

# Survival after ruptured abdominal aortic aneurysm significantly lower in England than USA

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The care given to patients after ruptured abdominal aortic aneurysm (rAAA) in the US outstrips that in English NHS hospitals, according to a major new study published as part of a special issue of *The Lancet* ahead of the American College of Cardiology's 63rd Annual Scientific Session. It shows that the chance of surviving a hospital stay for a rAAA is significantly higher in the USA than in England.

The findings suggest that American patients benefit from more [active treatment](#), with US hospitals over a third (38%) more likely to offer surgical treatment, resulting in 13% fewer deaths from rAAA compared with English hospitals.

"The large mortality difference is concerning", says author Peter Holt from St George's Vascular Institute, University of London, UK. "Our data suggest that failure to deliver proven life-saving surgery is a key reason why in-hospital survival for patients with rAAA is lower in England. In particular, increased use of a less invasive procedure known as endovascular aneurysm repair (EVAR) could save more lives and help to close the mortality gap."\*

AAA is a ballooning of the aorta, the body's largest artery, resulting from a weakening of the blood vessel wall. It is a common, life-threatening disease, especially among men over the age of 65. In England, ruptured (burst) AAA accounts for the death of at least 45

individuals per 100 000 population.

Using national administrative data from the Hospital Episode Statistics (HES) for England and the representative Nationwide Inpatient Sample for the USA, the researchers compared survival for 11 799 patients admitted to hospital with rAAA in England and 23 838 patients in the USA, between 2005 and 2010.

The researchers found that just 58% of English patients were offered surgery compared with 80% of US patients, and that EVAR was more than twice as common in the USA as in England (21% vs 9%), resulting in higher in-hospital death rates for English patients (66% vs 53%).

Importantly, they also found that patients in both countries stood a better chance of undergoing surgery, and therefore survival, if they were treated on a weekday, and that patients treated in teaching hospitals with larger bed capacities and seeing a greater number (volume) of rAAA cases each year were less likely to die.

According to Holt, "Our findings reinforce concerns that patients are less likely to receive optimal care in English NHS hospitals if they are admitted for emergency conditions on a weekend, but show that the challenge of providing high-quality out-of-hours care is not just confined to England."\*

Writing in a linked Comment, Martin Björck and Kevin Mani from Uppsala University in Sweden say that these findings should provoke further discussions on how to optimise services for treatment of this fatal disease, but point out that: "Prevention is the key to success...England and Sweden now have national coverage of ultrasound screening for men aged 65 years, and other countries are following. Prevention will prolong the lives of many more patients with AAA in the future than efforts to improve treatment of ruptured AAA. In the meantime, however, while

