Calculating when elective abdominal aortic aneurysm repair improves survival for individual patients: development of the Aneurysm Repair Decision Aid and economic evaluation

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Plain English summary

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Abdominal aortic aneurysm (AAA) is a ballooning of the main artery supplying the body; large AAAs may grow until they burst (rupture), at which point 80% of patients die. Currently, repair by major surgery or by inserting a stent–graft is considered if the AAA causes pain or reaches 5.5 cm in diameter for men and 5.0 cm for women. As with all surgery, there are risks associated with repair. These risks must be weighed against the risk of AAA rupture when considering whether or not to treat patients with AAA.

We gathered the best information available on factors that influence the rate of AAA growth, the risk of rupture, the risk of repair and the long-term outcomes of patients who have had a repair. This information was combined using a custom-designed computer program called the Aneurysm Repair Decision Aid (ARDA). The ARDA aims to provide information to help patients and surgeons decide on the best treatment strategy for the AAA. The main information ARDA provides is the expected AAA growth rate and risk of rupture, the chance a patient will need AAA repair, the chance a patient will survive AAA repair and the chance a patient will survive for 5 and 10 years following AAA repair.

We assessed both the clinical and economic impacts of using the ARDA in clinical practice and found that it provides valuable information that could improve decision-making for patients and clinicians.

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