



# Should we screen women for abdominal aortic aneurysm?

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## Abstract

- **Background:** Almost one-third of deaths from ruptured abdominal aortic aneurysm (AAA) are in women. In men, national or regional screening programmes may reduce deaths from AAA. The benefits, harms and cost-effectiveness in offering similar programmes to women have not been formally assessed.
- **Methods:** A discrete event simulation model was set up for AAA screening, surveillance and intervention. Relevant women-specific parameters were obtained from sources including systematic literature reviews, national registry/administrative databases, major AAA surgery trials, and UK National Health Service reference costs were used.
- **Results:** AAA screening for women, as currently offered to men in the UK and Sweden (at age 65, AAA diagnosis at an aortic diameter of  $\geq 3.0$ cm and elective repair considered at  $\geq 5.5$ cm) gave, over a 30-year time horizon, an estimated incremental cost effectiveness ratio (ICER) of €32,000 (95% CI 13,000 to 93,000) per quality adjusted life-year (QALY) gained, with 3,900 invitations to screening required to prevent one AAA-death and an over-diagnosis rate of 33%. A modified option for women (screening at age 70, diagnosis at 2.5cm and repair at 5.0cm) was estimated to be more cost-effective, with an ICER of €24,000 (10,000 to 76,000) per QALY and 1,800 invitations to screening required to prevent one AAA-death, but an over-diagnosis rate of 55%. There was considerable uncertainty in the ICER, largely driven by uncertainty about AAA prevalence, the distribution of aortic sizes for women at different ages and the impact of screening on quality-of-life.

## Conclusion

An AAA screening programme for women, mimicking that in men, is unlikely to be cost-effective.

Further research on the aortic diameter distribution in older women, the diagnostic threshold for AAA and its repair, and potential quality of life decrements associated with screening are needed to assess the full benefits and harms of modified options.

## Project video

