V-Fib/Pulseless V-Tach

Cardiac Arrest

CRITERIA

- Patient unresponsive, without pulse or respiration, and/or showing VF or pulseless VT on monitor or AED advising shock.
- Patients with rigor mortis, lividity, decomposition or injuries inconsistent with survival (e.g., decapitation) are excluded.
- Determine DNR status.

PROTOCOL

EMR	Follow *General – Universal Patient Care/Initial Patient Contact protocol.*	**EMR**
EMR	Follow American Heart Association (AHA) Guidelines for CPR.	**EMR**
I	• If VF or VT present, defibrillate once at: *Biphasic: 200 joules* or manufacturer's recommendation; *Monophasic: 360 joules.* • Perform 2 minutes of CPR after first defibrillation. If rhythm remains shockable, defibrillate again, then consider medication therapy as listed below. • Second and subsequent defibrillations should be equivalent or higher doses, based on manufacturer guidelines for your defibrillator device, as long as the rhythm remains shockable. • Every 2 minutes, evaluate the rhythm and the patient and, if indicated, perform subsequent defibrillations adhering to AHA CPR Guidelines throughout care.	**I**
I	Administer one dose of ***Epinephrine 1:10,000 1 mg IV/IO***. Epinephrine should be administered every 3 - 5 minutes during cardiac arrest.	**I**
I	• Administer antidysrhythmic ***Amiodarone (Cordarone) 300 mg IV/IO***, mixed in ***0.9% Normal Saline 20 mL.*** • If Amiodarone is not available ***Lidocaine 1mg/kg IV/IO (maximum dose of Lidocaine is 3mg/kg).*** • Begin preparations for transport.	**I**
I	For arrest in **Renal Dialysis patients only** administer the above medications along with the following medications: ***Calcium Chloride 1 g IV/IO push*** followed by ***0.9% Normal Saline 40 mL flush*** followed by ***Sodium Bicarbonate 1 mEq/kg IV/IO*** and repeat in 10 minutes if no change and medications are available.	**I**
I	Consider ***Magnesium Sulfate 2 g IV/IO mixed in 0.9% Normal Saline 10 mL over 5 minutes.***	**I**
I	Repeat antidysrhythmic used: ***Amiodarone (Cordarone) 150 mg IV/IO*** mixed in ***0.9% Normal Saline 10 mL*** **or** ***Lidocaine 0.5 mg/kg IV/IO (maximum dose of Lidocaine is 3mg/kg).***	**I**
EMT	Consider spinal immobilization.	**EMT**

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[I]	For Return Of Spontaneous Circulation (ROSC) consider ***Dopamine 2 - 10 mcg/kg/min IV/IO.*** or ***Epinephrine IV infusion 0.1- 0.5 mcg/kg/min IV/IO*** (***1 mg of 1:1,000 in 0.9% Normal Saline 250 mL***) titrated to Mean Arterial Pressure of 90-100 mmHg. *See Cardiac Arrest – Post Resuscitation Care protocol*.	[I]

DETERMINING MEAN ARTERIAL PRESSURE

$$MAP = \frac{2(DBP) + SBP}{3}$$

PEARLS

The American Heart Association Guidelines emphasize the importance of effective uninterrupted CPR during cardiac arrest. The following points are applicable in the shockable cardiac arrest protocol:

- Do not compromise CPR to obtain an advanced airway; consider Blind Insertion Airway Device
- Once advanced airway is obtained, perform asynchronous CPR
- Ensure full chest recoil during CPR
- Obtain IV/IO access at earliest opportunity
- Identify and treat potentially reversible causes:
  - Hypoxia
  - Hyperkalemia or hypokalemia
  - Hypothermia
  - Hypovolemia
  - Hydrogen ion (acidosis)
  - Tablets (drug overdose)
  - Tension pneumothorax
  - Tamponade (cardiac)
  - Thrombosis (cardiac, pulmonary)
  - Toxins
  - Trauma
- Following IV/IO access:
  - Medication should be given without the interruption of CPR
  - Magnesium Sulfate should be considered for but not limited to:
    - Recommended for use in cardiac arrest only if Torsades de pointes or suspected Hypomagnesia is present
    - Life-threatening ventricular arrhythmias due to digitalis toxicity
- If there is no ***Epinephrine 1:10,000 preloaded syringe***, combine in a ***10 mL syringe*: *1 mg (1 mL) of Epinephrine 1:1,000 with 9 mL 0.9% Normal Saline***. This creates the same as an ***Epinephrine 1:10,000 preloaded syringe***
- **DO NOT** place combo pads or electrodes directly on top of an Automated Internal Cardiac Defibrillator (AICD) or implanted pacemaker

Ensure high quality CPR and effective (at least 100/min) compressions.

ALS care should be obtained as rapidly as possible, but do not delay transport waiting for ALS.

ALS providers arriving on scene shall not interrupt defibrillation in progress.