Code Blue: 1st & 2nd Responder (Acute Care Staff) Guideline

Purpose:	This guideline is to unify and standardize regional acute care operations when responding to a Code Blue for a patient with suspected or confirmed COVID-19. Within the standards, further guidance documents have been created by each facility to describe their local Code Blue Team response. In creating this guideline, an environmental scan of the BC Ministry of Health and other BC health authorities' guidelines from Providence Health, Fraser Health, and Vancouver Coastal, were taken into consideration; and **the adoption of** BCCDC standards for IPC Protocol During In-Hospital Code Blue for Adult Patients. This guideline will accompany the Island Health **poster:** Code Blue: 1st & 2nd Responder (Acute Care Staff).
Scope:	• All acute care sites and all health care staff
Outcomes:	1. To ensure that changes to Code Blue response enhance safety and mitigate provider risks while maintaining high levels of acute care of the critically ill. 2. Ensure these changes meet current Provincial and National guidelines with regard to critically ill suspected or confirmed COVID-19 patients. 3. Provide a framework for facility specific Code Blue response guidance 4. To ensure providers don (appropriate to situation) required Personal Protection Equipment (PPE) to avoid unprotected CPR when responding to a Code Blue for a patient with suspected or confirmed COVID-19

1.0 Guideline

- **SIGNAGE**: Appropriate precaution signage as per Infection Prevention and Control, should be posted clearly on the door for each suspected or confirmed COVID-19 patient. (Droplet + Contact Precautions Signage)
- **REDUCE NEED FOR CPR**: Patients with suspected or confirmed COVID-19, who are at risk of acute deterioration or cardiac arrest, should be identified early. ICU consultation should be initiated at this early stage in adult patients with MOST C1/2 and PICU consulted for youth under 17 years of age depending on their Pediatric Degree of Intervention. Goals of care discussions should be prompted in all patients, but in particular patients with a low likelihood of surviving critical illness and high burden of chronic illness.
- **STAFF & PATIENT SAFETY**: The need to don appropriate PPE may delay CPR in patients with suspected or confirmed COVID-19. Review of the processes involved (including the availability of Enhanced PPE for Intubation and Extubation kits), along with training and practice, will minimize these delays. Utilize observer to guide donning and in particular, doffing of PPE.
- **REDUCE NUMBER OF STAFF IN CODE BLUE ROOM**: Keep to essential roles (staff) only to decrease or eliminate the potential exposure to staff. Follow 1st and 2nd Responder recommendations (poster) and your facility dependent Code Blue Team process.
- **PEDIATRIC CONSIDERATIONS**: Most pediatric patients will have a parent in the room with them. This parent must stay in the room at all times. The parent will need to be treated as a high-risk COVID-19 exposure. This means the parent must stay inside the child's room during resuscitation, or if not appropriate will be asked to sit outside patient's room in PPE.

FIRST RESPONDERS #1 AND #2 /ACUTE CARE STAFF (See Code Blue: 1st & 2nd Responder (Acute Care Staff) **poster on Covid-19 Intranet page)**

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❖ Confirm MOST status and COVID-19 status

A. Responder 1: ASSESSING FOR SIGNS OF LIFE

Step one: In Their Current Level of PPE (Minimum requirement should be medical mask and gloves)
Recognize cardiac arrest by LOOKING for the absence of signs of life and the absence of normal breathing.

a) Feel for a FEMORAL/BRACHIAL pulse if trained to do so.
b) DO NOT listen or feel for breathing by placing your ear and cheek close to the patient's mouth.

Step two: If NO signs of life

- Call **CODE BLUE** as per regular unit process, if there is uncertainty of the code status, a code blue should be activated in line with what has been observed and/or the patient assessment.
- Prior to commencing chest compressions, a covering (surgical mask, oxygen mask, or cloth mask) should be placed over the patient's nose and mouth, if readily available, to minimize the risk of exposure to droplets.
- The patient's COVID-19 risk screen status should be known when commencing basic life support. However, if it is NOT known, this **SHOULD NOT delay the commencement of chest compressions**.
- If there is uncertainty about the patients COVID-19 status, the first person on scene should continue chest compressions until assistance arrives before donning additional PPE.

Responder 2: Arrives with AED (if available) and CPR Backboard**

- Wearing Patient Appropriate PPE(Minimum requirement should be medical mask and gloves), **Applies AED** (if available) and follows prompts**
- Applies CPR backboard under patient, this should be done rapidly to minimize interruption of chest compressions
- Leaving the patient's mask in place, initiate jaw thrust
- Responder 1 & 2 should consider switching roles at this point if quality of chest compressions is a concern (Eg. Responder 1 may be fatigued by this point, depth and rate of compressions could be compromised).
- **Continue until CODE BLUE TEAM ARRIVES**

B. WHEN CODE TEAM ARRIVES:

a) One nurse (i.e. ideally CNL or Charge Nurse) **is responsible for crowd control and restricting attendance in the room** to essential staff only to perform CPR.
Communicate MOST status and COVID-19 status to Code Blue Team
b) Another staff member (i.e. ideally primary care nurse) should be available outside the room to brief the code team when they arrive, **including notification that the patient is on respiratory isolation with suspected or confirmed COVID-19, if applicable.**

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c) A third staff member in AGMP PPE should be available outside the room to offer additional assistance/obtain supplies as needed.

CODE BLUE TEAM:

A. TEAM COMPOSITION: Island Health Geography/Facility Specific

- Code Blue Team members **GOING IN TO ROOM** don Enhanced PPE for Intubation and Extubation
- Code Blue Team members staying **OUTSIDE ROOM** don AGMP PPE

B. CODE TEAM LEADER TO ASSESS THE SITUATION:

❖ **Consideration:**

- Team to consider early discontinuation of resuscitation:
  - Burden of disease
  - Likelihood of success
  - Available resources

❖ **Defibrillation/Crash Cart:**

- **Bring: Defibrillator (LifePak®) ONLY** along with 3 x EPINEPHrine preloaded 1mg syringes and 2 x Amiodarone 150mg vials INTO room
- Cart with remainder of contents will stay outside room and items handed in as requested
- For Pediatric Code Blue: Defibrillator cart and contents **will** be taken into the room

- **If CPR is in progress**
  - Code Blue Team (going in room) dons Enhanced PPE for Intubation and Extubation while ward staff continue CPR.
  - DO NOT bag mask patient
- **If CPR is not in progress but IS needed**
  - Ward staff should commence chest compressions, a covering (surgical mask, oxygen mask, or cloth mask) should be placed over the patient's nose and mouth if not already in place
  - DO NOT BVM patient
- **If CPR is not in progress and NOT needed** (i.e. Code Blue has been called for Medical Emergency)
  - Perform code blue activities as per normal and wear appropriate PPE (i.e. if patient is on droplet precautions, don DROPLET PPE) and assess need for intubation.
- **If CPR is not in progress, and NOT needed but PLAN TO INTUBATE**,
  - Code Blue Physician Team Leader and 1 RN/RT don Enhanced Intubation and Extubation PPE while rest of code team continues medical care
  - Consider rapid movement of patient to Negative Pressure resuscitation space if close and available
  - Initiate airway management protocol with appropriate team
  - Follow Code Blue Team response as per your facility

C. ENHANCED PPE for INTUBATION and EXTUBATION FIRST:

Code Blue Team members must don Enhanced PPE for Intubation and Extubation before taking over from the Ward staff during the cardiac arrest if intubation is anticipated.

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D. EARLY DEFIBRILLATION:

Apply Quik Combo pads plus AED or LifePak® monitor. Defibrillate shockable rhythms rapidly - the early restoration of circulation may prevent the need for airway and ventilatory support.

E. EARLY VENTILATORY AND AIRWAY SUPPORT (Pediatric Patients Only)

For pediatric patients, a cardiac arrest is usually precipitated by respiratory failure, so early ventilatory and airway support are needed to support cardiac function.
In a shockable rhythm, the aim would be for early defibrillation.

F. VENTILATION:

The goal is to minimize aerosolizing high-risk procedures such as positive pressure ventilation (PPV), open suction and proximity to the mouth.

- Two-person bag-mask (BVM) technique using vice-grip mask seal and viral filter may be considered by the code team if deemed necessary, while preparing for rapid sequence intubation.
- Small tidal volumes should be applied (No PEEP) if PPV is required.
- High efficiency hydrophobic filter should be interposed between facemask, supraglottic airway, Endotracheal Tube (ETT) and Ambu bag at the earliest time possible
- Limit aerosolizing maneuvers. In particular, avoid advanced airway maneuvers in semi-conscious patients with intact cough reflexes. Consider high dose paralytic use with sedation strategy.
- **Stop CPR for airway maneuvers**

G. INTUBATION:

Airway interventions must be carried out by experienced individuals in accordance with the Intubation Checklist for suspect and confirmed cases of COVID-19 by the BCCDC or variation of, as per individual facility procedures.
***ONLY airway experts should attempt the intubation to maximize chances of first pass success. Video laryngoscopy is preferred.

- Physician Lead to discuss plans for intubation so all team members are prepared
- **Stop CPR for intubation**

H. MECHANICAL CPR DEVICE: (IF AVAILABLE)

Consider early application of the Mechanical CPR device in order to limit the exposure of staff during CPR. One ward nurse should remain in the room to assist the Code Blue Team with application of the Mechanical Device. Once the Mechanical Device is successfully deployed, non-essential staff should leave the room and safely remove PPE.

I. REVERSIBLE CAUSES:

Patients may have a cardiac arrest caused directly by COVID-19 or because of a co-existing condition/illness. It is important to attempt to identify and treat any reversible causes (e.g. severe hypoxemia, overdose, and hypoglycemia) before considering stopping CPR.

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TRANSPORT OF PATIENT WHO ACHIEVES RETURN OF SPONTANEOUS CIRCULATION (ROSC)

A. **DOFF CONTAMINATED PPE and DON NEW PPE:**
PPE is presumed to be heavily contaminated post Resuscitation efforts.
   - Contaminated PPE should be safely doffed (utilizing observer) and new AGMP PPE donned prior to transporting the patient to a critical care area.
   - Potential accidental circuit disconnect carries the risk of aerosol generation, therefore Droplet + Contact PPE should be maintained and the circuit connections checked and tightened.

B. **CLEAR A PATH:**
High Risk patient transport procedure should be used to clear hallways, elevators etc.

C. **EQUIPMENT:**
   - **AGMP Precautions continue in room for 69 minutes whether patient in room or not**
   - Ensure appropriate disposal or cleaning of contaminated equipment that was INSIDE room
   - Wipe down every plastic surface and plastic backed items inside and outside of the defibrillator cart.
   - Discard any paper-backed items that cannot be wiped down with disinfectant if they were inside room
   - Ensure cleaning of the outside of the drug drawer insert, including the Plexiglas lid, prior to returning to Pharmacy.
   - LifePak monitors/AED must be cleaned as per facility guidelines for COVID-19
   - If Mechanical Assist device has been used, clean as per facility guidelines for COVID-19

D. **DEBRIEF** the team.

2.0 Definitions

- **AED****: (for 1st and 2nd Responders) Could include (depending on facility) AED, LifePak®, or Quik Combo pads
- **AGMP PPE**: CONTACT + DROPLET PPE, N95 MASK, AND FACE SHIELD: CPR and/or intubation are aerosol generating medical procedures (AGMP). The minimum PPE requirements to start chest compressions.
- **BVM**: Bag Valve Mask (a.k.a. Ambu bag)
- **CODE BLUE TEAM OR EQUIVALENT**: Island Health site specific. Please refer to Code Blue Process for your facility.
- **ENHANCED PPE for INTUBATION and EXTUBATION**: Fluid impermeable gown, N95 mask and eye protection face shield, extended cuffed gloves, bouffant, and balaclava hood
- **LOW FLOW OXYGEN THERAPY***: NP 1-6L/min; Mask/Non-Rebreather Mask 6-15L/min; Oxymizer NP 6-15L/min

3.0 Related Island Health Standards

- Island Health Code Blue Manual for RJH Acute Care Site
- Island Health Code Blue Manual for VGH Acute Care Site

4.0 References

- BC Ministry of Health COVID-19
- British Columbia Centre for Disease Control
   - Intubation Checklist for suspect and confirmed cases of COVID-19 by the BCCDC

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    - http://www.bccdc.ca/Health-Professionals-Site/Documents/COVID19_ProtocolForCodeBlue.pdf
- https://www.resus.org.uk/media/statements/resuscitation-council-uk-statements-on-covid-19-coronavirus-cpr-and-resuscitation/covid-healthcare/
- https://www.quickicutraining.com/airway-pocket-cards/
- http://ccs.ca/en/
- https://connect.viha.ca/depts/cos-paper/_layouts/15/WopiFrame2.aspx?sourcedoc=/depts/cos-paper/Clinical%20Order%20Sets%20Library%20%20Island%20Health/Pediatrics,%20PICU%20and%20NICU/PED%20Paediatrics%20Degree%20of%20Intervention%20and%20Resuscitation.pdf&action=default

5.0 Resources

- Code Blue: 1st & 2nd Responder (Acute Care Staff)
- Providence Health Care Code Blue Covid-19
- Vancouver Coastal Health Authority Practice Alert: *Emergency Procedures for Patients Suspected or Confirmed to be COVID-19 Positive*

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