

CASE STUDY

BACTERIA DISINFECTION

It is well known just how easily germs and bacteria spread in the workplace. When illness strikes, our natural response is to avoid contact with the sick individual and clean and disinfect the area to prevent others from becoming sick. If the illness is particularly infectious, a professional biohazard remediation company is an excellent resource to help protect others from exposure. As biohazard remediation specialists, Aftermath Services LLC has handled MRSA and communicable disease cleanup at universities, retail stores, and in large offices and private homes nationwide.

We are exposed to disease-causing viruses and bacteria on a daily basis; influenza, *C. difficile*, hepatitis B and C, AIDS, meningitis, and other dangerous bacteria lurk in cafeteria kitchens, restrooms, cubicles...even in our homes. While most of us will not become seriously ill, the dangers are increased by a number of factors including the lifecycle and virulence of the bacteria itself, the environment where the bacteria is found, and the health of the individual. Methicillin-resistant *Staphylococcus aureus* (called MRSA) is a common form of staph bacteria that does not pose a threat to most healthy people. MRSA can compound already existing conditions, which may lead to life-threatening for elderly, children, or immune-compromised individuals, but it can also affect otherwise healthy individuals. Recent cases in the media describe adults in their prime who contracted dangerous infections following casual exposure in everyday settings. Furthermore, MRSA is resistant to most antibiotics, making it difficult to treat and to clean. For this reason, many businesses rely on professional remediation companies to perform full-service disinfection of potentially affected areas.

When Simple Cleaning Won't Do

To clean effectively, Aftermath uses proprietary chemicals created especially for biohazard remediation to deep clean the area and an EPA-approved disinfectant to disinfect it. Since germs are ubiquitous in the environment, we expect that they will be present on almost everything we touch. Disinfection is a chemical process that reduces and even kills germs on surfaces to make them safe for contact. A proper disinfection requires a stronger solution and will destroy nearly all pathogenic microorganisms, but not necessarily all fungi/viruses on inanimate objects and surfaces. The effectiveness of the treatment is influenced by the type of organism, the complexity and nature of the object being disinfected, and chemical exposure time, temperature and concentration. No liquid disinfectant is equally effective under all conditions and different organisms require the use of different chemicals. Concentrations and exposure times may vary depending on the formulation of the individual chemicals involved and the manufacturer's instructions. In short, while disinfection eliminates a majority of the risks, disinfection sets a higher standard for clean, but requires more time, work, and knowledge to be completely effective.

When an employee of a Cleveland, Ohio company was sent to the hospital with MRSA, managers were rightfully alarmed and recognized the need for professional biohazard remediation. Aftermath prescribed a three-step biowash process, which would effectively clean, disinfect and disinfect the office to hospital-grade standards. To prepare for the process, technicians first removed all dust, dirt and debris from the walls and floor of the employee's cubicle, as well as the common spaces nearby. Then they applied a specially designed disinfectant and waited the prescribed time for the area to fully disinfect. Finally, they deodorized the space to remove any lingering chemical residue or smell.

Aftermath uses a bacterial testing system called an ATP (adenosine triphosphate) test to identify the presence and levels of microorganisms on a multitude of surfaces. By zeroing in on a high energy molecule that drives cell chemistry in living organisms, the test reveals contaminated surfaces not visible to the naked eye. Typically employed in industrial settings, ATP testing helps ensure clinical levels of disinfection. Aftermath also uses custom designed Personal Protective Equipment to reduce the technicians' risk of exposure while they work in the contaminated area. Unlike commercially available hazmat suits, these uniforms protect specifically against bloodborne pathogens and microorganisms, including HIV and hepatitis.

While some insurance companies may help offset the cost of disinfection, many commercial general liability policies have a microorganism or pollutant exclusions which can include specific classifications of bacteria. Through the standardization of disinfection and cleaning practices and the application of innovative detection processes like ATP testing, Aftermath hopes to raise awareness regarding the serious implications of communicable disease and the necessity of professional biohazard remediation.