

Ventricular Fibrillation or Pulseless V Tach*

Patient is unresponsive, pulseless, not breathing. Alert emergency response.

ABC's: Open airway. Give 2 breaths. If possible, use bag-mask, give O₂

CPR: **Push hard, push fast.** You can produce SBP of 60 - 80 mm Hg, with a cardiac output of 25 - 33 % of normal.
1 or 2 rescuers: 30 compressions, pause for 2 breaths, Perform cycles of 5. (5 cycles last about 2 mins). Every 2 mins (during rhythm ✓), 2 rescuers should take less than 5 seconds to trade roles.
Artificial airway and 2 rescuers: 100 compressions/minute without pauses, 1 breath every 6-8 seconds (8-10 breaths/min.) not timed to compressions.
 Good compressions increase likelihood shock will be successful.

Rhythm ✓: Do not interrupt CPR while defibrillator/monitor setup occurs. Take < 10 seconds to check rhythm and pulse. Rhythm identified as VF/Pulseless VT.

Shock x 1: If Manual biphasic: 120 - 200 joules, depending on the device
 If AED: Device specific
 If Monophasic: 360 joules

CPR : Immediately resume CPR (even if cardioversion is successful, a period of asystole, bradycardia, PEA, or poor perfusion usually follow). Minimize interruptions in CPR.

Rhythm ✓: Rhythm identified as VF/Pulseless VT.

Shock x 1: If Manual biphasic: Same joules as first shock or higher
 If AED: Device specific
 If Monophasic: 360 joules

CPR: Immediately resume CPR. Minimize interruptions.

Pressor Follow IV bolus injections with 20 mL flush.

Meds: If given peripheral IV, elevate extremity for 10-20 seconds. If IV/IO unavailable, ETT dose is 2-2.5 times the IV/IO dose.
Epinephrine: 1 mg IV/IO. May repeat q 3 - 5 minutes. (or 2-2.5 mg in 5-10 mL NS per ETT if no IV/IO).
or Vasopressin: 1 dose of 40 units IV/IO to replace the first or second dose of Epinephrine.

Repeat Sequence: CPR x 5 cycles with meds, Rhythm ✓, Shock x 1.

Anti-arrhythmia Meds: **Amiodarone:** 300 mg IV/IO; may give 2nd dose of 150 mg. May follow with infusion given 1 mg/min. (maximum total of 2.2 g over 24 hours).

or Lidocaine: 1 - 1.5 mg/kg IV/IO (if no IV/IO access, 2 - 4 mg/kg per ETT). May give additional 0.5 - 0.75 mg/kg IV push q 5 - 10 mins to a maximum total of 3 mg/kg. May follow with infusion of 1 - 4 mg/min.

or Magnesium: 1 - 2 g IV/IO if torsades de pointes, given in 10 mL D₅W over 5-20 minutes.

✓ for causes: Recall H's and T's as possible causes of arrest.**

** Possible causes:	Hypovolemia	Toxins
	Hypoxia	Tamponade, cardiac
	Hydrogen ion (acidosis)	Tension pneumothorax
	Hypo/hyperkalemia	Thrombosis (coronary or pulmonary)
	Hypothermia	Trauma (hypovolemia, increased ICP)
	Hypoglycemia	

* These guidelines are summaries only. The clinician is advised to read and study the complete algorithms and explanations, in the American Heart Association. 2005 Guidelines for CPR and ECC. *Circulation*,2005;112(24) and American Heart Association, *Handbook of Emergency Cardiovascular Care*,2006