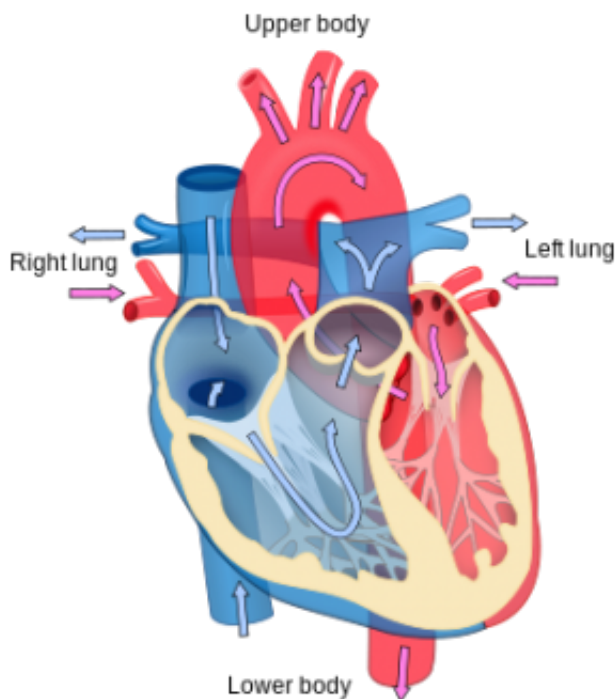


# LVADs may lead to declines in health, cognitive thinking in some heart failure patients

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Heart diagram. Credit: Wikipedia

Left ventricular assist devices (LVADs) are life-prolonging devices for many patients with advanced heart failure but they also may leave some patients in poor health or with declines in brain function, according to two studies being presented at the American Heart Association's Quality of Care and Outcomes Research 2015 Scientific Sessions.

LVADs are battery-operated, mechanical devices surgically implanted to help restore the heart's pumping ability in [patients](#) with severe heart failure. The device can be placed temporarily in patients awaiting heart transplants or permanently in patients who are not candidates for heart transplantation.

"Patients with end-stage heart failure often have reduced blood flow to their brains and other organs. Those who receive LVADs should, in theory, have better ability to think, make decisions and remember things because the device restores [blood flow](#) to the brain," said Timothy Fendler, M.D., lead author and research fellow at St. Luke's Mid America Heart Institute in Kansas City, Mo. "Unfortunately, that is not always the case, due to some common complications that stem from the device itself, such as stroke."

In a large, multi-center study of cognitive function in 1,173 LVAD patients (abstract 401) researchers found:

- More than one in four patients experienced notable cognitive decline in the year following LVAD placement.
- Risk factors for cognitive decline included older age and having devices placed as permanent therapy.

"The study showed that, while patients often experienced the expected result of improved cognitive abilities after receiving an LVAD, [cognitive decline](#) events were also unfortunately common," Fendler said. "These results should help clinicians in assessing patients' prognoses and educating potential LVAD candidates, based on risk for this important poor outcome that has not been previously well-described."

In another study (abstract 413), Fendler and colleagues looked at 164 patients who received an LVAD from January 2012 to October 2013 at a single hospital and analyzed how those patients fared for up to one year.

Poor overall results included not only death, but also severe, disabling stroke; poor patient-reported quality of life; or multiple readmissions for continued heart failure after the LVAD was implanted.

They found that 35.4 percent experienced poor overall health. Among these:

- 63.8 percent died.
- 29.3 percent reported poor quality of life related to their health.
- 5.2 percent had two or more heart failure readmissions to the hospital.
- 1.7 percent had a disabling stroke.

Compared to patients with good results in the year following LVAD placement, the group of patients with poor overall results had longer hospital stays for device placement; had been given LVADs as permanent therapy more often; and had more bleeding events, a common occurrence in patients with this device.

"These studies are important, because although LVAD therapy is a powerful, life-prolonging option that frequently improves heart failure related quality of life in very sick end-stage [heart failure](#) patients, they may also be at risk of experiencing device-related complications that could impair their overall quality of life," Fendler said. "While a third of patients with LVAD therapy experienced a poor outcome using our definition, the likelihood of death within one year had these patients not received an LVAD is much higher."

"LVADs represent an important and beneficial therapy that patients should have the option of pursuing, though these patients should be appropriately informed regarding life with LVAD support in order to make individual decisions," Fendler said.

Provided by American Heart Association

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