The resident experience in Cape Town, South Africa

Two residents from the UBC Rural Family Medicine program traveled to Cape Town, South Africa, for elective rotations in trauma and emergency medicine. Here they provide an overview of the steps to being accepted as a supernumerary resident, how to obtain temporary licensure with South African authorities, and their experiences in a foreign health care system.

A.W. Battison, MD, K.S. Wade, MD

Primary care physicians in British Columbia often work in rural and remote areas. Their scope of practice is broad and includes emergency medicine. In cases of critical injury and illness, there is often no immediate access to specialist care, and patients must be stabilized prior to transfer. However, opportunities for training in trauma and resuscitation are limited in Canada.

Residents in family medicine are rarely expected to manage severe traumatic injuries or critical illness because training largely takes place in tertiary hospitals. There, understandably, specialty residents take precedence in managing these patients. However, the vast majority of physicians in rural British Columbia are general practitioners and family physicians.[1] Recent studies have shown that only 3% of rural emergency departments in BC have access to CT and only 12% have 24-hour access to an on-call general surgeon.[2] Therefore, it is vital for rural physicians to have the skills and training to identify, resuscitate, and stabilize critically injured and ill patients, as they will inevitably require transfer to a higher level of care.

Cape Town is a city of 3.75 million people located near the southernmost point of South Africa and is a popular tourist destination. It is also one of the most violent cities in the world. Inequality, poverty, and substance abuse fuel a high occurrence of violence.[3] Predominantly black and colored townships were established during apartheid to segregate the residents from their white rulers. Although apartheid has officially ended, the socioeconomic conditions in South Africa have essentially preserved this legacy and much of the violence associated with it. Public hospitals receive most of the related fallout.

The UBC Rural Family Medicine Residency program based in Kelowna includes a mandatory 1-month rotation in trauma, which may be completed in Canada or abroad. We had both completed rotations in South Africa as medical students and were compelled to return. Beyond our educational goals of learning about trauma and emergency medicine, we also wanted to offer assistance to those in desperate need and experience life as residents in a foreign health care system. We spent our time at Tygerberg Hospital (TBH) and Khayelitsha District Hospital (KDH), where we worked as supernumerary residents.

Participating university and hospitals

Our rotations were overseen by Stellenbosch University, which is one of two medical faculties in the Western Cape. The faculty has an international office that assists students and residents with elective applications. Note that applications should be submitted a minimum of 1 year prior to planned commencement of a rotation.

The campus of the Stellenbosch University Faculty of Medicine is located at TBH, an 1800-bed public teaching hospital located approximately 20 km east of Cape Town. It serves as the referral centre for many

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Dr Battison is a resident in the UBC Rural Family Medicine program based out of Kelowna. He graduated from UBC medical school in 2014 and is pursuing further emergency medicine training at the University of Calgary beginning this summer. Dr Wade is also a resident in the UBC Rural Family Medicine program based out of Kelowna. He completed UBC medical school in 2014 and continues to work as a medical officer in the Canadian Forces, 12 Field Ambulance.

of the community hospitals located in the Cape Flats region, which is one of the most violent areas in South Africa.[4]

KDH is one such public community hospital. It is located in the largest township in the Western Cape and sees a high volume of severe trauma and late-stage medical illness. Alcohol and extreme poverty fuel much of the violence. KDH has X-ray, ultrasound, and basic laboratory services, but it does not have a CT scanner, intensive care unit, or access to surgical subspecialists. Patients must be stabilized prior to ambulance transfer to TBH for definitive treatment.

Both TBH and KDH have resource issues. Both hospitals are severely overcrowded. It is sometimes difficult to find proper working equipment, and improvisation is the norm, not the exception. However, the medical staff are excellent and provide evidence-based, timely care to sick patients.

The provincial government heavily subsidizes the cost of health care. The tariffs are income based and set out in the Uniform Patient Fee Schedule.[5] Those who cannot afford to pay receive services at no cost. The patient's economic circumstances do not factor into any diagnostic or therapeutic decision making in public hospitals.

Obtaining a licence

A significant amount of time, paperwork, and phone calls is required to become licensed as a supernumerary resident in South Africa. Fortunately, the international office at Stellenbosch University helps guide students and residents through this process.

The Health Professions Council of South Africa (HPCSA) regulates medical practice. The organization requires university sponsorship and document verification through the Educational Commission for Foreign Medical Graduates (ECFMG) and ECFMG International Credentials Services (EICS). Notarized copies of an applicant's medical degree and current licence must be sent to the EICS for verification. From personal experience and based on conversations we had with other residents, we can confirm that this process takes a minimum of 6 months.

Once the EICS verifies the required documents, they send them to the HPCSA in Pretoria. Upon also receiving a current Certificate of Professional Conduct from the College of Physicians and Surgeons of British Columbia, the HPCSA then grants a temporary postgraduate medical licence. This licence allows a resident to prescribe medications and order tests.

Our experience

The emergency and trauma units in Tygerberg and Khayelitsha District Hospitals are some of the busiest in South Africa due to the high levels of violence in the surrounding townships. At KDH, postgraduate interns, medical officers, and emergency medicine registrars (equivalent to senior residents) staff the emergency centre. A consultant staff physician is on-call 24 hours a day, but is not necessarily in house. On one overnight shift at KDH, we counted nearly 40 patients who arrived with penetrating stab wounds to the chest. The majority of these patients were diagnosed with pneumo- or hemothoraces, necessitating thoracostomy tube insertion. Resuscitations, from obtaining peripheral intravenous access to rapid sequence intubations, are performed by the medical officers and registrars on duty. We discovered that having training in advanced trauma and life support and extended focused assessment of sonography in trauma were vital skills. Day shifts at KDH tended to be more medical in nature, with patients commonly presenting with severe illness such as bacterial meningitis, diabetic ketoacidosis, septic shock, and complications of HIV and tuberculosis.

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Examples of medical cases we saw:

Status epilepticus
Status asthmaticus
Pulmonary and extrapulmonary tuberculosis
HIV/AIDS
Immune reconstitution inflammatory syndrome (IRIS)
Malaria
Diabetic ketoacidosis
Septic shock
Tetanus
Severe hypoglycemia
Organophosphate poisoning
Massive postpartum hemorrhage
Bacterial meningitis
Cryptococcal meningitis

Examples of trauma cases we saw:

Hemothorax
Pneumothorax
Stab wounds
Gunshot wounds
Globe rupture
Open skull fracture
Basal skull fracture
Increased ICP/brain herniation
Traumatic brain injury
Hypovolemic shock
Cardiac tamponade
Traumatic amputation
Fracture-dislocations
Splenic laceration
Liver laceration
Perforated viscus
Abdominal evisceration

Procedures we performed:

Thoracostomy tube insertion
Central lines
Peripheral IVs
Arterial blood gases
CPR
Endotracheal intubation
Pericardiocentesis
Emergency thoracotomy
Phlebotomy
Closed reductions and casting

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At TBH, the tertiary referral centre, patients are received in a trauma front room managed by medical officers with trauma surgeons available as consultants. Most patients are transferred from other community facilities such as KDH where initial stabilization was completed, and management is focused around secondary surveys, advanced imaging, and referral of patients to the various specialty surgical services. Other polytrauma patients are brought directly from motor vehicle and pedestrian accidents. These patients frequently require reduction and casting of joint and long-bone injuries. Trauma and medical emergencies are separated at TBH, so the medical management of traumatized patients is focused on comorbidities such as tuberculosis, HIV, and sepsis that may complicate an injury.

Interactions with nursing and allied health care staff are different in the South African medical environment from what they are in Canada. Physicians and house staff are responsible for all procedures performed on patients, such as intravenous access, phlebotomy, blood gases, and ECGs. Health professions often work independently of each other, and communication is limited. While this system improved our knowledge and capabilities with these important procedures, it also renewed our appreciation for the allied health care workers and open communication we enjoy in British Columbia.

Working in Cape Town hospitals was a taxing experience emotionally. The volume of patients can be overwhelming and, as such, utilitarian policies are necessary and patients who are deemed terminally ill are removed from the resuscitation area promptly. Tragic cases of untreated AIDS in young people are a daily occurrence. As well, we were in disbelief of the sheer number of patients who came in due to stabbings. It became frustrating to try to clear a hallway of patients, who were injured due to seemingly senseless violence, awaiting thoracostomy tube insertion. Remarkably, the house staff seemed to take it all in stride, working tirelessly to attend to those in need.

Conclusion

Cape Town is a vibrant, fascinating, and often shocking place to train. The time we spent in South Africa better prepared us to manage life-threatening injuries and illness, and made us grateful for the health care system we have in BC. We highly recommend a rotation in South Africa to residents who are seeking a unique trauma experience.

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