

**Chui's Student Excellence Scheme (徐氏卓越學生計劃)**  
**Report Form – LO CHUN HIN**

Chris Hani Baragwanath Academic Hospital (CHBAH) is one of the largest hospitals in the world, visited by numerous international medical students for medical electives and training in various departments. I decided to spend my month in the Department of Orthopaedics and Traumatology, with a focus on trauma management. Having read many reviews on its famous trauma unit, mainly on the busy yet enjoyable working experience, I was both nervous and excited while on the flight to Johannesburg, South Africa. Yet from the day I started working, I am grateful to be surrounded by a team of passionate doctors, students and even army surgeons from the USA, UK, Germany and other countries. After spending days and overnight shifts handling patients with presentations that would almost never be seen in Hong Kong, the elective is a truly eye-opening experience in how medical care is delivered in a resource-limited healthcare system.

A major learning objective of the elective is to compare the patterns of trauma cases in Hong Kong and South Africa. Trauma is the second leading cause of death after infections in the country, with almost 60% being penetrating injury, as opposed to 7.4% in Hong Kong. A major factor causing the high prevalence of traumatic injury is the lack of drug and firearm regulation. The country has one of the lowest police-to-population ratio and corruption is common, leading to easy access to dangerous matters. The problem is especially prominent at weekends, holidays and paydays, where many people become disinhibited and tragedies ensue. According to the statistics of CHBAH in 2016, there were in total 25322 patients attending the trauma unit, in which 18.6% required resuscitations. 675 patients required emergency surgeries, including 327 laparotomies for stabs, gunshot wounds and blunt trauma, 67 thoracotomy, 86 neck and/or vascular explorations and 195 relooks. Due to the high volume of cases, the trauma unit has its own resuscitation rooms, cubicles and ward, unlike in Hong Kong where the Accident and Emergency Department will receive both trauma and non-trauma patients.

Another learning objective is to appreciate the challenges of resource management in a resource-limited healthcare system. The problem is perpetuated by many factors, including lack of pre-hospital care, long distance from hospital with adequate facility, and low healthcare funding by the government. Although healthcare expenditure accounts for 11% of the country's GDP, South Africa is itself a middle-income country only with GDP per-capita of \$5270 USD, which is only 12% to that of Hong Kong (\$43700 USD). The vast area and different urbanization rate within the country make it impractical to have comprehensive healthcare for everyone. For instance, CHBAH is the only major hospital to receive patients from Soweto, a township of 200 km<sup>2</sup> (one-fifth of size of Hong Kong) with over 4 million inhabitants, making resource management difficult for the hospital. Unlike in Hong Kong where trauma call encompasses emergency physician, general surgeon, neurosurgeon and anaesthetist, trauma surgery is a recognized subspecialty in South Africa and the surgeons can independently manage most trauma patients without consulting other doctors, serving as an



*Figure 1. A seemingly never-ending corridor inside the largest hospital in Southern hemisphere.*



*Figure 2. Inside the resuscitation bay of the trauma unit, where the more unstable cases are managed. During weekends and holidays, the room will be crowded with patients of various injuries, sometimes coming in groups.*

efficient strategy especially when human resource is severely limited. While the trauma surgeons are usually busy managing complicated cases and performing emergency surgeries, the routine operation heavily depends on junior registrars and elective students. During my days at the hospital, I am responsible for assessing relatively stable patients at the emergency unit, discuss management plan with doctors, perform simple procedures and assist in emergency operations. With the constant inflow of patients, I have ample opportunities to improve my procedural skills such as basic suturing and obtaining arterial blood samples.

This elective destination precludes much leisure time throughout the elective, but is a wonderful experience for students looking for a challenge to themselves on cooperating under constant stress and polishing up their procedural skills. On the other hand, the safety level of the city is worrisome and crime rate is one of the highest among the world, partially contributing to the high case volume of the hospital. All students are explicitly warned not to trust the public transport or walk on foot in city centre, and most houses have electric fence and motion sensor installed. Still, due to the hospital's popularity, there're accommodations in the city dedicated for elective students and visiting doctors. It's an amazing experience to have a group of international colleagues working together at day and cooking at night together.



*Figure 3. The plates and chefs of International cooking night at the elective students' accommodation.*

Out of the working hours, we also make use of the time to explore the beautiful country. We spent a week in Cape Town, where we visited the famous Table Mountain and visited the Cape of Good Hope, the historical southern tip of African continent. During the weekends at Johannesburg, we hiked on nature reserve, cycled through the huge township of Soweto where two of the South African laureates of Nobel Peace Prize, Nelson Mandela and Desmond Tutu, once resided. Before we left, we also seized the opportunity to go on safari at the Pilanesberg National Park, the 4<sup>th</sup> largest one in the country, to have a glimpse of the unique African wildlife.



*Figure 4. At the Cape of Good Hope, where the Atlantic Ocean meets the Indian Ocean.*



*Figure 5. Cycling through the Soweto township, where we're warmly welcomed by the children.*