










# Protection and disinfection of a cart-based ultrasound system during COVID-19 pandemic

This protocol is a guideline only. It should be modified as needed based on available resources and local infection control policies










## outside patient room

-  Put gloves on
-  Remove ALL extraneous materials from system (unused probes/cords)\*
-  Clean system with wipes
-  Place tissues (4) and wipes (3) on system before covering
-  Apply gel to probe face(s)
-  Apply protective cover(s) to probe(s). Secure with elastic bands
-  Apply protective cover to system
-  Don PPE with TWO pairs of gloves
-  Bring covered system and gel packs into patient room. Tissues and wipes should be under system cover.

## inside patient room

-  Scan patient
-  When finished scanning, discard gel packs
-  Sanitize gloved hands with alcohol
-  2m (6ft) away from patient, remove/discard probe cover. Drape probe on cart hook or use holster to secure probe(s).  
 Remove system cover by folding/rolling upwards DO NOT touch uncovered system or probe with gloved hands
-  Remove outer pair of gloves (if one pair of gloves, sanitize with alcohol)
-  Remove gel with tissues. Clean ENTIRE system and probes with wipes. Discard tissues and wipes
-  Sanitize gloved hands with alcohol
-  Open door and push system outside, ideally with foot

## outside patient room

-  Discard gloves
-  Perform hand hygiene
-  Discard gown, keep mask and eye shield on
-  Perform hand hygiene
-  Put new gloves on
-  Disinfect ENTIRE system and probe(s) with wipes. Discard wipes, air dry
-  Discard gloves
-  Perform hand hygiene
-  Doff remaining PPE

\* Please ensure any unused probes are safely and securely stored after removal

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## notes

- The protocol should be used in ALL patients who are suspected or confirmed to be infected with COVID-19. The protocol can also be used in any situation where a patient is isolated for infectious disease.
- For patients who are low risk for COVID-19 infection AND local infection control guidelines dictate that gown, gloves, mask, and eye protection are not required for close patient encounters (i.e. examinations), please defer to local infection control and manufacturer policies for cleaning the device.
- PoCUS can benefit patients who have actual or potential COVID-19 infection. This includes assessment of lung pathology, cardiac function, fluid tolerance, vascular access/procedural guidance, and confirmation of endotracheal intubation.
- PoCUS can also benefit patients who have non-COVID-19 related complaints and concomitant COVID-19 infection.
- The utility of PoCUS may increase during a pandemic as access to plain films, CT, radiology performed ultrasound and echocardiography become limited.
- As community transmission of COVID-19 increases, patients infected with COVID-19 may present without respiratory symptoms or fever. Once local infection control guidelines advise gown, gloves, mask, and eye protection for ALL close patient encounters, regardless of symptoms, then this protocol should be used for ALL patients when performing PoCUS.
- PoCUS may also cause harm if strict infection control protocols are not followed. The ultrasound machine, the user, and the ultrasound gel can act as infectious fomites, putting patient and clinicians at risk.
- Consider using hand-held devices as they are easier to protect from contamination and easier to disinfect after use.

## definitions

- **System:** Any cart-based ultrasound system regardless of set-up or brand. System includes display, probes, keyboards, trays, and power cord.
- **Wipes:** Cleaning supplies that include both solutions and wipes. The chemical composition of wipes should be compatible with manufacturer recommendations for each system AND should be effective at eliminating the COVID-19 virus. Cleaning the system should always include peripherals including display, power cord, probes, trays, and keyboards.
- **Don:** To put on personal protective equipment (PPE).
- **Doff:** To remove PPE.

## tips

- The key to this cleaning protocol is ONE thorough wipe of the entire system and probes(s) before scanning and TWO thorough wipes of the entire system and probe(s) after scanning.
- Ungloved hands should never touch something dirty. If in doubt, perform hand hygiene again.
- Always handle system with gloved hands.
- Consider using a dedicated system for confirmed or highly likely COVID-19 positive patients and a different system for negative or unlikely COVID-19 patients to prevent potential cross contamination and propagation of infection.
- If probe covers are not available, use small clear garbage bags, sandwich bags, or wet umbrella bags with elastic bands. If system covers are not available, use clear garbage bags. These covers do NOT have to be sterile.
- If no probe or system covers are available, then this protocol should be followed exactly, only omitting the steps detailing the application and removal of probe or system covers.
- If more than one system is available, use system that is easiest to clean (flat touch screen, no keyboard, smaller).
- Do not bring a whole bottle of gel or wipes into the room, only what you need to scan one patient.