

Bridging tradition and innovation in surgical training

A case for modernization in urology

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Cite as: Kim JK. Bridging tradition and innovation in surgical training: A case for modernization in urology. *Can Urol Assoc J* 2024;18(8Suppl2):S150. <http://dx.doi.org/10.5489/cuaj.8895>

“Back in my day...” is an adage often heard from seasoned surgeons reflecting on the evolution of surgical training. In urology, and medicine in general, this evolution has been significant, driven by advancements in technology, medical knowledge, and an increased emphasis on trainee wellness and competency-based education.

Historically, surgical training was a rigorous process characterized by long hours and high demands, with little consideration for the trainee's well-being. This model was underpinned by the belief that extensive clinical exposure was paramount; however, contemporary insights into physician wellness have reshaped this perspective. Research has unequivocally demonstrated that fatigue and burnout among physicians can adversely affect physician wellness and reducing work hours does not lead to adverse patient outcomes, prompting a paradigm shift towards ensuring the well-being of healthcare providers.¹

The integration of wellness into surgical training programs now mandates protected time for rest, vacation, and academic pursuits. While this advancement undoubtedly benefits trainee health, it introduces a conundrum: *How do we reconcile reduced clinical hours with the expanding breadth of knowledge and skills that residents must acquire?* This challenge is further compounded by the advent of new technologies and procedures, which necessitate ongoing education and adaptation.

Addressing these challenges requires a strategic approach that leverages the technological resources now at our disposal. Unlike in previous generations, where trainees relied heavily on physical textbooks and extensive library research, modern trainees can access a vast array of information online in moments. Digital resources allow for quick, efficient learning. Furthermore, artificial intelligence provides sophisticated tools for accessing and integrating the latest research and guidelines into clinical practice.²

In addition to information technology, the rise of augmented reality (AR) and virtual reality (VR) offers transformative potential for surgical training.³ These technologies may simulate complex surgical procedures, providing trainees with the opportunity to hone their skills in a risk-free environment. This capability is particularly valuable in light of reduced real-world practice time.

The integration of such advanced technologies is not without its challenges, and many training programs struggle to incorporate them effectively. Developing a curriculum that fully uses these technologies will require time, investment, and a cultural shift among educators and program directors.

Urology has historically been at the forefront of adopting new technologies in clinical practice. This pioneering spirit suggests that urology residency programs might lead the way in creating a balanced, modern training environment that meets both the educational needs of residents and the wellness imperatives that are increasingly recognized as crucial for effective medical practice. To achieve this, educators must remain open to innovation and proactive in integrating emerging technologies into their curricula. By doing so, they will not only enhance the efficiency and effectiveness of surgical training but also ensure that it aligns with contemporary professional standards and the holistic needs of trainees.

As we stand at the crossroads of tradition and technological advancement, urology is uniquely positioned to redefine surgical education. By embracing the tools and methodologies of the future, we can craft a training program that respects the wellness of its residents while equipping them with the expertise needed to excel in an ever-evolving landscape.

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