



System Department

Section: Procedures - Departmental
Subject: COVID – 19 Echo/Lung Transthoracic Protocol
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COVID – 19
Echo/Lung Transthoracic Echo Protocol
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- ◆ **Inform Nurse on floor Ultrasound Enhancement Agent will be needed**
- ◆ **Echocardiographic measurements will be performed off line on cart if possible**
- ◆ **Increase loops to 3 or 4 beats if needed due to A-fib or other arrhythmias**
- ◆ **> mild regurgitation on any valve will need further quantification**
- ◆ **Total scan time in the patient's room should not exceed 30 minutes**

Parasternal Long axis:

- a. Capture one view without papillary muscles
- b. Zoom of mitral valve and aortic valve leaflets
 - Color Doppler of the mitral valve
 - Color Doppler of the aortic valve
- c. Attempt tricuspid inflow view - capture 1 Loop of each 2D and color Doppler
 - One attempt with Continuous wave Spectral Doppler – capture image

Parasternal Short axis:

- a. Scan down through the left ventricle to include the following:
 - LV apex
 - Mid-papillary left ventricular view
 - Mitral annulus view
- b. Color Doppler of pulmonary valve and tricuspid valve
 - Pulsed wave spectral Doppler of pulmonary valve
 - Continuous wave Doppler of the tricuspid valve

Capture 1- 2 beat loops of Apical 4 chamber, Apical 2 chamber and Apical 3 chamber in 2D

Resume Apical 4 chamber: Capture 2 beat loop 2D

- a. Color Doppler of the MV
 - Capture one image of trans-mitral flow at leaflet tips
 - Tissue Doppler of mitral annulus (Lateral/Septal wall)
 - CW of Mitral Valve

Apical 5 chamber: If AV appears normal on PLAX and SAX views then only do the following – if not perform a complete Aortic Stenosis exam with multiple PW and CW measurements

- a. Color Doppler of the AV
 - Capture one image pulse Doppler of the LVOT
 - Capture one image continuous wave Doppler of the AV

RV Focused View: Capture 2 beat loop 2D and one with color Doppler

Sub-xiphoid view: Capture 2 beat loop 2D (4ch view)

- a. Visualization of the inferior vena cava
 - Capture a 6 beat loop

Ultrasound Enhancement Imaging:

- IV injections every 1-2 minutes (immediately followed by a slow 1 minute 5 cc saline flush)
- Dose administration techniques as recommended in 2018 ASE Guidelines

Heart:

- a. RV Focused View continuous wave Doppler of the TR jet
- b. 4 Chamber Apical View with flash replenishment X2
- c. 2 Chamber Apical View with flash replenishment X2
- d. 3 Chamber Apical View with flash replenishment X2
- e. Parasternal Long and Short Axis views without flash replenishment X1

Lung:

- a. Six lung planes (L1, L2, L3, R1, R2, R3) total of 6
 - Use 20 flash frames for better penetration
 - Flash X 2 in at least two Lung Windows where consolidation or B lines observed
- b. Repeat CW of TV

Upon completion of study Sonographer will perform all measurements and calculations on the cart if at all possible to ensure the automated calculations will cross over to ISCV and the report.

Sonographer, patient, or other imaging considerations may necessitate deviations from standard protocol.

Department Approval Signed s : Title: Manager	Administrative Approval Signed s : Title: Medical Director
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