LEFT VENTRICULAR ASSIST DEVICE – PEDIATRIC

ALS STANDING ORDERS:

1. Assess patient and establish telephone contact with the patient's Ventricular Assist Device (LVAD) coordinator to determine pre-established treatment management plan.

2. Contact Base Hospital and provide report of event and pre-established treatment plan.

3. If patient is apneic and unresponsive or unconscious:

   ► initiate CPR (including chest compressions)

4. Vital sign measurements may be misleading or not possible to measure; indications of poor perfusion (poor cardiac output) include:

   - Altered level of consciousness
   - Dyspnea
   - Nausea, vomiting
   - Poor skin perfusion signs, diaphoresis

5. For with lungs clear and no signs of CHF/pulmonary edema:

   ► *Normal Saline, infuse 20 mL/kg, may repeat 2 times to maintain perfusion.*

6. Obtain blood glucose and document finding, if blood glucose equal to or less than 60, administer one of:

   ► *Oral glucose preparation, if awake, tolerated and airway reflexes are intact.*

   ► *10% Dextrose 5 mL/kg IV (maximum dose 200 mL).*

   ► *Glucagon 0.5 mg IM if unable to establish IV*

7. Remain in contact with Base Hospital for further orders and destination.

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TREATMENT GUIDELINES:

1. Upon arrival, the patient or caregiver will likely be in telephone contact with the LVAD program coordinator. LVAD Automatic Paramedic Alarms may be set up to alert both 911 and the patient's LVAD coordinators.

2. Upon arrival of a two paramedic team, have one member of the team assess the patient and the other member initiate or continue telephone contact with the patient LVAD coordinator to plan management. Providers may only take orders from the Base Hospital, not the LVAD Coordinator

3. During initial patient assessment, the LVAD coordinator may assist in determining the cardiac output and the function of the LVAD.

4. Depending on the remaining function of the native heart, several vital sign measurements will be misleading or not possible to measure:

    - Peripheral and central pulses may be weak or absent.
    - Auscultated and palpated BP may not be possible.
    - Pulse oximetry may not record a pulse wave and may underestimate SpO2.
    - ECG may show the rate & rhythm of the native heart.

5. Some LVAD devices are equipped with an alarm and red heart shaped LED indicator that will flash or become visible with an audible alarm when CPR is indicated (pump failure).

6. Common emergencies in LVAD patients include:
    a. GI bleed & epistaxis (from anticoagulation)
    b. Stroke; ischemic & hemorrhagic
    c. LVAD hardware & systemic infection
    d. Equipment malfunction (the patient, caregiver or LVAD coordinator can help assess the equipment and any alarms)