

Ventricular Fibrillation / Pulseless Ventricular Tachycardia



Cardiac Arrest Protocol AC 3

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| | <p>Begin Continuous CPR Compressions Push Hard (≥ 2 inches) Push Fast (110 compressions/min) Change Compressors every 200 compressions (Limit changes / pulse checks ≤ 10 seconds) Ventilate 1 breath every 10 seconds Monitor ETCO2</p> |
| P | <p>At compression #180 of each cycle: Charge defibrillator at 200 joules If SHOCKABLE rhythm present, deliver shock and immediately continue chest compressions If NONSHOCKABLE rhythm present, utilize DISARM soft key</p> |
| | AED Procedure <i>if available</i> |
| | Search for Reversible Causes |
| A | IV / IO Procedure |
| | Epinephrine (1:10,000) 1 mg IV / IO Repeat every 3 to 5 minutes |

| Reversible Causes |
|----------------------------|
| Hypovolemia |
| Hypoxia |
| Hydrogen ion (acidosis) |
| Hypothermia |
| Hypo / Hyperkalemia |
| Tension pneumothorax |
| Tamponade; cardiac |
| Toxins |
| Thrombosis; pulmonary (PE) |
| Thrombosis; coronary (MI) |

AT ANY TIME

Return of Spontaneous Circulation

Go to Post Resuscitation Protocol AC 9

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| | <p>Continue CPR Compressions Push Hard (≥ 2 inches) Push Fast (110 / min) Change Compressors every 200 compressions (Limit changes / pulse checks ≤ 10 seconds) Ventilate 1 breath every 10 seconds</p> <p>If Rhythm Refractory Continue CPR and give Agency specific Anti-arrhythmics and Epinephrine Continue CPR up to point where you are ready to defibrillate with device charged. Repeat pattern during resuscitation.</p> |
| P | <p>Amiodarone 300 mg IV / IO May repeat if refractory Amiodarone 150 mg IV / IO</p> <p>Refractory Consider Lidocaine 1.0 – 1.5 mg/kg IV / IO May repeat if refractory Lidocaine 0.75 mg/kg IV / IO (Maximum 3 mg/kg)</p> <p>Refractory Magnesium 2 gm IV / IO</p> |

Notify Destination or Contact Medical Control

Adult Cardiac Protocol Section

Ventricular Fibrillation / Pulseless Ventricular Tachycardia



Defibrillate at 200 joules.

MAINTENANCE DRIPS:

After AMIODARONE bolus or repeat bolus:

If rhythm converts/ROSC with HR > 60 BPM

Amiodarone 1 mg/min IV / IO Infusion

50 mg/50 ml; Use 60 gtt set, administer 60 gtt/min

After LIDOCAINE bolus or repeat bolus:

If rhythm converts/ROSC with HR > 60 BPM

Lidocaine 1 – 4 mg/min IV / IO Infusion

Remove 10ml from 50ml NS; add 200 mg Lidocaine to 40 ml NS

Use 60 gtt set:

- 1 mg/min=15 gtt/min
- 2 mg/min=30 gtt/min
- 3 mg/min=45 gtt/min
- 4 mg/min=60 gtt/min

• Pearls

- **Recommended Exam: Mental Status, neuro, heart, and lung**
- **Team Focused Approach / Pit-Crew Approach recommended; assigning responders to predetermined tasks.**
- **Refer to optional protocol or development of local agency protocol.**
- **Efforts should be directed at high quality and continuous compressions with limited interruptions and early defibrillation when indicated.**
- **Consider early IO placement if available and / or difficult IV access anticipated.**
- **DO NOT HYPERVENTILATE: Ventilate 10 breaths per minute with continuous, uninterrupted compressions.**
- **Do not interrupt compressions to place endotracheal tube. Consider BIAD first to limit interruptions.**
- **Passive oxygenation optional in agencies practicing Team Focused Approach / Pit-Crew Approach.**
- Reassess and document BIAD and / or endotracheal tube placement and EtCO₂ frequently, after every move, and at transfer of care.
- **IV / IO access and drug delivery is secondary to high-quality chest compressions and early defibrillation.**
- **Defibrillation:** Follow manufacture's recommendations concerning defibrillation / cardioversion energy when specified.
- **End Tidal CO₂ (EtCO₂)**
 - If EtCO₂ is < 10 mmHg, improve chest compressions.
 - If EtCO₂ spikes, typically > 40 mmHg, consider Return of Spontaneous Circulation (ROSC)
- **Avoid Procainamide in CHF or prolonged QT.**
- **Magnesium Sulfate is not routinely recommended during cardiac arrest, but may help with Torsades de points, Low Magnesium States (Malnourished / alcoholic), and Suspected Digitalis Toxicity**
- If no IV / IO, with drugs that can be given down ET tube, double dose and then flushed with 5 ml of Normal Saline followed by 5 quick ventilations. IV / IO is the preferred route when available.
- Return of spontaneous circulation: Heart rate should be > 60 when initiating anti-arrhythmic infusions.