

Where Germs are Lurking

Fall 2008

NSF

NSF International Consumer News

NSF International's microbiologists set out once again to find out where germs hide in schools and other public places as part of the ongoing NSF Scrub Club® handwashing public service campaign. Teaming up with Real Simple Magazine this past summer, this time NSF's experts swabbed key surfaces in local schools, grocery stores and other public places.

Although all germs are not harmful, the existence of germs on the tested surfaces indicates there are favorable conditions for microorganisms to grow and survive, which could create an environment for disease-causing viruses and bacteria such as E. coli and Salmonella. In other words, the higher the level of bacteria, the higher the probability that some of those bacteria are harmful.

The Results

As part of its most recent study, NSF microbiologists swabbed 26 different public places, testing for the level of Aerobic Plate Count (APC) at each location, also known as the general bacteria population. NSF's team of microbiologists found that the location that harbored the highest level of bacteria was a playground sandbox, revealing an APC count of 7,440 bacteria/in². Sandboxes are actually an ideal setting for bacteria, as they not only are exposed to wildlife such as cats and raccoons, but they can also hold on to the bacteria that is left from human contact such as saliva, food items, and other bacteria from human hands.

Another place that germs were found in high numbers was on video game controllers. When NSF microbiologists swabbed a game controller at a movie theatre that had just recently been cleaned by theatre staff, the test results still showed an APC count of 551 bacteria/in². Aside from a school musical instrument and a restaurant serving tray, which showed an APC count in the 200s, the rest of the 22 swabbed locations produced an APC count below 100, which by many standards would be considered clean.

NSF Microbiologist Robert Donofrio noted that it is important to consider three "growth factors" that determine a surface's potential for harboring germs and bacteria: the type of surface, temperature, and moisture level. Non-smooth, warm and moist areas tend to create ideal conditions for thriving bacteria to grow and hide.

In past studies, Donofrio noted that NSF had found that objects such as water fountain spigots and cafeteria trays had more microorganisms than the commonly cleaned areas such as bathrooms and gym mats. Although NSF's findings are a snapshot in time at the tested sites, the results reveal that we all need to be vigilant about sanitizing those hard-to-reach areas that people may forget to clean.

It also reinforces the importance of teaching proper handwashing from an early age to protect against potentially harmful bacteria, viruses and other germs. To learn more about proper handwashing, visit the Scrub Club® at www.scrubclub.org.

Most Bacteria

Public park sandbox
Restaurant tray
School musical instrument
Theater video controller

(Over 100 APC CFU/in²)

Relatively Clean

Public park swing
School computer mouse
School desk
School earphones
School gym mat
Store basket
Store floor
Theater arcade
Theater restroom

(Between 10-100 APC CFU/in²)

Clean

Dr. Office checkout desk
Dr. Office magazine
Dr. Office toys
Dr. Office waiting room chair
Library kids' books
Restaurant restroom door handle
School basketball
School bus seat
Store horse ride
Store shopping cart

(Less than 10 APC CFU/in²)