

The most contaminated surfaces in hotel rooms

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An experiment of surfaces in hotel rooms finds television remotes to be among the most heavily contaminated with bacteria and items on housekeeping carts carry the potential to cross-contaminate rooms. Researchers from the University of Houston report the findings today at the 2012 General Meeting of the American Society for Microbiology.

"Hoteliers have an obligation to provide their guests with a safe and secure environment. Currently, housekeeping practices vary across brands and properties with little or no standardization industry wide. The current validation method for hotel room cleanliness is a visual assessment, which has been shown to be ineffective in measuring levels of sanitation," says Katie Kirsch an undergraduate student at the University of Houston who presented the study.

As the public becomes increasingly concerned with public health, hotel room cleanliness and sanitation are becoming consideration factors for consumers when selecting a hotel room. Contact with contaminated surfaces is a possible mode of transmission of illness during outbreaks in hotels. This, combined with the lack of standardization of hotel room cleanliness, poses a risk for hotel guests, specifically immunocompromised individuals who are more susceptible to infection.

"Currently, housekeepers clean 14-16 rooms per 8-hour shift, spending approximately 30 minutes on each room. Identifying high-risk items within a hotel room would allow housekeeping managers to strategically design cleaning practices and allocate time to efficiently reduce the

[potential health risks](#) posed by [microbial contamination](#) in hotel rooms," says Kirsch.

The study was designed as the first step in applying the Hazard Analysis and Critical Control Points (HACCP) system to hotel room cleanliness. Originally developed by the [National Aeronautics and Space Administration](#), HACCP is a systematic preventive approach that identifies potential physical, chemical and biological hazards and designs measurements to reduce these risks to safe levels.

Kirsch and her colleagues at the University of Houston, along with researchers from Purdue University and the University of South Carolina sampled a variety of surfaces from hotel rooms in Texas, Indiana and South Carolina. They tested the levels of total aerobic bacteria and coliform (fecal) bacterial contamination on each of the surfaces.

While some of the most contaminated samples, including the toilet and the bathroom sink, were to be expected, they also found high levels of bacterial contamination on the TV remote and the bedside lamp switch. Most concerning, some of highest levels of contamination were found in items from the housekeepers' carts, including sponges and mops which pose a risk for cross-contamination of rooms. Surfaces with the lowest contamination included the headboard on the bed, curtain rods and the bathroom door handle. The researchers cannot say whether or not the bacteria detected can cause disease, however, the contamination levels are a reliable indicator of overall cleanliness.

Kirsch warns that this study is preliminary and is limited by the sample size, which included only 3 rooms in each state and 19 surfaces within each hotel room, but hopes that it is just the beginning of a body of research that could offer a scientific basis to hotel housekeeping.

"The information derived from this study could aid hotels in adopting a proactive approach for reducing potential hazards from contact with surfaces within hotel rooms and provide a basis for the development of more effective and efficient housekeeping practices," says Kirsch.

More information: This research was presented as part of the 2012 General Meeting of the American Society for Microbiology held June 16-19, 2012 in San Francisco, California.

Provided by American Society for Microbiology

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