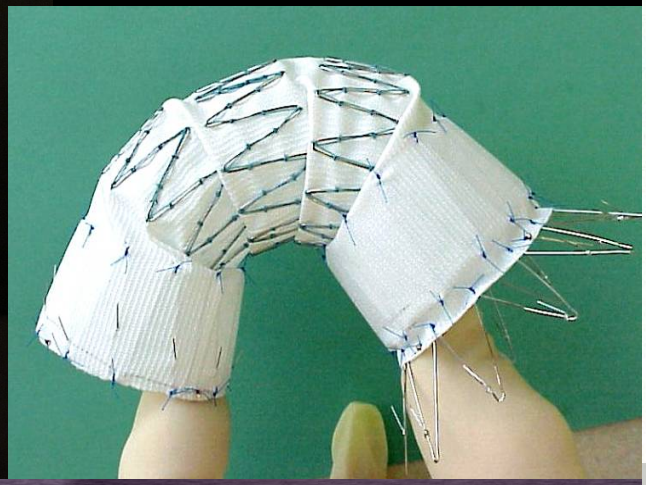
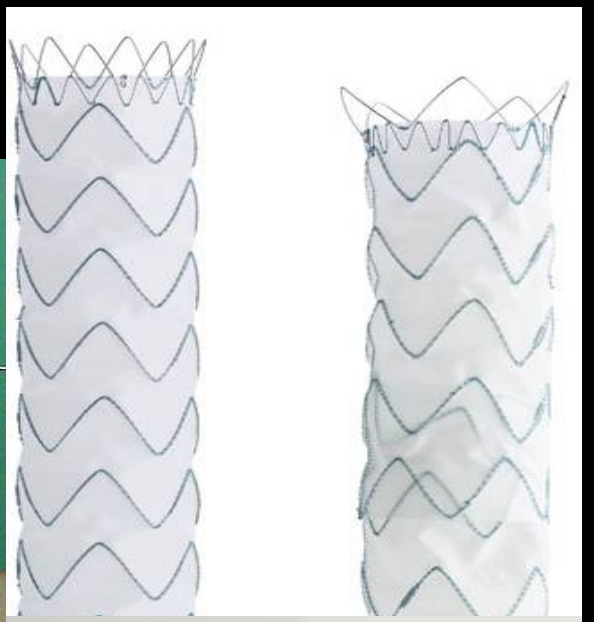
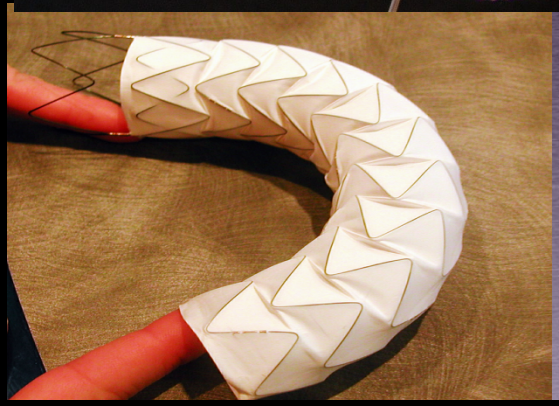
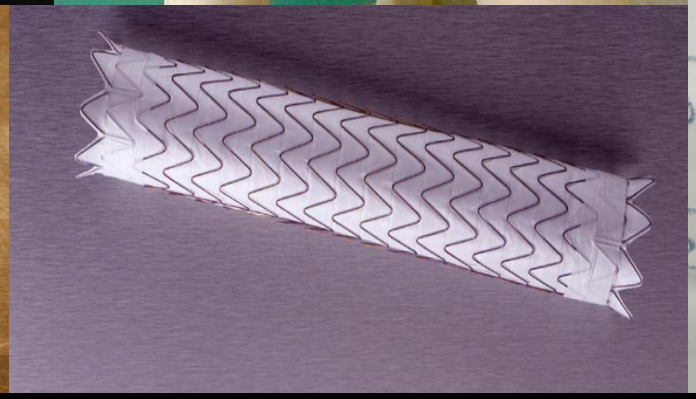
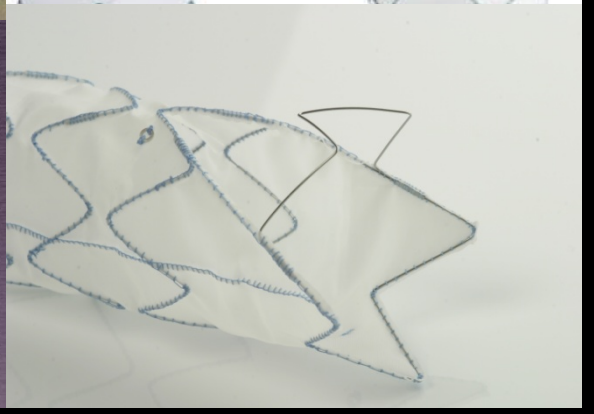
Commercialized Thoracic Endografts in W. Europe





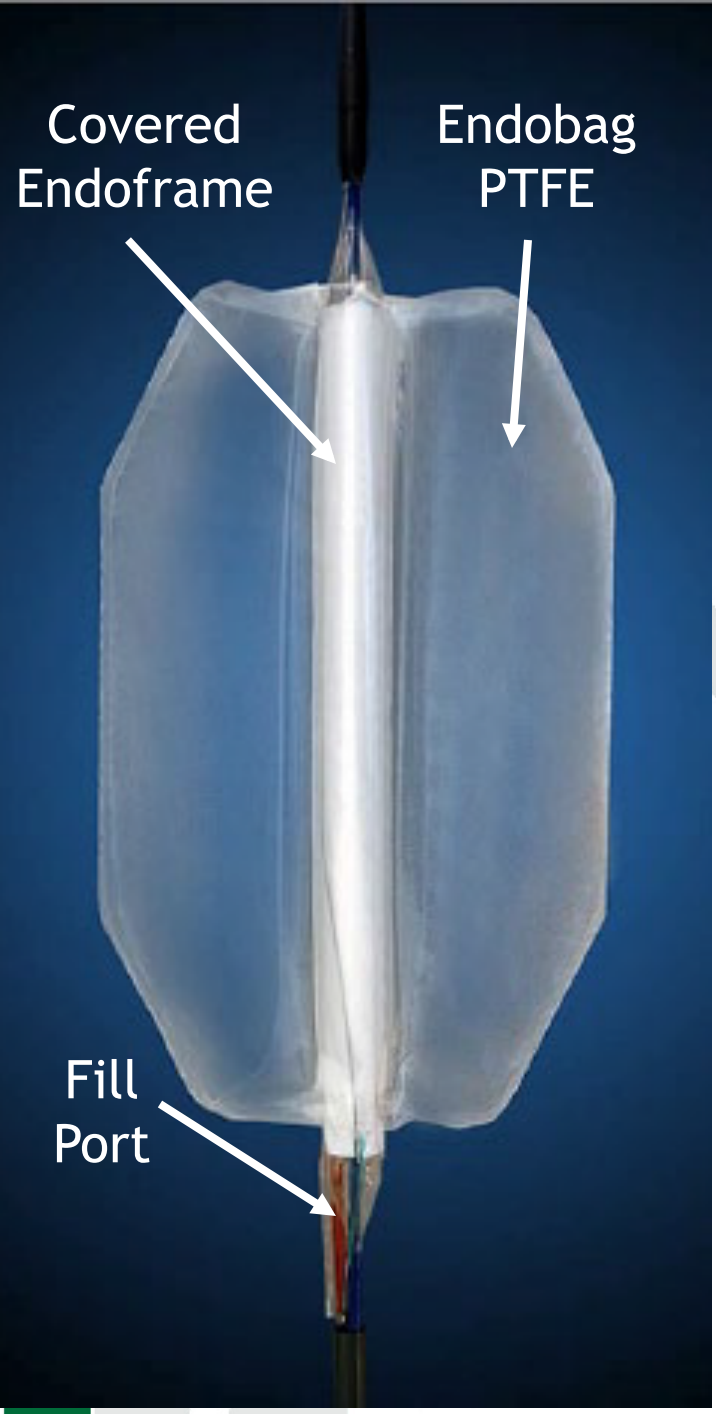


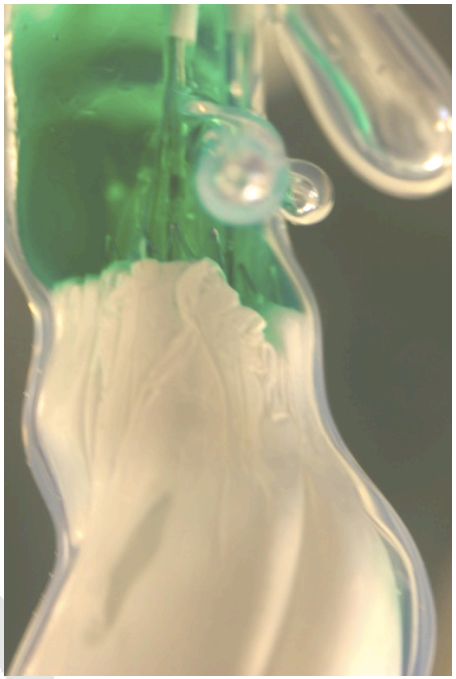


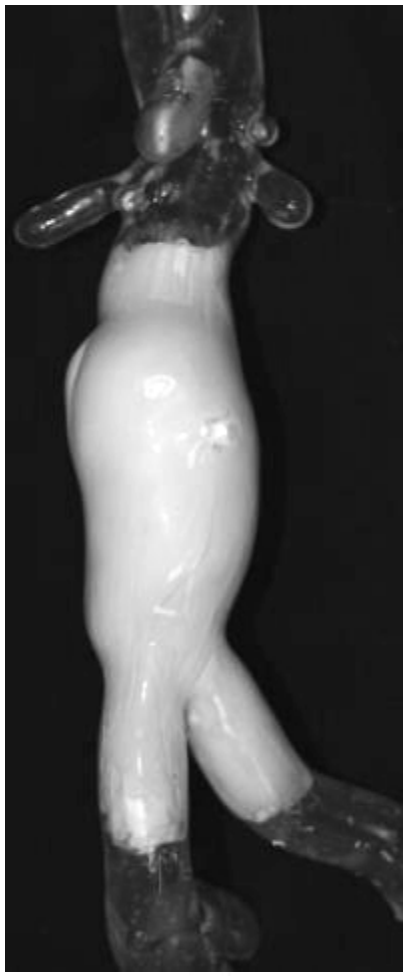


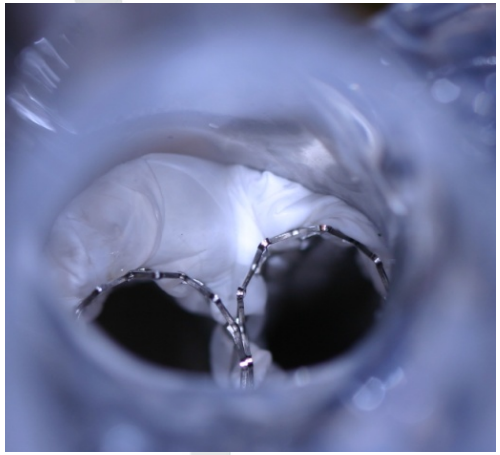
V. Riambau et al . Charing Cross book, London 2008

Nellix Device Design









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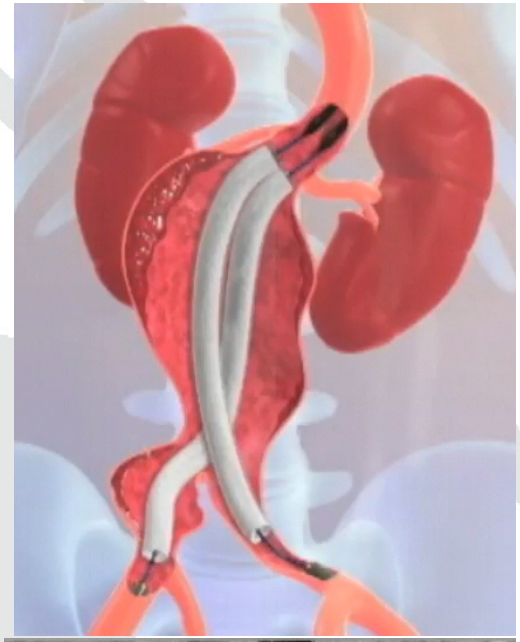
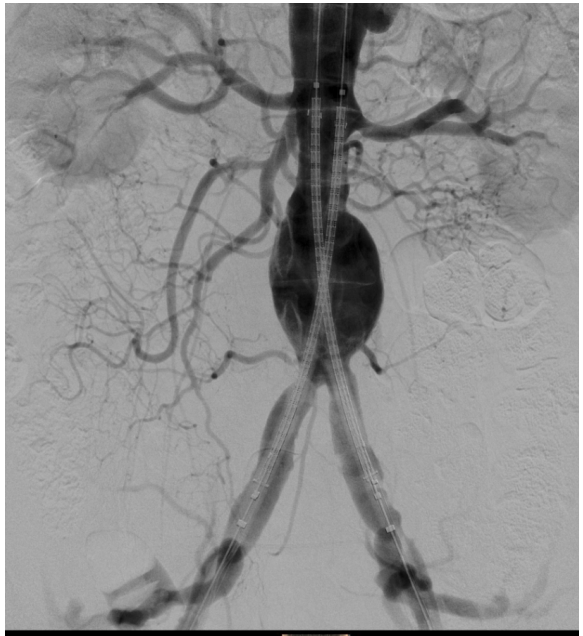
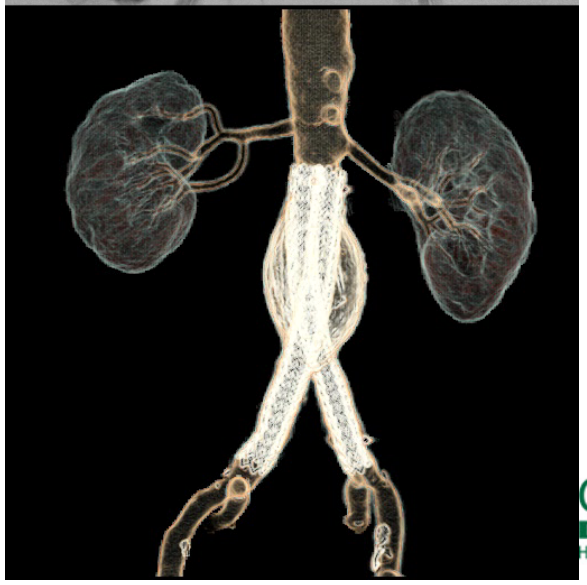
Nellix Device Design and concept







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Newer endograft generations improve EVAR outcomes

EUROSTAR 2000 [1]

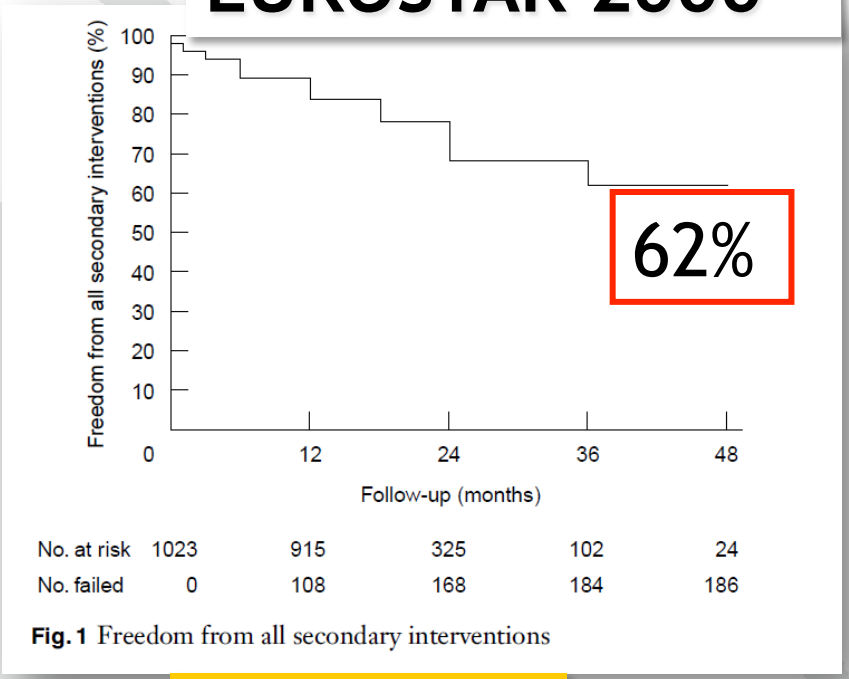

Fig. 1 Freedom from all secondary interventions

Vanguard	521
Stentor	243
AneuRX	125
Talent	78
Ancure (EVT)	28
Zenith	10
Other	18

EUROSTAR 2006 [2]

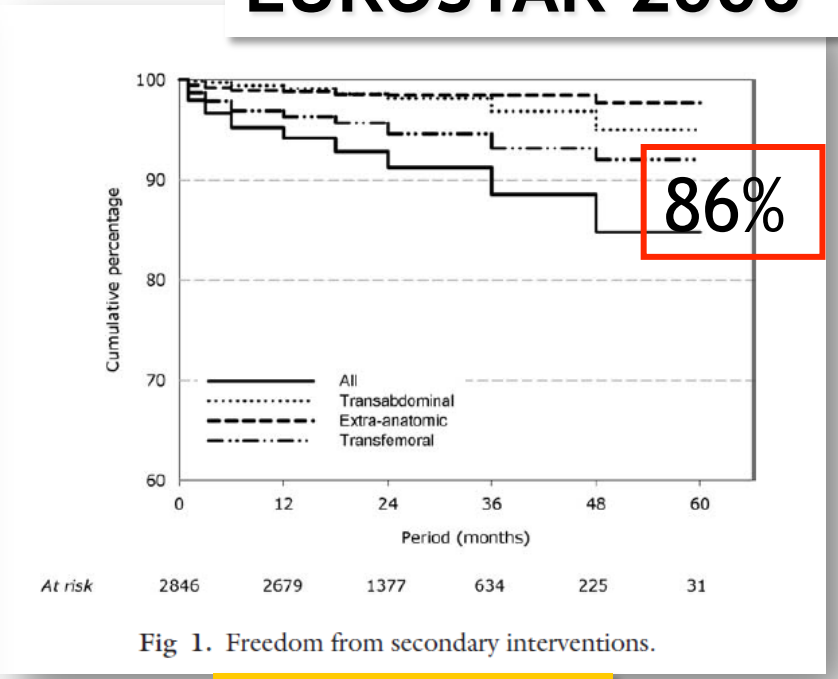

Fig 1. Freedom from secondary interventions.

Zenith	1147
Talent	791
Excluder	421
AneuRx	264
Lifepath	67
Fortron	52
Powerlink	51
Ancure (EVT)	36
Anaconda	17

[1]Laheij, et al. Br J Surg. 2000

[2]Hobo et al J Vasc Surg. 2006

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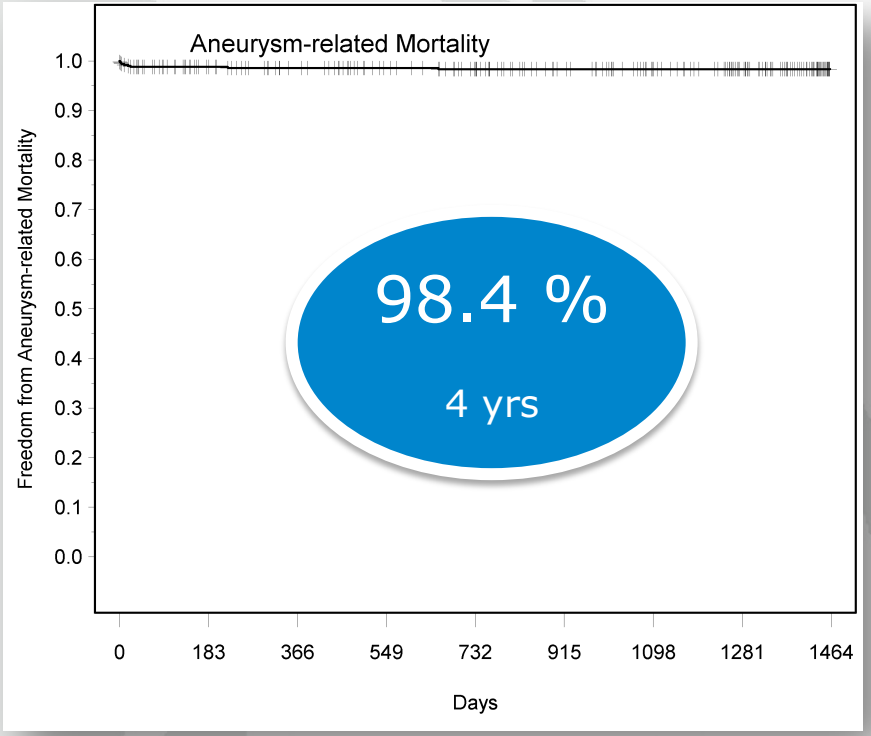
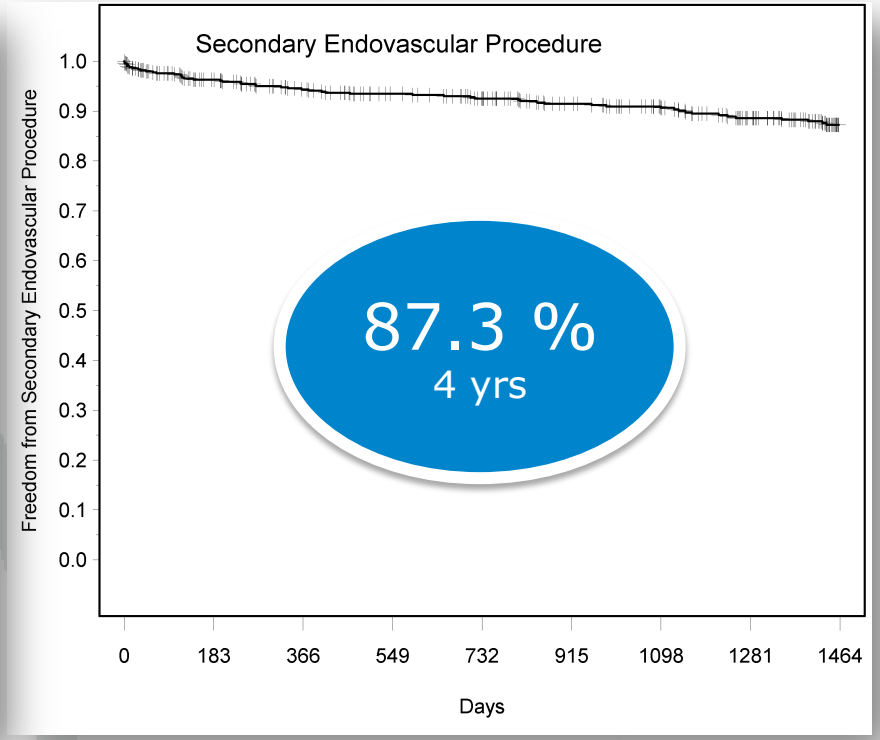
ENGAGE Registry

Primary hypothesis:
Reduction of abdominal aneurysm related re-interventions, complications, or death when EVAR outcomes compared earlier generation devices vs. Endurant stent -graft.





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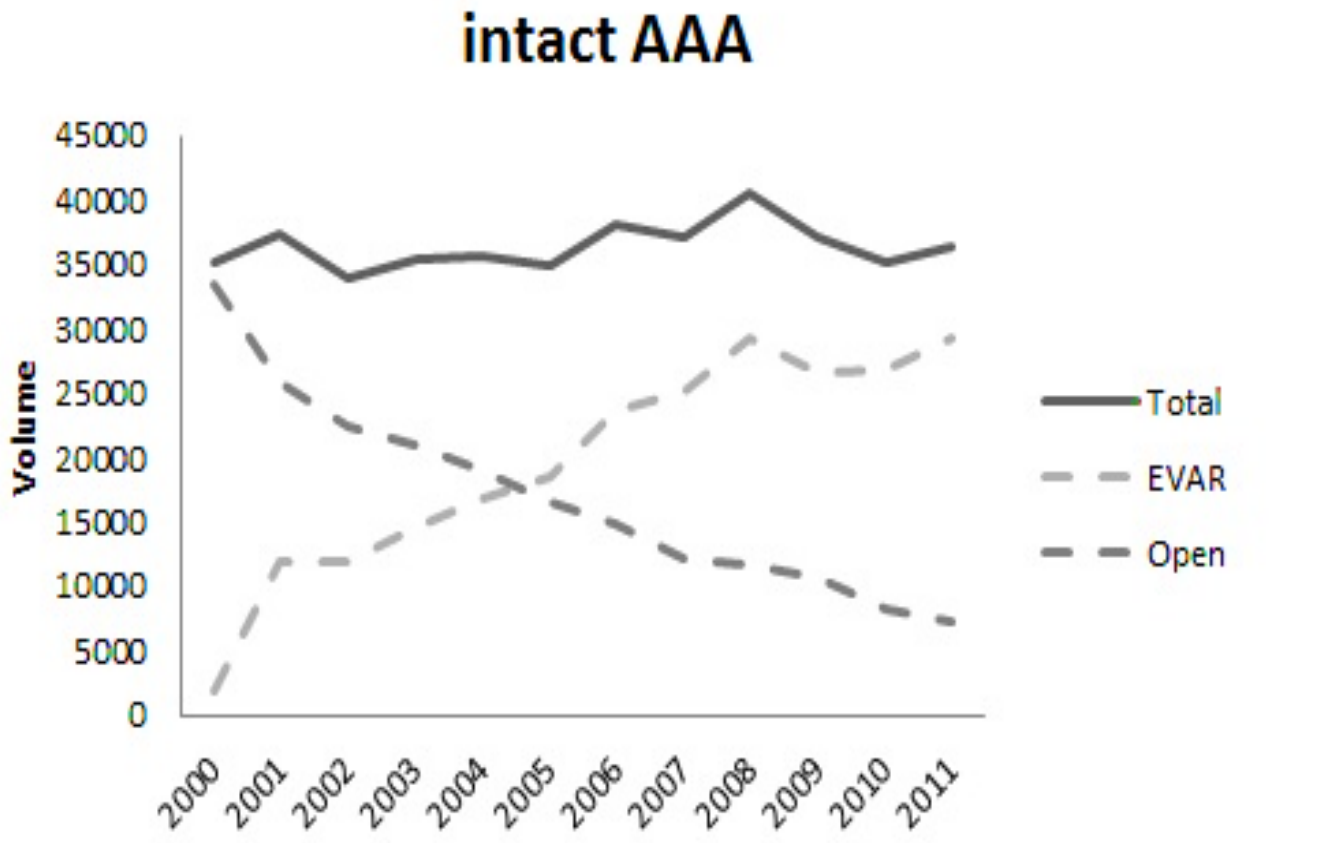
OR vs EVAR

EVAR Trends in the US

- NIS database 2000-2011
- 185,249 elective EVAR procedures



Meltzer 2014 unpublished data

EVAR Outcomes Are Improving

Table 2 Unadjusted in-hospital outcomes for intact AAA patients undergoing elective EVAR during 2000-2011.

	2000-2002 (n=21708)	2003-2005 (n=38401)	2006-2008 (n=61114)	2009-2011 (n=64026)	P trend
In-hospital death	226(1%)	287(0.7%)	300(0.5%)	306(0.5%)	<0.001
AMI	610(2.8%)	994(2.6%)	1284(2.1%)	1124(1.8%)	<0.001
Stroke	24(0.1%)	65(0.2%)	80(0.1%)	64(0.1%)	0.41
Respiratory Complications	1075(5%)	1873(4.9%)	2565(4.2%)	2556(4%)	0.007
Perioperative Bleeding	743(3.4%)	978(2.5%)	1615(2.6%)	1552(2.4%)	0.02
Postoperative Infection	110(0.5%)	147(0.4%)	128(0.2%)	130(0.2%)	0.001
Postoperative Shock	19(0.1%)	24(0.1%)	137(0.2%)	86(0.1%)	0.13
Length of Hospital Stay*	2(1-3)	1(1-3)	1(1-2)	1(1-2)	<0.001
Cost**	28174 (21656-36989)	25927 (20341-32471)	24189 (19124-30336)	22811 (18256-29032)	<0.001

Abbreviations: AMI=Acute Myocardial Infarction

*Length of hospital stay presented as median and interquartile range

**Cost presented as median and interquartile range, adjusted with inflation rate to 2011 dollar; Cost data unavailable from 2000 discharge data

Meltzer 2014 unpublished data

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OR vs EVAR

Cost

Costs of repair of abdominal aortic aneurysm with different devices in a multicenter randomized trial

Jon S. Matsumura, MD,[a] Kevin T. Stroupe, PhD,[b] Frank A. Lederle, MD,[c] Tassos C. Kyriakides, PhD,[d] Ling Ge, MS,[b] and Julie A. Freischlag, MD,[e] for the Open Versus Endovascular Repair (OVER) Veterans Affairs Cooperative Study Group,* *Madison, Wisc; Hines, Ill; Minneapolis, Minn; West Haven, Conn; and Baltimore, Md*

Objective: Prior analysis in the Open vs Endovascular Repair Veterans Affairs (VA) Cooperative Study (CSP #498) demonstrated that survival, quality of life, and total health care costs are not significantly different between the open and endovascular methods of repair of abdominal aortic aneurysm. The device is a major cost of this method of repair, and the objective of this study was to evaluate the costs of the device, abdominal aortic aneurysm repair, and total health care costs when different endograft systems are selected for the endovascular repair (EVR). Within each selected system, EVR costs are compared with open repair costs.

Methods: The study randomized 881 patients to open (n = 437) or EVR (n = 444). Device selection was recorded before randomization; therefore, open repair controls were matched to each device cohort. Data were excluded for two low-volume devices, implanted in only 13 individuals, leaving 423 control and 431 endovascular patients: 166 Zenith (Cook Medical, Bloomington, Ind), 177 Excluder (W. L. Gore & Associates, Flagstaff, Ariz), and 88 AneuRx (Medtronic, Minneapolis, Minn). Mean device, hospitalization, and total health care costs from randomization to 2 years were compared. Health care utilization data were obtained from patients and national VA and Medicare data sources. VA costs were determined using methods previously developed by the VA Health Economics Resource Center. Non-VA costs were obtained from Medicare claims data and billing data from the patient's health care providers.

Results: Implant costs were 38% of initial hospitalization costs. Mean device (range, $13,600-$14,400), initial hospitalization (range, $34,800-$38,900), and total health care costs at 2 years in the endovascular (range, $72,400-$78,200) and open repair groups (range, $75,600-$82,100) were not significantly different among device systems. Differences between endovascular and corresponding open repair cohorts showed lower mean costs for EVR (range, $3200-$8300), but these were not statistically different.

Conclusions: The implant costs of endovascular aneurysm repair are substantial. When evaluating total health care system expenditures, there is large individual variability in costs, and there is no significant difference at 2 years among systems or when an individual system is compared with open repair. (J Vasc Surg 2014;■:1-7.)

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- Technique
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Summary

- EVAR is an effective repair technique
- No all AAA are suitable for EVAR
- Successful EVAR depends on patient selection and planning assessment, endograft selection, procedure and appropriate follow-up
- EVAR is superior to OR in early postop mortality and morbidity
- Re-intervention rates are similar to OR
- AAA related mortality is inferior for EVAR treated patients
- Durability still is a concern. New generation endografts should overcome this limitation