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| **BLS Treatment - ALL Cardiac Arrest**  |
| * CPR / AED
* **Oxygen** as indicated.
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| **ALS Treatment - ALL Cardiac Arrest** |
| **Current American Heart Association Guidelines concerning Emergency Cardiac Care assessments and interventions shall always take precedence over local protocols when there is a conflict concerning techniques of resuscitation.*** Defibrillation if indicated.
* Advanced airway if indicated.
* IV **Normal Saline** if indicated.
* Provide grief support and referrals for on-site survivors as needed.
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| **ALS Treatment - SPECIFIC Causes of Cardiac Arrest** |
| **VENTRICULAR FIBRILLATION/VENTRICULAR TACHYCARDIA*** **Defibrillation**
* **Epinephrine**
* **Amiodarone**
 |
| **ASYSTOLE/PULSELESS ELECTRICAL ACTIVITY*** **Epinephrine**
 |
| **TREAT REVERSIBLE CAUSES*** **Sodium Bicarbonate** for suspected hyperkalemia, DKA, tricyclic or phenobarbital overdose.
* **Calcium Chloride** for suspected hyperkalemia or calcium channel blocker overdose.
* **Magnesium Sulfate** for either Torsades de Pointes or VF/VT with suspected hypomagnesemia.
* **Normal Saline** fluid bolus for an organized rhythm with SBP < 90.
* If hypotension persists, may administer **Dopamine.**
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| **CARDIAC ARREST IN PREGNANCY*** Anticipate difficult airway; experienced provider preferred.
* If SBP < 90 or signs of poor perfusion, **Normal Saline** fluid bolus. Reassess and repeat as indicated.
* If possible, place patient in Left Lateral Decubitus Position or manually displace gravid uterus to patient’s left side.
* If patient is receiving IV/IO **Magnesium** pre-arrest, stop infusion and switch to **Normal Saline**. Flush line with Normal Saline prior to giving IV/IO **Calcium Chloride.**
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**FIELD TREATMENT CONSIDERATIONS FOR PATIENTS**

**WITH A LEFT VENTRICULAR ASSIST DEVICE (LVAD)**

1. Attempt to locate a POLST form. Many patients have made end-of-life care decisions.
2. Provide pre-hospital care to the patient in a manner consistent with ALS and BLS treatment protocols for the patient’s condition with the following exceptions:
* Do NOT perform chest compressions, as it will dislodge the LVAD and cause internal bleeding.
* **Arrhythmias**: Do not disconnect power source, defibrillate per ACLS protocol.
* DO follow the directions of the patient’s caregiver when moving and transporting the patient.
1. The **HeartMate (HM) II LVAD** replaces the pumping action of the left ventricle via a continuous blood flow mechanism, where there is no filling or emptying phase.
* As a result, patients commonly have NO PALPABLE PULSE, NO OBTAINABLE PULSE OXIMETRY OR BLOOD PRESSURE, and only a “mean” arterial pressure detectable using a Doppler.
* An LVAD patient’s ECG heart rate will differ from the pulse rate since the LVAD is not synchronized with the native heart rate.
1. Assess the patient’s airway and intervene per protocol. If you are unable to obtain pulse oximetry readings, you should assume the patient is hypoxic and place the patient on supplemental oxygen.
2. If the patient has an altered level of consciousness, immediately check for end-tidal CO2 using capnography.
3. Auscultate heart sounds to determine if the device is functioning. You should expect to hear a continuous “whirling” sound for most devices.
4. Assess the device for any alarms / malfunctions. Check with patient or caregivers for device reference materials or contact the VAD Center.
5. Start at least 1 large bore IV, and give a 1L **Normal Saline** fluid bolus if you obtain a low blood pressure (systolic < 100) or are unable to obtain a blood pressure or the patient has an altered level on consciousness.
6. Contact the Base Hospital with questions or if directed by patient’s caregiver or VAD Center personnel to do something outside of your protocol.
7. Always transport the patient to the closest VAD Center (UCSF and CPMC are the two centers in San Francisco). You are authorized to BYPASS the closest facility in order to get the patient to a VAD Center, no matter the patient’s condition.
* Call the VAD Center (open 24/7) per patient or patient’s caretaker’s contact to get advice on caring for the patient.
* You are authorized to take orders from professionals at the VAD Center, as long as they are within your scope of practice.
* Bring ALL of the patient’s equipment. Bring the patient’s caregiver to act as the information resource on the device. You are authorized
to use the caregiver as an information resource on the device.
1. Upon arrival to Emergency Department, immediately plug in the device into an electrical socket.
2. Call the Base Hospital for in-field termination of care in the event there are no signs of life and end-tidal capnography is not consistent with life (< 10).