

Make every visit to the dentist a safe one: Computer keyboards and mice, are environmental surfaces requiring disinfection.



Are your keyboards and mice disinfected before each treatment?

Although there have been some improvements in design of keyboards and mice to make them more easily washed, the most used process to reduce contamination is surface disinfection.ⁱ

Although we know good hand, keyboard, and mice hygiene is important, it's not always practiced at some of the foremost dental training institutions. Researchers from the school of Dentistry, College of Medical and Dental Sciences at University of Birmingham, UK found that all keyboards in patient treatment rooms were contaminated with a variety of microorganisms including *Staphylococcus aureus*, coagulase negative staphylococci. *Candida albicans*, a common fungus that can cause infections in children, older adults, denture wearers, and those with a weakened immune system, is able to survive up to 10 days on computer keyboards.ⁱⁱ

How bad is it?

The National Institutes of Health report multiple breaches in environmental infection control. In oral surgeon practices and dental clinics, lapses in cleaning of environmental surfaces and failure to use heat sterilization left contamination, resulting in either patient-to-patient, or patient-to-healthcare worker transmission of Hepatitis B and Hepatitis C.ⁱⁱⁱ

Contaminated environmental surfaces act as reservoirs for microbial pathogens. These pathogens can persist for days, weeks and even months. Hepatitis-B and HIV can survive for greater than 7 days. Herpes simplex virus type 1 and 2 can survive for up to 8 weeks, and MRSA can survive on a surface for up to 7 months.^{iv}

Why bother with a disinfectable keyboard and mouse?

A study published in the *International Journal of Public Health Dentistry* reported staph bacterium, that can cause infections when in the bloodstream, were found on 88% of keyboards sampled.^v

Your dentist and dental hygienist regularly utilize computer equipment during most procedures. Activities such as updating electronic health records, operating imaging devices, viewing records and images, and scheduling your next appointment all raise the risk that these high-touch computer peripherals will become contaminated. Studies have shown that 80% of infections occurred due to cross-contamination of object-to-hand contact and, that up to 91% of office mice and keyboards were contaminated.^{vi}

The data suggest that computers in dental study areas and clinics act as reservoirs of potential viruses and bacteria and should be regularly disinfected to reduce the risk of cross-infection.^{vii}

What can you do to ensure my next checkup is safe and infection free?

The Journal of Infection Control in Developing Countries published guidance for reopening dental schools after COVID-19 and stated plainly that high-touch surfaces including keyboards and monitors should be covered with membranes and cleaned and disinfected frequently throughout the day.^{viii}

An article titled *Decontamination in Primary Care Dental Practices* identifies conventional keyboards should be replaced with sealed keyboards that can be disinfected, or washable keyboards with covers. Care should be taken to ensure that keyboard covers are washed or sterilized at frequent intervals.^{ix}

The National Institute of Health outlines two general approaches to environmental surface disinfection in their article titled *Dental Infection Control*, including cleaning, and disinfecting contaminated surfaces, and using covers to prevent surfaces from becoming contaminated.^x

This can be accomplished by using Man & Machine's washable keyboards with a sterilizable keyboard drape, and mice that can be cleaned and disinfected. Using Man & Machine silicone drapes as tray liners to place sterile instruments on, and over those sterile instruments protects the instruments from infectious aerosol and droplets. Man & Machine washable keyboards can be sprayed and wiped with hospital-grade disinfectants, and our silicon drapes and keyboard covers can be placed in an autoclave at 134°C for complete sterilization.

Is it time to ramp up your infection control measures?

Contact us now at 301.341.4900 and mention this whitepaper or visit our website (www.man-machine.com) for more information about disinfectable keyboards and mice from Man & Machine.

Oliver Thompson, MPH
Health Minister at Man & Machine
oliver@mmimd.com

- ⁱ Palenik, C. J. (2012). Contaminated Keyboards and Mice. *Dental Update*, 39(10), 683–687.
- ⁱⁱ Patel, S., Porter, K., & Sammons, R. L. (2010). Are computer keyboards a cross-infection risk in a dental clinic? *Journal of Infection Prevention*, 11(6), 206–211. <https://doi.org/10.1177/1757177410384892>
- ⁱⁱⁱ Cleveland, J. L., Gray, S. K., Harte, J. A., Robison, V. A., Moorman, A. C., & Gooch, B. F. (2016). Transmission of blood-borne pathogens in US dental health care settings. *The Journal of the American Dental Association*, 147(9), 729–738. <https://doi.org/10.1016/j.adaj.2016.03.020>
- ^{iv} Ferree, M. (2023, October). *Clean: Maintaining a Disinfected Patient Care Area*. *OSAP.org*.
- ^v Anjum, M. S., Reddy, P. P., Abbas, I., & M. Monica. (2011). Microbial contamination of laptop/ keyboards in dental settings. *International Journal of Public Health Dentistry*, 2(2), 4–6.
- ^{vi} Garland, K. V., & Lane, C. Kanderis. (2018). Infection Control Policy for Dental Technologies. *Decisions in Dentistry*, 17–19.
- ^{vii} ii
- ^{viii} Maltezou, H. C., Tseroni, M., Vorou, R., Koutsolioutsou, A., Antoniadou, M., Tzoutzas, I., Panis, V., Tzermpos, F., & Madianos, P. (2021). Preparing dental schools to refunction safely during the COVID-19 pandemic: An infection prevention and control perspective. *The Journal of Infection in Developing Countries*, 15(01), 22–31. <https://doi.org/10.3855/jidc.14336>
- ^{ix} Cockcroft, B. (2013). (rep.). Decontamination in Primary Care Dental Practices.
- ^x Upendran A, Gupta R, Geiger Z. Dental Infection Control. [Updated 2023 Aug 8]. 2024 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK470356/>