

# New study shows fewer aortic aneurysm repairs, more deaths in the UK versus the US

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Credit: St. George's University of London

A new study has shown that surgeons in England operate significantly less often on aortic aneurysms in the population than in the US, and that the death rate here for the condition is over twice that in the States.

The results have been published in the *New England Journal of Medicine*.

An aortic aneurysm is a diseased swelling of the body's largest blood vessel. If an aneurysm is left to rupture it is usually fatal. The risk of fatal rupture increases with aneurysm size, but although there are international guidelines suggesting thresholds at which surgery should be considered, clinical practice varies considerably in different countries. The impact of this variation on a country's rate of death due to [aortic aneurysms](#) has never previously been investigated.

Researchers in Harvard and London, led by Dr Alan Karthikesalingam at St George's, University of London, looked at several national datasets for abdominal [aortic aneurysm repair](#), comparing the rate of aneurysm [repair](#) and the diameter at the time of repair between England and the USA.

They found that for the condition of aortic aneurysm, the rates of repair (operations) in England were half that of the USA, with repair being done at a higher average diameter. The weighted mean diameter for aneurysm undergoing repair in England was 6.37 cm, compared to the weighted mean diameter at repair in the USA of 5.83 cm. International guidelines currently suggest aneurysm repair should be considered at 5.5cm in men and 5.0cm in women.

The rate of death in England from ruptured aneurysm was double that of the USA, while deaths from aneurysm-related causes were over three times more common than in the USA.

Dr Alan Karthikesalingam, Clinical Lecturer in Vascular Surgery at St George's, University of London, said: "Aneurysm diameter is the best predictor of whether an aneurysm will rupture, and the risk increases as the [diameter](#) increases. Although guidelines specify that 5.5cm is a reasonable threshold to consider surgery for infrarenal aneurysms, the risk of rupture must be balanced against personalised procedural risks, life expectancy and preference. We know there is considerable variation

in international practice, with large numbers of patients undergoing repair below guideline thresholds. Deciding whether to repair an aneurysm, and selecting the best technique, involves carefully balancing the risks and is for the patient and clinician to discuss."

The data raises the question of whether English outcomes would be improved if the repair thresholds used in the USA were adopted. Dr Karthikesalingam added: "It has been suggested that the size threshold for [aneurysm](#) repair should be revisited, which might require new clinical trials."

**More information:** Alan Karthikesalingam et al. Thresholds for Abdominal Aortic Aneurysm Repair in England and the United States, *New England Journal of Medicine* (2016). [DOI: 10.1056/NEJMoa1600931](#)

Provided by St. George's University of London

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