

# Drug could reduce serious complication in cardiac bypass patients

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Credit: Duke University

Patients undergoing cardiac surgery that requires use of a heart-lung machine can see complications afterwards. Some experience low cardiac output syndrome (LCOS), in which their heart is unable to pump enough blood to properly supply their organs, making them susceptible to heart attack, death and other risks.

A study led by researchers at the Duke Clinical Research Institute (DCRI) found that the drug levosimendan did not reduce the combined short-term incidences of death, kidney failure, [myocardial infarction](#) or use of a mechanical assist device among high-risk [patients](#) undergoing [cardiac surgery](#) on bypass machines. However, levosimendan did reduce the incidence of low cardiac output syndrome and could be a safe alternative to other drugs that aim to improve the heart's pumping function. Levosimendan is widely-used in Europe, but is not approved for use in the United States.

The findings were presented Sunday at a late-breaking session at the American College of Cardiology 66th Annual Scientific Session in Washington, D.C. They are based on a randomized study of 882 patients from 70 medical centers in the United States and Canada. Prior to [cardiac bypass surgery](#), each patient's left ventricular ejection fraction, one measure of how much blood the heart is pumping, was 35 percent or less. Such levels indicate pre-existing, reduced pumping function, which is associated with the development of LCOS.

"Given the substantial morbidity and mortality of patients who develop LCOS following surgery, understanding how to safely treat or prevent the condition is critically important," said John Alexander, M.D., the study's senior author and member in the DCRI.

Provided by Duke University

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