BSSH Education And Travel Bursary
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Department of Hand and Reconstructive Microsurgery

Singapore General Hospital

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Alfredo Manrique's 'Kerampot'
Collection of National Gallery Singapore

Introduction

I am currently a Senior Hand Fellow at the Queen's Medical Centre in Nottingham, having completed my specialty training in the East Midlands South Deanery. I was fortunate to accumulate 18 months of hand experience during my HST, allowing for a seamless transition to the QMC, a busy MTC and tertiary referral centre. It's been a steep learning curve with rapid skill acquisition; however, I planned on building on this experience with a travelling fellowship to Singapore General Hospital (SGH), focusing on the latest advancements and surgical techniques in hand and wrist surgery.

My primary areas of interest include novel arthroplasty surgeries of the wrist and hand, as well as arthroscopic wrist surgeries. I am well aware of the exceptional expertise and resources offered by the SGH Hand and Reconstructive Microsurgery team in this specialised field - which was one of the main reasons for choosing this locale for my travelling fellowship.

SGH is the largest public tertiary hospital in Singapore with a capacity of more than 1,600 beds. The Hand and Reconstructive Microsurgery Department at the SGH is a renowned centre of excellence with 4 core subspecialty services (advance microsurgery services, wrist services, congenital hands, and brachial plexus and peripheral nerve services) and serves as the tertiary referral centre for complex pathology affecting the hand, wrist and upper limb.

A large proportion of the departmental workload is trauma – and it was fascinating so see the variation in surgical and post-operative management to align with their ethos of 'early definitive surgery to allow rehabilitation and early return to work' which I have highlighted below.

Overall, the medical care in a 'resource unconstrained' environment is truly thought-provoking!

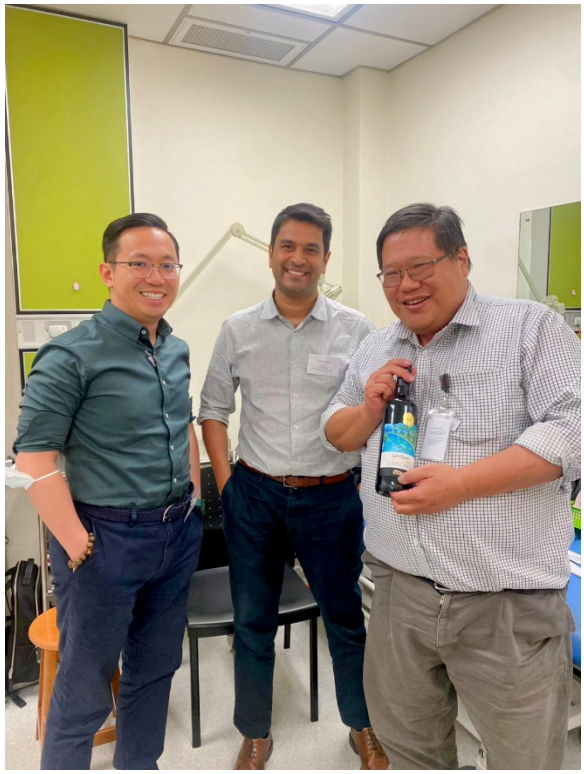
Singapore General Hospital

Fellowship Journey

As a traveling fellow, I was allocated a fellowship mentor - Professor Andrew Chin - who is renowned for his expertise in hand surgery and wrist arthroscopy interventions for various wrist pathologies. It has truly been a pleasure learning from him during the fellowship.

Clinic Experience

Clinics are operated with an 'open-door' policy across 3 rooms where residents see patients in adjacent rooms. Based on the complexity of the case, Prof Chin provided the senior review. This model is replicated for both trauma and elective clinics.



Travelling Co-Fellow (HH Chong), Me & Prof A Chin

During our time there, trauma clinics varied from 80-100 patients. Patients requiring surgery are consented on the day - in clinic. This negates the need for recalling patients back to 'consent-clinics' commonly practiced across the UK. Additionally, for elective procedures, patients are allocated a definitive day of surgery from clinic - usually within 3 months.

On reflection, private care does not account for the efficiency of this system or the relatively short referral-to-treatment time. We had a discussion with Prof Chin regarding healthcare economics in their country. The system is not designated laissez-faire free-for-all. A progressive system of subsidies for Singaporean citizens exists and a safety net to cover medical expenses for patients without any savings. This generates a payment class system (A, B, and C), with the efficiency of treatment varying according to the class chosen by the patient. I suspect charging patients (however nominal) plays an important role in moderating demand. However, low healthcare utilisation is largely determined by factors like culture and population health, which would difficult to emulate within the UK population. Irrespective, waiting times were negligible and it was refreshing to see patients have some autotomy on when they got their operation.

Theatre Experience

The department operates on a 24-hour basis, inclusive of overnight trauma operating. This prevents elective lists from being 'compromised' due to excessive trauma back-log. For day-time lists, the first case typically starts at 08:00am and finishes by 17:00pm. Lists never seemed to be under or over-filled. Certain cases (e.g., arthroplasty) were allocated for dual consultant operating – something I plan on thoroughly utilising during my Junior Consultant years for complex/niche cases.

Wrist arthroscopy was second nature to Prof Chin - he has however been the course director for the annual Singapore Wrist Arthroscopy Course since its inception in 2015! Learning the intricacies of an arthroscopic TFCC repair was one of my personal objectives for this fellowship and I was fortunate to observe an arthroscopic TFCC repair using a bone tunnel. He took us through the procedure step-by step, including the arthroscopic views expected across portal sites. Of note, he utilised a nanoscope compared with the traditional 2.7m arthroscope. He justified his preference of using bone tunnels over anchor – and on seeing a stable DRUJ both on-table and a week later in clinic, it was hard to disagree with him! Patients are reviewed fairly early post-operatively and initiated on hand therapy protocols quickly – in line with their department values for 'early definitive surgery to allow rehabilitation and early return to work'.

Thumb CMCJ replacements seemed to be fairly standard practice within the department. They seem to have adopted a paradigm shift in management by doing fewer trapeziectomies and instead opting for 'bone-preserving' procedures. Their anecdotal evidence suggests that doing an early osteophyte excision to prevent impingement or cartilage regeneration procedures seemed to have favourable patient outcomes – data they hope to publish in the near future. The technical aspects of a CMCJ replacement weren't too dissimilar to my own experiences in the UK, bar performing a capsulotomy in line with the joint to minimise soft tissue trauma and maintain capsular integrity for closure. Once again, early follow up at 1 week highlighted a pain-free patient with an excellent range of motion.

I was also fortunate to observe A/Professor Lim for her operating lists. A rather novel surgical technique, she performed microfracture and neo-cartilage implantation (using Chondro-Gide bilayer collagen membrane) on the cartilage surface of the index CMCJ. While the results are yet to be published, early data suggest favourable results and patient outcomes scores. This seems to be her preferred choice of surgery for various hand degenerative cases having successfully performed over 20 cartilage regeneration cases.

It's worth mentioning that many common cases remain fairly standardised in line with UK practice – from surgical approach down to the preferred implant choice (e.g., distal radius fixation). The differences often arise at the post-operative period with a clear drive towards early rehabilitation without immobilisation.

Departmental Overview

The department has very progressive views on education and teaching. Ward rounds start early at 07:00am, followed by departmental sessions from 07:30 – 08:30am.

Our final day at SGH with Mr. Wee Lam

Tuesday mornings are dedicated to discussing complex cases, where residents present cases managed by their supervisors. These discussions are followed by reviews of recent literature. Interestingly, management approaches differ - treatments that are handled non-operatively in the UK are often surgically addressed at SGH. These discrepancies arise from various factors, including NHS system constraints, surgical delays, and cost barriers. However, early mobilisation, as practiced at SGH, leads to early rehabilitation and quicker return to work. For example, undisplaced scaphoid waist fractures are managed conservatively at my centre with a period of prolonged immobilisation, whereas SGH favours early percutaneous fixation and mobilisation without a cast, facilitating a faster return to work. This contrast in approaches is certainly thought-provoking!

Wednesdays focus on resident teaching, covering topics pertinent to their exams, with the exam-going resident often in the "hot seat."

Thursdays are designated for the journal club, during which a recent JHSE publication is critically appraised under the leadership of Mr. Wee Lam, Editor-in-chief of JHSE. His passion and commitment to enhancing the educational and academic experience for the residents at SGH is truly commendable!

Alternate Fridays are reserved for MDT sessions with additional participation from the radiology and pathology departments. During these sessions, both pre-surgical and post-operative complex cases are discussed. I found this session and set-up particularly intriguing as this model is often replicated in other orthopaedic sub-specialties, but less frequently in hands. The clear benefit of this approach lies in its enhancement of collaborative learning and improved patient care.

Summary

The SGH Hand and Reconstructive Microsurgery Department truly exemplifies a centre of excellence. I am deeply grateful to Prof. Chin, Mr. Wee Lam, and Prof. Lim for their warm welcome and support during our visit. The healthcare system in place is impressively designed and operates efficiently to cater to their patient cohort, setting a high standard that we should aim to achieve in our own practice. The novel surgical procedures employed in the department play a significant role in setting standards of surgical excellence. I am thankful for the opportunity to have observed some of these advanced techniques during my time there and look forward to incorporating them into my future clinical practice.

Finally, I am very grateful to the BSSH for facilitating this excellent opportunity!