



Short Communication

Surgical education in the COVID-19 era: What did the General Surgery Residents' report in Argentina leave us? Part 1

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ABSTRACT

Social distancing to curb the COVID-19 pandemic has impacted medical and surgical education. This health crisis led us to raise doubts, controversies, and dilemmas in health care in general, and in surgery in particular, understanding that residents are possibly as or more vulnerable than all health professionals. During the 32nd International Congress of General Surgery in Cordoba, which was the first general surgery congress held in Argentina during 2021; The Association of Residents and Concurrent Surgery of Córdoba presented its official report about the current challenges faced by residents during their surgical training.

1. Introduction

We are at an extremely particular moment in history. Surgery is characterized by its constant movement, the search for better solutions incorporating new knowledge and technologies, questioning the dogmatic ones at every step. In this activity, there are future surgeons, young doctors immersed in an intense learning environment regarding the techniques and management of the surgical patient. Without these new generations, the movement and growth of surgery as science would stop. Each generation has its crisis and ours is social, technological, economic, and in some cases, existential.

In April 2021, during the social, preventive and mandatory isolation due to the COVID-19 pandemic in Argentina, the 32nd International Congress of General Surgery of Cordoba was held. In this event with a hybrid format, the Association of Residents and Concurrent Surgery of Cordoba, presented its report about the generational change in surgery and burnout, the role of a female surgeon, technology as an essential tool for training and how the residences should be adapted in an uncertain social and epidemiological context.

1.1. The evolution of the surgical residency

The residency has a long history, there would be no modern surgeons without the generational transfer of skills from millenary times [1]. The evolution of technology has changed from being an apprentice, until the 19th century, to the formation of structured systems of academic training and practice at the beginning of the 20th century [2]. In Argentina, the residency system started in the fifties with the implementation of a surgical training program at Policlínico de Lanús (Hospital Gregorio Araoz Alfaro). Then, in 1957 the first university surgery residency was created at Hospital Durand [3].

The long-lasting impact of the Halsted model on modern education is noteworthy. He was appointed as chief of surgery at Johns Hopkins Hospital, starting its first residency program in 1888 [1]. His system was hierarchical, with Halsted at the top of the pyramid, followed by the "chief resident," demanding absolute commitment from those who were accepted. Only men, not married, who stayed in the hospital for 24 h, 365 days a year were admitted: hence the term "resident". However, there were no guarantees of progress in the system or finalization of the program, and no set period of training. The residents performed care tasks, such as work and research in the basic sciences of bacteriology, pathology, anatomy, and physiology, in order to progress in the system

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[4].

The Halstedian model left precepts of how a surgeon should be trained, which are valid and applicable today. That is, residents, progress annually with the advancement of their roles within patient care teams and participation in increasingly complex surgical cases, also the resident must have repetitive opportunities for the care of surgical patients under supervision, to mention a few [1].

However, it was Edward Churchill, chief of surgery at Massachusetts General Hospital, who began to propose a different system. He considered the Halstead system to be just an evolution of the old teacher-apprentice model and believed that the transfer of a practical science by a single teacher generated slow to change and it was hard to achieve. During the postwar period, Churchill proposed a “rectangular” system that did not depend on the relationship of dependency with a single boss, but rather the resident would be formed with a group of teachers, none of whom would be beyond the institution [5]. He also proclaimed the existence of rotations by other specialties, to acquire knowledge of diagnostic principles and specific therapeutic possibilities. Churchill formed a residency system with a duration of 5 years of training to graduate as fully trained surgeons [6].

As time goes by and the appearance of regulatory bodies and residence enablers, the resident must be proficient in competencies of increasing complexity. The increase in diseases that require a surgical approach, the multidisciplinary and the progressive complexity of the surgical patient force the resident to incorporate a growing range of knowledge and responsibilities [7].

Surgical residency is a training period that is based on the principles of responsibility and autonomy of graduates [8]. However, the COVID-19 crisis has had an unprecedented impact on the education and well-being of residents, where educational opportunities can be difficult to regain if lost, making the surgical training curriculum of graduate school particularly vulnerable to interruptions.

1.2. Burnout in the surgical residence

The resident of the surgical program assumes an almost absolute commitment to his training. In this sense, long working hours, inability to balance work with personal life, lack of formal institutional support, and fewer informal interactions at work lead to emotional exhaustion, depersonalization, and decrease in personal performance, elements that constitute the Burnout Syndrome [9]. This can disproportionately affect individuals who work in health, decreasing the quality of care, with the risk of duplicating medical errors and affecting interprofessional relationships, including the quality of mentorship and tutoring by older residents could be affected, generating a hostile work environment. Its prevalence is variable in different specialties, age groups, and degree of specialization are considered a true pandemic. However, this is a problem with low visibility [10].

Surgery with its technical challenges, long and uncertain working hours and high-impact outcomes on patients' lives can lead to increase stress for surgical residents. It is common for surgeons to overwork, not only with the desire to take care of their patients and provide the best quality of care but also because they normalize living in an extreme state [11]. On the other hand, the patient expects to receive technically adequate care from his surgeon and humane and compassionate care; thus, the surgeon with burnout could not clearly provide it adequately [12]. It has been shown that surgery represents one of the three specialties with the highest prevalence of burnout. Some series report that 30–50% of all surgeons present professional burnout. In a recent study, it was reported that 53.27% of surgical program residents had burnout and general surgery residents represented 58.39%. As regards risk factors, it has been described that the female sex, belonging to a general surgery residency and a greater number of working hours, lead more frequently to trigger this syndrome [13].

During 2020 we analyzed the effect of the COVID-19 pandemic on surgical programs during the first wave in Argentina. Out of 195

residents who participated, 70.3% reported concern about the possible transmission of COVID-19 to family and friends, while 39% about contracting COVID-19 themselves. Finally, 49% presented more stress at work, due to a greater number of patients, sick people, and consequently greater responsibility [14]. This showed that in this epidemiological situation, residents are probably as or perhaps more vulnerable than other health professionals.

There are numerous ways that residents can adapt to the challenges of the day-to-day hospital. The first step is to know how to recognize the signs and symptoms of burnout in yourself in order to seek help. The strategies at the individual level go through self-care: exercising, taking care of sleep hygiene, socializing, and spending time on those activities that bring pleasure, in short, dedicating a moment of each day to oneself. On the other hand, mindfulness strategies, team discussion, resilience development, the presence of a formal mentoring system, and continuous feedback are part of strategies at the organizational level [15].

One of the ways that has been proposed to reduce burnout is the development of Grit within a residency program [16]. Although Grit is a concept related to resilience, it is based on perseverance in obtaining long-term achievements despite episodes of failures, a characteristic clearly necessary in the life of a future surgeon [17].

Although it is difficult to teach Grit, the basic actions go through valuing effort over talent, maintaining a healthy level of optimism, being deliberate in personal improvement, and working towards goals according to personal abilities and desires [18].

Another highlight is the existence of a formal mentoring program. The mentor or tutor should not be confused with the role of teacher or professor, tutoring can be carried out by a teacher but the teachings go beyond the medical field. A mentor provides a unique point of view regarding life and career, he is a person who is available to listen but at the same time to generate new challenges for the pupil [19]. Although, it is usually an informal process, there are new structured mentoring programs that have been shown to improve professional satisfaction, academic success, networking and to achieve a superior work-life balance.

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