



Study of patients undergoing abdominal aortic aneurysm repair suggests screening guidelines may be inadequate

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ROSEMONT, Ill., January 5, 2020 – A retrospective study analyzing approximately 55,000 patients undergoing abdominal aortic aneurysm (AAA) repair suggests current AAA screening guidelines may be inadequate in detecting a significant number of new cases. Additionally, expanding screening for certain population segments may be warranted. The study patients were enrolled in the Vascular Quality Initiative between years 2003 and 2019.

The study was spearheaded by Jeffrey E. Indes, MD, vascular surgeon at Montefiore Einstein Center for Heart and Vascular Care, and results were published in the December 2020 edition of the *Journal of Vascular Surgery*.

Few diagnoses are as devastating as a ruptured AAA. Ruptured AAAs were responsible for close to 10,000 deaths in 2017 and represent the 15<sup>th</sup> leading cause of death in the United States.

“Screening can lead to elective AAA repair, which has a far lower mortality than ruptured AAA,” said first author Matthew L. Carnevale, MD, of the Montefiore Health System and Albert Einstein College of Medicine. “The mortality rate for a patient with a ruptured AAA who never makes it to a hospital is exceedingly high. For those who do make it to a hospital, the 30-day mortality rates vary between 20 and 50%.”

Screening guidelines derived from the 2005 U.S. Preventive Services Task Force (USPTF) recommendations involve a one-time abdominal ultrasound examination only for men aged 65-75 with a history of smoking. An update published in December 2019 added selective screening only for men aged 65-75 without a history of smoking.

In 2018, the Society for Vascular Surgery (SVS) suggested including women aged 65-75 with a history of smoking. Additionally, the SVS expanded its criteria to include: first-degree relatives of those with an AAA, and anyone older than 75 with a history of smoking and who is fit for repair.

Amongst those cases, the percentage of patients that would have been captured via screening depended on the guidelines used:

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|---------|---|----------|
| • USPTF | 32% Endovascular Aneurysm Repair (EVAR) | 33% open |
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Published on Society for Vascular Surgery (<https://vascular.org>)

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| • SVS          | 38% Endovascular Aneurysm Repair EVAR   | 45% open |
| • Expanded SVS | 72% Endovascular Aneurysm Repair (EVAR) | 66% open |

Thus, even when using the most liberal guidelines, 27% of EVAR and 33% of open cases would not have met any screening criteria.

Of all those who did not meet screening criteria, ruptured AAA was twice as prevalent as those who did meet the criteria (9% vs 4%,  $P < .0001$ ).

“These findings suggest an investigation into expanding the scope of current screening protocols is warranted,” said Carnevale. “With adequate screening protocols, we are able to identify disease at an early stage, thereby monitoring the progression and potentially improving the outcome for more patients with AAA,” said Carnevale.

“Our study additionally describes the clinical characteristics and outcomes in patients undergoing EVAR and open surgery who did not meet the currently accepted screening guidelines. The two distinct populations identified include those under the age of 65 (mainly 40-59) with a significant smoking history and those over 65 (mainly over 75) with no smoking history; these two groups may warrant future investigation,” he said.

Typically treated by a vascular surgeon, to keep AAA symptoms from worsening, patients may be advised to avoid tobacco products, follow a healthy diet, keep blood pressure and cholesterol levels under control and exercise regularly.

To download the full journal article, visit <http://vsweb.org/JVS-AAAscreeningStudy> .

**Article Date:** Tuesday, January 5, 2021

**Author:** Study published in Journal of Vascular Surgery

**Article Type:** Press Release