

Robot wars: The battle for robotic surgery at community hospitals across CanadaBrian Yang¹, Troy Sitland², Nathan C. Wong³¹Royal Columbian Hospital, Fraser Health, New Westminster, BC, Canada; ²Moncton Hospital, Moncton, NB, Canada; ³Department of Urologic Sciences, University of British Columbia, Vancouver, BC, Canada

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A long time ago in a galaxy far, far away...

Or more accurately, in a CUAJ editorial from 2014, Dr. Anil Kapoor described, “The robotic invasion of Canada.”¹ While the adoption of robotic surgery was inevitable, he highlighted the challenge of integrating this new technology within our fiscally responsible healthcare system. Over the past decade, robotic surgery has indeed established itself at academic centers and large affiliated teaching sites, yet smaller community hospitals have largely been left behind.

Robotics is no longer a futuristic concept — it is a global reality with the first da Vinci (Intuitive Surgical Inc.) robotic prostatectomy performed all the way back in 2000. Since then, much of the developed world has embraced this technology; however, in Canada, adoption remains relatively slow and fragmented.

EPISODE IV: A NEW LEARNING CURVE

For those of us who trained in the pre-robotic era when no fellowships or formal robotics training was available, the idea of bringing robotics to a community hospital may seem like an impossible task... “like shooting a two meter target on the Death Star”.

However, there have been several success stories in the community, including the robotics program in Moncton, New Brunswick, that stand as a powerful testament that it is not only possible but achievable. With a population of less than 90,000, Moncton’s experience, where two robotic systems have been integrated and effectively utilized, demonstrates that even small community centres can flourish with this technology. It’s important to recognize that the learning curve, though significant, is far from insurmountable. Surgeons with over 20 years of

practice and no prior robotic exposure have successfully transitioned to robotic surgery, proving that commitment and training can overcome initial hesitation.

This should serve as a strong encouragement to other community urologists to dispel the myth of “we will never have a robot” and instead actively pursue these opportunities. Investing in robotic surgery means expanding surgical capabilities, improving patient outcomes, and ensuring that advanced care is accessible beyond major urban centres. The path is challenging but entirely within reach; community hospitals should feel empowered to take this leap forward.

EPISODE V: THE COMMUNITIES STRIKE BACK

Without a robotics program, community hospitals could feel like they are “frozen in Carbonite”. Academic centres are increasingly teaching residents robotic surgical techniques in lieu of traditional laparoscopic skills. As these future surgeons are recruited to community hospitals without access to robotics, they will be unable to leverage their robotic training during residency, and some may require additional training or even choose to practice outside of Canada to access this technology.

In 2007, Vancouver General Hospital introduced the province’s first robotic surgery program, supported by a \$3 million private donation². Until this year, there were no other hospitals in British Columbia with access to robotics and, as a result, this single system served residents across the entire province. Cost-effectiveness has historically been a major barrier to the invasion of robotics, but the scene has shifted. In 2022, the Canadian distribution rights for da Vinci returned to Intuitive Surgical from a third-party vendor and, along with the introduction of new reusable robotic components with longer lifespans, costs have reduced by up to 40%.

While most Canadian hospitals have traditionally purchased their robotic systems through capital purchases, a new pay-per-use model known as the Accelerated MIS Program, also promises to accelerate the adoption of robotics. This path allows hospitals to spread costs over time and align financial spending with surgical volume. It offers community hospitals a flexible alternative by enabling us to acquire a robotic system without waiting years to secure capital. As a result of these changes, five community hospitals in British Columbia supported by hospital foundations will launch their own robotic programs this year³.

EPISODE VI: RETURN OF THE MENTEE

“Always pass on what you have learned.” – Yoda

The Community Urology Committee (CommUC) – CUA Mentorship Program plays a vital role in supporting community urologists across Canada to develop and refine their skills throughout their careers, especially when adopting new techniques like robotic surgery. Mentorship is crucial in this transition from “Padawan to Master”, providing hands-on learning, guidance, and confidence needed to overcome the initial learning curve and successfully integrate robotics into practice.

Through this program, I had the invaluable opportunity to return to McMaster University in Hamilton, Ontario, and work alongside my residency mentor, Dr. Bobby Shayegan. As one of Canada’s leading robotic surgeons, he performs the highest volume of robotic prostatectomies with remarkable patient outcomes ⁴. During the mentorship, I actively participated in four robotic surgeries, gaining practical insights into optimizing patient positioning and port placement, mastering various stepwise approaches to prostatectomy, and troubleshooting the robotic system. Dr. Shayegan’s methodical approach and generous sharing of key tips and tricks deepened my understanding of anatomy and surgical details. This mentorship has been instrumental as we prepare to launch our own robotics program, highlighting the vital role mentorship and continuous learning play in advancing surgical care.

EPISODE VII: THE FUTURE AWAKENS

The expansion of robotic surgery into the community setting marks an important new chapter in Canadian healthcare. With dedicated surgeons, engaged communities, and strong mentorship, robotic surgery is more accessible than ever before. Decreased costs and flexible procurement models provide even more hospitals, regardless of their size, with viable pathways to offer robotic surgery to their patients. The growth of these community robotic programs represents a significant advancement in accessibility, health equity, and the quality of surgical care for all Canadians. Robotic surgery is no longer “far, far away” — and patients across Canada are waiting.

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