



IN THE MAKING OF A HAND SURGEON

Dr. Timothy Y.C. So
Department of Orthopaedics & Traumatology
Queen Elizabeth Hospital, Hong Kong

In the past twenty years or so, a few generations of hand surgeons have emerged from the bigger family of orthopaedists in Hong Kong. Although most of us have gone through the training in hand surgery, not too many aspire and continue our pursuits along this direction. This is even more true in microsurgery, a field that is closely related to hand surgery. Why is this so? How should we motivate our younger generation in this most exciting area? Throughout the years, I have reflected upon this intriguing question. Before one could offer any satisfactory answers, it may be worthwhile to take a fresh look at some interesting characteristics of a hand surgeon.

1. A love towards the human hand :

What a beautiful organ the hand is! Look at the proportions of the thumb and the fingers, and the co-ordinated movements that express both strength and dexterity. While the hand is the means to feel the outside world, it is also a channel for expressions of our inner feelings. Chinese sayings such as "somebody's left and right hand man" and "covering the sky with just one hand" remind us of the importance and power of the hand. To facilitate its function, the hand is the most exposed human organ (apart from the face) in the civilised world. In appreciation of the human hand, hand surgeons around the world has a natural tendency to collect items related to it : stamps, sculptures, emblems, crystals, even furnitures in the shape of a hand! All these reflect their love and dedication for their vocation. In their eyes, to reconstruct form and function to this wonderful organ is a great challenge to human imagination and skills.

2. Knowledge and logic

The hand is a complex and intricate organ perfectly created by God. Once the hand is injured

or afflicted by various disease processes, reconstructive surgery might not restore this perfection.

Everyone who aspires to hand surgery should have a thorough mastery of anatomy, biomechanics and pathology of the hand. Building on this solid foundation, the most important starting point of treatment is undoubtedly the diagnosis and indications. Just take the example of tendon transfer. Although there are certain "standard" transfers described in the literature, the choice of technique is certainly not that straightforward. Think of radial nerve palsy reconstruction. How do we choose between the FCR and the FDS? Should we never use the FCU? (it is dangerous to say "never" in medicine) What route should the transfer take : subcutaneous or interosseous? How about the thumb? Is the PL re-routing so often described really working well? Do we believe in "authorities" and literatures blindly? How about patient factors, tissue condition factors, time factors etc., etc.? It would be presumptuous to offer a cut-and-dried solution early in the course of treatment. Instead, careful follow-up of patients, accurate assessment, and critical analysis is always necessary. Treatment should be highly individualised, which is one of the most attractive and challenging aspects of hand surgery.

3. Handle with care - a proper view on techniques

Good surgical technique in hand surgery is the product of a sound mind and a good pair of hands. Tissue handling is very different from many other orthopaedic operations. The skin incision should be planned meticulously. In fact, when operating on congenital hand anomalies, it may take 10 to 15 minutes to plan the proper incision before one starts to cut. Retractions has to be done gently, paying respect to neighbouring tendons, vessels or nerves. A thoughtless nibble on the surface of

a flexor tendon may pay the big price of adhesions. Rough handling of nerve stumps and placing the needle through innocent nerve fascicles may invite undesirable scarring : a mediocre result months later is a big headache (to explore or not ? Would regenerated axons be disturbed by over-zealous resection of the neuroma-in-continuity ? Now consider the vessels : I must tell you that I have observed a lot of young surgeons, to my horror, handling the intima of the cut edge of a digital vessel in the same way they pick up the skin edge with a pair of forceps ! Next we come to bones. Ah ! At last, you would say that this is real orthopaedics now since we are talking in the same language of fracture fixation. But are we ? Look at the proximal phalange. It is clothed by delicate gliding structures enclosed in confined compartments. Internal fixation is not only a biomechanical exercise, but has to be executed with the utmost respect to soft tissues i.e. the periosteum, tendons, collateral ligaments, etc. Finally, wound closure. In the institute I did my hand fellowship, you would instantly recognise which hand fellow come from a plastic surgery background and which one from an orthopaedic background. I have since learnt that there are more than four or five ways to tie surgical knots with hand-held instruments. From then on, I paid great respect to skin closure. After all, what appears outside can reflect the amount of care and attention paid towards the inside job. It also reflects the attitude of the surgeon towards the surgery.

4. Temperament and Commitment

I believe most hand surgeons have a bit of obsessive and perfectionistic trait in them. Part of this is in-born, although it is further cultivated via the special training of this specialty. The hand surgeon has to be meticulous and attentive towards details. Yet, the relentless pursuit of perfection must be balanced by a realistic understanding of our limits.

Another important characteristic of a hand surgeon is patience. Although he can be quick, he should be prudent enough not to rush through operations hastily. There is a certain tempo in

hand operations which can be best described by a harmonious interaction of a steady, peaceful mind and a pair of steady hands. This is even more important in microsurgery. You enter a totally different world. It is calm, quiet, and serene. Dissecting and suturing under the microscope is fun. Your mind is absorbed and concentrated on a field spanning just a few centimetres, and the outside world seems so trivial and fades into the background. The surgeon, the microscope and the operating field has become one.

The third characteristic is dedication and consequently, the ability to endure hardship (especially with respect to microsurgery). In a hedonistic culture, only people with adequate motivation and dedication is likely to pick up hand surgery and microsurgery. To be sure, there is no additional monetary gain nor promotional advantages. For long working hours and sleepless nights, the only reward they obtain is (not always) successful clinical outcome and grateful patients. These are good enough job satisfaction for them.

5. Compassionate and holistic

The hand surgeon must be compassionate and identify with his/her patients. He must understand that he is primarily treating the patients rather than their hands only. As a corollary, he should understand specific functional requirements of each individual patient. The importance of our therapist colleagues cannot be overemphasized here. He should also be aware of the socio-psychological implications of disabilities and deal with these through a multi-disciplinary approach. Most importantly, he should tailor the treatment to the patient rather than the reverse.

* * *

To round up, I have just described briefly what I think is important in the making of a hand surgeon. I hope this can arouse interest and discussions among us. More importantly, I sincerely wish that more of our younger colleagues can be motivated to take up hand surgery as a life career.