

# Surgery improves endocarditis-induced heart failure survival rates

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Surgery significantly improves short- and long-term outcomes in patients with heart failure caused by a bacterial infection known as endocarditis, according to Duke University Medical Center researchers.

"About 60 percent of patients with [heart failure](#) in [endocarditis](#) undergo surgery during initial hospitalization," says Duke cardiologist Andrew Wang, M.D., senior author of the study which appears today in the [Journal of the American Medical Association](#). He believes that percentage should be higher. American College of Cardiology guidelines strongly recommend surgery for this condition.

"Patients with heart failure as a complication of endocarditis do not do well and require very [aggressive treatment](#)," says Wang. "Our study shows patients who were treated with surgery do better during initial hospitalization and at one year. We were surprised to see that also holds true for patients with milder forms of heart failure who may only receive [medical therapy](#). Patients with milder degrees of heart failure did better with surgery when compared to those who did not undergo surgery."

Endocarditis is an infection that occurs when bacteria or fungi adhere to and destroy the tissues in the lining of the heart and [heart valves](#). As a result, the valves stop working properly. They begin to leak, which causes blood to flow in the wrong direction. That leads to heart failure, meaning the heart can no longer pump enough blood to the rest of the body.

About one-third of endocarditis patients develop heart failure that can be severe and often fatal. Previous studies show endocarditis is associated with a mortality rate of 15%-20% in the hospital, and 40% within one year of diagnosis. In the U.S. alone, about 15,000 cases of endocarditis are reported each year.

While endocarditis risk is higher in already malfunctioning valves, it also occurs when bacteria enters the bloodstream of otherwise healthy hearts. "We're seeing it as a complication of medical procedures more frequently," Wang says.

The study data were collected from the International Collaboration on Endocarditis-Prospective Cohort Study, which enrolled more than 4,000 patients from 61 centers in 28 countries between June 2000 and December 2006. Of the 1,359 [patients with heart failure](#), 839 (61.7%) had valve surgery during their initial hospitalization. Heart failure patients who had surgery had a significantly lower, unadjusted in-hospital mortality rate (20.6%) compared to those who did not undergo surgery (44.7%). The one-year mortality rate was 29.1% for patients who were treated with surgery compared to 58.4% for patients treated with medical therapy alone.

"This study gives us a much better understanding of one of the most feared complications of endocarditis, which is heart failure," says Wang. "We now know that the prognosis and outcome can be poor unless patients are followed closely and treated aggressively by a multi-disciplinary team of cardiologists, infectious disease specialists and cardiothoracic surgeons."

**More information:** JAMA. 2011;306[20]:2239-2247.

Provided by Duke University Medical Center

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