

## ABDOMINAL AORTIC ANEURYSM (AAA) REPAIR

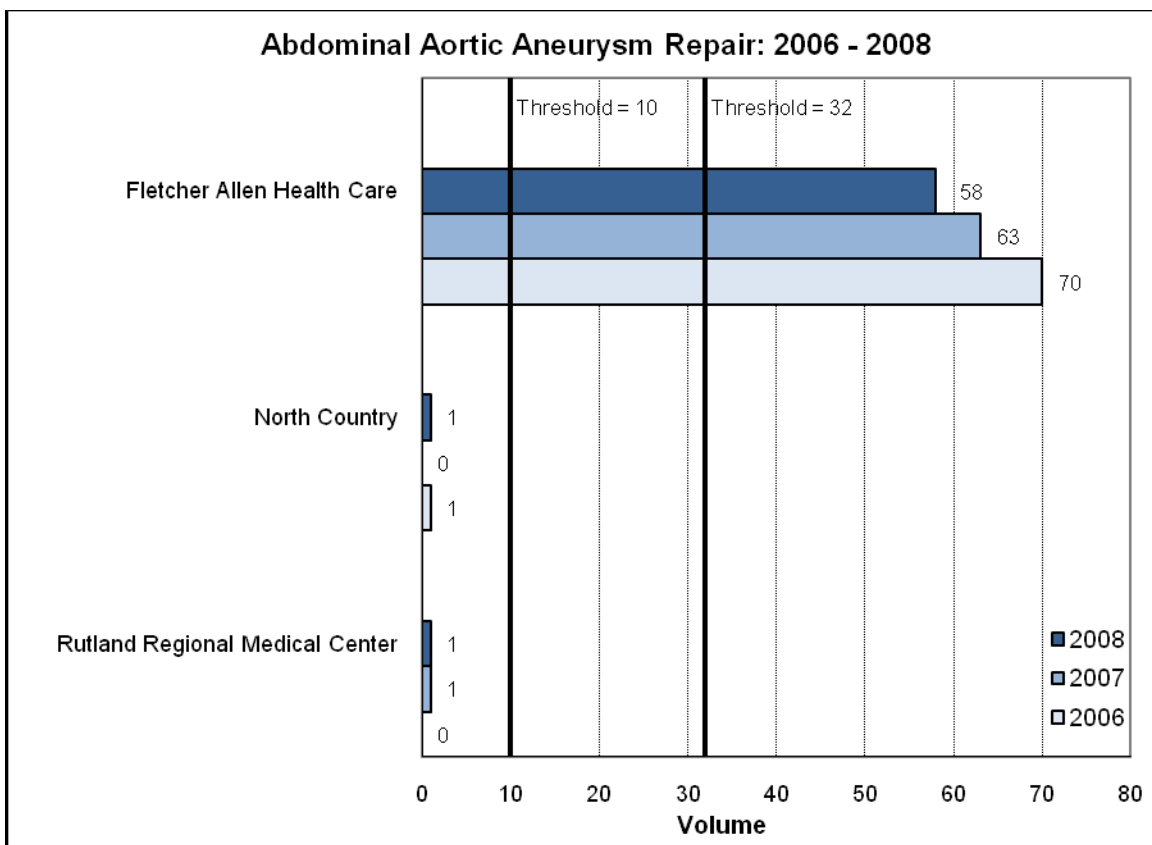
An aneurysm is a defect or swelling in the wall of a weak or damaged artery. The aorta is the main artery carrying blood from the heart to the rest of the body. Aneurysms that occur in the part of the aorta within the abdomen are called abdominal aortic aneurysms.

Surgery called abdominal aortic aneurysm repair can repair the artery before it ruptures. In some cases, once the aneurysm ruptures, the patient may be saved by emergency surgery.

### Abdominal Aortic Aneurysm Repair: Volume

Volume is measured as the number of patients who underwent AAA repair at a particular hospital. There are medical studies that suggest that patients who have their surgery at hospitals that perform higher volumes of these procedures have better medical outcomes (fewer deaths or complications) than patients who have surgery at hospitals that perform fewer procedures. For AAA Repair, the medical studies suggest that the minimum number of procedures is 10 or 32 procedures each year at a particular hospital (shown as “Thresholds” in the graph below; see [Technical Guide](#) for more information). Volume data should always be considered together with medical outcomes, such as the mortality data shown in the table on the next page.

- Hospitals not shown had no cases in the reporting years.
- Hospital comments about this measure are listed below the mortality table.
- These volume data may include more patients than the mortality data on the following page. The mortality data exclude patients who were discharged (transferred) to another hospital or for whom discharge information is unknown.



## Abdominal Aortic Aneurysm Repair: Mortality Rate

Mortality refers to the number of patients who underwent the procedure at a hospital and died at the same hospital (see **Technical Guide** for more information).

- Lower rates may represent better quality.
- These measures lack reliability and are influenced by random variation when the number of procedures is small. Small numbers of reported cases are often not sufficient for establishing a pattern of care. For this reason, mortality rates are not calculated for hospitals with fewer than 25 cases in a reporting year. Even when there are more than 25 cases, caution should be used when interpreting rates.
- Hospitals not shown had no cases in any of the reporting years.
- Hospital comments about this measure are listed below the table.
- These mortality data may include fewer patients than the volume data on the previous page. The mortality data exclude patients who were discharged (transferred) to another hospital or for whom discharge information is unknown.

Hospitals performing procedures in 2006, 2007, and/or 2008	Number of Procedures			Number of Deaths			Mortality Rate					
							Observed Rate			Risk-Adjusted Rate		
	2006	2007	2008	2006	2007	2008	2006	2007	2008	2006	2007	2008
Fletcher Allen Health Care	70	63	58	3	3	0	4%	5%	0%	4%	4%	0%
North Country Hospital	1	0	1	0		1	*		*	*		*
Rutland Regional Medical Center	0	1	1		0	0		*	*		*	*
<b>Vermont Total</b>	<b>71</b>	<b>64</b>	<b>60</b>	<b>3</b>	<b>3</b>	<b>1</b>	<b>4%</b>	<b>5%</b>	<b>2%</b>	<b>4%</b>	<b>4%</b>	<b>2%</b>
<b>National Total</b>										<b>6%</b>	<b>6%</b>	<b>NA</b>

\* Rates for hospitals with fewer than 25 procedures are not presented because of concerns that small numbers result in statistically unreliable rates.

NA = "Not Available" - National mortality rates are not yet available for 2008 (<http://hcup.ahrq.gov>).

### Definitions

Number of Procedures	- The number of patients who underwent this procedure at the hospital (does not include patients who were transferred to another hospital or who have unknown discharge information).
Number of Deaths	- The number of patients who underwent this procedure at a hospital and died at the same hospital.
Mortality Rate	- The percentage of patients who underwent this procedure who died at the hospital. Two ways of measuring this rate are Observed Rate and Risk-Adjusted Rate.
Observed Rate	- The Number of Deaths divided by the Number of Procedures. This does not take into account age, gender, or the complexity of particular cases.
Risk-Adjusted Rate	- Mortality rate adjusted for age, gender, and complexity. This rate allows for better comparisons between hospitals. It is important to note, however, that it is difficult to draw firm conclusions from rates based on a small number of procedures.

The following hospitals provided additional comments about abdominal aortic aneurysm repair:

**Fletcher Allen Health Care:** Fletcher Allen Health Care, as Vermont's academic medical center, performs a wide range of vascular surgical procedures, including the Abdominal Aortic Aneurysm (AAA) procedure. All Fletcher Allen vascular surgeons are fully certified by the American Board of Surgery with specific qualifications in Vascular Surgery.

Fletcher Allen's extensive vascular surgery activity strengthens surgeon expertise in this critical subspecialty and contributes to the low mortality rate seen in the data above. The vascular care team at Fletcher Allen reviews surgical outcomes as part of its academic training program and actively engages in efforts to continuously improve the long-term outcomes for this population.

**Rutland Regional Medical Center:** All of the surgeons performing Abdominal Aortic Aneurysm (AAA) repairs at the Rutland Regional Medical Center are board certified by the American Board of Surgery. They have all been trained and have experience in the surgical repair of AAAs. The volume thresholds for AAA repair are not absolute safety thresholds and should only be viewed alongside other quality indicators. The United States Agency for Healthcare Quality and Research (AHRQ) states that AAA repair volume "is a proxy measure, should be paired with mortality or other related quality indicator." A significant percentage of the AAA repairs at RRMC are emergency cases where the aneurysm has ruptured and urgent surgical repair is required to save the patient's life. Under such circumstances transfer of the patient to another institution may reduce the chances of survival. RRMC is a participating member of the Vascular Study Group of New England, a voluntary, cooperative group of physicians, hospitals and researchers organized to improve the care of patients with vascular disease by sharing outcome data and quality improvement efforts.

**North Country Hospital:** Because of research showing improved survival rates in hospitals performing high volumes of Abdominal Aortic Aneurysm (AAA) procedures, North Country Hospital does not perform elective AAA repairs. Unfortunately, AAA is frequently only diagnosed when a patient presents to the hospital with sudden and rapidly worsening symptoms suggestive of rupture. When this happens, North Country rapidly assesses the patient using state-of-the-art technology to confirm the size and extent of the aneurysm. Immediate emergency surgery is performed only when it offers the only possibility of survival.