***This Policy applies at Mackenzie Richmond Hill and Cortellucci Vaughan ***

Title:	**Code Blue Adult – Emergency Response Plan**		
Manual:	Clinical		
Section:	Emergency Management		
Approval Body:	Medical Advisory Committee		
Original Effective Date: *(mm/dd/yyyy)*	May/2005	**Reviewed Date**: *(mm/dd/yyyy)*	November/2017; December/2020 August/2021 March/2022
Revised Date: *(month/yyyy)*	April/2020; December/2020 November/2021	**Next Revision Date**: *(month/yyyy)*	November/2024
Cross References:	Code Blue Pediatrics; Code Pink; Emergency Department, ICU, CCU – Lifesaving Interventions for Adult Patients with Cardiovascular Emergency, Medical Directive; Organ And Tissue Donation; Respiratory Policy and Program; Routine Practices for All Care Areas; Airborne Precautions		
Key Words:	Code blue, cardiac arrest, resuscitation, isolation, Protected Code Blue		
Developed by: *(Title)*	**Acute Resuscitation Committee**	**Owner**: *(Title)*	**AVP, Clinical Services**

POLICY

If an adult (equal to or greater than 18 years of age) experiences a cardiac/respiratory arrest or a perceived life-threatening medical emergency, any person may initiate a Code Blue. Once initiated, a coordinated response team will provide advanced cardiac life support (ACLS) or other appropriate care required. The patient is to remain in the area where the Code Blue is called until arrangements are made for a safe transfer. At the discretion of the code physician team leader, the patient is to be transferred to an inpatient critical care unit(s) for inpatients or the Emergency Department (ED) for outpatients.

NOTE

Age	**Emergency Response Plan**
Less than 30 days	Code Pink
1 month – 17 years	Code Blue Pediatric

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Equal to or greater than 18 years	Code Blue

CODE BLUE ALGORITHM/FLOW CHART

CARDIOPULMONARY ARREST OR LIFE-THREATENING MEDICAL EMERGENCY

↓

Don appropriate PPE and complete an environmental scan for safety prior to proceeding.
Establish unresponsiveness (absence of breath and/or pulse) or deterioration.

↓

Activate Help – Activate the Nurse Call System/Code Blue button in room and/or shout **"Code Blue in room xxxx".**

↓

Call/delegate someone to contact **"Call Centre" at 5555.** State that there is a **"Code Blue" or "Protected Code Blue"** and provide the exact location of the arrest.

↓

Perform 1 person rescue/resuscitation measures if required until the 2nd responder arrives

↓

2-person CPR initiated if required, and **CODE BLUE TEAM** arrives and **ACLS** care is initiated as required

→

Was Code Blue successful?

Yes / No

↓

CODE NARRATOR/RESUSCITATION RECORD IS COMPLETED

DEFINITIONS:

Cardiac Arrest Cart: a cart stocked with emergency medical equipment, supplies, and medications for use during efforts to resuscitate a patient experiencing cardiac arrest. See **Appendix I** – Location of Cardiac Arrest Carts

Code Blue Alarm System: The button system found in the patient's room that enables a Code Blue, Pediatric Code Blue, or Code Pink to be activated.

Code Blue Team: A defined group of hospital staff comprised of various members of essential services who immediately respond to the location of Code Blue in order to provide resuscitation and stabilization measures. The team consists of members skilled in Advanced Cardiac Life Support (ACLS) and/or emergency response (see roles and responsibilities),

Life Threatening Medical Emergency: When a patient's condition becomes unstable and additional resources are needed to prevent the patient from further deterioration or going into cardiopulmonary arrest. These include, but are not limited to:

- A sudden decrease in level of consciousness
- Difficulty maintaining a patent's airway or significant increased work of breathing
- Airway obstruction/airway swelling
- Signs of poor perfusion (i.e., pallor, cyanosis, hypotension)
- Seizure or seizure like activity

All Clear: After assessment by the physician team leader, an all-clear is called when the patient no longer requires active resuscitation efforts.

Cancel Code Blue: A Code Blue is called in error.

Protected Code Blue: Any patient under Airborne, Airborne/Droplet Contact or Droplet/Contact precautions for suspected respiratory infections, (with suspected or confirmed high consequence respiratory pathogen; ex. COVID-19), staff will don additional PPE to ensure safety during a Code Blue due related to Aerosol Generating Medical Procedures (AGMP).

AUTHORITY TO INVOKE:

Any person may initiate a Code Blue.

AREA	
Hospital-Inpatient, outpatient, and non-clinical areas within the hospital	Code Blue Team
Entrances and sidewalks just outside hospital doors	Code Blue Team and ED staff
Grounds/Parking lot beyond entrances	Call 9-1-1
Extendicare Levels 3, 4 and 5 (A wing – Mackenzie	Call 9-1-1

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Richmond Hill Hospital)	
Off-site locations (Reactivation Care Centre [RCC], Oak Ridges/Vaughan Dialysis, Urgent Care Centre [UCC], Cardiovascular & Pulmonary Rehabilitation Program [CVPR])	Call 9-1-1

In the event of a Code Blue occurs in non-clinical areas (e.g., hallway, lobbies, cafeteria, laboratory area, waiting areas) or outpatient areas without a crash cart within the hospital, the Critical Care nurse who responds will also bring a cardiac arrest cart to the area (see Appendix I).
All staff may respond to any medical emergency on Mackenzie Health property including entrances and sidewalks. Outside of these areas, staff will call 911.

RESPONSE TEAM MEMBERS AND COVERAGE:
Nurse Response:
All nurses from the same unit/pod where the code is called should return to their home unit.
Vaughan site: one nurse from each pod of the unit where the code blue is called, and one nurse from the adjacent unit on the same level will attend.

MACKENZIE RICHMOND HILL

Team Member	**Day Shift**	**Evening Shift**	**Night Shift**	**Stats/Weekends**
Physician Team Leader (Internal Medicine on Call)				
Anesthesiologist	*Page if needed via locating, will respond if available.*			
Anesthesia Assistant				
Critical Care Nurse				
Most Responsible Nurse (MRN) from the area of the event and assumes role of Safety Leader***				
Registered Respiratory Therapist (RRT)				
Security				
Shift Manager				
Social Worker				
Spiritual Care Representative				
***Safety Leader – MRN until Patient Care Manager/Shift Manager, Patient Care Coordinator				

(PCC)/Clinical Utilization Coordinator (CUC) or Educator arrives of the unit where the code is called				

CORTELLUCCI VAUGHAN

Team Member	**Day Shift**	**Evening Shift**	**Night Shift**	**Stats/Weekends**
Physician Team Leader (Internal Medicine on Call)				
Anesthesiologist	*Page if needed via Vocera or locating, will respond if available.*			
Anesthesia Assistant				
Critical Care Nurse				
Most Responsible Nurse (MRN) from the area of the event and assumes role of Safety Leader***				
Registered Respiratory Therapist (RRT)				
Security				
Shift Manager				
Social Worker				
Spiritual Care Representative				
***Safety Leader – MRN until Patient Care Manager/Shift Manager, Patient Care Coordinator (PCC)/Clinical Utilization Coordinator (CUC) or Educator arrives of the unit where the code is called				

APPENDIX I: LOCATION OF ADULT CARDIAC ARREST CARTS

APPENDIX II: LOCATION OF AUTOMATED EXTERNAL DEFIBRILLATORS

APPENDIX III: POST ARREST RESPONSIBILITIES AND MAINTENANCE OF THE CARDIAC ARREST CARTS

APPENDIX IV: ROLES AND RESPONSIBILITIES

APPENDIX V: PROTECTED CODE BLUE PRINCIPLES

APPENDIX VI: ACLS CARDIAC ARREST ALGORITHM FOR SUSPECTED OR CONFIRMED COVID-19 PATIENTS

APPENDIX VII: PROTECTED CODE BLUE SAFETY LEADER CHECKLIST

APPENDIX VIII: CODE BLUE DEBRIEF FORM:

REFERENCES:

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APPENDIX I: LOCATION OF ADULT CARDIAC ARREST CARTS – MRH & CVH

MACKENZIE RICHMOND HILL SITE

Level		Wing	Cardiac Arrest Cart
L01	Dialysis (main unit)	D	1
L01	Nuclear Medicine	C	1
L02	Emergency Department	D	6
L02	Medical Imaging	C	1
L02	Operating Room	C	1
L02	PACU	C	1
L02	Oncology Clinic (covers Ambulatory clinics)	B & C	1
L02	A2 (covers A2 Complex rehab Orange and Dialysis Unit)	A	1
L03	D3 Medicine Aqua	D	1
L03	C3 Medicine Aqua	C	1
L04	C4 Surgery Aqua	C	1
L04	C4 Medicine Orange	C	1
L04	C4 Medicine Purple	C	1
L05	D5 Adult Critical Care Aqua	D	3
L05	C5 Procedures Aqua	C	2

Additional Cardiac Arrest Cart location: Vaughan Urgent Care Centre

CORTELLUCCI VAUGHAN SITE

Level		Cardiac Arrest Cart
L01	Emergency Department	11
L01	Medical Imaging	2
L02	Operating Room Prep	1
L02	Operating Room Recovery	2
L02	Operating Room - Support area	1
L02	Critical Care	6
L04	L&D - OR	1
L04	L&D Pod 1	1
L04	Antenatal/Post partum	1

L05	Medicine – Stroke Unit	1
L05	Hemodialysis Treatment Area	1
L05	Mental Health Inpatient Unit	1
L06	Medicine	1
L06	Medicine	1
L07	Medicine	1
L07	Medicine	1
L08	Surgery	1
L08	Surgery	1

APPENDIX II: LOCATION OF AUTOMATED EXTERNAL DEFIBRILLATORS

MACKENZIE RICHMOND HILL SITE

Level	D Wing	C Wing	B Wing	A Wing
Level 1	Berwick Auditorium			Atrium entrance
Level 2	Emergency entrance	Main entrance	Tim Horton's entrance	

Note: In addition, the AED locations for the Satellite sites: Oak Ridge's Dialysis, Vaughan Dialysis, Cardiovascular & Pulmonary Rehabilitation Program (CVPR)

CORTELLUCCI VAUGHAN SITE

Level	Location(s)	
Level 0	Wellness Centre (Gym)	Cafeteria
Level 1	Main Entrance	Auditorium

APPENDIX III: POST ARREST RESPONSIBILITIES AND MAINTENANCE OF THE CARDIAC ARREST CARTS

1. A designated health care provider on the unit is to complete a daily check of the external contents of the crash cart in accordance with the Cardiac Arrest Cart Daily Checklist, including testing the defibrillator.
2. Contact Service Response at ext. 0 to have a replenished Cardiac Arrest Cart brought to them from Medical Device Reprocessing.
3. In the event of a Protected Code Blue, all opened bags of disposable supplies taken into the room/area must be discarded. The medication tray must be sealed and labeled with provided "ISOLATION" sticker.
4. Richmond Hill Site - If the defibrillator is not functioning properly, contact Biomedical Engineering immediately. In addition, complete the on-line Biomedical Engineering request procedure and provide a brief description of the problem.

This is a CONTROLLED document for internal use only. Any documents appearing in paper form are not controlled and should be checked against the electronic file version prior to use. Discard after March 15, 2022

5. Cortellucci Vaughan Site – If the defibrillator is not functioning properly contact Philips MES (Managed Equipment Services) by dialing zero (0) and asking for the MES Help Desk. Please have the Site ID of the device and description of the problem ready when placing the call.

APPENDIX IV: ROLES AND RESPONSIBILITIES

For Code Blue

All Responders should check in with the Code Response Safety Leader on arrival and prior to departing a Code Blue event.

Role	Responsibilities
Nurse/First Responder	Recognition and Activation 1. Don PPE prior to entering the room, determine scene safety. 2. Establish unresponsiveness (absent or gasping breaths) while simultaneously checking for the pulse for no more than 10 seconds. 3. Call for help and activate the Code Blue Alarm System if within the room. If the Code Blue Alarm System is unavailable, contact the Call Centre at 5555 and state "CODE BLUE". 4. Provide the following information: Site (Richmond Hill, Vaughan), Level, Wing/Pod, Program, room number and bed number. 5. Place patient in supine position with head of bed lowered and pillow removed. If patient is found on floor, leave patient there. 6. If patient has absent pulse begin high quality chest compressions. 7. If patient is seizing, remove all objects around the patient if possible. Ensure patient's airway is protected and place patient in side-lying position if possible. Provide assistive ventilation if necessary. Record time of the seizure from start to finish.
Nurse/2nd Responder	1. Brings Cardiac Arrest Cart and PPE cart to the patient's room/area. 2. Don PPE prior to entering room. 3. If in a public area, where an AED is readily available, any staff can utilize the Automated External Defibrillator (AED) as per AED policy. 4. Brings Cardiac Arrest Cart into patient room. 5. Attaches defibrillation pads to the chest wall and attach connecting cable to the defibrillator. 6. Assists First Responder to place backboard

	under patient's back. 7. Assembles oxygen/suction equipment. Attaches tubing of the Bag-Valve-Mask (BVM) device to the oxygen flow meter on the wall/arrest cart and turns the flow to 15 L/min.
Safety Leader – MRN until Patient Care Manager (PCM)/Shift Manager, PCC/CUC or Educator arrives	1. If patient is on droplet/contact and/or airborne precautions, contact the Call Centre at 5555 and state that the code should be called as a "PROTECTED CODE BLUE" and followed Roles and Responsibilities as per page 15 under "Protected Code Blue" section. 2. Ensure safety of staff as they don PPE prior to entering the room. 3. Manage staff movement in and out of the room. 4. Limit the number of personnel entering the room • (2) Responders/nurse 1 & 2 • (1) MD, 2nd MD at the discretion of the Physician Team Leader. • (2) Registered Respiratory Therapist (RRT) • (2) Critical Care Nurses 5. Reduce equipment brought into room (if patient under isolation) • Cardiac Arrest Cart • Equipment for intubation 6. Communicates and coordinates transfer to the receiving unit. 7. Complete the debrief form.
Patient Care Manager (PCM)/ Shift Manager, PCC/CUC or Educator	1. In addition to the Safety Leader Role, support the staff and/or the patient's family during the resuscitation and after. 2. Call for additional resources as directed by the Team Leader. 3. Debrief and review the event with the team members to identify what went well, gaps, and areas for improvement (see Appendix VI) Scan debrief form and email to Acute Resuscitation Committee Chair. May provide emotional support to staff members who believe that they have been contaminated. 4. Complete the debrief form, if have not done so already.
Code Team: Critical Care RN x 2	1. Don PPE prior to entering the room. 2. Initiates intravenous (IV) access if necessary.

	3. Pulls bed away from wall and removes headboard. 4. In the absence of a physician, the Critical Care nurse will manage the resuscitation and implementation of the Lifesaving Interventions for Adult Patients with Cardiovascular Emergency medical directive until the physician arrives. If there is significant delay in the arrival of a physician, the Call Centre will be notified and an overhead request for physician attendance will be made. 5. Prepares medications and administers as ordered by the physician/medical directive. 6. Prepares defibrillator as ordered by physician and/or defibrillates as per medical directive. 7. Determines cardiac rhythm strips to be attached to the Cardiac Rhythm Strips form (#6630) which will be scanned in Electronic Medical Record. 8. Assumes responsibility for the patient until transfer of accountability and coordinates transfer with Safety Leader.
Nurse Assigned to Care of the Patient/Primary nurse	1. If First Responder; see above. Provides information on the pre-arrest patient status/history. 2. Remains with the patient and assists the Code Blue team with care provisions required until Critical Care/ED bed made available. 3. Remains with the patient and provides transfer of care to the receiving nurse.
Nurse/ 3rd Responder	1. Completes electronic documentation in the EMR.
Registered Respiratory Therapist	1. Don PPE prior to entering room. 2. Prepares equipment required for establishing an advance airway endotracheal tube (ETT) intubation. 3. Provide manual ventilation with BVM device with a nasal or oral pharyngeal airway in place. 4. Performs or assists with establishment of advanced airway. 5. Verifies ETT placement with auscultation, observing chest rise and fall and use of the end tidal carbon dioxide ($ETCO_2$) colorimetric detector. 6. Secures ETT in place and continues to provide manual ventilation. 7. Administers ACLS drugs via ETT in the absence of an established intravenous/intraosseous (IV/IO) as

	directed by the physician team leader. 8. Utilizes $ETCO_2$ capnography to assess effectiveness of chest compressions and return of spontaneous circulation. 9. Remains with patient and assists in patient transfer to Critical Care/ED. 10. Verifies and documents the advanced airway interventions and respiratory care in Code Narrator in Electronic Medical Record.
Physician Team Leader	1. Don PPE prior to entering the room. 2. Assumes responsibility and leads resuscitation. 3. Provides medical management during the Code Blue. 4. Co-ordinates the ongoing management of the patient's care until the Code is concluded. 5. Authorizes discontinuation of resuscitation efforts, as clinically appropriate. 6. Establishes "Cancel" or "All Clear" Code Blue as appropriate. 7. Notifies family/next of kin with information about the outcome of the resuscitation. NOTE: If more than one physician is present at a Code Blue, one physician will immediately identify themself as the Physician Team Leader. All medical orders by any other physician will be verified with the Physician Team Leader prior to being enacted.
Anesthesiologist	***Page if needed via locating, will respond if available.*** 1. Don PPE prior to entering the room. 2. In the Peri-Anesthesia areas (Day Surgery, Operating Room, PACU, Labour and Delivery, Ambulatory clinics), the Anesthesiologist acts as the Physician Team Leader. In other areas of the hospital, the Anesthesiologist may act as Physician Team Leader in the absence of another physician or as requested. 3. Provides direction/consultation to initiate respiratory resuscitation and intubation if required. 4. Provides direction/consultation to establish vascular access by peripheral IV, central venous catheterization, or performs intraosseous (IO) cannulization (EZ-IO®).
Security	1. Security will respond to ALL Code Blue calls in all

	clinical and non-clinical patient care areas to provide any necessary support. 2. In public areas such as the lobbies, or in a non-patient care area, Security will meet the Code Blue Team to direct them to the event location. 3. Ensure other patients (if possible) and unnecessary personnel/visitors are restricted from the room/area as the situation dictates. 4. Notify Call Centre when the Code Blue has been completed using the “All Clear” terminology.
Call Centre	1. When the Call Centre receives a call advising of a Code Blue, record the exact location of the arrest or medical emergency. 8. Activate the CODE BLUE cardiac arrest team communication devices/overhead paging and advise that there is a “Code Blue” – include Level, Wing/Pod, Program, room number and bed number repeated x 2. • Ex. Code Blue, Level 5, D-Delta Wing, Adult ICU Aqua, Room 5001” • Ex. Code Blue, Level 2, Pod B, Adult ICU, Room 2.301” 2. If the in-house paging system fails, Call Centre will contact Security to use the overhead paging system at the annunciator panel to announce the code as above. In addition, the Code team members should also rely on their primary communication devices for this important information. The Shift Engineer will cover Security for the announcement if required. 3. Document the time and location of the Code Blue in the appropriate Codes logbook and stand by for further instructions. 4. If a second Code Blue call is received prior to notification of completion of the previous Code Blue, activate the Code Blue cardiac arrest team communication devices/overhead paging and advise that there is a second Code Blue – as described above. 5. If Call Centre receives a call advising of the need for specific personnel, activate the overhead paging and advise “Code Blue – (personnel required) - stat, indicating the exact location, repeated x2. 6. Upon receiving the call from the clinical areal

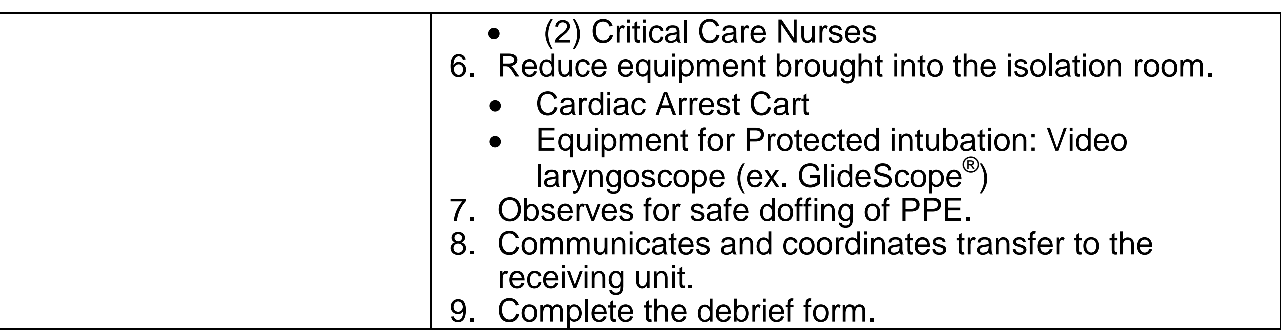
	indicating the "All Clear" the Call Centre will overhead page the following: "Code Blue All Clear" repeated x2.

FOR PROTECTED CODE BLUE (COVID-19):

Role	**Responsibilities**
Nurse/First Responder	Recognition and Activation 1. Enter the patient room, wearing appropriate PPE for patient isolation status and determine scene safety. 2. Establish unresponsiveness (absent or gasping breaths) while simultaneously checking for the pulse for no more than 10 seconds. 3. Call for help and activate the Code Blue Alarm System if within the room. If the Code Blue Alarm System is unavailable, contact the Call Centre at 5555 and state "PROTECTED CODE BLUE". 4. Provide the following information: Site (Richmond Hill, Vaughan), Level, Wing/Pod, Program, room number and bed number. 5. Place patient in supine position with head of bed lowered and pillow removed. If patient is found on floor, leave patient there. 6. If patient not already on oxygen, place patient on nasal prongs at maximum 6L/min, then place a surgical mask over the patient's face (only if readily available in room). If patient is already on an oxygen mask when the arrest occurs, do not change to nasal prongs or apply surgical mask. Leave the room. 7. Don Protected Code Blue PPE (which includes fit-tested N95 mask, face shield, gloves and level-2 or higher gown). 8. If patient did not have a surgical mask with nasal prongs or oxygen mask in place, obtain a non-rebreather mask prior to entering the patient room. 9. upon returning to patient room, apply oxygen mask prior to beginning chest compressions. 10. If patient has absent pulse, begin high quality chest compressions, and keep surgical mask and nasal prongs or oxygen mask on patient's face. 11. Hold chest compressions during intubation attempts.

Nurse/2nd Responder	1. Brings Cardiac Arrest Cart and PPE tote box to the outside of the patient's room/area. 2. Don PPE with Safety Leader prior to entering the room. 3. If in a public area, where an AED is readily available, any staff can utilize the Automated External Defibrillator (AED) as per AED policy. 4. Brings Cardiac Arrest Cart into patient room. 5. Attaches defibrillation pads to the chest wall and attach connecting cable to the defibrillator. 6. Assists First Responder to place backboard under patient's back. 7. Assembles oxygen/suction equipment. Ensures the HEPA filter is attached to Bag-valve-mask (BVM) device. 8. NO BAG-MASK VENTILATION to be performed. 9. No oral or nasopharyngeal airway to be inserted. 10. Takes over chest compressions from the First Responder, supporting the need to change roles of compressor every 2 minutes. Follow BCLS guidelines for two person CPR. 11. Hold chest compressions during intubation attempts. 12. Assumes code documentation in the EMR when Critical Care Nurse arrives.
Safety Leader – MRN until Patient Care Manager/Shift Manager, PCC/CUC or Educator arrives	1. If patient is on droplet/contact and/or airborne precautions, contact the Call Centre at 5555 and state that the code should be called as a "PROTECTED CODE BLUE" if not already notified. 2. If there is significant delay in the arrival of a physician, the Call Centre will be notified and an overhead request for physician attendance will be made. 3. Ensure safety of staff as they don PPE prior to entering the room. 4. Manage staff movement in and out of the room. 5. Limit the number of personnel entering the room. • (2) Responders/Nurse 1 & 2 • (2) MDs to attend (1st MD on call, 2nd MD anesthesia or anesthesia assistant or intensivist) • (2) Registered Respiratory Therapist (RRT) – 1 RT in room; 1 RT outside room, to be available if needed.

***This Policy applies at Mackenzie Richmond Hill and Cortellucci Vaughan ***



	• (2) Critical Care Nurses 6. Reduce equipment brought into the isolation room. • Cardiac Arrest Cart • Equipment for Protected intubation: Video laryngoscope (ex. GlideScope®) 7. Observes for safe doffing of PPE. 8. Communicates and coordinates transfer to the receiving unit. 9. Complete the debrief form.

Patient Care Manager/ Shift Manager, PCC/CUC or Educator	1. In addition to the Safety Leader Role, support the staff and/or the patient's family during the resuscitation and after. 2. Call for additional resources as directed by the Team Leader. 3. Debrief and review the event with the team members to identify what went well, gaps, and areas for improvement (see Appendix VI) Scan debrief form and email to Acute Resuscitation Committee Chair. May provide emotional support to staff members who believe that they have been contaminated. 4. Complete the debrief form, if not done so already.

Code Team: Critical Care RN x 2	1. Vaughan site: • Obtains Code Elevator keys from team room at beginning of shift • Retrieves video laryngoscope (ex. GlideScope®) and stylet from Critical Care and brings to location of Protected Code Blue. 2. Don PPE with Safety Leader prior to entering the room. 3. Initiates intravenous (IV) access if necessary. 4. Pulls bed away from wall and removes headboard. 5. Prepares and assists with medications and administers as ordered by the physician(s) or as per medical directive. 6. Prepares defibrillator as ordered by physician and/or defibrillates as per medical directive. 7. Hold chest compressions during intubation attempts. 8. If defibrillating and airway not yet secured, keep mask on the patient AND turn off oxygen prior to defibrillation. If airway is secured, keep ETT attached to BVM device with HEPA filter attached AND turn off oxygen prior to defibrillation. 9. Determines cardiac rhythm strips to be attached to the Cardiac Rhythm Strips form (#6630) which will be scanned in Electronic Medical Record. 10. Assumes responsibility for the patient until transfer of accountability and coordinates transfer with Safety Leader.
Nurse Assigned to Care of the Patient/Primary nurse	1. If First Responder; see above. Provides information on the pre-arrest patient status/history. 2. Remains with the patient and assists the Code Blue team with care provisions required until Critical Care/ED bed made available. 3. Remains with the patient and provides transfer of care to the receiving nurse.
Nurse/ 3rd Responder	1. Brings workstation on wheels ("WOW") to be outside of room. 2. Don PPE and remains outside the room. 3. Remains within the area and acts as "runner" outside of room to obtain equipment or medication and supplies as needed.

Registered Respiratory Therapist	1. Richmond Hill: Retrieves video laryngoscope (ex. GlideScope®) and stylet from available supply bank (not OR) and brings to location of Protected Code Blue. 2. Don PPE with Safety Leader prior to entering room. 3. Brings video laryngoscope (ex. GlideScope®) and stylet into room. 4. Removes surgical mask and nasal prongs, apply non-rebreather mask at 15L/min (if not already in place) for pre-oxygenation in anticipation of rapid sequence intubation. If patient is receiving compressions, STOP CPR during changing of nasal prongs to non-rebreather mask to minimize aerosolization of virus from airways. 5. NO manual ventilation shall be performed (until the patient has been intubated and the endotracheal tube cuff has been inflated, and only using a HEPA filter attached to BVM). 6. The most experienced airway manager available and donned in PPE shall utilize the video laryngoscope (ex. GlideScope®), if possible. 7. Hold chest compressions during intubation attempts. 8. Verifies ETT placement observation of chest rise/fall and use of the end tidal carbon dioxide ($ETCO_2$) colorimetric detector or $ETCO_2$ capnography. No auscultation if possible. 9. Secures ETT in place. 10. Once patient is intubated, inflate cuff prior to manual ventilation (HEPA filter must be in place). 11. Do not administer ACLS drugs via ETT. 12. If already attached, utilizes $ETCO_2$ capnography, to assess effectiveness of chest compressions and return of spontaneous circulation. 13. Remains with patient and assists in patient transfer to Critical Care/ED. 14. Verifies and documents the advanced airway interventions and respiratory care in Code Narrator in Electronic Medical Record.
Physician Team Leader	1. Don PPE with Safety Leader prior to entering the room. 2. Assumes responsibility and leads resuscitation. 3. Provides medical management during the Code Blue. 4. Co-ordinates the ongoing management of the

	patient's care until the Code is concluded. 5. Authorizes discontinuation of resuscitation efforts, as clinically appropriate. 6. Establishes "Cancel" or "All Clear" Code Blue as appropriate. 7. Notifies family/next of kin with information about the outcome of the resuscitation. NOTE: If more than one physician is present at a Code Blue, one physician will immediately identify him/herself as the Physician Team Leader. All medical orders by any other physician will be verified with the Physician Team Leader prior to being enacted. The default Physician Team Leader is MD 1 (internal medicine on call) unless this has been designated to another physician (ex. Anesthesia or ICU).
Anesthesiologist	***Page if needed via locating, will respond if available.z*** 1. Don PPE with Safety Leader prior to entering the room. 2. In the Peri-Anesthesia areas (Day Surgery, Operating Room, PACU, Labour and Delivery, Ambulatory clinics), the Anesthesiologist acts as the Physician Team Leader. In other areas of the hospital, the Anesthesiologist may act as Physician Team Leader in the absence of another physician or as requested. 3. Brings medication for rapid sequence intubation Recommended doses include: • Ketamine 2mg/kg IV, • Rocuronium IV (100mg if weight less than 100 kg, 150mg if weight greater than 100 kg), • Phenylephrine IV. These doses and medications are at the discretion of the anesthesiologist or Physician Team Leader. 4. Secures airway with rapid sequence induction, ideally using a video laryngoscope (ex. GlideScope®). 5. Provides direction/consultation to establish vascular access by peripheral IV, central venous catheterization, or performs intraosseous (IO) cannulization (EZ-IO®).
Security	1. Security will respond to ALL Code Blue calls in all clinical and non-clinical patient care areas to provide any necessary support.

	2. In public areas such as the lobbies, or in a non-patient care area, Security will meet the Code Blue Team to direct them to the event location. 3. Ensure other patients (if possible) and unnecessary personnel/visitors are restricted from the room/area as the situation dictates. 4. Notify Call Centre when the Code Blue has been completed using the "All Clear" terminology.
Call Centre	1. When the Call Centre receives a call advising of a Code Blue, record the exact location of the arrest or medical emergency. Call Centre will announce/re-announce overhead "PROTECTED CODE BLUE". 2. Activate the CODE BLUE cardiac arrest team communication devices/overhead paging and advise that there is a "Protected Code Blue" – location including site, wing (A, B, C, D), level, program, program, colour and room number. • Ex. "Richmond Hill, Protected Code Blue, Level 5, D-Delta Wing, Adult ICU Aqua, Room 5001 • Ex. "Vaughan, Protected Code Blue, Level 2, Unit B, Adult ICU, Room 2.301 "repeated x 2". 3. If the in-house paging system fails, Call Centre will contact the Shift Engineer to use the overhead paging system at the annunciator panel to announce the code as above. In addition, the Code team members should also rely on their primary communication devices for this important information. 4. Document the time and location of the Code Blue in the appropriate Code logbook and stand by for further instructions. 5. If a second Protected Code Blue call is received prior to notification of completion of the previous Protected Code Blue, activate the Code Blue cardiac arrest team communication devices/overhead paging and advise that there is a second Protected Code Blue – as described above. 6. If Call Centre receives a call advising of the need for personnel, activate the overhead paging and advise "Code Blue – (personnel required) - stat, indicating the exact location, repeated x2. 7. Upon receiving the call from the clinical area indicating the "All Clear" the Call Centre will overhead page the following: "Code Blue All Clear" repeated x2.

***This Policy applies at Mackenzie Richmond Hill and Cortellucci Vaughan ***

APPENDIX V: PROTECTED CODE BLUE PRINCIPLES

In the event a Protected Code Blue occurs in an unenclosed non-clinical areas (e.g. hallway, lobbies, cafeteria, laboratory area, waiting areas) or unenclosed outpatient area, or there are bystanders present without appropriate PPE, resuscitative efforts will be limited to intravenous medications and external defibrillation alone until either the patient is moved to an enclosed area, or all bystanders without PPE are safely removed from the area.

If a patient has any respiratory precautions (Airborne, Airborne/Droplet and Contact or Droplet/Contact; ex. COVID-19), or unknown etiology, a Protected Code Blue will be called. In this instance, and additional PPE will be worn. Staff members who do not have a fit-tested N95 will not participate.

Standard PPE for Code Blue	PPE for Protected Code Blue
1. Surgical mask with protective eyewear or face shield	1. Fit tested N95 mask with face shield*
2. Level 1 gown	2. Fluid resistant (level 2 or higher gown)
3. Gloves	3. Extended Cuff Gloves**

* The individual intubating and RT shall also don face shield with neck coverage and extended double gloves.

To limit the transmission of high consequence pathogens in the acute care setting and particularly related to aerosolized procedures, proper control measures are a priority. The following principles should always be considered to minimize risk of transmission to staff, patients and visitors.

1. All aerosol-generating procedures to be performed in a negative pressure room (airborne infection isolation room) or private room where possible.
2. At the discretion of the Physician Team Lead; controlled intubation should be performed as soon as possible if the patient appears to have increasing respiratory compromise.
3. No oral or nasopharyngeal airway.
4. Do not manually bag mask ventilate until patient is intubated and endotracheal cuff is inflated, and only using a HEPA filter attached to the BVM.
5. Hold chest compressions during intubation attempts.
6. Recommend rapid sequence intubation (sedation + paralysis) and wait 45sec to 1 min after administering medications before attempting to intubate (to allow medications to take effect and prevent cough).
7. Preferential use of video laryngoscope (ex. GlideScope®).

8. The most experienced airway manager available and donned in PPE should intubate, ideally using a video laryngoscope (ex. GlideScope®).
9. Once intubated, cuff must be inflated prior to any bagging.
10. If Bag mask ventilation to occur after intubation, this must be done only with BVM with HEPA filter applied.
11. Ideally when possible, connect ETT directly to ventilator (closed circuit) after intubation with minimal bag-mask ventilation.
12. Once patient is on a ventilator, a filter must be present on the expiratory circuit.
13. Once ETT is in place, if suctioning is required, only in-line suctioning shall be performed and no disconnecting HEPA filter.
14. PPE should be doffed (removed) with the support of a Safety Leader and with corresponding PPE checklist.
15. Removal of PPE should be done in the anteroom. If there is no anteroom, remove PPE safely as per IPAC protocol.
16. Once patient has been transported the room must be cleaned per IPAC specifications.
17. The Safety Leader will ensure that after patient is transferred or discharged, the door must be kept closed and the Airborne Precautions sign must remain on the door until sufficient time has elapsed to allow removal of airborne microorganisms.

Transport of Patients:

- Transporting staff don clean PPE prior to transfer.
- Stretcher handles and rails should be wiped with disinfecting wipes prior to transport.
- Keep on transport ventilator until destination.
- Security and MRN to assist clearing direct route to receiving unit, including removing any equipment, staff and/or visitors from the route.
- As per Clinical Transport policy.

DONNING AND DOFFING PROCEDURE:

Donning to be done outside of Room in Hallway	**Doffing to be done in Ante Room where possible or outside of Room**
Perform hand hygiene. Don gown, ensure back is covered with neck and front ties secured.	Remove gloves while facing garbage. Remove gown by untying neck and ties of gown, remove slowly and carefully; only touching the inside of the gown. Roll into a ball and discard in garbage. Perform hand hygiene.
Remove eyewear prior to donning N95 fit-tested mask. Put eyewear back on. Perform seal check	Remove face shield, grasp strap at back of head, lean forward and keep chin up. Do not touch front of the face shield.
Don face shield with foam band sitting directly on the skin of your forehead.	Remove glasses and place on counter surface with hospital approved disinfectant wipes.
Don gloves, with cuffs overlapping gown.	Remove N95 mask by removing neck

	strap slowly then other strap from back of head. Do not touch front of mask.
Safety Leader to perform PPE check before staff member enters the room.	Perform hand hygiene.

APPENDIX VI: ACLS Cardiac Arrest Algorithm for Suspected or Confirmed COVID-19 Patients

ACLS Cardiac Arrest Algorithm for Suspected or Confirmed COVID-19 Patients

Updated April 2020

A — Don PPE
- Limit personnel
- Consider resuscitation appropriateness

1 — Start CPR
- Give oxygen (limit aerosolization)
- Attach monitor/defibrillator
- Prepare to intubate

Rhythm shockable? Yes → 2; No → 9

2 — VF/pVT

3 — Shock

9 — Asystole/PEA

B — Prioritize Intubation / Resume CPR
- Pause chest compressions for intubation
- If intubation delayed, consider supraglottic airway or bag-mask device with filter and tight seal
- Connect to ventilator with filter when possible

4 — CPR 2 min
- IV/IO access

Rhythm shockable? Yes → 5; No → 12

5 — Shock

6 — CPR 2 min
- Epinephrine every 3-5 min
- Consider mechanical compression device

Rhythm shockable? Yes → 7; No → 12

7 — Shock

8 — CPR 2 min
- Amiodarone or lidocaine
- Treat reversible causes

(then return to Rhythm shockable?)

10 — CPR 2 min
- IV/IO access
- Epinephrine every 3-5 min
- Consider mechanical compression device

Rhythm shockable? Yes → Go to 5 or 7; No → 11

11 — CPR 2 min
- Treat reversible causes

Rhythm shockable? Yes → Go to 5 or 7; No → 12

12
- If no signs of return of spontaneous circulation (ROSC), go to 10 or 11
- If ROSC, go to Post–Cardiac Arrest Care

Go to 5 or 7

CPR Quality
- Push hard (at least 2 inches [5 cm]) and fast (100-120/min) and allow complete chest recoil.
- Minimize interruptions in compressions.
- Avoid excessive ventilation.
- Change compressor every 2 minutes, or sooner if fatigued.
- If no advanced airway, 30:2 compression-ventilation ratio.
- Quantitative waveform capnography
  - If $PETCO_2$ <10 mm Hg, attempt to improve CPR quality.
- Intra-arterial pressure
  - If relaxation phase (diastolic) pressure <20 mm Hg, attempt to improve CPR quality.

Shock Energy for Defibrillation
- **Biphasic:** Manufacturer recommendation (eg, initial dose of 120-200 J); if unknown, use maximum available. Second and subsequent doses should be equivalent, and higher doses may be considered.
- **Monophasic:** 360 J

Advanced Airway
- Minimize closed-circuit disconnection
- Use intubator with highest likelihood of first pass success
- Consider video laryngoscopy
- Endotracheal intubation or supraglottic advanced airway
- Waveform capnography or capnometry to confirm and monitor ET tube placement
- Once advanced airway in place, give 1 breath every 6 seconds (10 breaths/min) with continuous chest compressions

Drug Therapy
- **Epinephrine IV/IO dose:** 1 mg every 3-5 minutes
- **Amiodarone IV/IO dose:** First dose: 300 mg bolus. Second dose: 150 mg.
  or
  Lidocaine IV/IO dose: First dose: 1-1.5 mg/kg. Second dose: 0.5-0.75 mg/kg.

Return of Spontaneous Circulation (ROSC)
- Pulse and blood pressure
- Abrupt sustained increase in $PETCO_2$ (typically ≥40 mm Hg)
- Spontaneous arterial pressure waves with intra-arterial monitoring

Reversible Causes
- **H**ypovolemia
- **H**ypoxia
- **H**ydrogen ion (acidosis)
- **H**ypo-/hyperkalemia
- **H**ypothermia
- **T**ension pneumothorax
- **T**amponade, cardiac
- **T**oxins
- **T**hrombosis, pulmonary
- **T**hrombosis, coronary

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***This Policy applies at Mackenzie Richmond Hill and Cortellucci Vaughan ***

APPENDIX VII: PROTECTED CODE BLUE SAFETY LEADER CHECKLIST

PROTECTED CODE BLUE

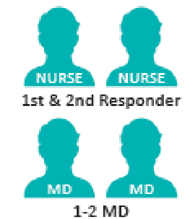
SAFETY LEADER CHECKLIST

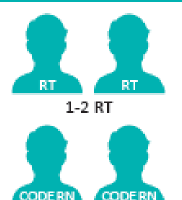
THE SAFETY LEADER WILL:

(Role assumed by the MRN, PCM/Shift Manager/ PCC /CUC /Educator)

- ✓ Contact the Call Centre at 5555 and state "PROTECTED CODE BLUE" if not already notified
- ✓ Will directly observe donning and doffing of appropriate level PPE for all team members entering and exiting the Code Blue area
- ✓ Manage staff movement in and out of the room

LIMIT THE NUMBER OF PERSONNEL TO ENTER THE ROOM





1st & 2nd Responder

1-2 RT

1-2 MD

2 Code RN

REDUCE THE EQUIPMENT BROUGHT INTO THE ISOLATION ROOM

- ✓ Cardiac Arrest Cart to be brought into room
- ✓ Equipment for Protected Intubation: GlideScope®

COMMUNICATE AND COORDINATE TRANSFER TO THE RECEIVING UNIT

- ✓ Notifies receiving unit of any necessary precautions prior to transfer

ENSURE THE FOLLOWING CLEANING PROCESS IS ADHERED TO

- ✓ All non-disposable equipment is thoroughly cleaned with hospital approved disinfectant
- ✓ All disposable supplies within the Cardiac Arrest Cart are discarded
- ✓ Cart is cleaned prior to removal from the room/area prior to sending to MDR
- ✓ Medication tray is sealed and labeled with provided "ISOLATION" sticker

PERSONAL PROTECTIVE EQUIPMENT (PPE) FOR PROTECTED CODE BLUE

1. Fluid resistant (level 2 or higher) gown

2. Fit tested N95 mask and face shield

3. Extended Cuff Nitrile Gloves

DOFFING

- ✓ Doffing to be done in ante room where possible OR gloves and gown removed inside room at doorway before proceeding to hallway to remove the remainder of the PPE
- ✓ Remove gloves
- ✓ Remove gown by untying neck and ties of gown, remove slowly and carefully; only touching the inside of the gown. Roll into a ball and discard in garbage
- ✓ Perform hand hygiene
- ✓ Remove face shield, grasp strap at back of head, lean forward and keep chin up. Do not touch front of face shield
- ✓ Remove glasses and place on counter surface with hospital approved disinfectant wipe
- ✓ Remove N95 mask by removing neck strap slowly, then other strap from back of head. Do not touch front of mask
- ✓ Perform hand hygiene

DO NOT RUSH.

It is imperative that removal of all protective equipment be done slowly and carefully to avoid inadvertent contamination of yourself or others.

***This Policy applies at Mackenzie Richmond Hill and Cortellucci Vaughan ***

Patient MRN

APPENDIX VIII: CODE BLUE – DEBRIEF FORM

PURPOSE:

At the end of each code, please take a few minutes to debrief and share dedicate a person on the team to share findings with Acute Resuscitation Committee Liaison. The liaison will be responsible to disseminate communication and learnings from the code to the appropriate stakeholders and programs.

Date	Time	Location
Did Appropriate Members Respond:		
☐ YES ☐ NO **If no, please comment below**		
Overheard announcement heard by all team members		
☐ YES ☐ NO		
Reason For Calling Code		
What went well during the code?		
What are opportunities for Improvement?		
Further Briefing Required		
☐ YES ☐ NO		

Filing and Communication Details			
Form Completed By	Lead for Informing Acute Resuscitation Committee	Date Received by Acute Resuscitation Committee	Communications to Stakeholders Required
Action & Next Steps *This section summarizes the actions and next steps required after discussion at the Acute Resuscitation Committee*			

Please scan and send the copy of the completed form to the Manager of Unit and Manager of Unit will scan to Acute Resuscitation Committee Chairs.