REGION I EMERGENCY MEDICAL SERVICES
STANDING MEDICAL ORDERS
EMT – Intermediate, EMT – Paramedic

SMO: Asystole

Overview: Asystole is a cardiac arrest rhythm associated with no discernable electrical activity on the ECG ("flat line"). The single most important therapy for asystole continues to be search for, identify, and reverse any treatable cause (see treatment).

INFORMATION NEEDED

__History of arrest:
__Witnessed collapse: time down and preceding symptoms
__Unwitnessed collapse: time down and preceding symptoms if known
__Bystander CPR and treatments, including First Responder, AED or PAD defibrillation, given prior to arrival
__Past medical history: diagnosis, medications
__Scene: evidence of drug ingestion, hypothermia, trauma, Valid DNR form or medallion, nursing home or hospice patient

OBJECTIVE FINDINGS

__Patient apneic, pulseless and in asystole on the monitor

TREATMENT

__Assess patient and confirm pulselessness
__Start CPR if indicated (See Guidelines for Determining Death in the Field Policy)
__Assure adequacy of ventilations and compressions
__Assess for possible causes of Asystole and administer corresponding treatments:

5 Reversible Causes ("H") and associated treatments

- Hypovolemia (give fluid bolus)
- Hypoxia (secure airway and ventilate patient)
- Hydrogen ion (acidosis) (secure airway, ventilate patient, consider sodium bicarbonate)
- Hyperkalemia/Hypokalemia (consider sodium bicarbonate)
- Hypothermia (warm patient)

5 Reversible Causes ("T") and associated treatments

- Tablets (drug overdoses) (secure airway, ventilate; see Drug Overdose Protocol)
- Tamponade (cardiac) (secure airway, ventilate)
- Tension pneumothorax (secure airway, ventilate, needle decompression)
- Thrombosis-heart (AMI) (secure airway and ventilate)
- Thrombosis- lungs (pulmonary embolus) (secure airway and ventilate)

TREATMENT (cont)

__Obtain patient history
__Confirm asystole in two EKG leads
__Ensure adequacy of CPR
__Advanced Airway Management; confirm tube placement
__Establish IV of NS
__**Epinephrine (1:10,000) 1 mg IVP**, repeat q 3 to 5 min. until rhythm change or termination of resuscitation efforts
__**Atropine 1 mg IVP**, repeat q 3 to 5 min. to a total dose of 3 mg
__**Sodium Bicarbonate 1mEq/kg IVP** for suspected hyperkalemia (history of renal failure, dialysis, or potassium ingestion), diabetic patient with possibility of DKA, or tricyclic or phenobarbital overdose;

Documentation for Adherence to Protocol:

__CPR performed
__ALS or BLS airway management
__Epinephrine given
__Atropine given

PRECAUTIONS AND COMMENTS

- Document calibration spike and/or CPR compression to ensure that EKG monitor is functioning and electrodes and cables are properly attached.
- Epinephrine, Atropine may be administered via ETT. ET drug doses are 2 X the standard IV dose. ET drugs should not exceed 10 ml for any single dose. Maximum total doses of drugs are also doubled for ETT administration. Relative effectiveness of ET drug administration is in question.
- External pacing has not been shown to be effective in most patients presenting in bradyasystolic cardiac arrest. If Transcutaneous Pacing is to be considered, perform immediately with concurrence of medical control.