Title: BEDSIDE COMPUTERS AND ELECTRONIC DEVICES

This document replaces and updates the 2016 Best Practice Guidelines for Cleaning and Disinfection of Information Technology (IT) Equipment and the 2014 Best Practice Guidelines: Use of Stationary Computers in Patient Areas.

If you have any questions or comments regarding the information in this Best Practice Guideline please contact Infection Prevention & Control at infectionpreventioncontrol@albertahealthservices.ca.

Note: Terms in bold are defined in the Definitions section.

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 guidelines.

APPLICATION

This guideline 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. Routine Practices 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.

GUIDELINES

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 body fluids or
   2.3.2 Cleaning doesn’t remove visible soil, e.g., keyboards.

Table 1: Cleaning and Disinfection of Electronic Devices

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Minimum frequency</th>
<th>Product</th>
</tr>
</thead>
<tbody>
<tr>
<td>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</td>
<td>Before use on the next patient; and when visibly soiled</td>
<td>Follow manufacturer’s instructions for use for specific recommendations.</td>
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<td></td>
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<td>- Use a disposable soft, non-abrasive, lint-free damp cloth or wipe, pre-moistened with a ready to use (RTU) AHS provided cleaner/disinfectant.</td>
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<td>- Squeeze out excess liquid before use.</td>
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<td>- Never spray products directly onto electronic devices</td>
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<tr>
<td>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</td>
<td>Before contact with a patient or patient’s environment; after contact with a patient or patient’s environment; and when visibly soiled</td>
<td>Examples of disinfectants that may be indicated in the manufacturer’s instructions for use:</td>
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<tr>
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<td>- Alcohol swabs and wipes (often used for phones, mouse, pagers)</td>
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<td>- Combination products such as alcohol/quaternary ammonium e.g. CaviWipes®</td>
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<td>- Hydrogen peroxide products such as accelerated hydrogen peroxide (AHP) products e.g. Virox RTU®, Accel®, Oxivir®, Percept Wipe®</td>
</tr>
<tr>
<td>Telehealth equipment in all clinical areas</td>
<td>Before use on the next patient; when equipment leaves the patient environment; and when visibly soiled</td>
<td>Example a of product not usually recommended:</td>
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<tr>
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<td>- Sodium hypochlorite (bleach) such as Clorox®</td>
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<tr>
<td>Fixed electronic devices including keyboards used in the patient environment, e.g., wall-mounted computers</td>
<td>Daily; when visibly soiled; and at discharge</td>
<td>Do not use compressed air to clean electronic devices, e.g., keyboards</td>
</tr>
<tr>
<td>Electronic devices including keyboards used near the patient environment, e.g., computers in the hallway and outside the patient’s room</td>
<td>Daily, and when visibly soiled</td>
<td></td>
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<tr>
<td>All other fixed electronic devices located in clinical areas, e.g., nursing station.</td>
<td>Daily, and when visibly soiled</td>
<td></td>
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</tbody>
</table>
### 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.

3.4 Clean and disinfect electronic equipment and computers regularly and when visibly soiled. Refer to Table 1: Cleaning and Disinfection of Electronic Devices.

3.5 Use established cleaning and disinfection frequencies and processes. Generally, the frequency for cleaning and disinfection is determined by the risk of cross contamination, the proximity of the equipment to the patient environment and the usual amount of soiling (dust, etc). Refer to *Infection Prevention and Control Guideline for Cleaning and Disinfection Principles.*

### 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.

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<table>
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| Electronic devices in public areas for patient use. | Daily, and when visibly soiled | • 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. |
| Desk phones                            | Daily                              |                                             |
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 Guideline for Cleaning And Disinfection Principles

DEFINITIONS

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.

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.

RESOURCES

- Cleaning and Disinfection of IT Equipment Guidance Poster
- Clinical Telehealth: Best Practices Guidelines: Cleaning and Disinfection of Telehealth Equipment and Peripheral Devices
- Telehealth Poster: Steps for Disinfecting Telehealth Equipment and Peripheral Devices
REFERENCES (complete list of references available on request)


