

Hand surgeon - to be or not to be? That is the question. Compulsory health service experience of hand surgery in Turkey

Egemen Ayhan¹, Birkan Kibar², Ozgun Baris Gunturk³, Melih Bagir⁴, M. Nebil Selimoglu⁵, Mehmet Ali Uysal⁶

ABSTRACT

Objectives: Hand surgery has been a major theme throughout the education of orthopedics and traumatology (OT) along with plastic, reconstructive, and aesthetic (PRA) surgery residents. However, to work as a hand surgeon during compulsory health service (CHS) is a new topic for Turkey. We aimed to share the elective surgical experience of six hand surgeons during CHS in different centers of Turkey.

Methods: The hand surgeons who have already finished their CHS or were up to finish their CHS was requested to fill operation records (OR) form for elective procedures performed in the surgeon's usual daily practice. The records from all six surgeons were integrated.

Results: Five OT and one PRA originated hand surgeons were available for this study. Tendon procedures were the most commonly performed procedure (14.3%), followed by phalanx (10.6%), and then by nerve (10.4%) procedures. A small percentage (2.7%) of the operations performed were beyond the scope of hand surgery. Simple procedures (trigger finger release, carpal tunnel release, foreign material extraction, ganglion cysts excision, de Quervain's tenosynovitis release) were comprising 20.9% of all the operations performed.

Conclusion: Hand surgery comprises a broad spectrum of disorders and requires a distinct fellowship period. Hand surgeons bear an important mission about basic hand surgery education of OT and PRA residents and encourage them to perform simple procedures. The possibility of team-work will definitely increase the interest for hand surgery and result in better outcomes for patients. Finally, we honestly declare that we feel satisfied with our special work and invite residents to walk together in this endless hand surgery road.

Key words: *Compulsory health service, hand surgery fellowship, team-work*

Introduction

In Turkey, hand surgery was officially established as a sub-specialization for orthopedics and traumatology or plastic, reconstructive, and aesthetic specialists in

2009 [1]. After that, through the competitive exam of sub-specialty in medicine, the first official hand surgery fellows started their 2-years length training program by 2013. By the end of their training, the fellows were sub-

Author affiliations : Department of Orthopedics and Traumatology, Division of Hand Surgery, ¹University of Health Sciences, Diskapi Yildirim Beyazit Training and Research Hospital, Ankara, Turkey ²University of Health Sciences, Haydarpasa Numune Training and Research Hospital, Istanbul, Turkey ³Gaziantep Dr. Ersin Arslan Training and Research Hospital, Gaziantep, Turkey ⁴Cukurova University, Faculty of Medicine, Adana, Turkey ⁵University of Health Sciences, Antalya Training and Research Hospital, Antalya, Turkey ⁶Department of Plastic, Reconstructive, and Aesthetic Surgery, Division of Hand Surgery, University of Health Sciences, Konya Training and Research Hospital, Konya, Turkey

Correspondence : Egemen Ayhan, MD, Department of Orthopedics and Traumatology, Division of Hand Surgery, University of Health Sciences, Diskapi Yildirim Beyazit Training and Research Hospital, Ankara, Turkey. e-mail: egemenay@yahoo.com

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ject to compulsory health service (CHS) as a hand surgeon, if they have followed the program and succeeded the specialization examination.

Hand surgery has been a major theme throughout the education of orthopedics and traumatology (OT) along with plastic, reconstructive, and aesthetic (PRA) surgery residents. However, to work as a hand surgeon during compulsory health service is a new topic for Turkey. During the congresses or courses, we have observed that residents were primarily interested in the CHS experience of a hand surgeon. We thought that the feedbacks from us would help them to decide a walk through the way of hand surgery.

In this study, we aimed to share the elective surgical experience of six hand surgeons during CHS in different centers of Turkey. Moreover, we will discuss the difficulties about and will give recommendations to improve the CHS experience of this old but officially recently defined subspecialty. We hoped that this article would guide to residents in their decision for hand surgery and would advance the indwelling of hand surgery as a sub-specialization.

Patients and Methods

The senior author reached to the hand surgeons who have already finished their CHS or were up to finish their CHS (e.g., last three months of CHS) via social media or e-mail. The surgeons who have accepted to participate in this study was requested to fill the operation records (OR) form (Table 1) and write a paragraph about their CHS experience. OR form was requested to be filled for only elective or urgent procedures performed in the surgeon's usual daily practice. Because the emergent cases greatly varied according to the particular surgeon's monthly duty program, these cases were excluded. In the OR form, the percentages of different types of procedures performed during the CHS duration only were included. Then, the records from all six surgeons were integrated to reduce selection bias regarding the particular surgeon's approach or the particular center's patient population.

Results

Five OT and one PRA originated hand surgeons were available for this study. All of the hand surgeons performed a vast variety of 5745 operations. Tendon procedures were the most commonly performed procedure (14.3%), followed by phalanx procedures (10.6%), and then by nerve procedures (10.4%) (Table 1). A small percentage (2.7%) of the operations performed were beyond the scope of hand surgery. Simple procedures (trigger finger release, carpal tunnel release, implant or foreign material extraction, ganglion cysts excision, de Quervain's tenosynovitis release) were comprising 20.9% of all the operations performed.

Discussion

Hand surgery comprises a broad spectrum of disorders of the hand, upper extremity, and peripheral nerves which requires a wide range of diverse operative skills [2-4]. Moreover, hand surgeons deal with reconstructive microsurgical operations of upper and lower extremity problems. Therefore, the hand surgeon masters microsurgery as well as orthopedic and plastic surgery techniques. Our CHS experience also supported this conclusion, a broad spectrum of disorders were treated as shown in Table 1.

During our experience, more than one-third of all the operations were including tendon, phalanx, and nerve disorders. This finding simply highlights the importance of learning of diverse operative skills including microsurgical, orthopedic, and plastic surgery techniques. Therefore, as Ada [4] has stated in 2011, hand surgery has the right to be a distinct sub-specialization and requires a distinct and comprehensive fellowship period.

The hand surgeons have the right to perform all of the procedures related with their main specialization [5], but during CHS period we have performed only a small percentage (2.7%) of operations beyond the scope of hand surgery. This is partly due to we had limited time for other procedures beyond the hand sur-

Table 1. Operations record form.

Procedures	%
Tendon procedures (repair, transfer, tenolysis, ...)	14.3
Phalanx procedures (fracture fixation, ligament repair, arthrodesis, mallet finger treatment, boutonniere or swan neck deformity treatment)	10.6
Nerve procedures (repair, reconstruction, neuroma excision, neurolysis, nerve transfers)	10.4
Trigger finger	7.6
CTS	5.8
Skin and subcutaneous tissue coverage (grafts, flaps)	4.7
Resection of bone and soft tissue tumor (excluding ganglion cysts)	4.2
Nail injuries repair and fingertip reconstruction	4
Implant or foreign material extraction	3.6
Treatment of scaphoid nonunion	3.5
Metacarpal fractures	3.4
Fractures or/and dislocations of upper extremity over wrist level (including ligament repairs) or nonunion treatment of long bones	3.3
Radius distal fracture or malunion treatment	3.2
Resection of the tumor-like lesion (e.g., ganglion cysts)	3
Carpal bones fractures (including scaphoid)	2.8
Orthopedic or plastic surgery procedures beyond the scope of hand surgery	2.7
Congenital malformations of the hand	1.8
Wrist operations (ligament repair, SLAC and SNAC wrist operations, DRUJ operations, wrist arthrodesis)	1.6
Infections of the hand	1.5
Nerve compression syndromes - ulnar tunnel syndrome, pronator syndrome, radial nerve compression syndrome (excluding carpal tunnel syndrome)	1.4
Amputations	1.3
Kienbock's disease	1.2
Dupuytren's contracture	1.1
Thermal burn, chemical injury, electrical trauma, pressure-gun injury, compartment syndrome, etc.	1
De Quervain's tenosynovitis	0.9
Nonunion treatment below wrist level (excluding scaphoid)	0.8
Interpositional arthroplasty (including trapeziometacarpal osteoarthritis procedures)	0.3

CTS: Carpal tunnel syndrome, SLAC: Scapholunate advanced collapse, SNAC: Scaphoid nonunion advanced collapse, DRUJ: Distal radioulnar joint

gery, but mostly due to we do love hand surgery. This result shows how we have set our heart on hand surgery, as any of the hand surgeons would do.

We performed a high ratio (20.9 %) of simple procedures such as trigger finger release, carpal tunnel release, implant or foreign material extraction, ganglion cysts excision, and de Quervain's tenosynovitis release. It is obvious that these procedures were routinely per-

formed by many surgeons including OT, PRA, and general surgeons. However, because of the "hand surgeon" title, many patients prefer us for those simple procedures. In Turkey, a limited number of hand surgeons are working as a government employee, and there appears an actual hand surgeon demand in the staff distribution chart of the ministry of health [6]. When the limited number of hand surgeons was considered, we

think that we can refer these patients to other surgeons and save our time for more complicated procedures. Obviously, the patients need enlightenment for the simplicity of these procedures.

Last but not least, we have to emphasize the unique organizational difficulties of this new sub-specialization that we have faced during our CHS experience. Firstly, all of us faced with some amounts of surgical equipment unavailability. We can understand that it is inevitable for a new discipline, but the hospital administrative board must give priority to optimum working conditions of the hand surgeon. Secondly, we have observed that many simple tendon lacerations or many simple phalangeal fractures were referred to hand surgeon whenever possible. This results in an overwhelming workload to the hand surgeon. One solution may be to increase the basic hand surgery knowledge of OT and PRA residents. We, the hand surgeons, must routinely give lectures about basic hand surgery. A second solution may be to form a team of hand surgeons. Most of us worked as the single hand surgeon in training and research hospitals and tried to resist this heavy work. As Ada [4] stated, the comprehensive hand surgery is a team-work. In the future, we hope that the increased number of hand surgeons will lead us to work as a team. This could be established by assigning many hand surgeons to one center rather than assigning each of them to different centers by the Ministry of Health. Team-work obviously will create a sense of belonging, encourage us for more sophisticated procedures, and lead to the better outcome for the patients.

The major limitation of this study was to exclude emergent procedures. All of us experienced an entirely different number of emergency duty days according to hospitals and cities we have worked. Therefore, to conclude on the workload of emergent procedures was impossible.

In conclusion, hand surgery comprises a broad spectrum of disorders and therefore, requires a distinct and comprehensive fellowship period. To share

the heavy workload, hand surgeons bear an important mission about basic hand surgery education of residents and encourage them to perform simple procedures. In the future, the possibility of team-work will definitely increase the interest of residents for hand surgery and result in better outcomes for patients. Finally, we honestly declare that, despite the drawbacks that we have mentioned above, we had the enthusiasm for hand surgery and satisfied with our special work, and we would like to invite residents to walk together in this endless hand surgery road.

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Conflict of interest statement

The authors have no conflicts of interest to declare.

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