

# Long-term survival from abdominal aortic aneurysm repair improving

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Long-term survival for patients undergoing surgical repair of intact abdominal aortic aneurysms has improved in recent decades, according to a Swedish study reported in *Circulation: Journal of the American Heart Association*.

An abdominal aortic aneurysm is a bulge in the main artery leading away from the heart (the aorta) that occurs below the kidneys (in the abdomen). If such a bulge bursts, hemorrhaging can occur within the abdominal cavity. These aneurysms can be monitored or corrected surgically while the bulge is intact, but require emergency surgery when ruptured.

In the new study, researchers examined patient outcomes of 8,663 operations to repair intact aneurysms and 4,171 to repair ruptured ones from 1987 to 2005. The researchers used the patients' relative five-year survival rate as a key measure. That rate excluded patients who died within 90 days of surgery and was based on a comparison of expected survival rates in a broader population with the same demographic characteristics.

Among patients whose intact aneurysms were repaired during the 18 years of the study, the relative five-year survival rate was 90.3 percent, with patients surviving an average of almost nine years after surgery.

The study found that short-term crude, or actual, survival rates improved among patients who underwent surgery to repair a ruptured abdominal

aortic aneurysm. The relative survival rate held steady at about 87 percent. On average, patients who underwent repair for a ruptured aneurysm lived 5.4 years after surgery. Researchers found no significant differences in relative five-year survival rates between men and women or between age groups.

However, researchers found differences in the repair of intact aneurysms. Relative survival was 10.2 percent higher among patients in their 80s than among those age 79 and younger and 4.6 percent higher for male patients than for female patients. Researchers said the survival gap between the sexes in intact repairs may be due to higher levels of atherosclerosis (plaque buildup causing thickening of the arteries) in female versus male patients.

Patients undergoing elective repair of intact aneurysms face low risk and can look forward to close-to-normal longevity after surgery, said Kevin Mani, M.D., lead author of the study and physician at the Department of Vascular Surgery at Uppsala University Hospital in Sweden. "The fact that operative treatment for abdominal aortic aneurysm is offered to older patients, with more frequent cardiovascular disease, could have resulted in inferior long-term outcomes. But this was fortunately not the case. Accurately selected elderly patients can have excellent long-term survival after surgery."

Advances in postoperative care have helped improve both short- and long-term outcomes for patients with intact aneurysms who undergo repair, Mani said. Furthermore, a less-invasive surgical technique known as endovascular aneurysm repair (EVAR) has allowed surgical repair for greater numbers of older patients with additional health problems.

Though patients who underwent EVAR on average were older, "the results of the current study show that patients offered EVAR have the same long-term outcome — relative survival compared to the general

population — as patients operated on with more invasive open surgery," Mani said.

Researchers used data from the Swedish Vascular Registry, which Mani describes as a meticulously maintained and validated database that's cross-linked to mortality data from a nationwide population registry. Patient outcomes were followed for an average of nine years.

The study's findings may not necessarily translate to other countries, however. Differences in healthcare systems and clinical decision making for patients pursuing elective abdominal aortic aneurysm repair elsewhere could yield different survival rates, Mani said, noting that elective repair and EVAR are more common in the United States than in Europe.

Nevertheless, general trends toward increased use of EVAR, treatment of older patients with more health problems and improved preventive care in people with existing heart disease are boosting long-term survival globally, he said.

Source: American Heart Association ([news](#) : [web](#))

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