

New research says heart failure worse when right ventricle goes bad

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New research from the University of Alabama at Birmingham (UAB) suggests that the ability of right side of the heart to pump blood may be an indication of the risk of death to heart-failure patients whose condition is caused by low function by the left side of their heart.

The ability of the two chambers of the heart, the left and right ventricles, to pump blood is described as ejection fraction. Healthy individuals typically have ejection fractions between 50 and 65 percent in both chambers.

In findings reported in January in *Circulation*, a journal of the American Heart Association, researchers at UAB say that low right-ventricular ejection fraction (RVEF) increased the risk of death in patients with systolic [heart failure](#) — heart failure associated with low left-ventricular ejection fraction.

"The role of the right ventricle in chronic systolic heart failure has been overlooked for many years, in part because it was considered to be merely a passive chamber," said Ali Ahmed, M.D, MPH., associate professor of medicine in the Division of Cardiovascular Disease and the senior author of the study. "Studies of the effect of RVEF on outcomes in heart failure have been limited by small sample size and short follow-up."

Using data from 2,008 patients with advanced chronic systolic heart failure in the Beta-Blocker Evaluation of Survival Trial sponsored by the

National Heart, Lung and Blood Institute, one of the National Institutes of Health, the UAB team discovered that [death rates](#) went up as RVEF went down.

Patients with a RVEF of greater than 40 percent had a death rate of 27 percent during the two-year study. But when the RVEF dropped to less than 20 percent, the death rate increased to nearly half, or 47 percent, of the patients.

"Our study suggest that RVEF is a marker of poor prognosis in patients with heart failure and should be routinely measured to better identify these at-risk patients and provide appropriate therapy for them," said Ahmed. "Future studies need to determine the risk factors for RVEF impairment and to develop and test interventions that may improve outcomes in heart failure patients with low RVEF."

Provided by University of Alabama at Birmingham

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