

## Cardiac – Ventricular Fibrillation (VF)/Pulseless Ventricular Tachycardia (pVT)

### Patient Assessment

Signs and Symptoms	Differential Diagnosis	Pediatric Considerations
<ul style="list-style-type: none"> <li>• Unresponsive</li> <li>• Pulseless</li> <li>• Apneic or agonal respirations</li> <li>• Obvious death</li> </ul>	<ul style="list-style-type: none"> <li>• Pulmonary embolism</li> <li>• Acute myocardial infarction</li> <li>• Respiratory failure</li> <li>• Foreign body airway obstruction</li> <li>• Hyperkalemia</li> <li>• Hypothermia</li> <li>• Infection (Croup, epiglottitis)</li> <li>• Hypovolemia</li> <li>• Trauma</li> <li>• Tension pneumothorax</li> <li>• Toxins or Overdose</li> <li>• Hypoglycemia</li> </ul>	<ul style="list-style-type: none"> <li>• Use the pedi-tape/Broselow or HandTevy for medication dosing</li> <li>• Consider hypoxia and pulmonary disease as causal factor</li> </ul>

### Treatment Guidelines

EMR	EMT	AEMT	MEDIC	LEAD	OMCP	
						<ul style="list-style-type: none"> <li>• Assess for unresponsiveness, inadequate breathing, and pulselessness</li> <li>• Assess for <a href="#">obvious death criteria</a></li> <li>• Request ALS unit</li> <li>• <a href="#">Pit Crew CPR</a>, if pulseless and apneic.                             <ul style="list-style-type: none"> <li>• <a href="#">Mechanical CPR</a> is permitted, but not required, after a minimum of 3 cycles of manual compressions</li> </ul> </li> <li>• Apply AED, follow prompts for defibrillation</li> <li>• <a href="#">Oxygen</a> through BVM</li> <li>• <a href="#">Basic Airway management</a>, as indicated</li> <li>• Passive Oxygenation with 25 LPM nasal cannula in addition to BVM</li> <li>• Blood Glucose Level (BGL) measurement</li> </ul>
						<ul style="list-style-type: none"> <li>• ETCO<sub>2</sub></li> <li>• Supraglottic airway</li> </ul>
						<ul style="list-style-type: none"> <li>• IV/IO Access</li> <li>• <a href="#">Isotonic Crystalloid</a>, as indicated</li> <li>• <a href="#">Epinephrine</a></li> </ul>
						<ul style="list-style-type: none"> <li>• Cardiac Monitoring</li> <li>• Manual defibrillation at maximum joules – Adult</li> <li>• <b>PEDIATRIC: Manual Defibrillation at 2 J/kg, repeat at 4 J/kg, then OMCP</b></li> <li>• <a href="#">Lidocaine</a></li> <li>• <a href="#">Amiodarone</a></li> </ul>
						<ul style="list-style-type: none"> <li>• If a <a href="#">reversible cause</a> is identified, immediately attempt to reverse that cause</li> <li>• <a href="#">Magnesium Sulfate</a>, if polymorphic ventricular tachycardia or Torsades de Pointes</li> <li>• Dual Sequential Defibrillation, if refractory to standard manual defibrillation – ADULT ONLY                             <ul style="list-style-type: none"> <li>• If refractory to 3 standard pad placement (Anterior/Anterolateral) attempts AND</li> <li>• If refractory to at least 1 anterior/posterior pad placement attempt</li> </ul> </li> <li>• <a href="#">Advanced airway management</a>/endotracheal intubation is <i>not required</i> unless return of spontaneous circulation (ROSC) is achieved, the patient can't be ventilated adequately without an advanced airway, or if there is concern for airway compromise                             <ul style="list-style-type: none"> <li>• If a supraglottic airway is placed during CPR and the patient is ventilating and oxygenating appropriately, the supraglottic airway should remain in place</li> </ul> </li> <li>• Needle decompression for asthmatic patients in arrest</li> <li>• If <a href="#">ROSC</a> is achieved, perform <a href="#">post-resuscitative checklist</a> prior to transport</li> </ul>
						<ul style="list-style-type: none"> <li>• No required consults, Consult Online Medical Control <b>OMCP</b>, as necessary</li> </ul>

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### Clinical Pearls

- Do not allow the patient to become hyperthermic. If the patient begins to shiver give the patient a benzodiazepine. **OMCP**
- These patients shall only be transported to a facility capable of managing post-arrest patients.
- Effective CPR includes: 1. Pushing hard and pushing fast, 2. Ensuring full chest recoil, 3. Minimize interruptions in CPR
- End-Tidal CO2 monitoring should be applied as soon as possible.
- If CPR has been started on scene but the patient is showing “obvious signs of death”, a lead medic may make the determination to terminate resuscitation prior to the standard 30 minutes. This does not require **OMCP** with [obvious signs of death](#), but the lead medic may consult **OMCP** if they wish.
- **Practitioners should not “load and go” immediately upon ROSC. Instead, focus should be on stabilization of the patient and ensuring the airway is secured. However, once the patient has been stabilized and the airway is secured, there should be some urgency in getting the patient loaded for transport to definitive care.**
  - The exception to this rule is a female 20 weeks or more gestation. The patient should be loaded into the ambulance and taken directly to the ED while performing CPR. The possibility of a resuscitative hysterotomy outweighs the benefits of working the cardiac arrest on scene.
- Before transport, apply mechanical CPR device, if available, and not already in place.