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CASE STUDY:

Protecting a hospital lab
from American cockroaches



Uncovering the root cause of a chronic large cockroach issue helped to resolve a concerning problem for lab technicians.

COMMON PESTS IN HEALTHCARE FACILITIES



Cockroaches



Flies



Bed bugs



Rodents



Ants



Birds

INTRODUCTION

Cockroaches come in all shapes and sizes. No matter their size, these pests can pose a real threat to any facility — but especially to those where cleanliness is critical to the health and welfare of people.

Since many species of cockroach “commonly breed and feed in unsanitary areas such as garbage storage, sewage systems, and septic tanks,”¹ they are capable of picking up and spreading potentially harmful pathogens to any surface or food that they contact. These pathogens can cause serious health conditions in humans: wound infection,

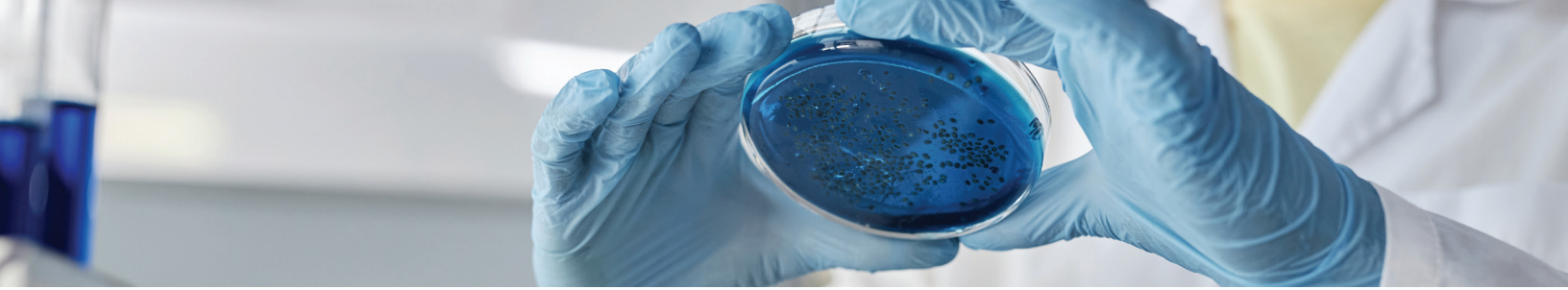
respiratory diseases such as pneumonia, gastroenteritis, food poisoning, plague, and more.² Cockroaches are also a known source of allergens and can worsen asthma in sensitive populations.³

Some cockroach species, such as American and Oriental cockroaches, can measure as long as 2 inches. Because of this large size, and because they can often move very quickly, they can lead to significant disruption when they are spotted inside a building. This makes quick resolution essential in any business environment.

¹ Barcay, S. John. “Chapter 2: Cockroaches,” *Mallis Handbook of Pest Control*. 9th edition, page 124. 2004.

² Barcay, S. John. “Chapter 2: Cockroaches,” *Mallis Handbook of Pest Control*. 9th edition, pages 125 - 128, Table 2-2, Pathogenic organisms isolated from cockroaches. 2004.

³ American Lung Association. “[What makes indoor air unhealthy? Cockroaches.](http://www.lung.org)” <http://www.lung.org>. Updated November 2, 2023. Accessed November 14, 2023.



CHALLENGE

A Midwestern hospital was experiencing a chronic problem with American cockroaches invading its lab.

The American cockroach is peridomestic, meaning that it can live both outdoors and indoors, depending on temperature and geographic location. American

cockroaches often inhabit sewers and steam tunnels in urban areas, regardless of exterior temperatures. As such, they can be efficient vectors of pathogens.

Because the lab depended on a clean environment to properly test specimens and provide accurate

information to doctors and care workers, the presence of even one pest posed a serious problem — let alone ongoing intrusions. Diagnosing the root cause of the problem would be essential in resolving it to protect the lab, its workers, and ultimately, patients.



INVESTIGATION

Our experts were called in to help. The Technician conducted a thorough inspection and after monitoring, determined that the American cockroaches were gaining access to the lab via unused sink drains. Staff members were placing paperwork over the drains. This behavior led to dry drains and a lack of drain cleaning, attracting and enabling cockroaches to move freely through the pipes from the sewers below.

Most drains are designed with a water trap to help reduce harmful gases from entering the building. This same trap can prohibit pest movement. In seldom-used drains, water evaporates, and the resulting dry trap can emanate odors and make pest movement easier. The combination of dry water traps, decreased sanitation, and minimal staff education helped to set up the ideal scenario for cockroach problems to occur.

SOLUTION

Because the hospital was certified under the LEED program, LEED protocols were used to resolve the issue. Staff were asked to create a routine maintenance plan which included a regular cleaning program for drains, as well as the routine addition of water to drains to help maintain water traps.

Specialized one-way drain valves are also useful and recommended in these situations. One-way drain valves can be inserted into the drain pipe. They allow for downward water movement but do not allow for insects to come up from the drain pipe into the occupied spaces above.

🕒 SUMMARY

A bit of good old-fashioned detective work on the part of our Technician and the discovery of American cockroaches entering the facility through unused drains led to the implementation of a drain sanitation program that would prevent future infestations in this sensitive hospital lab.

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