CODE BLUE GUIDING PRINCIPLES during COVID-19 Pandemic

Goals:
To align with the patient’s goal of care while providing the best care in the event of with the respiratory and cardiac arrest. We aim to minimize the risk of exposing members of the clinical and resuscitation team to COVID-19 during resuscitation efforts.

At admission to hospital all inpatients must have goals of care discussion with their healthcare team. The patient’s choice regarding resuscitation in the event of Code Blue must be clearly documented in the patient’s chart (recommend visual identification, such as a bracelet on patient whose choice is Do Not Resuscitate).

This document will be reviewed on a weekly basis by the COVID-19 Code Blue Working Group. The Code Blue COVID-19 pandemic strategy could change as the Public Health epidemiological data shows evidence of widespread community transmission.

Guiding Assumptions:
Health care providers are to proceed with age appropriate BLS and ACLS in the event of:
- an inpatient admitted for reasons unrelated to COVID-19 and does not have any identified risk factors (insert link)
- who does not have any symptoms of acute respiratory illness is found unresponsive or in cardiac arrest in hospital

All inpatients are assessed/screened twice a day for symptoms of acute respiratory illness using COVID-19 ILI symptom monitoring for inpatients. Patients will be placed on droplet and contact precautions if:
- they exhibit any acute respiratory illness symptoms
- are tested for COVID-19 and

Infection Prevention and Control will indicate removal of precautions if patient tests COVID-19 negative and symptoms have resolved. Twice daily assessment will assist the health care team in making clinical risk assessment for donning appropriate PPE when providing care and in the event of cardiac arrest.

Health care professional will complete a point of care risk assessment in selecting appropriate PPE Point of Care Risk Assessment.

During a code blue situation:
- A maximum of 7 responders should be in the patient’s room when responding to a Code Blue. Students should NOT be part of the Code Blue team.
- Minimize the equipment that enters the room: defibrillator, backboard, airway kit, and only necessary drugs (see contents of code blue medication mini-bag on page 5) enter the room. Do NOT bring the crash cart into the room.
- The DOOR of the patient’s room must remain closed at all times; inpatients will not be moved to a negative pressure room in the middle of a Code Blue.
• The Code Blue team members and Respiratory Therapists should carry appropriately fitted N95 masks with them to a code, to ensure they have ready access to a properly fitted N95.
• If any member of the Code Blue Team or healthcare team breaches PPE integrity (e.g.: mask/visor falls) doff PPE (using proper hand hygiene), leave the room and don correct PPE prior to reentering; Use the “buddy” system.

In all likelihood, even in full PPE, you will have contamination of your hospital attire; we recommend that you change your scrubs and shower, if appropriate.

Each site will need to determine alternative or rotating Code Blue Teams in the event traditional Code Teams members are unable to attend codes.

SUSPECTED or KNOWN COVID-19 patients:
• Identify, as early as possible, patients with suspected and confirmed COVID-19 who are at risk of acute deterioration or cardiac arrest.
  o Inpatient should have been monitored with early warning signs tools such as MEWS (Modified Early Warning Signs, MEWS Scoring System) to assist with early detection of deterioration.
  o Patients with suspected and confirmed COVID-19 who require escalation of care related to deterioration or who have a deteriorating health status should be acted upon quickly. Patient should be moved to negative pressure rooms in advance of Airway team’s arrival
  ▪ Physicians caring for suspected and confirmed COVID-19 patients who anticipate the need for intubation should contact the critical care physician to discuss and notify COVID Airway team.

Airway Management Guidelines for Patients Requiring Intubation for Suspected COVID-19

Additions to crash cart:
• 6 N95 masks (2 of each variety)
• 5 Gowns (high quality)
• 5 Face-shields
• Disposable stop clock
• Portable, working suction
• Ambubag with HME filter attached

CODE BLUE Protocol for known or suspected COVID-19:
If a patient with suspected or known COVID-19 is found unresponsive or in active cardiac arrest AND the patient’s goals of care indicate Resuscitation:
  1st responder: Donned in droplet and contact PPE (Unit RN or LPN or medical staff)
  - Call Code Blue as per site process
  - Place a surgical mask on the patient
  - Put patient’s bed in CPR mode
  - Go to door and have 2nd responder hand 1st responder defibrillation pads and defibrillator
  - Place defib pads on patient, connect defibrillator in AED mode, analyze and defibrillate if instructed
  - 1st responder doff PPE (supervised and use proper hand hygiene), leave the room, don
new airborne PPE, and act as GATEKEEPER

GATEKEEPER:
Do NOT allow more than 7 people in the room
Communicate with team lead to provide background of patient’s COVID-19 status
(known or suspected COVID-19, not COVID-19)

2nd responder: Unit RN and LPN or medical staff
- Bring crash cart to patient’s room
- Hand defibrillator pads and defibrillator to 1st responder
- Don PPE for aerosol generating medical procedure = Airborne PPE, while 1st responder is defibrillating patient
- Bring backboard into room
- Place patient on backboard and start chest compressions (ensure all providers in room have Airborne PPE on before chest compressions start)
- Continue to follow AED instructions
- If SHOCK advised, Pause CPR and defibrillate

3rd responder: Unit staff
- Don airborne PPE
- Assist with resuscitation
- 3rd responder may be the Respiratory Therapist, bring airway kit
  - Respiratory Therapist
    - Brings standard airway box
    - Don airborne PPE and enter room
    - Prepare Ambubag with HME filter with mask
    - Assist in airway management, perform gentle BVM if good mask seal is obtained

CODE BLUE team arrival:
STOP
All members don airborne PPE
TEAM LEAD – communicate with unit clinical team (1st responder)
(i.e. suspected or known COVID, NON-COVID, unwitnessed arrest, shockable rhythm on initial analysis); determine next steps
Composition of Code Blue teams vary by facilities, the below protocol provides guidance:
Identify the Team Leader (Internal medicine resident or ICU resident or critical care RN)
- Don airborne PPE, then enter room
- Determine team members roles and responsibilities
Airway person (Anesthesia resident/ Emerg Physician/ RT)
- Prepare COVID-19 airway equipment and medication required for possible intubation
- Don airborne PPE, then enter room
- Prioritize securing advanced airway device for airway management over CPR when arrive
Code Team RNSx2 (critical care RNs)
- Don airborne PPE and enter room
- Bring modified COVID-19 age appropriate resuscitation medications into room
- Administer age appropriate resuscitation medication and run defibrillator
- Keep time, document on paper towel and update chart later
Airway goals
- Minimize BVM
- Secured airway with ETT as suggested by COVID Airway Management (Airway Management Guidelines for Patients Requiring Intubation for Suspected COVID-19)
- **No chest compression** during airway management
- Ensure ETT cuff is inflated prior to ventilation
- Minimize disconnections of ETT

Overall Code Blue goals:
- Ensure protection of team prior to entering room
- If any breaches in protection (e.g.: mask falls off), member is replaced by team member outside room until appropriate PPE is replaced
- Would suggest terminating code blue if no return of spontaneous circulation (ROSC) after 10 minutes or 3 rounds of CPR
- Charting will be done after the resolution of the code

Upon resolution of the code:
- Consult Critical Care for acceptance
- Ensure stability of patient
- Transfer to ICU
  - Have a “clean” member don proper PPE to open doors and lead team to ICU
  - Call security to have COVID 19 elevator
- After transfer, doff PPE one at a time with a buddy system (see cognitive aids)
- Ensure all equipment is properly disposed of or cleaned in the proper fashion
- Debrief with team members
- Change scrubs and/or shower if significant contamination
- Room to be cleaned as per protocol, awaiting appropriate time period after an AGMP has been done

**Contents of mini-bag medication bag:**
1mg Epinephrine x3
Atropine 0.5 mg x 1
1 amp Calcium chloride (1g)
1 amp 50% dextrose
1 amp lidocaine (100mg)
1 amp magnesium sulfate (2g)
2 amp of Sodium Bicarb (50 meq)
1 amp amiodarone (150mg total)
Guidance for care team in the event of CODE BLUE, outside of inpatient areas:

Active Cardiac Arrest or Unresponsive patient in a person with unknown COVID status in Primary Assessment Centre (external to hospital):
- Call 911 (PAC outside hospital); Call Code Blue (PAC inside hospital)
- Staff donned in droplet and contact PPE place surgical mask on patient
- Place defib pads on patient, attach AED use as instructed
- Additional staff don airborne PPE (2 common types of N95 masks should be located with AED in a secure bag)
- Chest compressions started once all team members in airborne PPE, shock as indicated by AED until EHS arrives (PAC outside hospital), or Code Blue Team arrival (PAC inside hospital)
- Have security provide crowd control and move people away or outside if possible

Secondary Assessment Centre and Emergency Departments, unknown or known COVID status:
- Call Code Blue
- Staff donned in droplet and contact PPE place surgical mask on patient
- If possible and appropriate move patient to negative pressure room, private area and close the door
- Attach defibrillator pads and use defibrillator as instructed
- Additional responders don Airborne PPE
- Proceed with chest compressions only when providers have airborne PPE donned
- Code Blue team arrives and will proceed with age appropriate ACLS in airborne PPE as per Code Blue protocol for suspected and known COVID-19

Guidance for care team in the event of CODE BLUE, in inpatient areas without Code Blue teams with known or suspected COVID-19:
- Call a Code Blue as per usual process ie 473-3333 to call EHS
- Staff donned in droplet and contact PPE place surgical mask on patient
- Move people away from the patient
- Attached defibrillator pads to patient and AED
- Await EHS arrival
References


Nova Scotia epidemiologic summary: 08 April 2020, 10:00. (2020). NS Department of Health and Wellness


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