



Monroe Livingston Region Program Agency

Division of Prehospital Medicine, University of Rochester

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To: All EMS Providers

From: Jeremy T. Cushman, MD, MS, EMT-P *JT Cushman*
Regional Medical Director

Date: April 26, 2013

Re: Advisory 13-02: Protocol 2.37 – Ventricular Assist Devices

It has recently come to our attention that the Ventricular Assist Device protocol requires further clarification with regards to when CPR may be performed on a patient with an implanted VAD.

If the VAD is not working (no motor sound and the patient is unconscious and without signs of perfusion), then CPR may be performed. Although there is the risk of causing irreversible damage to the patient with an implanted VAD, the possible benefits outweigh those risks.

If the VAD is working (motor sound is present) then CPR should not be performed, regardless of the level of consciousness or perfusion status of the victim.

The updated protocol is attached which now includes the phrase “**DO NOT PERFORM CPR** unless there is no evidence of the pump functioning (no motor noise) and the person is unresponsive and without a pulse” and is updated on mlrems.org as well.

With any questions, please do not hesitate to contact the Regional Program Agency.

2.37 VENTRICULAR ASSIST DEVICES

CRITERIA

Any request for service that requires evaluation and transport of a patient with a Left Ventricular Assist Device (VAD).

1. Assess airway and breathing. Treat airway obstruction or respiratory distress per protocol. Treat medical or traumatic condition per protocol.
2. Assess pump function and circulation:
 - Listen to motor of pump over heart and observe green light on system control device.
 - Assess perfusion based on mental status, capillary refill, and skin color. The absence of a palpable pulse is normal for patients with a functioning VAD. They may not have a blood pressure.
 - **DO NOT PERFORM CPR** unless there is no evidence of the pump functioning (no motor noise) and the person is unresponsive and without a pulse.
3. Perform secondary assessment, treat per protocol.
4. **Notify URMC Heart Failure Coordinator ASAP**, regardless of the patient's complaint.

Call 1-800-892-4964 and declare a "VAD EMERGENCY"
5. Bring patient's power unit and batteries to the Emergency Department. Unless otherwise directed by Medical Control or the Heart Failure Coordinator, transport patient to URMC-Strong Memorial Hospital.
6. Trained support member must remain with patient.
7. Do not delay transport to hospital.

EMT-I STOP

8. If hypotensive (defined as poor perfusion based on mental status, capillary refill, or skin color):

Establish IV/IO access and administer 500ml NS bolus.

Reassess and repeat up to 1000ml total. Contact Medical Control for additional fluid boluses.
9. If patient does not have evidence of adequate perfusion and oxygenation with treatment, despite the device being on, treat with standard ACLS measures.

CONSIDERATIONS

1. Community patients are entirely mobile and independent.
2. Keep device and components dry.
3. Batteries and the emergency power pack can provide 24-36 hours of power.
4. Trained support members include family and caregivers who have extensive knowledge of the device, its function, and its battery units and are a resource to the EMS provider when caring for a VAD patient.
5. Patients are frequently on three different anticoagulants and are prone to bleeding complications.
6. Patient may have VF/VT and be asymptomatic. Contact Medical Control for treatment instructions.