Treatment Protocol	4406
Effective: **October 1, 2018**	Expires: **March 31, 2019**
Policy: **Cardiac Arrest**	Approval: Medical Director **Reza Vaezazizi, MD** — Signed
Applies To: **PSP, EMT, AEMT, PM, MICN, BHP, EMS System**	Approval: REMSA Director **Bruce Barton** — Signed

Enter from the Universal Patient Treatment Protocol
For specific Emergency Stabilization or Patient Management of **Cardiac Arrest**

PSP | EMT | AEMT | PM

Pertinent Findings

Environment	History	Physical	Differential
Mechanism	*Events leading to arrest*	*Unresponsive*	*Medical or trauma*
Bystander CPR	*Downtime, last meal, last meds*	*Apneic & pulseless*	*Pulmonary, cardiac, or vascular*
AED	*Past medical history and medications*	*Rigor mortis*	*O_2 availability, exchange, and delivery*
Heat or cold	*Pre-dialysis, or post-dialysis*	*Dependant lividity*	*Electrolytes (Ca, K, Mg) and pH balance*
OD or toxins	*Terminal illness*	*Signs of irreversible death*	*Glucose*
	DNR, POLST or DNR medallion, End of Life Final Attestation	*ECG rhythm*	

Emergency Stabilization or Patient Management

	PSP	EMT	AEMT	PM
Perform CPR according to current REMSA training and standards: *Ensure High Performance CPR:* *assigned roles and tasks in resuscitation (i.e. Pit Crew CPR)* *Emphasize correct hand placement, compression depth (hard) and rate (fast) with complete chest recoil* *Minimize interruption of chest compressions* *Avoid hyperventilation*	PSP	EMT	AEMT	PM
Analyze AED as soon as possible Defibrillate when indicated Resume CPR immediately after each defibrillation Reanalyze AED every 2 minutes and defibrillate when indicated Use pediatric attenuator (pad-cable system or key) in pediatrics less than 8 years of age	PSP	EMT	AEMT	PM
Analyze ECG rhythm as soon as possible Defibrillate when indicated See the REMSA Calculation Chart for patient specific energy settings for both initial and subsequent shocks Resume CPR immediately after each defibrillation Reanalyze ECG every 2 minutes and defibrillate when indicated Attach, interpret, and continuously monitor $PETCO_2$ by capnography *Ensure excellent CPR: If $PETCO_2$ is less than 10 mm Hg, attempt to improve CPR quality*				PM

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Emergency Stabilization or Patient Management *(continued)*				
Epinephrine 1:10,000 IV/IO push For cardiac arrest See the REMSA Calculation Chart for concentration, and patient specific dosage and volume May repeat up to four times, repeat every 5 minutes Further repetition requires a base hospital order (BHO) Amiodarone IV/IO push For cardiac arrest with ventricular fibrillation or ventricular tachycardia See the REMSA Calculation Chart for concentration, and patient specific dosage and volume and repeat dose May repeat once using repeat dose Further repetition requires a base hospital order (BHO) Pediatric administration requires a base hospital order (BHO)				PM
Consider the reversible causes of cardiac arrest and act as indicated by REMSA policies, protocols, and standards: ***Hypovolemia*** ***Hypoxia*** ***Hydrogen ion (acidosis)*** ***Hypo/hyperkalemia*** ***Hypothermia*** ***Tension pneumothorax*** ***Tamponade, cardiac*** ***Toxins*** ***Thrombosis, coronary*** ***Thrombosis, pulmonary***		EMT	AEMT	PM
Sodium Bicarbonate 8.4% IV/IO push For cardiac arrest with suspected metabolic acidosis, hyperkalemia, or tricyclic antidepressant overdose See the REMSA Calculation Chart for concentration, and patient specific dosage and volume May repeat once Further repetition requires a base hospital order (BHO) Pediatric administration requires a base hospital order (BHO) Avoid transporting patients with active CPR and no ROSC, recognize futility of resuscitation efforts, as clinically indicated. Apply the REMSA Policy to Discontinue Resuscitation.				PM
Recognize return of spontaneous circulation (ROSC) when one of these signs is observed: *ECG rhythm and skin signs improve* *$PETCO_2$ abruptly increases to at least a normal value between 35 and 40 mm Hg* *or blood pressure becomes measurable* *Upon ROSC:* *Optimize ventilation and oxygenation to maintain SpO_2 of 94% or greater but do not hyperventilate* *Perform 12 Lead ECG* *OHCA with ROSC patients of unknown or suspected cardiac etiology shall be transported to the closest STEMI center (SRC). Patients with an obvious, non-cardiac etiology, consider transport to the closest receiving center. In cases where the closest SRC is >30 min away, and HEMS is not available, then consider transport to the closest facility.*		EMT	AEMT	PM
0.9% Normal Saline IV/IO bolus As clinically indicated for shock following ROSC See the REMSA Calculation Chart for concentration, and patient specific dosage and volume May repeat as clinically indicated			AEMT	PM

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Return to Universal Patient Treatment Protocol
For continuing Scene Management, Emergency Stabilization, Patient Disposition, or Patient Management

PSP | EMT | AEMT | PM

***** ***** **Base Hospital Orders** ***** *****				
Initiate, repeat, or modify standing orders within scope of practice As ordered For cardiac arrest		EMT	AEMT	PM
Amiodarone As ordered For cardiac arrest with ventricular fibrillation or ventricular tachycardia in pediatrics Atropine As ordered For cardiac arrest Calcium Chloride 10% As ordered For cardiac arrest w/ suspected hypocalcemia, hyperkalemia, hypermagnesemia, or calcium channel blocker OD Lidocaine 2% As ordered For cardiac arrest with ventricular fibrillation or ventricular tachycardia when Amiodarone is unavailable Magnesium Sulfate 50% As ordered For cardiac arrest with ventricular fibrillation or ventricular tachycardia associated with torsades de pointes Midazolam (may substitute Lorazepam or Diazepam) As ordered For anxiety following ROSC Morphine (may substitute Fentanyl) As ordered For pain following ROSC Sodium Bicarbonate 8.4% As ordered in pediatrics For cardiac arrest with suspected metabolic acidosis, hyperkalemia, or tricyclic antidepressant overdose				PM
Assess, clarify, monitor, treat within scope of practice, and determine or change disposition and/or destination As ordered Mode of transport is an operational decision		EMT	AEMT	PM