Echocardiography during the COVID-19 Pandemic

Indications and Staffing

- Echocardiographic studies performed on children and young people at risk of or confirmed with COVID-19 should be as focused as necessary to obtain diagnostic views but should also be comprehensive enough to avoid the need to return for additional images.
- Critical studies should not be performed by a novice/inexperienced practitioner, in order to minimize scanning time while obtaining images of the highest possible quality. Repeat or non-critical studies can be performed by a trainee under supervision.
- Each study should be tailored to the indication and planned in advance by an experienced echocardiographer, after review of previous images and other imaging modalities where available.

Infection Control

- All staff must change into “scrubs” at start of shift.
- All staff must complete recommended personal protective equipment (PPE) training.

Equipment

- All unnecessary kit and accessories should be removed before going into ward area/ICU.
- Assess which probes you will need for your patient and only take those with the machine.
- Use the ECG slave cable to monitor where possible (PICU, Operating theatre, MRI, Cath lab etc.).
- Decontaminate the machine whilst wearing PPE using the Green (Universal) Clinell wipes.
For Transthoracic Echo (TTE):

For ALL patient-facing encounters irrespective of COVID-19 status, less than 2m distance from a patient (excluding aerosol-generating procedures). Staff must wear as a minimum:

- Disposable gloves
- Disposable un-sleeved plastic apron
- Fluid-repellent surgical face mask
- Eye protection (goggles or visor) must also be worn

All PPE items must be donned before entering a patient area. Doffing PPE should always be performed methodically and presents an infection risk if done incorrectly. The correct sequence is as follows:

- Gloves and apron/gown must be doffed before leaving the patient side room or cohort area/bay
- Perform hand hygiene with alcohol gel before and after removing eye protection followed by the mask. Remove these items from behind without touching your face.
- Eye protection should be wiped down with green Clinell Universal wipes and allowed to dry for 10 minutes before re-use.

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**STANDARD PERSONAL PROTECTIVE EQUIPMENT (PPE) FOR ALL PATIENT INTERACTIONS**

For aerosol generating procedures (AGP), please use action card 8a (AGP PPE: COVID-19)

**How to put on (donning) PPE**

**Step 1**
- Gather PPE required: Apron, Fluid repellent mask, goggles and gloves.
- If risk of AGP (aerosol generating procedure) refer to Action card 8a

**Step 2**
- Perform hand hygiene with alcohol gel

**Step 3**
- Put on Apron

**Step 4a**
- Put on Fluid repellent face mask.

**Step 4b**
- Mold the mask over nose
- If the mask uses straps, then spectacles should be worn after the mask, with the arms over the straps

**Step 5**
- Put on goggles

**Step 6**
- Perform hand hygiene with alcohol gel

**Step 7**
- Put on gloves

**How to take off (doffing) PPE**

**Step 1**
- Remove gloves using “pinch & pull” technique.
- Dispose of safely.

**Step 2**
- Peel off apron & roll inside out
- Dispose of safely

**Step 3**
- Perform hand-hygiene with alcohol gel

**Step 4**
- Remove mask from behind with both hands & dispose of safely

**Step 5**
- Remove goggles

**Step 6**
- Perform hand hygiene with alcohol gel

**Step 7**
- Perform hand hygiene with alcohol gel

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All staff should note the additional guidance points below:

- A facemask and visor can be worn for up to 4 hours (and between multiple patients) as long as the staff member does not leave the clinical area.
- Teams should minimise the number of personnel in each clinical encounter to the safe minimum and where possible try to attempt to cluster all clinical activities, so reducing unnecessary movement in and out of patient areas.

All Transoesophageal (TOE) and Intraoperative examinations require airborne and contact precautions: full length gown, gloves, FFP3 mask (or FIT-tested mask) and eye protection (visor or goggles)

**CRITICAL CARE PERSONAL PROTECTIVE EQUIPMENT (PPE) with FFP3**

**How to put on (donning) PPE**

1. Gather PPE required: thumb-looped or surgical gown, FFP-3 face mask, eye protection (face shield or goggles) & gloves
2. Plan where to put on & take off PPE
3. Ensure you have a buddy, know how to deal with waste & manage a spill
4. Put on long sleeve gown
5. Put on FFP-3 face mask. Wear arms of spectacles over mask strap.
6. Put on face shield

**How to take off (doffing) PPE**

Should always be supervised by a buddy outside the room/bay

1. Remove gloves & gown
2. Perform hand hygiene with alcohol gel
3. Leave patient isolation room or cohort bay & close door in isolation room lobby or ward area outside cohort bay
4. Perform hand hygiene with alcohol gel
5. If spectacles worn, buddy should remove before mask removal
6. Remove mask from behind with both hands & dispose safely
7. Ensure no skin shows
8. If exiting a lobby, repeat hand hygiene again

_Buddy should check PPE is properly fitted before you see the patient_