

Floor Health and Phasing Out the Mop

By Robert Kravitz, President AlturaSolutions

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A study released in September 2010 regarding cleanliness and kitchen floors may have more sweeping ramifications than anticipated when it comes to protecting human health, especially in facilities such as corrections buildings that have large populations living in relatively small quarters. Leeds Metropolitan University Faculty of Health Department, located just outside of London, England, conducted the study.

According to the researchers, kitchen floors in student housing were tested for bacteria counts and were found to be more contaminated than public toilet seats. In an average sized student kitchen floor, for instance, an estimated six million types of bacteria were present. Surprised at the high bacteria count, the researchers then studied kitchen floors in other types of housing and

residential locations, such as homes occupied by single professionals, retired couples, married couples without children and couples with children and pets.

The researchers actually discovered that the married couples with children and pets had the most contaminated kitchen floors—even more than the students' floors. Although bacterial contamination was found on all the floors in varying degrees, single professionals and married couples without children had the “healthiest” floors.

The findings were one thing, but why the problem exists and to such a high degree turned out to be a completely different issue. Further, it is something that was unanticipated and has ramifications for the health of correctional facilities.

Apparently, the tools many facilities use to clean floors—mops and buckets—are key culprits in spreading bacteria. In fact, in some cases, “the floor was actually more infested with bacteria after the floor had been mopped,” wrote the researchers. “The mop head tested was found to contain more than eight million bacteria per 100 cm².”

Floors, Health, and Cleaning

In medical facilities, concerns about how healthy and clean floors should be and how much they can impact occupant health are actually somewhat controversial. For instance, some housekeeping guidelines for hospitals and related care locations indicate the greatest amount of concern should always be placed on high-touch areas, such as light switches, countertops, ledges, manually-operated restroom fixtures and controls, etc. Floors actually come in pretty low on the list of attention-deserving surfaces.

And, as far as how to actually clean the floors, one infection prevention guideline for a medical facility instructs the following as the most common and preferred methods:

Single-bucket (basin) technique: One bucket of cleaning solution is used. The solution must be changed when dirty. (The killing power of the cleaning product decreases with the increased load of soil and organic material present.)

Double-bucket technique: Two different buckets are used, one containing a cleaning solution and the other containing rinse water. The mop is always rinsed and wrung out before it is dipped into the cleaning solution. The double-bucket technique extends the life of the cleaning solution (fewer changes are required), saving both labor and material costs.

These are essentially the same ways floors are cleaned in a correctional facility. But, are these really the most effective ways to clean floors and should we be more concerned about the health and cleanliness of floors than some medical housekeeping guidelines now suggest?

The answers to these questions can have very serious health implications for correctional facilities' housekeeping departments. It is true that "high-touch" areas can breed cross contamination.* But, we have more contacts with floors than we realize. According to Mike Sawchuk, vice president of Enviro-Solutions, a manufacturer of proven-Green cleaning chemicals for the professional cleaning industry, we have "more than 50 direct and indirect contacts with floors every day. Every time we tie our shoes, pick up a pen or pencil that falls to the floor, etc., we are making contact with the floor and the potential for cross contamination exists."

He suggests the problem could be even worse due to the overcrowding found in some prison locations, which results in inmates living in close quarters. However, the bigger problem is how the floors are cleaned, using the two "common and preferred" methods listed above.

In the Leeds study, the culprits were found to be the mops and buckets used to mop the floors. "The problem with these methods," says Angelo Poneris, author of several articles on effective cleaning, "is that the mop [and bucket] become soiled as soon as mopping begins...and it gets progressively worse [as cleaning progresses] no matter how many buckets are used."

Poneris' comments and the Leeds' findings replicate similar conclusions reported at recent meetings of the Cleaning Industry Research Institute (CIRI), an independent research organization that scientifically evaluates the effectiveness of various cleaning methods and systems. CIRI also found that mops and other cleaning tools, such as cleaning cloths, can actually spread as many, if not more, germs as they become soiled and used.

Cleaning Options

If the "common and preferred" methods to clean floors are actually adversaries to proper floor care, what options do correctional facilities have? Fortunately, according to Poneris, there are available alternatives. Some manufacturers are analyzing these scientific studies that show conventional cleaning methods are doing more harm than good and introducing results-driven cleaning systems to address this problem.

Among these modern systems are "trolley" buckets that dispense cleaning solution directly to floors as they are rolled over the floor. No mop is ever placed in the bucket so the solution stays fresh and does not become contaminated. Additionally, mops are not used in the cleaning process. Instead, a deck brush is used to spread the solution and to loosen soils as necessary. An attached wet-vac system can also be added to recover the solution and contaminants.

For more automated floor cleaning, at least one manufacturer has added a dispense-and-vac system to a trolley bucket system that dispenses cleaning agents directly to floors, the floors are decked brushed if necessary for agitation, soils are then removed using the wet-vac equipment mentioned earlier. This allows thorough removal of soils and faster drying.

"The common thread with these systems and others now being introduced or under consideration is that they do not require the use of mops," says Poneris. "This is having a big impact on our industry since mops have been used for generations. The plain fact is [mops] can spread disease and we just can't use them anymore."

Some cleaning professionals question Poneris' conclusion, saying much of the problem can be alleviated by using more and stronger chemicals and disinfectants. However, with greater concerns about reducing cleaning's impact on health and the environment, this more and stronger chemicals are no longer viewed as a viable option. Further, it is doubtful more and stronger chemicals are necessary. Instead, it appears different cleaning methods and systems are what are called for today.

Author of several articles on professional cleaning systems for a variety of facilities, Angelo Poneris works for Valley Janitorial Supply, one of the oldest janitorial distributorships in Hamilton, OH. He may be reached at aponeris@valleyjs.com

*Cross contamination is the transfer of potentially harmful germs and bacteria from one surface to another.

Editors Note: Corrections.com author, Robert Kravitz, is president of AlturaSolutions Communications and is a writer for the professional cleaning, building, healthcare, and educational industries. He may be reached at

info@alturasolutions.com

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