



**Title** HTA Elective Endovascular Treatment of Abdominal Aortic Aneurysms

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**Reference** Bonneux L, Cleemput I, Vrijens F, Vanoverloop J, Galloo P, Ramaekers D.  
2005. KCE Reports vol. 23B. Ref. D/2005/10.273/33.  
www.centredexpertise.fgov.be/fr/Publications.html

## Aim

To review the evidence concerning clinical effectiveness and cost effectiveness of elective endovascular treatment (EVAR) of abdominal aortic aneurysms (AAA) compared to watchful waiting and open surgery. To evaluate the introduction of endovascular technology in Belgium based on EUROSTAR registry data.

## Conclusions and results

*Clinical effectiveness:* For patients with aneurysms <5.5 cm, watchful waiting is the preferred treatment. For patients with aneurysms ≥5.5 cm and fit for surgery, EVAR has better short-term results, but worse long-term results. For patients with aneurysms ≥5.5 cm and unfit for surgery, pending further evidence, EVAR increases the risk of morbidity and interventions, without decreasing mortality.

*Cost effectiveness:* EVAR is not cost effective compared to open surgery, but is nevertheless a promising technology. To be a cost-effective option, the costs for the device must decrease, the indication setting for EVAR must improve, and the long-term reintervention rates must decrease.

*Introduction in Belgium:* Many more centers than anticipated recruited patients, and many centers reported low volumes. A numerical association was found between the volume of a hospital and short-term mortality (+50% in centers with fewer than 20 patients). Hospitalization costs averaged 11 500 euros for EVAR, and 7900 euros for open repair.

## Recommendations

1. EVAR should be used only in patients fit for surgery and for aneurysms that are sufficiently large (>5.5 cm, or >5.0 cm with associated risk factors)
2. “AAA repair”, with open surgery or EVAR, should be reimbursed at comparable prices, regardless of the technology used
3. To guarantee a sufficient volume of interventions, only a limited number of vascular centers with tertiary care should offer EVAR.

## Methods

The clinical and economic literature on EVAR (compared to open surgery and watchful waiting) was systematically reviewed. A meta-analysis of the comparison of EVAR versus open surgery was also conducted. Analyses were performed on the EUROSTAR registry database for all patients treated with EVAR in Belgium. Claims data were used to estimate the cost of endovascular repair in Belgium. External experts provided input to the scientific report, and 3 validators validated the scientific content of the report.

## Further research/reviews required

This work has shown the need for global reflection concerning the introduction of emerging technology in the healthcare system. This reflection will be the subject of a future KCE project.