



The Society of Thoracic Surgeons  
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# News

**STS Press Release**

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## Case Volume May Influence Mortality Rates for Acute Aortic Dissection Repair

*Lower mortality rates observed among surgeons and institutions performing more operations*

Chicago — Mortality rates among patients undergoing surgical repair of acute aortic dissection in the United States appear to be strongly associated with both institution and surgeon case volume, with lower mortality rates among surgeons and institutions annually performing more of the operations, according to a study published in the May 2013 issue of *The Annals of Thoracic Surgery*.

An aortic dissection is a tear in the wall of the aorta that allows blood to flow within the layers of the aorta. Because death from rupture or compromise of blood flow to major organs can ensue, early diagnosis and treatment of this illness is critical for survival.

Researchers from Mount Sinai Medical Center in New York examined outcomes from 5,184 patients following operative repair of acute aortic dissection from 2003 to 2008 obtained from the Nationwide Inpatient Sample (NIS) database maintained by the Agency for Healthcare Research and Quality. Additionally, to evaluate hospital and surgeon trends in acute thoracic dissection repairs over time, NIS data on 24,777 patients from 1998 to 2008 were evaluated.

### Key Points

- Operative mortality among patients undergoing surgery for acute aortic dissection remains high, but has decreased over time.
- Observed mortality rates are lower among surgeons and institutions performing higher volumes of aortic dissection repairs annually.
- Routine involvement of health care teams experienced in acute aortic dissection repair may help reduce operative mortality.

“Aortic dissection is usually an emergency, which limits the ability of patients to choose where they want to be treated,” said Joanna Chikwe, MD, one of the study’s senior authors. “However, our data suggest that in settings where physicians may be able to refer a patient to several surgical centers without delaying surgery, the patient’s chances of surviving are greatest in the hospitals that specialize in these types of procedures.”

Overall, operative mortality was 21.6% and major post-operative complications occurred in 71.1% of patients. Pre-operative patient risk profiles were similar across institutions and individual surgeons. Operative mortality decreased across the study period from 23% in 1998-2000 to 19.1% in 2005-2008, while the number of procedures performed remained relatively constant.

Surgeons who averaged less than one aortic dissection repair annually had an average operative mortality of 27.5%, compared with an operative mortality of 17% for surgeons averaging five or more aortic dissection repairs annually. Similarly, operative mortality among institutions performing three or fewer aortic dissection repairs per year was 27.4%, compared with 16.4% among institutions performing more than 13 of the procedures annually.

“Our research findings add to the growing body of literature showing that hospitals and surgeons who perform greater numbers of cardiac operations, such as mitral valve repair and complex aortic surgery, may have better outcomes from those procedures,” said Dr. Chikwe.

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For a copy of the study contact Cassie Brasseur at 312-202-5865 or [cbrasseur@sts.org](mailto:cbrasseur@sts.org).

Founded in 1964, The Society of Thoracic Surgeons is a not-for-profit organization representing more than 6,600 cardiothoracic surgeons, researchers, and allied health care professionals worldwide who are dedicated to ensuring the best possible outcomes for surgeries of the heart, lung, and esophagus, as well as other surgical procedures within the chest. The Society’s mission is to enhance the ability of cardiothoracic surgeons to provide the highest quality patient care through education, research and advocacy.

*The Annals of Thoracic Surgery* is the official journal of STS and the Southern Thoracic Surgical Association.