Sierra – Sacramento Valley EMS Agency Treatment Protocol	C-1 (LALS)
Pulseless Arrest	
Approval: Troy M. Falck, MD – Medical Director	Effective: 12/01/2020
Approval: Victoria Pinette – Executive Director	Next Review: 09/2023

MANUAL CHEST COMPRESSIONS

- Rate: 100-120/min
- Depth: 2 inches, allow full chest recoil
- Minimize interruptions (≤10 secs)
- Rotate compressors every 2 mins
- Perform CPR during AED/defibrillator charging
- Resume CPR immediately after shock

MECHANICAL CHEST COMPRESSION DEVICES

Indications

- Adult pt (≥15 yo)
- Non-traumatic cardiac arrest

Contraindications

- Pt does not fit in the device
- 3rd trimester pregnancy

Apply following completion of at least one manual CPR cycle, or at the end of a subsequent cycle

DEFIBRILLATION & GENERAL PT MANAGEMENT

- Analyze rhythm & check pulse after every 2 min CPR cycle
- Biphasic manual defibrillation detail **(AEMT II)**:
  - Follow manufacturer's recommendations
  - If unknown, start at 200 J (subsequent doses should be equivalent or higher)
- Movement of pt may interrupt CPR or prevent adequate depth and rate of compressions
- Consider resuscitation on scene up to 30 mins
- Go to ROSC protocol (C-2) if ROSC is obtained

ADVANCED AIRWAY MANAGEMENT

- Consider/establish advanced airway at appropriate time during resuscitation
- Do not interrupt chest compressions to establish an advanced airway
- Waveform capnography (if available) shall be used on all patients with an advanced airway in place
  - An abrupt increase in $PETCO_2$ is indicative of ROSC
  - Persistently low $PETCO_2$ levels (<10 mmHG) suggest ROSC is unlikely

CONSIDER REVERSIBLE CAUSES*

- **H**ypovolemia
- **H**ypoxia
- **H**ydrogen Ion (acidosis)
- **H**ypo-/hyperkalemia
- **H**ypothermia
- **T**amponade, cardiac
- **T**ension pneumothorax
- **T**hrombosis, pulmonary
- **T**hrombosis, cardiac
- **T**oxins

*Contact the base/modified base hospital for consultation & treatment/medication orders not specifically listed in this protocol or other applicable policies/protocols

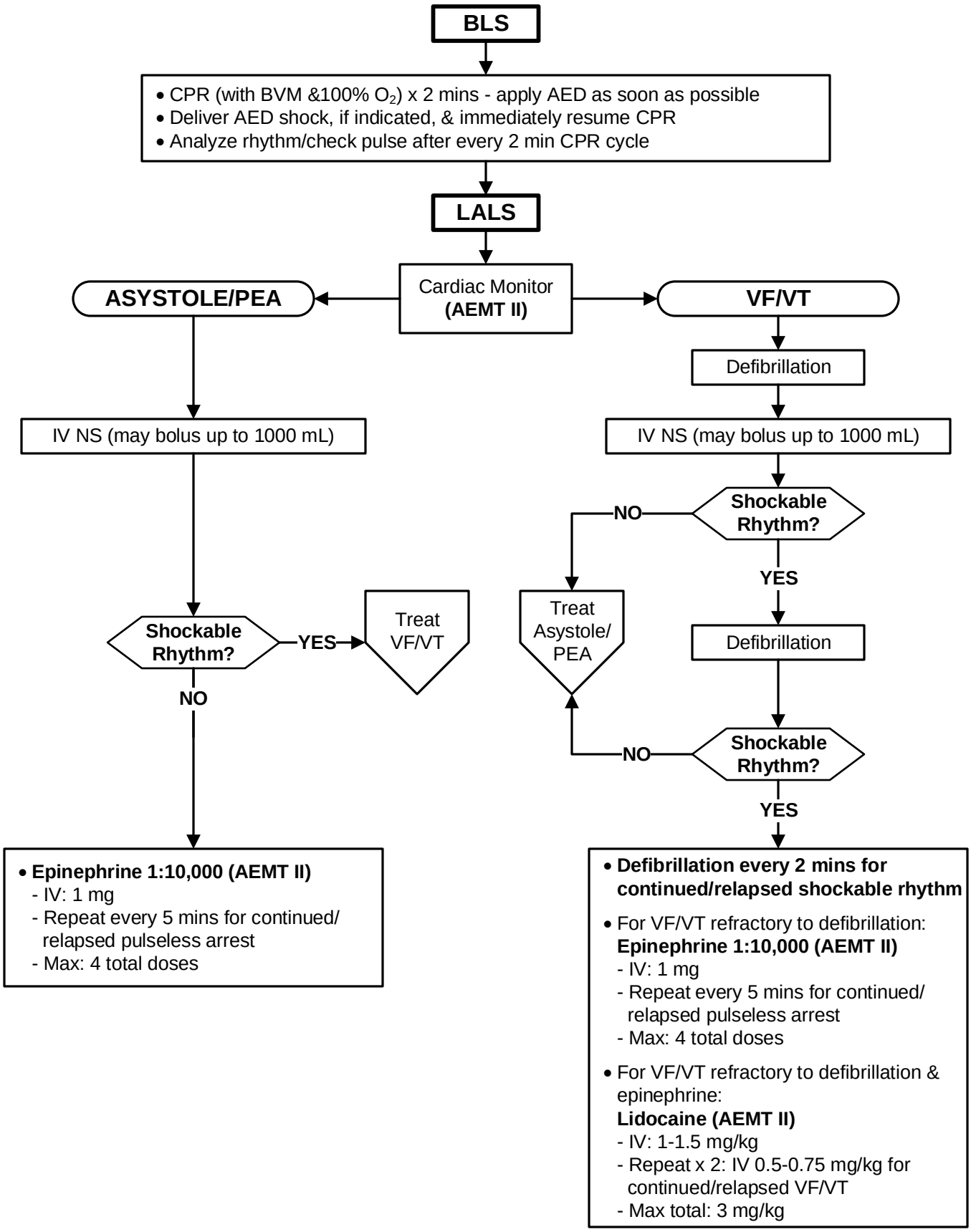
TERMINATION OF RESUSCITATION

Base/Modified Base Hospital Physician Order**

- If resuscitation attempts do not obtain ROSC, consider termination of resuscitation efforts
- BLS termination of resuscitation criteria (all):
  (1) Arrest not witnessed by EMS
  (2) No AED shocks delivered
  (3) No ROSC after 3 rounds of CPR/AED analysis
- LALS Termination of Resuscitation Criteria (all):
  (1) Arrest not witnessed by EMS
  (2) No effective bystander CPR was provided, or effective CPR cannot be maintained
  (3) No ROSC after full LALS care

**In the event of communication failure, EMS personnel may terminate resuscitation, without a base/modified base hospital physician order, on a pt who meets LALS termination of resuscitation criteria.

SEE PAGE 2 FOR TREATMENT ALGORITHM


BLS
• CPR (with BVM &100% O_2) x 2 mins - apply AED as soon as possible
• Deliver AED shock, if indicated, & immediately resume CPR
• Analyze rhythm/check pulse after every 2 min CPR cycle
LALS
Cardiac Monitor
(AEMT II)
ASYSTOLE/PEA
VF/VT
IV NS (may bolus up to 1000 mL)
Shockable Rhythm?
YES
Treat VF/VT
NO
• Epinephrine 1:10,000 (AEMT II)
- IV: 1 mg
- Repeat every 5 mins for continued/ relapsed pulseless arrest
- Max: 4 total doses
Defibrillation
IV NS (may bolus up to 1000 mL)
Shockable Rhythm?
NO
Treat Asystole/ PEA
YES
Defibrillation
Shockable Rhythm?
NO
YES
• Defibrillation every 2 mins for continued/relapsed shockable rhythm
• For VF/VT refractory to defibrillation:
Epinephrine 1:10,000 (AEMT II)
- IV: 1 mg
- Repeat every 5 mins for continued/ relapsed pulseless arrest
- Max: 4 total doses
• For VF/VT refractory to defibrillation & epinephrine:
Lidocaine (AEMT II)
- IV: 1-1.5 mg/kg
- Repeat x 2: IV 0.5-0.75 mg/kg for continued/relapsed VF/VT
- Max total: 3 mg/kg