

Success in Academic Surgery

Carla M. Pugh  
Rebecca S. Sippel *Editors*

# Success in Academic Surgery: Developing a Career in Surgical Education

 Springer

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*To all of the educational leaders, role models, and  
mentors that have given their time, shared their  
passion, and painted a vision for the future*



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# Chapter 1

## An Overview of Opportunities in Surgical Education

Rebecca S. Sippel and Carla M. Pugh

### Background

#### *The Past*

Surgical education is part of the core mission of any department of surgery. The traditional view of surgical education largely focuses on teaching medical students and residents. In addition, leadership in surgical education was thought of as a stepping stone to other leadership positions within the department, training in education or teaching was not required, and it was thought that anyone was capable of being a surgical educator.

#### *Educational Challenges*

Increasing regulations, work-hour restrictions, and an increase emphasis on outcomes have created a need within departments for faculty that are not only “good” teachers but understand the issues confronting surgical education and can develop and run a competency-based surgical curriculum that not only exposes students and residents to the field of surgery but ensures that they are learning the core knowledge and skills that they need to be competent physicians and surgeons. No longer is it acceptable to simply “see one, do one, teach one.”

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## ***The Evolving State of Surgical Education***

Historically to be successful in surgery, each individual strived to be a “triple threat”: an outstanding clinician, researcher, and teacher. While the concept of a triple threat has not disappeared, increasingly department chairs are recognizing that these are three core missions of the department, not necessarily of individual surgeons. The department as a whole needs to excel in each of these areas. In order to excel in education, there is a need to set evidence-based goals and commit to important infrastructure that educators need (training, time, and resources). As such there is a growing need for surgeons with not only an interest in surgical education, but also the training and expertise to help develop and support the educational mission of the department.

Success in surgical education cannot be accomplished alone. Educational programs need adequate administrative support and protected time for its administrators. Research programs need collaborators with expertise in education research. Increasingly departments of surgery are recognizing the need for PhD educators within the department to help fulfill and support these roles.

## **The Path to Becoming a Surgical Educator**

Surgical education is a rapidly growing field with a variety of opportunities available to get involved. Due to this growth there is a critical need for surgeons with an interest and expertise in surgical education. For those of you that are interested in potentially making education your career focus, our hope is that this book will help to open your mind to some of the many possibilities available within the field of surgical education.

The first step to developing a career in surgical education is to get the correct training. For some people that will include pursuing an advanced degree either during residency or in their early years on faculty (see Chap. 11). But for many, taking the time to get an additional degree may not be feasible, and there are many other training opportunities available both within your institution and nationally that can help you to develop the skills you will need to be successful (see Chap. 10). In addition to getting the training that you need, you need to ensure that you can identify mentors that are supportive of your goal and can work with you to help you achieve them (see Chap. 9). For those of you that are interested in taking on leadership roles within your department in surgical education, it is essential to obtain skills in leadership (see Chap. 7) and an understanding of how the surgical education mission is financed (see Chap. 8).

Within the field of surgical education, there are a variety of opportunities to get involved. The two most common areas for involvement relate to medical student and resident teaching. While this includes being a clerkship director or a residency program director, there are a wealth of additional opportunities available in both the medical school and the graduate medical education office. Taking advantage of



opportunities outside of the department can be a great opportunity for growth as a surgical educator. In Chaps. 2 and 3, we hope to highlight many of the unique opportunities available within these areas. Surgical simulation is a rapidly growing field, and surgeons are ideally suited to get involved in and to take on leadership roles within an institution's simulation center (see Chap. 4). Looking beyond the training years, there is an ever-increasing need for people with an expertise in continuing medical education, helping to address the needs of practicing surgeons with both maintenance of skills and knowledge as well as the acquisition of new skills once in practice.

In order to establish yourself as a surgical educator, it is important to get involved not only locally but also nationally in surgical education. There are many great opportunities to get involved at a national level which are highlighted in Chap. 5. Surgical education is an increasingly viable career path for promotion within academic surgery, but it is important that you understand the metrics for which you will be measured. Tips for how the process works and how to get promoted as a surgical educator are highlighted in Chap. 6.

## **Finding Your Niche and Succeeding at It**

Once you have chosen your path, there must be a strategy involved in honing and defining your niche. Whether you choose to focus on undergraduate medical education, graduate medical education, or continuing medical education, additional work is necessary in defining your focus within these areas. Specific examples include a focus on curriculum development, program evaluation, performance assessment, or even specific clinical contexts. The opportunities are broad. The formal process of goal setting has been well defined and there are several strategies and approaches. The SMART concept states that your goals should be (1) Specific, (2) *Measureable*, (3) *Attainable*, (4) *Rewarding*, and (5) *Timely*.

Using the SMART concept, if your passion is simulation-based curriculum development for residents, it is recommended that you go through the process of writing down the following: What you wish to develop and what technology, content, financial support, and personal time are needed (*Specific*); how you will measure the success of your new curricula (*Measurable*); do you have the infrastructure including departmental support and key collaborators (*Attainable*); will you enjoy the work after noting the pros and cons of the work process (*Rewarding*); and can the goal be achieved in a reasonable time period without losing usefulness (*Timely*). Similarly, the SMART concept can be used in setting goals for obtaining local and national leadership positions.

The last section of this book has four chapters dealing with research in surgical education. This topic deserves special attention as it is pertinent to success regardless of your niche area. Use of qualitative or quantitative research methods to evaluate your program or execute specific experimental protocols will help to better

define your goals and your niche. Publishing your work will help to build collaborations, establish local and national presence, and serve as the groundwork for obtaining funding.

## **Special Considerations**

### ***Graduate Study***

It is extremely important to be aligned and mentored by a successful surgeon scientist during your graduate studies if you choose this route. Obtaining a Master's or PhD in education is a great step towards defining your career as educational leader however; it is uncommon for faculty and leadership in a school of education to understand the many nuances of surgical education. Moreover, it is unlikely that faculty in a school of education will know which societies you should plan to be involved in or where to present and publish your work. Lastly, if you are planning a research career in surgical education, it is critical to have an understanding of the tight balance that must be achieved when trying to succeed in a combined clinical and research position.

### ***Ethics in Education Research***

The worst outcome of any education research project is to leave the participants feeling that they were just a number and the exercise they just participated in was not useful because there was no feedback. This phenomenon is not special to research in surgical education, and there is an extensive amount of historical and new research regarding this in traditional education literature and peer-reviewed journals.

### ***Bridging the Gap***

In the process of achieving our professional goals in surgical education, we must be reminded of the gap that exists between actual practice and the results of our research. Feedback is one of the key elements that may facilitate bridging the gap. For example, if you studied the validity and reliability of a checklist for laparoscopic colectomy, this would require you to not only document correct and incorrect answers but also generate an understanding of how the incorrect answers should be built into focused learning or deliberate practice for the individual surgeon.

## ***Quality and Patient Safety***

While the ultimate goal is to develop educational systems and processes that benefit the patient, we have ways to go in developing and achieving goals that consistently drive successful quality and patient safety agendas. Outcomes and health services research have many direct links to education and collaborative initiatives that will be the key to achieving high-quality care.

## **Summary**

In summary, the goal of the book is to provide an overview of important topics that must be considered when planning a successful career in surgical education. The three main sections of this book include: (1) Local and National Leadership Opportunities, (2) Professional Development, and (3) Research. All of the chapters have been written or coauthored by members of the Association for Academic Surgery (AAS), a premier organization for surgeon scientists.

# Chapter 2

## Opportunities in Medical Student Education

Brandon V. Henry and Ranjan Sudan

### Abbreviations

AAS	Association for Academic Surgery
ACS	American College of Surgeons
AERA	American Educational Research Association
ASE	Association for Surgical Education
CD	Clerkship Director
CDs	Clerkship Directors
CESERT	Center for Excellence in Surgical Education, Research and Training
NBME	National Board of Medical Examiners

### Introduction

Historically, medical education has been associated with a lengthy, intense, and demanding course of training requiring much sacrifice on the part of the trainee. After 12 years of high school and 4 years of college, the aspiring physician spends an additional 4 years in medical school before spending a minimum of 5 more years of residency training in surgery. This duration can be prolonged by significant length for those pursuing research and/or subspecialty training.

Every year the American Association of Medical Colleges conducts a survey of graduating medical students to evaluate their medical school experience (GQ medical student graduation questionnaire), and in the 2011 survey, work-life

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