

Diagnosis Specific Treatment

Bleeding

Resuscitate: if poor hemodynamics, consider blood products but avoid reversal if possible given risk of pump thrombosis (discuss this with VAD team)

Consider GI consult

Pump Thrombosis

Have increased suspicion if clinical / laboratory evidence of hemolysis

IVF bolus

Consider anticoagulation with Heparin drip

Infection (sepsis)

IVF bolus in 500mL aliquots Q15min and reassess via ultrasonography

Broad spectrum antibiotics according to local resistance patterns

Strongly consider antifungal agent

Right Ventricular Failure

If suspected, avoid IVF boluses. Use sonography to guide therapy. If IVC >2cm, diurese patient.

Early addition of pressors: inotropes + beta agonists

(rare in ED)

Suck Down Event

Suck down events are more often a symptom rather than the problem

1L IVF bolus

Reassess via sonography

Dysrhythmia

Use standard anti-arrhythmics as if the patient did not have a VAD, patients often rhythm controlled

If unstable, cardiovert per ACLS guidelines but avoid placing pads directly over device

Pump Stop

Recent stop:
(minutes)
If alarming and no whirl, press "test select" or "alarm reset" button to restart VAD (depends on model)

Longer stop:
(hours)
Do not restart due to risk of ischemic CVA -discuss w VAD team

Verify batteries charged and connect device to AC power

Cardiac Arrest

Patients do *not* have pulses! Clarify via doppler, cap refill, and low flow alarm

Treat arrest per ACLS protocols (including compressions if necessary)

Empiric IV fluid bolus

Disclaimer:

The recommendations above are general guidelines meant to assist in workup and management. Working closely with the cardiothoracic surgery and heart failure teams who manage the VAD is paramount to ongoing resuscitation and patient care - particularly decisions such as administration of blood products or reversal of anticoagulation.

Hypertension:

MAPs greater than 90 also represent an emergency as an LVAD is very afterload sensitive. These patients also merit early discussion with VAD coordinators and aggressive afterload reduction.