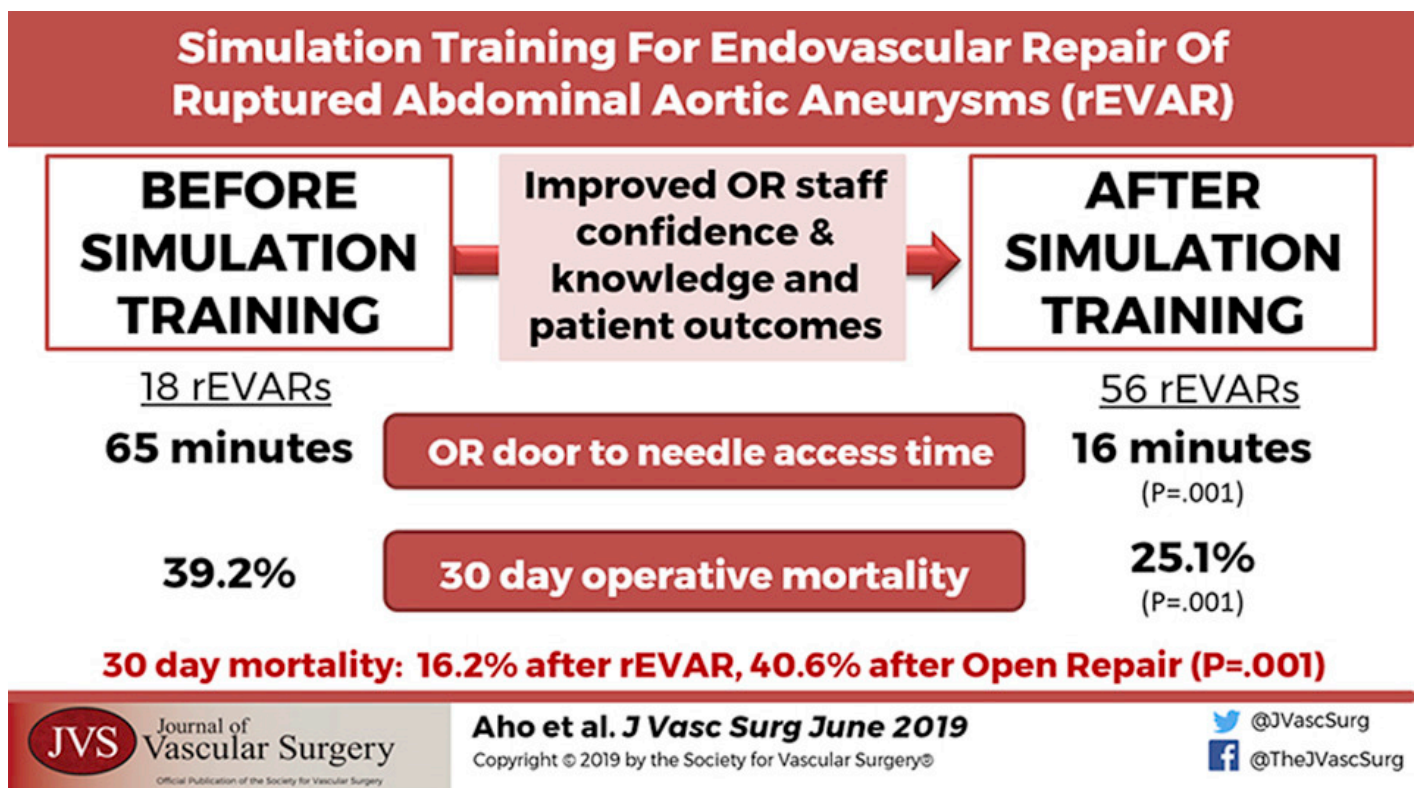




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**SIMULATION TRAINING STREAMLINES THE REAL-LIFE PERFORMANCE IN ENDOVASCULAR REPAIR OF RUPTURED ABDOMINAL AORTIC ANEURYSMS. *Journal of Vascular Surgery*, June 2019**

CHICAGO, Illinois, June 10, 2019 – New research from Finland found dramatic decreases in mortality from ruptured abdominal aortic aneurysms following a series of simulated staff training sessions on how to handle those life-threatening emergencies.

When hemodynamic compromise exists in this situation, a multitude of events from patient transport through surgical repair must coordinate properly if the patient is to have any chance of survival.

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“An increasing number of experts acknowledge the benefits of endovascular repair in ruptured aortic aneurysm,” said first author Dr. Pekka Aho, MD, PhD. “While smaller, dedicated teams for elective endovascular repairs are common, the same may not be in emergencies, particularly those that occur during off hours.

“Our great challenge in treating aortic emergencies using modern, endovascular techniques was to train 120 scrub nurses, 100 anesthesia nurses, 23 vascular surgeons, 40 anesthesiologists, and 40 radiographers,” Dr. Aho said.

To do so, their group turned to simulation training.

Researchers from the University of Helsinki, Finland, led by Dr. Maarit Venermo, MD, PhD, led 29 simulations of ruptured aneurysm emergencies between 2015 and 2017, according to their report in the June 2019 edition of the *Journal of Vascular Surgery*.

Each simulation session started with a phone call to the vascular surgeon announcing a rupture in the radiology suite. The simulations ended when the aortic occlusion balloon was in place (“endoclamping”).

The immediate results of their efforts included:

- Decreased time to “endoclamping” from 20-35 minutes to 10-13 minutes, and
- Significant improvement in the confidence and knowledge of the staff.

“While we objectively documented improvements within the simulation itself, our next step was to see if these translated to the real-life performance in endovascular repair,” said Dr. Venermo.

The paper includes the results of 185 ruptures treated from 2013 through 2017, spanning the institution of simulation training. The before and after results are stunning:

- An increase in endovascular repair for ruptures from 23% to 62%,
- A decrease in time from arrival to OR start from 65 minutes to 16 minutes, and
- A decrease in 30-day operative mortality from 39% to 25%.

“This is one of the first papers to show that simulation may have immediate positive consequences and an impact on real patient care,” noted Dr. Venermo. “Simulation training has led not only to improvements in the simulation sessions, like faster aortic occlusion, but also to a significantly improved self-confidence of the OR personnel. We believe this has translated into improved outcomes for our treatment of ruptured aortic aneurysm.”

Importantly, the manuscript provides significant detail as to how to institute such an important program.

The full manuscript is available open source through July 31 at [https://www.jvascsurg.org/article/S0741-5214\(18\)32264-X/fulltext](https://www.jvascsurg.org/article/S0741-5214(18)32264-X/fulltext)

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