

In Schools, Student Devices are Contaminated with Pathogenic Bacteria:

Clorox Screen+ Sanitizing Wipes Are an Effective Way to Treat



Background

Schools are investing in and using more devices in classrooms to help students prepare for life in our tech-centric world. Today, there are roughly 48 million student laptops in K–12 schools in the U.S.¹ In addition to laptops, many schools have also introduced tablets for younger students. While the frequency of electronic devices in students' hands has increased significantly, little is known about how these devices are cleaned and maintained, and whether they could be a source of illness-causing germs that may deserve the same cleaning attention as traditional high-touch surfaces like desks and door handles in school environments.

Research Objectives

In this study, we measured the levels of bacterial contamination on school laptops and tablets from an elementary school. We also tested the efficacy of Clorox Screen+ Sanitizing Wipes at removing illness-causing bacteria from these devices.

Methods

In January 2025, roughly halfway through the school year, an elementary school (K–5) provided us with 24 kindergarten student tablets and 24 first grade student laptops. According to school staff, the devices had not been cleaned since the summer and are typically only cleaned once per year, at the end of the school year. We measured the bacterial contamination of these devices before and after sanitizing with Clorox Screen+ Sanitizing Wipes.

Results: Laptops and Tablets in Schools are a Significant Source of Contamination and Pathogenic Bacteria

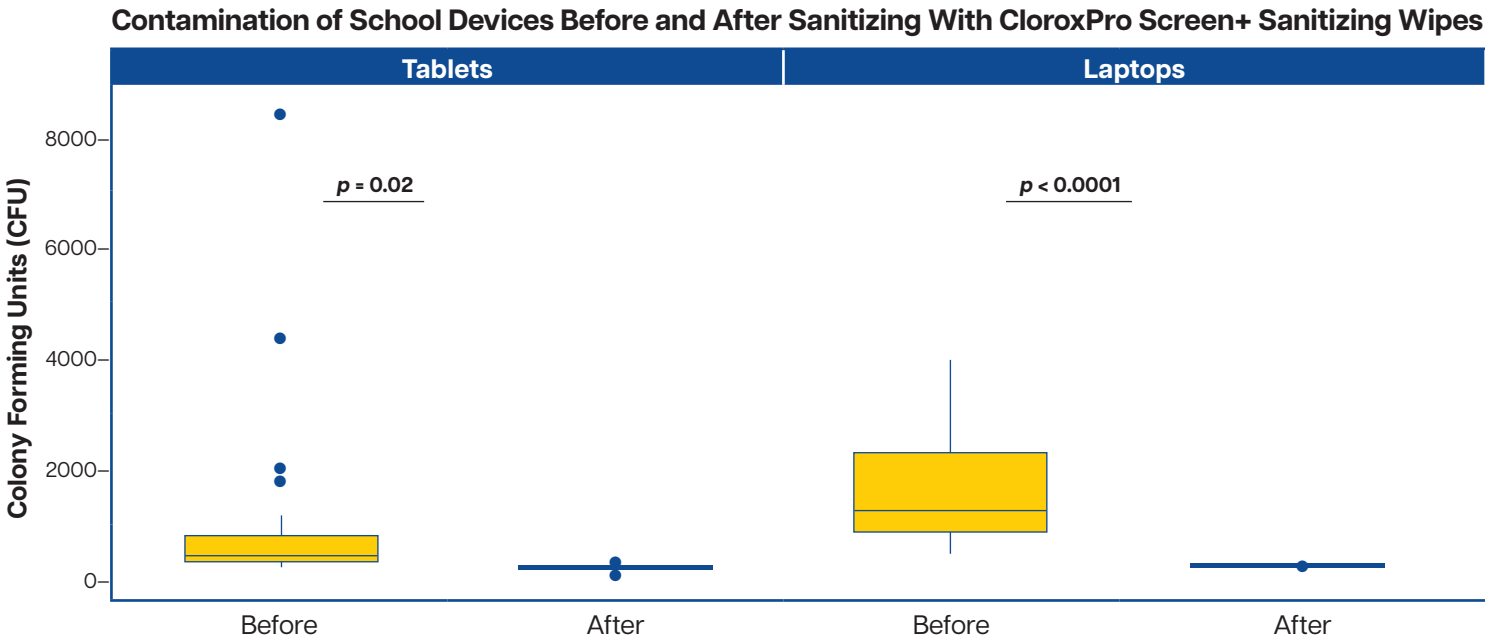
According to the school, the devices had not been sanitized since the end of the school year in 2024. All of the devices were positive for bacteria: laptops had on average 1,453 colony forming units (CFUs) and tablets had 972 CFUs on average (Table 1). This is about 5X as contaminated as public toilet seats². There was a wide range of contamination between devices: the most contaminated laptop had 3,800 CFUs, and the most contaminated tablet had 8,500 CFUs. 33% of laptops and 37.5% of tablets tested positive for *Staphylococcus*.

Table 1: Contamination of Devices in Schools Before Sanitizing

	Colony Forming Units (CFUs)			% Devices Positive for Pathogens	
	Average	Min	Max	<i>Staphylococcus</i>	<i>E. coli</i>
All Devices	1,212	250	8,500	35.25%	0%
Tablets	972	250	8,500	37.5%	0%
Laptops	1,453	250	3,800	33%	0%

Clorox Screen+ Sanitizing Wipes Significantly Reduced Contamination on Electronics

Sanitizing with Clorox Screen+ Sanitizing Wipes significantly reduced overall contamination levels on laptops ($p < 0.0001$) and tablets ($p = 0.02$). After sanitizing, no devices tested positive for *Staphylococcus*.



Conclusion

As tablets, laptops, and other electronic devices are used more by students in schools, we should consider how frequently these devices are disinfected. In our study, all tablets and laptops used by students were contaminated with bacteria, and at least one-third of the devices tested positive for the pathogenic bacteria *Staphylococcus*. Current practices in this school and possibly many others involve only cleaning the devices once per year. Clorox Screen+ Sanitizing Wipes are an effective way to reduce contamination, especially of pathogenic bacteria like *Staphylococcus*. These results suggest a benefit of daily or weekly sanitization of school devices with an EPA-registered product to kill bacteria that can cause illness.

References:

1. https://www.theregister.com/2023/08/08/4_in_5_chromebooks_sold_to_us_students/
2. CloudZero N = 1. <https://www.cloudzero.com/blog/tech-bacteria-experiment/#:~:text=On%20average%2C%20645%20colonies%20of,found%20on%20a%20trash%20can.>



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