PART ONE HISTORY

Hand Surgery Worldwide: International Reconstruction of a "Beautiful and Ready Instrument of the Mind"

Reproduced from:

Urbaniak JR, Levin LS, Baek GH, Soucacas PN (Eds). Hand Surgery Worldwide – International Reconstruction of a "Beautiful and Ready Instrument of the Mind". Konstantaras Medical Publications, 2011.

Malaysia

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Founded 1993

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Malaysia is a multicultural, multi religious country and gained an amicable independence from Britain in 1957. In our history we have Indian, Chinese, Arabic, Portuguese and Dutch influences and many others as we were on the main route for ships looking to buy spices; our medical administration system was inherited from the British administration.

Hand surgery in Malaysia began as management for leprosy. A leprosarium was set up in Sungai Buloh (Bamboo River in English), a small town which is a 15 minutes drive from Kuala Lumpur (Fig. 1). The set up included outpatient and inpatient facilities and residences for patients requiring long term management. Many patients decided to reside around the hospital to escape social stigma and also to group together economically to grow and sell flowers and potted plants. The area became known for selling plants and flowers, which admittedly is not an ideal occupation for those with insensate hands, but nevertheless helped them to make a good living and in some cases, to prosper.

Dr K. Thambyrajah worked in Sungei Buloh Hospital in the 1960s. He remembers Dr Dakshiamoorthy and himself performing 20 to 30 procedures a month on hands and feet. The main problem they encountered was high ulnar nerve lesions. Today, Leprosy is still the world's main cause of high ulnar nerve palsies. They performed Brand's many tailed transfer, grafting from extensor carpi radialis longus (ECRL) to the dorsal hood using a palmaris longus for a graft. They also performed opponensplasties for median nerve lesions at the wrist. Sadly, they were not able to restore the debilitating loss of sensation. We are little better at that even today.

Doctors in Malaysia then were either trained overseas or moved to Malaysia from abroad. The first medical school, the University of Malaya, was set up in Singapore (then part of Malaysia) in 1949. The two countries separated and the branch in Kuala Lumpur was officially renamed the University of Malaya in1969.

There was also help available from overseas. The legendary leprosy surgeon Dr. Grace Warren and a Dr John Hargrave visited from time to time, from Australia. They examined and operated on patients and guided young surgeons. "The Leprosy Mission of England" also helped by sending physiotherapists such as Miss Jean Watson to rehabilitate these unfortunate patients. Dr Thambyrajah did two fellowships with Mr Pulvertaft at the Derbyshire Royal Infirmary and on return joined the Orthopaedic Department of the University of Malaya. With encouragement from Prof. P. Balasubramaniam the head of the Orthopaedic Department and advice from Professor Pesi Chacha, a visiting examiner from Singapore, a microsurgical practice laboratory was set up using the rat



FIG. 1 Sungei Buloh Leprosarium Ward.



FIG. 2 Malaysian Orthopaedic Surgery Association/ College of Surgeons of Malaysia National Course on Hand Surgery – left to right SPCHow, Venkataswami, PCLeung, Campbell Semple, Chehab Helmi, RWHPho, Khaw Joo Hwa, A. Hamid.



FIG. 3 Logo reflecting different cultures and disciplines interwoven and working towards excellence in hand surgery.

carotid artery model. Today, the Department of Orthopaedic Surgery runs a yearly Basic Microsurgical Course, which has been successfully continued for the past 8 years.

Another young Orthopaedic Surgeon, Dr. Abdul Hamid bin Kadir also became interested in hand and microsurgery and did a fellowship with Mr Campbell- Semple in UK. He joined the second medical school in Malaysia, the Universiti Kebangsaan Malaysia (National University of Malaysia) and also set up a microsurgery practice laboratory there. In 1983, he became the Secretary of the Malaysian Orthopaedic Association (MOA) and organized a hand Course under the banner of the MOA and the College of Surgeons of Malaysia (*Fig. 2*).

The distinguished faculty included S.P.Chow and P.C. Leung from Hong Kong, Venkataswami from India, Campbell Semple from UK, Chehab Helmi from Indonesia and Robert W.H. Pho from Singapore. Abdul Hamid and Khaw Joo Hwa represented Malaysia. Over the years, there has been much cooperation and transfer of skills from nearby and distant countries. Prof P.C. Leung performed the first two toe-tothumb transfers (one in each of the two medical faculties) in 1985.

Over the years, many more young surgeons developed an interest in Hand and Microsurgery and several did training abroad. Dr V. Pathmanathan and Dr R. A. Vaikunthan were the first to do fellowships at the "Christine Kleinert Instituite of Hand Surgery", Louisville, Kentucky, USA. After their return, enthusiasm was all and the Malaysian Society for Surgery of the Hand (MSSH) was formed (*Fig. 3*). It was registered on the 3rd of March 1993. Dr. Abdul Hamid became the protem President and Dr V. Pathmanathan was secretary. The motto of our society is "Excellence through Hand Surgery".

The surgeons worked closely with therapists and decided to make therapists full members of the society, a unique cooperation. Several therapists, especially Mr Nathan Vytialingam, were active in the committees in the early days. However, later on it was decided to revert to an association membership similar to those overseas, with surgeons as full members and



FIG. 4 Ist Malaysian Conference on Surgery and Rehabilitation of the Hand – 1993.

therapists as associate members. We ran joint "Roadshows" with therapists, in most of the 14 states in Malaysia where the surgeons would talk about various topics covering hand trauma and the therapists would hold splinting and therapy workshops.

In 1993 the Malaysian Society for Surgery of the hand (MSSH) held a course entitled "The 1st Malaysian Conference on Surgery and Rehabilitation of the Hand" (Fig. 4). This was a successful international course with guest speakers including Judy Colditz, Robert WH Pho, Tsu Min Tsai, David Green, Teoh Lam Chuan and James Hunter. The next conference was entitled "The 2nd Malaysian Conference on Surgery and Rehabilitation of the Hand" but quickly became known as the "2nd Hand meeting". We invited in addition to the previous regional guests, Jean Pillet, the famous prosthetist, from France, and other famous hand surgeons such as Venkataswami and B.B.Joshi from India. It was again very successful, although on a visit to the Tropical Jungle Learning centre in the University of Malaya, a thunderstorm broke out and a bolt of lightning struck a few feet from Prof Robert Pho!

Since those two big international conferences, the specialty of hand surgery has been slowly and quietly gaining strength. There have been circle meetings at least three times a year. These meetings are loosely based on the circle meetings held in Liverpool, UK and the concept was brought back by MCh. Orth (Liverpool) candidates. The meetings are held traditionally in homes of surgeons, not institutions, and are casual meetings where exchanges of ideas occur and discussions on difficult problems are held. These casual and warm meetings are in line with our Malaysian culture and have been readily accepted and proved to be an invaluable source of learning and camaraderie. Yearly annual scientific meetings are held in conjunction with the MSSH annual general meeting and have been well attended. In addtion, other courses that have been held are: the Universiti Malaya (UM) cadaveric flap course 2007, the Universiti Putra comprehensive course 2008, the yearly UM basic Microsurgery course for the past

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8 years and the Kuantan National Course on Hand Trauma for the past 4 years.

The MSSH designed a logo which was adopted in 2007 and reflects many different cultures and disciplines that are interwoven and working towards excellence in hand surgery (*Fig. 3*).

The only Department of Hand Surgery in the Ministry of Health was set up in the Kuala Lumpur Hospital in 1986. It moved to Selayang Hospital (on the outskirts of Kuala Lumpur) in 1999. It was headed by Dr V. Pathmanathan, a pioneer who has been involved tirelessly in the



FIG. 5 FESSH congress 2008, Sharifah Roohi Ahmad (on the left) after winning the prize for the hand surgery examination.

training of Hand Surgeons since the department was established.

On the 18th of May 2000, a team led by Dr V. Pathmanathan at the Department of Hand Surgery, Selayang, performed the world's first arm and hand transplant on a one-month-old baby girl. This was a unique opportunity. Chong Lih Ying was born without a left arm and had an identical twin with a brain abnormality, incompatible with life. Their team rose to the occasion. The second twin was kept alive until the limb was harvested and transplanted to her sister. This was very delicate surgery as vessel spasm was a continuous threat during the proximal dissection of the recipient nerves and vessels that were unusually small, due to the failure of formation. Since the twins were identical, there was no need for anti rejection drugs. It was the worlds 9th successful hand transplant and the world's first arm and hand transplant.

Recently the Ministry of Health began four year subspecialty courses for post graduate doctors. The four years include a one year fellowship abroad. The two pioneer doctors to be accepted for hand surgery are Dr Chua Chee -Kheng and Dr Rashdeen Fazwi bin Muhammad Nawawi. They are undergoing their training now and it is hoped they will be followed by many others. Although Hand and Microsurgery is not one of the most popular subspecialties of either Plastic Surgery or Orthopaedic Surgery, there is no doubt that these surgeons are very needed. With industry and construction carrying on at a rapid rate, the number of hand injuries is staggering. The popularity of the motorbike as a mode of transport also leads to many injuries and especially brachial plexus injuries. Numbers are not available, but the fact is that the hospitals able to perform the appropriate surgery are finding it difficult to cope.

The trauma seen in our country has attracted

fellows from abroad such as:

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Dr Tracey Horton (U.K. 2006) Dr. Simon Tan (U.K. 2007) Dr. Fuat Malkok (2008 Turkey) Dr AlAmeen Salim Mohammed (Sudan 2009)

This exchange of ideas and also cultures is excellent for our local surgeons. We need to benchmark our standards with international standards. When FESSH (Federation of European Societies for Surgery of the Hand) opened their hand surgery examination to foreigners, Dr Sharifah Roohi sat for the examination in 2008 in Lausanne, Switzerland and topped the class (*Fig. 5*). Dr. Tunka Sara Ahmad passed it in Poznan, Poland 2009 and Malaysian hand surgeons will continue to seek international benchmarking.

We are looking forward to hosting another international meeting, the congress of the Asia Pacific Society for Surgery of the Hand in the next few years (*Fig.* 6). With this in mind, we have encouraged our therapy colleagues to form a 'Hand Therapy Interest Group'. The group has been formed and developed several ambitious plans for the future.

What the MSSH aim for in the future is

 to have a uniformly high standard of care for hand conditions and injuries throughout the country



FIG. 6 Malaysian Hand surgeons and friends at the APFSSH Hong Kong (2008) posing at the hand print of Jackie Chan.

- to have a high standard of local postgraduate training in hand and microsurgery
- to aid, catalyze and foster formation of a hand therapists group for training and learning
- to form and maintain closer international links
- to carry out more research
- to look into prevention and treatment of hand injuries in the local context
- to be a presence at all international conferences
- to publish in all major hand surgery journals

With a dynamic group, a critical mass of members and god's grace, we hope these goals can be achieved.