## PRINCIPLES:

- This document refers to Emergency and Code Response management for COVID-19 known and suspected adult patients for the in-patient setting. This document does not apply to out-patient response, the Emergency Departments or our Pediatric Hospitals.

- High-risk procedures performed on COVID-19 patients may expose staff to a high viral burden. During medical emergencies (respiratory distress, cardiopulmonary arrest) where high-risk procedures are unavoidable, staff will follow the procedures outlined in this document in order to provide needed quality care for patients in a timely and efficient manner whilst ensuring appropriate protection for the health care team.

- The goal is to provide appropriate care for our patients by competent healthcare providers with the minimum number of staff and ensuring strict adherence to infection control measures.
    - Patients will be intubated by the most experienced airway provider (Critical Care Medicine Attendings, Anesthesia Attendings, Critical Care Medicine Anesthesia Fellows and Anesthesia CA-3 Residents).
    - Avoid use of house staff during Code Blue Resuscitations whenever possible
    - No medical students or health professions students should enter the room.

- Healthcare providers should NEVER enter the rooms or patients with known or suspected COVID-19 patient without appropriate PPE.

- Minimize aerosol generating procedures: avoid/minimize hand-mask ventilation, avoid placement of oral airways or nasal airway devices. We will have a low threshold for endotracheal intubation for COVID-19 patients.

- Early defibrillation: if CPA is caused by arrhythmia- early defibrillation will reduce total time to CPR and may obviate need for airway manipulation.

- Healthcare providers should have a low threshold to call for help for COVID-19 patients if concern for worsening illness to avoid emergent intubations or code situations

This document represents our current best recommendations based upon our current level of knowledge and availability of resources. This document may be modified as knowledge and situations change. This document has been reviewed by: Kristine Breyer, MD & Mya Hamilton Childers, RN (Chairs of Code Blue Committee), Lindsey Huddleston, MD (Mission Bay Critical Care Medical Director), Matt Aldrich, MD and Tristin Penland, RN (Directors of Critical Care) March 18th, 2020. Approved by UCSF Code Blue Committee March 18th, 2020.

## IDENTIFICATION:

- Patient rooms with known or suspected COVID-19 will have rooms identified by "Novel Precautions" or "Respiratory Illness" sign. Donning and Doffing posters will be affixed to these rooms.
- For patients not in their room (off-unit for procedure/imaging/transport): they will be identified by sign on bed indicated "NOVEL PRECAUTIONS"
- Code Activation will be by standard mechanisms. Code Team response will change based upon identification of COVID-19 patient by signage on door.
- On designated units: a COVID-19 PPE for Code Cart will be designated to that unit. For units not designated as COVID-19 units: the Code Team will carry a PPE for Code Backpack.

## PREPARATION:

- Patients must have at least one working 20G peripheral IV in place at all times.
- Present on Unit: for any ward caring for a patient with known or suspected COVID-19 there must be present (and easily accessible):
    1. Manual resuscitation bag (AMBU) with appropriate mechanical HEPA filter placed between the mask and the bag
    2. Step-stool (for CPR)
    3. "Cheat sheet" on addendum code and emergency response for COVID-19
    4. Unit staff huddle to review procedure for Code Blue for COVID-19 patient during each shift (with review of procedures and Cheat Sheet) (see Appendix)
- Inside the room:
    1. Non-rebreathing mask with filter on exhalation port
    2. Disposable stethoscope
- Additions to regular Code Blue Response Team Huddles:
    1. A master list of current COVID-19 census and location of patients will be reviewed
    2. Members of the Code Team will review change of roles/providers for COVID-19 patients
    3. Members of the Code Team will review COVID-19 "Cheat Sheet" (see Appendix)

## PROCEDURE:

### INITIATION OF CODE BLUE:

- If you are inside the room and recognize a patient in distress:
    1. If you already have Novel Airborne PPE in place (N95 or PAPR) then: Activate a "Code Blue"
    2. If you only are wearing Contact & Droplet PPE then IMMEDIATELY leave the patient's room and:

- Don appropriate PPE and enter the room
- Simultaneously ask someone to activate a "Code Blue"

- If you are outside the room and recognize a patient in distress:
  1. Don appropriate PPE and enter the room
  2. Simultaneously ask someone to activate a "Code Blue"
  3. A second RN will then don appropriate PPE and enter the room with [1]stool, [2]resuscitation bag (AMBU) with filter attached and [3]code cart
  4. RN unit charge RN to don appropriate PPE and be ready to support code team. Charge RN will also observe for breaches in protection
  5. Maintain at least one staff at unit nursing station to monitor for calls from patient's room

**INITATION OF PROCEDURES: PRE-CODE TEAM ARRIVAL:**

- If patient is in respiratory distress but has a pulse, then provide oxygen. Place NRB mask with filter in place (15 LPM oxygen flow)
- If the patient does NOT have a pulse:
  1. Place NRB oxygen mask on patient
  2. Start chest compressions (CPR): Bedside RN
  3. 2nd RN: applies defibrillator pads and connects to defibrillator
  4. Any healthcare provider who is licensed to defibrillate and who arrives at the code may defibrillate the patient if indicated (pulseless ventricular tachycardia (VT) or ventricular fibrillation (VF))

**CONTINUATION OF PROCEDURES: CODE TEAM ARRIVAL:**

- All Code Team members entering the patient's room must perform hand hygiene and don appropriate PPE prior to entering the patient's room.
  1. Appropriate PPE for Code Team Airway Providers (Airway Attending, Respiratory Therapist):
     - PAPR
     - Yellow gown
     - Double gloves (covering yellow gown)
  2. Appropriate PPE for all other Code Team Providers:
     - Bouffant
     - N-95
     - Full face shield
     - Yellow gown
     - 2x gloves (double glove)
  3. Code Team Members Inside Patient Room (Parnassus specific. May require different providers at Mission Bay):
     - Anesthesia airway provider: intubation
     - Rapid Response Respiratory Therapist: assist with airway

- Rapid Response RN: record, time-keeper, closed loop communication with PharmD (outside room)
- ICU Fellow: code leader, runs defibrillator, medication preparation
- Patient's Bedside RN (1): chest compressions, medication administration
- Unit RN (2): chest compressions

4. Code Team Members Outside Patient Room:
   - Pharmacist: available for backup (may be needed in room)
   - 6 ICU NP: backup and assist with obtaining any additional supplies
   - Unit Charge RN: support code team. Observe for breaches in PPE don/doff
   - ICU Fellow #2: monitor don/doff, call for ICU bed
   - Hospital Supervisor: call for ICU bed, crowd control, assist with PPE
   - Anesthesia airway house staff: assist with obtaining appropriate airway supplies for team (glidescope, ETT, medications)
   - Primary team: relay relevant information, connect with patient's family

- Unless staff in the patient's room are unwell, have had equipment failure or self-contaminated, those staff should remain in the patient room to provide clinical information and to continue to assist with resuscitation efforts
- Code Team members will resuscitate patient according to ACLS with these important modifications:
  1. Minimize aerosol generating procedures: avoid/minimize hand-mask ventilation, avoid placement of oral airways or nasal airway devices.
  2. PAUSE chest compressions for intubation (in order to minimize risk to intubation provider). Intubation should be performed according to COVID-19 intubation recommendations: most experienced airway provider with glidescope and RSI.
  3. For patients in respiratory distress needing intubation and transfer to ICU: intubate the patient on the ward prior to transfer to the ICU.
  4. Early defibrillation: if CPA is caused by arrhythmia- early defibrillation will reduce total time to CPR and may obviate need for airway manipulation.

**CONCLUSION OF RESUSCITATION:**

- Transportation:
  1. Follow infection control policy for transportation of COVID-19 patients
- Equipment:
  1. All disposable equipment should be placed in trash receptacle in-room
  2. All re-usable equipment must be wiped down with approved disinfectant and placed into red biohazard bag in the patient room, tie the bag and then remove from room.
  3. Code record: placed inside clear bag and zipped closed, then wiped down prior to removal from the room.

**FOLLOWING RESUSCITATION:**

- All COVID-19 resuscitations should be followed by a healthcare provider debrief. Discuss what went well, what was concerning. Rapid Response RN will record responses and file with Incident Report.
- Any provider involved in the in-room resuscitation may take a "work pause" to regroup, change scrubs.
- Any staff who is concerned about PPE failure or breach should contact their supervisor and occupational health immediately.
- Unit will notify environmental services that patient's room has known or suspected COVID-19