BACKGROUND and OVERVIEW
Guidance is based on whether or not the cardiac arrest is **expected, as follows:**

- **Unexpected cardiac arrest:** sudden development of cardiac failure, often in setting of improving/stabilized pulmonary disease

- **Expected cardiac arrest:** progressive hemodynamic deterioration, in which case it is known that CPR is very unlikely to be successful, placing staff at risk without clear benefit.

Under current hospital conditions (patient-care capacity not overwhelmed):

1. **CPR/ACLS protocol should be performed for unexpected cardiac arrests in COVID-19 infected individuals if consistent with patient preferences/code status**
    - Additional provider precautions during CPR are essential even if they impact the performance of the code. Providers must have adequate personal protective equipment (PPE).
    - During code status discussions, patients and surrogates should be informed that donning personal protective equipment causes a necessary and unavoidable delay initiating CPR.
    - A streamlined Code Blue/RRT team should de designated to minimize staff exposure.

2. **CPR/ACLS protocol should NOT be performed for expected cardiac arrest due to progressive clinical deterioration from COVID-19 refractory to maximal intensive care.** Such decisions should be made on a case-by-case basis only after an assessment of whether restoring circulating function can likely be achieved and a thorough analysis of the other potential risks and benefits, including whether it is impracticable to mitigate further exposure to staff.*
    - Document why CPR will have no reasonable chance of success.
    - Notify the family that CPR will not be performed and document this discussion
    - If necessary, a "unilateral" DNR, over the objection of may necessary, would be consistent with medical ethics in the context of a state of emergency
    - Evaluation by one attending is sufficient. However, if time allows, documented agreement of two attendings is preferable

3. **Transfer for ECMO (eCPR) is not indicated for COVID-19 cardiac arrest.**

Please note these guidelines are intended for adult patients with documented positive COVID-19 or persons under investigation (PUI) with high clinical probability of infection.

*This recommendation is not to limit CPR to all patients with COVID-19 based solely on their diagnosis. Clinical care and assessments will remain individualized based on the relative risks and benefits to the patient and the health care providers and staff involved in the patient's care. Evaluation of each individual patient is necessary to determine whether CPR is likely to achieve its intended goal of restoring circulatory function and can be provided safely. It is ethically justifiable to factor in concerns about staff safety when making decisions about the care that will be offered to patients with COVID-19.

Reference: Adapted from "Recommendations regarding CPR in patients with COVID-19 in the CCD"
UCMC COVID-19 Ethics Resource Group

Cardiopulmonary Arrest in COVID-19 known or presumed positive

Is the clinical course thus far consistent with a reasonable probability for Survival?
(*As determined based on reasonable probability by the most senior Physician present*)

NO, this is an Expected Event
CPR/ACLS not indicated per protocol
Conditions mandate DNR/DNI status

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YES, this is an Unexpected Event

Staffed exclusively by COVID Code/Rapid Response Team

1. Strict Adherence to PPE at all times (a delay initiating CPR is expected)
2. Initiate CPR/ACLS per protocol, prioritizing PPE procedures at all times
3. Assess initial response to CPR (1-2 minutes)

Response suggests reversible//treatable cause for arrest
(*As determined based on reasonable probability by the most senior Physician present*)

NO
Continued ACLS not indicated per protocol

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YES

Continue ACLS protocol

4. Maintain strict adherence to PPE without exception
5. Reassess response to intervention (at 4 – 6 minutes, not to exceed 8 minutes)
6. Response suggests reversible//treatable cause for arrest
   (Favorable response = anticipate transfer to or ongoing MICU care without continued ACLS)
   (*As determined based on reasonable probability by the most senior Physician present*)

NO
Continued ACLS not indicated per protocol

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YES

7. Transfer to or Continue MICU care as indicated
   Maintaining strict adherence to PPE without exception
8. Ongoing reassessment

Is the clinical course thus far c/w a reasonable probability for Survival?
(*As determined based on reasonable probability by the most senior Physician present*)

NO
Conditions mandate DNR/DNI status

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YES

Ongoing care by Essential Staff COVID Code/Rapid Response Team
Strict Adherence to PPE at all times
Ongoing reassessment Q 8 hours and with any significant change in clinical status
DNR/DNI mandated if/when clinical course is not c/w reasonable probability for survival

- Obtain urgent consultation with Ethics Committee rapid response team when indicated