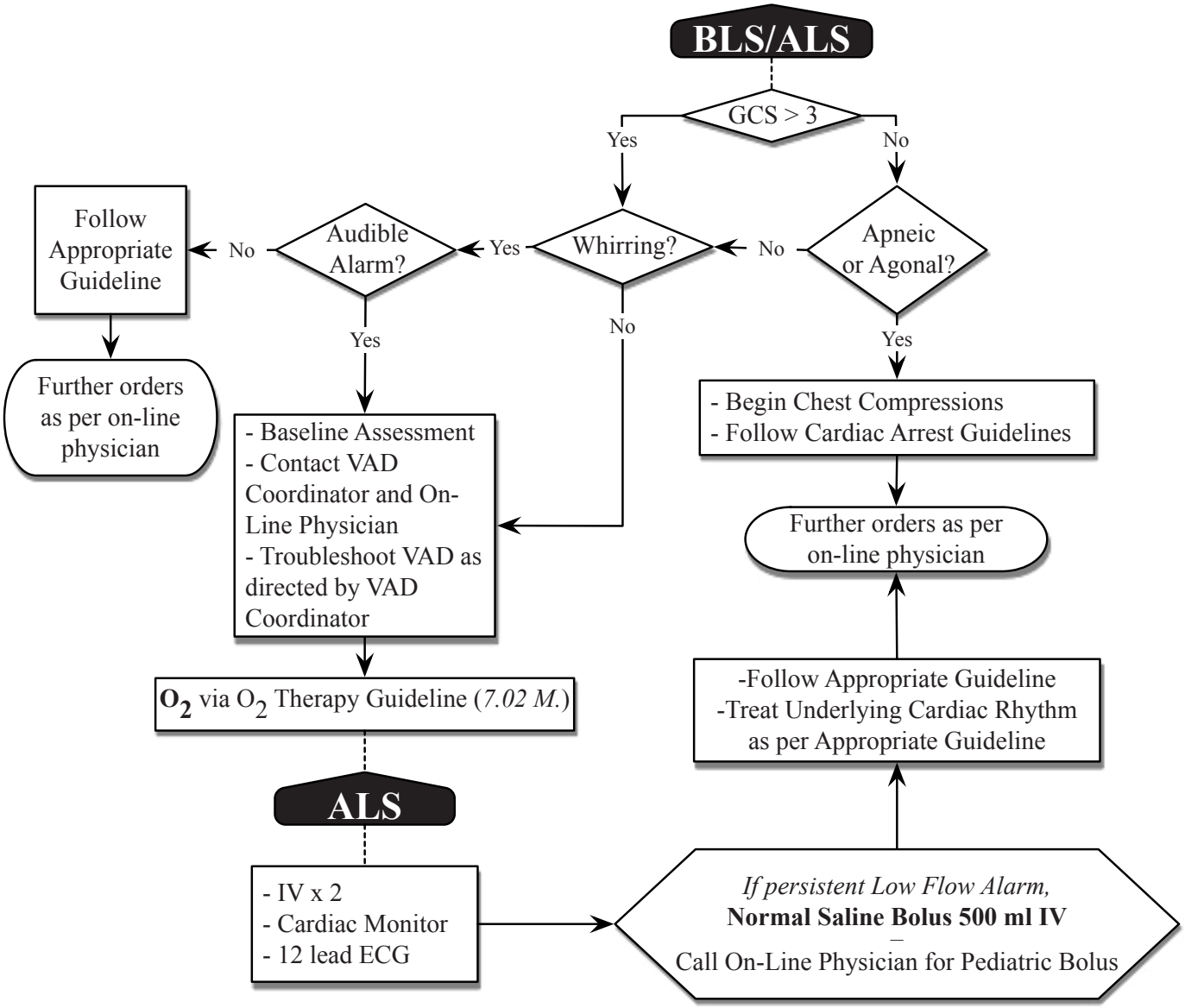
8.03 LL. Ventricular Assist Devices (VAD)



A. For ALL patients with a VAD, regardless of complaint, contact their VAD coordinator via the Base Station and transport **ONLY** to an appropriate VAD hospital. The only exception for destination is in the case of an uncontrolled airway.
B. Transport/Destination decision
    1. Adult trauma patients (which meet any trauma center criteria except for taking anticoagulants): Memorial Hermann TMC
    2. All other adult patients: Patient's regular VAD hospital
    3. Pediatric patients: Texas Children's Hospital TMC
C. Always transport the patient's backup batteries, controller and emergency equipment with the patient.
D. If no ALS apparatus is dispatched to a patient with a VAD, the BLS personnel's priority is to get the patient ALS level of care ASAP. This would be either rapid transport to the appropriate destination described above, or requesting an ALS unit to the scene of the incident.
E. In the initial assessment of the VAD patient with altered mental status, pay early attention to correcting hypoglycemia or treating opiate overdose with narcan. VAD patients with a GCS of 3 with hypoglycemia or opiate toxicity should not get chest compressions or cardiac arrest medications unless they do not respond to therapy with glucose or narcan.

Ventricular Assist Devices

A. Obtain information regarding the VAD device, hospital, VAD Coordinator name and contact information. It may be located on the device, in the patient's wallet, on a bracelet, on the refrigerator, etc. Determine presence of DNR and/or advanced directives.

B. Request for help early. Contact the patient's VAD Coordinator through the Base Station as soon as possible. Utilize the patient's caretaker for assistance, as they are the VAD experts on scene. Listen to them regarding device management until able to contact the VAD coordinator. Determine if the patient or their caregiver have already contacted the VAD coordinator and what was discussed.
*****The VAD Coordinator may provide direction / recommendations regarding the VAD device in the setting of a VAD patient with a VAD / Cardiovascular issue. In this capacity, they may serve as an extension of the medical director through on-line medical control. *****

C. Assessment Considerations
1. First, assess the patient. Determine if the call was for a VAD problem, or for another problem and proceed accordingly.
2. Patients with a VAD may not have a palpable pulse.
3. The use of other parameters for patient assessment (level of consciousness, skin color, skin temperature, capillary refill) are necessary.
4. Pulse oximetry is not a reliable resource in these patients.
5. Blood pressure may not be obtainable if they have minimal to no native cardiac funtion. If available, the patient's caregiver may have a doppler and be able to obtain mean arterial pressure (MAP). The ideal MAP range is 60-90 mmHg.
6. $ETCO_2$ will provide a good estimate of perfusion with an ideal range between 35-45 mmHg.
7. The 12 lead ECG will reveal the patient's underlying heart rhythm. The patient may or may not be symptomatic with arrhythmias.

D. Device Considerations
1. Determine if the device is working. This is where the caretaker and/or VAD coordinator are important. Auscultate the LUQ of the patient's abdomen. Listen for a 'hum'. Determine if the device has power and check the connections and batteries.

E. Treatment Considerations
1. Provide oxygen as clinically indicated. Pulse oximetry may not be accurate.
2. Establish IV for fluid resuscitation. VAD patients are very preload dependent. Prepare for fluid resuscitation in the septic shock patients.
3. Nitroglycerin should only be given per orders of On-Line physician.
4. No termination of resuscitation of VAD patients, unless traumatic arrest.
5. Treat the underlying cardiac rhythm per appropriate guideline. Patients with a VAD may be in ventircular fibrillation while awake and alert. Consult on-line medical control for Midazolam sedation prior to defibrillation.

F. VAD Complications
1. Increased incidence of bleeding secondary to anticoagulation.
2. Increased risk of stroke.
3. Most patients will have an ICD. If defibrillation is necessary, move the controller to the patient's right side, away from the pads as much as possible. Allow the VAD to continue running during defibrillation.

VAD Coordinator Contact Phone Numbers: Call Through Base Station

Memorial Hermann TMC: 713-704-4300 *	Houston Methodist TMC: 281-520-0574
CHI St. Luke's TMC: 832-355-2598	Texas Children's TMC: 832-775-3822

* Ask the Operator to Connect You to the VAD Coordinator.