

The use of fenestrated and branched endovascular aneurysm repair for juxtarenal and thoracoabdominal aneurysms: a systematic review and cost-effectiveness analysis

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Plain English summary

Endovascular aneurysm repair for JRAAAs and TAAAs

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Plain English summary

An aneurysm is a widening of a blood vessel. Of aneurysms involving a major blood vessel called the aorta, 75% are located in the abdomen [abdominal aortic aneurysms (AAAs)], whereas the others are located in the chest. Depending on the age group studied and the definition of AAAs, 1.3–12.7% of the population have an AAA. Patients with an acute AAA need rapid medical attention given the high risk of rupture and the fact that there is an 80% risk of death if repair is not carried out. In open surgical repair (OSR), the abdominal and chest cavities need to be opened to repair the aneurysm, whereas in endovascular repair of abdominal aortic aneurysm (EVAR) a hollow tube (stent graft) is inserted through a blood vessel in the groin. When the aneurysm is close to branches from the aorta (e.g. to the kidneys), 'fenestrated' EVAR (fEVAR) is required, where the stent graft extends over the arteries to the kidneys, but blood flows through windows (fenestrations) to the branches. When the aneurysm includes the branch, the term 'branched' EVAR (bEVAR) is used. This study aimed to assess the medical effects (clinical effectiveness) and the value for money (cost-effectiveness) of fEVAR and bEVAR compared with OSR or no surgery. However, no studies that made this comparison were found. Mainly because of the lack of clinical effectiveness data, the cost-effectiveness could not be estimated. Instead, detailed methods for assessing cost-effectiveness are described.

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