**Appendix**

VAD Evacuation Protocol

1. Evacuation decision
   1. Decision to evacuate should be determined by the institution’s ICS (Incident Command System)
   2. The evacuation methods and time frame will be determined by the ICS in coordination with the Unified Command that would include government agencies and emergency services (eg. EMS, law enforcement, public health officials).
      1. Authorized vehicles will be determined by the ICS
      2. Goals of evacuation:
         1. To transport VAD patients to a hospital facility staffed with healthcare professions trained in caring for VAD patients
         2. If unable to transport patients to facility with VAD trained professionals, patients may be transferred to another facility with secure electrical power resources. VAD trained healthcare professionals will be transported to such facility as soon as possible.
      3. Evacuation methods and time frame will be communicated by the ICS to nursing supervisors
   3. Due to the resources required by VAD (Ventricular Assist Device) patients, this population should be evacuated in both partial and complete evacuation situations
2. Evacuation Triage
   1. Per National Incident Management System (NIMS) standards**:** Patients, who are non-ambulatory, require continuous nursing care and observation (i.e. ICU, Telemetry, isolation rooms and other patients with special needs)
   2. Further sub-evacuation levels
      1. Patients with Thoratec DDC or TLC-II VADs
      2. Critical health status
      3. Remaining battery power
      4. Patients should be triaged by a team of two physicians or two available healthcare providers
   3. Evacuation order should be indicated by numerical designation on the patient’s evacuation tag
3. Patient: Staff Evacuation Criteria
   1. If possible, all VAD patients will be transferred with a VAD trained RN and engineer. If there are not enough staff to do this, the patients will be triaged into groups as follows:
   2. Group A: With RN, VAD engineer, and physician
      1. Patient with cardiac arrhythmias in the last 24 hours
      2. Hemodynamically unstable
         1. Flows < 4.0 lpm
         2. MAP < 60
      3. Patient clinically unstable, at risk for shock may need to be transferred with a physician or advanced practice provider
   3. Group B: With Trained RN and VAD engineer
      1. Patient originally on DDC
      2. Speed change in last 24 hours (due to arrhythmia or suck-down event)
   4. Group C: With Trained RN or Untrained RN and VAD engineer
      1. Recent non-lethal arrhythmias in last 24 hours
      2. Recent low level VAD alarms (not requiring pump speed adjustments) in last 24 hours
      3. Admission diagnosis cardiopulmonary related
   5. Group C: With untrained RN
      1. Hemodynamically stable
         1. Flows >4.0 lpm
         2. MAP >60
         3. No recent arrhythmia
      2. Admission reasons unrelated to VAD
      3. Patient VAD trained
   6. Group D: With regular transport/EMT (Emergency Medical Technician)
      1. Patient admitted for planned test/unrelated to VAD
      2. Hemodynamically stable
         1. Flows >4.0 lpm
         2. MAP >60
         3. No recent arrhythmia
      3. Patient VAD trained
      4. If patient not VAD trained, may be transported accompanied by trained relative
   7. Group designation letter should be clearly indicated on patient evacuation tag
4. Transportation Resources
   1. The nurse supervisors will communicate to the ICS the number of VAD patients to be evacuated
   2. The nurse supervisors will communicate to the ICS the number of staff needed per ratio criteria for patient evacuation
   3. The nurse supervisors will communicate to the ICS the acuity of VAD patients to be evacuated. The ICS will confirm that the destination sites are able to accommodate patient needs.
   4. The ICS will provide the department with an updated, individualized, crisis care plan.
5. Evacuation Tag
   1. Tags should indicate:
      1. Patient name, date of birth, medical record number
      2. Evacuation group
         1. Numerical evacuation order
         2. Alpha designation indicating accompanying healthcare providers
         3. Initials of triaging healthcare providers
      3. Supplies and medications to be evacuated with patient
      4. VAD specific orders
         1. Anticoagulation goals
         2. VAD pump parameters for monitoring
      5. Patient’s emergency contact and contact’s phone number
6. Items to Evacuate with Each Patient
   1. Medical Records
   2. VAD supplies
      1. Back up controller
      2. Batteries
      3. AC adapter
      4. Battery charger
      5. VAD Monitor
      6. Hand pump(s) and flash light (for Thoratec PVAD)
   3. Medications
   4. Pertinent patient belongings
      1. Glasses
      2. Ambulation assist devices/prosthetics
      3. Dentures
      4. Valuables
7. Evacuation List
   1. To be completed by unit manager or charge nurse
   2. Should include:
      1. List of patients
         1. Medical record number
         2. Date of birth
         3. Time/date left facility
         4. Name of transporting agency
         5. Name of intended facility
         6. Confirmation of chart/medical record information sent
         7. List of medications sent with patient
         8. List of equipment sent with patient
         9. List of valuables sent with patient
         10. Staff member(s) transported with patient
         11. Family/emergency contact notified of transfer and contact’s information
         12. Physician/healthcare provider notified of transfer and provider’s information
      2. List of staff leaving hospital
         1. Which patient
         2. Transportation method
         3. Transportation service name
         4. Transportation vehicle identification number
         5. Intended destination
         6. Contact information
      3. Sample list in addendum
      4. Copies of lists should be created if possible and given to ICS and nursing supervisors
8. Failure to Evacuate: If attempts to evacuate VAD patients from the facility are unsuccessful:
   1. And the facility has a working sustainable electrical power source continue ordinary care of VAD patients to the best of the staff/facility abilities
   2. Extra batteries may be distributed to patients based on age and need
      1. Minors
      2. Patients with shortest battery life
      3. No batteries should be forcibly taken or taken without the consent of a patient to be given to another
   3. If there is no working sustainable electrical power source, the transition to palliative care should be made by a physician, nurse practitioner, or physicians assistant
9. Outpatient VADs Seeking Assistance
   1. Outpatients with VADs should be directed to report to another facility outside of the disaster zone
   2. Additional facilities should be pre-identified for patients, triage and directions to these facilities should be incorporated in the patients’ personal disaster plan.