



MIAMI TOWNSHIP FIRE & EMS CLERMONT COUNTY, OHIO *CARDIAC ARRHYTHMIA PROTOCOLS*



VENTRICULAR FIBRILLATION AND VENTRICULAR TACHYCARDIA WITHOUT PULSE

Historical Findings

1. Age > 14.
2. Patient is unconscious.

Physical Findings

1. Patient is unresponsive.
2. Patient is without a pulse.

EKG Findings

1. Ventricular fibrillation **OR** Ventricular tachycardia.

Protocol

1. Initiate CPR immediately while the defibrillator is being attached.
 - A. Do not interrupt CPR to attach the defibrillator.
 - B. Attach **ResQpod** to the BVM and ventilate 8 to 10 breaths per minute.
2. If rhythm is ventricular fibrillation or ventricular tachycardia:
 - A. Continue CPR while the defibrillator is charging.
 - B. Defibrillate **ONCE** at 360 joules monophasic **OR** 200 joules biphasic.
3. Resume CPR immediately following the defibrillation and continue for 2 minutes before rhythm check.
4. Initiate the following interventions simultaneously while CPR is being performed:
 - A. Intubate the patient, confirm placement and secure tube.
 - i. Remove clear tab on **ResQpod** and turn on ventilation timing assist lights.
 - ii. Ventilations should be delivered asynchronous to chest compressions utilizing timing assist lights on **ResQpod**.



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- B. Initiate IV access with 0.9% normal saline KVO.
 - i. If IV access is unsuccessful obtain IO access.
5. Administer vasopressin 40 units IV/IO **OR** epinephrine 2 mg 1:1000 diluted with 10 cc of normal saline via the endotracheal route if IV/IO access is unavailable.
6. If rhythm is ventricular fibrillation or ventricular tachycardia:
 - A. Defibrillate ONCE at 360 joules monophasic **OR** 200 joules biphasic.
7. Resume CPR immediately following the defibrillation and continue for 2 minutes before rhythm check.
8. Administer amiodarone (cordarone) 300 mg IV/IO **OR** lidocaine 2 mg/kg via the endotracheal route if IV/IO access is unavailable.
 - A. May repeat amiodarone 150 mg IV in 5 minutes x1 if rhythm unchanged.
 - B. If patient has a known allergy to amiodarone (cordarone), administer lidocaine 1 mg/kg IV repeated to a max dose of 3 mg/kg IV, instead of amiodarone (cordarone).
9. If rhythm is ventricular fibrillation or ventricular tachycardia:
 - A. Defibrillate ONCE at 360 joules monophasic **OR** 200 joules biphasic.
10. Resume CPR immediately following the defibrillation and continue for 2 minutes before rhythm check.
11. Epinephrine 1 mg IV/IO may be administered every 3-5 minutes.
 - A. If IV/IO access is unavailable epinephrine 2 mg 1:1000 diluted with 10 cc of normal saline may be administered via the endotracheal route.
12. Magnesium sulfate 2 grams IV/IO can be administered at any time for suspected hypomagnesemia or if torsades de pointe is present.
13. Sodium bicarbonate 1 mEq/kg IV/IO can be administered at any time for:
 - A. Overdose of tricyclic antidepressants.
 - B. Known or suspected hyperkalemia.
14. If patient has a return of spontaneous circulation, remove the **ResQpod**.



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15. If patient has a return of spontaneous circulation, begin an amiodarone (cordarone) drip to run at 1 mg/min.
 - A. Mix 250 mg/5 cc in a 250 cc bag of 5 % dextrose for a 1:1 concentration.
 - B. Gently mix the bag. Do not shake vigorously.
 - C. The drip rate is 60 gtt/min using microdrip tubing.
16. If patient has a return of spontaneous circulation and has a known allergy to amiodarone, lidocaine 0.5 mg/kg slow IV can be administered for ventricular ectopy not to exceed the max dose of 3 mg/kg instead of an amiodarone (cordarone) drip.
17. If patient has a return of spontaneous circulation and is hypotensive, refer to Cardiogenic Shock protocol.
18. During the course of the resuscitation search for and treat possible contributing factors:
 - A. Hypovolemia – if suspected administer 1 liter fluid bolus with 0.9% normal saline.
 - B. Hypoxia – confirm advanced airway placement and ensure oxygen delivery.
 - C. Hyperkalemia – if suspected administer sodium bicarbonate 1 mEq/kg IV/IO.
 - D. Hypoglycemia – check blood glucose and treat per Hypoglycemia protocol.
 - E. Hypothermia – if suspected obtain core rectal temperature and treat per Hypothermia protocol.
 - F. Toxins – if opiate overdose suspected administer naloxone (narcan) 2 mg IV/IO/ET.
 - G. Cardiac Tamponade – consider transport for possible pericardiocentesis.
 - H. Tension Pneumothorax – perform immediate needle decompression.