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Title: EDM – Adult Protected Code Blue

Applies to: All HHS Staff, Physicians, Respiratory Therapists and Others Responding to a Code Blue During the COVID-19 Pandemic

1.0 Purpose

1.1 To outline the process to safely respond to the CODE BLUE during the COVID-19 Pandemic.

2.0 Equipment/Supplies

- Fluid-impermeable gowns
- Gloves (regular or extended cuff according to individual requirements)
- Eye shield
- N95 masks

3.0 Policy

3.1 General Statements

3.1.1 A Protected Code Blue (PCB) is a specialized response to a life threatening event and will replace the normal code team response to **ALL** Code Blue calls at all sites during the COVI-19 pandemic
A Protected Code Blue response should be triggered early, at the first signs of decompensation, when possible (such as increasing oxygen requirements or increased work of breathing).

3.2 Principles

3.2.1 **ALL** code blue responders entering the patient's room must don appropriate PPE (in accordance with IPAC Policy), including a **fluid-impermeable gown, gloves (regular or extended cuff according to individual requirements), eye shield, and N95 mask** as airway management is an aerosol- generating medical procedure (AGMP). ***Reminder: the rescuers' safety is more important than any other action during a code blue response***.

3.2.2 If a first responding staff member finds the patient in cardiac arrest they should *initiate a Code Blue call and start CPR while awaiting the arrival of the Code Team*. Compression-only CPR should be done until the PCB team arrives and is able to don appropriate PPE. If able, a non-rebreather oxygen mask may be applied to the patient if it does not delay CPR.

3.2.3 **Chest compression is to be performed in a patient immediately without the need to don a N95 in the absence of known COVID-19 positivity or new symptoms suggesting potential COVID-19 based on a risk assessment.**

3.2.4 Only a minimum number of staff should enter the room (maximum 2 for CPR) in order to limit exposure to staff.

3.2.5 In a PCB response, **airway management is a priority** – the airway should be rapidly secured to minimize risk to the team. The most experienced physician should be responsible for securing the airway. If the patient is spontaneously breathing, rapid sequence intubation (RSI) with video laryngoscopy (if available) should be done. If the patient is in cardiac arrest, chest compressions may be delivered prior to

intubation, **but should not be done while securing the airway**. In addition, **bag-valve-mask ventilation should NOT be done**. A non-rebreather oxygen mask may be applied over the patient's mouth and nose during compressions while awaiting definitive airway management. In the event that endotracheal intubation cannot be done or fails, use of a laryngeal mask airway (LMA) is recommended.

3.2.6 All other aspects of cardiac arrest management should follow the principles of Advanced Cardiac Life Support (ACLS) including provision of high quality CPR, defibrillation of shockable rhythms and drug therapy. Resuscitation should focus on airway management and if no other clearly reversible cause is found, consider terminating resuscitation attempt.

3.2.7 **The code blue cart should remain outside the patient's room to avoid contamination**. Ordered cardiac arrest or RSI medications will be passed into the room by a 'clean' nurse or physician who has the knowledge and skill.

3.2.8 **Typical cardiac arrest bloodwork will not be sent** as it rarely changes management during a cardiac arrest and may expose additional team members to infection.

3.2.9 **The code blue recorder should remain outside the room**. The code blue team members inside the patient's room will communicate to the recorder the times and events of the code blue as clearly as possible and will document this on the code blue record during and after the code blue.

3.2.10 Disposable equipment is preferred and should be discarded after the cardiac arrest. Non-disposable equipment should be cleaned in accordance with standard practices and procedures. Cleaning should be done by the staff in the room to avoid exposure of additional people.

3.2.11 **Strict crowd control will be enforced** and other team responders must remain outside the patient room.

4.0 Activation

4.1 Calling a Protected Code Blue

4.1.1 First responder identifies life-threatening situation (respiratory distress, cardiac arrest).

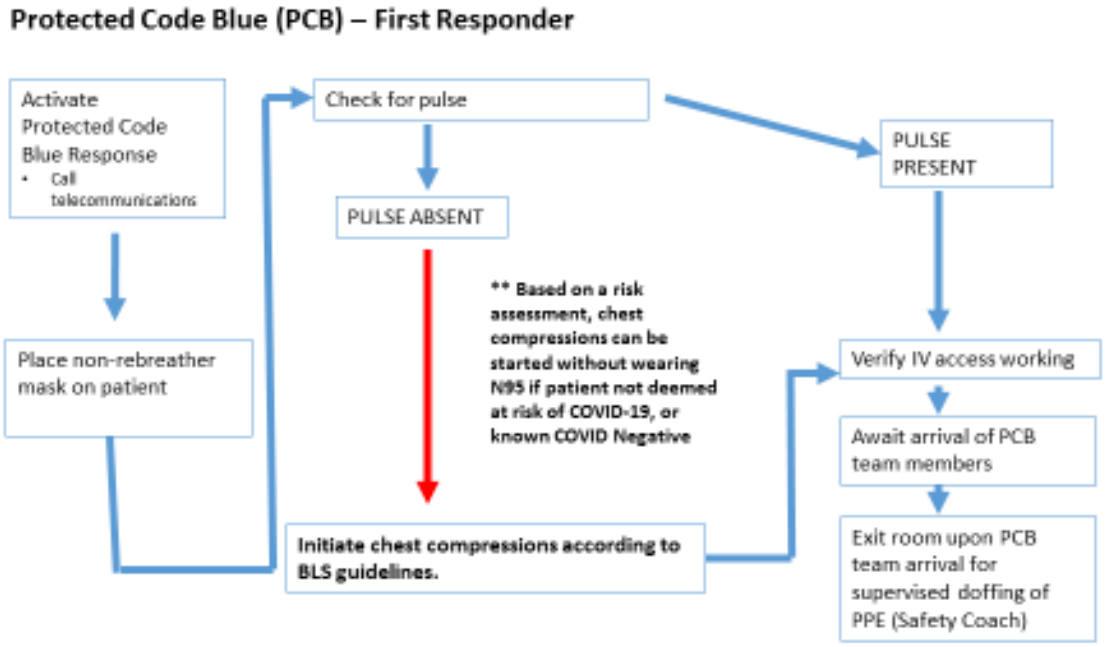
4.1.2 Verify goals of care for patient (POST should be confirmed and communicated to all members of care team).

4.1.3 First responder calls for help to activate Protected Code Blue (dial 5555 or 7777 at SPH or 11400 at WLMH) by following your current process.

4.1.4 Place non-re-breather mask on patient if not already present.

- Assess patient's vital signs and institute "compression only" BLS procedures; **do NOT provide respiratory support such as bag-valve-mask ventilation or mouth-to-mouth ventilation**

4.1.5 Paging will trigger the pagers and overhead announcement indicating "Code Blue and location" to initiate the Protected Code Blue Team response. All Code Blue activations will be treated as "Protected" during the COVID Pandemic so no special identification is required by paging.



5.0 Decision Making (5Ps)

Patient

- **Applicable to all patients during the COVID-19 Pandemic**

Procedure

- Emergent intubation, cardiac arrest or respiratory deterioration

Prior Directives

- Verify goals of care for patient (POST should be reviewed and communicated to all members of care team)

PPE

- Enhanced for protection against aerosol generating medical procedures (AGMPs) (airborne/droplet/contact)

Place

- For inpatients: If not a cardiac arrest, recommend transfer to ICU for intubation. If not available/unsafe for transfer then intubate in single room with door closed. If not possible curtains should be closed around other patients in the room during procedure.
- For ED patients: if not in cardiac arrest, move patient to an appropriate

isolation resuscitation room in the ED. If not available/unsafe for transfer then intubate in current location.

6.0 Protected Code Blue Team

6.1 All Team Members (note: variation in team composition will be site specific)

6.1.1 **HGH model**: SMR, Anesthesia, RACE Physician, 2 RRTs, 3 Critical Care RNs, Security, Porter

JH Model: SMR (2 Respiratory Therapists, 3 Critical Care RNs (2 ICU nurses,1 RACE nurse), Security, Porter

WLMH model: ED Physician, 1 ICU RN, 2 ED RNs, 1 Ward RN (recorder), RT/Anesthesia when available, CSS 1

MUMC adult model: Intensivist or SMRE, Anesthesia (if available), 2 Pediatric RRTs, 1 WRH Critical Care RN, 1 Pediatric Code RN, 1 pediatric ED charge RN, Security, Porter

MCH pediatric model: separate document

6.1.2 The primary care team will need to identify if the activation is for respiratory or cardiac arrest to Lead Physician on arrival who will then determine the members needed in the room.

6.1.3 Team composition entering the room according to Infographic specific to each site.

6.1.4 Team members entering the room will be kept to the minimum and include the most experienced member available for each role.

6.1.5 No member may enter the room without having PPE inspected by the Safety Coach.

7.0 Equipment Responsibilities

7.1.1 Code Blue Cart responds to all Codes Blue.

7.1.2 Glidescope (video laryngoscope) brought by ICU RRT

7.1.3 RSI medication kit (see RSI Medication List) (specific Accudose for each ward location)

7.1.4 COVID intubation kit (code blue cart).

7.2 Covid-19 Intubation Kit

Bag #1

ITEM	#	√
NRB mask	1	
BVM w/ filter 7& PEEP valve	1	
Oral airways (#9 and #10)	1 each	

7.3 Bag #2

ITEM	#	√
ETTs (#7.0, 7.5, 8.0)	1 each	
10ml syringe	1	
ETCO2 Detector	1	
Yaunker	1	
AnchorFast	1	
Muco	2	
14Fr inline suction	1	
22 mm connector	1	
Kelly clamps	1	

7.4 Rapid Sequence Intubation Medication Ki

2 x Fentanyl 100 mcg/2Ml ampoules
2x Ketamine 100 mg/2mL vial
2 x Midazolam 5 mg/5mL vial
1 x Phenylephrine 10mg/1 mL vial
1 x Propofol 200 mg/20mL vial
2 x Rocuronium 50mg/5mL vial
1 x Succinylcholine 200mg/10mL vial

8.0 Team Roles

8.1 Hamilton General Hospital Site

In Room Team

- Code Team Leader (MD 1): SMR, responsible for running resuscitation, directing team members' tasks, and ensuring team safety; RACE MD Wednesday afternoon
- Airway Physician (MD 2): Anesthesia resident or staff
- RRT1: provide assistance to Airway Physician, assist with resuscitation as directed by Code Leader (CPR if required)
- Critical Care RN 1 & 2: give medication, IV access, CPR, assist as directed by Code Leader, communication with support members outside room

Outside Room Team:

- MD 3: RACE MD, JMR
- Critical Care RN 3: CCU RN, Charting, providing supplies/drugs as required, communication with ICU for transfer
- Ward RN 4: Primary care RN from floor: provide information required by team, runner for ward supplies.
- RRT2: Back up primary RRT – assist with supplies/communication

- Porter: Available for duties as needed
- Security: crowd control according to safety officer/MD 3
- Safety Coach (RN 3): Inspect PPE Donning and Doffing for each team member prior to entering or exiting the room

8.2 Juravinski Hospital Site

In Room Team:

- Code Team Leader (MD 1): SMR responsible for running resuscitation directing team members tasks, ensuring team safety
- Airway Physician (MD 2): RACE or ICU delegate MD, Anesthesia as needed (must be called if assistance with airway management needed)
- RRT1: provide assistance to Airway Physician, assist with resuscitation as directed by Code Leader (CPR if required)
- Critical Care RN 1 & 2: give medication, IV access, CPR, assist as directed by Code Leader

Outside Room Team:

- MD 3: JMR
- CA1 Level 0 ICU RN: Charting, providing supplies/drugs as required communication with ICU for transfer
- Ward RN 4: Primary care RN from floor: provide information required by team, runner for ward supplies
- RRT2: Back up primary RRT – assist with supplies/communication
- Porter: Available for duties as needed
- Security: crowd control according to safety officer/MD 3
- Safety Coach: Inspect PPE Donning and Doffing for each team member prior to entering or exiting the room.

8.3 West Lincoln Memorial Hospital Site

In Room Team

- Code Team Leader: ED Physician responsible for running resuscitation, directing team members tasks, ensuring team safety
- Airway Physician (MD 2): Anesthesiologist/ED Physician
- RRT: provide assistance to Airway Physician, assist with resuscitation as directed by Code Leader and CPR as required
- RN 1: ED RN -give medication, IV access, CPR, assist as directed by Lead Physician
- RN 2: ICU RN (if required) apply monitor, defibrillation, CPR, communication with support members outside room, assist as required by Code Leader
- (For PCP in ED – no ICU RNs will be required)

Outside Room Team:

- Nurse 3: ED Nurse or Primary Care Nurse: Charting, providing

supplies/drugs as required, communication with ICU for transfer

- Nurse 4: **Runner/Safety Coach**: Primary care Nurse from floor: provide information required by team, runner for ward supplies
- Inspect PPE Donning and Doffing for each team member prior to entering or exiting the room
- CSS/ Porter: Available for duties as needed
- Security: crowd control according to safety officer/MD 3

8.4 McMaster University Medical Centre/Children's Hospital Site

In Room Team

- Code Team Leader (MD 1): ICU MD or SMRE responsible for running resuscitation, directing team members tasks, ensuring team safety
- Airway Physician (MD 2): Anesthesiologist
- RRT 1: provide assistance to Airway Physician, assist with resuscitation as directed by Code Leader, CPR as required
- WICU RN: give medication, IV access, CPR, assist as directed by Code Leader
- Peds Code RN: (if required) give medication, IV access, CPR, communication with support members outside room, assist as required by Lead Physician
  - If not required can return to ICU.

Outside Room Team:

- Peds ED RN: Charting, providing supplies/drugs as required, communication with ICU for transfer
- Ward RN 4/RRT2: Primary care RN from floor: provide information required by team, runner for ward supplies
- Porter: Available for duties as needed
- Security: crowd control according to safety officer/MD 3
- **Safety Coach -** Inspect PPE Donning and Doffing for each team member prior to entering or exiting the room.

8.5 St. Peter's Hospital Site

In Room Team

- Nurse 1 (who identified code blue situation) hollers for assistance; begin compressions
- Nurse 2 (gets airway box/AED, dons PPE, takes mask in, applies masks to patient) takes the lead
- Nurse 3 (compressions)
- RRT if on site

Outside Room Team

- Safety Coach—ensures PPE has arrived and donned appropriately; passes supplies into room; delegate documentation; leads the outside of room team
- Nurse 2 calls 7777 and 9-911 for EMS response. Makes other calls as appropriate

- Code responders from each unit bring blue airway boxes, AED, etc.
- Security (if extra on site—otherwise available for EMS arrival)

9.0 Patient Management Recommendations:

9.1 Airway

9.1.1 Pre-oxygenation with non-rebreather mask.

9.1.2 **No** Bag-Valve-Mask Ventilation prior to intubation (may use for oxygenation only).

9.1.3 Airway equipment:
- Video laryngoscope for all intubations (should be brought by ICU RRT HGH & JH sites)
- Bougie
- Laryngeal Mask Airway (LMA)

9.1.4 Aim for 1st pass success.

9.1.5 If in cardiac arrest, can immediately intubate without drugs.

9.1.6 **Stop** compressions during intubation attempt.

9.1.7 If not in cardiac arrest, airway to be secured by RSI.

9.1.8 Ensure good vascular access, insert IO if peripheral IV access fails.

9.1.9 First attempt with video laryngoscopy if immediately available, to maintain maximal distance from patient's airway.

9.1.10 After ETT visualized to pass through the cords, inflate cuff, attach viral filter and attach $ETCO_2$ detector. Ventilate only after filter in place and cuff inflated.

9.1.11 Verify endotracheal tube placement with $ETCO_2$.

9.1.12 Do not auscultate to avoid self-contamination.

9.1.13 If failed attempt, place LMA with filter. Ensure LMA inflated for proper seal to prevent contamination as best as possible.

9.1.14 Ventilation by BVM without an ETT or LMA is **highly discouraged.**

9.1.15 Adjust PEEP valve on manual resuscitation bag to help with oxygenation.

10.0 Team Exit Strategy

10.1.1 If in Critical Care Unit, place patient on closed filtered circuit ventilator as soon as possible; can de- escalate to usual PPE after aerosol generating medical procedure is completed.

10.1.2 If outside of Critical Care Unit, place patient on closed filtered circuit transport ventilator as soon as possible and prepare for transport.
- If no transport ventilator available, can manually ventilate with filtered resuscitation bag for transport.
- Ensure all connections are taped for transport.
- Consider bolus of sedation and paralytic prior to transport.
- Team transporting patient should be wearing clean PPE including N95 respirator.

10.1.3 Prior to any circuit disconnect ensure ETT is clamped (using Kelly clamps).

10.1.4 Equipment double bagged for later decontamination, initial wipe down of larger equipment if possible while still in enhanced PPE.

10.1.5 Team debrief after transport complete, document and share any lessons learned

or suggestions to share with leadership.

11.0 Transportation

Movement of the patient to the ICU will follow IC - Transportation of Patients Within or Between Healthcare Facilities of Who are Suspected or Confirmed COVID -19

12.0 Cleaning of patient rooms

after COVID-19 patient transport to follow the CSS - Droplet/Contact Precaution COVID -19 Environmental Cleaning Protocol

13.1 Cross References

IC - Transportation of Patients Within or Between Healthcare Facilities of Who are Suspected or Confirmed COVID -19
CSS - Droplet/Contact Precaution COVID -19 Environmental Cleaning Protocol
MCH PEDS - Protocol on resuscitative management of a child with suspected or confirmed COVID -19 in the Pediatric Emergency Department

14.0 Developed By

HHS Corporate Code Blue Committee

15.0 In Consultation With

Infection Prevention and Control
Customer Support Services
HHS COVID-19 Subject Matter Expert Group

16.0 Approved By

MAC
HHS COVID-19 Corporate Command Centre

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