of incidents to manage and mitigate the impact of bed bug infestations.

Institutions should ensure that all relevant staff have bed bug awareness training and are aware of the Institutions procedures for dealing with an outbreak.

Institutions should minimise clutter in offices, communal areas and in public waiting areas. By doing so it will reduce the number of hiding locations available for bed bugs and make early detection potentially easier.

Institutions should be cautious of any second-hand furniture or items being bought into the property. Trained and experienced staff should thoroughly check any furniture for bed bugs before being brought into any building or before being moved from room to room around the buildings.

It is essential for rooms to have regular inspections. These should be done at every change of student, but additional thorough inspections of all rooms should be done in the event of a suspected infestation.

Cleaners should actively be encouraged to look for signs of bed bugs. Any reports or evidence of an infestation should be investigated.

Inspections should consist of a thorough visual check of areas such as mattresses, bed frames, furniture, and other areas where bed bugs may hide.

Where possible, items such as mattresses and box springs should be encased using bed bug proof encasements. These encasements are designed to trap and starve any existing bed bugs inside or prevent any new ones from getting into the mattress or box springs.

Key Points

If the presence of bed bugs is suspected, then the following procedures should minimise any further impact:

1. The infected room(s) should be taken out of service.
2. A professional Pest Control company should be brought in to inspect the room(s).
3. If a case of bed bugs is confirmed, then the room(s) and adjoining rooms should be treated.
4. Any furniture that may have been removed and relocated to new parts of the establishment from an infected room(s) adjoining an infected room, should be identified and the new room inspected by a Pest Control professional.
5. Professional Pest Control teams will advise on various treatment options. The most common treatments are heat and chemical treatment. It is important to follow the Pest Control professional's advice and not deviate from it. Failure to follow the Pest Control company's advice may invalidate any guarantees and incur additional costs for further treatments.

Before putting any room that has been treated for bed bugs back into service the Pest Control professionals should inspect the room after treatment to confirm that the infestation has been eradicated.

References

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7. [The Health and Safety at Work Act 1974](#)
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9. [Control of substances hazardous to health \(COSHH\). The Control of Substances Hazardous to Health Regulations 2002 \(as amended\). Approved Code of Practice and guidance L5 \(hse.gov.uk\)](#)

Further information

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Get in touch

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