



Environmental Solutions Group

Proper Handling of Sewage Contamination in an Indoor Environment

What is in Sewage?

A wide variety of organisms are found in sewage, some of which are human pathogens. Many pathogens may be present, including bacteria (i.e., E-coli, Salmonella, Staphylococcus), protozoa (i.e., Giardia, Entamoeba), parasites (i.e., worms, flukes), and viruses (i.e., norovirus, echovirus). Sewage pathogens vary in their characteristics, including resistance to drying, changes in temperature or pH, and to contact with biocides. After leaving the digestive tract, some die quickly, while others may survive for weeks or even years in the right conditions.

Assessment

The primary goal of most insurance adjustors is to limit the cost of a sewage claim. The primary goal of the property owner should be locating all of the sewage material so that contamination is not left behind when new materials are installed. By definition, the goals of the parties involved are opposite, and in most cases we observe, the insurance adjustor achieves their goal, leaving the property owner with a contaminated building.

Sewage screen testing by a hygienist is usually required to convince the adjustor that certain materials are contaminated and must be replaced. Testing will indicate whether or not indicator organisms such as E-coli are present on materials showing elevated moisture content. *Note: this means that some demolition may be necessary to uncover damp materials hidden under flooring or in walls.* Testing not only identifies contaminated materials, but it helps everyone involved know what kind of precautions are required to prevent the spread of contaminants and to protect occupant and worker health. Without testing and remedial protocols from a hygienist, it is possible that the remediator will unknowingly leave behind contamination.

What Level of Testing Should Be Performed?

As mentioned above, a variety of pathogens can be present in sewage. Testing for all of them would be time-consuming and expensive, and some pathogens are nearly impossible to detect in a lab test. Therefore, sewage remediation testing usually involves testing for 'indicator organisms', which are easily detectable bacteria found in sewage contaminated materials.

Effective Cleaning of the Contaminated Building

Proper remediation of sewage contamination involves aggressive cleaning to physically remove contaminants, rather than relying on biocides to kill the pathogens. One reason is that gram-negative bacteria, which are very common in sewage, may release endotoxins when they die, with potentially serious health consequences for humans who will live or work in the building. Physical removal of contamination helps prevent the release of endotoxins.

How Do I Know My Building is Clean?

Post-remediation testing for the presence of indicator organisms is the most effective means of assessing the cleanliness of a building. ESG usually conducts a screen for Coliform and E.coli bacteria. Their presence is an indication that the building is not clean and requires additional remediation.

For additional information, refer to [Suggested Guidelines for Remediation of Damage from Sewage Backflow into Buildings](#), published by the EPA.

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