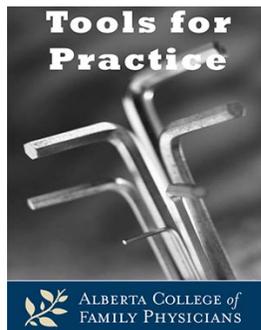


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Evidence Updated: None; updated context
Bottom Line: No change
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Screening for Abdominal Aortic Aneurysm: None, Some or All?

Clinical Question: Does screening asymptomatic patients in primary care for abdominal aortic aneurysm (AAA) alter mortality?

Bottom Line: Recommended ultrasound screening of men aged 65-74 for AAA can prevent 1 AAA-related death in 238 screened after 10 years, but does not change all-cause mortality. Population-based screening is not indicated for women.

Evidence:

Men:

- MASS study:¹ High-quality Randomized Controlled Trial (RCT) of 67,800 asymptomatic primary care British men aged 65-74 years randomized to invitation to one-time screening with abdominal ultrasound versus no invitation.
 - Prevalence of AAA (≥ 3 cm)=4.9%.
 - After ten years of follow-up:²
 - AAA-related mortality: 4.6/1000 deaths with screening versus 8.7/1000 without.
 - Number Needed to Screen (NNS)=238 to prevent one AAA-related death at ten years.

Women:

- One RCT subgroup³ of 9342 asymptomatic primary care British women aged 65-80 years randomized to invitation to screening with ultrasound versus no invitation.
 - Prevalence of AAA = 1.3%.
 - After 30 months of follow-up:
 - No difference in AAA rupture or deaths, or all-cause mortality.

Systematic reviews^{4,5} of 4 RCTs (MASS was ~50% of patients):

- No difference in all-cause mortality (men or women).
- AAA-related mortality decreased only in men.

Context:

- AAA risk factors, odds ratios:⁶
 - Major: Male=5.7, smoking=3 per 10 pack-years, family history of AAA=3.8, age=2.8 per 5-year increase over 55.
 - Minor: Concurrent atherosclerotic disease~1.5, dyslipidemia=1.3, hypertension=1.25, BMI \geq 25=1.2.
- Annual risk of rupture according to maximum diameter of aneurysm:⁷
 - <4 cm = 0.5%, 4-4.9 cm = 1%, 5-5.9 = 11%, 6-6.9 cm = 26%.
- Guideline recommendations:
 - Canada:⁷
 - Men: Screening ultrasound if 65-75 years (if reasonable surgical candidate).
 - Women: No routine screening.
 - Individualized screening if >65 years and multiple risk factors
 - United States:⁸
 - Men: One-time screening ultrasound for current or previous smokers 65-75 years old.
 - Consider selectively screening non-smoking males 65-75 years with other risk factors.
 - Women: No routine screening.
- Abdominal palpation (accuracy):⁹
 - 50% sensitivity for AAA 4-4.9 cm.

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