

Report of Global Partnership Trip with BAHT/ BFIRST

Children's Surgical Centre, Phnom Penh Cambodia

October 2024

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In October 2024 a team of surgeons from the UK and Singapore and a Hand Therapist from the UK visited the Children's Surgical Centre, Phnomh Penh, Cambodia.



Introduction

The British Society for Surgery of the Hand (BSSH) and British Association of Hand Therapists (BAHT) have parallel Global Partnership Committees, whose vision is to use their resources to deliver maximum possible benefit for patients in need of hand surgery in low-middle income countries. The British Foundation for International Surgery and Training (BFIRST) is a U.K based charity. Through multidisciplinary collaboration, BFIRST hope to widen access, particularly to plastic and reconstructive surgery for populations around the world.

These bodies teamed up for this project to ensure there was a team of exceptionally qualified consultant surgeons and a therapist to teach best clinical

practice in upper limb and peripheral nerve surgery to the already very skilled Cambodian surgeons at the Children's Surgical Centre (CSC). The surgical aspect of the team and transfer of skills is, at this point, well established, with 6 monthly visits well established for over a decade, and transfer of highly specialist skills is becoming sustainable with the static surgical team in the hospital.

The Children's Surgical Centre was founded by Dr. Jim Gollogly, a British-American surgeon, who first came to Cambodia in 1992 for a 6-month assignment with the American Red Cross. After 30 years of war and genocide by the Pol Pot regime, in which educated citizens were targeted for execution, the medical system had suffered tremendously. Upon arriving to Cambodia, Dr. Jim found that war and landmine injuries were rampant, and disabilities were neglected. Having made a few contacts during his assignment, he returned to Cambodia in 1998, and CSC started as a small project to help victims of landmine injuries, many of whom were children. Since then, it has grown into what it is today - a tertiary teaching hospital with over 100 Cambodian staff performing free and low-cost surgery in numerous specialties for economically disadvantaged patients.

The Children's Surgical Centre is guided by values of

- Ethical Care
- Minimal Costs
- Transparency
- Sustainability
- Education
- Capacity Building

In the months leading to visiting surgical teams arriving, the resident medics, surgeons and trainees triage the attendees to the daily clinics to each team specialty. In the case of our visit, congenital hands, paediatric trauma and brachial plexopathies were the focus of the trip, with other neglected injuries and burns in the mix.

The CSC's vision strategy, "training of local surgeons . . . focusing on the development of sustainable surgical services for Cambodians", is in perfect alignment with the goals of our organisations, and training for local surgeons is well established. Previous visits have developed a community-oriented curriculum for training local surgeons. Areas of need identified included brachial plexus injuries and congenital hand surgery, and so the training has been focused on equipping local surgeons with these skillsets and making sure that it is disseminated.

In terms of building capacity for the future of Cambodian surgical care, the project at the CSC has had a measurable impact thus far. The focus on the transfer of skills to the local team, within the constraints of their existing

infrastructure, has seen local surgeons achieve independent competency in brachial plexus surgery, pedicled flaps and congenital hand surgery. This week was a continuation of this important prior work, continuing the delivery of a carefully designed surgical curriculum.

In addition, the team were joined by Singapore surgeons from Singapore General Hospital, specialising in hand surgery.

The 2024 BFIRST/BSSH/ BAHT and Singapore team included:

- **Mr Wee Lam** - Consultant Hand and Plastic and Reconstructive Surgeon at Singapore General Hospital and previous BFIRST chair
- **Miss Sara Dorman** - Consultant Paediatric Orthopaedic Surgeon at Sheffield Children's Hospital (BSSH Global Partnerships Committee member)
- **Miss Gill Smith** - Consultant Plastic and Hand Surgeon at Great Ormond Street and Chelsea Westminster Hospitals
- **Mr Dominic Power** – Consultant Orthopaedic and Brachial Plexus & Peripheral Nerve Surgeon, Queen Elizabeth Hospital, Birmingham
- **Miss Kate Brown** – Consultant Orthopaedic and Brachial Plexus & Peripheral Nerve Surgeon, The Pulvertaft Hand Centre, Derby
- **Dr Vaikunthan Rajaratnam** – Consultant Orthopaedic and Brachial Plexus & Peripheral Nerve Surgeon, Khoo Teck Puat Hospital, Singapore
- **Dr Robert Yap** – Consultant Hand Surgeon, Singapore General Hospital
- **Miss Ailbhe Kiely** - Plastic Surgery Registrar, North-West Deanery, and BFIRST Trainee Committee Chair
- **Miss Lucy Lester** - Plastic Surgery Registrar, Thames Valley Deanery
- **Miss Parvathi Varma**, Plastic Surgery Registrar, East Midlands Deanery, BSSH Global Partnerships Trainee Committee Chair
- **Ms Karen Murphy** – Independent hand therapist, Derry, Northern Ireland
- **Dr Li Fong** – Resident Hand Surgeon at Singapore General Hospital, Singapore

Hand Therapy Provision

There is a single physiotherapist who manages referrals from the whole hospital. He has been working in the hospital for many years. On the October 2024 visit, there were 10 students from the local university spending the week in training. This was not known prior to the visit.

There are walk-in clinics running every weekday and triage may be to treat, refer to physiotherapist or further care, no matter the diagnosis.

In physiotherapy there is a simple register of names and dates of birth of the patients seen, and a dearth of documentation regarding treatment. The doctors' orders may indicate 'strengthening' for the most part in regard to therapy, but most time in the therapy department was spent with positioning of limbs, in plaster or quickcast.

For the most part, intervention from therapy observed involved passive range of motion, with little to no education to the service user on self-management. All patients were treated on a plinth. The physiotherapy department comprised an outdoor covered treatment table, and an indoor double wide treatment table.

The visiting teams last brought a hand therapist 5 years prior to this trip. The thermoplastic materials that had been donated were in storage. The source of hot water required use of a kettle and electricity generator to enable the kettle to be used. Basins were available to melt the plastic.

Daily clinic runs parallel to theatres, with local people travelling for long distances due to the lack of cost associated with care. The only diagnostic tool at the disposal of the medics is x-ray. There is a triage process for referral to the private and government-run hospitals in the city.

Daily Timetable:

8am- Clinic- Surgical Decision making with a full team

9am- Ward round

9.30- Theatre and clinics begin

Walk-in clinics run throughout the day, with referral to physiotherapy as appropriate.

Patients that had been preselected as appropriate for the congenital, orthopaedic, plastic or nerve surgery visiting team, and attended the morning clinics for assessment and surgical decision. Their pathway was decided as:

- Listed for surgery that day
- Deferred surgical decision
- Referred to therapy

I started seeing patients in the later part of the first day. It was important to be aware of some cultural sensitivities, so waited to be invited to participate in care. By the end of the first day, I had been asked to teach the student physiotherapists as I saw fit! That involved some improvisation from previous teaching on my part!

There was a cultural noted passivity to the care received by the public in the hospital. They are extremely grateful to be seen, examined, and are unquestioning of the decisions taken. I spent time with some patients and their

parents in the therapy department. It was evident, especially in some decisions not to progress to surgery, or in expectations post-surgery in the congenital hand population, that the caregivers did not fully understand the decisions or their implications. In this regard, the physiotherapy students who had excellent English language skills were used as translators. Through the week they became more and more involved in my interactions and education to patients and caregivers, and had many questions regarding the need for the patients to be told the information.

A sample of the population treated in therapy:

- Splinting for positioning of birth palsies, with toys provided for therapeutic encouragement
- Home exercise programmes (videos on the patients' phones for reference) for range of motion for nerve and tendon transfers
- Home programme videos for stretching of poorly positioned brachial plexus injuries with resultant MCP extension and IP flexion contractures
- Splinting of grafts and transfers
- Education +++ regarding self management

Education themes provided to the students and staff:

- Role of passive versus active motion in rehabilitation
- Importance and techniques in soft tissue/ scar mobilisation
- Basic Hand Anatomy and Function
- Use of thermoplastics
- Use of plaster of Paris (in abundant supply) in positioning the injured hand
- Positions of safe immobilisation along with maintaining available motion in the case of brachial plexus acute injury
- Monitoring rate of recovery of brachial plexus injuries and influence on surgical decision and timing

Considerations for next trip:

- ? Linking with the local university for provision of education in the themes identified on this trip
- ? continue to use thermoplastic materials, given that there is no established supply chain in the country- potential that current provided supplies could be used by visiting therapists only for post-operative positioning
- ? supply a splint pan or similar, and heat gun to make use of the thermoplastic supplies currently on site more amenable to use

- Linking with hospital staff on simple material slings fabrication and use for brachial plexopathies.
- Supplies of tape and dressings
- Supplies of wrist braces

It is my hope that Hand Therapy will be a consistent part of the teams attending the CSC in the future. It is evident that there has been much success in the years spent on the establishment and progression of the surgical skills. Establishment of a concurrent therapy training and education may be difficult due to the simple lack of service within CSC, but may be augmented by links with the educational institution in Phnom Penh.

I am grateful for the opportunity to have been a part of this visit, and would encourage anyone with an interest in overseas work to consider further exploration into the experience.

Addendum: Cases/ Intervention

Cases Slide Credit: L Lester, P Varma, A Kiley, BFIRST

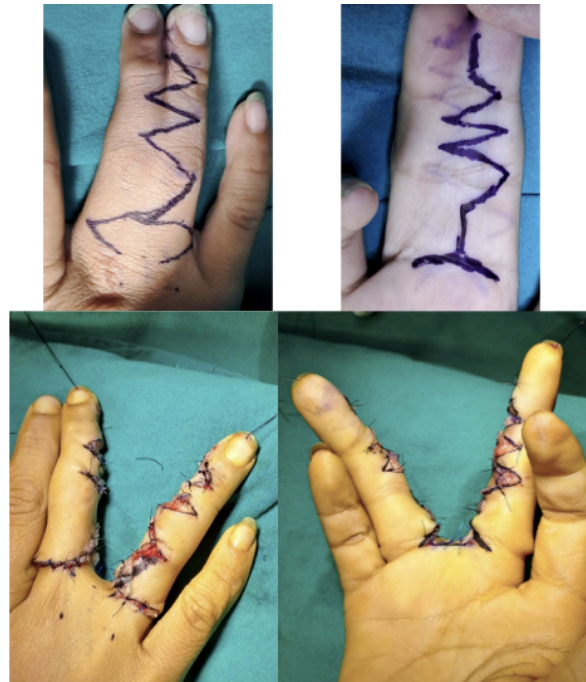
Case 2: LC 5M

- **Diagnosis:** Burn contractures with MCPJ dislocations
- **Procedure:** Right hand contracture release incl capsulotomies, reduction MCPJs with buried k-wires + right groin flap



Case 4: HV 6m

- **Diagnosis:** syndactyly right middle/ring finger
- **Procedure:** syndactyly release with dorsal flap and interdigitating z-plasties



15 th		October 2024	
AGE SEX	PROCEDURE/PLAN	SURGEON	
40M	ALT Free Flap	BV	
10F	Surgical Debulking And Desarticulation (L) Leg	Weelam	
2F	LJ Muscle Transfer/Subpectoral Release	Sara/Raj	
3F	Release Contracture + Reverse Sural Flap + Skin graft	Weelam	
39M	Nerve Transfers BPI (R) (R) Leg	Dominic/BV	
2F	Pedicle Groin Flap (R) Wrist + K-Wires Wrist And MCPjs	RAJ	
12M	Epiphysiolysis Bilateral Index Fingers +/- K-Wire	Gill/Sara	
5M	ORIF With Pin (R) Humerus	Sara	
4M	Bilateral Neurectomies To Gastroc +/- Hamstring Lengthening	Sara/Dorman	
29M	Wrist Fusion (L) R/o Syndactyly (R)	Raj/Weelam	

Case 8: NSR 2F

- **Diagnosis:** 1 year ago scald burns both upper limbs, previous debridement of necrotic distal and middle phalanges + SSG
- **Procedure:** release wrists in first stage + groin flap, later aim for 1st webspace deepening



Case 14: LD 12M

- **Diagnosis:** clinodactyly index fingers bilaterally
- **Procedure:** epiphysiolysis bilateral delta phalanges index fingers



Case 15: LMH 5/12 M

- **Diagnosis:** amniotic bands
- **Procedure:** release fingers both hands + amniotic band right leg



Case 36: 3 months F

- **Diagnosis:** Mirror hand
- **Plan:** Hand therapy for physio and splinting, review in 3-6 months and plan for pollicisation



Paediatric Cases



Teaching



Distal Support Pre-Free Muscle Transfer

Ward Rounds



Splinting

