Name: Shriners Children's Hospital Philadelphia.
Location: Philadelphia

Aims and Objectives:

My objectives for this travelling fellowship were:

To study the provision and design of extremity services to children at an American centre with a world-renowned reputation, with reference to:

A. Liaison between emergency medical services and tertiary trauma centres.
B. Liaison between specialist and non-specialist trauma services in the same region.
C. Initial management, including reception facilities and initial care.
D. Imaging facilities.
E. Surgical staffing.
F. Surgical skills set.
G. The interface between plastic and orthopaedic surgery.
H. Follow up care pathways.
I. The interface between surgical teams and physiotherapy.

Summary:

Thanks to the British Society for Surgery of the Hand Travelling Fellowship, I was able to visit Shriners Children's Hospital Philadelphia. Dr Scott Kozin, world renowned paediatric hand and upper limb surgeon and editor of Green's Hand Surgery, is the Chief of Staff. He was a wonderful host for my BSSH Travelling Fellowship. I have provided a summary of my how I achieved my learning objectives and the other pathologies I was able to learn about.

Learning Outcomes:

Shriners Children's Hospital Philadelphia is a highly specialised Ortho-Plastic hospital based in the North of Philadelphia. It offers upper and lower limb Ortho-Plastic care, as well as paediatric neurosurgery care. With regards to upper limb surgery, the hospital offers paediatric trauma care, congenital hand care and a brachial plexus service.

The hospital is unique within the United States as any child can be treated free of charge, from the United States and around the world. The hospital is supported by charitable donations. Patients can present directly to the hospital as a self-referral, or a physician from any speciality can refer directly to the service. Patients can be referred from any part of the globe. Within the USA there is a transport network to assist patients with their travel. The hospital also has a facility to house families during treatment. In addition, to new patients, many patients will transfer their care for a variety of reasons and this referral can also be made by the physician or the patient.

The hospital does not have an emergency department as we would recognise it. But has a walk-in clinic that is primarily run by highly trained physician's assistants. At this clinic patients can be assessed by a physician's assistant and a doctor. The clinic is multi-disciplinary in that there is a radiology department, ortho-plastic physician presence, nursing / wound care, theatre scheduler, play therapists, occupational and physiotherapists. The clinic is run by a specialist nurse. This clinic essentially functions as a one-stop shop for outpatient care, and direct access for theatre scheduling to those who need it. The clinic also had a physician capable of performing ultrasound examination, peripheral nerve studies and genetic screening, among other highly desirable skills.

The Ortho-Plastic team was a small but very tight knit group. It was clear to see a family ethos created a warm and friendly working environment which lends itself to collaborative working. The upper limb team had two residents, two fellows and three attending or consultant level doctors. Patients were scheduled directly from clinic, and the operating theatre ran every day. It was directly adjacent to the lower limb theatre, so combined working / cases was the norm. The theatre had a very high-resolution x-ray machine that improved the precision of fracture care. The spinal theatre had an intra-operative CT scanner. The lower limb theatre runs alongside the upper limb theatre every day. Both services are run by both orthopaedic and plastic surgeons.

The patients are followed up in the outpatient department. The hospital has a large physiotherapy and occupational therapy department. The service is very proactive, providing and designing many adaptive tools to assist children with limb differences to perform activities of daily living independently. The department has a small kitchen where children can enjoy learning to care for themselves through a very practical approach to physical therapy and rehabilitation.

The high research output of this unit in paediatric upper limb surgery is recognised globally. The editor of the current issue of Green's Hand Surgery leads the unit. The unit continues to produce new research and collaborates with research units around the world.

In addition to my objectives originally outlined in my proposal, I was able to learn a lot more about the diagnosis of obstetric brachial plexus injury. This includes initial diagnosis and examining the new-born, pre and post procedure examination and problems these patients might face as they pass through into adulthood. I was able to see a wide range of other congenital limb differences, including arthrogryposis and management of hand spasticity in the child. I learned many tips and tricks in communicating and examining the paediatric hand and upper limb. I was also able to attend part of the microsurgical flap course at Penn University and experience lectures from leaders in the field on microsurgical reconstruction of the upper limb.

I am extremely grateful to the wonderful hospitality of Doctors Scott Kozin, Dan Zlotlolow and Eugene Park. In addition to a great visit to the hospital, I was treated to a visit to the Barnes Foundation art collection, the Adventure Aquarium (with my young daughter) and fantastic dinner recommendations around the city. I am also very thankful to the BSSH for the financial support to be able to make this educational visit.

Evaluation:

When I consider what the Royal Hospital for Children Glasgow extremity reconstruction service could offer the country of Scotland, my experience of observing at Shriners Children's Philadelphia has demonstrated the potential direction the service could take. I better understand the detailed infrastructure required of the service required to serve the public well. As we face future staffing difficulties, I have witnessed how speciality nurses and physicians' assistants might provide valuable skills to this type of service. I have witnessed how a highly effective physiotherapy and occupational therapy department is key to patient success. I have also experienced how certain types of speciality equipment are vital to a good service. I have also witnessed the breath of surgical interventions and services that can be offered to the paediatric population. Hopefully, as I progress in my career I can use this experience, along with my previous fellowship experience in extremity reconstruction and microsurgery to provide good care to paediatric patients with upper limb differences.