

Office Devices Are More Contaminated with Bacteria than Public Toilet Seats:

Clorox Screen+ Sanitizing Wipes Are An Effective Way to Treat



Background

As many as 60 million U.S. employees work in offices and use laptops, external keyboards, mice, external monitors, and many other electronic devices in their daily work¹. Additionally, many offices use “hoteling” workspaces where employees do not use the same desk and electronic equipment every day. Keyboards, mice, and other shared electronics devices may be used by more than one person and bacteria on shared equipment can easily transfer to personal laptops. 65% of adults admit that they take their phone to the bathroom but may not clean or sanitize their phones afterwards², making germ transfer to other areas more possible. As a result, personal devices used by adults are consistently shown to be contaminated with illness-causing bacteria. One study found that 100% of office mice and keyboards were contaminated with *Staphylococcus aureus* and *Escherichia coli*³.

Research Objective

In this study, we wanted to determine how contaminated employee devices were, assess the efficacy of Clorox Screen+ Sanitizing Wipes on reducing contamination, and determine how quickly re-contamination of devices occurs.

Methods

We recruited 29 employees from a large multi-building office setting to participate in this study. Each employee brought several devices including laptops, cell phones, and tablets and answered survey questions about their device sanitizing habits. We measured contamination of all 60 devices at baseline. Then we randomly selected 40 devices to be sanitized with Clorox Screen+ Sanitizing Wipes and measured contamination at two time-points: immediately after sanitizing and again 24 hours later.

Results: All Devices Were Contaminated with More than 2,000 CFUs on Average

All 29 recruited employees completed the survey regarding their sanitizing habits for their electronics. 52% reported that they had not sanitized their devices within the last month. 7% reported that they had never sanitized their devices. On average, laptops were contaminated with 2,223 CFUs, or about 10X more contaminated than a public toilet seat⁴, with the most contaminated device having 11,000 Colony Forming Units (CFUs) (Table 1). Tablets and cell phones were contaminated with 2,241 CFUs on average, with the most contaminated device having 24,000 CFUs.

We also tested specifically for *Staphylococcus* and *Escherichia coli* contamination. Results showed that 20% of laptops, 15% of cell phones, and 10% of tablets tested positive for Staph. 5% of tablets tested positive for *E. coli*.

Table 1: Contamination of Devices in Offices

	Colony Forming Units (CFUs)			% Devices Positive for Pathogens	
	Average	Min	Max	<i>Staphylococcus</i>	<i>E. coli</i>
All Devices	2,232	50	24,000	25%	2.5%
Tablets and Cellphones	2,241	50	24,000	15% (cell phones) 10% (tablets)	5% tablets
Laptops	2,223	230	11,000	20%	0%

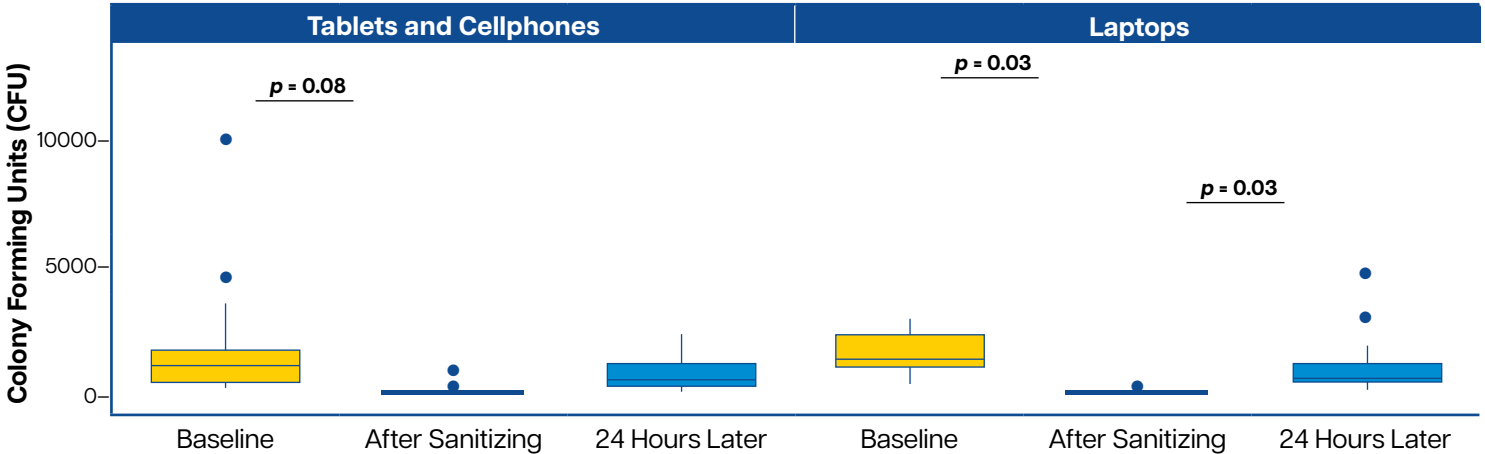
Clorox Screen+ Sanitizing Wipes Effectively Reduced Bacterial Contamination on Electronics

Sanitizing devices with Clorox Screen+ Sanitizing Wipes significantly reduced contamination across all tested devices ($p = 0.008$). Following the use of Clorox Screen+ Sanitizing Wipes, none of the devices tested positive for *E. coli* or Staph, and they contained, on average, fewer than 100 CFUs.

Devices were Re-Contaminated with Bacteria After Only 24 Hours Post-Sanitization

All participants in the study returned 24 hours after the first sanitization and we tested their devices for contamination again. Within 24 hours of sanitizing, laptops regained 59% of their initial contamination levels, while cell phones and tablets were fully re-contaminated, reaching 100% of their original levels in just one day.

Contamination of Personal Devices Before and After Sanitizing with CloroxPro Screen+ Sanitizing Wipes



Conclusion

Devices used by most adults like cell phones, tablets, and laptops are a significant source of contamination and potential spread of illness-causing germs. Sanitization with Clorox Screen+ Sanitizing Wipes is an effective way to reduce contamination on devices and to kill potentially pathogenic bacteria like *Staphylococcus* and *E. coli*. We found that after sanitizing, handheld devices were completely re-contaminated within 1 day, and laptops were almost completely re-contaminated. These results suggest that we should sanitize handheld devices every day, and laptops at least every other day to remove and help prevent the spread of illness-causing germs.

References:

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