Canadian Food Service News
Clare Tattersall
Editor-in-Chief
FoodService News, Building Strategies
Food Safety & Quality
Phone: 416.512-8186 ext. 249
Toll-free: 1.866.216.0860 ext. 249
www.mediaedge.ca

What do all of the following have in common?

- A foodservice worker removes the safety boots she wears when working in the food-processing area.
- Another worker ties his shoelaces while working in the kitchen.
- An office visitor places her purse on the floor while using the restroom.
- A cafeteria worker picks up utensils that have been dropped on the floor.
- A trade's person wraps up the power chord they were using.
- A plant supervisor places a briefcase on the floor while talking to kitchen workers.

In each case, in one way or another, these individuals have indirect contact with floor areas. In fact, studies now indicate that we have as many as 50 direct and indirect contacts with floors each day. In most cases, we do not even realize that we have had that contact.

This in and of itself is not critical, but it is important to know that floors can be germ and bacteria reservoirs. As such, through the process of cross contamination, potentially health-endangering pathogens on floors can be transferred to people and surfaces, spreading disease and causing illness.

Pathogenic Hitchhikers

Ever heard of listeria? Those in the meat-processing industry will likely know that listeria refers to a particular species of bacteria. It is found in varying degrees in soil, vegetables, water, animal feed, and other places.

If listeria contamination is present in a meat-processing or foodservice facility and ingested in significant amounts by high-risk individuals such as young children, pregnant women, the elderly, or those with weakened immune systems, it can threaten health and even prove fatal. There are many sources of listeria, and because it needs moisture to survive and grow, it is often found on foodservice-area floors, especially near drains. If the listeria is on a worker's shoe bottoms and the bottoms of those shoes are touched, the beginning of cross contamination is likely.

Dr. Charles Gerba, a microbiologist with the University of Arizona (United States), has conducted one of the few studies regarding shoe bottom contaminants. Gerba asked 10 study participants to wear a new pair of contaminant-free shoes for a two-week period and simply go about their regular business and daily activities.

After two weeks, the new shoes were then taken to a laboratory to determine if bacteria and other contaminants might be found on the bottoms. Although Gerba anticipated contaminants would be present, the amount and variety were more than he expected. According to Gerba, this is what was discovered on the shoes tested:

- Approximately 421,000 units of bacteria were on the outside and more than 2,880 on the inside.

- Coliform (a group of bacteria) was detected on 96 percent of the shoes.

- E. coli was found on 27 percent of the shoes.

- Other contaminants found on the shoes included Klebsiella pneumoniae, a common cause of bloodstream infections as well as pneumonia, and Serratia ficaria, which can cause respiratory infections.

Further, Gerba found that much of this contamination on shoe bottoms can spread from contaminated to uncontaminated floor surfaces as well as onto fingers and hands. “In essence, the contaminants are hitchhikers, catching a ride on shoes from one location to another,” says Mark Warner, Product Manager for Disinfectants and Sanitizers for Enviro-Solutions, a leading manufacturer of professional-grade Green cleaning chemicals.

Steps to Stop the Transmission

According to Warner, the most effective way to stop the transmission of germs and bacteria from one surface to another is through more effective cleaning and disinfecting. “In some cases, this may mean simply cleaning floor areas more frequently, using a more effective cleaner, or cleaning them with an appropriate disinfectant cleaner” he says. “However, certain precautions must also be in place, especially in regards to the cleaning tools used.”

Warner says studies have found that soiled mops, water, and buckets can actually spread germs instead of removing them. Because of this he suggests the following:

- Change the cleaning solution frequently, ensuring that the Parts per million (ppm) of the disinfectant is still adequate. *

- Change mop heads frequently. Some facilities reuse mops several times before changing them. As the mop head

becomes contaminated, it spreads disease and pathogens instead of removing them.

- Clean and disinfect mop frames, buckets, and even carts. Although they are often overlooked, these also become contaminated in the floor cleaning process and can transmit disease.

Warner adds that we also must adjust cleaning products, frequencies, and procedures based on infection “risk levels.” Referred to as the DEFCON (Defense Conditions for Cleaning) ranking system there are essentially four infection risk levels, each requiring adjustments in cleaning products, frequencies, and procedures. These are:

DEFCON 1: No dangerous infection or pathogen risk exists. Cleaning personnel should follow proper cleaning procedures using neutral and all-purpose cleaners in most areas with sanitizers and disinfectants primarily used to clean restrooms, food service areas, and floors.

DEFCON 2: This level signals that a contagious disease, infection, or virus is present in a community or area, *but not in a specific building*. For example, the swine flu has been reported in several schools and colleges, but its impact has been minimal on many other types of facilities. However, this level requires that neutral and light-duty, all-purpose cleaners be replaced with products that have greater cleaning efficacy and use disinfectants with stated kill claims for the pathogen(s) of concern, which should be indicated on the product’s label. There should also be an increased focus on cleaning and disinfecting floors, other horizontal surfaces, and cross contamination contact points, in this order.

DEFCON 3: At this level, more specific and extensive measures must be implemented because the disease or virus is *present in the facility*. Cleaning products and disinfectants as well as procedures for all

surface areas should be increased significantly in efficacy with floors cleaned and disinfected first, then walls, counters, fixtures, and high touch-point areas, and then the floors again. Surfaces should be pre-cleaned with an effective heavy duty cleaner or cleaner/disinfectant (see sidebar) and then the disinfectant should be applied, allowed to remain wet (dwell) on the surface per the label directions.

DEFCON 4: This is the most serious risk level and denotes the presence of a dangerous biohazard. This situation calls for experts who are trained in hazardous agent removal.

More than Mopping

Although thorough and frequent floorcare is necessary to keep foodservice-area floors clean and healthy, they also need to be "scrubbed clean" to thoroughly remove soils and, most important, contaminants, according to Rob Godlewski, Vice President of Marketing for Powr-Flite, a leading manufacturer of floorcare equipment. "Mop and bucket cleaning can go only so far," he says. "To ensure contaminants are removed from porous floor and grout areas, an automatic scrubber is called for."

According to Godlewski, along with removing contaminants, some of the other benefits of using an automatic scrubber to clean foodservice floors include these:

- Improved appearance. The scrubber automatically uses chemical and proper agitation to make the floor look better.

- Increased safety. Removing soils and contaminants from floors helps reduce the potential for slip-and-fall accidents. Additionally, automatic scrubbers are designed to clean and dry floors in one pass, so floors are safe and ready for use as soon as they are cleaned.

- Increased worker productivity. Studies indicate that using an automatic scrubber can be as much as six times more productive than cleaning floors with conventional mopping and floor cleaning systems.

Godlewski says the technology behind automatic scrubbers has improved significantly in recent years; however, some designs and equipment appear to have more benefits than others. For durability, he recommends selecting equipment with a rotational molded polyethylene body, chemical-resistant skirt, and aluminum brush housing. “Some machines have a four-wheel design, which helps improve [the machines’] stability,” he says. “And some machines also have adjustable brush pressure. This allows [the user to apply] more pressure for heavily soiled floors or when contamination or disease are of greater concern and less [pressure] for more routine floorcare.”

In most cases, a walk-behind automatic scrubber will work best in a commercial foodservice area, adds Godlewski. And because most of these machines are battery powered, selecting equipment with long-lasting batteries, up to eight hours of run time, helps improve worker productivity significantly.

The Problem with Floors

Historically many medical facilities have placed a relatively low priority on floorcare. Their concerns typically have centered on the appearance of their floors and that they are safe to walk on.

However, with fears about pathogens and contamination, every hospital surface, including floors, has come under greater scrutiny in the hopes of preventing the spread of disease. The same is true in foodservice facilities. The connection between public health and thorough, frequent cleaning has never been more evident. Fortunately, there is much foodservice facilities can do to ensure they remain clean, healthy, and infection free.

- Disinfectants are considered to be effective if the ppm is above 300 to 350. Lower grade disinfectants are at this level, while higher grade disinfectants typically start at 600+ PPM and are rated for Hospital Use.