



CARDIOPULMONARY ARREST – ADULT / ADOLESCENT NON-TRAUMATIC

**Ventricular fibrillation (VF)
OR
Pulseless Wide Complex Tachycardia (VT)**

1. Initiate an organized CPR management approach with responders placed in designated positions around the patient and continue high quality CPR without interruption of continuous compressions unless pulse obtained during any step below:
 - a. If cardiopulmonary arrest was witnessed by bystanders or EMS personnel, consider passive ventilation procedure (OCEMS PR-025) for a total of 6 minutes. Otherwise use BVM/ETCO₂ sensor for initial ventilation or other non-endotracheal airway unless endotracheal tube is clearly indicated (example: laryngeal edema from smoke inhalation)
 - b. If possible at scene, elevate patient head to 30 degrees semi-fowlers position
 - c. Continue chest compressions for a total of 200 compressions (approximately 2 minutes), then reassess
 2. After 2 minutes of high quality CPR, identify rhythm
 - a. If rhythm is coarse VF/pulseless Wide Complex Tachycardia and defibrillator is available:
 - ▶ Defibrillate once at maximum energy setting or pre-programmed/manufacturer's recommended defibrillator setting
 - b. If rhythm is fine ventricular fibrillation, continue compressions for 2 minutes then reassess
- ▼
3. If a rhythm with pulse develops at any time (return of spontaneous circulation [ROSC]):
 - a. Ventilate and oxygenate (BVM or high flow oxygen as appropriate)
 - b. Assess for and correct hypoxia, hypovolemia, hypoglycemia, or hypothermia
 - c. Perform 12-lead ECG, if possible. If STEMI is identified, transmit to Base Hospital and/or CVRC
 - d. Make Base contact for CVRC destination
 - e. If respiratory depression or not breathing, consider *Advanced Airway and confirm tube placement*
- ▼
4. If remains pulseless:
 - a. Continue high quality CPR without interruption of continuous compressions, with personnel rotation every 2 minutes and provide
 - ▶ *High-flow oxygen by either BVM with ETCO₂ sensor or passive ventilation*
 - b. IV/IO vascular access after initial 2 minutes of high quality CPR without interruption of compressions
 - c. Apply Automatic Chest Compression Device (ACCD) when available
 - d. Providers can consider transport to nearest ERC any time after placement of ACCD
- ▼
5. Monitor cardiac rhythm:
 - a. If coarse VF or pulseless Wide Complex Tachycardia
 - ▶ Defibrillate once at maximum energy setting or pre-programmed/manufacturer's recommended defibrillator setting
 - b. If rhythm is identified as fine ventricular fibrillation, continue compressions for 2 minutes then reassess. If fine V-fib persists, then treat as PEA/asystole
 - c. If PEA or asystole: refer to PEA/Asystole treatment sequence
- ▼
6. For continued VF/ pulseless Wide Complex Tachycardia or if reverts back to VF/ pulseless Wide Complex Tachycardia:
 - a. Maintain high quality CPR without interruption of continuous compressions
 - b. Administer *Epinephrine 1 mg IV/IO (0.1 mg/ml preparation)*, repeat approximately every 3-5 minutes for continued VF/pulseless Wide Complex Tachycardia
- ▼
7. For continued coarse VF/pulseless Wide Complex Tachycardia:
 - a. Maintain high quality CPR without interruption of continuous compressions
 - b. Defibrillate once at maximum energy setting or pre-programmed/manufacturer's recommended defibrillator setting
- ▼
8. For continued coarse VF/pulseless Wide Complex Tachycardia:
 - a. Maintain high quality CPR without interruption of continuous compressions
 - b. Administer *Amiodarone 300 mg IV/IO, may repeat 150 mg IV/IO in approximately 3-5 minutes or Lidocaine 1-1.5 mg/kg IV/IO, may repeat 0.5-0.75 mg/kg in approximately 3-5 minutes*
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9. After approximately 2 minutes of high quality CPR, if there is continued coarse VF/pulseless Wide Complex Tachycardia:
 - a. Defibrillate once at maximum energy setting or pre-programmed/manufacturer's recommended defibrillator setting

Approved:

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10. For continued VF/ pulseless Wide Complex Tachycardia:
- a. Maintain high quality CPR without interruption of continuous compressions
 - b. After 10 minutes of initial cardiopulmonary arrest management, or immediately after ROSC is achieved and an advanced airway is indicated, consider placement of an *endotracheal tube* (if other ALS airways have not been utilized). Confirm tube placement without interruption of continuous compressions, maintaining high quality CPR
 - c. After 10 minutes of initial cardiopulmonary arrest management, administer either:
Sodium Bicarbonate 50 mL of 7.5% solution IV/IO or Sodium Bicarbonate 50 mL of 8.4% solution IV/IO
11. After 20 minutes of management on scene without ROSC, consider one of the following actions. After 30 minutes on scene without ROSC, select option b or c
- a. Remain on scene and continue with treatment
 - b. Initiate transport to nearest ERC
 - c. Make Base contact for further resuscitation orders or request pronouncement of patient in the field

**Pulseless Electrical Activity (PEA)
OR
Asystole**

1. Initiate an organized CPR management approach with responders placed in designated positions around the patient and continue high quality CPR without interruption of continuous compressions unless pulses obtained during any step below:
- a. If cardiopulmonary arrest was witnessed by bystanders or EMS personnel, consider passive ventilation procedure (OCEMS PR-025) for a total of 3 cycles. Otherwise use BVM/ETCO₂ sensor for initial ventilation or other non-endotracheal airway unless endotracheal tube is clearly indicated (example: laryngeal edema from smoke inhalation).
 - b. Continue chest compressions for a total of 200 compressions (approximately 2 minutes), then reassess
 - c. If possible at scene, elevate patient head to 30 degrees semi-fowlers position
2. For **PEA** and **Asystole**, continually monitor cardiac rhythm, give oxygen, and maintain high quality chest compressions without interruption of continuous compressions and
- a. *Establish IV/IO access*
 - b. *Administer Epinephrine 1 mg IV/IO (0.1 mg/mL preparation) approximately every 3-5 minutes*
3. If remains pulseless in PEA or in asystole:
- a. Apply Automatic Chest Compression Device when available
 - b. Assess for reversible causes:
Hypovolemia; Acidosis; Hypoxia; Tension pneumothorax; Hypothermia; Toxins
 - c. *Give 250 mL normal saline bolus*
 - d. If pulses obtained, continue saline infusion up to 1 liter (auscultate lungs and stop saline if rales develop); transport to CVRC per Base Contact
 - e. Providers can consider transport to nearest ERC any time after placement of ACCD
4. If coarse VF/pulseless Wide Complex Tachycardia develops:
- a. Defibrillate once at maximum energy setting or pre-programmed/manufacturer's recommended defibrillator setting and follow VF/pulseless Wide Complex Tachycardia algorithm
 - b. If rhythm is identified as fine ventricular fibrillation, continue compressions for 2 minutes then reassess. If fine V-fib persists, then treat as PEA/asystole
5. If a rhythm with pulse develops (return of spontaneous circulation [ROSC]):
- a. Ventilate and oxygenate
 - b. Assess for and correct hypoxia, hypovolemia, or hypothermia
 - c. Perform 12 lead ECG if possible. If STEMI is identified, transmit to Base Hospital and/or CVRC
 - d. Make Base contact for CVRC destination

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