

## Preventing Contamination of Portable Computers

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Portable computers (e.g., laptop/notebook, netbook, and tablet-based computers) are now commonly used by home care and hospice staff when providing care in the home. The computer's peripheral devices, such as a keyboard, mouse or mouse and wrist pads, and computer surfaces such as touch screen monitors, can serve as a potential source for the transmission of pathogenic microorganisms. Keyboard contamination can occur from droplets of respiratory secretions falling during "normal" talking, sneezing, or coughing, as well as from eating at the computer (when working in the office or at home) with food residue or crumbs serving as a medium for bacteria. The most common source of contamination is from the hands, when they become transiently colonized with potentially pathogenic microorganisms from patients and their environment and then come in contact with the computer and peripheral devices.

Surface cleaning and disinfection, and performing hand hygiene before and after computer contact are the cornerstones of reducing the risk of cross-contamination and spread of pathogenic microorganisms through the use of portable computers in home care and hospice.

A key infection prevention strategy is to regularly disinfect the computer and its peripheral equipment. When selecting a product to clean and disinfect the computer (not the display

screen), consider the use of an alcohol-impregnated wipe. Codish et al. (2015) found computer decontamination to be more effective when using an alcohol impregnated wipe compared with a quaternary ammonium-based impregnated wipe. Other studies have demonstrated the effective use of alcohol on computers without damage (Rutala et al., 2006). To avoid potentially damaging the computer's keyboard, consider the use of an impervious waterproof enclosure or keyboard overlay. Clean and disinfect the computer and peripherals each day of use and when visibly soiled. If a patient is on isolation precautions, such as Contact or Droplet Precautions:

- Place the laptop on an impervious surface barrier during use in the home, or if possible avoid using the laptop into the home;
- Perform hand hygiene prior to each contact with the computer's surfaces after contact with the patient or their environment; and
- Clean and disinfect the portable computer's surfaces prior to placing the equipment back into the storage or nursing bag (McGoldrick, 2016).

Do not use a cleaner that contains bleach, window cleaner, solvents, alcohol, abrasives, acetone, ammonia, or hydrogen peroxide directly on a computer display screen or tablet. Clean and disinfect a touch display screen or tablet with a product recommended by the manu-

facturer. iPads are commonly used by home care and hospice staff, yet Apple does not include instructions for disinfection. Apple recommends "wiping the iPad's screen with a soft, slightly damp, lint-free cloth to remove oil left by the hands to prevent damage to the oleophobic coating on the screen." It should be noted that using a disinfectant may invalidate the manufacturer's warranty; however, the cost of a home care-onset healthcare-associated infection is much greater in many ways and needs to be a factor considered by management when selecting a portable computer to be used by staff. ■

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The author declares no conflicts of interest.

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