

POCUS use in Code C/CoVid-19⁺ Patients in the JGH Emergency Department

IMPORTANT INFORMATION

- No POCUS exam will be performed on Code C patients without appropriate protection and disinfection of the ultrasound machine and probe(s).
- There is a dedicated Philips Sparq to be used for all POCUS scans in any Code C patient. *Handheld devices (eg: Butterfly) may be on their way to our ED and have a distinct advantage for protection and disinfection.*
- No lung imaging (CXR, US, CT) will diagnose COVID-19. It may define the extent of the disease and/or may provide an alternate diagnosis

Indications for POCUS use in the Emergency Dept for CODE C/COVID+ patients.

- Cardiac Arrest
- Shock
- Dyspnea NYD.
- May be used as an alternative to CXR or CT as POCUS is easier to disinfect and POCUS findings mimic CT findings
- Post-intubation for ET tube confirmation (if machine is already at bedside)
- (screening/triage)

LUNG FINDINGS IN COVID+ PATIENTS:

(“Paint” the anterior and posterior chest wall bilaterally)

1. **Focal B-lines** are seen in the early stages of disease and in mild infection. CXR often normal.
2. Eventual typical findings of **bilateral pneumonitis**, primarily in the posterior/lateral lungs
 - Pleural thickening
 - Focal, patchy bilateral B-lines
 - Subpleural hypoechoic lesions (lumpy, bumpy pleura)
 - Consolidation +/- air bronchograms
 - Significant pleural effusion is rare
3. Note: If you see bilateral B-lines that are regular in distribution with a smooth pleura, consider alternate diagnosis – likely pulmonary edema!

CARDIAC FINDINGS ON COVID+ PATIENTS

1. Hyperdynamic LV of septic shock
2. Myocarditis: systolic dysfunction, dilated cardiomyopathy, regional wall motion abnormalities, diastolic dysfunction.

POST INTUBATION ET-TUBE CONFIRMATION

1. Visualization of tracheal passage of ET tube
2. Bilateral Lung Sliding

MATERIALS NEEDED

- Dedicated ultrasound machine.
- Plastic cover for machine
 - *For example: large clear garbage bags*
- Sterile probe Sleeve
- Disinfection Wipes
- Single use Gel packs
 - *For example: sterile muco or gel pack found inside the probe sleeve kits*
- Single towel (disposable preferred)

***** Nothing else should be on the machine, Remove any transducer and accessories that you will not need *****

SEQUENCE

OUTSIDE PT ROOM

1. Confirm wipes are located inside and outside the room
2. Enter Patient ID and choose probe (if possible) to start your study
3. Place **plastic cover** over screen, keyboard and lower body (if possible)



4. Place sterile probe sleeve over probe

**** If using Handheld device (eg. Butterfly), Probe sleeve cover can be used to cover both the probe as well as handheld device (Phone). Otherwise, use probe sleeve for probe, and Ziplock bag for larger device (tablet) ****

5. **Don your PPE** (double gloves is recommended)

INSIDE PT ROOM

1. Enter room.
2. Perform exam and store the appropriate images/clips
3. Once exam is complete, wipe your gloves with wipes (to diminish viral load)
4. Remove sleeve from probe (inside out). Drop gently into garbage.



5. Gently remove plastic from machine and discard.
6. Discard outer layer of gloves
7. Wipe machine, probe and probe cable with wipes (**1st Clean**).
8. Wipe plug cable while disconnecting it from outlet.
9. Start your Doffing procedure.
10. Remove your inner gloves and wash hands; open patient door and push out POCUS machine **ONLY**
11. Continue your Doffing procedure and exit room

OUTSIDE ROOM

1. Finish Doffing Procedure
2. Put a new clean pair of gloves
3. Wipe US machine + probe and probe cable again (**2nd Clean**) with wipes.
Remove and discard gloves

***** We are currently investigating the efficacy of Nocospray on the Sparq *****

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Joel Turner
Assistant Professor, McGill University
Fellowship Director,
McGill Emergency Ultrasound Fellowship