

Shortage of Surgeons, Fragmentation of General Surgery, and the Need for a General Surgery Specialty

Yoram Kluger MD

Department of General Surgery, Rambam Health Care Center affiliated to Rappaport Faculty of Medicine, Technion-Israel Institute of Technology, Haifa, Israel

KEY WORDS: surgery, resident, shortage, fragmentation

IMAJ 2011; 13: 558–560

General surgery residency and practice have changed dramatically over the last years due to three major trends in surgical training. These are: a) the proliferation of fellowships in subspecialties of general surgery, b) efforts to recognize subspecialties of surgery as specialties in their own right, and c) pressure to reduce and even eliminate the traditional residency period in general surgery prior to subspecialization [1]. These trends have resulted in a shortage of surgeons who choose general, emergency, and trauma surgery as their future career.

The severe shortage of general surgeons exists throughout the world. The current scene in the United States unfortunately represents the worldwide occurrence. In the U.S., of an estimated 21,500 surgeons, 6000 perform very few surgeries and work primarily in administration; many of them are semi-retired, and 705 surgeons die or retire annually. Of the 1000 general surgeons who are certified annually, 100 never practice surgery, 60% elect further subspecialty training, and 500 are practicing general surgery. The current annual demand for young surgeons in the United States is 1875. With 705 graduates needed for general surgery positions, there is an annual shortage of 205 general surgeons. The situation in Israel is not very different. The number of residents entering residency programs is declining. Interns'

perceptions of the heavy workload borne by general surgery residents have lessened interest in this discipline, creating a vicious cycle that has progressively diminished the glory of general surgery as a leading field in medicine.

The small financial compensation for the practice of medicine in Israel and changes in ideal prioritization among medical school graduates have added to the shortage of general surgery residents. The latter is not a new phenomenon and was anticipated and extrapolated from the slow but constant decline in medical school graduates. This coincided with an increasing demand for physicians to serve the growing population in Israel, despite the lack of proper planning and compensation for such.

In the past, long rotations of residents from related specialties increased the pool of young enthusiastic manpower in general surgery. These residents gained experience and practice in general surgery, and due to the length of the rotation period were considered true team members, sharing calls and duties. They created a bulwark, steadfast and dependable, for all surgical activities in the hospital. Not long ago, a resident in general surgery could be called upon to assist in a pediatric surgical case and that same night be called to operate on a laceration of the femoral artery. In parallel, the orthopedic surgeon on general surgery rotation was handling surgical cases in the emergency surgery department. In Israel, the rotation in general surgery for residents other than categorical general surgery has been reduced so drastically that residents in rotation are barely noticed in general surgery clinical practice. Unfortunately, this longstanding

trend has been promoted by administrators and unit directors, consequent to demands on their own services.

The large gap between the demand for general surgery residents and the availability of young physicians results, among other factors, from longstanding negligence of the specific needs of general surgeons compared to other surgical professionals in Israel. Lack of centralization in residency programs has led to deficiencies in manpower in departments of general surgery, alongside prosperity and excess on demand in surgical related specialties.

This difficulty has been partially alleviated by persistent efforts of heads of general surgery departments to attain more resident positions through outsourcing of services, recruitment of non-surgical medical manpower and providing extra-budgetary salary payments. The attraction of residency programs that offer high income post-training positions has added to the current shortage of general surgery residents and to the slow but constant decline in the governmental and pivotal role of general surgery as the basic training domain of most surgical specialties. As in other countries, the shortage of residents in general surgery in Israel and the interest in subspecializations have resulted in a gradual decrease in the number of young surgeons willing to continue practicing basic surgery, previously termed general surgery. Based on the findings of a recent national study, Herbert R. Freund claimed that poor interrelations among surgeons are the strongest deterrent from choosing surgery as a career among pre-graduates in Israel [2]. Students' negative perceptions of the relationships between

surgeons should be carefully scrutinized. Strong ego personalities, obstinacy, the need to delve into small details and perfection, dedication as well as competitiveness have been the halo of our profession since surgery has become known as a profession. This has not changed. Rather, the change is in the young generation's perception of our profession and in their expectations. Further, students' unfavorable perception should be examined in relation to other specialties in medicine and elsewhere. The change is in the decreased desire to join those "freaks" and not in their "freakiness." The young generation's (the Y generation) different perception of general surgery residency is a matter of extensive research and debate. Only residency programs willing to adopt demands of this new generation with its special needs based on their different personality structure will further succeed.

The paper published in this issue on the fragmentation of general surgery by Herbert R. Freund [3] raises concern for the future of this discipline. As the author espouses, experience in general surgery is fundamental to the practice of specialized surgeries, and essential for the health of patients and the wounded. Freund claims that general surgery will continue to be the core of surgical education. He suggests that surgeons who choose general surgery practice will be considered "general surgery specialists," and those seeking advanced training in the surgery of "selected organs" or "selected diseases" will form the body of specialized surgeons. The author has delineated a new residency program that would eliminate aspects of the rotation period imposed on residents and amount to a 5 year categorical residency program.

The shortage of general surgeons, as well as the loss of appeal of general surgery, should be combated in a number of ways. The geographical basis of this problem, specifically, its acuteness in peripheral hospitals, should be addressed when considering solutions.

The duration of general surgery residency is 72 months, including 6 months

allocated as vacation time and 2 months for medical board examination preparation. Fifteen months (25%) of the residency is devoted to rotations in surgery subspecialties. If a resident works eight night shifts a month, then by law he or she is eligible for about 84 "days off" per year (equivalent to 2.8 months per year, 18 months per residency). Already included in the 15 month rotation in the surgery subspecialties is 3.75 months of post-night shift leaves (25% of 15 months of post-call vacation). Accordingly, only 40.75 months are available for true general residency training. It is obvious from this calculation that a thorough reorganization in the Israeli general surgery residency is mandatory. The author recommends shortening residency duration to 60 months. Applying the above calculation to a shortened residency program will result in a pure general surgery practice of 40.5 months. The numbers presented in Table 1 clearly indicate that shortening the residency program by eliminating unnecessary rotations would not significantly affect the time allocated for general surgery training.

The shortage of general surgery residents and the uncertain future of the general surgery specialty will eventually affect all surgical subspecialties. Thus, regrouping of all related surgical subspecialties and regaining the traditional role of general surgery as preparatory training for all subspecialties is of paramount importance.

To return the diadem to general surgery, some of the recently developing residencies (e.g., vascular, pediatric, thoracic) should be returned to the realm of general surgery as basic training. A further two years fellowship in these subspecialties, followed by one or two years of training in a foreign country will yield proficient specialized surgeons. Central control of the number of surgeons training in each subspecialty in Israel will help to maintain an adequate number in the new specialty of general surgery and restrain an overwhelming desire to gain education in other sophisticated surgical fields. However, this is not enough. The general surgery specialist should be acknowledged and respected the same as his or her peers in the 'more sophisticated' surgery subspecialties. Further training in trauma, surgical intensive care, burns, and disaster medicine will raise the starting point of young physicians who choose general surgery as their future career to that of their colleagues. The dedication to this specialty, a truly hospital-based practice, should be appreciated and properly compensated.

In an era of innovation and rapid developments in surgical instrumentation and technologies, the general surgery specialist could be considered a low "tech" surgeon in comparison to other surgeons. It is our responsibility to ensure that this discipline maintains its high level of proficiency, credibility, and central role and position.

Table 1. Comparison of time allocation during general surgery training for a 6 and 5 year residence period

	72 months residency	60 months residency
Vacations (mos)	6	5
Examination leave (mos)	2	2
Calls per month (days)	8	8
Post-call days off (days) After Friday/holiday – no leave	7	7
Post-calls days off per residency/months	504/18	480/16
Rotations (mos)	15	3
Total months free for pure residency	37+ 3.75 = 40.75	39 + 3.5 = 40.5

The updating of a general surgery residency program, the creation of a new specialty for non-organ, non-disease related surgery, including emergency and trauma – the general surgery specialist, and regrouping of all “lost professions,” are rescue measures that will return the laurel to our profession. General surgery as a profession should be nurtured and kept alive. I applaud Dr. Freund for his timely paper and call upon all

surgeons to raise our profession from the ashes.

I further raise the question: Is your residency program ready for the Y generation?

Corresponding author:

Dr. Y. Kluger

Dept. of General Surgery, Rambam Health Care Center, Haifa 31096, Israel

Phone: (972-4) 854-2730

Fax: (972-4) 854-2872

email: y_kluger@rambam.health.gov.il

References

1. Bell RH, Graduate education in general surgery and its related specialties and subspecialties in the United States. *World J Surg* 2008; 32 (10): 2178-84s.
2. Mazeh H, Mizrhay I, Eid A, Freund HR, Allweis TM. Medical students and general surgery – Israel’s national survey: life style is not the sole issue. *J Surg Educ* 2010; 675 (5): 303-8
3. Freund HR. Fragmentation of general surgery: burning to death or rising from the ashes. *IMAJ* 2011; 13: 521-3.