

**PEORIA AREA EMS SYSTEM  
PREHOSPITAL CARE MANUAL**

**Cardiac Arrest  
Protocol**

The successful resuscitation of patients in cardiac arrest is dependent on a systematic approach of initiating life-saving CPR and early defibrillation and transferring care to advanced life support providers in a timely manner. The majority of adults who survive non-traumatic cardiac arrest are resuscitated from ventricular fibrillation with defibrillation. The primary factor for successful defibrillation and resuscitation is decreasing the time interval from onset of cardiac arrest to effective CPR, defibrillation and advanced life support.

**First Responder Care**

First Responder Care should be focused on confirming that the patient is in full arrest and in need of CPR. Resuscitative efforts should be initiated by opening the airway and initiating ventilations & chest compressions while attaching a defibrillator. It is important to assure that CPR is being performed correctly following AHA guidelines.

1. Determine unresponsiveness. Confirm that a transporting unit (and ALS intercept) has been activated.
2. Maintain patent airway and assess breathing. If the patient is not breathing, give two (2) rescue breaths with a barrier device.
3. Check for pulse (10 seconds). If pulseless, **begin CPR**. The patient should be ventilated at 12 breaths/min using **oxygen at 15 L/min via BVM**.
4. Apply an AED **after 2 minutes of CPR** to determine if defibrillation is needed.
5. Continue CPR until the AED is attached and turned on. Stop CPR when the AED is analyzing:
  - a) If the AED indicates “SHOCK ADVISED”, call out “**CLEAR!**” check for the safety of others, and push the SHOCK button (or stand clear if the AED device does not require shock activation).
  - b) Immediately **resume CPR for 2 minutes**.
  - c) Reassess the patient and allow the AED to analyze.
  - d) If the AED indicates “SHOCK ADVISED”, call out “**CLEAR!**” check for the safety of others, and push the SHOCK button (or stand clear if the AED device does not require shock activation).
  - e) Check for a pulse if the AED states “NO SHOCK ADVISED”.
  - f) **Continue CPR if pulse is absent**.
  - g) **Reassess every 2 minutes**. Shock if indicated.
  - h) If the patient regains a pulse at any time during resuscitation, then maintain the airway and assist ventilations.
  - i) Re-analyze the patient’s rhythm with the AED if the patient returns to a pulseless state. Shock if indicated.

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**First Responder Care (continued)**

6. Immediately turn patient care over to the transporting provider or ALS intercept crew upon their arrival.
7. Complete all necessary cardiac arrest documentation.

**BLS Care**

BLS Care should focus on maintaining the continuity of care by confirming the patient is in cardiac arrest and continuing resuscitative efforts initiated by the First Responders. Transporting BLS units should initiate an ALS intercept as soon as possible.

1. BLS care includes all of the components of First Responder Care.
2. Shocks delivered to the patient prior to the transporting unit arriving on scene should be taken into consideration during the transition of care. Transporting crews may want to utilize the AED used by the non-transporting First Responders if circumstances allow for exchange of equipment or personnel ride-along.
3. **Place Combitube (if possible) and continue ventilations.**
4. Call for ALS intercept and initiate transport as soon as possible.
5. Contact the receiving hospital as soon as possible.

**ILS Care**

ILS Care should focus on maintaining the continuity of care by confirming that the patient is in cardiac arrest and beginning resuscitative efforts or continuing resuscitative efforts initiated by the First Responders.

1. Determine unresponsiveness.
2. Maintain patent airway and assess breathing. If the patient is not breathing, give two (2) rescue breaths with a barrier device.
3. Check for pulse (10 seconds). If pulseless, **begin CPR and continue for 2 minutes.**
4. Apply Quick-Combo pads (or Fast Patches).
5. Evaluate the rhythm.

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**ILS Care (continued)**

6. If V-fib or pulseless V-tach, immediately **defibrillate per manufacturer's recommendations for biphasic monitors (or 360J for monophasic defibrillators).**
7. **Immediately resume CPR for 2 minutes.**
8. Evaluate the patient/rhythm and defibrillate if needed. **Continue CPR and re-evaluate patient/rhythm every 2 minutes.**
7. **Intubate** the patient and provide ventilation at 12 breaths/minute.
8. If intubation is unsuccessful, **place Combitube (if possible) and continue ventilations.**
9. Obtain **peripheral IV** access.
10. Identify and treat cardiac dysrhythmias according to the appropriate protocol.

**ALS Care**

ALS Care should focus on maintaining the continuity of care by confirming that the patient is in cardiac arrest and beginning resuscitative efforts or continuing resuscitative efforts initiated by the First Responders.

1. Determine unresponsiveness.
2. Maintain patent airway and assess breathing. If the patient is not breathing, give two (2) rescue breaths with a barrier device.
3. Check for pulse (10 seconds). If pulseless, **begin CPR and continue for 2 minutes.**
4. Apply Quick-Combo pads (or Fast Patches).
5. Evaluate the rhythm.
6. If V-fib or pulseless V-tach, immediately **defibrillate per manufacturer's recommendations for biphasic monitors (or 360J for monophasic defibrillators).**
7. **Immediately resume CPR for 2 minutes.**
8. Evaluate the patient/rhythm and defibrillate if needed. **Continue CPR and re-evaluate patient/rhythm every 2 minutes.**
9. **Intubate** the patient and provide ventilation at 12 breaths/minute.
10. If intubation is unsuccessful, **place Combitube (if possible) and continue ventilations.**
11. Obtain **peripheral IV or IO** access.
12. Identify and treat cardiac dysrhythmias according to the appropriate protocol.
13. Place **OG tube** if time permits to relieve gastric distention (**if patient is intubated**).

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**Critical Thinking Elements**

- **If the cardiac arrest is witnessed by EMS personnel, start CPR and defibrillate immediately after Fast Patches or Quick Combos are placed.**
- Do not remove a Combitube placed by BLS unless absolutely necessary (*e.g.* ILS needs to intubate for drug administration when peripheral IV access cannot be obtained; Combitube not ventilating correctly or there is a definite need for a more definitive airway).
- Do not touch, ventilate or move the patient while the AED is analyzing.
- Do not exceed three (3) shocks on scene without contacting Medical Control.
- The “Check Patient” voice prompt should be ignored while performing CPR.
- Patients with implanted pacemakers or implanted defibrillators (AICDs) are treated the same way as any other patient.
- Do not place the electrodes, Quick Combo pads or Fast Patches over the top of the pacemaker or AICD site.
- Treat the patient – not the monitor. A rhythm present on the monitor screen should NOT be used to determine pulse. If the monitor shows a rhythm and the patient has no pulse, begin CPR (the patient is in PEA – *pulseless electrical activity*).
- Trauma patients in cardiac arrest should be evaluated for viability. If the patient is to be resuscitated, begin CPR and LOAD & GO.
- When changing to ALS monitoring equipment, attach defibrillation cables prior to disconnecting the AED.
- The prehospital goal of resuscitating cardiac arrest is to return the patient to a perfusing rhythm and providing stabilizing treatment en route. Once first line electrical and pharmacological treatments are attempted, the patient should be transported without delay to the closest appropriate hospital.
- Resuscitation and treatment decisions are based on the duration of the arrest, physical exam and the patient’s medical history. Consider cease-effort orders if indicated.
- Consider underlying etiologies and treat according to appropriate protocols (*e.g.* airway obstruction, metabolic shock, hypovolemia, central nervous system injury, respiratory failure, anaphylaxis, drowning, overdose, poisoning, etc.).
- A 20mL bolus should follow each drug administration to flush the IV line.