



**REGION 11
CHICAGO EMS SYSTEM
PROCEDURE**

Title: Cardiac Arrest Management / ICCA – BLS/ALS

Section: Cardiac Management

Approved: EMS Medical Directors Consortium

Effective: May 17, 2021

**CARDIAC ARREST MANAGEMENT – BLS/ALS
Incident Command for Cardiac Arrest (ICCA)**

INDICATIONS

- Non-traumatic cardiac arrest

CODE TASKS

- Resuscitation must begin and continue where patient is encountered
- Provide high quality, uninterrupted chest compressions
- Provide early defibrillation
- Provide controlled ventilatory management during the resuscitation
- IV/IO access and ALS drug delivery
- End Tidal CO2 monitoring

EQUIPMENT

BLS:

- Automated External Defibrillator
- Bag Valve Mask
- Supraglottic Airway (i-gel)
- Oxygen

ALS:

- Lifepak 1000 monitor/defibrillator/pads (or private provider equivalent)
- Lifepak 15 monitor/defibrillator/ETCO2/pads (or private provider equivalent)
- Bag Valve Mask
- Advanced airway equipment (supraglottic airway or endotracheal tube)
- IV/IO equipment
- ACLS drugs

PROCEDURE

1. Begin and continue resuscitation where the patient is encountered. **DO NOT MOVE THE PATIENT.** Call for an assist company (or as per private provider protocol). Patients should only be moved for scene safety concerns, not for provider convenience. Any delay in initiation of resuscitation will decrease the chance of survival.
2. Initiate high quality uninterrupted chest compressions. Harder-deeper-faster with rate 100-120 per minute (use metronome when available). Use alternate providers to avoid fatigue. Chest compressions should only be interrupted to analyze rhythm and deliver defibrillation (< 10 seconds).
3. Attach cardiac monitor and assess rhythm. Defibrillate if ventricular fibrillation or pulseless ventricular tachycardia (or if AED advises). May initiate care with Lifepak 1000, however, upgrade to Lifepak 15 as soon as manpower allows.



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4. Basic airway management with bag valve mask ventilation. Apply End Tidal CO₂ to BVM. Monitor ETCO₂ to assess quality of CPR. Goal ETCO₂: > 10. If < 10 improve quality of chest compressions or switch compressors. Deliver 1 breath every 6 seconds (10 breaths per minute).
5. Continue **2 minute** cycles of CPR and defibrillation until assist company arrives. Do not attempt IV/IO access or advanced airway management until at least three providers are on scene.
6. Code commander delegates tasks when assist company arrives.
7. IV/IO access and administration of drugs as per Ventricular Fibrillation / Pulseless Ventricular Tachycardia and Pulseless Electrical Activity / Asystole protocols. The proximal tibia is the preferred site for IO access during cardiac arrest resuscitation.
8. Place supraglottic airway (preferred advanced airway for patients in cardiac arrest). Endotracheal intubation may be performed as backup airway if unable to ventilate/oxygenate with supraglottic airway. Do not interrupt compressions during placement of an advanced airway. Deliver 1 breath every 6 seconds (10 breaths per minute).
9. Apply End Tidal CO₂. Monitor waveform and number to assess:
 - a. Correct advanced airway position and ventilation;
 - b. Quality of CPR;
 - c. Return of spontaneous circulation (ROSC).
10. Contact online medical control from the scene (before moving the patient) to discuss the following options:
 - a. Continue field resuscitation for a defined period/task achievement and re-contact medical control;
 - b. Transport patient with return of spontaneous circulation (ROSC) to closest STEMI center (see Adult Post Cardiac Arrest Care & Therapeutic Hypothermia protocol);
 - c. Transport patient with ongoing resuscitation to closest STEMI center; or
 - d. Terminate resuscitative efforts.

ALL PATIENTS WITH ROSC OR ONGOING RESUSCITATION MUST BE TRANSPORTED TO A STEMI CENTER.

MANDATORY DOCUMENTATION

1. “Cardiac Arrest” should be listed for paramedic impression for all non-traumatic cardiac arrest victims. Do not use “rule out” for any cardiac arrest impression.
2. All information from the first company on scene should be relayed to the transporting paramedics and included in both patient care records.
3. All mandatory cardiac arrest questions in the ePCR should be completed before record is closed.
4. End-Tidal CO₂ number and waveform should be documented in the patient care record.
5. Lifepak 15 “Report>All” should be uploaded to CodeSTAT.



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ICCA ROLES AND RESPONSIBILITIES

Cardiac arrest is a shared ALS and BLS response. Successful resuscitation requires a coordinated effort. Upon arrival, resuscitation roles should be clearly delegated by the highest ranking medical member on scene, so that primary **code tasks** are carried out quickly and efficiently.

1. Code Commander

- Highest ranking medical member on scene
- Oversees all operations
- Responsible for timing of CPR cycles and defibrillation
- Requests additional manpower/resources
- Completes and/or delegates **code tasks**

2. Compressor-1

- Performs high quality uninterrupted chest compressions
- Assume compressor 2's role when relieved

3. Compressor-2

- Monitor's the effectiveness of compressor 1's compressions (monitors ETCO2 for compression quality feedback)
- Assists with seal during bag valve mask ventilation
- Relieves compressor 1 after 2 minutes or when compression quality decreases

4. Procedures

- Apply cardiac monitor/analyze rhythm
- Defibrillate
- Gain IV/IO access
- Administer medications as per Ventricular Fibrillation / Pulseless Ventricular Tachycardia and Pulseless Electrical Activity / Asystole protocols
- Basic and advanced airway management
- Apply and monitor End Tidal CO2

5. Logistics

- Oversee distribution of equipment
- Set up IV/IO equipment
- Assemble medications/assist with drug delivery
- Facilitates communication with online medical control
- Prepares for transport
- Relief for other tasks

6. Liaison/Safety

- Control the scene and provide for the safety of the resuscitation team



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- Data collection/documentation: Patient demographics, medications, medical history, events
- Communicates and assists with family/bystanders