

# New study finds cardiovascular rehabilitation helps reduce risk of death in depressed heart patients

14 November 2016



Depression has been known to be associated with poor cardiovascular outcomes, but if patients who are depressed attend cardiac rehabilitation after heart surgery, their risk of death is significantly reduced, according to a new study by researchers at the Intermountain Medical Center Heart Institute. Credit: Intermountain Medical Center Heart Institute

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The study, conducted by researchers at Intermountain Medical Center Heart Institute in Salt Lake City, found that patients who were moderately to severely depressed had a higher risk of [death](#) after cardiovascular surgery than patients with mild to no depression. However, if those moderately to severely depressed patients attended rehabilitation after surgery, their risk of death was moderately reduced.

"We know the presence of moderate to severe

[depressive symptoms](#) prior to cardiovascular surgery is a major risk factor for death, but our study shows that if those patients attend [cardiac rehabilitation](#), their risk for death decreases significantly," said the Intermountain Medical Center Heart Institute's Viet Le, MPAS, PA, lead author of the study.

Results of the study will be presented at the 2016 American Heart Association's Scientific Session in New Orleans on Sunday, November 13, at 5 pm, CST.

Several benefits of cardiac rehabilitation may play a role in reducing the risk for death in heart patients after cardiovascular surgery, Le said.

"We think cardiac rehab helps patients to manage their expectations as they return to work and life," he said. "This comes from having a support group of fellow patients who may be further along in their rehab, as well as having exercise and activity protocols managed by experienced staff who can encourage consistent follow-up as well as 'slow' an overly enthusiastic patient. Getting patients out of their home after surgery, where they may overthink the effects of the disease, to a place where their job is to heal can enhance not only their physical recovery but their emotional health."

The research indicates that patients who attend rehabilitation after surgery reduced their risk of death by nearly half, Le said, but further study is required to determine whether other factors contribute to this result, as well.

The Intermountain Medical Center Heart research team compiled information from 118 patients undergoing heart surgery who completed a nine-question patient health questionnaire (PHQ)-9 during an outpatient visit before their surgery.

Patients were categorized based on their results of their survey as having no to mild depressive symptoms or moderate to severe depressive symptoms. Following each patient's completion of the last questionnaire, patients were followed post-surgery to determine the association of pre-[surgery](#) PHQ-9 depressive symptoms and death.

At the conclusion of the study, death occurred in 6.1 percent in patients with no to mild depressive symptoms and in about 25 percent of [heart](#) patients with moderate to severe depressive symptoms, showing that depressive symptoms were significantly associated with death.

Among [patients](#) with moderate to severe depression however, attending cardiac rehabilitation significantly decreased their risk of death by 74 percent (HR=0.26, p=0.02).

Provided by Intermountain Medical Center

APA citation: New study finds cardiovascular rehabilitation helps reduce risk of death in depressed heart patients (2016, November 14) retrieved 8 June 2022 from

<https://medicalxpress.com/news/2016-11-cardiovascular-death-depressed-heart-patients.html>

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