



		<b>POLICY No:</b>	MSH
<b>TITLE: Protected Code Blue and Aerosol Generating Medical Procedures for Patients with High Consequence Respiratory Pathogens</b>		<b>ORIGINAL ISSUE DATE:</b>	
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**OVERVIEW**

This Protected Code Blue must be adhered to when performing aerosol generating medical procedures when caring for patients with high consequence respiratory pathogens (e.g. Severe Acute Respiratory Syndrome-SARS-CoV, Middle East Respiratory Syndrome-MERS-CoV, COVID-19 and other novel emerging respiratory pathogens).


The policy describes the modified procedures to be used for cardiopulmonary arrest/Code Blue and other aerosol generating medical procedures to minimize the risk of exposure to healthcare providers carrying out these procedures that are at high risk of generating aerosols.

**PURPOSE AND SCOPE**

When novel respiratory pathogens emerge and when managing patients with established high-consequence respiratory pathogens who are at risk for requiring aerosol generating procedures (see list below in definition section), effective personal protective equipment (PPE) and infection prevention and control (IPAC) measures including appropriate room placement are necessary to protect healthcare workers and prevent transmission to others.

A number of procedures have been identified as high-risk for generating virus aerosol, extensive droplet spread and/or inadvertent removal of PPE (e.g. N95 respirator and/or face shield knocked out of position due to a combative patient). The best way to reduce risk to healthcare providers is to arrange for early transfer of deteriorating patients to the intensive care unit (ICU). Patients with these infections should be considered for early and planned intubation rather than waiting for precipitous deterioration.

Any patient under precautions for suspected or confirmed high consequence respiratory pathogen may present a higher risk to resuscitation teams in the event of a need for a procedure that can produce aerosol and/or a Code Blue. A “Protected Code Blue” using additional PPE and a specific set of principles is to be called when these patients require acute intervention by the Code Blue team.

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## DEFINITIONS

**PPE:** Personal Protective Equipment

**IPAC:** Infection Prevention and Control

**ICU:** Intensive Care Unit

**ED:** Emergency Department

**ACCESS:** Acute Critical Care Emergency Support Service

**Aerosol Generating Medical Procedures:** respiratory procedures that increase risk of healthcare provider exposure to high consequence respiratory pathogens:

- Endotracheal intubation, including during cardio-pulmonary resuscitation<sup>1</sup>
- Cardio-pulmonary resuscitation (CPR) – (not including first responder chest compressions with Tavish mask on (non-rebreather mask for patients)
- Open airway suctioning
- Bronchoscopy (Diagnostic or Therapeutic)
- Surgery and autopsy
- Sputum induction (Diagnostic or Therapeutic)
- Non-invasive positive pressure ventilation for acute respiratory failure (CPAP, BiPAP3-5)
- High flow oxygen therapy
- Endotracheal extubation
- Chest tube insertion, thoracentesis
- Cricothyroidotomy and tracheostomy


**Source: Public Health Ontario (March 12, 2020). TECHNICAL BRIEF Updated IPAC Recommendations for Use of Personal Protective Equipment for Care of Individuals with Suspect or Confirmed COVID-19.**  
<https://www.publichealthontario.ca/-/media/documents/ncov/updated-ipac-measures-covid-19.pdf?la=en>

**Non-invasive ventilation:** use of breathing support administered through a face mask or nasal mask.

## PRINCIPLES

During a Protected Code Blue/aerosol generating medical procedure on a patient with high consequence respiratory pathogens the following principles will be observed:

1. A minimal number of staff (only those essential to the procedure) will be in the room.
2. Attending staff physician/ICU fellow will be responsible for leading the procedure.

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3. All healthcare providers will wear required PPE at all times, no exceptions.


## **POLICY**

1. IPAC will be consulted to determine which patients require Protected Code Blue status.
2. Emergency Department staff will make an initial determination of Protected Code Blue status for patients presenting to the Emergency Department based on available history, symptoms and signs. Prior to hospital admission, the IPAC team must make a final determination of Protected Code Blue status.
3. IPAC will provide a daily written list of all patients under Protected Code Blue precautions to the Operating Room Anesthesia Coordinator (or Anesthetist on call), ACCESS team, and ICU charge nurse. If no patients are under Protected Code Blue precautions in the hospital, no list is required.
4. Non-invasive ventilation or aerosolized medications will NOT be used for this patient population. Nasal cannula may be used for supplemental oxygen. Venturi masks should NOT be used.
5. Whenever possible, video laryngoscope should be utilized during Protected Code Blue intubation procedures.
6. Units other than the ED and ICU, who admit patients under Protected Code Blue status, will follow usual procedures for consulting with the ACCESS team. When communicating with the ACCESS team, the unit staff requesting the consultation will inform the ACCESS team of the patient's protected code blue status.
7. Patients with deteriorating respiratory status should be considered for early intubation to allow for a controlled procedure, with required experts present and use of optimal PPE, to minimize risks associated with an emergent procedure.
8. In the event that a unit is activated to cohort patients (e.g. High Consequence Respiratory Pathogens Unit), leadership from Anesthesia, Critical Care, Emergency Department, and hospital administration will meet to arrange an in-house call roster of airway expert physicians solely available for respiratory viral infections airway/Protected Code Blue response.

## **PROCEDURES**

### **A. TRAINING**

All health care providers who will serve as members of the Protected Code Blue team including staff who will provide these services in the ED and ICU must:

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- Have completed current mask fit testing in compliance with Sinai Health’s Respiratory Protection Program policy.
- Be able to wear a properly fitting N95 or equivalent respirator
- Receive training in Protected Code Blue policies and procedures
- Receive training in using required PPE

Each unit or service manager (or designate) is responsible for tracking and maintaining documentation confirming staff completion of PPE training.

#### B. PATIENT


The following must be put in place for patients who have been designated as Protected Code Blue:

1. Order will be entered by admitting physician or IPAC team for Droplet/Contact Precaution AND a Protected Code Blue status
2. For identification, signage will be placed on the patient’s room door, census board and on the spine label of the patient chart to alert members of the care team to the patient’s status.
3. All patients designated as Protected Code Blue eligible must have a working IV or saline lock at all times while on Additional Precautions.
4. A Tavish mask will be bagged and available in the patient room (located on the headwall).
5. Resuscitation Record and pen to be available in patient room.
6. In the situation of the progressively hypoxic patient, early intubation in a controlled manner is recommended.

#### C. FIRST RESPONDERS

When a First Responder in the ED or inpatient unit recognizes that a patient with Protected Code Blue status has developed a life-threatening condition requiring emergency advanced life support intervention, the following steps **must** be followed:

1. Activate Protected Code Blue by dialing ext. 5555 (the emergency line) and indicate “Protected Code Blue” and state the location.  
  
**NOTE:** do not press Code Blue button as Locating will not necessarily realize that they should be calling a Protected Code Blue rather than a standard Code Blue.
2. First Responders caring for the patient prior to arrival of the Protected Code Blue team must be wearing appropriate PPE as determined by SH IPAC policies/procedures.
3. Instruct all non-essential personnel to leave room immediately.

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All unnecessary people must leave the room when a Protected Code Blue is called. Usually, only one to two First Responders are required to remain in the room to provide basic life support care.

4. Assess need for suctioning and determine if in PPE for aerosol generating procedure prior to performing intervention. **If not in PPE for aerosol generating procedure – must doff and re-don necessary PPE prior to suctioning patient**
5. Apply Tavish mask with exhalation filter to patient, tighten straps, turn Oxygen flow to 8-10 L/min.
6. Check for pulse. If no pulse, start compressions while Tavish mask on patient.
7. If no interventions are required and **if not in PPE for aerosol generating procedures – must doff and re-don necessary PPE**, while you wait for the Protected Code Blue response team. Door should remain closed.
8. Give report to Protected Code Blue team member upon their entry to the room.
9. Take direction from the Protected Code Blue team.
10. First responder, in PPE for aerosol generating procedures, will stay in room and assume the role of code “recorder”.

#### D. ANNOUNCING PROTECTED CODE BLUE

Protected Code Blue events happening in the ED and inpatient units (except ICU) must be announced overhead. Upon being notified of a Protected Code Blue via ext. 5555 (the emergency line), Locating will:

1. Activate all six Code Blue pagers (Senior Medical/ICU Resident, ICU RN, Department RT, Anesthesia resident, PGY-1 medicine, central dispatch) announcing PROTECTED CODE BLUE and location.
2. "PROTECTED CODE BLUE" will be announced overhead. The announcement includes the hospital (MSH), the wing, the unit, and room number, for example, “Protected Code Blue, Mount Sinai Hospital, XX wing, 11 South, Room 1132”.
3. Once announced, Locating will follow all usual processes associated with announcing a Code Blue including follow-up with the team who activated the Protected Code Blue and completing required documentation.

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#### E. CANCELLING A PROTECTED CODE BLUE

1. Only the Code Team leader, ED physician, ICU Attending Physician/ICU Fellow, or Anesthesia Staff may cancel a Protected Code Blue. Vital signs of the patient for whom the Protected Code Blue was called should be documented and the ACCESS team called if required.
2. The only exception to this policy is if a protected code blue was activated by mistake.
3. Call ext. 5555 (the emergency line) to notify Locating of Protected Code Blue cancellation.
4. Locating will page/announce overhead: "CANCEL PROTECTED CODE BLUE, (state location)", repeat x 2.
5. The staff in Locating must document the name and position of the person canceling the Protected Code Blue on the Code Blue Report sheet.
6. If event was downgraded to a regular Code Blue, Locating will follow the Code Blue policy as directed by clinical staff.

#### F. PROTECTED CODE BLUE TEAM


Protected Code Blue team members will proceed to the location of the Protected Code Blue upon hearing the overhead announcement or via the paging system. Full PPE will be donned under supervision of the designated monitor/supervisor prior to entry into the patient room.

Only the following Protected Code Blue team members, wearing required PPE, will enter the room of a patient during a Protected Code Blue:

1. Physician airway management expert (Anesthesia Staff, ED Staff Physician, or ICU Staff/Fellow Physician)
2. Respiratory therapist
3. ICU or Emergency Department nurse
4. Code Blue Team Leader (senior ICU resident or senior medical resident carrying arrest pager, or Emergency Department Staff Physician for patients in the Emergency Department, who may also be the airway management expert)
5. First responder (in PPE for aerosol generating procedures) is now the recorder

In the event of a full cardiopulmonary arrest or emergent intubation, the Protected Code Blue team may bring the entire ACLS cart and associated equipment (e.g. video laryngoscope) into the room.

If a patient has an unwitnessed cardiopulmonary arrest, resuscitation efforts will be immediately discontinued when asystole is the initial rhythm and confirmed in multiple leads.

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Communication while in the patient room should be closed-loop check back to confirm understanding while wearing PPE. Communication outside of the room can be facilitated via nurse call system or use of ASCOM phone/room telephone/intercom to avoid/minimize repeated opening of the room door.

#### G. PROTECTED CODE BLUE ANESTHESIA RESPONSE

##### **Emergency Department**

1. In the ED, if Anesthesia presence is required (for difficult airway), ED team must call locating.
2. Locating will contact Anesthesia Coordinator by calling the OR at 10-3401 or the OR desk (ext. 4400). At night, the on-call Anesthetist will be called to advise them of a Protected Code Blue and ask them to respond to the location.
3. In the event that the Anesthesia staff is unable to respond to the Protected Code Blue, Locating will:
  - Stat page the ICU Fellow to respond, AND
  - Contact the Emergency Department Staff Physician to request them to respond to the Protected Code Blue for airway expertise (until relieved by the ICU Staff/Fellow Physician or Anesthesia Staff).


##### **All Units (excluding ICU and ED)**

1. Anesthesia will automatically respond to overhead Protected Code Blue announcement.
2. In the event that the Anesthesia staff is unable to respond to the Protected Code Blue, Locating will:
  - Stat page the ICU Fellow to respond, AND
  - Contact the Emergency Department Staff Physician to request them to respond to the Protected Code Blue for airway expertise (until relieved by the ICU Staff/Fellow Physician or Anesthesia Staff).

#### H. ELECTIVE INTUBATION PROCEDURE

Patients with deteriorating respiratory status or impending respiratory failure should be considered for early intubation, to allow for a controlled procedure with required experts present and use of optimal PPE, rather than an emergent procedure at an inopportune time.

In the event that a patient with a high consequence respiratory pathogen requires intubation but is otherwise stable, the Physician Airway expert may assume leadership of the resuscitation and allow

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the Code Blue Team Leader to remain on standby wearing PPE outside the room (see below for “Invasive Respiratory Procedures”).

Intubation of patients with a high consequence respiratory pathogen must be performed by a staff physician experienced in endotracheal intubation and the use of neuromuscular blockers during intubation. Ideally, these patients should be transferred to the ICU prior to procedure. The following individuals may intubate high consequence respiratory pathogen patients:

- Staff ED Physicians will usually intubate in the ED;
- Staff/Fellow Intensivists will usually intubate in the ICU;
- Anesthetists Staff will usually intubate patients outside of the ED or ICU, or any intubation that is likely to be difficult and beyond the capability of the Emergency Department or ICU staff physician.

In the event that airway consultation on a high consequence respiratory pathogen patient is required from Anesthesia (outside of a Protected Code Blue event), the OR Anesthesia Staff Coordinator or Staff Anesthetist on call will be contacted by the Staff/Fellow Physician of the ICU or ED through Locating.

Intubation team members will bring/have the necessary equipment into the patient room:

- Defibrillator/cardiac monitor (with integrated pulse oximeter)
- Airway intubation kit (including inline suctioning and filter) (**see Appendix 2**)
- Code Blue Drug tray and additional drugs (**see Appendix 1**)
- Video laryngoscope


For Detailed Elective Intubation Procedures (**refer to Appendix 2**).

**NOTE:** For intubation, the expert airway managers (MD, RRT, Anesthesia), must don **2 pairs of gloves for the procedure (inner glove is extended glove and outer glove regular)**. Carefully, remove the outer pair after procedure complete.

All other PPE for elective intubation will be the same as that required for Protected Code Blue and any other aerosol generating medical procedure and will comply with SH IPAC directives.

For elective intubation, the Protected Code Blue team can determine whether to leave the ACLS cart outside of the patient room and bring in the required equipment off the cart (e.g. intubation kit, video laryngoscope, and code blue medication tray/additional drugs, along with the cardiac monitor/defibrillator and pulse oximeter) to minimize cleaning and wasting of supplies or bring the entire ACLS cart into the room.



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#### I. OTHER MEMBERS OF THE PROTECTED CODE BLUE TEAM

Other support personnel will be available outside of the patient room to assist with preparation of equipment needed by the team. All designated support personnel who may need to go in and assist in the room must be wearing appropriate PPE.

Non-essential personnel/spectators must leave the area of a Protected Code Blue. If necessary, floor personnel and security staff can be used to perform crowd control duties at the direction of the Protected Code Blue team leader or charge nurse.

#### J. PROTECTED CODE BLUE MONITOR/SUPERVISOR

The nursing team leader, charge nurse or designate from the unit or department activating the Protected Code Blue, who has completed training in the use of PPE, will be designated as the Protected Code Blue Monitor/Supervisor.


The Protected Code Blue Monitor/Supervisor will:

- Supervise all healthcare providers donning the appropriate PPE prior to entering the room
- Limit access to the patient room to only those health care providers required
- Confirm that everyone entering the room is wearing appropriate PPE and has a label indicating their role (ie; recorder, Team Lead, RN)
- Assist Protected Code Blue team members exiting the room with safe doffing of their PPE
- Observe for breaches in PPE during the Protected Code Blue.
- Ensure any person with exposure and potential contamination leaves the patient room immediately and that the incident is reported in the SAFER incident reporting system by the impacted individual

#### K. INVASIVE RESPIRATORY PROCEDURES

All aerosol generating procedures for patients with high consequence respiratory pathogens that are non-emergent and do not require a Protected Code Blue response, will follow the same PPE requirements for Protected Code Blue including supervised donning and doffing.

**NOTE:** For intubation, the expert airway managers (MD, RRT, Anesthesia), must don **2 pairs of gloves for the procedure (inner glove is extended glove and outer glove regular)**. Carefully, remove the outer pair after procedure complete.

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Any room where aerosol generating medical procedures (e.g. intubation, extubation, bronchoscopy, chest tube insertion, cricothyroidotomy and tracheostomy) have taken place or after a Protected Code Blue is considered contaminated until appropriate cleaning is completed by personnel wearing appropriate PPE. All personnel who enter the room during this period must be wearing appropriate PPE. Signage will be applied to the door of the room indicating the time when the room is safe to be cleaned.

Procedures or tests that are not immediately necessary are to be avoided in the room during the two hours post high-risk procedure, or whatever the safe clean time has been determined to be for that room based on air exchange data as per IPAC policies/procedures.

#### L. BRONCHOSCOPY

Bronchoscopy should only be performed if critical for patient care and should not be performed if not essential. For patients requiring bronchoscopy in the ICU, similar procedures to those described above for intubation should be followed:

1. Minimize the staff in the room
2. All staff don Protected Code Blue PPE under supervision


**NOTE:** For intubation, the expert airway managers (MD, RRT, Anesthesia), must don **2 pairs of gloves for the procedure (inner glove is extended glove and outer glove regular)**. Carefully, remove the outer pair after procedure complete.

3. Patient should be well sedated and possibly paralysed to prevent coughing
4. Bag valve mask using a filtered system
5. Plan the collection, containment and transport of specimens ahead of time
6. Dispose of disposables items in appropriate containers
7. Clean and remove reusable equipment according to IPAC procedures
8. Doff PPE under supervision.

#### M. EMERGENT INTUBATION

Intubation team members will bring the necessary equipment into the patient room:

1. Defibrillator/cardiac monitor with pulse oximeter
2. Airway intubation kit
3. Code Blue Drug tray and additional drugs (see Appendix 1)

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#### 4. Video laryngoscope

In the event of full respiratory arrest, manual bag ventilation may be provided using a device that filters viruses from exhaled gases. All manual resuscitators (bags) used at SH have a filter for expired gases. A two-person technique must be used during manual ventilation (one person uses two hands to achieve tight seal with mask, the other person squeezes bag to deliver a breath). This should only be performed by the expert airway management physician with the Respiratory Therapist. Manual bag ventilation should be minimized or avoided if possible.

**NOTE:** For intubation, the expert airway managers (MD, RRT, Anesthesia), must don **2 pairs of gloves for the procedure (inner glove is extended glove and outer glove regular)**. Carefully, remove the outer pair after procedure complete.

Intubation will only be performed by the expert airway management physician. Rapid sequence induction technique should be used (including neuromuscular blockade), if possible, to prevent coughing and spread of secretions.


In the event of delayed airway expert physician response to a Protected Code Blue due to concurrent emergencies, the Respiratory Therapist member of the Protected Code Blue team may proceed with intubation as long as the following conditions are met:

1. The Respiratory Therapist is wearing appropriate PPE.
2. The Respiratory Therapist is trained and competent to perform endotracheal intubation (as determined by the Respiratory Therapy Department).
3. The patient does not have any features predictive of a difficult intubation in the opinion of the Respiratory Therapist.
4. The patient is unconscious and apneic.
5. The patient does not require any sedation or paralysis to visualize the vocal cords.

Once the endotracheal tube has been advanced past the vocal cords, the endotracheal tube cuff should be inflated. Capnography should then be performed.

When possible, teams should debrief immediately after the intubation procedure to identify lessons learned. Recommendations should be documented and forwarded to ED Leadership, ICU leadership, and Anesthesia Leadership to ensure follow-up.

All staff members involved in the intubation may take a “work pause” after the debrief, if required. Having a few minutes to decompress can allow team members to return to work more effectively. All personnel involved in the intubation should be reminded of their options for psychological support including the unit’s leadership, the Employee Assistance Program, and ONA or OMA or respective professional resources.

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Healthcare providers who believe they have been contaminated should report to their supervisor immediately. Their supervisor should discuss with OHS in consultation with IPAC to determine next steps and need for work modifications.

## **POST PROTECTED CODE BLUE/AEROSOL GENERATING MEDICAL PROCEDURES**

### **A. TRANSPORT**

Patients surviving a Protected Code Blue (outside of the ICU) must be transported as quickly as possible to the ICU. Defer any procedures that can wait until the patient arrives in the ICU.

Patient linen will be replaced with fresh linen prior to transport. If time does not allow for this to occur, the patient must be covered with fresh linen to avoid droplet spread during transport.

Protected Code Blue team members will remain in the room to doff their PPE under supervision by the monitor once the patient is transferred out. The patient will be transferred out of the room to team members in required PPE waiting outside the room to accompany the patient during transport. If immediate transport is not available, only the minimum number of people necessary to care for the patient should remain in the room until transfer can occur.

Security, wearing appropriate PPE, will be responsible for removing all non-essential people in the path of transport of a Protected Code Blue patient. Security will have a service elevator waiting for transport of the patient from the Code location to the ICU.

In the event of an unsuccessful resuscitation, the patient's remains will be removed as per SH IPAC/pathology policies/procedures.


### **B. CLEANING**

Non-disposable equipment - Following a Protected Code Blue, non-disposable resuscitation equipment must be thoroughly cleaned and disinfected with hospital approved disinfectant and reprocessed as per usual.

Patient Room - The room must be terminally cleaned twice only after the required waiting period of two hours post high risk procedures has passed or according to the safe clean time determined for that room based on air exchange data in accordance with IPAC policy/procedures. The request for room cleaning will originate from the patient care unit.

Soiled linen - All soiled linen and waste is to be bagged/disposed of as per normal IPAC practices.

Transport stretcher - The transport stretcher will be terminally cleaned at the receiving patient care unit.

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## **PROTECTED CODE BLUE EQUIPMENT**

### **A. ACLS CARTS**

If a decision is made to add supplemental Protected Code Blue equipment to any of the ACLS carts, staff responsible for performing daily checks of ACLS carts will be informed of the changes and will incorporate daily inspection of the supplemental Protected Code Blue equipment into their checklists (in addition to confirming that intubation and drug kits are present, not expired and have not been tampered with).

### **B. ISOLATION CARTS**

All patients designated as “Protected Code Blue” status will have all necessary PPE to safely manage aerosol generating procedures located outside the entrance to the room.

Managers of the unit or service (or designate) will be responsible for maintaining appropriate levels of PPE stock on isolation carts located within their respective areas.

### **C. CODE BLUE DRUG TRAYS AND ADDITIONAL DRUGS**

Pharmacy will be responsible for stocking and replacing the Code Blue Drug trays. The trays are labeled with an expiry date. The clinical unit is responsible for notifying pharmacy of the need for a replacement tray if the tray is used or expired. Unused, unexpired drugs may be recycled for creating new trays, as long as the tray has not entered an isolation patient room.


## **REFERENCES**

1. SH IPAC policies/procedures

## **APPENDICES**

Appendix 1: Code Blue Drug Trays

Appendix 2: Elective intubation process and equipment

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### APPENDIX 1: Code Blue Drug Trays

Standard contents of Code Blue Drug Trays:

1. midazolam 1 mg/ml – 5 ml x 2 vials
2. propofol 10 mg/ml – 20 ml x 2 vials
3. lidocaine IV 100 mg/5 ml x 1 prefilled syringe
4. phenylephrine 10 mg/1 mL x 1 vial
5. EPINEPHrine 1 mg/1 mL x 6 ampoules
6. atropine 0.6 mg/1 mL x 5 ampoules

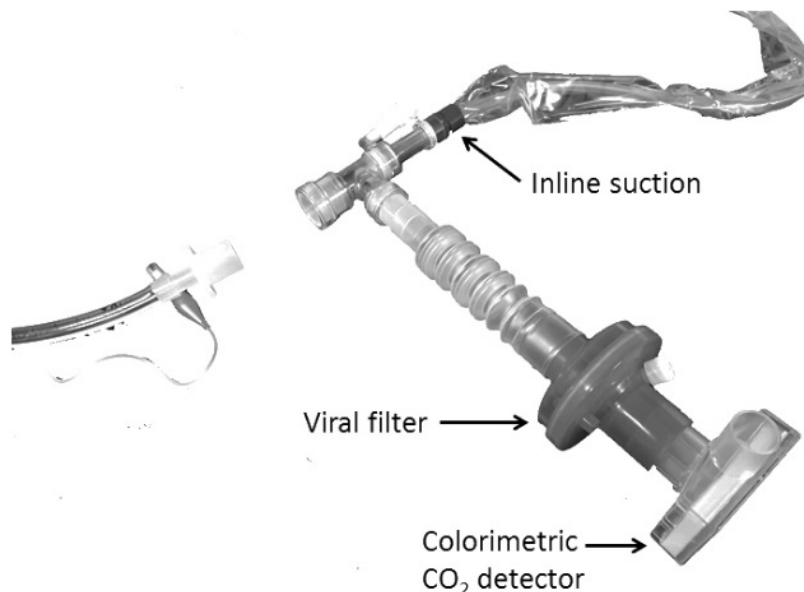
Expiration dates must be checked daily as part of the ACLS cart inspection. In the event a drug tray is expired, it must be returned to pharmacy and a fresh replacement obtained. Unused, unexpired drugs from unopened expired trays may be reused by pharmacy in making new trays.


Additional medications available in ward stock in ICU, Emergency Department and designated Protected Code Blue units:

- ketamine 50 mg/mL x 2 mL can be acquired from ICU, ED, 10N, or OR
- rocuronium 10 mg/mL x 5 mL is available in fridges on ICU, ED, 10N, or OR
- succinylcholine 20 mg/mL x 10 mL is available in fridges on all floors

**APPENDIX 2: Elective Intubation Process**

1. Ensure availability of video laryngoscope.
2. Don full required PPE, under supervision.  
**NOTE: For intubation, the expert airway managers (MD, RRT, Anesthesia), must don 2 pairs of gloves for the procedure (inner glove is extended glove and outer glove regular). Carefully, remove the outer pair after procedure complete.**
3. Limit staff entering the room to those essential for intubation (e.g. intubating physician, RT, RN). Backup staff should be in full PPE, outside the room.
4. Check available drugs and equipment. Backup equipment, (e.g. video scope and additional drugs) can be kept outside the room initially.
5. Avoid the patient coughing or becoming agitated, to protect staff. In most situations, a rapid sequence intubation (RSI), if possible, will achieve this goal.
6. Manual ventilation is thought to increase aerosolization of virus and should ideally be avoided, by adequate preoxygenation with 100% by facemask for at least 5 minutes.
7. In the patient who is unlikely to tolerate significant apnea (marked hypoxemia or acidosis), consider maintaining spontaneous breathing using sedation with ketamine (e.g. 1mg/kg) as well as lidocaine 1.5 mg/kg given intravenously 3 minutes before intubation (with or without topical anesthesia) to prevent cough.
8. If manual bag-mask ventilation is necessary, use small tidal volumes. Use two person technique. All manual resuscitators (bags) used at SH have a filter for expired gases.
9. After intubation inflate cuff immediately, ensure in-line suctioning attached, prior to filter placement, confirm position with capnography and bag with a filter in-line.



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10. Dispose of disposables in an appropriate waste container.
11. Non-disposables (e.g. laryngoscope, bronchoscope) should be wiped down with Virox and collected in a safe container for transfer for reprocessing as per IPAC policy/procedure.
12. As you leave the room remove PPE under supervision of the PPE monitor.
13. Debrief post event on lessons learned and provide opportunity for staff to have a work pause.