



Title **Endovascular Repair Compared With Open Surgical Repair of Abdominal Aortic Aneurysm: Canadian Practice and a Systematic Review**

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Aim

- To examine the current status of endovascular grafts (EVG) for the elective repair of abdominal aortic aneurysms (AAA) in Canada
- To critically review the literature comparing EVG with open repair or with a “wait and see” approach, in terms of morbidity and mortality.

Conclusions and results

Current Canadian Practice: The response rate to a postal survey of Canadian vascular surgeons was 81%, or 104 of 129 eligible respondents. Responding surgeons had performed 3876 elective AAA repairs over a 12-month period. Of the responders, 40% had used EVG for this application; an additional 4% had plans to start using EVG technology. Of those using EVG, 52% considered it an investigational procedure. It appears that, in Canada, EVG is used predominantly for patients who meet specific anatomical criteria and are considered to be at moderate to high surgical risk. Reasons cited for not using EVG included lack of resources (34%), lack of training (13%), and lack of confidence that EVG offers an advantage over open repair (25%).

Review of Evidence: At present, EVG for AAA repair is still a new technology. Advances and modifications in device design have not been fully evaluated. The reduced invasiveness and quicker recovery enabled by EVG may offer a slight advantage over open repair in terms of perioperative mortality. However, possible drawbacks (such as lower rate of successful primary placement of the device, need for more extensive long-term followup, risk of continued aneurysm growth and possible rupture) must be weighed against potential gains. Potential biases in the available evidence may contribute to the lack of conclusive results in this review.

Recommendations

Not applicable.

Methods

Vascular surgeons in Canada were surveyed by mail to assess the current use of EVG for elective repair of AAA. To critically appraise comparative studies, two researchers independently selected, reviewed, and collected data from relevant studies obtained through a comprehensive literature search. Study information was summarized qualitatively, and outcomes were pooled where possible. Four main biases-selection, performance, detection, and attrition - that can impact internal validity were considered.

Further research/reviews required

The role of EVG in the elective repair of AAA is being examined further through the UK endovascular aortic aneurysm repair (EVAR) trials; results are expected in 2005. Further research also awaits longer-term outcomes from the various data registries.