Section: Adult Medical
Subject: CARDIAC ARREST ALGORITHM – VENTRICULAR FIBRILLATION/PULSELESS V-TACH
Section #: 340.09
Issue Date: March 21, 2011
Revision Date: December 1, 2017
Approved By: Michael Lozano, Jr., M.D., HCFR Medical Director

1. General Cardiac Arrest Algorithm

2. Specific ALS Treatment

3. Defibrillation:
    a. Initial energy is 200 Joules
    b. Upon recognition of VF/pVT, the goal is to defibrillate in <60 seconds

4. Treatment Sequence:
    a. A circular algorithm will be followed:
        i. Defibrillate, then
        ii. CPR for two minutes, then
        iii. Medications, then
        iv. Pulse check, then repeat
    b. Defibrillation
        i. 200 j, 300 j, and then 360 j after medication cycle
    c. Medications:
        i. Epinephrine 1.0 mg (1:10,000) IV/IO q 3-5 min
        ii. Amiodarone
            1. First dose 300 mg bolus IV/IO over 1 minute
            2. Second dose: 150 mg IV/IO over 1 minute
            3. If cardioversion is successful, begin an infusion at 1.0 mg/min with adequate signs of perfusion
            4. For recurrent VF/VT while on the drip, administer an additional 150 mg IV/IO, and restart the protocol
        iii. For *Torsades de Pointes* magnesium sulfate 2.0 grams IV/IO as a bolus.
            1. IV drip of 1.0 mg/min if successful conversion
        iv. Lidocaine:
            1. 1.0 mg/kg IV/IO loading dose
            2. If cardioversion is successful, begin an infusion at 2.0 mg/min IV/IO and repeat the bolus if the infusion is started more than 15 minutes after the initial bolus.
            3. If the patient is in CHF, renal failure, or liver failure, the dose of the infusion is halved to 1 mg/min IV/IO.

5. Return of Spontaneous Circulation (ROSC)
    a. Continue to HCFR ROSC protocol
    b. Treat lethal arrhythmias appropriately (remember a resuscitated patient will still be affected by prior drug therapy)

6. QA Points:
    a. Pauses in compressions must be as short as possible.
    b. When an automated CPR device is in use:
        i. There is no pause in compressions to deliver a shock
        ii. All efforts should be made to deliver a shock on the “down stroke” while the thorax is at maximum compression.

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c. Given that maintaining continuous compressions is of paramount importance, the initial capture of the airway will be with a supra-glottic airway device.
    i. If there is return of spontaneous circulation (ROSC), the airway may be converted to an ETT by an approved method at the discretion of the paramedic in charge.
d. Amiodarone has a very long half-life, therefore stabilize the vital signs prior to initiating an amiodarone drip.