Contra Costa County Emergency Medical Services

V-Fib/Pulseless V-Tach

History
- Events leading to arrest
- Estimated downtime
- Prior resuscitation attempts
- Past medical history
- Medications
- Known terminal illness

Signs and Symptoms
- Pulseless
- Apneic

Differential
- Medical vs. trauma
- VF vs. pulseless VT
- Asystole
- PEA
- Primary cardiac event vs. respiratory arrest or drug overdose
- Consider reversible causes

Enter from Cardiac Arrest TG

Follow FP09 Cardiac Arrest Management

P
- Defibrillation 360J
- **Resume high quality chest compressions**
  Change compressors every 2 minutes
  (Limit changes/pulses checks < 5 seconds)
- Establish IV/IO

Suspect Hyperkalemia? — Yes →

P
- **Calcium Chloride 1 gm over 2-3 minutes**
  20ml flush IV/IO prior to pushing next med
- **Sodium Bicarbonate 50 mEq IV/IO**
  20ml flush IV/IO prior to pushing next med

No

Reversible Causes

Hypovolemia
Hypoxia
Hydrogen ion (acidosis)
Hypothermia
Hypo/Hyperkalemia
Hypoglycemia
Tension pneumothorax
Tamponade (cardiac)
Toxins
Thrombosis (pulmonary)(PE)
Thrombosis (coronary)(MI)

P
- Defibrillation 360J, if indicated
- **Resume high quality chest compressions**
  Change compressors every 2 minutes
  (Limit changes/pulses checks < 5 seconds)
- **Epinephrine (0.1 mg/ml) 1 mg IV/IO every 4 minutes**

P
- Defibrillation 360J, if indicated
- **Resume high quality chest compressions**
  Change compressors every 2 minutes
  (Limit changes/pulses checks < 5 seconds)
- **Amiodarone 300 mg IV/IO**
  May repeat **150mg** if rhythm persists

Non-shockable Rhythm? — Yes → Exit to Asystole/PEA TG

Witnessed arrest with suspicion of pulmonary embolism? VF arrest resistant to four (4) shocks (refractory VF)? — Yes → **Transport to STEMI Receiving Center**

ROSC? — Yes → Exit to Post Resuscitation TG

No

P
- *Consider Discontinue Resuscitation*
- *Follow Policy 1004.V.A.5 Termination of Resuscitation*

Notify receiving facility. Contact Base Hospital for medical direction, as needed.

Adult Cardiac Treatment Guidelines

V-Fib/Pulseless V-Tach

- Passive ventilation for the first three cycles (6 minutes) of CPR. After that time, the patient should be ventilated using a BLS airway and BVM at a rate of 6 ventilation/minute (1:10 seconds) with continuous CPR.
- Placement of an advanced airway is recommended in patients who achieve ROSC or when the provider is unable to ventilate the patient with a BLS airway and BVM.
- Use a metronome during chest compressions to ensure proper rate unless a mechanical CPR device is deployed.
- Reassess and document advanced airway placement and $EtCO_2$ frequently, after every move, and at transfer of care.

Pearls

- Maternal arrest: Treat mother per appropriate TG with immediate notification to the Base Hospital along with rapid transport. Place pillows or padding underneath mother to displace fetus from inferior vena cava as to ensure continued fetal blood circulation; left lateral position. IV/IO access should be preferably placed above the diaphragm. Defibrillation is safe at all energy levels.
- Per AHA 2020 guidelines, “It is reasonable for providers to first attempt establishing IV access for drug administration in Cardiac Arrest. IO access may be considered if attempts at IV access are unsuccessful or not feasible.”
- Efforts should be directed at high quality and continuous chest compressions with limited interruptions and early defibrillation when indicated.
- The AutoPulse device is limited to 80 compressions/minute, which is acceptable when using this device during cardiac arrest.