

AN INTERVIEW WITH...

Lars Lönn, EBIR, FCIRSE

Prof. Lönn shares his advice on critical aspects of TEVAR procedures, as well as the use of robotics and simulation training in endovascular therapies.



Do you have any advice for planning a successful percutaneous thoracic endovascular aneurysm repair (TEVAR) to treat type B dissection?

Vascular access and closure remain challenges when performing TEVAR for type B dissection. However, in experienced hands, access and closure techniques for large access sites can be implemented safely, with few technical failures and late complications. Female sex and a high sheath/common femoral artery ratio are risk factors for access-related vascular injury, whereas preprocedural planning with CT angiography (CTA) of the access vessels may reduce the risk of vascular injury. Importantly, most access-related vascular injuries can be treated by percutaneous techniques with similar clinical outcomes to patients without vascular injuries.

As large-bore closure devices become increasingly available, what advice do you have for those who are just beginning to use them?

Over time, it is important to acquire experience in “hostile” groin access and also to merge the experience from several operators to pick up some of the tricks of the trade. One would expect proficiency after deploying about 50 large-bore devices.

What methods do you employ to prevent spinal cord injury during TEVAR?

Planning in all phases is important. Understanding preoperative, intraoperative, and postoperative logistics and the sudden onset of spinal symptoms is critical. One way to assess the patient is by staging the following risk factors: (1) coverage of the left subclavian artery, (2) extensive coverage of long segments of the thoracic aorta, (3) previous thoracic or abdominal repair, and (4) compromised hypogastric arteries. In high-risk patients, cerebrospinal fluid drainage is

mandatory, as is maintaining a mean arterial pressure > 90 mm Hg (systolic pressure > 140 mm Hg) after stent graft placement. Also, it is important to remember that the onset of injury may occur up to 3 days after the procedure.

What are your thoughts on the recent results of the AAST Aortic Occlusion for Resuscitation in Trauma and Acute Care Surgery (AORTA) registry, and what further data need to be accumulated for resuscitative endovascular balloon occlusion of the aorta (REBOA)?

Only through additional data will we be able to determine the optimal training, setting, patient selection, and technique for the use of REBOA. Exciting new developments, including the formalization of partial REBOA techniques, may dramatically change the range of patients and situations for which REBOA can be used. More data are required as experience grows, and I encourage all interested to contribute to the AORTA registry to help answer these questions.

What are your current follow-up protocols for EVAR patients?

Contrast-enhanced ultrasound and three-dimensional ultrasound are used in our scientific studies and clinical practice protocols. However, two pathways exist: one for complicated EVAR and one for uncomplicated/never-complicated EVAR. The more advanced cases are still followed with regular CTA.

What is the current role of simulation in training, and how might it evolve?

Endovascular therapy (including simulation technology) is amazing, and due to the rapid refinement of techniques, options for treatment have grown immensely. The current climate within health care has also opened new doors for curriculum improvements.

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Michael Porter on "Value-Based Health Care Delivery"

Harvard Kennedy School Center for Public Leadership

<https://youtu.be/Z3fKyWydweo>

Professor Michael Porter at the Harvard Business School has aimed to find solutions for the challenges in health care. Prof. Porter has developed a concept called *value-based health care*, which can be described as a framework for reconstructing health care systems around the globe with the overarching goal of improving value for patients. In the future, simulation will be an integrated tool to shape the future for value-based health care.

In which endovascular procedures do you see promise in implementing robotic technology, areas in which robotics are not currently employed?

In the near future, the technology may enhance endovascular techniques given the preclinical evidence and early clinical reports. Studies are required to quantify its advantages over conventional treatments in the short term. However, within the next 20 years, presumably all endovascular procedures may be applicable for robotic technology with a safe outcome.

What are some of your interests outside of vascular therapy, and have any had an influence on how you approach your practice?

Training young team members in all aspects in the medical arena is a great interest of mine. I think you can learn the most from the tutors you had the most difficulty coping with or those you feared. Learning to predict danger and not to fear it is fundamental to survival, as Armita Golkar stated in her 2013 thesis at Karolinska Institute in Sweden.¹ I believe this motto is a cornerstone for a well-functioning team. ■

1. Golkar A. Learning not to fear [doctoral thesis]. Stockholm, Sweden: Karolinska Institute; 2013. https://openarchive.ki.se/xmlui/bitstream/handle/10616/41353/Thesis_Armita_Golkar.pdf?sequence=5. Accessed October 6, 2016.

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