

Open Repair is Coming Back Don't Put Away Your Knife!

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YOU TELL 'EM I'M COMING



AND HELL'S COMING WITH ME

quickmeme.com

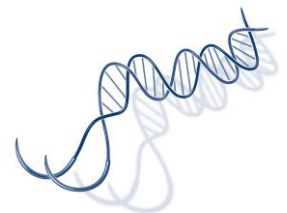


Disclosures

- I agree that EVAR should be the first choice in *some* patients
- I think that the pendulum has swung too far towards endovascular interventions generally (and EVAR in particular) as a first choice, and not always for patient-specific reasons
- I (sadly) have no financial disclosures



- Does EVAR improve long-term survival?
- Does EVAR improve patient quality of life?
- Is EVAR more cost-effective?
- Is EVAR really a low-risk procedure?
- Can we afford to lose the open aortic repair surgical skillset?



EVAR does NOT improve long-term survival

Endovascular versus open repair of abdominal aortic aneurysm in 15-years' follow-up of the UK endovascular aneurysm repair trial 1 (EVAR trial 1): a randomised controlled trial

*Rajesh Patel, Michael J Sweeting, Janet T Powell, Roger M Greenhalgh, for the EVAR trial investigators**

www.thelancet.com Vol 388 November 12, 2016

1252 patients aged 60 years and over from 37 UK hospitals (1999 to 2004). Most participants were men (91%) with average age 74 years.



EVAR does NOT improve long-term survival

EVAR-1 Trial at 16 years follow-up:

- At 6 months, EVAR had a lower aneurysm-related mortality (4.6 vs. 10 deaths per 100 per year (adjusted hazard ratio [HR] 0.47, 95% CI 0.23 to 0.93)
- No significant difference in aneurysm-related mortality between 6 months and up to 8 years
- Beyond 8 years, open repair had a lower aneurysm-related mortality (HR 5.82, P=0.0064)



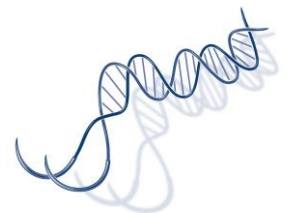
EVAR does NOT improve long-term patient quality of life

Health-related quality-of-life outcomes after open versus endovascular abdominal aortic aneurysm repair

Ahmed Kayssi, MD, MSc, MPH,^a Ann DeBord Smith, MD, MPH,^b Graham Roche-Nagle, MD, MBA,^a and Louis L. Nguyen, MD, MBA, MPH,^c *Toronto, Ontario, Canada; and Boston, Mass*

JOURNAL OF VASCULAR SURGERY
August 2015

Analysis of data from five RCTs that reported on quality of life after EVAR versus open repair



EVAR does NOT improve long-term patient quality of life

- No disease-specific QOL instruments were used, only SF-36 and the EQ-5D
- EVAR associated with some improvement in QOL up to 12 months post-operatively
- There is no evidence to suggest an advantage for EVAR beyond 12 months



EVAR is NOT more cost-effective

Cost-effectiveness of open versus endovascular repair of abdominal aortic aneurysm

Cornelis A. van Bochove, MSc,^a Laura T. Burgers, MSc,^{a,b} Anco C. Vahl, PhD,^c Erwin Birnic, PhD,^a Marien G. van Schothorst, MSc,^a and William K. Redekop, PhD,^{a,b} *Rotterdam and Amsterdam, The Netherlands*

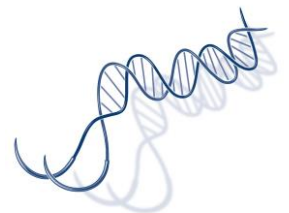
JOURNAL OF VASCULAR SURGERY
March 2016

Analysis of 13 cost-effectiveness studies comparing EVAR versus open repair



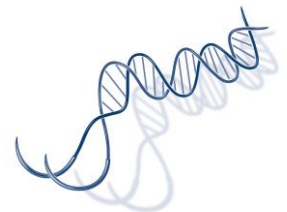
EVAR is NOT more cost-effective

- EVAR more expensive than open repair, even after accounting for complications related to open repair
- Health-benefits gained from EVAR do not offset the higher total costs
- EVAR more cost-effective in high-risk patients



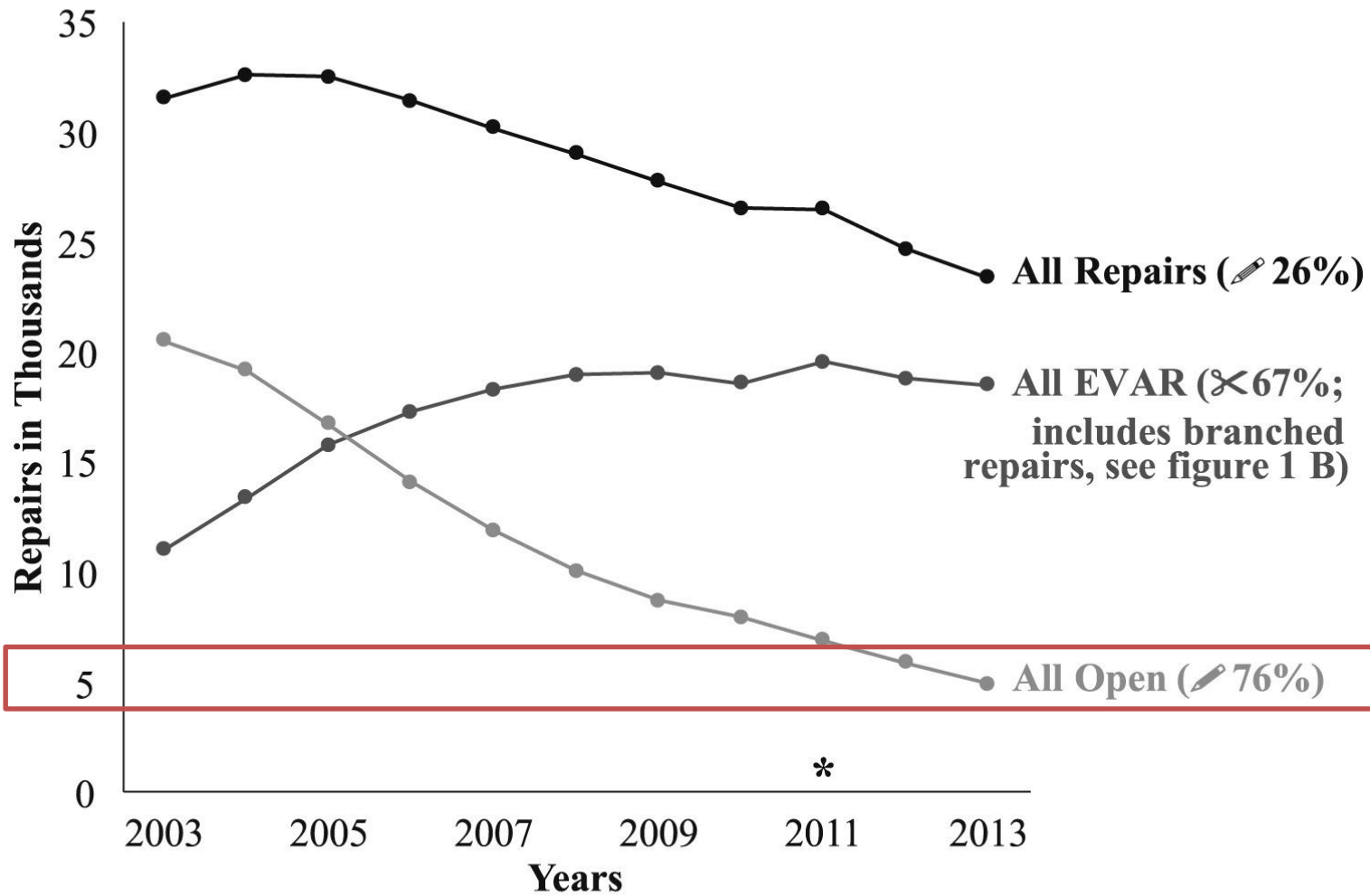
EVAR is NOT a low-risk procedure

1. Access site complications: 9-16%
2. Endoleaks: 20-50%
3. Limb kinking and occlusion: 2.3% (versus 0.2% for open repair)
4. Graft infection: 0.4-3%
5. Contrast-induced nephropathy: 0.7-2%
6. Long-term cancer risk with radiation exposure?
7. **Interventions required in ~30% of EVAR patients at 10 years**

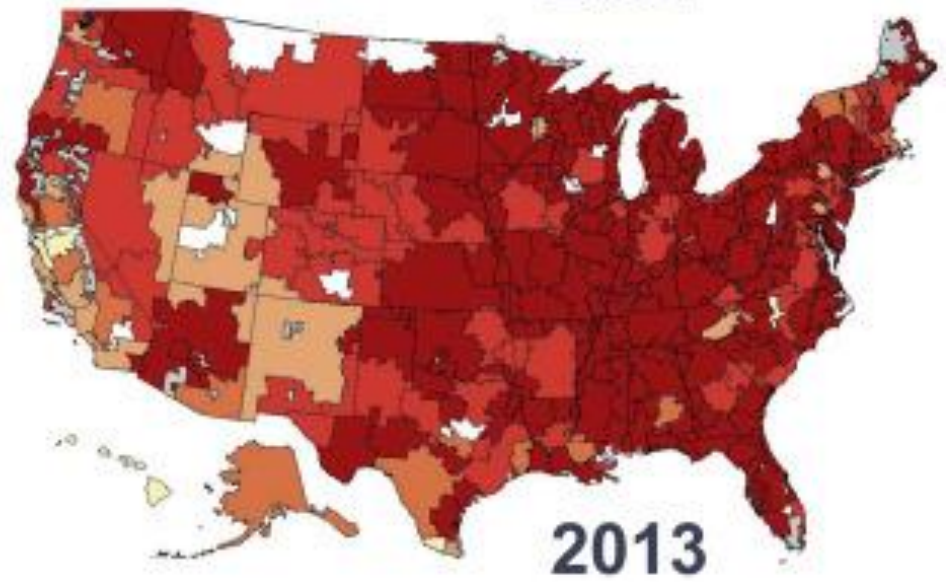
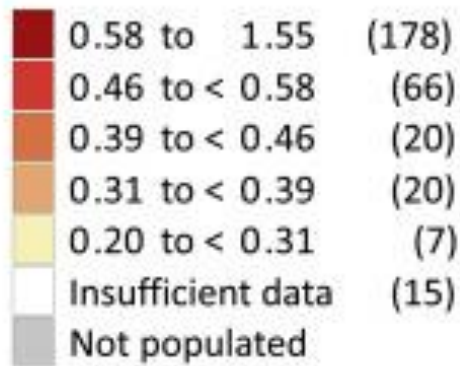
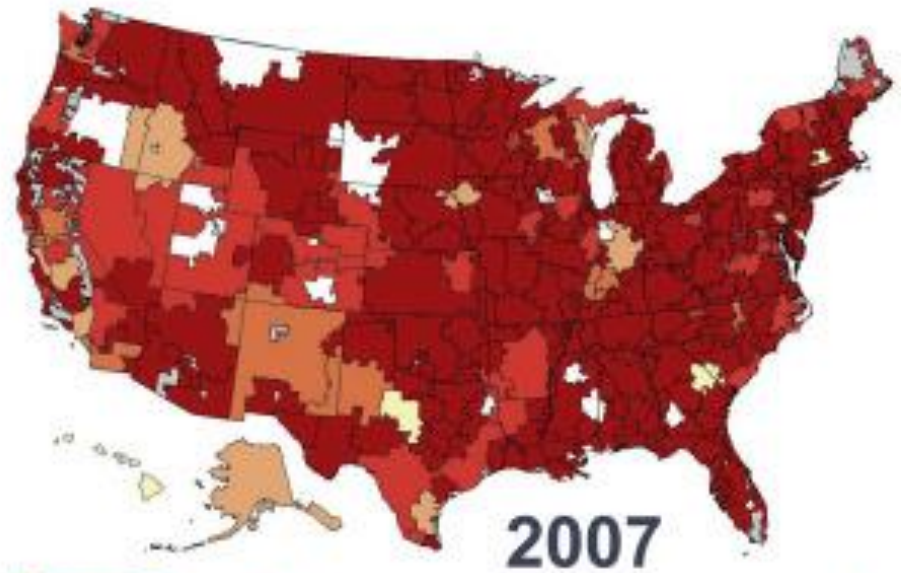
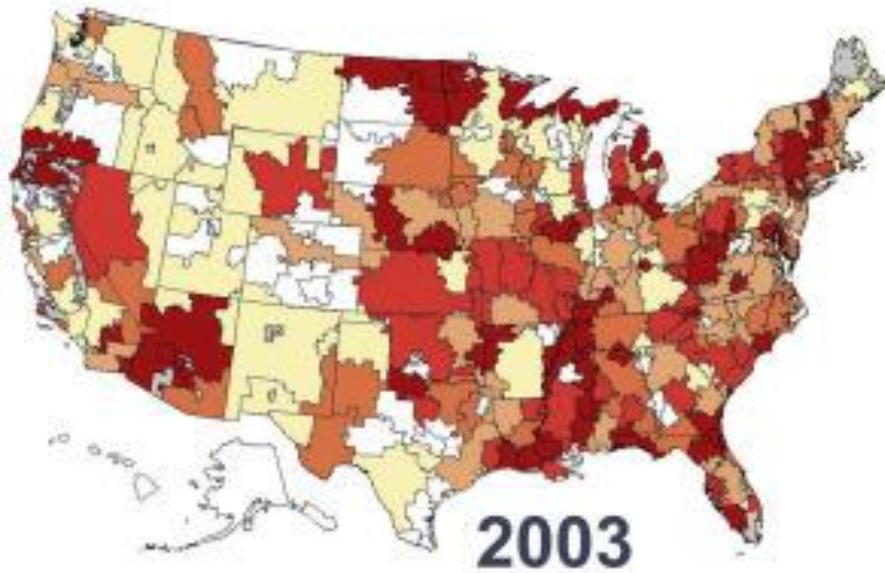


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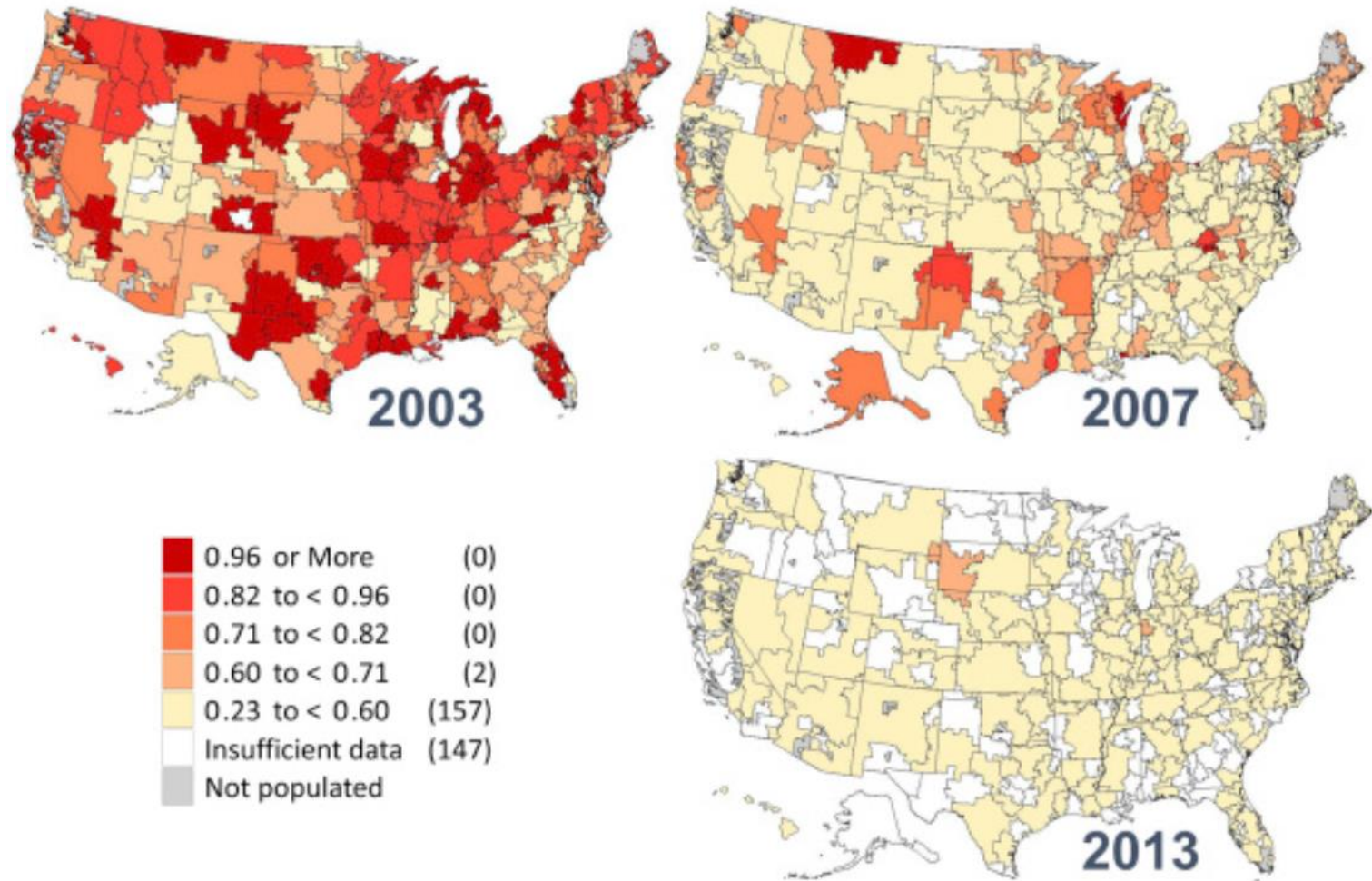
AAA Repairs in Medicare Patients, 2003-2013



EVAR per 1,000 patients



Open AAA repair per 1,000 patients



2003: 59 regions in the United States that performed >1.4 open repairs per 1000 beneficiaries

2013: Only 9 of the 307 hospital referral regions still performed AAA repairs at this frequency!

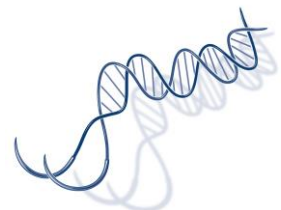
Open aneurysm repair will always be needed

- Late open conversion rate ~4% after EVAR, with a morbidity rate of 35%
- “Vascular trainees in the United States are predicted to complete 1-3 open aneurysm repairs during their training” – Dua *et al. JVS* 2017



Are we ready to shelve open aortic aneurysm repair for a procedure that:

- ...has a lower long-term mortality benefit!
- ...is less cost effective!
- ...has no long-term quality of life advantage!
- ...can in some cases lead to serious harm!
- ...may fail and require open surgery anyway!





#WithAKnife

