



Consumer Report: How Dirty Are My Electronics?

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Special Report:

Experts say the most likely reason for the potentially harmful bacteria festering on so many electronic gadgets is people failing to clean their electronics on a regular basis and wash their hands properly.

This report reviews two electronics and how bacteria growth will impact electronics that are not cleaned with disinfecting products on regular basis.

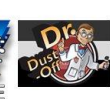
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Consumer Report: How Dirty Are My Electronics?

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Purpose:

The purpose of this study was to determine the effectiveness of the Falcon Dust-Off® brand products. Cellular telephone and desktop computer keyboards were sampled before and after being cleaned using Falcon Dust-Off cleaning products. This study evaluated the cleaning products ability to remove viable microorganisms from a surface and not the cleaning ability of the product to remove dirt and debris.

Cell phones and computer keyboards can be a petri dish for the growth of microorganisms, because they multiply in warm places. Between the heat the phones generate and the microorganisms on faces and hands, these electronics provide a breeding ground for bacteria and fungi. These organisms are easily transferred by touch to door handles, food, in bathrooms and eventually to our electronic devices.

Study:

The objective of this study was to evaluate the effectiveness of Dust-Off to eliminate microorganisms from the surface of cell phones and computer keyboards.

Results:

Examination of cell phones and computer keyboards pre-cleaning demonstrated that these devices were contaminated with microorganisms (Figure 1).

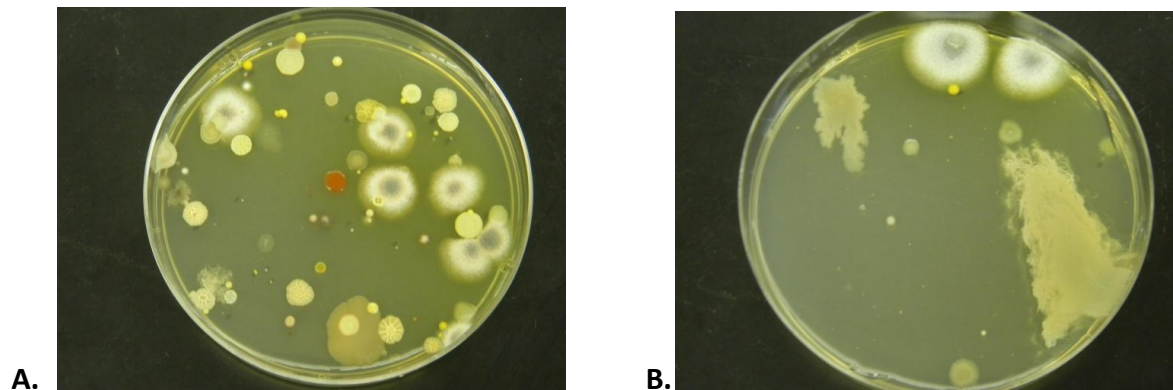


Figure 1 A. Bacterial and fungal growth from a classroom computer keyboard, B. Bacterial and fungal growth from a personal cell phone.

Cellular Telephone Results:

Fifteen personal cellular telephones were sampled aseptically using cotton swabs by rotating the swabs on the keys, mouthpiece, and ear-piece of the mobile phone. Samples were inoculated onto tryptic soy agar plates, incubated and observed for growth.

Dust-Off brand products were applied according to the manufacturer's directions and then sampled at 10, 30, 60, 120 minutes after application and again at 24 hours. Dust-off was able to reduce 99.6% of the microorganisms on the cellular telephones for up to 30 minutes after cleaning. At 24 hours a 90% reduction in microorganisms (from its initial pre cleaning state) was demonstrated (Figure 2).

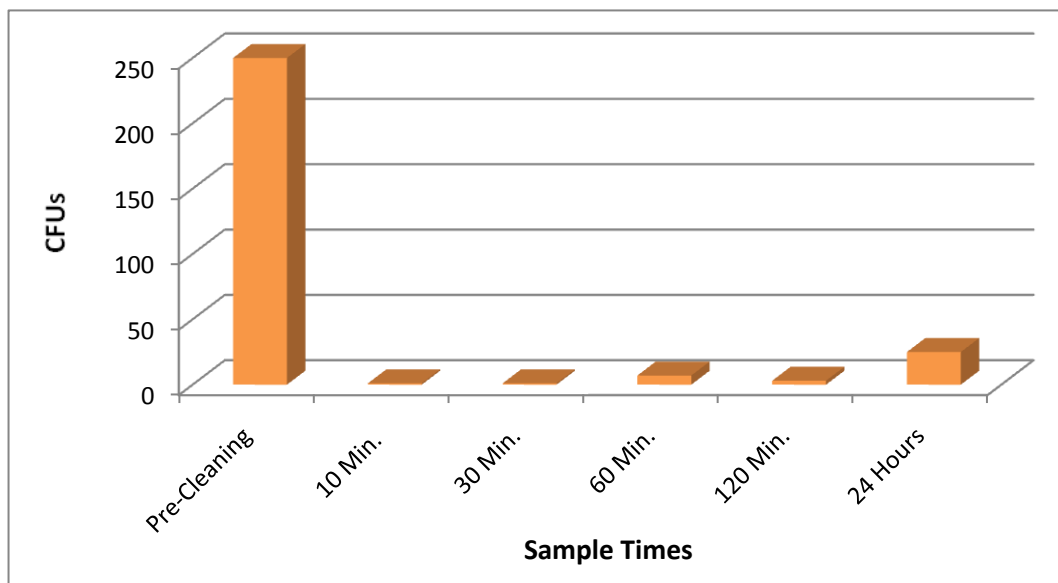


Figure 2. The average number of colony forming units (CFU's) present on the cell phones pre-cleaning and at 10, 30, 60 and 120 minutes, and 24 hours post-cleaning with Dust-Off.

Desktop Computer Keyboard Results:

Ten classroom computer keyboards were sampled aseptically using cotton swabs by rotating the swabs on the keys. Samples were inoculated onto tryptic soy agar plates, incubated and observed for growth.

Dust-Off brand products were applied according to the manufacturer's directions and then sampled at 10, 30, 60, 120 minutes after application and again at 24 hours. Maximum sanitization occurred 60 minutes after the cleaning agent was applied. A 79% reduction occurred at 10 minutes and a 90% reduction at 30 minutes was observed. A 50% reduction was maintained over a 24 hour period.

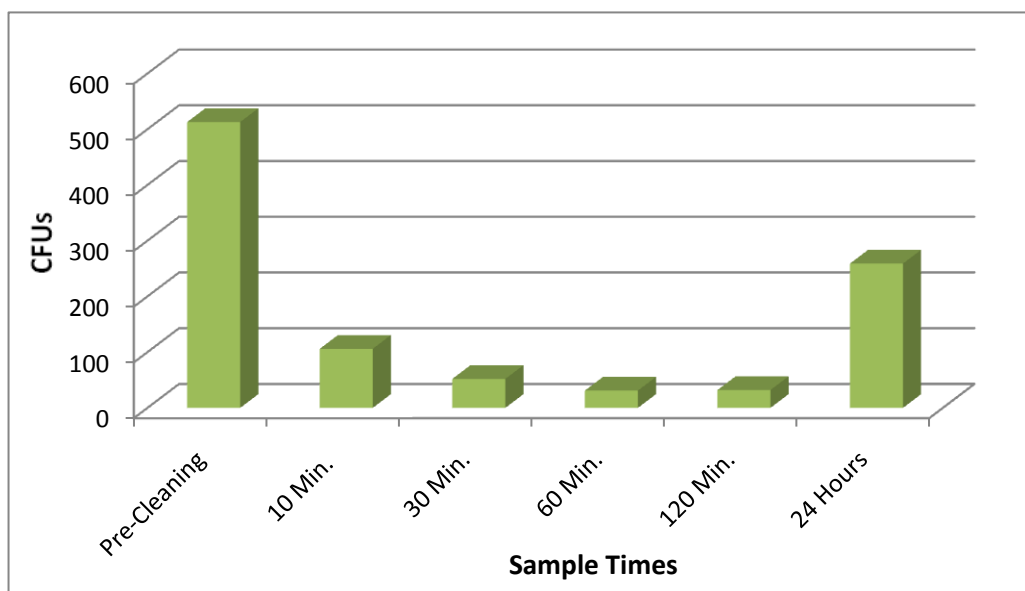


Figure 3. The average number of colony forming units (CFU's) present on the computer keyboards pre-cleaning and at 10, 30, 60 and 120 minutes, and 24 hours post-cleaning with Dust-Off.

Study Notes:

The average number of CFU's present on the computer keyboards was double that found on the cell phones. Keyboards in computer labs have multiple users and a larger surface area to clean which may account for the greater number of CFU's. The greater surface area on the keyboards also requires a longer cleaning time to ensure disinfection.

Conclusion:

Our electronics travel with us day in and day out. These devices collect bacteria, fungi, dirt, dust and grime that will affect the performance of the device and the health of the consumer. Falcon Dust-Off electronic cleaning products are effective at reducing numbers of viable microorganisms on personal electronics. From our findings, the higher efficiency achieved with the cellular telephone sampling may be attributed to the ease of apply sanitizing agent to a smaller surface area. The larger surface area of a keyboard increases the difficulty in maintain the sanitizing agent contact for 3 minutes. The keyboards used during the study were from a computer lab that had a higher number of users than the personal cellular telephones during our study. A filmy residue was present after sanitization on the cell phone screens. The use of Falcon Dust-Off products reduces the overall number of microorganisms an individual comes in contact daily with computer and cell phone use. This study illustrated that regular proper cleaning of these devices will reduce the microorganisms and will reduce health risks associated from the microorganisms that can contaminate these devices.

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This study was performed in the Department of Biological Sciences at East Stroudsburg University, with product support supplied by Falcon Safety Products, Inc.

Additional information can be found at:

<http://www.esu.edu>

<http://www.Dust-Off.com>