

An Inter-Professional Education (IPE) Approach to Resuscitation in the COVID-19 Era Facilitator Guide: Key Teaching/De-briefing Suggestions

This document includes key teaching points based on student learning outcomes and are suggestions for faculty to follow when discussing the 2 resuscitation videos:

Objective 1: Identify steps and actions needed to administer CPR to a patient in a code situation.

Facilitator Guide: Key Teaching Points to Emphasize/De-briefing Suggestions:

Inside Patient Room

- Calling for help – requesting staff:
 - Hit bedside emergency bell for assistance
 - Initiating compressions within 10 seconds
 - Assign staff to call emergency number to deploy code team
 - Assign staff to bring AED, crash cart, and step stool
 - Delegating compressions to a responding team member (relieving primary nurse ASAP)
 - Providing quality adjuncts when performing CPR, to include:
 - Use of backboard
 - Use of stepstool
 - Ideal bed placement, such as lowering the height of bed, putting bedrails down, placing head of bed flat
 - Change compressors every 2 minutes to avoid compressor fatigue
 - Switch compressors when AED is analyzing
 - 100% non-rebreather –
 - Rationale- this is to allow for passive oxygenation without aerosolizing possible virus, etc
 - Bag-valve-mask with viral HME filter attached to oxygen flowmeter with flowrate of 10-15L **after ALL staff are in proper PPE**
 - Viral HME filter is used to prevent aerosolization of sputum
 - Defibrillator (on tower/cart)
 - Defibrillator should come to the bedside and placed across from compressor
 - If defibrillator has quality metrics built in – this will allow the compressors the ability to see how he/she is doing and self-correct for optimal compressions
 - Defibrillator should not be placed on the bed during emergency event
 - ETCO₂ –
 - Colorimetric ETCO₂ - Can be used as a quick confirmation tool to confirm airway placement
 - Continuous ETCO₂ – is used to assist with the quality of CPR
 - Normal ETCO₂ = 35-45
 - For coding patient:
 - ✓ <10 mmHg - switch compressors; poor prognosis
 - ✓ >20 - 25 mmHg – goal # while CPR is being performed
 - ✓ >30 mmHg - assess a pulse at next 2 min compressor switch
 - Minimizing interruptions in compressions
 - Maximizing chest compression fraction
 - Initiating early use of an AED – defibrillating within 180 seconds if appropriate
 - Place AED pads appropriately
 - Place backboard under patient
 - Connect pads to defibrillator
 - Turn on AED
 - Follow all AED prompts
 - State “resume compressions” after shock is delivered

- Ensuring a team member initiates ventilation
 - Passive oxygenation with non-rebreather mask is preferred until staff protected in proper PPE
 - **All members in room should be in full PPE prior to ventilating with BVM (bag-valve-mask) with 10-15L oxygen flow**

Outside Patient Room

- Code cart
- Gatekeeper
- Pharmacist
- Code Team RN
- Medication box
- Extra staff to switch out if needed
- PPE supplies outside room

Objective 2: State the 3 key components of high-quality CPR.

Facilitator Guide: Key Teaching Points to Emphasize/De-briefing Suggestions:

- Effective chest compressions (100-120 compressions/minute with adequate depth of 2-2.4 inches and full recoil, utilizing backboard and step stool).

Objective 3: Verbalize epinephrine dose (1 mg) and periodically (every 3-5 minutes) in which this medication should be administered in non-shockable rhythms/shockable rhythms.

Facilitator Guide: Key Teaching Points to Emphasize/De-briefing Suggestions:

1) **Shockable rhythm:**

- First dose epinephrine dose (1 mg) should be ordered and administered *after* the second shock/defibrillation and then repeat every 3-5 minutes (best practice to do roughly every 4 minutes so that it occurs with compressors switching)

2) **Non-shockable rhythm:**

- First dose epinephrine dose (1 mg) should be ordered and administered as soon as possible to assure that it is given within the first 5 minutes of the arrest and then repeat every 3-5 minutes (best practice to do roughly every 4 minutes so that it occurs with compressors switching)

Objective 4: Verbalize reversible causes of Pulseless Electrical Activity (PEA): (hypovolemia, hypoxia, hydrogen ion, hypokalemia/hyperkalemia, hypothermia, tension pneumothorax, cardiac tamponade, toxins, pulmonary thrombosis, coronary thrombosis, and hypoglycemia) and their treatments.

Objective 5:

List the proper Personal Protective Equipment (PPE) needed for patient care in a covid-19 era setting (May vary from institution and supply chain availability).

Facilitator Guide: Key Teaching Points to Emphasize/De-briefing Suggestions:

- Gatekeeper – what did the gatekeeper need to assure that staff had on before they walked in the room
 - Head gear
 - RT and Anes = PAPR
 - Others N95/Draeger with face shield
 - Gown
 - Gloves

Objective 6: Describe the role of a CPR Coach in the resuscitation.

Facilitator Guide: Key Teaching Points to Emphasize/De-briefing Suggestions:

- Having a dedicated staff member to lead local team in CPR efforts to assure quality CPR is being performed.
- Work in tandem with the Code Team Leader
- Coach will continue to give guidance to compressors to assure they are meeting the AHA metrics/standards
- Allow Code Team Leader to think through possible causes and direct plan of care
- Responds and work together as a high-performance team in a simulated emergency event.
- Effective chest compressions (100-120 compressions/minute with adequate depth of 2-2.4 inches and full recoil, utilizing backboard and step stool).
- Apply AED and defibrillate shockable rhythm within 180 seconds of pulselessness
- Organizing team members and assign appropriate roles
- Demonstrate closed loop communication as members or leaders of a code team
- Works within the appropriate algorithm – shockable vs non-shockable

QCPR Coach Checklist

High quality CPR performed by monitoring:

- CPR started within 10 sec**
- Depth 2 - 2.4 in**
- Rate = 100 - 120 bpm**
- Assure that recoil is occurring with compressions**
- Staff rotating CPR every 2 min
 - At least 2 - 3 staff in line to be compressors
 - Using step stool while compressing
- Back board under pt's back (if on soft surfaces)
- Pillow is out from under pt's head and bed flat

Defibrillator

- Assure the pads are placed correctly and puck is over the lower half of the sternum (JHH/JHU device specific)
- If defibrillator has feedback matrix, it should face compressor and angled slightly towards team leader
- Monitor:
 - QCPR Coach will coach the compressor(s) based on feedback from the feedback matrix
 - "Clear" the patient prior to shock
 - Coordinate compressor switches on and off the chest
 - Pause only during analyzing & delivering shock (**<10 sec off chest**)
 - Compression continued during charging
 - Shock if shockable rhythm (**pulseless VT/VF**). Otherwise give Epi for PEA/asystole arrest
- Defib w/in 180 sec for pulseless VT/VF**

Documentation

- Assure that there is a nurse **documenting** the event the whole time
 - This person can help keep time of last drugs, shock, etc if directed to do so*

Airway

- Assures airway is maintained
 - BVM (bag valve mask): 30 compressions to 2 breaths
 - ETT (endotracheal tube): 1 breath every 6 sec
- Assures that continuous ETCO₂ detector being used (BVM or ETT)
- ETCO₂** (continuous wave form capnography)
 - <10 mmHg - switch compressors; poor prognosis
 - ≥20 - 25 mmHg – goal # while CPR is being done**
 - >30 mmHg - assess a pulse at next 2 min compressor switch

Medications

- 1st dose of Epi \leq 5 min**
- PEA** give immediately with recognition
- pulseless **VT/VF** give after 2nd defibrillation
- Epi dosing:
 - Code: (1:10000) IV/IO 1mg

Additional Resources for Educators:

- European Resuscitation Council COVID-19 Guidelines – 24 April 2020
 - Minimum Airborne
 - Minimum Droplet
- AHA Interim Guidance for Basic and Advanced Life Support in Adults, Children guidelines...
 - 10.1161/CIRCULATIONAHA.120.047463- 21 April 2020