

Toronto Cardiac Anaesthesia Fellowship - Tze Ying

I started my fellowship here at Toronto General Hospital (TGH) in the Peter Munk Cardiac Centre in November 2021.

TGH is a tertiary/quaternary care hospital and a referral centre for organ transplants, cardiac surgery and other complex surgeries. TGH offers fellowships in Cardiac, General (Advanced Clinical Practice), Abdominal Organ Transplantation, Airway, Thoracic (including lung transplants), Malignant Hyperthermia, and Pain. It has recently been awarded fourth place in Newsweek's 'World's Top 10 Hospitals'.

The fellows practice under level 1:2 supervision. There is always a staff anaesthetist to support you, usually supervising two operating rooms at a time. My fellowship in cardiac anaesthesia started with 1:1 supervision for four weeks before progressing to 1:2. Our usual procedures include coronary artery bypass, valve surgery, minimally invasive cardiac surgery, adult congenital, transcatheter aortic valve implantations, cath lab procedures, pacemaker/ICD insertions and removals, and heart assist devices.

Cardiac fellows also do pre-assessment for the cardiac procedures. However, like all busy hospitals you may end up anaesthetising or performing assessments for other specialties. This has also seen me involved with a lung transplant, breast surgery, plastics, vascular and urology. The exposure to complex patients and procedures has been extensive and is a real benefit of spending time here.

The teaching is focused on helping fellows pass the Advanced PTE exam and obtain certification. In addition to general teaching there is an established programme for echocardiography, weekly didactic teaching and case reviews. Cardiac fellows are rostered onto a week of transoesophageal echo imaging and reporting for all required cases that day. This team is supported by a cardiologist who helps direct intraoperative clinical decision making.

The cardiac fellowship is set up with a built in service to the cardiovascular intensive care unit, a valuable experience. Cardiac fellows also do cardiac OR calls and in general are called in for heart transplants, dissections, off pump coronary artery bypasses and can be called in for other cases if it's busy.

One of the differences in practice is the lack of dedicated anaesthetic technicians for each case. There are anaesthetic assistants that help place IV and arterial lines preoperatively and run sedation for cases with staff supervision. They can be called to assist in



Tze Ying Chan in Toronto.

challenging cases, but generally you induce with a surgical nurse assisting you, whose experience can vary.

A marked change in practice for me here is that fellows perform checks between cases (daily checks are performed by an anesthetic assistant). Equipment has to be gathered, checked and set up which can mean early starts hunting for pumps that work or restocking missing equipment and drugs. There is no access to IV paracetamol or parecoxib in the OR and there is minimal TIVA and no preprogrammed models on the infusion pumps to run them.

There are opportunities for research and research fellowships here. I have written a research proposal but the process for application can take many months. Fellows are allocated academic days, but these are not protected, and we often get called back to OR.

Moving countries for a fellowship is always an adventure, with the pandemic adding an additional layer of complexity. The omicron variant and Toronto's fifth wave started soon after we arrived and led to a reduction in operating room numbers. There were door checks, online self-assessment tools and a very organised distribution of RATs and vaccinations for staff.

Now three quarters the way through UHN recently transitioned to a whole new patient management system and it was rather remarkable given the complexities involved.

Financially the fellowship and move to Toronto requires pre-planning. Toronto is an expensive city to live in, so we are very grateful to the BWT Ritchie Trust and the ANZAEC for the scholarship.

The fellowship continues to be a worthwhile and enlightening experience. It has offered exposure to complex patients and procedures and working in a different healthcare system, with different processes, equipment, and health goals. I have also learnt you do need a 'thick skin' for the operating room dynamics and communication, the days can be very long and on calls tiring but we get to live in Canada and experience -20°C and all the fun that comes with that too!



With the echo team. It can get quite crowded.