

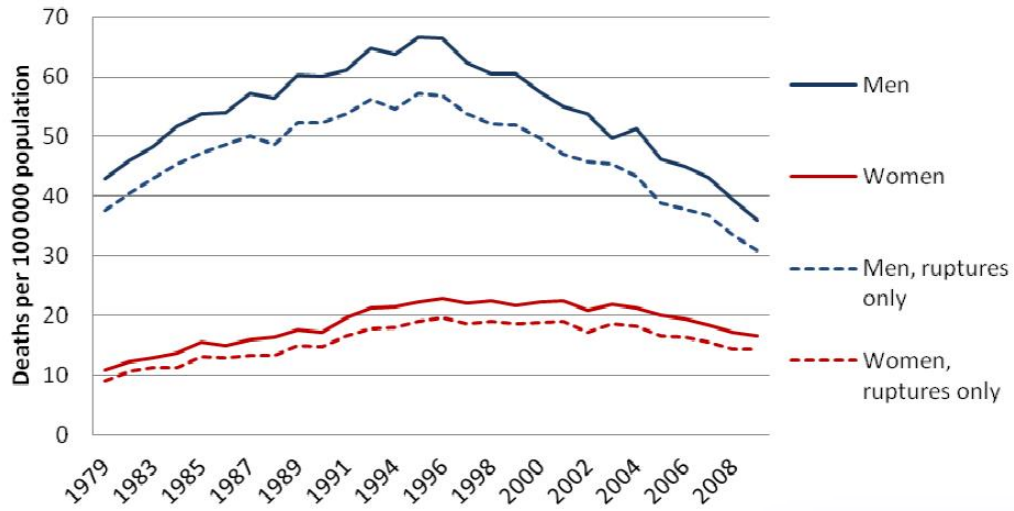
Is It Time to Revisit the Threshold for Intervention in AAA??

Matt Thompson

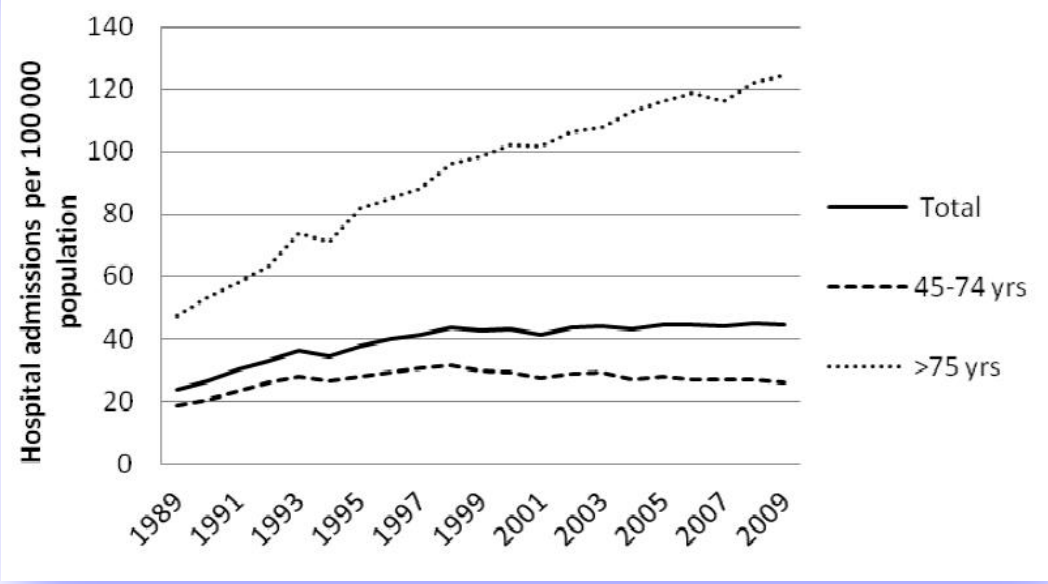
St Georges Vascular Institute, London, UK

Financial Disclosure Slide

- **Consultancy fees, Speakers bureau, Research funding**
 - **Medtronic**
 - **Endologix**



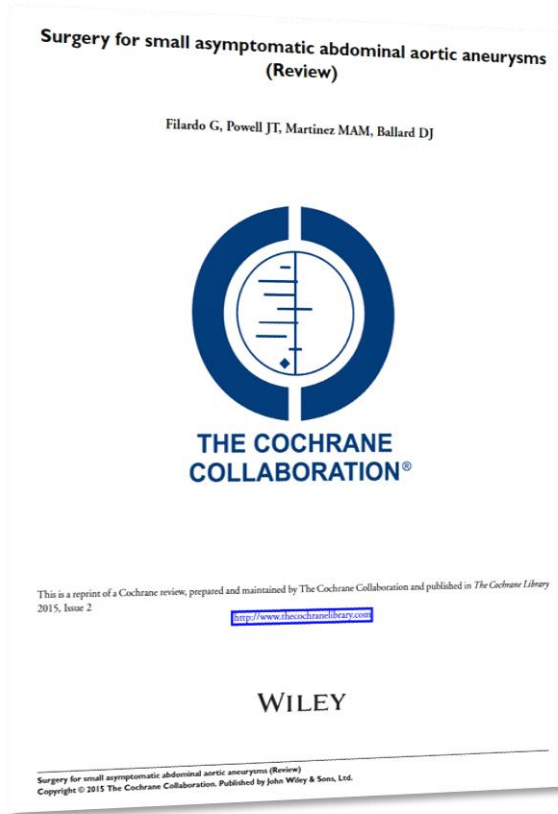
50% smoking
50% elective repair



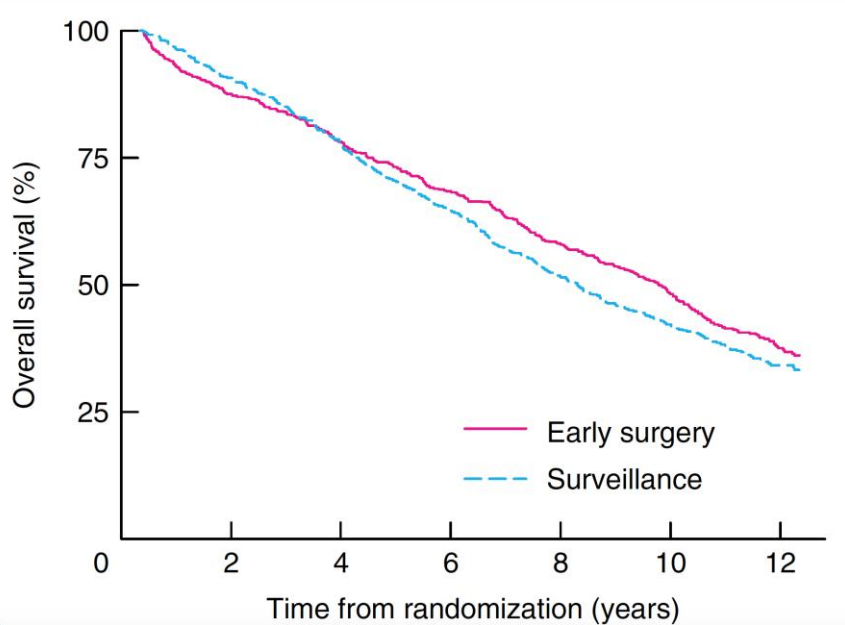
SAT, ADAM, PIVOTAL, CAESAR

The results from the four trials to date demonstrate no advantage to immediate repair for small AAA (4.0 cm to 5.5 cm), regardless of whether open or endovascular repair is used and, at least for open repair, regardless of patient age and AAA diameter.

Thus, neither immediate open nor immediate endovascular repair of small AAAs is supported by currently available evidence.



Small Aneurysm Trial 12 Year



BJS 2007; 94: 702

- 75% patients in surveillance arm underwent surgery
- Primary outcome – all cause mortality
- Twice as many deaths from rAAA in surveillance cohort

Still Equipoise???

	Male (<.5.5cm)	Female (<5.5cm)
Australia	26.6	17.1
Finland	18.5	40.0
Hungary	25.7	48.4
Norway	13.6	30.7
Sweden	17.5	38.2
UK	6.0	9.0

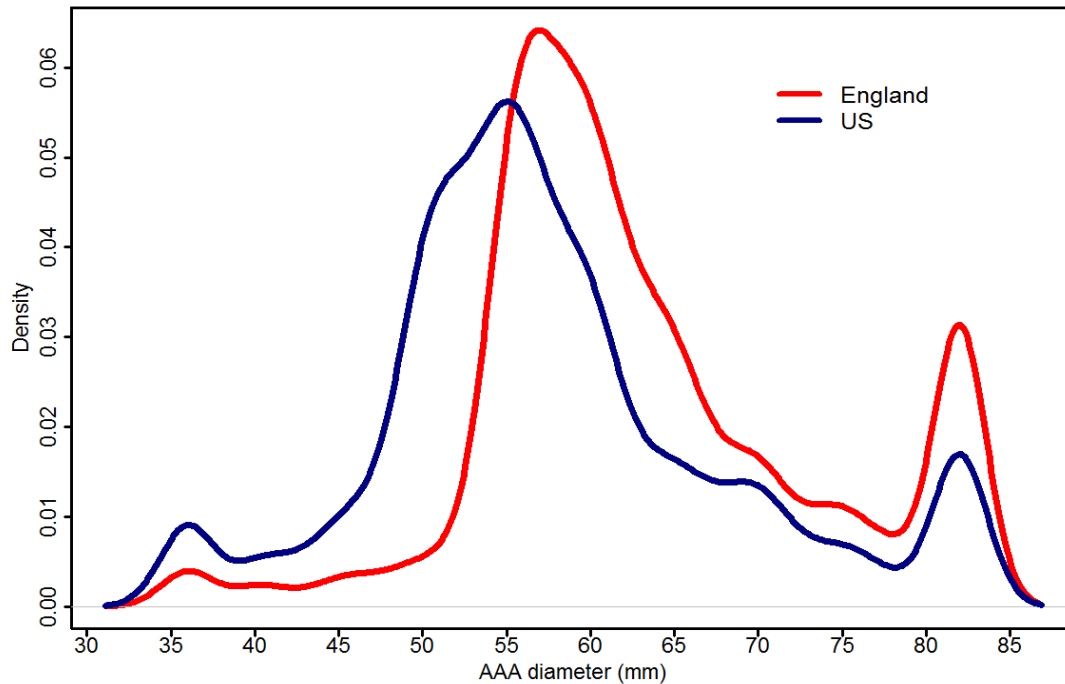
EJVES 2015; 49: 646

- Investigate influence of threshold for AAA repair on mortality from AAA
- Does repair at smaller AAA diameter prevent aortic related death???

Variation in Transatlantic Practice – AAA Related Death

- HES (29,300) and NIS (278,921) 2005-2012 – elective AAA repair
- USA Center for Disease Control and English Office of National Statistics – 2005-2012 – AAA related mortality
- UK NVR and US NSQIP – 2014 – AAA diameter at repair
- UK NAAASP – 2009-2014 – prevalence at diameter

AAA Diameter at Repair 2013-2014 (Male)



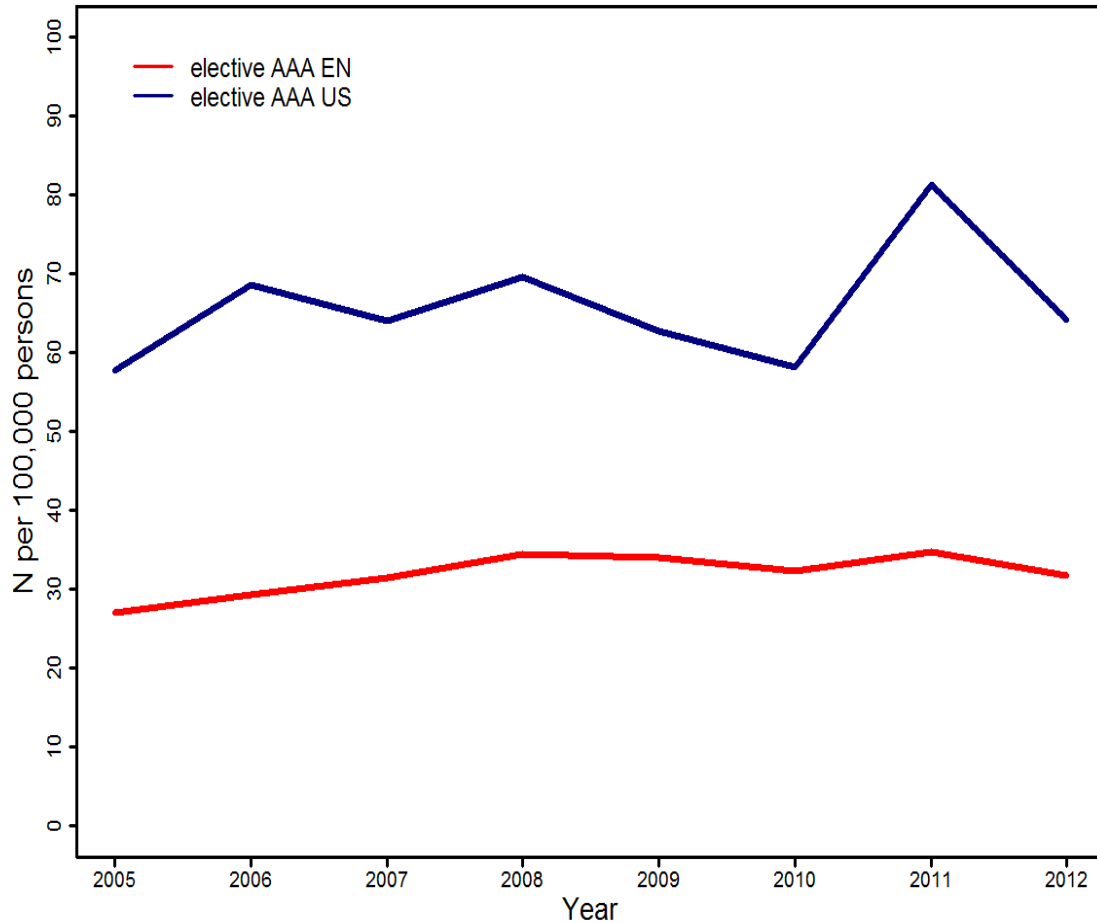
Weighted mean diameter in England was 6.37cm / USA was 5.83cm

After adjustment AAA in England were 0.54 cm larger (SE 0.033) than intact AAA repaired in the USA

AAA Diameter and Repair Below Threshold (2013-14)

	England	USA
AAA diameter cm (male)	6.41 (1.29)	5.86 (1.34)
AAA diameter cm (female)	6.17 (1.08)	5.63 (1.20)
Male <5.5cm	8.87%	39.21%
Female < 5.0 cm	4.91%	17.19%

Rate of Intact AAA Repair 2005-2012

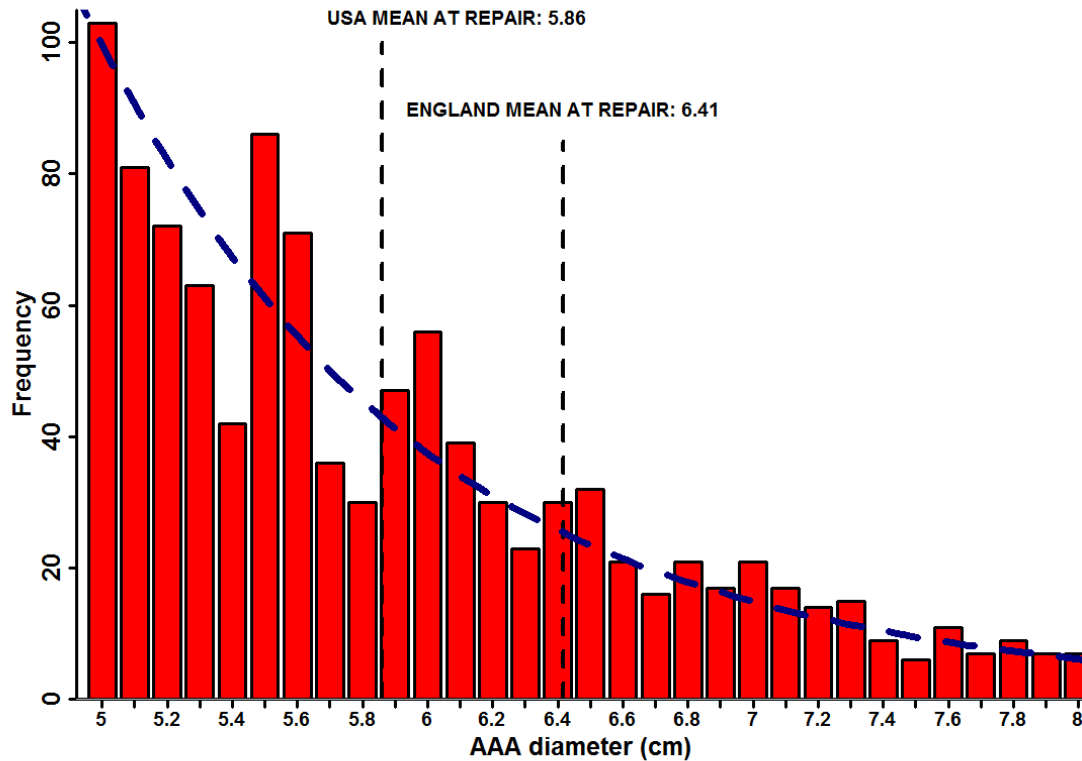


**England 27.11 – 31.85
per 100,000**

**USA 57.85 – 64.17
per 100,000**

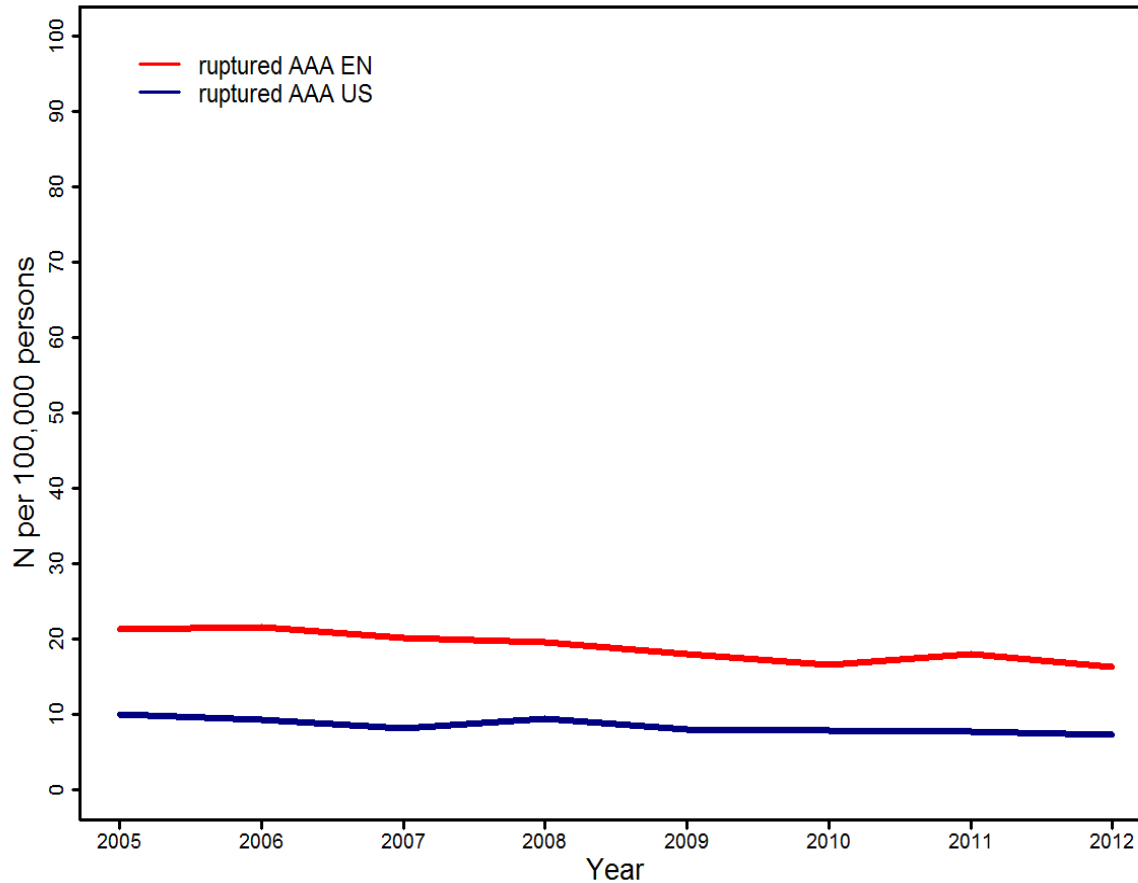
**Adjusted OR 2.058
(95% CI 2.033 to 2.083)**

Distribution of Prevalence AAA Diameter (NAAASP 2009-14)



**48 men per 100,000
above the mean
diameter for AAA repair
in England, compared to
76 men per 100,000
above the mean
diameter for AAA repair
in the USA.**

Rate of Hospitalisation with rAAA 2005-2012

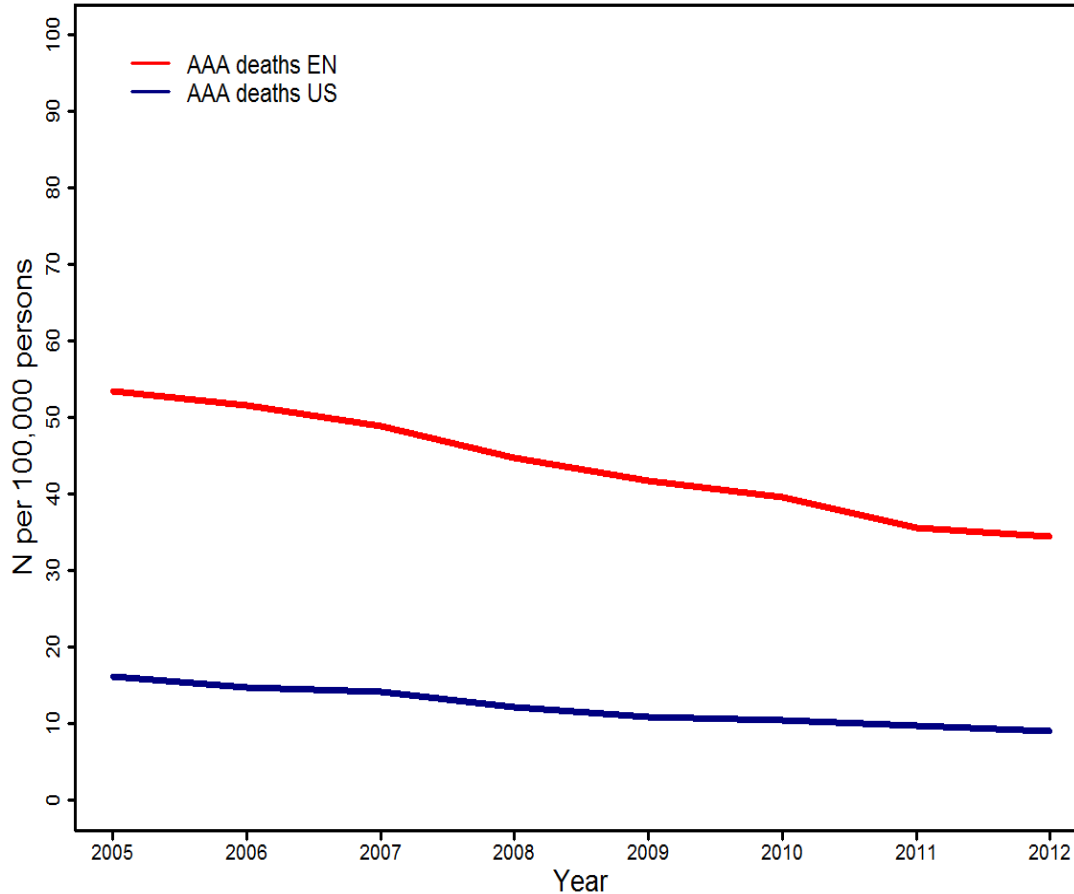


**England 21.34 – 16.3
per 100,000**

**USA 10.1 – 7.29
per 100,000**

**Adjusted OR 2.232
(95% CI 2.191 to 2.22)**

Rate of Aneurysm Related Death 2005-2012



**England 53.55 – 34.43
per 100,000**

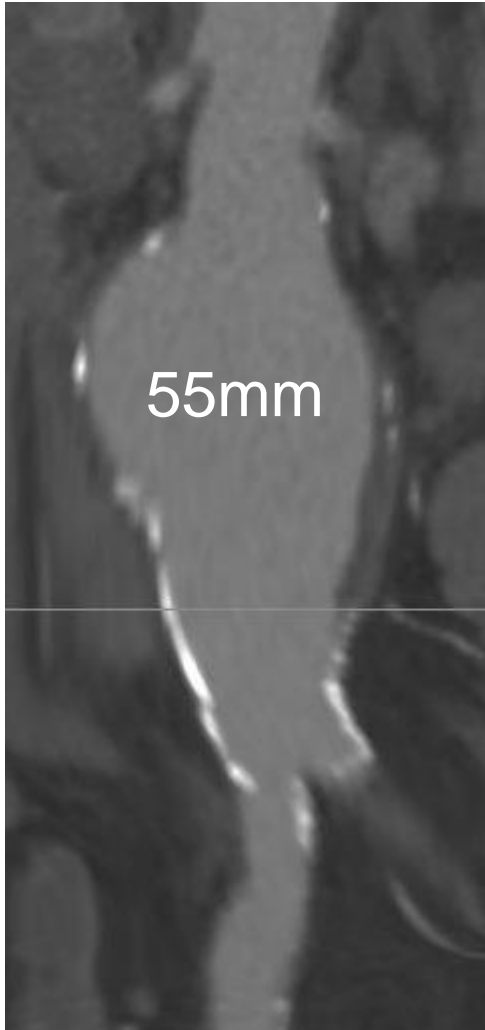
**USA 16.24 – 9.03
per 100,000**

**Adjusted OR 3.596
(95% CI 3.549 to 3.644)**

Summary

- **Elective AAA repair twice as common in US *cf.* England**
 - **Explained by repair at lower diameter in USA**
 - **Threshold difference exaggerated in women**
- **Higher diameter at repair associated with twofold increased in rAAA and threefold increase in aortic related mortality**

Discussion



- SAT commenced 1991!!!
- Widely misinterpreted
- Is 55mm threshold still appropriate?
- Individual or community?

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