



# TechMed Academy

## FOSTERING ADAPTIVE HEALTH & TECHNOLOGY PROFESSIONALS

In the ever-evolving landscape of healthcare, characterized by shifting demographics, rising instances of chronic diseases, a shortage of skilled healthcare professionals and technological advancements, the pressure on healthcare professionals is immense. The University of Twente's Technical Medical Centre recognizes the transformative potential of technology in healthcare, striving to facilitate sustainable and personalized health through scientific research, collaboration, and education on medical technology.

To address the demands of this dynamic field, it is vital not only to educate the next generation of healthcare professionals but also to empower current practitioners to adapt to the changing landscape and to exploit the potential of newly developed technology. This is where the TechMed Academy steps in, offering tailored education for healthcare professionals in utilizing and developing medical technologies, equipping them for both anticipated and unforeseen challenges.

### How do we train adaptive healthcare professionals?

At the TechMed Academy, our aim is to train adaptive health and technology professionals who can proficiently use or innovate technology to meet the needs of individual patients, even in untrained, unknown, or uncertain situations. While hands-on experience in daily clinical practice contributes significantly to learning, certain aspects necessitate a different learning approach at a time and location dedicated for learning, especially since even experienced clinical supervisors may be novices regarding new technology. Furthermore, in daily clinical settings, learning opportunities may be uncontrollable, and time and performance pressures always exist.

The TechMed Academy provides dedicated learning opportunities where individuals can deepen their comprehension of technology

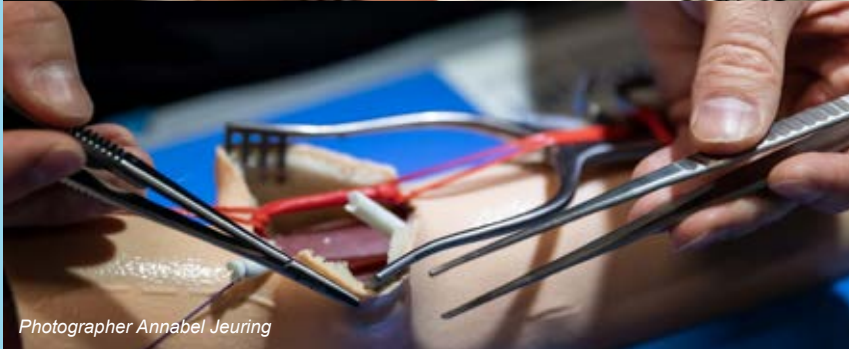
and physiology, experiment with different strategies, and reflect on the consequences of their actions in a safe environment. Emphasizing conscious competency and thorough understanding, learners can develop skills to address unprecedented challenges.

### The learning environment

Our training unfolds within the TechMed simulation centre – a clinically realistic yet flexible simulated environment. Here, individuals or teams can practice clinical procedures, make mistakes, and receive rich feedback from supervisors, simulated patients, peers, simulators, and audio-visual recordings. The simulation centre's flexibility allows us to adjust the level of realism to specific training needs, incorporating non-clinical elements for a comprehensive understanding of principles or creating highly realistic environments for complex procedures.



Photographer Annabel Jeuring



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## CASH-3 vascular

### Co-creating education for professionals

Our educational programs are demand-driven and developed in collaboration with representatives from the target group, such as hospital departments, professional associations, and industry partners. This collaborative approach integrates the technical and simulation expertise from the TechMed Centre with the specialized medical knowledge of our partners. Co-creation ensures that TechMed Academy's learning activities align seamlessly with the ongoing learning processes on the workplace floor, providing a holistic and relevant educational experience for healthcare professionals.

In essence, the TechMed Academy is committed to equipping healthcare professionals with the skills and knowledge they need to thrive in a rapidly evolving healthcare landscape, fostering a culture of continuous learning and innovation.

The CASH-3V is a **co-creation** with the Dutch society for vascular surgery (NVvV). All vascular surgery residents in the Netherlands undergo five days of training and assessment at the TechMed Centre, spread over one or two years. Successfully passing the exam, where **patient safety** is paramount, is a prerequisite for becoming a registered vascular surgeon. In the CASH-3V both **thorough understanding** of the clinical concepts as well as **conscious learning** are key elements. While much of the learning occurs during the clinical residency in hospitals, the CASH-3V training days provide residents with a unique opportunity to address their individual learning needs in a simulated setting under the guidance of a specialist. Residents take charge of their learning journey, deciding which procedures to practice when and setting the focus of each training session. This approach emphasizes personal responsibility and tailored learning experiences to enhance skill development and ensure proficiency in vascular surgery.



### Radiation safety during interventions

Many modern clinical interventions, especially minimally invasive ones, rely on X-ray radiation to guide physicians. Examples include coronary interventions, vascular surgery procedures, and interventional radiology procedures where catheters and wires are inserted into patients' arteries for diagnosis or treatment of vascular diseases. X-ray radiation provides real-time feedback on the position of endovascular instruments relative to the patient's anatomy. To safely perform such procedures, it is crucial to take care of the radiation exposure of both the patient as well as the personnel.

Our radiation safety course delves into both the physical principles governing X-ray radiation and its practical application during interventions. We utilize TechMed's hybrid OR to replicate clinical scenarios and let the **learner** experience how patient positioning, equipment settings, and protective measures impact radiation doses for patients and medical professionals. This **hands-on** approach fosters a **deep understanding** of radiation safety protocols and enables practitioners to optimize safety while maintaining effective clinical outcomes. ■

Author:



**Michelle Heijblom**

Department Head TechMed Academy,  
University of Twente  
TechMedAcademy@utwente.nl