I. Purpose:

A. To establish indications, guidelines, and the standard procedure for performing defibrillation in the pre-hospital setting.

II. Authority:

A. Health and Safety Code, Section 1797.220, 1798. Title 22, Section 100169.

III. Policy:

A. Imperial County EMS providers shall follow current American Heart Association ACLS guidelines.

B. Defibrillation is indicated for any patient who experiences ventricular fibrillation, pulseless ventricular tachycardia, or polymorphic ventricular tachycardia.

C. **High quality CPR and early defibrillation is the key to survival in cardiac arrest and should be prioritized over other interventions.**

D. Manufacturer recommendations should be followed for energy selection. If none are present, follow table below.

E. Documentation for any defibrillation should include:

1. Initial underlying rhythm
2. Energy selection (generally biphasic)
3. Unsynchronized (versus synchronized)
4. Pad location (anterior-posterior [A-P] versus anterior-lateral [A-L]
5. Post procedure rhythm
6. Any complications
7. Compression and CPR quality
8. EtCO2 readings if ALS present

IV. Procedure:

A. Remove patient from water and dry off if wet.

B. Remove medication patches.

C. Place pads or paddles 5 inches away from internal pacemaker or internal defibrillator.

D. Continue compressions and **pre-charge** defibrillator until ready to defibrillate. **Do not stop compressions until time to defibrillate.**

E. Ensure all personnel are clear of touching patient and oxygen is removed by calling out “All clear”.

F. Deliver shock and immediately resume CPR for two (2) minutes.
    1. Time to deliver shock and resume compressions should take < 5 seconds.

G. If requiring second defibrillation, consider placement of new pads in different position from first (A-P or A-L) **following** second defibrillation

H. Refractory VF/pulseless VT in adults is an ischemic cardiac event until proven otherwise.
    1. For refractory VF/pulseless VT (> 3 shocks), consider early transport to STEMI center for potential cardiac catheterization if defibrillation is unsuccessful.
    2. If STEMI center unavailable, consider early transport to nearest ED for potential thrombolytic therapy if defibrillation is unsuccessful.

I. **Manual CPR is the preferred method of cardiac arrest management in the prehospital setting.**
    1. See cardiac arrest protocol for further management.

	Adult	**Pediatric**
Monophasic		
1st Shock	360 J	2 J/kg
2nd Shock	360 J	4 J/kg
Subsequent	360 J	4 J/kg
Biphasic	**Adult**	**Pediatric**
1st Shock	200 J	2 J/kg
2nd Shock	200 J	4 J/kg
Subsequent	200 J	4 J/kg

APPROVED:

Signature on File

Katherine Staats, M.D. FACEP

EMS Medical Director