Bedside Computers and Electronic Devices

Note: Terms are defined in the **Definitions** section. If you have any questions or comments contact IPC at ipcsurvstdadmin@ahs.ca**.**

Best practice recommendations

Purpose

To provide infection prevention and control recommendations for:

- selection and placement of bedside computers and **electronic devices**;
- **cleaning** and **disinfection** of bedside computers, shared and personal electronic devices (including **mobile electronic devices**) used in clinical and non-clinical areas.
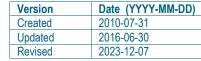
 Note: Televisions and remote controls are not within the scope of these recommendations.

Application

This recommendation should be followed by all Alberta Health Services (AHS) staff, medical staff, volunteers, students and other persons acting on behalf of AHS.

1. **IPC practices**

   1.1 Routine practices help prevent the spread of infections and are used for every patient, every time, including Point Of Care Risk Assessment, Hand Hygiene and Personal Protective Equipment.

   1.2 Hand hygiene is the most important factor in preventing transmission of microorganisms.

   - Perform hand hygiene before touching electronic devices including computers.
   - Healthcare providers who access personal electronic devices, i.e., cell phones, pagers must perform hand hygiene before accessing the device and after using the device, when working directly with a patient. Refer to the Guide to Conduct Hand Hygiene Reviews and Section 3.6 Healthcare Provider Self-contamination for more information.
   - Do not wear gloves when using electronic devices.

   1.3 Devices must be cleanable and durable to withstand cleaning and disinfection. Protective cases or covers may be used to support device cleanability and durability.

   1.4 Regular and ongoing cleaning reduces contamination and the risk of germ transmission. Refer to Table 1: Cleaning and Disinfection of Electronic Devices.

   1.5 Follow the manufacturer's instructions for use for:

   - cleaning/disinfection products;
   - personal protective equipment; and
   - disinfection, cleaning and maintenance of internal components.

   1.6 In rooms with additional precautions (isolation) in place:

   - Dedicate electronic devices to a single patient or clean and disinfect shared devices before use with another patient.
   - Consider leaving mobile electronic devices outside the patient room.
   - If it is necessary to take the mobile electronic device into the patient room to support patient care, clean and disinfect the device before entering the room and when leaving the room.

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Recommendations

2. General recommendations for cleaning and disinfection

2.1 Electronic devices in both clinical and non-clinical areas become contaminated with microorganisms, which are transmitted via contaminated hands. Follow the guidance in Table 1 for cleaning and disinfecting electronic devices.

2.2 Unless there is a protective, washable cover for the electronic mobile device it should not come into contact with the **patient environment**.

2.3 Replace computer components when:

2.3.1 Grossly contaminated, e.g., saturated with blood or bodily fluids or

2.3.2 Cleaning does not remove visible soil, e.g., keyboards.

2.3.3 Damage impairs the usability or cleanability of the device.

Table 1: Cleaning and disinfection of electronic devices

Equipment	Minimum frequency	Product
Mobile electronic devices taken into the patient's room, but not directly into the patient environment, for activities, such as charting in an electronic health record, order entry, or data collection, e.g., computer or workstation on wheels, tablets, wireless laptops	Before use on the next patient; and when visibly soiled	Follow manufacturer's instructions for use for specific recommendations. • Use a disposable soft, non-abrasive, lint-free damp cloth or wipe, pre-moistened with a ready to use (RTU) AHS provided cleaner/**disinfectant**. • Squeeze out excess liquid before use. • Never spray products directly onto electronic devices Examples of disinfectants that may be indicated in the manufacturer's instructions for use: • Alcohol swabs and wipes (often used for phones, mouse, pagers) • Combination products such as alcohol/quaternary ammonium e.g., CaviWipes® • Hydrogen peroxide products such as accelerated hydrogen peroxide (AHP) products e.g., Virox RTU®, Accel®, OxivirTb®, Percept Wipe® Some disinfectant products may cause cloudiness on the screen. If this occurs, confirm that the disinfectant is compatible for use on the device, i.e., listed in the manufacturer's instructions for use. After cleaning and disinfection, consider doing a rinse step with a clean cloth dampened/wet (squeeze out excess liquid) with water to remove residual disinfectant. Do not use compressed air to clean electronic devices, e.g., keyboards
Mobile electronic devices taken into the patient's room and used directly in the patient environment, e.g., pager, smart phone, cell phone, or personal digital assistant	Before contact with a patient or patient's environment; after contact with a patient or patient's environment; and when visibly soiled	
Telehealth equipment in all clinical areas	Before use on the next patient; when equipment leaves the patient environment; and when visibly soiled	
Fixed electronic devices including key boards used in the patient environment, e.g., wall-mounted computers	Daily, when visibly soiled; and at discharge	
Electronic devices including keyboards used near the patient environment, e.g., computers in the hallway and outside the patient's room	Daily, and when visibly soiled	
All other fixed electronic devices located in clinical areas, e.g., nursing station.	Daily, and when visibly soiled	
Electronic devices in public areas for patient use.	Daily, and when visibly soiled	
Desk phones	Daily	• Use alcohol swabs or wipes. Other cleaning wipes such as CaviWipes®, Lysol®, and Green Works® may leave a residue which can compromise the keys and affect the internal electronics.
Rovers For further detail about Connect Care Cleaning and Disinfecting of Mobile Electronic Devices	Before contact with a patient or patient's environment; after contact with a patient or patient's environment; and when visibly soiled	Do not use accelerated hydrogen peroxide (AHP) products such as Oxivir TB™ on rovers as they will damage the plastic. Bleach products or other RTU disinfectants may be used instead.

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3. **Clinical areas**

   Electronic devices in clinical areas (any area used by patients including Telehealth rooms) may pose an infection risk to patients.

   3.1 Purchase electronic devices, including computers and computer components, that can be cleaned and disinfected with AHS provided products, e.g., keyboards, cables.

   3.2 Limit exposure of cables to patient environment, e.g., bundle cables and secure with a washable strap.

   3.3 Computer fans can potentially disperse dust and germs throughout a room if they are not regularly cleaned, filtered and maintained. Use of **fan-less** computers in all patient rooms is preferred, e.g., medical-surgical units. Only fan-less computers, including fan-less mobile computers and laptops, may be used or installed in patient rooms on high-risk units including:

   - Bone marrow transplant
   - Burn
   - Hematology/oncology
   - Solid organ transplant, e.g., renal transplant
   - All intensive care units including neonatal, cardiovascular, pediatric
   - Operating rooms

   Note: This recommendation applies to personal mobile electronic devices with fans, e.g., iPads.

4. **Non-clinical areas**

   Electronic devices in non-clinical areas never used by patients, such as office areas and Telehealth rooms, can become contaminated but they do not pose the same risk to patients as devices used in the patient environment. Recommendations for non-clinical areas:

   4.1 Clean electronic devices in non-clinical areas weekly and when visibly soiled.

   4.2 Use screen cleaning products compatible with manufacturer's instructions for use.

5. **Education and training**

   Damage to electronic devices and staff injury may result from improper cleaning and handling. Refer to the following resources for further information and training:

   - Hand Hygiene Policy and Procedure
   - Infection Prevention and Control Principles for Cleaning and Disinfection.

Definitions

Definition	Meaning
Cleaning	Means the physical removal of foreign material, e.g., dust, soil, organic material such as blood, secretions, excretions and microorganisms. Cleaning physically removes rather than kills microorganisms.
Disinfectant	Means a product used on inanimate objects to reduce the quantity of microorganisms to an acceptable level. Hospital-grade disinfectants need a Drug Identification Number (DIN) or Natural Health Product Number (NPN) for sale in Canada. Disinfectant manufacturers obtain a DIN or NPN from Health Canada prior to marketing, which ensures that labelling and supporting data have been provided and that it has undergone and passed a review of its formulation, labelling, packaging requirements and instructions for use.
Disinfection	Means the inactivation of disease-producing microorganisms with the exception of bacterial spores

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Definition	Meaning
Electronic device	Means any electronic equipment including, but not limited to: computers, key boards, accessories (key board, mouse, monitor, computer processing unit, and cables) and peripherals, e.g., cables, ties, zip ties, wall mounts, and brackets, telephones, telehealth equipment, smart phones, tablets and pagers. Televisions and remote controls are excluded.
Mobile electronic device	Means portable electronic devices including smart phones, tablets, laptops, digital assistants and iPads.
Fan-less	Means built without a fan.
Patient environment	Means the patient and the area immediately (within 2 metres) surrounding the patient. It can accompany the patient in the healthcare environment, wherever the patient goes, e.g., a patient's wheelchair, walker or IV pole; if the patient is in a lounge or dining room. The patient environment includes any surfaces touched by the patient or healthcare provider during care, such as bedrails, over-bed tables, bedside table, infusion pumps and tubing, and nearby surfaces touched by the healthcare provider including monitors, knobs, and high frequency touch surfaces.

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Resources

- [Cleaning and Disinfection of Computers and Electronic Devices Guidance Poster](#)
- Clinical [Cleaning and Disinfection of Telehealth Equipment and Peripheral Devices](#)
- Telehealth [Poster: Steps for Disinfecting Telehealth Equipment and Peripheral Devices](#)
- [Use of Mobile Electronic Devices for Virtual Health Patients](#)

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