

UPDATE ON CURRENT SCREENING FOR AAA IN THE US

Most Ruptured AAAs Occur in Patients Not Being Screened: How Should USPSTF Recommendations Be Changed and How Should Screening Groups Be Expanded

Beth Israel Lahey Health

Marc L. Schermerhorn, MD
George H. A. Clowes Jr, Professor of Surgery
Harvard Medical School
Chief, Division of Vascular Surgery
Beth Israel Deaconess Medical Center

Beth Israel Deaconess Medical Center | HARVARD MEDICAL SCHOOL TEACHING HOSPITAL

Disclosures

- None

Beth Israel Deaconess Medical Center | HARVARD MEDICAL SCHOOL TEACHING HOSPITAL

rAAA Mortality

- rAAA mortality remains high despite the introduction of EVAR
- Prophylactic repairs offer much lower mortality

Repair Type	Group	30-day	1-year
EVAR	Intact Men	~10%	~10%
	Intact Women	~10%	~10%
OPEN	Ruptured Men	~30%	~50%
	Ruptured Women	~30%	~50%

Lo et al., JVS (2013)

Update on Current Screening for AAA in the U.S. | November 2024

Beth Israel Deaconess Medical Center | HARVARD MEDICAL SCHOOL TEACHING HOSPITAL

Current AAA Screening Guidelines

USPSTF

- Screen men 65-75 who have ever smoked
- Selective screening for men 65-75 with family history or other risk factors
- Insufficient evidence for women 65-75 with smoking or family history

2006: Implementation SAAVE Act

2007: CMS Reimbursement

- Men 65-75 who have ever smoked
- Men/women 65+ with family history

Gutierrez-Makler et al., JAMA (2019)

Update on Current Screening for AAA in the U.S. | November 2024

Beth Israel Deaconess Medical Center | HARVARD MEDICAL SCHOOL TEACHING HOSPITAL

Impact of Screening Policy on rAAA Incidence

- Screening likely contributed to a decrease in rAAA repairs
- However, many patients admitted for rAAA or undergoing rAAA repair are ineligible for screening

Conroy et al., JVS (2022)

Update on Current Screening for AAA in the U.S. | November 2024

Beth Israel Deaconess Medical Center | HARVARD MEDICAL SCHOOL TEACHING HOSPITAL

Screening Ineligibly for AAA

Epidemiology of endovascular and open repair for abdominal aortic aneurysms in the United States from 2004 to 2015 and implications for screening

68% of patients admitted with rAAA
59% of patients who underwent rAAA repair

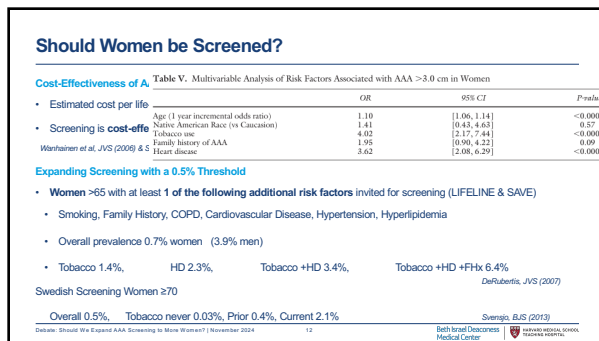
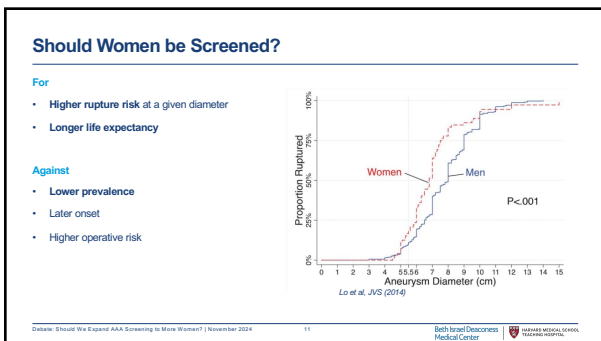
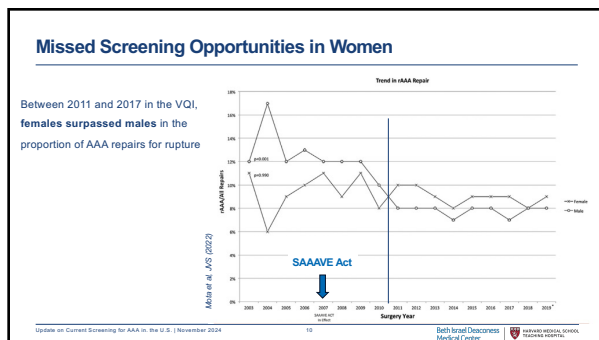
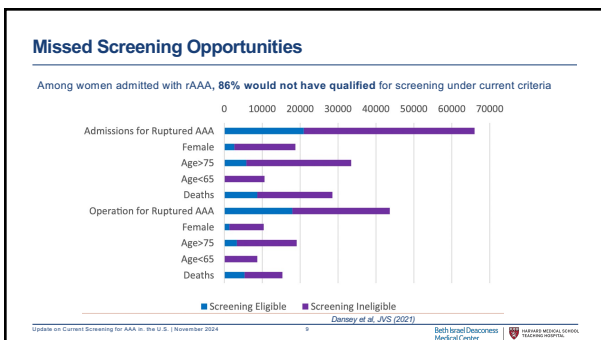
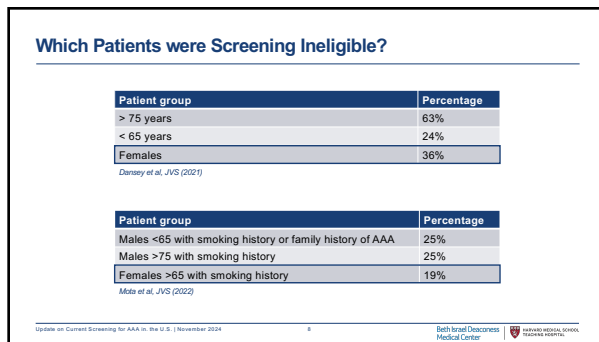
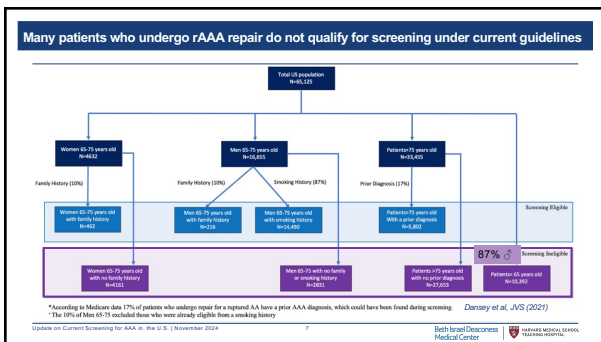
Overview of screening eligibility in patients undergoing ruptured AAA repair from 2003 to 2019 in the Vascular Quality Initiative

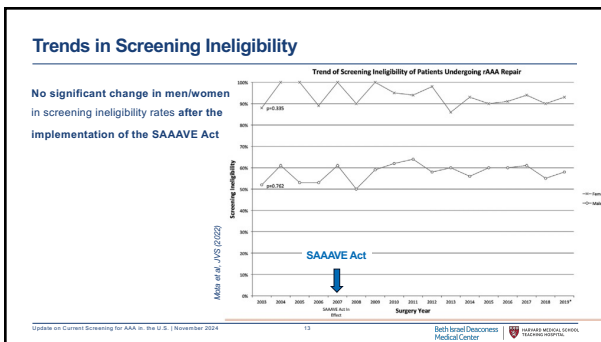
66% of patients who underwent rAAA repair

Lucas Mota, MD, Christina L. Marcaccio, MD, Kirsten D. Dansey, MD, Thomas F. X. O'Donnell, MD, Peter A. Soden, MD, Sara L. Zettervall, MD, Marc L. Schermerhorn, MD, FACS, Boston, Mass; Utrecht, The Netherlands

Update on Current Screening for AAA in the U.S. | November 2024

Beth Israel Deaconess Medical Center | HARVARD MEDICAL SCHOOL TEACHING HOSPITAL





Current AAA Screening Guidelines

Based on RCTs in an era where the predominant modality of repair was open surgery

The Multicentre Aneurysm Screening Study (MASS) into the effect of abdominal aortic aneurysm screening on mortality in men: a randomised, controlled trial

H.A. Ashton¹, M.J. Buxton, N.E. Day, L.D. Kim, T.M. Mahieu, R.A.P. Scott, S.G. Thomas
N.M. Walker; Multicentre Aneurysm Screening Study Group

2002

Long-term benefit and cost-effectiveness analysis of screening for abdominal aortic aneurysms from a randomized controlled trial

J.S. Lindholt¹, J. Sørensen, R. Sgaard, E.W. Hennings

2010

Influence of screening on the incidence of ruptured abdominal aortic aneurysm: 5-year results of a randomized controlled study

R.A. Scott¹, N.M. Walker, H.A. Ashton, D.H. Kay

1995

Population based randomised controlled trial on impact of screening on mortality from abdominal aortic aneurysm

Paul E Norman¹, Konrad Jamrozik, Michael M Lawrence-Brown, Max T Q Li, Cui Raywin J Tsuchi, Richard W Parsons, James A Dickinson

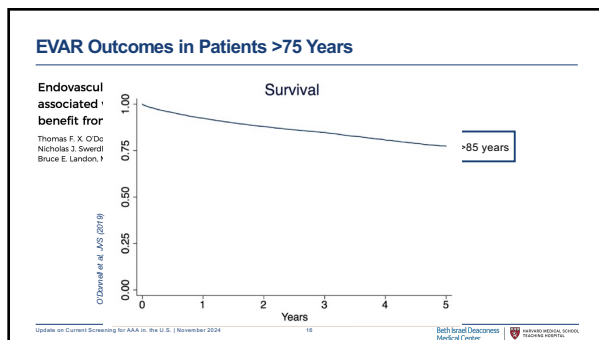
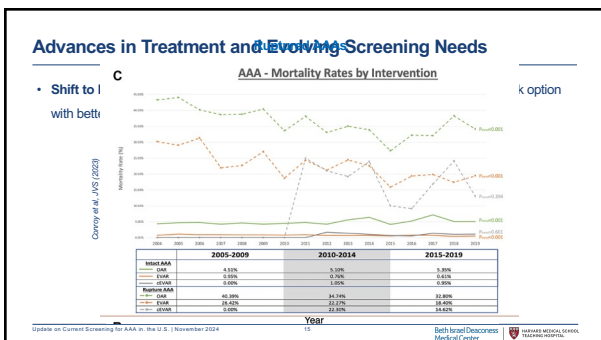
2004

127,891

9342

64-83 years old

Update on Current Screening for AAA in the U.S. | November 2024



Overview

- Most patients presenting with rAAA do not meet the criteria for screening
- Current screening guidelines are based on outdated operative risk factors
- Screening is cost-effective at a prevalence as low as 0.5%
- Patients currently excluded are likely to benefit from screening expansion

Update on Current Screening for AAA in the U.S. | November 2024

2018 SVS AAA Screening Guidelines

Strong recommendation

- Men/women 65-75 with smoking history

Weak recommendation

- Men/women ≥65 with a family history
- Men/women >75 with smoking history
- Rescreening after 10 years for aortic diameter of 2.5-3.0 cm

We recommend a one-time ultrasound screening for AAAs in men or women 65 to 75 years of age with a history of tobacco use.

Level of recommendation: 1 (Strong)
Quality of evidence: A (High)

We suggest ultrasound screening for AAA in first-degree relatives of patients who present with an AAA. Screening should be performed in first-degree relatives who are between 65 and 75 years of age or in those older than 75 years and in good health.

Level of recommendation: 2 (Weak)
Quality of evidence: C (Low)

We suggest a one-time ultrasound screening for AAAs in men or women older than 75 years with a history of tobacco use and in otherwise good health who have not previously received a screening ultrasound.

Level of recommendation: 2 (Weak)
Quality of evidence: C (Low)

If initial ultrasound screening identified an aortic diameter >2.5 cm but <3 cm, we suggest rescreening after 10 years.

Level of recommendation: 2 (Weak)
Quality of evidence: C (Low)

Update on Current Screening for AAA in the U.S. | November 2024

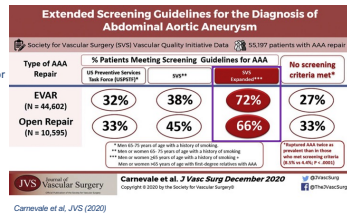
Screening Ineligibility with SVS Expanded Guidelines

Expanded SVS guidelines include

- Male/female >65 years with smoking history
- Male/female >65 years with first-degree relatives with AAA
- Male/female >75 with smoking history or first-degree relative with AAA

Expanded SVS guidelines capture

- 72% of EVAR
- 66% of open repairs



Update on Current Screening for AAA in the U.S. | November 2024

19

Beit Israel Deaconess Medical Center | Harvard Medical School | Brigham Young University

Recommendations Should be Changed

Screening in male/female smokers aged 65-75 years old

Screening in the elderly for patients with a smoking history and a reasonable 5-year life expectancy

Develop a more sensitive screening algorithm based on established risk factors to identify high-risk patients better in currently excluded groups

Update on Current Screening for AAA in the U.S. | November 2024

20

Beit Israel Deaconess Medical Center | Harvard Medical School | Brigham Young University

Thank You



21

Beit Israel Deaconess Medical Center | Harvard Medical School | Brigham Young University