



Facility Spotlight

University of Toronto: Edgy, Dissatisfied, Curious, and Committed

Madeline Talbot

The University of Toronto's Department of Anesthesiology & Pain Medicine is enormous. Composed of over 700 faculty members and trainees, the university is part of the Toronto Academic Health Science Network, and the department currently closely partners with six fully affiliated hospitals and 11 community hospitals.

Dr. Beverley Orser, MD, PhD, FRCPC, FRSC, FACH, serves as the department chair and a professor of anesthesia and physiology. In her role as chair, Dr. Orser leads the academic activities of the department, while the site chiefs of the partnered organizations oversee the delivery of clinical care and hospital education and research programs. Management of such a large, and still expanding, system requires a particularly dedicated network of academic and clinical faculty members, which the department possesses in spades.

Entry stream of clinician-scientists' role in treating expanding aging population

Overseeing the production and performance of an expansive academic health sciences system means ensuring all moving parts are working cohesively. It also means being able to identify where there is room for improvement, whether that pertains to research, the quality of patient care, the quality of the trainee education, or even staffers' quality of life.

Dr. Orser identified a few key factors that contribute to the success of managing a large network. In terms of research excellence, she credits the clinician-scientist training program as one of the department's key "enablers." Their academic program provides rigorous training in graduate studies and offers what Dr. Orser referred to as an "entry stream" that identifies and supports emerging resident scientists who are interested in pursuing higher education at the MSc or PhD level.

This entry stream also provides a consistent pool of new clinician-scientist recruits, which has acted as an academic pipeline to the university and its partners through anesthesiology's academic



personnel shortages. Dr. Orser identified that in Toronto's system, the challenge is not necessarily a lack of skilled and willing clinicians, but rather a significant increase in demand due to an expanding, aging population. There are more treatment and diagnostic options for patients these days, like ablation treatments for cardiac arrhythmias and endovascular treatment of neurological disorders, which are examples of services unavailable in past decades. "We can do more for our patients, but that's an expansion of demands on our time. We'd like to expand our workforce as much as possible while being realistic about workload. We're mindful of the demands pertaining to wellness issues as we emerge from the pandemic, and to keep people engaged in the workforce we're looking at new and expanded anesthesia care models with partnerships with anesthesia assistants. In Canada, we are also trying to increase our number of anesthesia assistants and the number of anesthesia clinicians who are family physicians. Most anesthesia care in rural Canada is provided by family physician anesthetists, so they are very essential partners in the provision of health care." She added that an expansion of care also means understanding inequities in access to care and care outcomes in urban and rural settings. Addressing a growing patient population includes not only looking at sheer numbers but also under-resourced communities.

Teaching-mentorship model

One of the department's main goals for its trainees is to maximize the amount of hands-on clinical experience, coaching, and research they receive before becoming independent practitioners. "We are moving away from the old apprenticeship model to

more of a teaching-mentorship model with more one-on-one teaching in the operating room, timely feedback to both trainees and teachers and thinking about how to set up programs to enhance teaching. There's absolutely no shortcut for

trainees being in the operating room and managing large clinical volume. We need to see the diverse range of cases and possible complications. They need to have that hands-on experience," shared Dr. Orser.

Dr. Orser also works very closely with graduate students and resident trainees in her research laboratory, the Orser Laboratory, which is primarily concerned with how anesthetics change brain function, in both their desired effects and how they cause adverse effects. Dr. Orser said, "We've been interested in characterizing the interaction between drugs and receptors, and through that work identified a population of inhibitory receptors that had unique physiologic and pharmacologic properties." Through her research work with trainees, Dr. Orser revealed she's seen time and time again that, "Carefully analyzing data will reveal secrets that hide in plain sight." Trainees must be observant and learn to understand what signal doesn't quite fit, and what disagrees with their favorite hypothesis. Similarly, what the astute clinician does intuitively is recognize the early signs of when things are not normal and where attention needs to be paid. "The research training that we do is all about asking fundamental questions driven by clinical problems and looking for those signals that are telling you there's something new here that's important," she added.

The department is working to incorporate more perioperative anesthetic practices into its training. Growth of perioperative medicine is one of the tenets of the department's five-year strategic plan that launched in 2019. "There is a dramatic change in view around pain in the perioperative space, so the pain management teams are influencing patient

flow," she said. Examples like using catheters, nerve blocks, and being able to discharge patients shortly after surgery would not be possible without the perioperative work of anesthesiologists and their adoption of new technologies such as ultrasound-guided regional anesthesia, she said. "These are organic examples of where anesthesiologists not only influence a single patient's experience but the patient flow, and our ability to serve a greater number of patients."

Stronger together

Another aspect of the anesthesiology department's five-year strategic plan is the concept of "stronger together." Introduced officially in 2019, it became a belief they leaned on heavily through the COVID-19 pandemic, working closely with hospital chiefs across the Toronto Academic Health Science Network through regular meetings, sharing protocols and best practices, and even by exchanging faculty and trainees. She credited their very committed, thoughtful, and wise hospital chiefs in supporting their academic mission. "We know how hard it is right now with the tremendous production pressure to maintain the normal, healthy balance between service and helping our patients versus our academic mission," she said.

Faculty appointment to the University of Toronto's Department of Anesthesiology & Pain Medicine generally requires a simultaneous appointment to one of the university's partnered hospital sites, a requirement that engenders a close relationship between academic programs and clinical practices. The sense of community that makes the department not just a network of individuals, but a unified collective team with a shared mission of lifelong learning, is what allows hospitals to continue to grow successfully. "We also see ourselves as part of a much larger, international community of anesthesiologists," Dr. Orser proudly shared. "We're a bit edgy, a bit dissatisfied, always curious, and very committed. A strong sense of community is so important because we're always looking forward to collectively finding solutions to expanding access to care and ensuring the safe delivery of anesthesia and pain medicine care to everyone." ■