Handling, Cleaning and Disinfecting Mobile Devices such as Ultrasound Scanners, X-Ray and Electrocardiogram (ECG) Equipment Used for Patients on Modified Respiratory Precautions

Note: These best practice recommendations were developed from materials provided by Dr. I Ma, Dr. E. Rennert-May, Dr. R. Somayaji, Dr. A. Lam, Dr. M. Haager and the University of Alberta. If you have any questions or comments contact IPC at ipcsurvstdadmin@ahs.ca.

Best practice recommendations

Refer to Spaulding Classification for reprocessing details about non-critical, semi-critical and critical devices.

These infection prevention and control (IPC) recommendations are for handing, cleaning and disinfecting non-critical mobile devices used on intact skin of patients on modified respiratory precautions including COVID-19 patients. This document does **not** cover semi-critical devices which require use of sterile sheaths and high-level disinfection.

This document is divided into the following topics:

1. Recommendations about handling mobile devices in the room
2. Instructions for cleaning and disinfecting:
   a) Steps for cleaning and disinfecting a hand-held device
   b) Steps for cleaning and disinfecting a mobile device
3. Appendix A: Summary of hand-held and mobile devices, disinfectant wipes and contact times

1. Recommendations for handling mobile devices in the room

Considerations

- Limit evaluations to those that will benefit the patient, e.g., inform diagnosis or treatment.
- Limit the number of staff entering the room, e.g., integrate ultrasound evaluation with concurrent patient care tasks.
- Limit supplies taken into the patient room:
  - Take only the equipment needed for the procedure into the patient room. Remove all unnecessary equipment from the mobile device such as transducers, trays, baskets and brackets prior to use.
  - Consider using a hand-held device as these devices are easier to clean and disinfect. Refer to Section 2 for cleaning and disinfection instructions and Appendix A.

Before entering the room

- Assemble necessary supplies:
  - Take only clean devices into the room. If the device may be contaminated, e.g., not stored in a clean location, clean and disinfect the device before taking it into the room. Once the device is clean, maintain it as clean, e.g., do not allow it to touch contaminated surfaces. Specific questions can be addressed by local IPC.
  - Obtain a protective cover if it will be needed, i.e., device may come into direct contact with blood and body fluids, and non-intact skin.

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Original date: April 28, 2020
Revised date: March 3, 2022
ECC Approved: March 3, 2022

Alberta Health Services
Infection Prevention & Control

  - If medical gel is required for the procedure, select a single-use gel or the smallest suitable size multi-use gel. If a multi-use gel is used, leave it in the room until the patient is discharged. Refer to IPC medical gels for more details.
  - Check that compatible ready-to-use (RTU) disinfectant wipes are available upon entry and exit from the room.
  - Obtain clean hand towels if required.
  - If specimen collection is required, have sufficient patient labels ready to put on specimen containers.
- Do not bring documentation materials into the room.
- Perform hand hygiene and donning PPE personal protective equipment (PPE) required for modified respiratory precautions, i.e., gown, N95 respirator/mask, face shield/eye protection, and gloves.
- Bring the hand-held or mobile device into the patient room.

While in patient room

- Perform the procedure.

After procedure is completed

Note: IPC protocols for doffing PPE and cleaning and disinfecting devices within the patient room or outside of the patient room vary depending on unit, e.g., anteroom or no anteroom, main corridor, outside patient area etc. Follow established IPC protocol for the site. Examples of cleaning protocols include:

- Remove and discard disposable supplies e.g., ECG electrode patches, protective covers.
- Wipe off all gel and visible soil such as blood and body fluids from the device with an RTU disinfectant wipe or towel.
- If a specimen has been obtained, place labelled specimen container into a specimen bag and place this bag into another specimen bag outside the room, e.g., ask helper or nurse outside of the room to assist withhold the second specimen bag.
- Move the device at least 2m away from the patient in an area where cleaning and disinfection can be performed. Place soiled hand-held devices on a solid surface to prevent damage, e.g., on a tray, in a basin or directly onto a countertop.
- Clean the hand-held or mobile device following instructions on Section 2.
  - Place the clean hand-held device on a clean surface or pass to a helper/nurse.
- Exit room with the device.
- Store the device in a clean location.

2. Instructions for cleaning and disinfecting

a. Steps for cleaning and disinfecting a hand-held device

Use an RTU disinfectant wipe to clean and disinfect the device. **Note**: some RTU disinfectant wipes may not require the use of gloves while others do. Refer to and follow label instructions. Refer to Appendix A.

- Inspect the device for damage such as cracks.

Original date: April 28, 2020
Revised date: March 3 2022
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- Clean the device with special attention to the probe head.
- Wipe all device surfaces from the least-soiled to the most-soiled areas.
- Keep the surfaces wet for the contact time recommended by the manufacturer, i.e., the minimum time that the disinfectant must remain wet on the surface for it to be effective.
- Put the hand-held device on a clean surface.
- Allow the device to dry completely.
- Remove gloves and perform hand hygiene.
- Store the device in a clean area according to the manufacturer's instructions for the device.

b. Steps for cleaning and disinfecting a mobile device

Use an RTU disinfectant wipe to clean and disinfect the device. **Note**: some RTU disinfectant wipes may not require use of gloves while others do. Refer to and follow label instructions. Refer to Appendix A.

- Inspect the device for damage such as cracks.
- Wipe all surfaces from the least-soiled to the most-soiled areas including:
  - power cord;
  - stand;
  - lid;
  - screen, keyboard and control panel, e.g., exposure switches etc.;
  - components such as transducer cord, holder, and head;
  - ECG components such as trunk cables, leads and electrodes or imaging receptors.
- Keep the surfaces wet for the contact time recommended by the manufacturer, i.e., the minimum time that the disinfectant must remain wet on the surface for it to be effective.
- Allow the device and surfaces to dry.
- Remove gloves and perform hand hygiene.
- Store the device in a clean area and according to manufacturer's instructions for the device. Refer to IPC Storage of Clean and Sterile Supplies in Clinical Areas for more details.

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ECC Approved: March 3, 2022

3. Appendix A: Summary of hand-held and mobile devices, disinfectant wipes and contact times

Note: This is a reference table only. Follow manufacturer's instructions and labels as product contact time vary.

Device Company, Model		Recommended Ready-to-Use Disinfectant wipe *(company)*	Active Ingredient	Contact Time (minutes)
Full-sized	Sonix Touch	**Oxivir TB® (***Virox Technologies Inc.)*	**Hydrogen Peroxide**	**1**
	Sonosite X-Porte	**Caviwipes** *(Metrex Research)*	**Quaternary Ammonium; EtOH; Isopropanol**	**3**
		Super Sani-Cloth® Germicidal Disposable Wipe *(Professional Disposables International Inc, PDI)*	**Quaternary Ammonium**	**3**
	Sonosite Edge II	**Caviwipes™** *(Metrex Research)*	**Quaternary Ammonium; EtOH; Isopropanol**	**3**
		Sani-Cloth® Bleach Germicidal Disposable Wipe *(Professional Disposables International Inc, PDI)*	**Sodium Hypochlorite**	**1**
		Super Sani-Cloth® Germicidal Disposable Wipe *(Professional Disposables International Inc, PDI)*	**Quaternary Ammonium**	**3**
		Accel Prevention™ *(Diversey)* are approved for use on the Edge II but **not** the X-Porte.	**Hydrogen Peroxide**	**3**
Hand-Held Full size	GE V-Scan	**Caviwipes™** *(Metrex Research)*	**Quaternary Ammonium; EtOH; Isopropanol**	**3**
	Biocon Cubescan Bladder Scanner	**Kimtech Wipe™ 70% Alcohol** or any other disinfectant wipe	**Isopropyl alcohol 70%**	
	Sonosite: iViz MTurbo Sonoheart Titan	**Oxivir TB™ Wipes** *(Virox Technologies Inc.)*	**Hydrogen Peroxide (benzyl alcohol)**	**1**
		Super Sani-Cloth® Germicidal Disposable Wipe *(Professional Disposables International Inc, PDI)*	**Quaternary Ammonium**	**3**
	Butterfly iQ	**Oxivir TB™ Wipes** *(Virox Technologies Inc.)*	**Hydrogen Peroxide**	**1**
		Caviwipes™ *(Metrex Research)*	**Quaternary Ammonium; EtOH; Isopropanol**	**3**
		Super Sani-Cloth® Germicidal Disposable Wipe *(Professional Disposables International Inc, PDI)*	**Quaternary Ammonium**	**3**
	Philips Lumify	**Oxivir TB® Wipes** *(Virox Technologies Inc)*	**Hydrogen Peroxide**	**1**
		Caviwipes™ *(Metrex Research)*	**Quaternary Ammonium; EtOH; Isopropanol**	**3**
		Super Sani-Cloth™ Germicidal Disposable Wipe *(Professional Disposables International Inc, PDI)*	**Quaternary Ammonium**	**3**
		Virox™ 5 RTU *(Diversey)*	**Hydrogen Peroxide**	**5**
	Verithon BVI Bladder Scanner	**Any AHS RTU disinfectant wipe**	**Sodium Hypochlorite or Alcohol 70%**	**3**
	Nicolet Biomedical Elite 200	**Kimtech Wipe™ 70% Alcohol**	**Isopropyl alcohol 70%**	**3**
ECG	Monitors and touch screens, keyboards, and control panel	**Kimtech Wipe™ 70% Alcohol – no bleach**	**Isopropyl alcohol 70%**	**3**
Portable X-Ray devices	Carestream DRX mobile, cassettes and detectors	**Kimtech Wipe™ 70% Alcohol**	**70% alcohol**	**3**
		Oxivir TB™ (excluding cassettes)	**Hydrogen peroxide**	**1**
		Sani Cloth Bleach™	**Sodium hypochlorite**	**1**
	Fuji cassettes / detectors	**Kimtech Wipe™ 70% Alcohol**	**70% alcohol**	**3**
	Shimadzu mobile (all models)	**Kimtech Wipe™ 70% Alcohol**	**70% alcohol**	**3**
		Sani Cloth Bleach™	**Sodium hypochlorite**	**1**
	GE AMX 4/4+ Optima XR 200	**Sani Cloth Bleach™**	**Sodium hypochlorite**	**1**
	Drive handles and hand switch	**Isopropyl alcohol or accelerated hydrogen peroxide**	**Isopropyl alcohol 70% or Hydrogen peroxide**	**3**

* SonoSite has issued a statement that given the urgency of the COVID-19 pandemic, SonoSite will support our North American customers in this state of emergency if they decide to use a cleaner or disinfectant currently not listed, or not

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approved on the SonoSite Cleaners and Disinfectants Tool, as long as the disinfectants are hospital grade, and are on the Government of Canada List of Hard-surface Disinfectants effective for COVID-19.

Available at: https://www.sonosite.com/sites/default/files/M08011_Rev_A_COVID-19_North_America.pdf?elqTrackId=0e314754e9c24a1a9ea4aa756e6baccb&elqaid=3961&elqat=2

For a list of compatible wipes with SonoSite systems, see: https://www.sonosite.com/ca/support/cleaners-disinfectants

Note: Based on the above statement, Accel TB™ wipes may be an acceptable alternative for the Edge II and X Porte, and Caviwipes™ and acceptable alternative for the iViz™.

Note: Do not use alcohol-based hand rub (ABHR) to disinfect medical devices as it is not an equipment disinfectant and it may cause damage to the device.

References

1. Ma IWY, Somayaji R, Ronnert-May E, et al. 2020. Canadian Internal Medicine Ultrasound (CIMUS) recommendations regarding internal medicine point-of-care ultrasound (POCUS) use during Coronavirus (COVID-19) pandemic. Canadian Journal of General Internal Medicine, 15 (2). Retrieved from https://cjgim.ca/index.php/csim/article/view/438
2. https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection/healthprofessionals/interim-guidance-acute-healthcare-settings.html#a4.10
3. https://static1.squarespace.com/static/58118909e3df282037abfad7/t/5e77b8f1f476076330b0403f/158490443 4036/ACEP+US+Cleaning+Protocol+COVID19.pdf
4. https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2;
5. https://www.sonosite.com/ca/support/cleaners-disinfectants;
6. https://www.metrex.com/en-ca/news/2019-novel-coronavirus-outbreak-canada

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