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## LEADERSHIP IN SURGERY SYMPOSIUM

*Transforming Surgery of Kosova in the Era of Uncertainty: What Will it Take?*

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# International Collaboration as The Key to Surgical Leadership and Education



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## ABSTRACT

Leadership, although difficult to define, entails the setting of a goal, the creation of a path, and influencing people to achieve the goal. Leadership is part of every surgeon's career, and so is education. Education follows surgeons throughout their life as they teach other surgeons and educate patients. Those aspects of every surgeon can be further augmented by international collaboration. Through international collaboration, global surgery aims to improve outcomes and bring health equity to people in need of surgical care. International collaboration, a need made even more critical by the Coronavirus Disease 2019 (COVID-19) pandemic, is also enhanced by surgical associations. This pandemic has further underlined the importance of technology in medicine, such as telemedicine. This review focuses on the role of international collaboration in surgical leadership and education.

**Keywords:** International collaboration, surgery, leadership, education, global surgery, COVID-19, telemedicine.

## Abbreviations

ACS: American College of Surgeons

COVID-19: Coronavirus Disease 2019

GIEESC: Global Initiative for Emergency and Essential Surgical Care

FIGO: International Federation of Gynecology and Obstetrics

## INTRODUCTION

Leadership is difficult to define, as is its proper implementation in the field of surgery.<sup>1</sup> Both leadership and education are essential parts of a surgical career. Surgeons are called to step up to the challenging role of being a good team leader, teacher, educator, and researcher.<sup>2</sup> Those important aspects of every surgeon can be further enhanced by international collaboration through global surgery, surgical associations, and technology.<sup>3</sup> This review aims to describe the role of international collaboration in surgical leadership and education. We define leadership, describe its relationship with surgery, and examine the importance of surgical education as well as the arising challenges.

## DEFINING LEADERSHIP

Leadership is a word that originated in the 18<sup>th</sup> century.<sup>1</sup> There are countless definitions, which demonstrate that leadership may be viewed differently depending on the social context. When Winston and Patterson attempted to generate a thorough definition from the available literature, they came up with one containing more than ninety variables.<sup>1</sup> This is partly because literature describes leadership in abstract terms, explaining what it is or is not, using many conceptual models, and trying to define the behaviors and relationship of leaders to their followers.<sup>4</sup> For instance, various leadership styles have been described: directive (in which the leader provides directions); supportive (in which the leader is friendly and cares about the team); participative (in which the leader gives emphasis on the team ideas); goal-oriented (in which the leader sets goals<sup>5</sup>); transactional (in which the leader offers rewards to others for compliance); transformational (in which the leader recognizes followers' potential); and situational leadership (in which the leader encourages subordinate leaders to adapt to different leadership styles for different situations.<sup>6</sup>

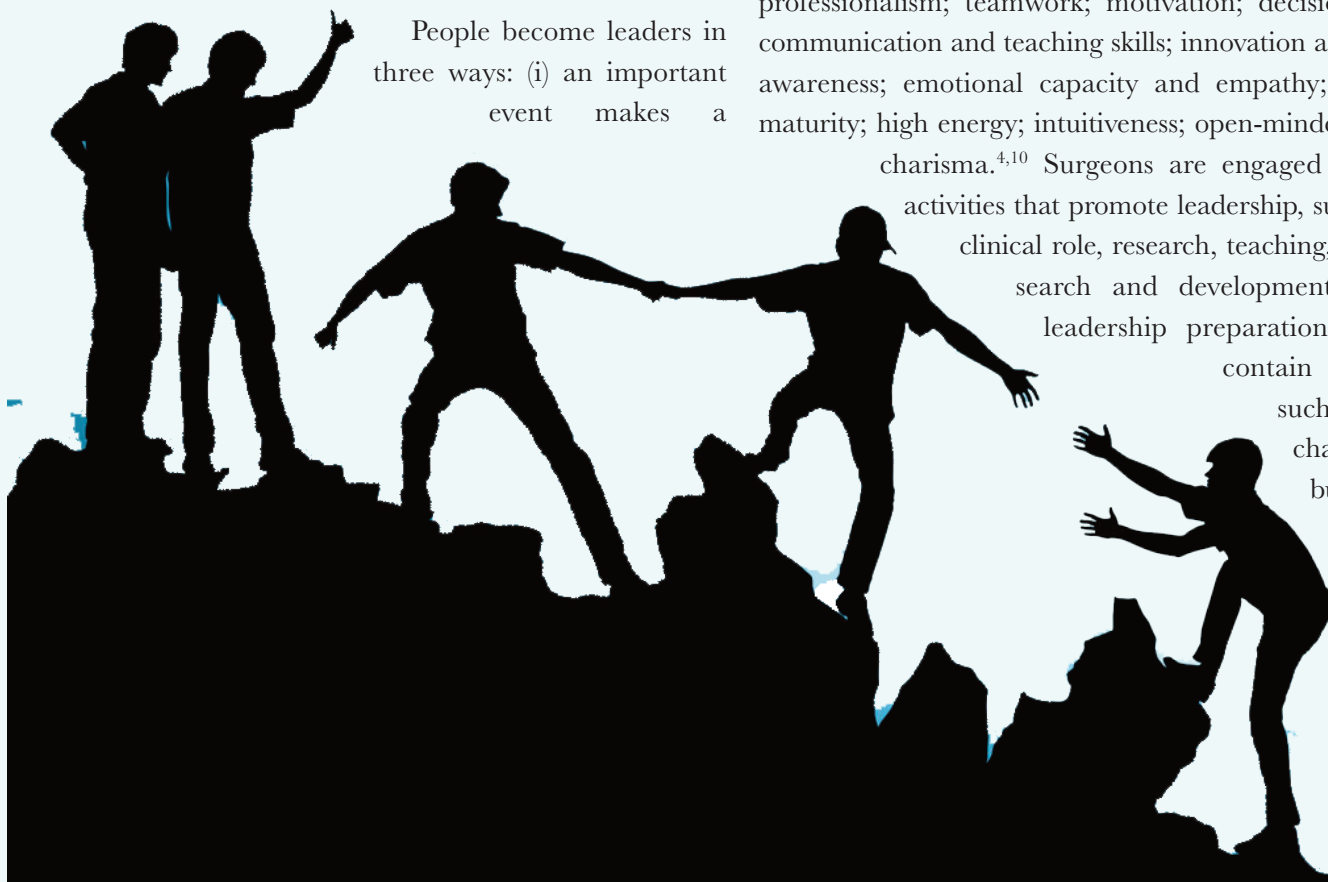
People become leaders in three ways: (i) an important event makes a

person rise to the occasion (the Great Event/Man Theory); (ii) personality traits lead people into leadership roles (the Trait Theory); and (iii) people can choose to become leaders and learn leadership skills (the Process or Transformational Leadership Theory, which is the most widely accepted).<sup>7</sup>

It was first believed that a leader is born and not made – that leaders are born with leadership traits. Next, it was believed that actions rather than traits make a leader.<sup>8</sup> It is now believed that everyone can become a leader, given the education and skills, because leadership is not hereditary or having to do with traits.<sup>6</sup> In general, one can summarize that a leader has two main tasks: **1)** to define a goal, a vision, and a path for those that she or he will lead, and **2)** to influence, provide incentives and push people to focus on and achieve the goal.<sup>1,9</sup>

## LEADERSHIP IN SURGERY AND SPECIAL ISSUES

In the past, leadership characteristics were heavily based on achievement-oriented abilities, while nowadays they have shifted focus mostly towards learning, teaching, and healthcare redesign and improvement.<sup>4</sup> A surgeon who is a leader should be characterized by technical skills; professionalism; teamwork; motivation; decision-making; communication and teaching skills; innovation and business awareness; emotional capacity and empathy; resilience; maturity; high energy; intuitiveness; open-mindedness; and charisma.<sup>4,10</sup> Surgeons are engaged in various activities that promote leadership, such as their clinical role, research, teaching, and talent search and development.<sup>9</sup> Various leadership preparation programs contain elements such as leading change, team building,





innovation, finance, operations management, and health care policy.<sup>9</sup>

Surgeons, however, sometimes lack some of the aforementioned values and traits. They often value autonomy and personal performance, mainly because of their past hierarchical training.<sup>7</sup> Surgeons may not always be good team players, and may tend to be autocratic, rather than democratic.<sup>11</sup> Furthermore, the typical surgical personality is sometimes thought to be that of a detached physician, in control of their emotions and feelings. However, emotional intelligence is an important aspect of leadership.<sup>12</sup> Thus, the need for improving leadership in surgery is apparent.

## THE IMPORTANCE OF SURGICAL EDUCATION

Despite the drastic changes seen in surgical education over the past decades, its roots remain unchanged. Surgical education includes surgical knowledge and technical ability, as well as the relationship with patients and colleagues.<sup>13</sup> It is a lifelong process, starting with basic training and followed by continuous medical education.<sup>13</sup>

Surgeons are the leaders of the surgical team, the educators of patients, and the teachers of future surgeons.<sup>2</sup> They are involved in undergraduate medical education as well as postgraduate training. Teaching in surgery requires special traits, such as confidence, patience, communication skills, empathy, and the composure to help trainees succeed and mature emotionally.<sup>9</sup> These traits are the base of leadership. Due to the notion that leadership can be taught, leadership opportunities are available even to medical students. During postgraduate training, the main goal is to become a leader of a clinical team. The Accreditation Council for Graduate Medical Education has described six competencies (medical knowledge, patient care, practice-based learning, communication skills, system-based practice, and professionalism) for postgraduate trainees, all of which reflect the concept of leadership.<sup>14</sup> However, most residents admit not possessing adequate leadership skills in their armamentarium, except for ethics.<sup>15</sup> Thus, residency programs are starting to incorporate leadership training.<sup>16</sup> To further promote leadership education, international surgical education and collaboration models include international partnerships, surgical missions, online surgical education, and fellowship training.<sup>17</sup>

## CURRENT CHALLENGES

### The Role of Education in Global Surgery

Surgery is an essential part of health care. However, there are several disparities in surgical care and access. In fact, five billion people lack access to safe and inexpensive surgical and anesthesia care, while 143 million extra surgical procedures are needed each year.<sup>3</sup> In order to alleviate those problems, investing in surgical services is affordable and lifesaving. Thus, Global Surgery aims to improve outcomes and bring health equity for all people in need of surgical care. It focuses on populations who are underserved and in crisis, identified by using various population- and individual-based approaches.<sup>3-18</sup> Surgeons learn how to be “generalists” and adequately and appropriately treat various conditions that one encounters in resource-limited environments.<sup>3</sup> This requires knowledge and familiarity with tropical diseases and multiple surgical subspecialties such as general, trauma, pediatric surgery, obstetrics and gynecology, and orthopedics.<sup>3-19</sup>

The inadequately trained and educated surgical workforce is a major factor in this global issue.<sup>3</sup> Therefore, The Lancet Commission for Global Surgery suggested that surgical trainees from high-income countries should develop broad competencies in global health.<sup>20</sup> Experts further suggest that global surgery should be included in all surgical training programs of high-income countries.<sup>21</sup> A few one- or two-week courses and collaborations for medical students and postgraduate trainees have successfully incorporated global surgery, covering a basic syllabus of topics.<sup>21</sup> Another example is the Brigham and Women’s Residency in Global Health Equity for General Surgery, a 2-year program of international work and research incorporated within the existing training.<sup>22</sup> On the other hand, global surgery training should also be provided to surgeons and researchers in lower-income countries.<sup>21</sup> Thus, strong leaders are needed to advance surgical care and to improve education and training.<sup>20</sup>

Multiple global efforts have been made to internationally collaborate and address the problems of Global Surgery. In 2005, the World Health Organization Global Initiative for Emergency and Essential Surgical Care (GIEESC) was launched.<sup>23</sup> Its goal is to promote collaboration and strengthen the delivery of surgical primary care in low-income countries.<sup>23</sup> In the same year, the Global Alliance for Surgical, Obstetric, Trauma, and Anaesthesia Care (the G4 Alliance) was also launched with the aim to improve global surgery through informing, setting goals and guidelines, and creating data platforms to track operative data (24). Medecins

Sans Frontieres continues their humanitarian surgery plans, advocates for recruiting skilled and trained surgeons who have operated with limited resources, and promotes mentoring and training programs for local staff.<sup>25</sup> Since 2015, the Lancet Commission on Global Surgery aims to include surgery in the global health agenda and find ways to provide quality surgical and anesthesia care for everyone.<sup>20</sup> The International Federation of Gynecology and Obstetrics' (FIGO) aim is to improve the health of women and newborns worldwide, promote their access to education and services, and improve education, training, and research of gynecology and obstetrics.<sup>26</sup> Further efforts in promoting Global Surgery include the Society for International Humanitarian Surgeons (Surgeons Overseas),<sup>27</sup> the Association for Academic Surgery,<sup>28</sup> and the American College of Surgeons (ACS).<sup>28</sup>

### **Surgical Associations and Their Role**

There is a global need for surgeons as leaders. Thus, many associations offer programs to develop surgeons as leaders. For instance, the ACS holds an annual symposium to prepare surgeons as leaders in their clinical, administrative, education roles, and a 4-day highly interactive course for surgeons to acquire practical skills to become leaders.<sup>29</sup> Other associations, such as the Association for Academic Surgery, the Society of University Surgeons, the Society of Black Academic Surgeons, and the Association of American Medical Colleges, have established leadership development courses.<sup>30</sup> Additionally, various associations have developed programs to educate surgeons through their careers. The annual ACS Clinical Congress offers four days of intense educational sessions, while their Surgical Education Self-Assessment Program is preferred as a basic element of self-education for surgeons.<sup>29</sup>

## **THE CORONAVIRUS DISEASE 2019 CHALLENGE**

The COVID-19 pandemic is a public health crisis affecting the entire globe. International collaboration in order to fight the pandemic is of the utmost importance and various ongoing attempts have been made towards that goal. One example is the CovidSurg Collaborative, an international collaboration between surgeons trying to understand the impact of COVID-19 in patients undergoing surgery.<sup>31</sup> This crisis has also taught us that leadership is important in the treatment and triage of surgical patients while managing limited resources, caring for patients, maintaining a positive workplace environment, and communicating virtually.<sup>32</sup>

Surgical trainees face great challenges during the COVID-19 pandemic. In many affected countries only emergency surgeries are being performed, attendings are handling simpler cases to reduce operating time, and residents are inadequately supervised in wards.<sup>33</sup> Due to most of the conferences and congresses being canceled, new online learning methods for residents and medical students have been implemented, including video lectures, teleconferencing, journal clubs, webinars, telemedicine, and virtual consults.<sup>33-34</sup>

## **TECHNOLOGY, EDUCATION, AND INTERNATIONAL COLLABORATION**

New technologies are continuously being introduced in order to enhance education and international collaboration. Telemedicine and virtual consults have become very popular in light of the COVID-19 pandemic. They are preferable for safe patient care and resident education, because they involve both attendings and residents, while the latter can participate in virtual care from their homes.<sup>35-36</sup> In addition, teleconsultation improves the diagnostic and surgical skills of trainees.<sup>37</sup>

Teleconferences are a useful means of continuous medical education. This technology allows teaching conferences between world-class and smaller hospitals in developing areas.<sup>38</sup> Thus, telemedicine can provide an effective method of international collaboration between institutions among different health care systems.<sup>37</sup> Tele-learning technologies achieve similar learning outcomes to traditional education, and have been implemented in surgical specialties.<sup>39-41</sup> Simulation-based classrooms have been successfully tried for surgical clerkships, while video surgical libraries or atlases, and three-dimensional anatomy models are beneficial for learning.<sup>42-44</sup> Tele-education in surgical education improves the trainees' skills.<sup>37</sup>

## **CONCLUSION**

Leadership is an essential skill every surgeon can cultivate. Education is also a vital part of being an effective surgeon. Those two can be further augmented by international collaboration through several organizations that aim to bring surgeons together, broaden the interest of the current and future generations of surgeons in global surgery, and improve access to training and education using the advents of technology.

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