

Adult and Pediatric Durable Left Ventricular Assist Device Algorithm

Cascading numbered boxes correspond to actions the provider should perform in sequence. Each box is separated by an arrow that signifies the pathway the provider should take. Some boxes are separated by 2 arrows that lead to different boxes, meaning that the provider should take a different pathway depending on the outcome of the previous action. Pathways are hyperlinked.

Box 1

Unresponsive adults and children with a durable left ventricular assist device (LVAD)

- Assist ventilation, if necessary
- Assess perfusion

Box 2

Adequate perfusion?

If Yes, proceed to [Box 3](#).

If No, proceed to [Box 6](#).

Box 3

Do not perform external chest compressions

- Assess and treat non-LVAD causes of unresponsiveness

Box 4

Monitor perfusion.

Proceed back to [Box 2](#) to determine adequate perfusion, or continue to [Box 5](#).

Box 5

Transport.

Contact VAD center.

- Continue to monitor perfusion

Box 6

Perform external chest compressions

- Assess LVAD function, if second rescuer available
- Assess and treat non-LVAD causes for unresponsiveness

Box 7

Continue basic life support/advanced life support.

Proceed to [Box 5](#).

Sidebar

Assessing Perfusion

Adequate perfusion (patients may not have a palpable pulse) if any of the following present:

- Normal skin color and temperature
- Normal capillary refill
- MAP greater than 50 millimeters of mercury (if noninvasive BP cuff nonfunctional, use doppler or arterial line, if available)
- PETCO₂ greater than 20 millimeters of mercury

Non-LVAD Causes of Unresponsiveness

- Dysrhythmia
- Hemorrhage/hypovolemia
- Hypoglycemia
- Hypoxia
- Overdose

- Right ventricular failure
- Sepsis
- Stroke

Assess and Attempt to Restart LVAD Function

- Look/listen for alarms
- Listen for LVAD hum
- Driveline connected?
- Power source connected?
Need to replace system controller?