Penn Emergency Medicine
Out-of-hospital cardiac arrest guideline 3-19-20

Rev history: 3/16 draft by Abella based on discussion w Goyal (Medstar), Drumheller (Einstein), 3/19 edits by Greenwood, Qasim incorporated

Introduction: Increasing evidence suggests that COVID19 often presents with cardiac arrest, in all age groups, whether through respiratory failure or myocarditis-induced mechanisms. Patients can present in any rhythm – thus VF/VT does not preclude COVID19 as a culprit. We must ensure safety of providers during resuscitation events.

Staffing:

1. Patient contact personnel to manage codes should be kept to **5 people at MAXIMUM**. While well-intended, others should not be within 6 ft to protect themselves.
2. **HOT zone** personnel: FULL airborne PPE – Pre-prepared packs
   - 1 attending (team management)
   - 1 resident (airway)
   - 1 nurse (line and meds)
   - 1 tech (CPR and LUCAS)
   - 1 resp therapist (ventilator)
3. **COLD zone** personnel:
   - 1-2 nurses or techs (runners, charting)
   - 1 Pharmacist

Protection:

1. **HOT zone** (< 6 ft from patient): All personnel in must wear N95 mask, gown, gloves and eye protection for every arrest. Assumption **must** be that patient is positive for COVID.
2. **Airway and CPR provider must wear PAPR** – if arrest is immediately started with N95, should switch out as soon as possible to PAPR
3. **COLD zone** (> 6 ft from patient): Standard ED PPE

Equipment:

1. Code carts should stay outside resuscitation bay/room. Bring defibrillator into the room. Other items can be brought from cart from runner to bedside. Imperative to keep code carts clean from COVID.
2. If EMS LUCAS in place, don't switch to our LUCAS, continue with EMS LUCAS. If no LUCAS in place, apply ours to minimize manual CPR and personnel exposure.
3. LUCAS and defibrillator will require careful cleaning following operator manuals. Cleaning by personnel from resuscitation event who are still in PPE.
4. After resuscitation, **all equipment must be cleaned carefully, including monitor leads, monitor, defibrillator**. Staff should do 5 minute "time out" to carefully identify any and all equipment used, much like "sponge count" in operating rooms.

ACLS:

1. Early/immediate intubation. ETT preferred over LMA. Avoid bag valve mask as much as possible, but when used, must use viral filter. PEEP valve should be used with BVM.
2. Hold compressions for intubation any other oral access – must decrease aerosol risk
3. Be aware – COVID patients can have VF/VT as well as nonshockable rhythms. Just because possible COVID, must be prepared for defibrillation.
4. Data suggest that unwitnessed arrests with asystole as initial rhythm have <2% chance of survival to hospital discharge. **Recommend rapid decision after 6 min resuscitation care to cease efforts on unwitnessed, asystolic events**. Also – medical command should recommend no transport by EMS for nonwitnessed, asystolic events for whom no pulse established after ACLS attempt in the field – this is consistent with Philadelphia EMS termination of resuscitation guidelines.