ROYAL COLLEGE OF PHYSICIANS AND SURGEONS OF GLASGOW

SCHOLARSHIP REPORT

This report should be completed by recipients of awards and scholarships from the Royal College of Physicians and Surgeons of Glasgow on completion of the activity for which they received their award or scholarship. Please complete all sections of the report form.

Please return your completed report via email to: **scholarships@rcpsg.ac.uk**

Or via mail to: **Scholarships Committee Administrator, Royal College of Physicians and Surgeons of Glasgow, 232-242 St Vincent Street, Glasgow G2 5RJ, UK**

Please use typeface when completing this form.

SECTION 1 | PERSONAL AND AWARD DETAILS			
Title	Mr	**PID**	126114
Surname	Norbury	**Forename(s)**	Christopher
Scholarship/award awarded	Medical Elective Award	**Amount awarded**	£1000

SECTION 2 | VISIT DETAILS	
Name/Title	For my medical elective I divided my time between three locations:- 1. Bascom Palmer Eye Institute, Miami, Florida, USA (duration 4 weeks) 2. Ryder Trauma centre, Jackson memorial hospital, Miami, Florida, USA (5 days) 3. Kwale Eye centre, Mombasa, Kenya (1 week)
Aims and objectives	The goals of the placement as given by the Bascom palmer eye institute are as follows: a. Differentiate indicators of when to refer patients to an ophthalmologist b. Perform an eye examination, including proper use of the ophthalmoscope c. Evaluate ancillary ocular tests (Visual fields, OCT) d. Evaluate pupillary abnormalities e. Learn the management of common ocular problems and emergencies (conjunctivitis, superficial foreign body, chemical burns, trauma, etc.). f. Examine a patient with red eye and initiate management when appropriate. g. Discuss types of cataracts h. Detect and describe disorders of ocular motility and describe prevention and treatment of amblyopia i. Recognize different types of glaucoma – risk factors and management (medications/laser/surgery) j. Identify retinal pathology: retinal detachment, age-related macular degeneration and uveitis k. Be familiar with ocular changes in diabetes mellitus, hypertension, and optic neuropathy

l. Demonstrate a professional and systematic approach in working with a patient with an ocular injury.

m. Use the indirect ophthalmoscope, 90D lens and 20D lens to evaluate the optic nerve and retina

n. Use the slit lamp to examine the cornea and anterior segment of the eye

My personal goals at the Kwale eye centre were as follows:-

a. Compare and contrast ophthalmic care in developing countries against the care received in developed countries
b. Identify common pathologies affecting patients in developing nations
c. Compare and contrast the availability of resources and medicines in developing nations against those used within developed nations
d. Use the slit lamp to examine the cornea and anterior segment of the eye

Summary

1. Bascom Palmer Eye Institute, Miami, USA

I chose to go to Bascom Palmer eye institute in Miami, USA as it is regarded as one of the best centres for ophthalmology in the USA.

The first day of my elective started early at 7am where I was given a welcome pack and the objectives of the elective were outlined. The structure of the placement was very flexible and there is an online excel spreadsheet with a number of activities for the student to choose from. The timetable of the placement is very much student led although it is strongly encouraged to attend a variety of different clinics, the emergency room (ER) and operating room (OR). The remainder of the first day involved a practical teaching session on the direct ophthalmoscope and I attended oculoplastic clinic where I saw a number of patients including follow up of a soldier who had an enucleation following a land mine explosion. Other patients that I saw included a new patient with a rapidly progressing unilateral proptosis that was highly suspicious of a metastatic buccal squamous cell carcinoma.

The second day I spent in the emergency room where a patient was seen with a chemical injury to the eye, the patient's eye was irrigated and an antibiotic eye drop was used following thorough irrigation. I also saw a patient who had developed a corneal ulcer on the first day after LASIK surgery and was complaining of photophobia and significant visual loss. She was treated with vancomycin and tobramycin.

Each morning involved a 7am lecture where a resident would present an interesting case that they had seen. Grand round was held every Thursday at 7am and during the time that I was at Bascom Palmer a special guest lecture was given by Dr Joan Miller who is the

chair of ophthalmology at Massachusetts eye and ear hospital. The title of the lecture was "macular degeneration: where do we go from here".

Over the next 4 weeks I structured my timetable to rotate through each speciality. The available options were; paediatric clinic, ocular oncology, oculoplastic clinic, general clinic, retinal clinic, glaucoma clinic, neuro-ophthalmology, cornea, emergency room and operating room. I tried to spend at least 2 days in each area with the exception of the ER where I spent considerably more time. This was because I felt that I was likely to encounter a variety of conditions in ER and this would be highly relevant for both foundation and ophthalmology training.

Over the weeks I encountered a variety of conditions that were similar to the conditions that we see in the UK. In ocular oncology I reviewed a number of patients with uveal melanoma and in paediatrics I saw a number of children with strabismus. I encountered a neonate with bilateral leukocoria secondary to dense bilateral cataracts. I chose to use the child for a presentation on the management of leukocoria in the new-born. During the presentation I placed significant emphasis on the importance of ruling out life threatening conditions such as retinoblastoma by using ocular ultrasound. I also discussed alternative causes of leukocoria such as cataracts. The presentation formed part of my assessment for the placement which took the form of a learning log, clinician review and formal presentation to a group of peers.

2. Ryder trauma centre, Jackson Memorial hospital, Miami, USA

Although I originally planned to spend my entire elective in ophthalmology I decided to spend 5 days at the Ryder trauma centre at the Jackson memorial hospital in Miami. Bascom Palmer is located in the middle of the Jackson memorial hospital campus and within close proximity of the trauma centre. Miami is known for high levels of trauma and significantly higher rates of gun-shot wounds and stabbings than the average level in the USA. The Ryder trauma centre is one of only two level 1 trauma centres in the state of Florida and many US military personnel are posted to the Ryder centre as part of their training.

I chose to spend a few days at the centre out of personal interest and because it is an area of medicine where I lack experience and exposure. During my time in the trauma centre I encountered a 32 year old male pedestrian who had been hit by a car and suffered a ruptured diaphragm and a laceration to the liver. The patient was immediately rushed to theatre to undergo urgent surgery to control the bleeding and repair the diaphragm. A second patient I saw was a 45 year old female who suffered extensive burns to her arms and torso after a pressure cooker explosion, she was resuscitated and referred to plastics. Finally a patient presented with a deep laceration to his forearm after falling on glass. The patient was neuro-vascularly intact so required cleaning of the wound and closure. Unfortunately I visited the trauma centre at the very end of my placement and I never got

the opportunity to visit during the night shift or at the weekend. At these times the unit is much busier and sees many cases of violence related injuries.

3. Kwale Eye centre, Mombasa, Kenya

I knew that I wanted to complete my elective in the field of ophthalmology however, I spent a long time contemplating what destination to visit. I was torn between a prestigious hospital where I could learn about world class eye care and a country with poor access to eye care where I could provide humanitarian help. In the initial phase of planning my elective I chose to visit a developed country. My reason for this was because I feel that at my current stage of training I lack the knowledge, skills and accreditation in ophthalmology required to provide direct patient assistance to those in poor countries with limited resources. Nonetheless, I couldn't shake the desire to visit a hospital in a developing nation. I was happy to help in whatever way I could but more importantly I was keen to form an ongoing link.

A short placement at the Kwale eye clinic in Kenya was easily arranged and I was warmly welcomed by Dr Roberts, a British trained ophthalmologist who founded the eye centre in 1993.

On the first day Dr Roberts personally showed me around the eye hospital and I was immediately impressed by how big the hospital was. The hospital had been founded in a small building no larger than a garage. With the support of staff, local people and benefactors the hospital had slowly grown to an impressive facility. The hospital had a large consulting area complete with five slit lamps, digital imaging equipment, a topographer and keratometer. Adjacent to the consulting area was an area for refractive testing and fitting spectacles. The hospital had an operating theatre, laboratory for manufacturing spectacles, a small ward for inpatients and a children's clinic complete with a play area.

Due to the shortage of ophthalmologists in Kenya, Dr Roberts has trained a number of staff members to diagnose and manage common ophthalmic conditions. A number of staff members have also been trained to perform common ocular surgeries including cataract extraction and lens replacement. I was impressed with the standard that they were trained too. This was a stark contrast to developed nations whereby surgical procedures will only be completed by a trained doctor, nurse or other suitably qualified healthcare professional. The desperate shortage of doctors has led to the need to train members of staff without any formal medical qualifications.

The eye hospital has a community outreach team that visit local establishments including schools. I had the privilege of spending two days with the team. One day we visited three patients in a small village called Magambani, located

high in the mountains. It was the rainy season during the time that I visited and most of the roads became inaccessible to cars due to the heavy rainfall. A member of the outreach team and myself got a mutatu (a privately owned highly decorated minibus that drive passengers between towns) to the beginning of the mountain road and a motorbike taxi to the final destination. The journey was nail-biting and involved having to disembark a number of times to walk through paths that the motorbike struggled to pass. This experience alone gave me an appreciation for the dedication and commitment of the staff to visit patients who have no access to healthcare. We visited a school and whilst the ophthalmology team were setting up in a neighbouring building, I spoke to the teachers and visited a number of classrooms to meet the children and learn about the Kenyan education system. For the remainder of the day I participated in a screening programme whereby students, who had been identified by teachers as having eye problems, were given an eye examination and either treated or referred to the eye clinic. The screening clinic ran smoothly which each of us conducting a part of the visual assessment. My role was to undertake fundoscopy and tonometry. I identified a number of students and local members of the community who needed to be reviewed in the eye clinic including a child with albinism and an elderly gentleman with hypermature cataracts.

The following day I spent time in theatre observing cataract extraction and lens replacement. Dr Roberts and staff are able to perform a number of different surgeries however the team do not have an anaesthetist readily available for more complex surgeries that require general anaesthesia. Once a month an anaesthetist visits the hospital to administer general anaesthetic to permit surgery on paediatric patients and complex cases. I have witnessed a number of cataract extractions in the UK and the ophthalmologist usually breaks up the lens using a phacoemulsification probe. The technique performed in Kenya was Manual small incision cataract surgery whereby the lens is removed whole through a small scleral incision. This was largely based on the cost implication of performing phacoemulsification. It was apparent that running the theatre was a big expense and was something that I had never really considered previously. With the exception of the lens implant almost all equipment was sterilised and reused. This included items which would commonly be single use items in the UK such as scalpel blades, needles and drapes.

The types of ocular pathology that I encountered was unexpected. I envisaged that a large number of patients would be seen with cataracts and this certainly materialised. I expected to see a large number of patients with infective eye disorders such as trachoma or onchocerciasis however such cases seemed very few. I saw a number of patients present with conditions suggestive of underlying immunodeficiency such as a 23year old with a squamous cell carcinoma of the conjunctiva. This was likely an indication of underlying HIV infection and the patient was treated and recommended to see an infectious disease doctor. For reasons which staff members could not explain patients suffer with high rates of allergic

	conjunctivitis. I saw many cases of severe allergic conjunctivitis and I was informed that patients were frequently seen with sight threatening episodes. I was interested to learn how the hospital is funded. The clinic charges patients for appointments and procedures. An appointment or procedure has a fixed cost however this is a small percentage of the total cost to the hospital as the vast majority of the cost is paid via charitable contributions.
Learning outcomes *Detail here how the aims and objectives were met*	I found my elective to be a highly rewarding experience and I gained a great deal of clinical exposure. I had many opportunities to examine patients using both a slit lamp and ophthalmoscope. There were many learning opportunities and clinicians were keen to teach on all placements. It was interesting being immersed in a different healthcare culture and discussing the different healthcare systems with a number of interested clinicians and patients. One of the reasons that I chose to conduct my elective in the USA was the contrast in healthcare systems. This proved to be one of the most interesting parts of my elective. Bascom Palmer is a private hospital and hence patients are required to pay for their treatment or have insurance that covers the expense. Although it was not unexpected, I encountered many situations whereby patients were either uninsured or there insurance was unable to cover certain investigations or treatments. Experiencing the American healthcare system gave me a massive appreciation of how privileged we are to have the NHS. I frequently encountered patients who refused essential treatment or investigations as they could not afford to pay. This was a big difference to the UK where healthcare is provided on the basis of need and not the ability to pay
Evaluation *How has this scholarship/award impacted on your clinical/NHS practice or equivalent?*	I am sincerely grateful for this award as without the award I would not have been able to visit Kenya. Before I was granted the award I had planned my elective to be solely in the USA and hoped to visit Kenya in the future due to financial constraints. The largest expenditure during my elective was travelling to the USA and then to Kenya before returning to the UK. The grant helped to cover the cost of flights to Kenya, living costs whilst there and a charitable donation to the eye centre. Although I only visited the eye centre for a short period of time I hope that this initial visit will blossom into regular visits and a close partnership. The biggest thing that I took away from my Kenyan elective was a desire to return and support a hospital that does such a fantastic job despite the need for more support. On a final note I would like to express my sincere thanks to the College for supporting my elective and providing me with the opportunity.

SECTION 3 | IMAGES

1. Bascom palmer eye institute, Miami, Florida, USA

Left to right: Bascom Palmer main entrance, myself presenting 'Leukocoria in the new-born'

2. Ryder trauma centre, Miami, Florida, USA

Above: Ryder trauma centre main entrance, Below: resuscitation bay. Before and after treatment of a patient who had been hit by a car and suffered a pelvic fracture.

3. Kwale eye centre, Mombasa, Kenya

Above: *Blueprint of Kwale eye centre floor layout*

***Left to right**: Kwale eye centre entrance, waiting area and reception, central grass area*



***Left to right**: Anaesthetic room, sterilising area of operating theatre, patient undergoing cataract extraction*



***Left to right**: Dr Roberts (centre) with myself (right) and a fellow medical student, spectacles manufacturing laboratory*



***Left to right**: Clinic area with refraction area in distance, clinic, myself performing slit lamp examination under supervision*

SECTION 4 | EXPENDITURE	
Breakdown of expenditures *Please demonstrate how the scholarship/award funding was used to support your project/visit*	Below is a list of the major expenditures during the elective. USA ESTA $14 Flight from London to Miami £250 Flight from Miami to Kenya £500 Flight from Kenya to London £450 Miami transport via metro system for a month pass £50 Miami accommodation £600 Kenya accommodation £60 Kenya transport £15 Kenyan visa $51 Sustenance in USA £250, Kenya £50

SECTION 5| PUBLICATION	
Scholarship/award reports may be published in College News. Please tick here if you agree to your report being published.	☑I give permission for my report to be published in College News *If your report is selected for publishing, the editor of College News will be in touch to discuss this with you.*