EDITORIAL

Training and Certification of Hand Surgery as an Independent Specialty

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The hand is a compact biological organ with very important and intricate mechanical functions. For almost a century, surgeons have realised the complexity of this organ and have made great effort in developing specialised care of the hand. In the past, surgery to heal a diseased or injured hand often failed to restore its function. However, in the last 35 years, there has been an accelerated development in hand surgery with better understanding of the anatomy and the introduction of new microsurgical techniques. Surgery of the. hand today demands an extensive knowledge of the anatomy, a wide surgical armamentarium, refined complex microsurgical techniques and a rational rehabilitation plan. Interested surgeons from general, plastic or orthopaedic surgery have concentrated their practice mainly in hand surgery. To enhance the training and practice of hand surgery, countries such as Sweden, Finland, Norway, China and Singapore have developed or are in the process of developing hand surgery as an independent specialty.[1] The United States of America, Venezuela, Argentina, Brazil, member states of the European Community and the Republic of South Africa have introduced training programmes and examinations leading to the certificate of added qualification,[2] degree or certification in hand surgery.

The interest in hand surgery in Singapore started way back in 1961 with the introduction of a tendon transfer programme in a leprosarium by K H Yeoh.[3] The surgical management and care of the injured hand were improved by various heads of orthopaedic departments who set up special hand clinics to manage these difficult cases. The 1960s saw a surge in industrial activities and a corresponding increase in the incidence of hand injuries. The plastic and reconstructive surgeons then were also involved in the management of these cases by providing the more advanced techniques of resurfacing. Microsurgery was introduced to the country by R W H Pho in 1974. Pho and his team performed the first successful thumb replantation using the microvascular technique in January 1977. The first successful macro replantation of a complete forearm amputation was performed by H S Leong and colleagues in April 1975 and the first successful toe to hand transfer was by S K Tan in 1980.

The Singapore Society for Hand Surgery was formed in 1982 and became a member society of the International Federation of Societies for Surgery of the Hand (IFSSH) in 1986. The interest in hand surgery continued to be sustained and its development accelerated.

This development culminated in the establishment of the Hand Surgery Unit at the Singapore General Hospital on 1 January 1985.[4] The Unit subsequently developed into a full department and matured into a national tertiary referral centre for complex hand injuries and conditions. Presently, the department has 5 permanent staff surgeons — 1 senior consultant, 2 consultants, 1 senior registrar and 1 registrar. Another department, the Hand and Reconstructive Microsurgery Department, was established at the National University Hospital on 1 December 1990[5] to complement the hand service at the Singapore General Hospital.[3] The department also has 5 permanent staff surgeons — 1 professor, 2 associate professors, 1 senior lecturer and 1 lecturer.

The development of medical specialisation in Singapore is coordinated by the Ministry of Health.[6] In the main report of the Review Committee on National Health Policies, 1992,[7] the Committee stated that a large-scale formal plan was undertaken in 1970 and various specialty departments were established. Subsequently, as the need arose and resources became available, new specialty departments were developed (as was the case in the hand surgery specialty) in hospitals run by the Ministry of Health and the National University of Singapore.

Singapore, being a former British colony, has a medical service and specialty development closely linked with the Royal Colleges of the United Kingdom, Ireland and Australasia. Our advanced specialty training is managed by a joint committee, called the Joint Committee on Advanced Specialty Training. The tripartite joint committee comprises the Academy of Medicine, the Ministry of Health and the School of Postgraduate Medical Studies. Hand surgery is a new specialty under the care of the Ministry of Health. When the specialty reaches maturity, it can then apply to be under the administration of the Academy of Medicine.

The Ministry of Health formally introduced a programme for Advanced Specialty Training and Certification in Hand Surgery in 1990.[8,9] The scope of hand surgery was defined as the management of trauma and diseases of the

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hand and wrist, management of upper limb diseases that affect hand function and microreconstruction of the hand and upper limb. The programme accepts two groups of trainees. The first group enters the programme after acquiring the M Med (Surg) or its equivalent for a four-year training curriculum. The second group enters the programme after completing the orthopaedic or plastic surgery training for a two-year training course to cover the same curriculum as the first group. Since then, two advanced trainees have completed the programme and been exit-certified and one trainee is still under training.

Tubiana[10] in his book "The Hand" discussed the need for hand surgery to become a specialty. Hand surgery has multiple roots — it borrows techniques from orthopaedics, plastic surgery, neurosurgery and microsurgery. From orthopaedics the functional concepts are derived and from plastic surgery, the delicate handling of tissues, skin coverage and the overall healing process. The root specialties continue to consider hand surgery as part of their specialties. However, it is no longer sufficient to have practised one or the other of these specialties to be a hand surgeon. Smith, in his article *Education in Hand Surgery,*[11] emphasised that it is unwise to consider training in "orthopaedic hand surgery" or "plastic hand surgery" as these terms are self-contradictory and imply that a "hand surgeon" need not be familiar with all aspects of the field. Hand surgery is expanding rapidly. It is a highly developed surgical specialty and the hand surgeon of today has to have an extensive knowledge, an intimate understanding of rehabilitation, and be equipped with a vast surgical armamentarium and refined microsurgical techniques. It is this global aspect of the treatment of this specific organ, with the final purpose of restoring its function, which makes hand surgery a specialty.

The Medical Services of the United States Army, realising the disastrous effects of hand injuries and the lack of specialised centres for hand surgery, asked Sterling Bunnell to organise the first centres of hand surgery during the Second World War.[12] The Kelsey report[13] estimated that in the United States, there were 16 million injuries to the upper extremity each year and they were responsible for 90 million days of restricted activities and 16 million days of loss of work annually. The total cost of these injuries was in excess of US$10 billion. Realising the immensity of the morbidity, hand surgery services and departments have mushroomed all over the world in recent years. In Malmo, Sweden and Wuxi, China; a full-fledged hospital dedicated only to hand surgery was established. Centralised management of hand trauma and diseases has decreased the morbidity and improved functional recovery. For severe mutilations, the best chance for a favourable outcome is to be treated in a comprehensive organised hand centre.[11]

As hand surgery centres all over the world begin to develop, teaching and training naturally become part of their responsibilities. Organised hand surgery training programmes are now available in many countries, for example, the United States have a coordinated fellowship programme. The worldwide hand surgery education programme is enormous and the IFSSH education committee has in 1995 collated international information on hand surgery education.* In countries where the specialty has matured and the needs of the countries support this, hand surgery has formally become an independent specialty. I foresee more countries will follow this trend in the future. This move should not be viewed as a fragmentation of its root specialties but as a natural process in the development of a specialty, similar to its root specialties in their early days of development.

In Singapore, the stage was set by the establishment of a Hand Surgery Unit on 1 January 1985. The training programme, formalised in 1990, saw three advanced trainees entering it of which two have completed training and been exit-certified. We will soon have the critical number of hand surgeons trained and practising the specialty in Singapore. Hand surgery in Singapore is now awaiting the formality of being recognised as an independent specialty.

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