



Minutes 1-8

B	Initiate chest compressions at rate of 100-120 bpm 15 LPM NRB mask & NPA/OPA
	If unwitnessed arrest or respiratory/hypoxia/pediatric/trauma <b>IMMEDIATELY</b> begin airway management and positive pressure ventilation at a rate of 10 breaths per minute.
	Ventilate all children < 8yo using OPA/BVM only
P	Place pads and perform immediate rhythm check/ <b>defibrillation 2 J/kg (200 J adult dose)</b>

B	<ul style="list-style-type: none"> <li>Perform 4 rounds of 200 compressions</li> <li>Check rhythm and pulse every 2 minutes</li> <li>Defibrillate if indicated</li> <li>Minimize interruptions</li> </ul>
P	IV/IO access Administer <b>epinephrine</b> as early as possible
	If pVT/VF after third shock, administer <b>amiodarone</b> . For polymorphic VT (torsades) administer <b>magnesium</b> .

Consider alternative etiologies and administer medications below if strong evidence of reversible cause of cardiac arrest

Minutes 8-20

P	Place advanced airway (supraglottic airway or ETI) after 4 rounds/8 minutes
	Administer 2nd dose of <b>epinephrine (max 2 mg)</b>
	<b>Dead on Scene AG</b> if indicated

POST ROSC CARE	
B	<u>Support Airway/Oxygenation/Ventilation</u> Leave I-gel in place Continue maximal O2 therapy BVM ventilation rate of 8-10 bpm <b>Do not overventilate/hyperventilate</b>  Prevent hyperthermia only, do not perform therapeutic hypothermia
P	Obtain 12 lead ECG Attempt peripheral IV access Hang dopamine and monitor for shock  Begin <b>dopamine</b> if HR and BP downtrending significantly or patient in shock.

For rearrest  
Resume chest compressions  
Do not give 3rd dose of epinephrine  
May leave pressor running if started

## DRUG DOSAGES:

**Defibrillation: 2 J/kg --> 4 J/kg --> 6 J/kg --> 10 J/kg (Max 200J)**

**Epinephrine (1 mg/10mL) 0.01 mg/kg IV/IO (max dose 1 mg)**  
**Max total dose of 2mg with 2nd dose at 8 minutes**

**Amiodarone 5 mg/kg IV/IO. Max dose 300 mg**  
May repeat x 1 at **2.5 mg/kg I/IO. Max dose for repeat is 150 mg**  
Follow amiodarone doses with 20 mL NS flush  
Do not administer in torsades

**Dopamine 5-20 mcg/kg/min IV/IO (adults and children)**  
Titrate to effect, goal SBP 90

**Simplified dosing for adults may start with 1 drop every 2 seconds (30 drops per minute) using a 60 drop set**

Only if concern for opioid overdose;  
Administer **naloxone 2 mg IN/IV/IO**  
May repeat **naloxone 2 mg IV/IO**

Only if concern for hyperkalemia:  
Administer **calcium chloride 20 mg/kg IV/IO**  
**Max dose 1 g**

For polymorphic ventricular tachycardia (torsades). Administer **magnesium 25 mg/kg (max 2g) IV/IO** over 2-5 minutes.



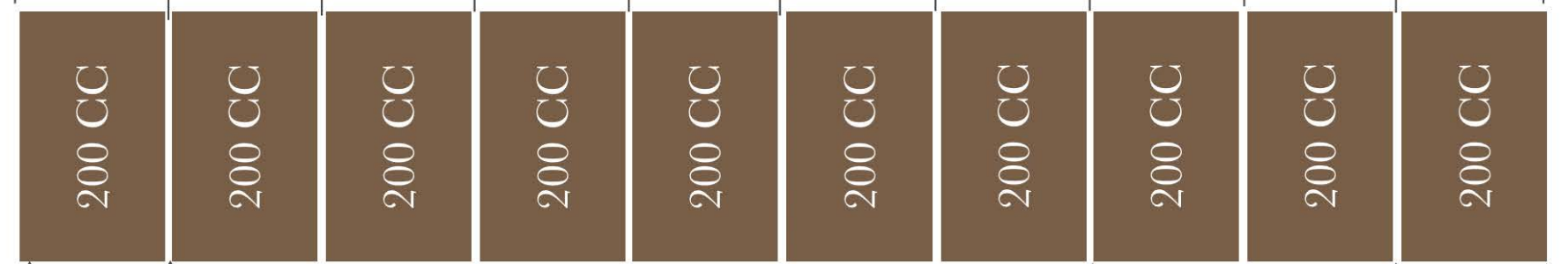
# pCPR Protocol Overview

Minutes

0 2 4 6 8 10 12 14 16 18 20

EMT

MEDIC



NRB + NC



Place IO  
Administer epi  
Consider early airway

Consider:

- Amio
- Naloxone
- Calcium
- Mag
- IVF bolus

Administer 2nd epi  
Definitive airway with EtCO2

-If persistent VT/VF  
Repeat amio  
-Consider early transport

Make transport decision

Inform family

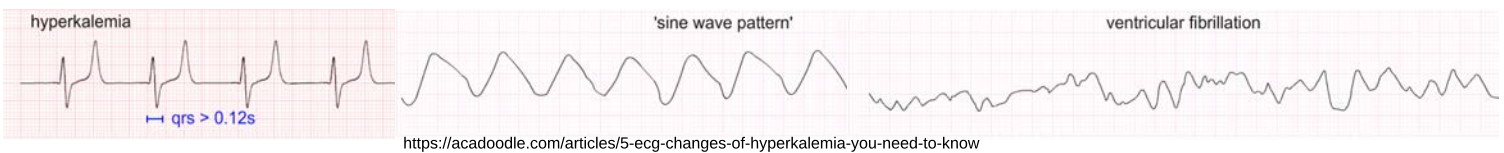
Transport or termination



## Education/Pearls

Treatment of cardiac arrest provides a unique challenge due to the intensive therapies and critical windows for intervention. Prioritize effective CPR in the first 8 minutes, addressing any cardiac arrhythmias and optimizing airway opening with an OPA or NPA. Consider the possibility of transport early in resuscitation in cases of dynamic arrhythmias or persistent VF.

- Hyperkalemia:
  - A common cause of arrests, hyperkalemia is often seen in the setting of renal failure, tissue destruction (such as prolonged downtime from rhabdomyolysis or large burns), certain medications, or prior episodes of hyperkalemia, and should be suspected in wide complex rhythms or VF.
  - The pacing threshold for bradycardia is elevated in hyperkalemia, leading to increased latency, intermittent or loss of capture, and loss of sensing.
  - When suspected, give: Calcium Chloride 1 g IV/IO
  - The following ECG changes may be present in hyperkalemia:



In patients under the age of 14, strongly consider respiratory illness as the cause of cardiac arrest.

- Early ventilation is indicated in these patients
- **Do not intubate patients <8 years**
- For persistent shock resistant VF after 3+ defibrillation attempts, consider electrical storm and place patient on mechanical CPR device (if available) and prepare for transport.
- For torsades, administer magnesium (max 2 g). Amiodarone prolongs the QT interval and should not be given to patients with torsades (polymorphic VT due to prolonged QT).

The post-arrest period is dangerous for the patient, as re-arrest and dysrhythmias frequently occur. Titrate fluid resuscitation, vasopressor administration, and oxygen to optimize vital sign parameters. Dysrhythmias are common and usually self-limiting after ROSC and may not need further treatment, especially atrial dysrhythmias. However, providers should treat worsening bradycardia, as it may precede re-arrest.

- Continuously monitor cardiac rhythm and EtCO<sub>2</sub>
  - EtCO<sub>2</sub> should remain above 20 - lower readings may indicate re-arrest
- Titrate O<sub>2</sub> to maintain saturation between 94-99%
- Obtain a 12 lead; if STEMI, transmit ECG and expedite preparation for transport
- Treat bradycardia per **Bradycardia AG**
- Once loaded for transport, reassess airway and pulse
- Assure there are appropriate personnel for transport, particularly in the event of rearrest
- Titrate fluid resuscitation and vasopressor administration to maintain SBP of 90 – 100 mmHg or Mean Arterial Pressure (MAP) of 65 – 80 mmHg.

Pacing:

- **While transcutaneous pacing may otherwise be indicated in the ischemic heart, consider the danger of missed re-arrest while pacing.**
- In general titrate pressors as needed, and only attempt pacing if indicated in the post ROSC patient if mechanical capture can absolutely be verified (i.e. finger on the pulse with good blood pressure) and the patient is under constant monitoring.