

Costing statement: Endovascular stent–grafts for the treatment of abdominal aortic aneurysms

The guidance on ‘Endovascular stent–grafts for the treatment of abdominal aortic aneurysms’ (NICE technology appraisal guidance TA167) is unlikely to result in a significant change in resource use in the NHS.

The guidance refers to the use of endovascular stent–grafts or open surgical repair only for the treatment of infra-renal abdominal aortic aneurysms. It should be read in conjunction with ‘Stent-graft placement in abdominal aortic aneurysm’ (NICE interventional procedure guidance 163).

The guidance states that:

- 1.1 Endovascular stent–grafts are recommended as a treatment option for patients with unruptured infra-renal abdominal aortic aneurysms, for whom surgical intervention (open surgical repair or endovascular aneurysm repair) is considered appropriate.
- 1.2 The decision on whether endovascular aneurysm repair is preferred over open surgical repair should be made jointly by the patient and their clinician after assessment of a number of factors including:
 - aneurysm size and morphology
 - patient age, general life expectancy and fitness for open surgery
 - the short- and long-term benefits and risks of the procedures including aneurysm-related mortality and operative mortality.

- 1.3 Endovascular aneurysm repair should only be performed in specialist centres by clinical teams experienced in the management of abdominal aortic aneurysms. The teams should have appropriate expertise in all aspects of patient assessment and the use of endovascular aortic stent–grafts.
- 1.4 Endovascular aortic stent–grafts are not recommended for patients with ruptured aneurysms except in the context of research. Given the difficulties of conducting randomised controlled trials, it is recommended that data should be collected through existing registries to enable further research. .

Patient numbers affected

The incidence of symptomatic abdominal aortic aneurysm (AAA) in men is approximately 25 per 100,000 at age 50, increasing to 78 per 100,000 in those older than 70 years. AAAs are about three times more common in men than in women. Most AAAs are detected by chance during clinical investigation (for example, ultrasound or X-ray) for other conditions. Because most AAAs are asymptomatic, it is difficult to estimate their prevalence, but screening studies in the UK have estimated a prevalence of 1.3–12.7% depending on the age group studied and the definition of AAA¹. This gives an estimated incidence of symptomatic AAA of 5900 in England.

There are approximately 2700² procedures for the repair of unruptured AAA each year in England. Currently, it is estimated that 52%³ (1400) of procedures are endovascular stent–graft repairs (EVAR). In an unselected population of patients with AAA, 55%¹ (1500) did not have an absolute morphological contraindication to EVAR. It is assumed then that this is the

¹ Chambers, D, Epstein D, Walker S et al. (2008) Endovascular stents for abdominal aortic aneurysms: a systematic review and economic model. Centre for Reviews and Dissemination and the Centre for Health Economics, University of York.

² Manufacturer's estimate, based on device sales in 2007.

³ Holt PJ, Poloniecki JD, Loftus IM et al. (2007) Epidemiological study of the relationship between volume and outcome after abdominal aortic aneurysm surgery in the UK from 2000 to 2005. *British Journal of Surgery*; 94(4):441–8. Scaled to reflect procedures in England only.

upper limit to the number of EVAR procedures that can take place in the population currently identified.

Commissioners and providers should be aware of a potential increase in numbers of patients presenting for an endovascular stent–graft repair in the future. The Department of Health has introduced a national screening programme for AAA that will be introduced gradually, starting from spring 2009 until 2013. The DH's impact assessment can be found by clicking the following link [DH impact assessment](#), and further information concerning the screening programme can be accessed at the following link [AAA screening](#).

Resource impact

Both open surgical repair of unruptured AAA and EVAR fall under the same health resource group. They are therefore likely to receive the same tariff, although the costs associated with each are estimated as £9893 for open surgical repair and £10,416 for EVAR, meaning an increase in costs for each EVAR procedure of £523⁴. The primary difference in costs is the device, which is excluded from 'Payment by results' and therefore an additional cost to commissioners. The average cost of an EVAR device is estimated as £5000⁴. The actual cost per person will depend on the type of device and number of accessories used.

Because we expect a maximum increase of 100 EVAR procedures per year in England, we do not anticipate a significant impact on resources arising from this guidance in the currently identified patient population. It is not possible to assess the increase due to increased patients identified through the screening programme because the threshold for intervention and the suitability for EVAR may be different from the assumptions above if an aneurysm is detected through screening rather than in a symptomatic patient. The timing of increased patients identified as the screening programme rolls out is also subject to local variation and should be considered locally.

⁴ Based on a sample of data for 2007-08 collected by the NHS Purchasing and Supply Agency from some NHS organisations in England.