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Surgical Mentorship and Leadership

Building for Success in Academic Surgery

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Success in Academic Surgery

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Foreword

A career in academic surgery remains extremely rewarding; those of us who have been benefactors fully understand the satisfaction and fulfillment. Nevertheless, the landscape of academic surgery has changed. The path to become a surgical academician 30 years ago was relatively simple: be a busy and excellent surgeon, start a basic science research laboratory, and of course be an outstanding teacher. Reimbursement was excellent, funding levels were high, and the electronic medical record was just being imagined. Today is very different. RVUs are the tender of the day rather than academic productivity, particularly for surgeons. Basic science has evolved from physiology to complex molecular biology. Quality metrics, safety, online training, intense competition, IRBs, and EPIC fill each and every workday. Not surprising, today the concept of a career in academic surgery is daunting.

I remain optimistic that academic surgery will survive. As the pace of innovation increases and as health care continues to evolve, it will become increasingly important for surgical academicians to lead the way. However, success in surgical academics in our current environment will be more challenging, and two elements will become increasingly essential: mentorship and leadership. This book provides a superb treatise on both.

The authors are a top tier team, including past presidents of the American Surgical Association, the American College of Surgeons, the Society of University Surgeons, and the Association for Academic Surgery, as well as multiple surgical chairs. The best of the best have created a compendium filled with pearls that even the most experienced of leaders and mentors would find valuable. This book is designed so there is value for all surgeons, at all stages, whether they be trainees, junior faculty, or seasoned professors. Hundreds of years of experience have been coalesced into 200 pages of wisdom. In short, this is a must-read for all that aspire to achieve a successful career in academic surgery.

We are privileged to have the opportunity to be surgeons, but those of us who have devoted our lives to surgical academics are truly blessed. My hope is that an academic career will continue to be an aspiration of our best and brightest. *Surgical Mentorship and Leadership: Building for Success in Academic Surgery* can provide a roadmap for our future generation of academic leaders.

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Preface

Leadership and mentorship—many people talk about these things as being essential attributes for today's surgical leaders, yet few can successfully bring these attributes to bear. Modern medical training prepares a young surgeon for the important responsibility of caring for the infirm, yet as surgeons mature, they are often called upon to lead units and departments. These tasks provide unique challenges that tax even the most seasoned of clinical surgeons. Dealing with human resource needs, financial obligations, programmatic development, pursuing a national agenda, and nurturing others are just some of the activities that must be mastered to be an effective leader of modern surgical departments. As critical as success in these endeavors are to the trajectory of surgical leadership accomplishment, our current medical training paradigms do little to prepare one for this leadership challenge.

Many attributes of leadership appear to be essentially innate in some individuals: honor, integrity, vision, service, and grit, to name a few. It almost seems as though some people are simply born with these traits that are readily fostered and developed as a child. These individuals are natural leaders who often have "magnetic" personalities. Yet for most of us, leadership is learned skill that is borne from our mentors. Training and attention to developing leadership skills from the gifted individuals that precede us can help empower us. Through systematic mentorship, education, and experience, a young surgeon can potentially develop into a great surgical leader, regardless of actual title.

We have been lucky to have been exposed to some of the giants in our field, and among these mentors are some of the wonderful authors who have contributed to this book. To these individuals, and to all our previous mentors, we owe a debt of gratitude that can only be repaid by passing the torch to you. We hope that this book will serve as a vehicle to help fulfill a desire to become one of our great future surgical leaders!

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Part I
Mentorship

Chapter 1
Brief History of Mentorship

Alberto R. Ferreres

> To hold the one who has taught me this art as equal to my parents and to live my life in partnership with him
> *Hippocratic Oath* [1]

The noun *mentor* recognizes a Greek origin, *men* stands for the "one who thinks," while *tor* refers to the masculine suffix and *trix* to the feminine one. So mentor means the man who thinks and mentrix refers to the female counterpart [2].

One of the first trackings of *Mentor* is found in Homer's *The Odyssey* [2]. He was the son of Alcimus and Asopis, and later on in the poem, Mentor became acquainted with Odysseus, king of Ithaca, and was assigned to educating Odysseus's son Telemachus. When Odysseus departed to fight in the Trojan War for more than 20 years, he entrusted the care of his kingdom and his family (his wife Penelope and his son Telemachus) to Mentor, who would serve as a guide and paternal figure. Telemachus established an enduring relationship with Mentor who would be responsible for the education and shaping his character. Nonetheless, when goddess Pallas Athene (the goddess of war and wisdom) wanted to get closer to Telemachus, she would take the disguise of Mentor so as to guide and counsel him; this was one of the several forms Athena adopted. Athena represents "the good counsel, the wisdom, and the righteousness" [3].

But a careful analysis of the epic poem shows that Mentor particularly did not stand out in his task. While the world has adopted the word mentor as synonymous of "experience and trust," Mentor was not a major figure within the epic poem and failed in the duties he was expected to fulfill. That role was, in fact, performed by Athena [4].

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In 1699, Francois Fenelon published "The adventures of Telemachus, the son of Ulysses." The main character is that of Mentor, and the modern concepts of the term may be linked to this publication [5]. Francois de Salignac de La Mothe Fenelon (1651–1715) was a French bishop, theologian, writer, and educator, who was the tutor to Louis XIV's grandson [6]. "The adventures of Telemachus" was one of the most popular books of its time and copied the model of Homer's Odyssey. Of course, there are substantial differences between both Mentors, the one appearing in Homer's Odyssey and the other one in Fenelon's book. While many features of the role and the model represented by the modern concept of a mentor are found in Fenelon's book, this is not the case with Homer's Mentor [4]. The character of Fenelon's Mentor is more like the current idea of a usually elder guide who provides advice, guidance, and counsel and serves as inspirational and a role model [4].

This relationship between Telemachus and Mentor was also achieved in a painting by Giovanni Battista Tiepolo (1696–1770), currently at the Rijksmuseum, Amsterdam [7].

The influence of Fenelon can be seen in other two writers: Marquis Louis-Antoine Caraccioli (1719–1803), whose book was translated from French into English in 1760 as "The True mentor or An essay on the education of young people in fashion," where he advocates for a systematic mentoring process with the steps of observation, tolerance, rebuke, improvement, friendship, and awareness [8]. The other one was Jean-Jacques Rousseau (1712–1778), whose novel "Emile, or On Education" captures the importance about dialogue and a one-to-one model basis for learning. The character Emile receives at the starting stages of the novel a copy of Fenelon's "The adventures of Telemachus" [9].

The first use of the word mentor in the English language can be traced to 1750, and it means "experienced and trusted advisor," according to the Oxford English Dictionary.

Lord Chesterfield (1694–1773) is credited to have introduced the word for the first time in the letter CVII dated March 8, 1750, addressed to his son when he writes: "These are resolutions which you must form, and steadily execute for yourself, whenever you lose the friendly care and assistance of your *mentor*" [9]. But the concept was known since earlier times and was related to the guild economy of England's medieval times. The craftsmen passed on their knowledge and abilities to their pupils, in a way with plenty of similarities to modern times; those pupils (apprentices) worked for the master for about 12 years or until 21 years. This methodology was interrupted by the advent of the Industrial Revolution, when the workers received an impersonal and standardized training instead of the personalized master-apprentice model.

"The Female mentor" first two volumes were published in London in 1793, while the third one was published in 1796 with a special emphasis on the features of female mentorship. The book's prologue includes a dedication to Fenelon, and the author (Honoria, maybe a "nom de plume") highlighted their shared views on education and life [10].

Along the world history, significant systems of mentorship have also characterized different religions: the guru-disciple tradition practiced in Hinduism and

Buddhism and the discipleship system practiced by rabbinical Judaism and the Christian Church. A review throughout the life of successful public figures reveals that most of them recognize the influence of a mentor at some stage of their careers: Alexander the Great had Aristotle; King Arthur of England, Merlin; T. S. Eliot, Ezra Pound; Martin Luther King, Dr. Benjamin Elijah Mays; both Beethoven and Mozart, Haydn; and the list is endless.

In the surgical field, the traditional method of training was the apprenticeship model of one to one (master and pupil). This paradigm was modified when William Halsted introduced the concept of the surgical residency, where trainees spent 5 or more years in a teaching hospital learning clinical and surgical skills as well as research, under the guidance of tutors (faculty and attendings). This process has become the standard of surgical training not only in the USA but also worldwide.

Halsted introduced the figure of mentors within his concept of surgical education, probably influenced by the Socratic methodology of learning: argumentations between two individuals, usually one more experienced than the counterpart [11]. At that moment an exemplary mentor-mentee relationship developed between William Osler and Harvey Cushing. From a strictly surgical point of view, Cushing was not only the founder of neurosurgery as a specialty but also the surgical mentee of Halsted, who strongly supported his dedication to that field.

But Cushing's relationship as Osler's protégé deserves additional details and further analysis. He started as one of Halsted's residents in 1896, and after 4 years of training, he was appointed faculty at Johns Hopkins, and it was very clear from the start that he was a gifted and protruding physician. Osler's influence was perceived in Cushing's interest in books, bookplates, and the purchase of a library. During his second year as a surgical resident, he was admitted with symptoms of acute appendicitis, and Osler saw him in consultation before Halsted operated on him. It was also Osler who introduced him to the European medical leaders of the time and the one who advised him about his character and the harming effects of his manners. And when Revere, Osler's son, was wounded during WWII, he participated in the laparotomy performed by Crile and was the one who delivered the sad news of his death. The initial mentoring had transformed indeed into a long enduring friendship. There are many explanations for this mentor-mentee relationship between two individuals 20 years apart and bearing different specialties. Their lives have many similarities: both were the youngest of large families and bore classical education, gifted sportsmen, and a passion for literature. Besides Osler was very instrumental and a key factor for Cushing turning down offers from St. Louis (1905) and Yale (1906) before accepting his initial post at Harvard, from where he moved later to Yale [12].

Quite different was the career of Alfred Blalock. He graduated from Johns Hopkins School of Medicine in 1922 and completed an internship in urology and then a position in general surgery under the leadership of Halsted. But he was not reappointed after a series of events during his second year of residency. However this major drawback increased Blalock's focus in surgery and work ethics and was a major drive to overcome adversity [13].

Thanks to the intercession of Samuel Crowe, chair of otolaryngology during his first 2 years as a surgical resident, he was appointed at that department. After completing and due to Crowe's strong support, Blalock obtained a general surgery residency position at Vanderbilt University in 1925. In a letter to Barney Brooks, then chief of surgery at Vanderbilt, Crowe wrote: "Personally I think Dr. Blalock is one of the best men with whom I have come in contact for several years. He is deeply interested in investigative problems and has enough energy to carry them through completion. . .I personally think that he has a brilliant future" [14].

At Vanderbilt, Brooks proved to be a most valuable mentor. Since the clinical workload was not particularly heavy, Blalock devoted his passion to research in the field of hemorrhage and shock. Blalock said of Brooks: "My chief gave me every opportunity to pursue my interest" [14]. Later on, Blalock returned back to Johns Hopkins as department chair, where he pioneered world-recognized initiatives in cardiac surgery, together with Dr. Helen Taussig, the pediatric cardiologist, and his "superb technician" Vivien Thomas.

Blalock was an outstanding mentor himself; it is worth to mention his mentee William Longmire Jr., who moved from Johns Hopkins to become the first professor and department chair at UCLA in 1947. Many of his past residents turned into leaders in American surgery. Among those who were elected as presidents of the American Surgical Association were Longmire, Scott, Muller, Sabiston, Hanlon, Spencer, and Ravitch.

The modern use of the terms mentor and mentorship can be related to the North American business and the social movements starting in the 1960s. The term mentorship has been traditionally associated with the medical, the law, and the business professions.

The focus in the benefits of mentoring seems to have been fostered by Levinson's research and publications. Daniel J. Levinson was the leader of a Yale University group of psychologists and social scientists who published *The Seasons of a man's life* [15]. Their book includes the detailed analysis of 40 men biographies and their evolution from childhood to adulthood, and the common trait was the impact of a mentor in their lives. The key feature of the mentor was to make easier and provide support to achieve what he defines as "the realization of the dream."

One of the first recent references to the mentoring process was Barondess' Presidential Address [16]. He refers to the mentor-mentee relationship and puts as an example the link between Bill Dickey and Yogi Berra, both of them New York Yankees' catchers and this statement from the last one: "Bill is learnin' me his experience." This simple phrase entails the core of the mentor's work.

In his American College of Surgeons' Presidential Address, Edward M. Copeland III recounted about "The role of a mentor in creating a surgical way of life" [17]. The first uses of the terms "mentor and mentorship" in the academic surgical world can be traced to the 1990s [18].

There are many other historical examples of mentorship in American surgery [19–23], and it has been the tradition of the American College of Surgeons to honor mentors [24].

In summary the history of the term mentor has been traced, from its very first use in Homer's Odyssey to the present times and current use. There is no doubt that the mentor-mentee relationship has influenced and will undoubtedly influence the lives of surgical giants all over the world.

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Chapter 2
Characteristics of the Ideal Mentor

Marco G. Patti and Melina R. Kibbe

Introduction

When successful academic physicians are asked about the factors that played a significant role in their career, mentorship is uniformly quoted as a key element because of its influence on career guidance, research productivity, and personal development. However, there is little evidence to support this claim, as there have been no prospective randomized trials comparing the careers of physicians who had mentors with the careers of those who did not. In addition, there are no long-term longitudinal studies assessing the value of mentorship. On the other hand, there are several studies that have described the positive effect of mentorship. For instance, in a survey of 4000 mentees in 24 medical schools in the United States, Palepu et al. found that compared with non-mentored faculty, mentored faculty spent more time on research and were more likely to obtain grants [1]. Other studies have showed that the presence of a mentor has been associated with earlier promotion as well as increased faculty retention [2, 3]. Mentorship has also been associated with career satisfaction [4]. DeCastro et al. surveyed 1708 clinician-researchers who received National Institute of Health K08 and K23 awards between 2006 and 2009, and identified career satisfaction with some aspects of mentoring such as mentor behavior, mentor prestige, and collegiality of the mentor-mentee relationship [4].

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Mentors

A mentor is someone who imparts wisdom to and shares knowledge with a less experienced colleague. The traditional mentorship relationship is both dyadic and hierarchical. It is dyadic because it is a relationship between two individuals, the mentor and mentee, without the inclusion of other people. It is hierarchical because the mentor is usually several years older and serves as a role model, teacher, advisor, and sponsor for the younger mentee. It is important to understand that there are different types of mentors.

The Parent The parent mentor is trustworthy, open, honest, and committed to the mentee's best interest. He/she has connections, power, and resources. In today's academic environment, the parent mentor most likely was part of a classic dyadic mentor-mentee relationship at the beginning of his/her own career.

The Godfather He/she gives very clear directions. The godfather mentor is powerful and well-connected. He/she caters to the mentee's needs, but it can be at a cost as his/her priorities often come first and something must be given in return. This type of mentor is usually very important at the beginning of the mentee's career, but over time, it may be difficult for the mentee to establish independence.

The Big Brother/Big Sister This mentor is a person of the same age or slightly more senior than the mentee. This relationship is also known as peer mentoring. The big brother/big sister is a trusted person who the mentee can turn for advice. However, this person may not have the best answers, may not have resources or power, and might experience the same struggles as the mentee.

The Patron The patron mentor is a distant supporter from whom the mentee can seek advice. The patron mentor is successful and well-connected and is willing to help with little or nothing in return.

Characteristics of the Ideal Mentor

Before entering into a mentor-mentee relationship, it is important to understand the characteristics of an ideal mentor.

Professional Standing To be effective, a mentor must be recognized as an expert by his/her peers in his/her own institution as well as outside the institution. Mentees want to follow someone who is well-respected by colleagues and whose contributions in the field are acknowledged. The professional record of accomplishment of the mentor is often an inspiration for the mentee and facilitates the process of informal pairing. This is important, as it will provide credibility so that the mentee will be more willing to be advised by somebody who has been successful in his/her own career. This type of mentor will be able to open doors for the mentee facilitating the establishment of networking with accomplished collaborators.

Personal History The mentor will be more effective in his/her role if they have a history of being mentored by successful individuals who cared about leaving a legacy of mentoring. In addition, a mentor is more attractive if he/she has a track record of accomplishment of having mentored other individuals who have been successful in their endeavors. A young mentee will be able to contact others and ask about the dedication and commitment of the mentor and the influence that this person had in their career.

Generosity A mentor must be generous with time, expertise, and credit. To have time for mentoring today is becoming quite challenging. Both the world of medicine and the society in general have changed radically over the last 20 years. Twenty years ago, the academic mission was well recognized, and scholarship, education, and mentoring were the bases for the compensation in the academic world. Today, in most academic institutions, the compensation is based on the work units generated by time spent in clinics and in the operating room, while other activities make up no more than 10–15% of the total effort. In addition, the family structure has changed, and when both partners have full-time jobs with the need to share the family tasks, more time off work becomes a necessity. Finally, today both the mentor and the mentee strive to achieve a balance between life and work with the wish to dedicate more time to personal development and family comfort.

Particularly in surgery, it is important that the mentor is recognized for his/her skills, both clinical and technical. But at the same time the mentor must be willing to share his/her skills, knowledge, and expertise. This will show the mentee the commitment of the mentor to the relationship and the desire for the mentee to succeed, treasuring the mentor's experience and avoiding the mentor's mistakes.

A good mentor must also show generosity of credit. This step is often quite difficult, particularly for members of the baby boom generation. The "prima donna" complex is often present, based on the belief that nothing will be the same if they do not continue in their leadership role. This change implies the recognition that the mentee represents the future, while the mentor represents the past or, at the very best, the present. For instance, a mentor must be happy to have properly advised a mentee who got a grant or published a manuscript, without imposing to have his/her name as co-principal investigator or as an author, but giving all the credit to the young person within the same institution and nationally. At the same time, it is important for the mentor to promote the mentee for committees, conferences, and associations.

Integrity The mentor must be honest and ethical. The mentor will supervise the mentee in planning and carrying out studies, in analyzing results, and in writing and revising manuscripts. It is essential that the mentee understands that sometimes the results will be different from the hypothesis and that it is essential to do a critical analysis resisting the temptation of "adjusting" the results and going back to the drawing board. Similarly, when the proposal for a grant is rejected, it is important not to give up but to listen to the comments of the reviewers and submit it again. The mentor must be a character builder, providing the mentee with an honest assessment of his/her strengths and weaknesses and helping the mentee acquiring the confidence and tools to succeed in the scientific world.

Availability The mentor must be accessible and available for the mentee. In addition to informal communications either by emails or phone calls, it helps to schedule formal meeting at regular intervals to evaluate the progress made in the previous months. The mentor and mentee must prepare properly for each mentoring session.

Social Awareness Finally, the mentor has to realize that in addition to the purely professional aspects, the mentee may need guidance in balancing the goal of a successful academic career with that of a fulfilling personal life. This has become increasingly important as current mentees from Generation Y have different priorities.

Factors that Can Impact the Mentor-Mentee Relationship

When choosing a mentor with the goal of finding the perfect match, the mentee must take into consideration many additional important factors that can affect the mentor-mentee relationship.

Generation Each generation has its own set of ideals, ethics, and culture, and each generation brings values that may dramatically influence the mentor-mentee relationship [5, 6].

- *Baby Boomers (1944–1959).* They think of themselves as a special generation, goal-oriented, hardworking, and driven to succeed. They value work, power, and leadership. They believe in a hierarchical system.
- *Generation X (1960–1980).* As compared to the baby boomers, they are a very heterogeneous generation (race, religion, and ethnicity). They had fast access to information through desktop technology. They are more self-reliant and independent, respecting talent more than academic rank and authority. They seek financial security and the ability to enjoy leisure time. Work-life balance is a priority for this generation.
- *Generation Y (1981–2000).* The "Millennials" grew up with computers, the Internet, and a tremendous amount of easily obtainable information. They have a sense of entitlement, expect to express individual views without repercussions, and demand approachable and accessible mentors.

Overall, generational changes have brought a different set of expectations, including more formalized education and training and more stress on performance expectations, compensation, and quality of life.

Gender Today the composition of the workforce is rapidly changing. In 2010, approximately 50% of all medical students were women [7]. Data show that even though women are more likely to pursue an academic career than men are, they might also be more prone to leave academic medicine [7]. Lack of role models, frustration with research, inability to reach a satisfying work-life balance, and lack of effective mentoring have been identified as possible factors. In 1980, 9% of female

faculty were at the rank of full professor. Thirty years later, the percentage has only increased to 12.5% [8]. Furthermore, as of 2018 only 21 women are chairs in a department of surgery among our 126 medical schools. Thus, it appears that a glass ceiling for women in academic surgery is still present.

Race Today more underrepresented minorities have joined the workforce even though they are still represented in dismal numbers among medical school faculty [9, 10]. In the decade between 1990 and 2000, only 5% of the 1000 surgeons who completed a surgical training program were members of ethnic underrepresented minorities [11]. Consequently, when starting an academic career, underrepresented minorities will have very few role models and may feel isolated [12].

Culture Due to the shortage of American-born applicants to general surgery programs, the number of foreign medical graduate has been constantly increasing year after year [13]. Therefore, it is important to understand and respect the cultural differences that exist within the current workforce. For some foreign-born surgeons, a process of assimilation into the American culture eventually occurs, with complete acceptance of new values. For others, it is only a process of acculturation whereby the individual adapts to the cultural context in which they live but preserves the values and ethics of the country of origin.

Specialization While in the past a general surgeon took care of patients with a variety of different diseases, from breast to colon cancer, today more and more residents apply for a fellowship and choose to specialize. This difference in practice might create problems in the mentor-mentee relationship, particularly if the former is a baby boomer while the latter is a millennial.

Work-Life Balance The idea of work-life balance and its importance is also very different from one generation to another. Most baby boomers were men whose wives stayed home, taking care of the house and the children. Today, most surgeons are married to other professionals so that these tasks must be equally shared. In addition, family time, vacation, music, and sport are a priority.

Mentorship Today

When choosing a mentor, a potential mentee must also take into consideration the current situation in the academic world. Different from the past, today most of the compensation is based on RVUs generated both in clinics and in the operating room, and this demand on productivity leaves less time for other activities such as mentoring. In addition, trying to strike a balance between work and life is often a goal not only for the mentees but also for the mentors. Clearly, the more time is spent for the development of a mentee, the less time is available for the personal and professional life of the mentor. For these reasons, it is important for the mentee to realize that the mentor-mentee relationship must be a two-way street, based on the mutual understanding that both parties have to benefit and based on mutual respect.

In addition, the academic world is more complex than it was 30 years ago. A young person today needs guidance in many areas, and often it is difficult to find one mentor who can be equally effective in different domains. Therefore, it is often essential to have more than one mentor in order to have proper guidance in areas as different as:

- Professional development: establishing clear goals, creating an effective network system, and advising about jobs
- Academic guidance: understanding the culture of the department and the institution
- Skill development: managing time, resources, and clinical skills
- Research: identifying a valuable project, developing methodology, finding collaborators, drafting manuscripts, and writing grants
- Personal: establishing a balance between personal and professional life

Finally, the pairing with the mentor can occur in one of two ways, informal and formal. Informal pairing occurs when the mentee choses the mentor, while formal pairing occurs when the mentor is assigned to the mentee by the chair of the department or by a mentoring committee. Regardless of the modality of pairing, in order to be effective, the mentor must have some well-defined characteristics [14, 15].

Mentorship Programs

Considering the complexity of the modern academic world and the changes that have occurred in the workforce, we feel that every department of surgery should have a mentorship program and that it should be formal and structured with clear involvement of all the stakeholders [16]. Mentors should be identified, and individuals who are not ready for this role should be offered official training. While some individuals, particularly those who had good mentors themselves, are ready to serve this role, others need formal training. Positive mentoring behaviors are common, not universally innate, and when absent must be taught like any other skill. The department leaders should define a list of mentor qualifications. Formal training programs for mentors should be established for faculty members who do not have the minimum qualifications or who need additional skills. This goal can be achieved by providing books on mentoring or through workshops and seminars.

The department will benefit from a well-established and successful mentorship program in terms of high morale, high job satisfaction, better quality and safety, improved retention, and the ability to recruit promising faculty.

The institution will benefit in terms of economic gain (successful research programs bring federal and non-federal support to a medical school), recruitment and retention (a department with a solid mentoring program would likely have more faculty successful with their research endeavors, leading to more research dollars and larger research programs), programmatic development (clinical programs or

research such as basic science research, translational research, outcomes and health services research, or educational research), and ranking (improving the national reputation of the department and the institution).

Therefore, the activity of the mentor should be recognized by the department (protected time, RVUs, economic incentive) and by the institution (component of promotion package, compensation), acknowledging that most mentors are senior surgeons who are very busy because of their clinical, administrative, and research activity and that any time dedicated to a mentee is time not spent on their own personal and professional interests. While informal pairing should be encouraged, the chair or a mentoring committee should assign a mentor to a junior faculty member. Both the mentor and the mentee should clearly state their goals and sign a contract to support their commitment. Evaluations should be filled out by the mentee for the mentor and vice versa. These forms should be reviewed periodically by a committee, and the mentorship relationship monitored. In case a failed relationship is identified, an exit strategy should be available, similar to a "no-fault divorce."

The presence of a structured mentorship program will eventually benefit not only the mentor and the mentee but also the department and the institution. The process starts with a good mentor who displays the characteristics described in this chapter.

Pearls for a Successful Mentor-Mentee Relationship

- Identify mentors who are ready for the job.
- Train individuals who want to be mentor but do not have the skills.
- Train the mentees.
- Establish clear expectations for the mentor and the mentee.
- Monitor the relationship.
- Acknowledge and reward the mentor.
- Have the relationship as part of a formal and structured mentorship program within the department.

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Chapter 3
Mentorship Styles

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Central Concepts and Definitions (Box 3.1)

Box 3.1

- The role of mentor is different than that of a coach, role model, or supervisor.
- The style of mentorship is different than the type of mentorship.
- The style of the mentorship relationship is critical if the mentee is to develop autonomy.
- Successful mentees become the mentors of the future.

The term and concept of "mentor" derives from the *Odyssey* of Homer. When King Odysseus of Ithaca was about to embark on the siege of Troy, anticipated to take many years, he approached his wise and faithful friend Mentor, entrusting him with the task of educating his new born son Telemachus. Mentor was responsible for Telemachus, instilling values, helping form his character and personality, and ultimately helping him to mature into a man capable of functioning independently.

The mentor is not synonymous with preceptor, coach, tutor, role model, or supervisor. The preceptor focuses on teaching and learning, as does the tutor; these individuals *instruct*. The coach trains someone to accomplish a specific time-denominated task. A supervisor is a person of authority to whom one is directly accountable; the supervisor critically directs the supervisee; supervisors and coaches

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train. A role model can be effective as such from a distance, either geographic or across time; role models *inspire* and not necessarily via direct contact.

In contrast to the above, a mentor has a deeper, more pervasive, more enduring, and more personal relationship with the mentee. The relationship is formative and interactive, there is a give and take; the goal is to engender both personal and professional growth. The mentor is a guide, not a supervisor; advice is *offered* in contrast to orders being *issued*. The mentorship relationship is distinguished from other types of interactions by both its breadth of scope and depth of focus; it is a "uniquely encompassing relationship" [1]. The five characteristics of the traditional mentoring model have been identified by Bussey-Jones: teaching, sponsoring, guidance, socialization into a profession, and provision of counsel and moral support [2]. On the personal level, mentors are outgoing, interactive, kind, and just people. In the realm of academic surgery they are collaborative, skilled clinically, and intellectual in their personal orientation.

Mentorship Styles: Actualizing the Strategy

In the arena of academic surgical career guidance, the mentor helps the mentee by processes of "advising, advocating, networking, creating opportunities, goal setting, career monitoring, and helping mentees to navigate institutions" [3]. They help mentees develop long-term career plans and help mentees garner the support needed to reach these goals. Mentors provide direction and perspective while enabling independence; "He saw what I could become" [4]. The mentor helps the mentee by serving as a "guide, opening doors, giving opportunities, advising about the future, about avoiding mistakes, where to spend time and resources on things that matter instead of trying to do everything, helping to have balance" [3]. Mentors help steer mentees away from pitfalls and negative interactions within the academic arena. Mentors, to be maximally effective in providing emotional support to mentees, share "their own feelings honestly and encourage their mentees to do the same" [3]. They help mentees learn how to deal with stress, how to be effective, and how to keep balance and perspective.

Mentors challenge the assumptions made by mentees; they help mentees come to a better understanding by guiding their resynthesis and redefinition of pert or more superficial perspectives and understandings. Stylistically, this is accomplished via open and honest discussion, active listening, and a commitment that the relationship is about the mentee primarily and only secondarily about benefits that may accrue to the mentor. Mentors create a safe haven in which mentee self-doubts can be expressed without penalties to be paid. This also means that critical examination of goals, with openness to challenge and feedback, is mutually embraced as being integral to this process; in so doing mentors help develop emotional intelligence skills in the mentee.

Intrinsic to success in these processes, it is imperative to help mentees acquire the ability to dissociate criticism of their *ideas* from being misconstrued as criticisms of their *person*. This can be particularly difficult for mentees to sometimes accept given the inculcated and even implicit tendencies we have as surgeons seeking perfection; however, mistakes and even differences of opinion/approach are opportunities for learning *if* appropriately recast as part of the style of the mentorship process. Mentors sometimes need to *provoke* mentees to come forth with better answers. Mentors also make it explicitly clear that they are available to help with personal as well as professional issues, especially when the former impact on the latter. Mentors help develop autonomy in their mentees by imparting insight, wisdom, and experience to the mentee as the ultimate deliverable. In accomplishing these tasks, effective mentors serve as exemplars for the future in which mentees become mentors themselves, hopefully to apply the successful style of the mentorship process in which they had personal antecedent and very positive experiences!

Characteristics of the Ideal Mentorship Style

The ideal mentorship style involves several transcendent features. Responsiveness, expertise, integrity, availability, confidentiality, sincerity, the ability to actively listen, knowledge of the profession, emotional intelligence, wisdom, the ability to empathize, humility, lack of ego, ability to enthusiastically motive others, deep commitment to the mentoring process, and broad respect by junior and senior colleagues alike are all characteristics that have been identified as stylistically key to effective service as a mentor [4, 5]. The mentor seeks to "inspire, to support, and to invest" [6]. To *inspire* implies that the mentor recognizes the potential of the mentee and encourages the mentee to fulfill their personal promise. To *support* suggests that the mentor engenders a sense of belonging and positive orientation in the arena of professional activities. To *invest* means that the mentor challenges the mentee to exceed their personal horizons by holding them responsible for their own autonomous development; it also implies the active role of imparting information and perspectives. Other mentor investments in this relationship include the gifts of time and energy, which suggests that the mentor holds the mentee as worthy of inclusion in their professional ranks.

The style of the mentor is as a role model who commits to providing advice, support, protection, guidance, and teachings about professionalism, ethics, pathfinding, and balance. As such, mentorship style is critical to the ultimate success of the process as a whole. The key features of the exemplary mentoring relationship style include "reciprocity, mutual respect, clear expectations, personal connection, and shared values" [3]; it is a *relationship* rather than a set of *activities* per se. This implies working off of a shared, mentee-driven agenda, active listening that includes reiteration, and asking for clarification of what was heard as well as what was decided as a course of action, open and honest feedback, all in the context of safety and candor.

The Mentorship Relationship Style: Benefits Derived

The style of an effective mentorship relationship is a key determinant in creating an "immortalized" ambience of mentorship legacy. A major driver of mentor satisfaction comes from an awareness of the promissory note that successful mentors begat successful mentees who in turn become effective mentors in their own right. Mentors also derive satisfaction in nurturing the development of their mentees per se. Mentors gain by developing meaningful contacts across generations and a sense of giving back by enhancing the professional "germline DNA," namely, the next wave of professionals in their chosen field of expertise. The mentee becomes the standard-bearer having been the recipient of the mentor's professional and personal core identities; the selfless transmission of this professional legacy provides remarkable intrinsic satisfaction to the mentor. Mentee benefits are tangible: mentees are more likely to have productive publications track records, successes in securing extramural grant funding, greater likelihood of being promoted, more likely retention by their institution, enhanced satisfaction in their careers, and a greater feeling of confidence and capacity for professional success than non-mentored peers [4, 5, 7].

Mentorship Style: Key Features

The style of the ideal mentoring relationship is typified by a mentor who actively works to keep in touch with the mentee regarding their progress, introduces the mentee (and helps facilitate access) to institutional colleagues and extramural professional networks, provides emotional support and career, research, and academic advice, advocates on behalf of the mentee, serves as a sounding board, gives needed feedback while investing in the mentee's drive to autonomy, helps in setting goals and timelines, offers insight into institutional acculturation and navigational concerns key to successfully managing the academic terrain, helps to enhance verbal communication and writing skills, and *at all times*, is not abusive of the mentee. Mentors invite mentees to partake of their personal maturity, insight, wisdom, and professional accomplishments that have enabled them to excel. Responsiveness and availability of the mentor, both in the context of regularly scheduled sessions as well as immediate or unscheduled access during a crisis, are very important and yet may be difficult to secure if the mentor has a challenging professional and personal schedule. A strong track record of previous successful mentorships provides a generally reliable indicator and prognostic measure of the mentor's ongoing commitment to the mentoring relationship.

The style of the relationship is predicated on mentor altruism: the primary goal is to facilitate the mentee in pursuit of their interests by addressing their needs. The mentor is honest, trustworthy, able to keep confidences, adept at active listening, experienced as a successful mentor, and accessible. The mentor has highly developed emotional intelligence and insight into interpersonal dynamics. The

relationship is forward-looking and focuses on what might be enabled and developed within the context of this shared alliance. There is an honest exchange of information, which enables both mentor and mentee to appreciate each other as whole people who can resonate with each other. The mentor promotes the mentee by exposing the possibilities and helping the mentee to fully comprehend what will be needed to achieve these aspirations. Teaching mentees about the academic culture, expectations and requirements for promotion, how to be self-motivated in these professional endeavors, and introduction to professional networks as a protégé are all key features exemplified in the style and context of this unique relationship.

Within the context of the ideal mentoring relationship style, the mentor helps the mentee create a plan for personal and professional development that takes into account the mentee's potential and overarching goals. The plan is tailored to the individual mentee to help them find their way forward without being overly predetermined and directive. The approach allows for successes and failures, acculturates, fosters connection with others, focuses on accomplishment leading to promotion, and also develops specific academic talents. Issues such as mastering negotiating skills and acquiring facility in conflict management, learning how to say "no" without disrupting the personal or professional fabric, and acquiring teamwork and leadership skills are all part of the mentorship relationship agenda, incorporated and innate to the mentorship style.

The mentee "aspires to self-assessment, receptivity, initiative, responsibility, honesty, and appreciation for his or her mentor" [8]. Engaging in a process known as *managing up*, the mentee "takes ownership of and directs the relationship, letting the mentor know what he or she needs and communicating the way his or her mentor prefers" [8]. This means that the mentee "manages the work of the relationship by planning and asking questions, listening, completing assigned tasks, and requesting feedback" [8]. With the intent of managing up, the mentee is responsible for organizing the meeting agenda in a format acceptable to the mentor as well as the timeline for and assessment of success in the tasks slated for completion. Managing up also means that the mentee takes responsibility for information flow delivered in the most effective way as per mentor preferences, i.e., written versus verbal, email versus more formal means, in-depth versus abbreviated and topical, advance written agenda versus real time/free form, etc. [8]. Management of disagreements is an additional critical task. Asking for clarification is much more preferable than sulking away in silence with hurt feelings or anger. It is useful to conclude the mentorship session with the mentee summarizing the action items to be completed for the next meeting, ascertain from the mentor that this is an accurate summation, and get confirmation of the time interval to elapse before the next mentorship meeting.

Although the mentor has the primary obligation to establish the *style* of the mentoring relationship, the mentee has the ultimate responsibility to *drive* the mentorship relationship. It is the mentee's responsibility to select the mentor and set the agenda for the mentorship meetings. These meetings provide a safe place wherein the mentee can critically self-examine their actions and perceptions, being open to challenge and even correction by the mentor—an activity that in other contexts would be perceived, at times unfortunately all too realistically, as being

potentially dangerous or at least difficult to actually accomplish in a growth-stimulating manner. The mentorship style of interaction is typified by openness, free flow of communication, candor, and possibilities for change and revision as may be needed. Mentors offer *suggestions*, not *mandates*. Mentors help by anticipating and identifying future issues while helping mentees prepare for these potential difficulties by serving as a sounding board and safe haven in which mentees can develop their own contingency plans. Mentors help in these processes by raising questions that enable the mentees to arrive at their own answers; they empower, support, and inspire. Enhancement of the mentee, focus on the mentee's career development, nurturance to achieve autonomy, promotion as a protégé, commitment of time and energy, and achieving balance between the personal and professional life events are all components of the effective mentoring relationship life events. Without an active mentorship relationship in which these features constitute the style and modus operandi, needed skills such as those enumerated above will only be learned by trial and error, if at all.

Problems can occasionally arise regarding "mismatch of goals, commitment, or expectations" [8] or even disagreements about the style of the mentoring relationship. Is the mentee actively pursuing their own maturation at a rate and intensity consonant with mentor expectations? Is the mentee completing their task assignments in a timely manner? Is the mentor interested in fostering the mentee's autonomy or insistent on maintaining mentee dependencies? Is the relationship veering off in an unwanted or potentially damaging personal or even exploitative direction? These issues need to be promptly addressed to avoid global erosion in the relationship, leading up to rupture. Occasionally appeal to a third party can help with correction of these disruptive problems.

Styles of Mentorship

Kashiwagi describes several different styles of mentorship [9]. Note that *type* of mentorship is a concept that is different than *style* of mentorship. Types refer to the scope and *organization* of a mentorship program, whereas styles refer to the actual *process* of interaction between mentor and mentee. Within that differentiation, Kashiwagi summarizes the styles of mentorship as follows [9]:

Dyad: the traditional mentor-mentee model in which the mentee typically selects the mentor, enabling the mentee to exert control over the mentorship process.

Peer: a relationship in which individuals of similar age, experience, and rank mentor one another (see below for a more in-depth discussion of this alternative to the dyad model of mentorship). This is especially useful in contexts in which top-down mentoring is less optimal and/or in environments where there is a shortage of effective and committed senior mentors.

Facilitated peer: a variation of the peer model in which there is a senior mentor who supervises the peer mentorship group.

Speed: a one-time interaction between mentor and mentee who are paired for a very
    brief 10–15-minute exchange to determine if a mentoring relationship will be
    useful to both parties.
Functional: a mentoring relationship in which the mentor is paired with the mentee
    to provide guidance for a specific project.
Group: a mentoring relationship in which several senior mentors, sometimes from
    very different areas of expertise, work together as a committee to provide
    mentorship to several mentees, all of whom meet at the same time.
Distance: a mentoring process in which the senior mentor is recruited from an
    institution that is geographically separated from the mentee's home institution.

Types of Mentorship

The search for effective mentors requires patience and openness to the unknown, and
there may be mistakes made en route. Assumptions that one mentor is all that is
needed may give way to the realization that several mentors, each with a
circumscribed area of expertise, may be useful. Given this reality, it is possible
that a mentee may need, either synchronously or metachronously, several different
types of mentors. The multiple mentor approach can be very successful provided that
clear roles and deliverables are articulated for each type of mentor, that the several
mentors are compatible with each other, and that their areas of expertise are
complementary.

Primary mentors provide advice about career and professional development in a
very broad, inclusive, global manner. Even if a mentorship team is developed, there
is typically one primary mentor who helps the mentee integrate the input from other
types of mentors or other themes within the primary mentorship process. The
primary mentor is frequently a very senior and knowledgeable individual with a
long track record of successful mentorship. This store of experience provides a
reliable basis upon which to integrate the input of others and/or to weave the several
foci of mentorship areas into a coherent whole.

Serving as primary mentor is a very time- and energy-intensive activity, and the
number of mentees that a given primary mentor may help is therefore more limited
than what may be possible with other forms of mentorship. The primary mentor may
or may not be in the same discipline as the mentee in that the relationship is more
broadly based than other, more task-oriented types of mentorship activities. To be
maximally effective in this capacity while avoiding potential conflicts of interest, the
primary mentor usually does not have a direct supervisory relationship with the
mentee and may or may not even be in the same academic department or clinical
arena.

Clinical mentors provide guidance in disease- or specialty-specific patient care
issues. These individuals help the neophyte to acquire the independent clinical skills
and experience needed to emerge as experts in their chosen focus of clinical care.
The old adage that "judgement is based on experience, and experience is based on

mistakes" is not as readily sustainable in our current era of patient-centric safety and accountability; the role of the clinical mentor in the early phase of autonomous surgical practice therefore assumes even greater practical importance. The clinical mentor is typically a more senior surgeon working with the same type of patients as the mentee; however, this role can also be fulfilled by nonsurgical specialists provided that there is a shared disease focus *and* the mentor has a solid understanding of the special role that surgeons have within the context of multidisciplinary management of a specific disease entity.

Research mentors help mentees come to a better understanding of their fields of investigation, typically because of their personal experience in these areas. They can provide information to the mentees about the most recent developments, theories, and insights based on their own work or that of other leading investigators with whom the research mentor is familiar. The research mentor has a deeper understanding about *how* investigations in a given field are occurring, *why* they are occurring, *where* they are occurring, and even *when* they are occurring. Of great pertinence, the research mentor is able to provide this needed perspective, an awareness that cannot be derived by the mentee merely from a careful read of the relevant scientific literature.

Peer mentors describe a type of mentoring relationship that occurs between mentors and mentees whose career chronologies are approximately equivalent, unlike the differences in these regards between a primary mentor (see above) and the mentee. Peer mentors are personally very close, on a temporal and/or professional basis, to the specific challenges confronting the mentee. They may be or have recently handled professional socialization issues such as establishing work-life balance, sustaining the working spouse, child-rearing concerns, coping with intergenerational conflicts in the professional environment, time allocation among different projects or other professional activities, etc. These mentoring relationships are frequently of shorter duration than the relationship with the primary mentor.

Focus or project mentors, sometimes referred to as "flash" mentors, are typically of even shorter duration than peer mentoring relationships. Focus mentors help mentees come to grips with a singular and specific issue such as the work involved in implementing or completing a specific project, acquiring insight needed to address a specific issue, help with an interpersonal issue, etc.

Work-life balance mentors provide advice and insight into issues that transcend the professional, especially when personal issues potentially negatively impose on career advancement. This type of mentoring relationship, although potentially of longer duration than the focus or peer type of mentorship, is also typically triggered by a specific concern that is troubling to the mentee. The wise older mentor is frequently relied on to help surmount this specific initial challenge where the ongoing effort is subsequently directed to altering approaches and engendering new found personal insights so that the initial problem does not recur. A special subset of work-life balance mentors includes individuals who are able to provide insight and guidance at critical career junctions, including initial entry-level career trajectories and mid-career guidance regarding transitions in academic focus, and also help with decisions regarding winding down professional activities in advance

of retirement, retooling, and/or alterations in time/energy commitments as individuals move to more part-time professional activities.

Mentorship Style: Tactical Considerations

The mentee is charged with identifying and recruiting a mentor. This should be accomplished as early as possible to enable the mentee to reap the full benefit of the relationship with the mentor while receiving help in transitioning into the next phase of the career, perhaps during acculturation into a new institution. Mentors may be identified under the aegis of formal sponsored programs in which such relationships are mandated. Alternatively, the mentorship process may begin in an informal and casual interaction that advances into a more structured interaction. Finding an effective mentor and creating the useful mentoring relationship requires patience and perseverance, especially on the part of the mentee who holds the responsibility of asking for this form of assistance.

Maintaining this relationship over time requires active input on the part of both mentor and mentee. There is ebb and flow, analogous to what is experienced in relationships involving friends or family members. Forming an alliance around the shared goal of the mentee's professional success is critical if the relationship is to be sustained over time. The mentor-mentee "chemistry" has to be right [5]: this connectivity hinges on personal compatibility, similar work-life balance orientations, mutual trust and respect, and a shared commitment and seriousness about career. Effective mentorship is just as much about challenging assumptions as it is about offering personal support. Bhagia points out that the mentoring interaction includes psychological reinforcement, namely, instilling a sense of "competence, identity, and effectiveness in the professional role" [6].

Mentorship Style: Session Content

The mentorship process is launched by an initial meeting in which the mentee presents a career plan to the mentor. At this juncture a portal is created through which the mentor and mentee can share salient aspects of their individual experiences while developing the common goals to be shared, developed, and fulfilled in this burgeoning relationship. Decisions concerning future meeting ground rules, e.g., frequency, accessibility, intensity, content, format, and expectations regarding accountability and measures of success can be discussed, concluding with a plan for the next meeting. Note that the work of deciding about the type of mentoring relationship that may be optimal includes determining and negotiating issues about the frequency, availability, intensity, content, form, and style of the mentorship meetings as well as deciding on focus, assessment of utility and deliverables, and

also processes and determinants by which the mentorship construct will be terminated.

The mentor needs to enable the mentee by establishing at the outset that the paramount goal is to seek the highest possible mentee success in their personal career activities. Manifestly, the style of the relationship should likewise serve this over-arching objective: the mentor is the embodiment of the academic parental figure and as such, is interested in promoting the personal and professional growth of the mentee. This is accomplished by encouragement, positive feedback as warranted and constructive criticism as needed. Mentors can serve as advocates for mentees while also helping them to develop skills in self-promotion, albeit not at the expense of others. The mentee bears the responsibility to be open to input and taking responsibility to drive the relationship and the agenda for the meetings.

Mentorship Style: Addressing Cross-Mentorship Issues

Studies have demonstrated that effective mentoring relationships depend less on congruity across racial, ethnic, religious, generational, gender, sexual orientation, and other differences as may exist between specific mentor-mentee pairs. The *quality* of the relationship in meeting the needs of the participants is of paramount importance in determining the success of the relationship [5]. Mutual trust in the motives of the participants driving the specific mentor-mentee pairing can overcome the potential barriers listed above. Being open to learning about others who are from different backgrounds, communicating genuinely across these differences, and making it explicitly clear that there are no prejudices help to create the safety needed for the relationship to thrive. Phenotypically similar mentors may be particularly helpful in finding and establishing the common ground needed for effective mentoring; this may be especially relevant for women mentees who are juggling child-rearing and professional responsibilities in which practical, "how-to-do-it" concerns abound. Studies have also demonstrated that the prevalence of successful cross-racial mentoring relationships on behalf of minority mentees is equivalent to that enjoyed by majority group mentees, as have been the mentee-perceived quality of derived benefits, regardless of whether or not the mentor and mentee were members of the same racial, ethnic, sexual orientation, or religious group [7]. Gender and potential sexual abuse issues need to be implicitly and at times even explicitly addressed. Patently, the relationship is not sexual in nature; establishing boundaries early in the process avoids future ruptures which can be devastating to mentors and mentees on both the personal and professional level were an inappropriate relationship to emerge.

Alternatives to the Dyadic Model: New Styles and New Approaches

In a given academic environment, there may be fewer potential mentors than there are mentees needing this type of a relationship, and there can be difficulties in finding a suitable mentor who has the time and experience to be effective on behalf of the mentee. This is especially true in academic surgery with the pressures to expend ever-increasing amounts of time and energy on revenue-producing activities. As a means of addressing this need, the dyadic classic mentorship relationship is being recast in some centers using several innovative alternative approaches. The classic dyadic model of mentorship utilizes the differences in professional experience and status between mentor and mentee. Difficulties with the dyadic model include concerns that it may inadvertently promote homogeneity between mentor and mentee, that there is an exploitative potential implicit in this hierarchical process, and that there is a lack of consistency across dyads [2]. Such non-dyadic approaches to the mentoring relationship can be separated into several broad categories that include team mentoring [10] and collaborative [11] peer group mentoring [12].

Alternatives to the Dyadic Model: New Styles and New Approaches; Team Mentoring

In team mentoring, the traditional dyadic relationship is replaced with triadic, quadratic, or even larger numbers of mentors, sometimes working as a committee with multiple mentees simultaneously. This is a particularly effective approach to the challenge of transdisciplinary academic career trajectories commonly encountered by laboratory-oriented clinician-investigators and surgeon-scientists. Guise nicely summarizes the advantages and requisites of team mentorship, including commitment to the individual mentee, the need of inter-disciplinary perspectives if the mentee is to move forward, the need to compare and contrast different professional career trajectories, and the interaction among the different mentors as helping provide the mentee with additional perspectives that would not be as apparent in the dyadic model [10]. However, this mentorship approach also has several significant challenges that may be difficult for the mentee to manage up, including the possibility of synthesizing and integrating several mentor perspectives, some of which may be diametrically opposed, mentoring session scheduling, lack of an identifiable primary mentor, and impediments to open communication among all participants (mentee and mentor alike) in the team mentoring environment. Some of these potential difficulties can be overcome by choosing mentors with strong mentorship track records in the team and dyadic mentoring contexts, prospectively ensuring that each mentor member understands their role, and by not allowing themselves to be intimidated or frustrated in the attempt to please all mentor committee members.

Alternatives to the Dyadic Model: New Styles and New Approaches; Collaborative Peer Group Mentoring

The collaborative peer group mentoring paradigm is also distinct from the dyadic model. This type on mentoring is predicated on a group dynamic involving peer-peer interaction as compared to the hierarchical structure implicit in the dyadic mentoring relationship. Peer mentorship involves individuals of roughly equivalent status and career development; it requires a high degree of self-direction in that peers rather than protégés are empowered [12]. Such approaches are typified by a lack of power differentials between mentor and mentee, accretion of self-awareness skills, and mutuality among participants. Typically, such collaborative groups are led by a single facilitator to ensure a "safe and respectful learning environment" [13]. Content of peer group mentoring sessions include information and perspective sharing, career advice, position-related navigational issues, and emotional support [12]. Limitations of the peer mentoring model are also important, and include potential competition among the participants, lack of professional experience and expertise among group members, difficulties in melding possible divergent interests into a coherent agenda-driven whole, and lack of assessment tools to measure achievement of mentoring goals, especially in the context of holding participants responsible for achieving these objectives as part of an effective group [2].

Mentorship Style: The Future

Currently, few institutions offer academic rewards for effective mentorship, an oversight that may discourage some potential mentors from participating in this activity. Institutions could aid the development of effective mentoring relationships by bringing potential mentors and mentees into brief professional and social spheres of initially casual interaction. Scheduled mentoring time as part of a faculty FTE time percentage allocation is another means to help foster and reward effective mentoring, especially given that academic promotion in many institutions does not take into account appropriate weighting of activities that fall under the rubric of "citizenship" such as serving as a mentor.

Finally, we have barely scratched the surface of possible research questions whose future answers will be helpful in refining the style and the content of our academic mentorship processes. For example, can the key traits of effective mentors be taught? How are such attributes acquired? How are deliverables, i.e., personal growth, professional advancement, and autonomy balanced by connectedness, best developed within the style and content of the mentoring relationship? What are the characteristics and determinants of successful and failed mentoring, including cross-mentorship relationships? Can strategies be designed for rescuing failing mentorship relationships? Although we lack answers at this time, it is not for want of interest in

the process of mentoring for success in the academic surgical career; the best is yet to come, so stay tuned and participate!

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Chapter 4
An Overall Mentorship Strategy for Entry-Level Faculty

Emily I. Spangler, Charles Leithead, and Herbert Chen

Introduction

The mark of a good mentor is the impact he or she has on the people they lead. With the origins of the word stemming from the character from Homer's Odyssey, Mentor was an overseer and caretaker of Odysseus's son and household whose form was taken by the goddess of wisdom, Athena [1]. Our modern concept of a mentor has evolved to that of an advisor or a trusted friend who develops a relationship with a mentee that is closer to a parent-child relationship than a teacher-student relationship. Mentorship is a critical tool for professional development and is associated with career advancement, productivity, and professional satisfaction [2].

The academic surgeon in his or her career shares in a balance between the needs of his or her institution, department, research colleagues, societies, patients, community, family, and self (Fig. 4.1). This can be a challenging undertaking but one that may become easier with insights from someone who has succeeded in academic medicine to offer mentorship.

Mentorship is an essential duty of academic surgeons, and it is of utmost importance for academic centers to institute a mentorship program early involving all faculty, especially entry-level faculty and those new to the institution. At its best, mentorship allows the mentee to achieve what many have not been able to achieve on their own. The influence of mentorship can be seen throughout academic surgery, with a recent *Annals of Surgery* article extoling the "Cameron factor" of Dr. John
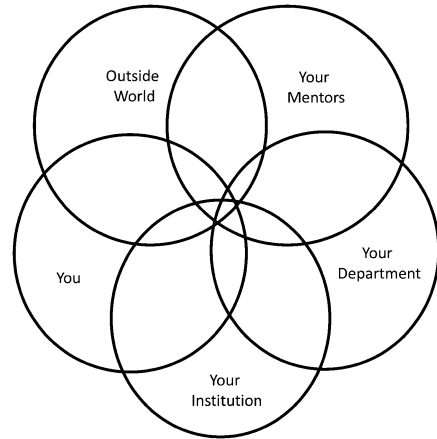
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Fig. 4.1 Overlapping
requirements for academic
success

Cameron's influence on his surgical trainees and staff. This article highlighted his personal advice and mentorship and creation of an environment where his faculty acted in kind as part of the mechanism by which his trainees achieved both success and leadership [3]. Additionally, in a survey of US medical school faculty, faculty members with mentors had significantly higher career satisfaction scores than those without mentors [4]. Apart from the subjective value of mentorship to the participants, there has been some evidence in other medical fields of mentorship improving longitudinal performance of junior faculty [5]. Mentorship programs, therefore, should aim to promote career and leadership development for early career surgeons.

Institutional Mentorship Programs

While mentorship may need to be specifically sought out by the mentee in some situations, it is preferable if mentoring is part of the institutional culture. At our institution, each assistant professor is paired with a senior-level faculty mentor; this pairing is specifically made to match a young, early career surgeon with an experienced surgeon outside of their division for the first 6 to 12 months. That the pair are not from the same division or area of expertise, avoids potential conflicts of interest between the mentor and mentee and we feel promotes openness and honesty, which is crucial when attempting to voice concerns or remedy issues. The cross-divisional mentorship additionally provides an alternative perspective from within the institution at large. A mentoring program with this structure provides young surgeons with opportunities to further develop leadership skills and obtain guidance to achieve career goals.

The mentor must help the entry-level faculty develop both short-term and long-term growth goals, as well as strategies to achieve those goals (Box 4.1). This cross-division mentorship also can allow for opportunities for collaboration. As the

mentorship is assigned with certain deliverables, it also serves to formalize the promotion planning process.

> **Box 4.1**
> Callout Box.
>   Mentees should work with their mentors to:
>
> - Set goals over various timeframes, both short- and long-term.
> - Set goals in academic and non-academic domains.
> - Discuss potential metrics toward success, and challenges to achieving your goals.
> - Honestly articulate strengths and weaknesses.

Mentors and mentees are expected to meet once every 6 to 12 months, with the mentor documenting a summary of the interaction and action plan for the next interval. These documents are submitted to the division director as well as surgical chair and become a key component of the promotion packet. In this way, expectations for promotion, understanding of the process, and review of the mentee's progress are assured in a timely manner.

While much of the training to this point in the mentee's career may have been in formalized situations with prescribed landmarks and deadlines for success (such as applications to medical school, residency, or fellowship), and defined curricula, the path as an early faculty member is much more self-directed and free-form. The aim, additionally, is no longer to meet a set of requirements to move to the next step, but rather to build a career that meets the surgeon's longitudinal goals. Though all academic institutions will have policies outlining the path to promotion, the multitude of choices for navigating a clinical practice, committee involvement and leadership, and even research focus and funding can be broad and daunting in the absence of guidance. In this regard the mentor can act as a sounding board and guide to the mentee.

While the content of the mentoring discussion is not prescribed, a good mentor may function more in a coaching role, asking questions more than directing or prescribing a solution [6]. One helpful facet of discussions with a mentor has included writing and discussing goals for the next 1, 5, 10, and even 15–20 years over a variety of domains. These domains are not exclusively academic or even work-related and, besides clinical or research goals, can include professional or leadership advancements, additional training or degrees, and even family or financial goals. In addition to articulating the goals, the mentor may encourage the mentee to set metrics or checkpoints to ensure reasonable progress toward a goal or reassessment of the goals. The formality of this process and extent of elaboration on goals can vary significantly – from just articulating an initial concept or achievement that would hold future value to the mentee to complete Gantt charts of goals and milestones and timelines to meet them.

In aspects other than future career planning, the mentor can be a resource for surmounting the challenges of a new job and adapting to a new institutional culture. In critical reflection, the goals or identified challenges the mentee articulates may also relate to operational or efficiency issues such as time management. These discussions on challenges can also include identification of resources (people, places, or gatherings) which may be more siloed within an institution, and the mentor may be able to assist in making introductions. The mentor can also be a more external or objective party to any conflicts or struggles at the institution which may be arising for the mentee and can help provide insight or alternative strategies through experience and a more broad institutional view.

The mentor additionally may act as one element of a mentoring team, with other providers (perhaps within the area of the early surgeon's expertise) providing career mentorship in a more directed manner on clinical, research, or personal aspects. If an uneasy fit, the assigned mentoring relationship can also be reassigned.

Traditionally underrepresented faculty such as women and minorities may especially benefit from mentoring. Prior literature has documented the additional challenges faced by these groups [7, 8], and lack of mentorship or adequate role models has been cited among reasons for women leaving academic medicine [9].

As mentorship can also help impact specialty choice, academic career choice, and retention [2], we additionally encourage mentorship at all levels, with each general surgery resident being assigned one to two faculty members. This program begins from the outset of the PGY 1 year (and includes preliminary surgical residents as well) and is maintained through any research years through chief years. Portions of these parings are made in a directed manner toward voiced areas of subspecialty interest. And in cases of two mentors, a more junior faculty member is often paired with a senior-level faculty to provide a balance of experience and expertise and to provide the junior faculty member a mentor in becoming a mentor to others. Just as with mentorship at the faculty level, to ensure appropriate progress, mentors and resident mentees are expected to meet at least twice per year, with a brief email or letter to update the residency program director in regard to the nature of the mentoring discussions. Multiple studies have found that mentors were seen as important career-enhancing factors for trainees such as medical students and fellows in addition to staff physicians across various disciplines [2]. In this vein, inside the institution, mentorship of medical students on an individual level and via surgical interest groups is fostered. Outside of the institution, faculty are also encouraged to participate in mentoring at the surgical society level.

Mentorship for Young Surgeons: How to Choose a Mentor as a Young Faculty

Assigned or institutional mentorship programs may not exist in all venues; in these cases the mentee may need to independently seek out a mentor. It has been suggested that the quality of the mentoring relationship outweighs the importance of how the mentoring relationship was established and that informal mentoring can be more effective than a formal mentoring relationship [1]. With this in mind, we suggest below several considerations when selecting a mentor independently.

Successful mentorship includes selecting a mentor with experience and time availability who can be an advocate for the mentee. This advocacy derived from the mentor may involve protection of the young academic surgeon and may involve the receipt constructive criticism but should also allow direction of the mentee toward successful opportunities and introduction of the mentee to academic surgeons to assist in networking. While mentoring is a longitudinal pursuit, and mentors at other institutions may be an asset as part of a mentorship team, they lack the ability to advocate on behalf of the mentee at the local institution or to fully appreciate the institutional culture the mentee must interact with, and so we believe face-to-face meetings are of importance and discourage primary "virtual mentoring" from distant sites [10].

Characteristics of a mentoring relationship are support, mutual respect, and compatibility. This relationship should involve individuals who share interests, in order to develop long-term, mutual satisfaction [10]. Early trainees have identified key attributes of role models that included enthusiasm, compassion, openness, integrity, and a good relationship with patients [6]. However, it is important to recognize that a mentoring relationship goes beyond that of a role model, requiring an explicit two-way relationship that the mentor and mentee are actively engaged in, rather than just an identified individual to emulate [6].

When an academic institution does not select a mentor for young faculty, the mentee should speak to former mentees and discuss their mentoring relationships. The young surgeon can also review potential mentors' publication lists, taking into account their clinical and research interests. The mentee can also ask a potential mentor to see their training record [10].

Inside and outside of formal mentorship programs, mentoring often involves multiple individuals, with the mentors serving as trusted advisors and friends. Especially when seeking out mentors independently, it may be necessary to have different mentors for different domains of one's career such as one mentor for clinical development and another mentor for research endeavors. There can also be a benefit from having not only professional career mentors but also mentors who offer advice about life outside of surgery [10].

The Mentoring Relationship

Successful mentoring requires commitment and interpersonal skills of the mentor and mentee, as well as a facilitating environment of the academic institution. Mentorship is a time investment and must be structured in a manner to accommodate the surgeon's clinical, research, administrative, and teaching demands. It is essential that senior faculty members with adequate time for mentoring be available; an overcommitted highly ranked academic surgeon without the time to consistently meet with a mentee would not be abeneficial relationship for either party. Time commitment is of the utmost importance as meetings arranged by the mentee may be due to unexpected issues or recent problems in need of urgent advice.

Mentoring is not synonymous with tutoring, supervising, sponsoring, or precepting. Successful mentoring involves a transfer of knowledge, skills, and patterns of behavior, while allowing the mentee to develop into one's own professional identity [10]. It strengthens a mentee's approach to his or her career and helps mold his or her future. The mentor should provide honest and constructive feedback. They should also advise the young surgeon on clinical and practice management concerns; this will aid in the advancement of the mentee's interests and career.

The mentoring relationship should take place in professional and social settings. Mentorship can develop networks of peers and colleagues and is a catalyst for success for the entry-level academic surgeon with the primary purpose being the growth of the mentee [10]. Networking can help the entry-level faculty gain access to important academic circles that may have not been possible without the mentor. The mentor must expand current networks within their specialty while assisting the mentee with navigation of the advancement process.

Mentor

Leadership comes down to example. A mentor leads by actions, not only by what he or she says. A powerful mentor is not concerned about their power, but more about being in a position to empower [11]. The best mentors are those that are as excited about their own learning and growth as they are the mentee's. A mentee will remember their mentor's advice when honesty and constructive criticism are employed. The most respected of mentors encourage and motivate their mentee to leave their comfort zone and explore areas of interest with independence. The mentee can understand and learn from his or her mistakes, which will allow the individual to become even better and adept at leading others.

The right mentor develops a sense of pride and satisfaction when he or she witnesses the mentee's achievements. Mentors should dedicate a significant time commitment to meet with the mentee [10]. This is often done by blocking off time on their calendar and not scheduling meetings while on call or during busy clinical weeks. In the spirit of fostering open communication, both the mentor and the mentee should keep all discussion confidential.

Table 4.1 Understand your mentoring needs

Mentee attributes for self-reflection	Considerations
Goals	Drive vs balance
	Goals over different timelines (near and far term)
	Goals over different domains (clinical, research, leadership, training, family, financial)
Strengths	What you bring to the table
Weaknesses	What you struggle with – important to be upfront with mentor!
Feedback style you are most receptive to	Gentle vs tough
	Optimist vs pessimist

Mentee

The mentee should seek a mentor that holds high standards and expects excellence at all times. The common trade-off when selecting a mentor is between time availability and academic rank, with more senior mentors commonly having less time available due to other commitments, and this must be understood and accepted prior to choosing a mentor. In order to achieve success, the mentee must be honest with his or her mentor and himself or herself throughout the entire process. Considerations for the mentee prior to beginning a mentoring relationship are detailed in Table 4.1. The mentee should express his or her desires and goals at the initial meeting with the mentor and remain open to all feedback and constructive criticism [10]. Listening is a critical aspect of the mentoring relationship, both by the mentor and mentee, and it is important for both the mentor and mentee to know their strengths and weaknesses prior to initiating the mentoring relationship.

Many studies have shown that faculty members who identify a mentor feel more confident than their peers and are more likely to have a productive career with greater career satisfaction. Sambunjak and colleagues showed that in some fields, less than 20 percent of faculty members had a mentor [2]. In a study of women pediatric surgeons, Caniano found that mentorship was reported to have an important influence on personal development, career guidance, and research productivity, including publication and grant success, although 16 percent of survey respondents never had a mentor [12]. Thakur found that 40 percent of graduates from a general surgery residency program identified mentorship as important in personal development and in research development [13]. Continuing mentor guidance into a surgeon's early career is critical to advance an entry-level faculty's growth.

Evolution of the Mentoring Relationship

As detailed above, at the 1-year mark of our mentorship program, a report is submitted by the mentor and mentee which is reviewed by the Chairman of Surgery and mentee's division director. A meeting is held yearly with the Chairman of Surgery, division director, and mentee. The mentorship relationship is evaluated for mutual benefit, and efforts are made annually to move toward meeting the benchmarks to promote the young surgeon to associate professor. There will be challenges and setbacks during the course of the mentoring relationship. Work on both ends while overcoming these hurdles and remaining open and respectful, with the end goals in mind, is crucial to the success of the relationship. If the mentoring relationship is not felt to be positive by the mentor or mentee, it is essential to acknowledge the problem and remedy the issue. If a different mentor is felt to be necessary, the Department of Surgery Chairman, division director, and mentee should seek out other potential mentors.

Over time, the mentee transitions to colleague, develops a level of comfort with their mentor, and does not require as frequent guidance [10]. At this stage, the mentee and mentor can work together on projects as colleagues with increased independence.

Conclusion

Mentorship is crucial to the development of entry-level academic surgeons. A mentor can allow a mentee to achieve what he or she may not have been able to achieve alone. One's full potential can be discovered with a mutually beneficial mentoring relationship composed of honesty and selflessness. A mentee will always remember his or her mentor as a vital step in his or her progression in both career and life, and in this way a successful mentorship will last a lifetime. The legacy of a good mentor is one that creates a prosperous and purposeful future for the mentee and academic surgery as a whole.

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Chapter 5
Responsibilities of the Mentor

Jean-Nicolas Vauthey and Yukihiro Yokoyama

Mentorship is a relationship in which a more experienced person helps to guide a less experienced or knowledgeable person. The mentor in surgery is typically a qualified surgeon assigned to a more junior trainee. The trainee can be a medical student, a resident, a fellow, or a junior faculty. The mentor-mentee relationship can be designated or assigned, but it can also be the result of a relationship that develops spontaneously between the mentor and the mentee [7]. The mentor qualifies as a protector, i.e., protégé or protégée of the mentee.

Mentoring has existed since the ancient Greek times as Athena guided Telemachus in difficult times on his journeys. Religions have used mentorship to transmit not only knowledge but guiding principles such as the guru in Hinduism and Buddhism, the discipleship system in rabbinical Judaism, the godfather or godmother in Christianity, and the apprenticeship in the medieval guild tradition. As such, the mentor definition is multifaceted and somewhat inspirational transcending the student-teacher relationship. In surgery the mentor himself is defined by unique and personal traits of a nonhierarchical quality relationship. The mentor will trigger motivation (interests), inspiration (internal energy), and resilience in the mentee.

This chapter will define the active (interventional) and passive (behavioral) responsibilities of the mentor. The mentor himself expands the horizons of the mentee and opens new doors. He transmits himself and projects qualities that will energize the mentee in his/her academic pursuit.

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Knowing the Mentee

The mentor should know and understand the cultural background of the mentee, and this extends beyond simple knowledge of his/her resume. The mentor should spend time with the mentee, not only with face-to-face meeting(s) to discuss future plans but ideally should be an active participant in the life of the mentee. Closed room face-to-face meetings are insufficient to provide content or substance to allow for meaningful mentorship. The mentor will thus discover the qualities and talents of the mentee. He will be able to respond and give feedback related to life events shared with the mentee. The mentor should know the partner of the mentee and his/her family and should be concerned not only by the well-being of the mentee but the well- being of the family and/or close acquaintances of the mentee [9].

Research with the Mentee

The mentor should consider all the opportunities available for a mentee. With the knowledge of the mentee, he should take every opportunity to practically counsel and direct the mentee. These practical directions may include participating in the writing of original articles, editorial and book chapters. For a medical student, it might be a case report or a retrospective case series or a small research project. For a resident or fellow, it can be the analysis of a large database or the result of a 1- to 2-year research project. For a faculty, it can be a research endeavor that can be exploited over the years through multiple retrospective, prospective, and multicenter studies. Ultimately, it will become an endless stream of innovations and discoveries. Importantly, the mentor looks for teachable moments and best derives teaching and research from practice [9]. Ultimately, the mentor and mentee learn from each other. In reverse mentoring the mentee opens the eye of the mentor on a new field of research or new technique, and the mentor, in turn, provides a critical appraisal of the new research and technique leading the mentee to improve his/her research or technique.

Support and Protect the Mentee

Mentors are supportive at the time of critical choices for a mentee. Further training or choosing a specialty or a subspecialty can be a defining moment in academic surgery. The mentor should have personal connections that will allow him to find career opportunities. The mentor will connect the mentee with national or international experts in the field. He will introduce the mentee to multidisciplinary research that extend beyond surgical research. This will allow the mentee to research and

publish beyond the surgical field in high-impact factor specialty journals with a broad nonsurgical audience. An important responsibility of the mentor is to protect the mentee during his/her training. The mentor will not expose a mentee who has failed on duty. He will protect him from public exposure and criticism. However, he will not miss the opportunity, if needed, to meet face-to-face with the mentee to discuss and remedy his failures while taking care of patients or doing academic research.

Mentoring Leadership Style

The mentor should lead with style, substance, and charisma. The mentor will be most effective if he has a minimum of 5 years of practice in the field [8]. He should be articulate and be able to succinctly summarize and conceptualize. This should be based on knowledge and experience. The mentor will be able to transmit some core values while leading by example. These values will be recognized in his leadership style which will include professionalism and integrity. Clear communication, impeccable bedside manners, and an *à propos* sense of humor characterize the style of inspiring mentors. A true mentor with an active surgical practice will provide the mentee with the tools to start a successful surgical practice.

Mentoring Selflessness

The true mentor values all tasks. A small task is just as valuable as a big one provided it is well done. With his demeanor the mentor selflessly instills calm and confidence in the mentee. He spends many hours teaching and educating while practicing his field expertise [2]. The mentor may provide educational vignettes and transmit aphorisms that the mentee will use as a future mentor. Successful mentors typically mentor several mentees. They are able to conduct several studies and review multiple manuscripts from a number of mentees. The selfless mentor reviews the same manuscript as many times as needed before it qualifies for submission. The mentor work is not complete until he has meticulously reviewed galley proofs to the last reference.

Mentoring in the Operating Room

A recent survey from 13 medical schools in the United Kingdom revealed that insufficient knowledge of anatomy was the second most common reason for not entertaining a career path in surgery [3]. The first reason for not considering surgery

was the competitive lifestyle associated with a surgical career. A true mentor should lead in the teaching of anatomy and surgical techniques in the operating room. He should act as a coach and not a trainer in the teaching of multiple steps of complex procedures. He should promote independence and initiative in a stepwise fashion in the teaching of operative techniques [5, 6].

Mentoring Courage and Resilience

The mentor with his practice and career should instill a sense of courage to the mentee. This will include measured risk taking required in many surgical specialties. This risk taking may take place in innovation and discovery or in the operating room in advanced cancer surgery or cardiovascular surgery. Courage includes professional mobility that may be required to achieve a successful and fulfilling career. This courage may mean giving up relationships and friends and moving away from relatives to be willing to take the next step in a career path. The mentor justifies the risks taken by prudently weighting the risk-benefit ratio associated with new and uncharted paths.

Mentoring Balance and Lifestyle

The mentor should provide a sense of well-being through his lifestyle. This will alleviate the anxiety of mentees on their pursuit of the high road. Success is not reached overnight, but it is a succession of deliberate steps contributing to the common good. A lifestyle that includes pauses for relaxation is not contradictory to a productive academic career. During a surgical career, an important consideration is occupation-related symptoms and injuries associated with an active practice. In a recent survey, 28% of surgeons reported occupation-related injuries, and two-thirds of these surgeons received treatment for them [12]. Mentoring should include ergonomic teaching including posture adjustment in the operating room. A healthy pause during a career will sometimes be needed.

In this chapter we have defined the responsibilities of the mentor with a set of leadership qualities derived from technical, educational, and personal skills for future leaders in academic surgery. The mentor qualities will define the traits and character of future mentees who will eventually become mentors. The mentee may have several mentors as what happened at the turn of the last century (Fig. 1) [10]. Harvey Cushing and Cesar Roux were mentees of both Theodore Billroth in Vienna, Austria and Emil Kocher in Bern, Switzerland. The multiple mentor model promotes a multicultural and diverse exposure with broad and balanced knowledge of the field [1, 4, 11].
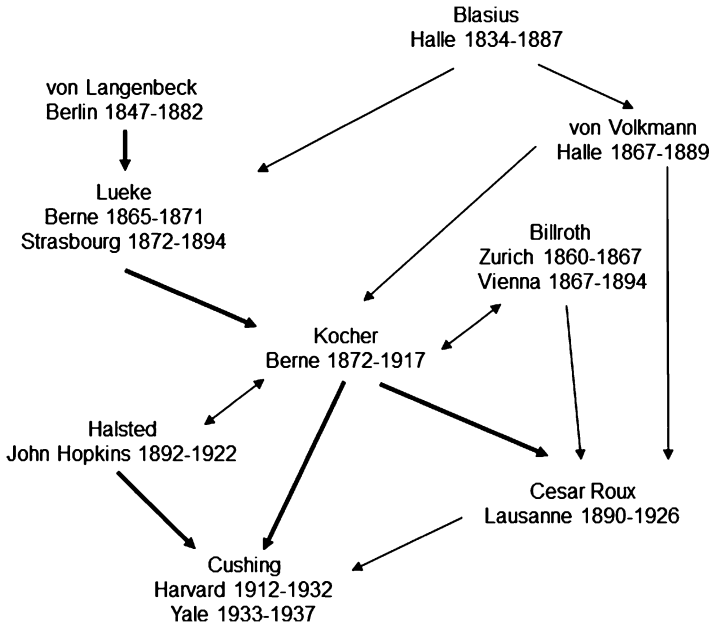
Fig. 1 Theodore Kocher, mentor and teacher of Cesar Roux, benefitted greatly from the influence of German surgery at the turn of the century

The cross-fertilization of the field of surgery between Europe and America was quite evident at the time as it remains today. It is interesting to note that surgeons still perform today the gastrojejunostomy as described in the drawings of Harvey Cushing while he visited Cesar Roux in Lausanne, Switzerland (Fig. 2) [10]. Leadership styles of these giants were quite different. Cushing described Roux of Lausanne as a rough diamond, while he described Kocher as a meticulous technician. European and American Surgery Schools have applied the principles of these pioneers, and the techniques of these mentors are still being used. Surgical mentoring in an academic surgery department begins with qualified surgeons in the operating room as they are at the core of the discoveries and innovations that will serve peers, colleagues, and ultimately patients.

In conclusion, mentorship is comprised of accompanying, sowing, catalyzing, showing, and harvesting. The conditions for success of the mentor-mentee
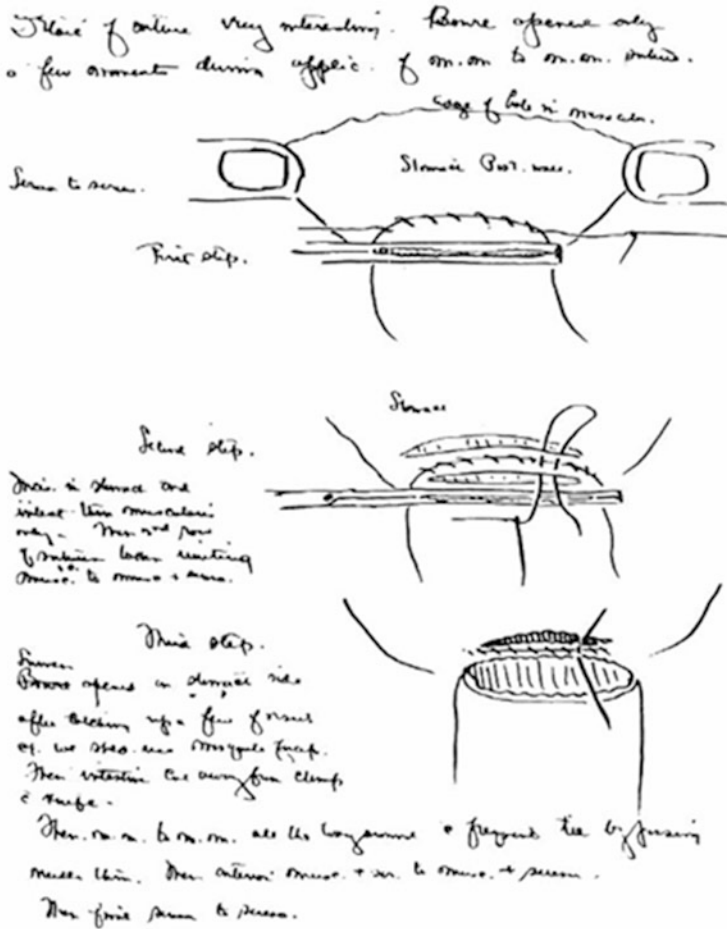
Fig. 2 Drawing from Cushing's diary on October 31, 1900, depicts the tree-layer, side-to-end gastrojejunostomy as carried out by Cesar Roux. First step, transmesocolic serosa-to-serosa running suture between the posterior wall of the stomach and jejunum; second step, incision in the stomach and intestine through the muscularis only with second row of sutures incorporating the muscularis and serosa; third step, lumen opened on the stomach and intestinal side with proximal intestine cut away from clamp with knife and suture of the muscularis mucosa to muscularis mucosa (Reprinted with permission from Harvey Cushing/John Hay Whitney Medical Library, Yale University, New Haven, Conn)

relationship are receptiveness and adjustment. With his experience, the mentor will not only best transmit part of himself but trigger a sense of internal confidence to overcome the doubts and difficulties associated with the learning curve of his/her mentee.

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Chapter 6
Responsibilities of the Mentee

Uma R. Phatak and Lillian S. Kao

Pearls

1. The mentee must be self-reflective throughout the mentorship cycle, from planning to be mentored to transitioning from the mentoring relationship. This includes being honest about his/her goals, expectations, strengths and weaknesses, personality traits, learning styles, and communication styles.
2. The mentoring relationship should be based on mutual respect and trust and should be bidirectional – i.e., expectations and roles need to be defined for both the mentee and the mentor; both parties must be accountable to each other; and feedback should be provided in both directions.
3. Models and tools for structuring, planning for, and evaluating the mentoring relationship can be useful throughout the mentorship cycle. For example, SWOT (strengths, weaknesses, opportunities, threats) or gap analyses can be useful in planning to be mentored.

Introduction

Studies suggest that mentorship in academics is important for career development and research productivity [1]. Despite the importance of mentorship, few surgeons are explicitly taught how to either be an effective mentor or a responsible mentee.

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The objectives of this chapter are to describe the mentee's responsibilities through-out the mentoring process and to provide useful tools and tips for having a successful mentoring relationship.

The Mentoring Cycle

There are different models that depict the stages in the mentoring cycle (Fig. 6.1a, b) [2–4]. Whether the cycle is described as having four or six stages, the models share similar steps. The initial stage involves preparing to be mentored – identifying one's vision, goals, and needs; researching potential mentors; and choosing a mentor. The next stage focuses on getting acquainted, building the relationship, and setting shared goals and expectations. After that, the mentee and the mentor work together

Fig. 6.1 (**a**) The four-stage mentoring cycle [3]. (**b**) The six-phase mentoring cycle [2]
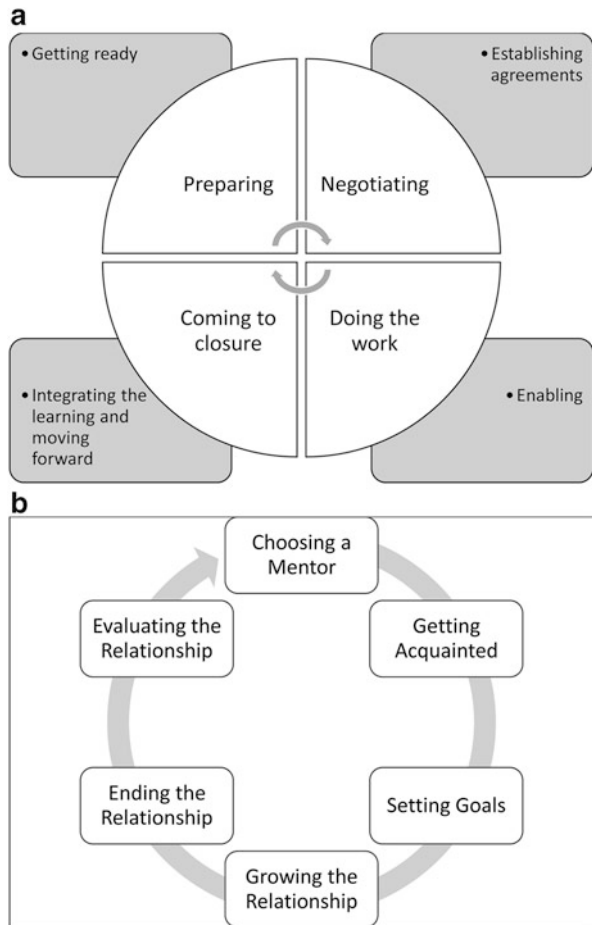
to achieve those goals. Lastly, there is a stage at which the mentoring relationship comes to an end or transitions to a different type of relationship. This stage involves evaluation by both the mentee and the mentor on the successes and failures of the relationship.

Both the mentee and the mentor carry responsibility in ensuring that the relationship is successful. In qualitative studies on mentoring, successful relationships are characterized by a bidirectional relationship, mutual respect, and shared expectations and values [5, 6]. These characteristics reflect how important mentee engagement is during all stages of the mentoring cycle. Furthermore, the more work that is done up front to ensure that both the mentee and the mentor are committed and on the same page, the easier it is to ensure that the subsequent stages are successful. The next sections of this chapter will focus on the mentee's responsibilities during the stages of the mentoring cycle.

Stage 1: Preparing to be Mentored/Choosing a Mentor

Identify Your Mentoring Needs and Goals

The first responsibility of a mentee is to know himself/herself. Guides that describe preparing for being mentored suggest a self-reflection exercise as the first step [3, 4]. While the exercise does not have to be structured, templates and tools can be helpful. For example, the Royal Australasian College of Surgeons (RACS) website includes a template for self-reflection that can be downloaded for free from   https://www.surgeons.org/media/24078099/RACS-12-Mentee-self-reflection-.pdf and includes the following questions:

- What would you like to achieve over the next 5 years?
- What would you like to achieve over the next 12 months to 2 years?
- What do you consider to be your areas of strength?
- What do you consider to be the areas in which you need to improve?
- What are you hoping to learn or achieve as a result of the mentoring experience?

This template can assist the mentee in developing a vision and in setting related short- and long-term goals. For example, for trainees seeking a basic science research mentor, their short-term goals may be to learn the basics of bench research, to gain experience with laboratory techniques, to publish manuscripts in peer-reviewed journals, to present at national conferences, and to expand their professional network. Long-term goals may be to match into a competitive fellowship and to develop the skills necessary to start an independent research program. For junior faculty, short-term goals may be to refine their clinical skills, to develop a clinical niche, and to build a clinical practice. Long-term goals may be to get promoted and to direct a division or clinical center. While the template can be helpful, the mentee must still engage in introspection and know himself/herself.

Competency	Criteria	Current Competency Level (1-5)	Next steps
To write a grant proposal	Develop a hypothesis and the specific aims to prove or disprove that hypothesis	2	Take coursework in clinical trial design and statistics
	Describe different study designs and the advantages or disadvantages of each	1	Register for a grant-writing course
	Calculate a sample size	1	Submit a mentored career award grant proposal

Fig. 6.2 Example of a gap analysis

As part of the self-reflection template, mentees are asked about areas for improvement. A more formal tool for strategically evaluating these is a gap analysis that compares the mentee's current performance with his/her goals (Fig. 6.2). A gap analysis includes a list of competencies, the criteria for achieving each competency, the current level of performance of each competency/criteria, and the steps to achieve the highest level of performance. For example, a mentee may desire to become proficient at grant writing. The criteria for that competency could include developing a hypothesis, identifying an appropriate study design, and calculating a sample size. For the mentee who has not yet developed that competency, steps for bridging the gap to achieve the desired performance might include participating in a grant writing workshop or obtaining an additional degree. Desired competencies may be general competencies, or they may be specifically related to research, teaching, or administration. A nursing school gap analysis of faculty members suggested that high-priority competencies where mentorship was desired included timely publication of scholarly work, work-life balance, development of a promotional package, and teaching skills such as test writing [7]. The desired competencies should be aligned with and prioritized based on the mentee's vision and goals.

Mentees may also perform a SWOT (strengths, weaknesses, opportunities, threats) analysis to help them prepare to be mentored (Fig. 6.3). A SWOT analysis may be beneficial for both mentees and mentors. A SWOT analysis is used to evaluate internal and external factors that can affect the success or failure in achieving a set goal. The analysis is depicted as a 2×2 table that includes a box for each SWOT category. For example, a SWOT analysis for a mentee seeking a research mentor might include personal attributes that are strengths such as having strong initiative or being a self-directed learner and others that are weaknesses such as having poor follow-through or being poorly responsive to feedback. Opportunities might include having available funding for research or having access to data.

Strengths	Weaknesses
• Strong motivation to succeed • Good writer	• Limited prior research experience • Lack of knowledge about study design and statistics
Opportunities	Threats
• Strong research support (i.e., experienced research coordinators) • Access to large clinical databases	• Lack of protected time for research

Fig. 6.3 Example of a SWOT analysis for a mentee interested in obtaining a research mentor

Threats might be related to having competing interests or not being provided protected time.

Research Potential Mentors

The second responsibility of a mentee is to research potential mentors. A surgeon may require more than one mentor to address all of his/her goals or even more than one mentor to achieve a single goal. Based on the self-evaluations from the prior step, the mentee should identify desired qualities and criteria for a mentor. These will be informed by the mentee's goals that are to be addressed by the potential mentor. A mentee may have goals related to clinical practice, academic development and progression, independent research, administration, or work-life balance. The mentee should evaluate the mentor's performance in the area(s) of interest. For example, for trainees seeking a basic science research mentor, they need someone who has an established laboratory, peer-reviewed publications, and independent funding. They can gauge the success of the mentor by quantifying current and prior grants and publications including both the number of publications per year and impact factor of the journal. The impact factor of a journal is the average number of times articles from that journal are cited in a specific year divided by the total number of articles published in the past 2 years in that journal. For junior faculty seeking an administrative mentor, they need someone who has a leadership position, significant administrative experience, and local and/or national peer esteem. They may gauge the

mentor's success by number of administrative or leadership roles and number of years in that role.

The mentee should also consider the potential mentor's track record in mentoring. For example, for research mentors, how many previous mentees have completed a research project? How many had peer-reviewed publications? How many publications? Were the publications as first author? In addition, if possible, the mentee should ask previous mentees about qualities of the mentor and the mentoring process. Did the mentor meet with the mentee regularly? Were there minimal cancellations of meetings? Did the mentor respond in a timely fashion when the mentee needed assistance or feedback? Was the mentor responsive to the mentee's needs? Did the mentor promote the mentee? The mentee may wish to include criteria related to the mentor's prior track record in his/her list.

Mentees may also consider whether it is important to them to have mentors of a similar gender or racial/ethnic background. Mentorship is particularly important for women and racial and ethnic minorities who are underrepresented in surgery. A systematic review of the literature evaluating gender differences in the learning and teaching of surgery found that a scarcity of role models and lack of gender awareness contribute significantly to the underrepresentation of women in surgery [8]. Among women, same-sex role models and mentors are important in career and subspecialty selection. Female medical students are more likely to deem same-sex role models and organizational support for women in surgery as important in career selection [9]. Furthermore, lack of exposure to female surgical role models is perceived to contribute significantly to the decision to pursue a career other than surgery [10]. The impact of the lack of same-sex role models is not limited to just medical students. However, the importance of having a same-sex mentor has been debated. Lack of effective mentorship has been cited as a barrier to leadership and career advancement; [11] however it is has not been shown that same-sex mentoring is more effective. Nonetheless, presidential addresses from surgical societies such as the Association for Academic Surgery entitled "Sticky Floors and Glass Ceilings" and the American Surgical Association entitled "Surgical mentorship: A Great Tradition, But Can We Do Better for the Next Generation?" suggest that the need for effective mentorship for women is being acknowledged by academic leaders today [12, 13]. In addition, several surgical societies have developed resources to encourage same-sex mentorship. For example, the American College of Surgeons (ACS) Women in Surgery Committee has developed a Mentorship Program for Women Surgeons. This program matches a junior female surgeon with an established female fellow of the college.

Lack of mentorship is also a commonly cited barrier to recruitment of underrepresented minority faculty members to surgery and academic medicine [14]. Institutional minority faculty development programs have been theorized to improve representation, recruitment, promotion, retention, and academic productivity, but studies have not definitely demonstrated these outcomes [15, 16]. Characteristics of mentoring programs for underrepresented minority faculty include one-on-one mentoring by an experienced investigator, group seminars geared toward skill building, and direct support for pilot funding [17]. The pairing of mentees with

mentors is typically based on discipline and research interests. In a multi-institutional survey of women faculty in academic medicine, Black, Hispanic, and Asian faculty were more likely than Whites to rank same race/ethnicity mentors as very important; foreign-born faculty also ranked same race/ethnicity as more important than US-born faculty [18]. As with same-sex mentors, there is no high-quality data to suggest that having a mentor of the same race/ethnicity is more effective, and such pairings may be challenging due to the paucity of underrepresented minorities at some institutions or in some disciplines. In surgery, societies such as The Society of Black Academic Surgeons provide opportunities for mentorship for surgeons and medical students; membership is not limited to underrepresented minorities, and many prominent academic surgical leaders are members [19].

Choose a Mentor

The mentee should prioritize the qualities and criteria desired in a mentor and then rank the potential mentors in each of those categories. The mentee will then want to set up meetings with his/her top choices in order to better determine if the mentor's communication and mentoring styles are a good fit with the mentee's communication and learning styles. The mentee and potential mentor may each want to discuss prior mentoring experiences and what they learned from them. They may also discuss personal strengths and weaknesses. The mentee can utilize the self-evaluations as a guide during this conversation. The pair should also discuss the mentee's goals; having clearly defined short- and long-term goals can help the potential mentor determine if he/she is the right person to help you achieve those goals. Lastly, the mentee will want to assess the mentor's interest and capacity. Good mentors may be frequently sought after and may already have several mentees. Therefore, care should be given to ensuring that the chosen mentor has adequate time and effort to devote to an additional mentoring relationship.

While there are several characteristics that are frequently mentioned as being desired in a mentor, each individual's needs and expectations will be different. Nonetheless, characteristics include but are not limited to passion for their field (i.e., research interest or clinical expertise), recognition by peers as a leader in his/her field, ability to provide constructive feedback and guidance, a nurturing and encouraging attitude, availability, and willingness to listen. The mentee must decide for himself/herself what is most important and ultimately make a choice.

Stage 2: Negotiating/Getting Acquainted and Setting Goals

Set Expectations and Goals

Once the mentee and mentor have agreed to embark on a mentoring relationship, they should meet to set up the rules of the relationship. The first mentoring meeting should allow the mentee and the mentor to become better acquainted with each other. If not done already, the mentee should share the results of his/her self-evaluations (i.e., gap analysis, SWOT analysis). If the mentor has completed a SWOT analysis or other evaluations too, he/she should also share the results. The first mentoring meeting should also include a discussion of confidentiality regarding the content of information exchanged between the mentee and mentor.

Getting to know each other involves having the mentee and mentor set the roles that each will play; these depend on the mentor's mentoring style, the mentee's learning style, both of their perceptions, and both of their expectations. For example, the RACS mentoring guide includes a rating scale for role perceptions [4]. Both the mentee and the mentor are asked to use a Likert scale to rate the level of involvement that the mentor should have in the mentee-mentor relationship, in provision of resources, in career and professional development, and in accountability for the mentee's progress.

The mentee and mentor should agree on short- and long-term goals. Several mentorship guides recommend using the SMART framework. The goals should be specific, measurable, achievable (or action-oriented or attainable), relevant (or realistic or results-oriented), and timely (or time-bound) [3, 4]. Specific refers to whether or not there is a clear target for achievement or improvement. Measurable refers to whether progress toward or success in achieving the specified goal can be quantified. Achievable asks whether or not the goal is feasible. Relevant relates the goal to the overriding mission or vision. Timely refers to whether the goal has been bound by a date for achievement. Table 6.1 provides examples of goals that exhibit each of these characteristics. Regardless of whether or not the mentee uses the SMART framework, goals should be explicitly identified and defined.

A work plan with concrete steps can be outlined based on the SMART goals. For example, if the goal is for the mentee to publish his/her first peer-reviewed manuscript in the next year, then the steps may include the following: (1) develop a research question aligned with the mentee's clinical interests, (2) assess whether an existing dataset can be used to answer the research question, (3) identify the important dependent and independent variables, (4) perform the appropriate statistical analyses, (5) interpret the data, and (6) write and revise the manuscript. These steps may reveal opportunities for additional learning or growth. Like the SMART goals, these steps and deliverables should be time-bound. The mentee and mentor should also identify what roles each will play in accomplishing these steps. For example, how accountable is the mentor in ensuring that the mentee completes each step? How much input does the mentee desire with regard to determining the

Table 6.1 *Characteristics of SMART goals:* The example supposes that the mentee's vision is to be a clinically busy, nationally recognized expert in colorectal cancer surgery

SMART goal characteristic	Description	Example of a goal exhibiting that characteristic	Example of a goal lacking that characteristic
Specific	Does the goal precisely target an area for achievement or improvement?	To publish my first first-author peer-reviewed manuscript on colorectal cancer	To become more academic *(too vague)*
Measurable	Does the goal suggest one or more ways that progress or success can be quantified?	To have outcomes after colorectal cancer surgery in the top three deciles of the American College of Surgeons National Surgical Quality Improvement Project for surgical site infections and readmissions	To be a good surgeon *(difficult to measure)*
Achievable	Is it feasible to reach the goal?	To submit my first application for extramural funding on colorectal cancer surgery within 1 year	To obtain extramural funding to perform research on colorectal cancer surgery in the next 3 months *(too ambitious)*
Relevant	Is the goal related to your vision/mission?	To be appointed to the hospital task force on enhanced recovery after surgery for colorectal surgery patients	To be appointed to the hospital committee for blood product utilization *(not related to career goal)*
Timely	Does the goal provide a time frame for achievement?	To increase referrals from gastroenterology for colorectal cancer resections from 0 to 10 per month within 1 year	To increase referrals from gastroenterology for colorectal cancer from 0 to 10 per month *(no time frame)*

strategies for developing the skills and competencies necessary to complete each step?

The mentee and mentor should discuss frequency of meetings and set a meeting schedule. Preferred methods of communication should also be discussed. Boundaries should be determined; these might include topics that should be avoided or limits regarding the mentor's time. Prior to future meetings, an agenda should be set by the mentee with regard to what he/she wants to accomplish at those meetings. Lastly, mentees and mentors should discuss when the mentoring relationship will come to an end. Some mentees and mentors may choose to formalize the mentoring agreement with a signed contract or agreement, while others may choose to simply have a verbal understanding.

Reflect on and Summarize the First Meeting

At the end of the first and subsequent meetings, the mentee and mentor should take a moment to summarize the meeting. In particular, they should review the original agenda and determine if all of the issues were addressed or whether any need to be deferred until the next meeting. If there are deliverables, they should be explicitly stated along with a time frame for accomplishing them. The mentee and mentor may also wish to reflect on whether any changes should be made in terms of how the meeting is conducted the next time.

In addition, the mentee and the mentor should each reflect individually on the session. RACS provides a self-reflection guide. For example, the guide evaluates each's perspective on personal reaction to the meeting, discussion content, participation of both parties, communication, relationship building, and progression toward goals [4]. The guide can be used to compare responses between the two parties and to inform future meetings. Mentees should not become discouraged if there are several categories that still require work; building a good mentoring relationship is an iterative process that occurs over time.

Stage 3: Doing the Work/Growing the Relationship

Do One's Part

Once the goals and rules of the mentoring relationship have been mutually agreed upon, it is up to the mentee to follow through. The successful mentee is committed, goal-oriented, and self-starting, which is why the initial stages of the mentoring relationship are so crucial. The mentee must have buy-in to the goals of the mentoring relationship. Furthermore, if the mentee is reluctant to take initiative, the mentee and mentor should have effectively negotiated the roles that each would play in the relationship. Depending upon the agreed-upon roles, the mentee may rely upon the mentor to set up meetings and provide advice and direction. Alternatively, a mentee with good initiative may be assigned primary accountability for setting up the meetings, identifying opportunities for learning and professional development, and seeking advice as needed.

A good mentee should be respectful of the mentor's time and commitment – the mentee should be punctual, keep to the schedule, notify the mentor well in advance if unable to attend a meeting, and come prepared. The mentee should maintain open communication with the mentor. The mentee should be open to feedback, practice active listening, and be willing to take on challenges outside his/her comfort zone. The mentee should also be honest and direct in communicating with the mentor about disagreements or unmet needs. Lastly, the mentee should have integrity and maintain confidentiality as agreed upon at the initial meeting with the mentor.

Receive and Give Feedback

Mentees must not only be willing to accept constructive feedback but also to seek it out. Mentees may want to include time for bidirectional feedback on a regular basis on the meeting agenda. The mentee and mentor may wish to agree up front on specific domains where specific feedback is requested. When receiving constructive feedback, the mentee must keep an open mind, avoid becoming defensive, and actively listen rather than be formulating a response to the feedback. The mentee should refrain from taking feedback personally and should try to understand how the feedback is intended to improve his/her performance. If the feedback is unclear or non-specific, the mentee should ask clarifying questions or request additional explanation. If the mentee needs guidance, he/she should ask the mentor for strategies on how to improve. Not all feedback will be negative, so mentees should also learn to be accepting and gracious when positive feedback is provided. After the meeting, the mentee should devise a strategy for learning from the feedback and making appropriate changes.

While mentees are counseled regarding how to accept feedback, they are not often taught how to provide feedback to their mentors. In a qualitative study of career development award mentees, several barriers to providing feedback to mentors were described [20]. Barriers included the power differential between the mentor and the mentee, mentor attitudes toward acceptance of critiques or change, lack of a mechanism for providing feedback, culture not conducive to provision of negative feedback, and lack of explicit expectations upon which to provide feedback. In order to address these barriers, Anderson and Fleming proposed a model that would encourage mentor self-reflection, provide a framework for giving feedback, and define explicit expectations. The model includes six domains: (1) mentee empowerment and training, (2) peer learning and mentor training, (3) aligning expectations, (4) mentee program advocate, (5) mentor self-reflection, and (6) mentee evaluation of mentor [20].

The Anderson and Fleming model encourages mentees to provide feedback to their mentors by several mechanisms. First, the mentors are prepared to receive feedback by attending a mentor training session and by explicitly agreeing on bidirectional feedback up front. Second, a program advocate such as a senior mentor serves as an intermediary between the mentee and the mentor and observes their interactions and intervenes before any situations escalate. Third, the mentor evaluates himself/herself prior to receiving feedback from the mentee. Lastly, the mentee is asked to provide feedback [20].

Not all mentoring programs have a formalized mechanism by which feedback is provided. Nonetheless, mentees can adapt some of the described strategies for overcoming barriers to providing feedback. As already mentioned, setting clear expectations in the beginning of the mentoring relationship is essential. Those expectations should include opportunities for regularly scheduled, bidirectional feedback. At the beginning of the relationship, the mentee and mentor should have agreed upon the metrics by which mentoring success is to be evaluated. Lastly, the

mentee can utilize other mentors or senior colleagues to serve as an intermediary, to provide an unbiased evaluation of the relationship, or to provide guidance on the best strategy for approaching the mentor.

Regardless of the relationship between a mentee and a mentor, providing constructive feedback can still be difficult. The mentee should assess the mentor's openness to receiving feedback ahead of time by asking, "Would it be helpful to you for me to provide you with feedback about our mentoring relationship at our next meeting?" Scheduling time for bidirectional feedback on an upcoming meeting agenda will also prepare the mentor to receive feedback. If the mentee is to obtain feedback as well, the mentor may be more receptive to the idea. When providing feedback, the mentee should be respectful, authentic, and nonjudgmental. Furthermore, providing specific details and information about the context are important. Acknowledging the potential for mitigating factors and suggesting methods for improvement can also be helpful. Lastly, the mentee should frame comments as being reflective of his/her perspective and refrain from attributing beliefs or thoughts to the mentor; there are often two sides to every story.

Evaluate the Mentoring Relationship

Evaluation is an important component of the mentoring relationship. The mentee and mentor should both evaluate themselves and each other, as well as the mentoring relationship. Both should evaluate whether the mentee's needs, expectations, and goals are being met or whether these need to be modified. RACS provides a template for a mentoring reflective log that can be used by the mentee to evaluate accomplishments; skills, knowledge, or lessons learned; changes in behavior as a result of mentoring; progress toward goals; and next steps [4].

Although many mentoring programs include an evaluation phase, there are few formal tools or instruments available for mentees to evaluate the effectiveness of their mentors. The Anderson and Fleming tool has already been described [20]. The Johns Hopkins University School of Nursing developed two tools: the Mentorship Profile Questionnaire and the Mentorship Effectiveness Scale [21]. The Mentorship Profile Questionnaire has two sections – a description section and an outcomes section. The description section includes the mentor's roles and qualities of the relationship such as duration and frequency of communication as well as strengths and weaknesses. The outcome section includes metrics related to research (i.e., publications, presentations, posters), practice (i.e., clinical expertise), and administration (i.e., service activities). The Mentorship Effectiveness Scale uses a Likert scale to evaluate the mentor on 12 behavioral characteristics associated with successful mentoring [21]. Examples of characteristics include accessibility, professional integrity, approachability, and supportiveness. Another model developed by Anderson and Fleming evaluates the mentoring relationship based on five domains: (1) meetings and communication, (2) expectations and feedback, (3) career development, (4) research support, and (5) psychosocial support (Table 6.2) [20].

Table 6.2 Evaluation of mentoring domains developed by Anderson and Fleming [20]

Characteristics	1 Meetings and communication	2 Expectations and feedback	3 Career development	4 Research support	5 Psychosocial support
	Frequency and mode of communication	Timely constructive feedback	Opportunity and encouragement to participate/networking	Assistance with setting research goals, identifying and developing new research ideas	Balance personal and professional life
	Accessibility	Critique work	Counsel about promotion and career advice	Guidance and feedback through the research process	Trustworthy
	Time commitment	Set expectations	Advocate	Guidance in presenting or publishing scholarly work	Thoughtful
	Conflict resolution	Set goals	Assist in development of new skills		Unselfish
			Serves as a role model		Respectful
			Acknowledge contributions		Engaged listener
			Challenges		Discuss personal concerns or sensitive issues
			Promote self-reflection		Relationship building

(continued)

Table 6.2 (continued)

	1 Meetings and communication	2 Expectations and feedback	3 Career development	4 Research support	5 Psychosocial support
Questions	When your research yields new data, how long does it typically take your mentor to hear about it?	How timely is your mentor's feedback or emails? Grants? Papers?	What is your interest in staying in academic medicine?	To what extent does your mentor troubleshoot snags in your research?	To what extent does your mentor help initiate you in a community of practice?
	During your mentor meeting, generally what percentage of time do you talk? Lead the discussion?	How long does it typically take your mentor to respond to emails? Provide feedback on grants and papers?	To what extent do you foresee a long-term relationship with this mentor?	To what extent does your mentor troubleshoot snags in your research?	To what extent do you trust your mentor to prioritize your best interests?
	How consistent is your mentor in their directions?	What mechanisms are in place to align expectations between you and your mentor?	To what extent does your mentor actively promote you as a junior faculty member?		How comfortable are you managing the interpersonal aspects of your mentoring relationship?
	In general, how much do you look forward to your meetings?		How informed is your mentor about university guidelines for promotion and tenure?		How well does your mentor know aspects of your life outside of work?
	How well does your mentor take constructive criticism?		In what ways does your mentor actively foster your independence?		
	How is your mentor on the roles and involvement of each mentor on your mentor team?				

Another framework for evaluating the mentoring relationship is to consider process, content, and outcomes [22]. In terms of the process, the quality and quantity of meetings and communication should be evaluated. For example, how often do meetings occur? How much time does the mentor allocate to meetings? How committed is the mentor (i.e., as measured by missed meetings, tardiness, etc.)? In terms of the content, what is the quality and quantity of feedback that is received? How responsive is the mentor to email or other communications? What is the turnaround time for feedback on research-related questions, requests for recommendations, or comments on manuscripts? Lastly, what are the outcomes with regard to the previously set expectations of the mentoring relationship? If the outcome measures are related to scholarly productivity, how many publications or grants were submitted as a result of the mentoring relationship? If the outcome measures are related to academic advancement, to what extent did your mentor promote you?

Stage 4: Coming to Closure/Ending and Evaluating the Relationship

Not all mentoring relationships will last as long as planned. The mentee has responsibility for ending the relationship if it is not serving its purpose. While the mentee should act promptly once the decision is made, the mentee should ensure that they have allowed sufficient time to judge the relationship based on the agreed-upon metrics and for the mentor to receive and act upon feedback. In addition, the mentee should reflect upon the agreed-upon goals and expectations and ensure that they have not changed. If they have, the mentee may wish to renegotiate with the mentor. Out of respect for the mentor, the mentee should meet with him/her face to face when ending the relationship. The mentee should thank the mentor, be gracious, focus on the positive aspects of the relationship, and allow the mentor to have his/her say. If possible, the mentee should not burn any bridges as there may be opportunity for a future working relationship.

Hopefully, the closure of the mentee-mentor relationship has been pre-planned from the start. In this scenario, the final meeting should involve just as much self-reflection and planning as the first meeting did. At this final meeting, the mentee and mentor should first revisit the original goals for the relationship. The mentee should reflect on what he/she learned – both in relation to the original goals and to gained insights about himself/herself. The pair should also discuss what barriers were encountered in achieving the goals and how these barriers might be addressed in the future. Second, they should reflect on how the mentee will apply the lessons learned during the mentorship relationship to future endeavors. Third, they should celebrate the mentee's successes. Lastly, the mentee and mentor should discuss the future of their relationship and whether the mentor will continue to play a role in the mentee's career.

Conclusion

Effective mentoring requires engagement from both the mentee and the mentor throughout the mentoring process. Thoughtful self-reflection and careful planning in choosing to be mentored and in selecting a mentor are necessary to be successful. Development of shared goals and expectations at the outset of the relationship and ongoing assessment and bidirectional feedback during the relationship can ensure that the mentee and mentor are focused and aligned. While preparation and planning are important, the mentee should remember that the mentoring relationship is dynamic and that the goals, expectations, and roles may change during the relationship. Ultimately, all mentoring relationships must come to an end, at which time both successes and failures should be acknowledged.

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Chapter 7
Mentorship for Clinical Success

T. Clark Gamblin

As new faculty begin their career path, the pursuit of clinical success plays a major role. Very few individuals will not practice some clinical surgery. The clinical expectation of the department, beyond the surgeon providing thoughtful and safe medical skills, is to build and/or maintain a clinical practice based on the defined effort in the letter of offer. Clearly defining the expectations regarding percent clinical effort and understanding the culture of the department cannot be overstated. Some specialties more naturally provide a "shift" approach, while others are built on referrals to individual providers or disease-based teams.

The time to begin understanding the true clinical expectations and culture is prior to acceptance of the position. While environments change and faculty must adapt, those individuals negotiating jobs should solicit input from previous faculty, current faculty, and colleagues with departmental history. Contracts of great length and granular details should be approached with some caution; however, the clinical expectations are a mandatory component.

Infrastructure and consultant services should also be carefully assessed. If other departments lack the ability to "keep up" with programmatic growth and clinical volume, even the most visionary and gifted surgeons will struggle. All parts of a program are not required initially, but one should carefully gauge the environment and access to resources that will influence the ability to grow and maintain programs.

Obtaining a clinical mentor is vital to the success of new faculty. Ideally the clinical mentor possesses a wealth of experience and provides an opportunity for a mentee to continue to grow clinically with challenging cases. In some situations, the environment does not offer such a person, and trainees should weigh this early career independence carefully. Clinical mentors can exist at other institutions, and cases should be shared and discussed with others especially if the new surgeon doesn't

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have an on-site mentor. Being the right mentee is just as important as the selection of the mentor. Advice and guidance clinically should be genuinely sought and guidance heeded.

As practices begin and referrals are sought, individuals should focus on the relationships with the referring physicians not solely patients and families. Understanding the referring doctor's pattern in the chosen specialty allows for focused outreach and maximizes the time spent building an effective network. The qualities of available, affable, and able should be a focus as a clinical practice is being established.

Availability allows quick and easy access for clinical referral. It means a physician can successfully refer the patient without the burden of several phone calls and contacts. Being available doesn't mean covering 24 h a day but rather building a system that covers 24 h and tells referring doctors that their patients are valued and managed in a thoughtful manner. Communication back to the referring doctors should occur quickly and personally. Although a letter takes more time than forwarding a copy of the lengthy history and physical, it reaches the referring doctor personally and begins to build or strengthen a relationship. Referring doctors have many choices, and in order to build a successful practice, one should voice appreciation for the trust the referral represents and provide feedback as quickly as possible. Personal phone calls take additional time but often generate additional patient referrals. In addition, the conversation often builds friendships and allows referring doctors to inform their patients more about the referral being made. Considering the vital aspect of availability is also important within the institution from colleagues in the same practice or hospital. This internal availability recognizes the value of a team approach, provides optimal timely care, and can strengthen the team.

Availability reaches beyond the referring doctors and ultimately rests on the patient perspective. Patients should be provided access to their treatment team as issues or questions surface. Infrastructure for calls and concerns should be in place to efficiently handle inquiries and provide quick and seamless points of entry for patients.

Affability is the second quality vital to building a successful clinical practice. If individuals are difficult in conversation, condescending, or overly critical, their availability will not be pertinent to referring physicians. While each faculty has differing levels of extroversion and introversion, a certain level of approachability and professionalism is mandatory. Referring doctors make choices about who to entrust patients to, and if referrals are managed in a highly negative manner, patterns will be altered in most cases.

Ability is the final component in the pursuit of clinical success. It is no less important than the other qualities and is essential to the outcome of the patient. An available and affable provider may be provided a few referrals, but if ability lacks, these consults will not lead to a successful program or practice building. In an era of outcomes becoming more public than ever before, the assessment of a practitioner's

ability is rapidly and appropriately escalating. The emphasis on ability points to the need for exceptional training, mentorship, and programmatic oversight. In some systems, the oversight of ability/outcomes will be led by the traditional department and quality office, while in others this will be led by a hospital, system, or programmatic endeavor.

In light of a shifting healthcare landscape, providers must understand the emphasis of creating value for patients. In addition to the mentioned outcome optimization, lowering costs continues to drive value. Concentrated healthcare delivery is emerging as an opportunity to move from a wide range of services to focusing on particular areas to create high value care. Practitioners have responded to this movement with advanced specialized training and team care approaches rather than each provider offering a full range of services. Those choosing to focus on quality and cost will be leaders in healthcare. Understanding the reimbursement structure and payer's perspective should also lead surgeons to provide detailed, accurate, timely documentation of the care provided.

Social media has become an important avenue to reach patients and build practice. Creative media and marketing approaches with postings, blogs, videos, and updates are opportunities to build market share and provide referring doctors, patients, and families with resources regarding care. As patients seek information online, providers must ensure accurate information is present and easily accessed. Successful online presence often comes with analysis of keywords, search optimization, and some purchase "per click" information searches. Clinical data provided should be consistent with the message from the personal visit. Whether viewed prior or after the referral, the content should address the commonly encountered questions and challenges and is not aimed to replace the visit but rather reinforce the message.

Similar to personal phone calls, organized dinner meetings with presentations and outreach consistently build clinical referrals and strengthen networks with physicians. Many practitioners successfully building a clinical practice will be involved in the continuous medical education (CME) programs to the community. These events can identify the surgeon as a thought leader, educator, and clinically productive individual. Those attending CME events have a chance to connect, exchange information, and even discuss difficult cases.

Programmatic newsletters, brochures, and even peer-reviewed publications all provide referring doctors evidence of expertise and authority in the field. These mailings and productions require financial commitment and physician input.

New faculty members are often drafted to new committees, and enthusiasm to be involved should be carefully focused. Service is an important part of the surgeon's role, and the invitation to be involved, while important, must be thoughtfully weighed. Surgeons should understand the commitment involved and strategically balance their roles of service.

In summary, clinical success requires intentional focus and support. The qualities of availability, affability, and ability in addition to mentorship should be core qualities to develop and maintain success in the clinical arena.

Chapter 8
Mentorship for Research Success

Jacqueline M. Garonzik-Wang and Dorry L. Segev

Introduction

There are increasing challenges to building a productive and successful career in academic medicine in the modern era, including increasing clinical and administrative demands and a progressively more competitive funding environment [1–6]. It has become nearly impossible to navigate the academic maze in a confident and efficient manner without support, guidance, encouragement, and mentorship. A dynamic mentee/mentor relationship is therefore critical to the growth and development of future clinician-scientists. With regard to research mentorship, the mentee/mentor team must actively pursue the immediate requirements for research progress, funding, and academic advancement while simultaneously anticipating the long-term requirements for academic independence, longevity, research program building, and national recognition. This chapter outlines the lessons and pearls learned from a productive and successful research mentee/mentor relationship, with a focus on clinical research. While there is no "standard of care" or algorithm that suits all mentee/mentor relationships, we will address certain behaviors, attitudes, and milestones that seem to promote research success (Fig. 8.1).

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Fig. 8.1 Characteristics and drivers of a successful clinician researcher

Research Mentorship

Many of the other chapters in this book are devoted to general mentorship and outline the key qualities and goals of both the mentee and mentor. All of these attributes hold true for research mentorship as well; however, research mentorship requires firsthand knowledge of the pitfalls and obstacles associated with developing a niche, acquiring necessary research skills, cultivating collaborations, achieving independent funding, and climbing the academic ladder. A research mentor should help their mentee make challenging decisions and avoid situations that may impede their success and advancement [7–13]. Research mentorship is an active process that should encompass all aspects of mentee development delineated below; while mentorship must be viewed as a selfless endeavor, the mentor often gains substantially from the mentor/mentee relationship.

Specific Considerations for Research Mentorship

Development of Interdisciplinary Research Skills

It is important to determine early in an academic career which type of research the investigator is interested in pursuing. Once this is determined, a mentor should help their mentee determine the necessary skills and/or training to be productive and successful in today's competitive research environment. If the mentee is deficient in a given skill set, formal classes or even an additional degree is often required. This takes significant foresight and planning, as additional coursework often needs to be balanced with a busy clinical schedule and administrative responsibilities. An additional degree often requires 1–3 years of intense training and protected time, a commitment from the department, and often even requires funding. The mentor will not only need to guide the mentee in class or degree selection and funding targets but also how to negotiate dedicated time and clinical responsibilities with their department administrator. If all of these things are not considered in advance and simultaneously, the mentee is unlikely to obtain the resources and support necessary for success.

Once a course, training path, or degree is chosen, it is important that the mentee identifies someone who can guide them in course selection and time management during their coursework or other didactic training. If the mentor is not able to provide firsthand knowledge and advice for the mentee's formal coursework, it is important to seek an additional mentor who can provide this direct guidance. During every aspect of surgical and academic career development, it is paramount that all time management, study, and research is done in the most efficient and productive fashion possible. Formal coursework, specifically, can often harbor significant busy work, which can conflict with, and even be detrimental to, a busy clinician's career trajectory. Identifying an individual who can guide the mentee in the most efficient path will increase the likelihood of success. The mentee should further be advised to capitalize on any specialty-specific sources of secondary data (such as registries or claims data or existing parent studies) so that coursework or homework might become specialty-specific research investigations, allowing the mentee to simultaneously grow their skill set and their CV. Funding mechanisms for career development will be discussed later in this chapter.

Manuscript Writing

Publication in peer-reviewed journals is essential for the promotion and success of the clinician-scientist. Not only does it disseminate research findings to the surgical community, but it also demonstrates the investigator's ability to conduct and complete research investigations and propagate knowledge. It is a requirement for every aspect of career development, including promotion within the department, acquiring

external funding, and developing recognition within the field. Topic selection and publication, like every other aspect of a successful researcher's career, deserve careful consideration and planning. For the junior investigator, first-authored publications are paramount: these demonstrate to the scientific community that the investigator has the ability to conduct sound research and the perseverance to conquer the peer-review process.

The mentor should help their mentee develop a portfolio of research endeavors that will allow them to always have a handful of manuscripts to write. They should always balance longitudinal projects that require data collection against "low-hanging fruit" like registry analyses that allow for quicker turnover. The latter allows the investigator to hone their writing skills and develop an efficient manuscript writing framework while often simultaneously providing preliminary data for larger, fundable investigations. The mentee/mentor pair should also evaluate all clinical investigations for their appropriateness for abstract submission to specialty-specific conferences.

The time from study initiation to publication in a peer-reviewed journal can be quite lengthy and discouraging. The mentor is also critical in helping the mentee navigate this process. From appropriate journal selection to timely and adequately responding to reviewer and editor comments, the process requires persistence and determination. Guidance and encouragement from the mentor can make this task less daunting and more routine. As the investigator progresses and develops their own area of expertise, it will be important for them to start publishing senior author manuscripts. The transition to independence is discussed later in this chapter.

Other important publication-related endeavors include peer-review and editorial positions for scientific journals. This is important for many reasons, including: (1) it is a method to contribute to the scientific community, (2) it keeps the investigator abreast of the latest scientific methods and discovery within the field, and (3) one of the best ways to learn how to write papers is to read and review many. However, these need to be considered and selected carefully, as there are significant time commitments that could theoretically derail other pertinent academic milestones. The young investigator should seek guidance from their mentor to determine which time commitments are most beneficial to the advancement of their career. The same holds true for book chapters (such as this one) and invited reviews. These endeavors require a significant time investment and should not be embarked on without great scrutiny and consideration. In general, they should be reserved for high impact or visible publications and should be done in conjunction with a trainee who would benefit from the experience and effort.

Local, National, and International Societies: Exposure

Local, national, and international involvement and recognition are vital to promotion, development of collaborations, and success in academic medicine. The mentor should help the mentee determine which local, national, and international societies to

join and which meetings to submit abstracts to and attend. Additionally, academic clinicians should seek thoughtful and strategic mechanisms to become involved in their specialty-specific communities, and this often translates to joining society committees. It is sometimes challenging as a junior investigator to get involved and get a spot on these committees, so mentor nomination and sponsorship are often required.

In addition to administrative activities within societies, poster and oral presentation at scientific meetings is an additional way to gain recognition. Abstract submission is the gateway to presentation at research conferences. Both mentor and mentee should determine which annual meetings are pertinent and place those meetings and their general abstract submission deadlines on their annual calendar. In addition, the time needed to conduct a study and prepare and submit an abstract should be carefully considered to ensure adequate time prior to deadlines. If selected, the mentee and mentor team should work closely to ensure that any poster or oral talk is polished and perfected. Delivering an engaging and professional oral presentation may lead to other invited talks and opportunities. They should also work to ensure that a study, if it was important enough for a conference, is efficiently published in a peer-reviewed journal; a reasonable mentor/mentee agreement might be that the mentee only attends the conference if the first draft of the manuscript has been completed (or if there are compelling reasons to delay manuscript submission).

Funding

Funding, via grants, scholarships, or fellowships, is a fundamental requirement for academic clinicians. Funding is the principal means by which clinician-scientists pay for career development activities, hire research staff, and fund all research-related endeavors. An academic clinician must be creative and proficient in securing funding from multiple resources, including and especially the NIH. This process should be started early in a clinician-scientist's career, as successful attainment of funding increases the likelihood of future funding [14–17].

The NIH has funding mechanisms for all stages of career development and independent research (Fig. 8.2) [18]. The earlier a clinician enters onto this path, the more likely they are to be able to successfully navigate it. The mentor should map out a 5- and 10-year plan with their mentee that includes funding mechanisms and application deadlines. As junior faculty, in addition to NIH K type grants for career development, there are numerous society-based and institutional grants that fund both preliminary research and additional coursework and training. This can be instrumental in helping an early investigator jump-start their research and develop preliminary data for subsequent NIH Career Development Awards. There is typically a 1–2 year turnaround time for NIH funding, so it is imperative that investigators continue to develop their projects and gather preliminary data and that mentors support these efforts with available mentor resources, in case resubmission is required (and also to keep the important research moving forward). Additionally,

Fig. 8.2 NIH funding roadmap (* https://researchtraining.nih.gov/infographics/physician-scientist [18])

once funding is secured, it is critical that the investigator starts to think about the next level of funding and how their current research provides preliminary data and supports subsequent grant application. For example, an investigator may obtain a K award for career development to obtain skills and conduct research on one specific area of medicine. They can then use the results of their K-related investigation to develop a larger-scale investigation that capitalizes and builds on that knowledge base. An investigator should start thinking about making the notoriously challenging K to R transition around 2–3 years into their K funding so that they are ready to submit their R application well before completion of their K award.

Even after an investigator has obtained R-level funding, they must continually reevaluate their area of investigation and focus and constantly look for ways to obtain additional funding and enhance their research. As each specific field evolves, changes in the work-up, management, or treatment of a given disease process can provide areas of academic exploration for new grants or grant renewals. Investigators at this stage should also consider a K24 award; this unique award provides protected time and support for an established investigator to mentor more junior clinical investigators. Throughout the entire funding life cycle, guidance and mentorship are necessary to progress to the next step. Numerous studies have pointed out the extreme difficulty in securing NIH-level funding as a junior investigator, despite appropriate training, and mentorship is paramount to overcoming these challenges [14–17, 19].

Collaboration

As the young investigator matures, it is important that they forge collaborative and multidisciplinary relationships, both within and outside their departments and institutions. These relationships will certainly enrich areas of investigation that are outside of the scope of the investigator's background and training. They will also enhance the possible extent of research that an individual can perform. At major academic institutions, there are often many local experts looking for opportunities to collaborate and create a scientific network. Finally, these sort of relationships and collaborations are vital for growing a network of colleagues to conduct sound scientific research. When applying for funding, most governmental and other funding agencies will favor multidisciplinary collaborators that are experts in any area of investigation proposed in the research project.

Transition to Independence

Transitioning from a mentored investigator to an independent investigator is often one of the most difficult phases in a young investigators career, not just in funding but also in scientific growth. An investigator needs to gain the appropriate skills

necessary to conduct independent research, perform and publish quality-mentored research, identify collaborators, generate preliminary data, and secure funding. However, accomplishment of the above milestones alone is not sufficient to transition to independence. During the above processes, the mentee needs to carve out an area of investigation that is uniquely different then their mentors and collaborators. In a saturated scientific field, this can often be challenging. Very early in a young investigator's career, it is important that the mentor help the mentee develop focus and begin to build a devoted area of investigation distinct from that of the mentor. This process can take years; however it is imperative that the mentee/mentor pair discuss this early and keep their intended niche actively in their mind throughout the development. As appropriate, it is important for the mentor to gradually increase the responsibility of the mentee and allow them to become the principal investigator for a specific area of research. The success or failure of this process will set the tone for the mentee's future ability to mentor future investigators through the same process.

Top 10 Pearls for the Mentee/Mentor Team

Research success can be defined in many ways, but regardless of the final definition, it is something that can be very challenging to obtain. It takes perseverance, diligence, institutional support, foresight, and careful planning. There are many obstacles and distractions that can hinder success. Here are 10 pieces of advice that we have learned along the way while traversing many of these obstacles:

1. Identify a mentor early on. Seek someone with a good track record for successfully mentoring clinician-scientists.
2. Map out your 5- and 10-year plan in a detailed fashion. Make sure it accounts for research and clinical responsibilities, plans for funding, career development, and promotion. Review and revise it every 3–6 months. Be flexible, as unanticipated things often happen.
3. If you are truly dedicated to research success, make sure you negotiate for substantial protected research time. While time alone won't be sufficient enough to guarantee success, it will be nearly impossible to achieve success without it.
4. Avoid activities that are time sinks with little academic reward. Think very carefully about sitting on committees, taking administrative roles, doing book chapters, etc. These often require significant time commitments which detract from pursuing the academic endeavors that are necessary for promotion and academic advancement.
5. Continually evaluate your research portfolio to ensure that you are always being as productive and prolific as possible. This includes both low-hanging fruit or short-term investigations and longer-term, longitudinal projects that involve data collection. The latter can progress in the background while the investigator is honing their investigation and manuscript writing skills with higher turnover projects.

6. Be creative about funding mechanisms. There are a multitude of funding sources in addition to the NIH, including institutional grants, societal grants, and company-sponsored trials. In addition, apply early and repeatedly. For every grant you get, you need to submit multiple (our personal track records indicate three to eight unsuccessful grants per successful one). Be persistent and resilient. Reach out to program officers and review committees after grant review to find out how your grants and studies can be revised and improved to increase the likelihood of success.

7. Be efficient in every aspect of life. Often evaluate which of your responsibilities can be safely delegated to another individual: think about the likelihood that individual will not accomplish the task and the repercussions of the task being done poorly (or not at all).

8. Develop a multidisciplinary network of collaborators that you trust and work well with. Be patient as these relationships take years to build.

9. Be strategic about gaining visibility within the scientific community, including becoming an active and contributory mentor in specialty-specific communities.

10. If you are missing a necessary skill set and do not have collaborators who can provide this skill set at an expert level, seek out additional training and career development.

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Chapter 9
Mentorship/Sponsorship and Leadership in Academic Surgery: Similarities and Differences

L. D. Britt

While the terms "advisor" and "mentor" are often used interchangeably, the two words are not synonymous. The derivatives, *advice* and *mentorship*, are qualitatively not the same. While advice is information given to a person or persons (without necessarily associated support), "mentorship" is information and counsel provided, with an expectation of support and guidance. True "sponsorship" denotes more active involvement and interface with the person(s) being supported, including that sponsor taking on an active advocacy role. Figure 9.1 depicts these enveloping circles of involvement and influence.

In academia, mentorship or sponsorship is predominately focused on assisting the mentee in setting the expectations for growth/development and continually assuring that he/she is, indeed, on the right trajectory to having a successful, professional career. Table 9.1 is a template of such a strategy from the outset; mentors/sponsors emphasize the importance of establishing strategic "partnerships" early on in the process. Such "partnerships" can cover a broad spectrum of stakeholders, including allied professionals, research collaborators, other specialty colleagues, hospital administrators, etc.

Recognizing whether an environment is supportive is, perhaps, the most important initial step that the mentee-mentor/sponsor must confirm. While it is preferred that this environment be contiguous, it is not essential. A supportive environment can be remote; however, it must be readily available to the mentee. The collateral benefits (Table 9.2) of such an environment include more optimal access to mentoring, networking, proctoring, etc.

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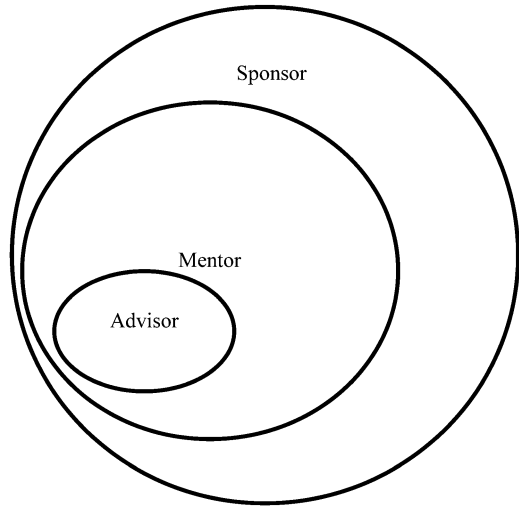
Fig. 9.1 Enveloping circles
of influence

Table 9.1 A strategic outline for progressing on the "academic track": a template

Academic track
(Mentors, along with partnerships, are essential)
Preparation/performance (residency and fellowship)
Career/job selection
Solid foundation as a *clinician*
Expertise/niche selection (along with pursuit of sound research initiatives-collaboration is essential)
Local/regional involvement in professional/specialty organization
National committee assignments
Addressing the important academic "benchmarks"
Continual reevaluation of progress with your mentor (s)

Table 9.2 The "collateral"
benefits of supportive
environment

"Collateral" benefits
Mentoring
Networking
Proctoring
Cultivating partnerships
Establishing career-long learning strategies

Leadership

While a mentor/sponsor does not have to be an established leader, it is essential that a leader must be a mentor/sponsor. The core components (Fig. 9.2) of leadership are character, the ability to provide mentorship/sponsorship, and being resourceful.

What is often not recognized or emphasized is the fact that the mentee-mentor/sponsor relationship is a dynamic process. For example, a relationship that is optimal during a certain time period and under specific circumstances might not be effective and/or practical under different circumstances or another time period. This lends credence to the practice of periodically reevaluating the efficiency of the mentee-mentor/sponsor bond. If the relationship is void of substantive effort and if the agreed upon benchmarks are not being met, then altering or terminating the relationship should be a consideration. In fact, many mentorship/sponsorships are time-limited and not meant to be a career-long relationship.

Irrespective of credentials and institutional affiliations, advancement in American surgery remains a daunting challenge. Perhaps, the most appropriate and salient identifying characteristic for that person who does ascend in American surgery is *leadership*. While there is no shortage of celebrities today, there is a drought or void with respect to true leaders. The heterogeneity of leaders has been well known for centuries. However, even among a disparate group of leaders, there are common attributes and skill sets that all leaders must possess.

Figure 9.3 is a depiction of the requisite pillars of the foundation of leadership, which includes the following:

- Integrity
- Vision
- Judgment
- Commitment
- Strategic expertise

Fig. 9.2 The essentials of leadership

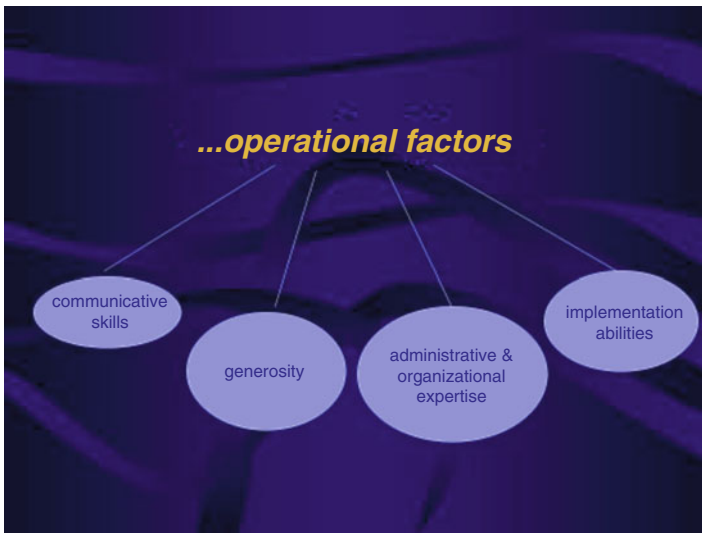**Fig. 9.3** The main pillars of the foundation of leadership

Fig. 9.4 The operational components that facilitate story leadership

The operational components (Fig. 9.4) that facilitate strong leadership, include communicative skills, generosity, administrative/organizational expertise, and implementation abilities. Such operational components must be in every leader's "tool kit."

Table 9.3 Major challenges in healthcare

Healthcare challenges
Healthcare disparities of the population
Aging of the population
Increasing rates of healthcare utilization
Economic growth of the nation
End-of-life issues
Advances in genetics screening
Changes in health services delivery system
Efforts to weed out unnecessary or marginally beneficial services
Cost containment efforts
Safety in the healthcare environment

Table 9.4 "Six aims of care" advocated by the National Academy of Medicine (formerly, the Institute of Medicine)

Institute of Medicine
Six aims of care
Safe
Effective
Patient-centered
Timely
Efficient
Equitable

Considering the mounting challenges in healthcare (Table 9.3), it has become quite evident that more money will *not* adequately address many of the healthcare issues. On the contrary, what is needed is leadership and an open door to new ideas and different healthcare delivery paradigms. Albert Einstein stated that "you should not use an old map to explore a new world." It appears that this might be the reason why mounting problems and challenges continue to go unaddressed.

A leader effectively uses an appropriate map to explore a changing and troubling environment; a special emphasis has to be placed on the troubling and persistent widening of the healthcare disparities in this nation. A leader must provide that strong voice to underscore the extent of disparities in healthcare among the various surgical populations. The National Academy of Medicine (formerly the Institute of Medicine) has advocated "six aims of care" (Table 9.4).

The aim that has been the most difficult to achieve is *equity*. There is a consensus that the US healthcare system is broken, for the population, as an aggregate.

A leader, today, cannot avoid dealing with this challenge. Currently, state of healthcare disparities is one of the greatest challenges facing this nation. A surgeon leader has the following five roles:

- Clinician
- Teacher
- Mentor/sponsor
- Manager of resources
- Public servant

A leader, who chooses not to address this challenge, is abdicating each of these five roles.

Dr. Martin Luther King Jr. stated that "The arc of the moral universe is long, but it bends towards justice." However, what he did not say is that the arc does not bend on its own. Such bending often requires unwavering commitment and leadership. It should also be noted that the *arc of healthcare* is long but it bends toward optimal care and inclusion. For that arc to bend, it too requires strong commitment and leadership.

Irrespective of the discipline or organization, there is no leadership without a team. It is the overarching objective and paramount goal of any leader to establish a functional and effective team. Without a true team, no organization or group can boast of having a competitive advantage. On the contrary, a "leader" is stymied and progress of the organization/group impeded, if there is no effective and functional team. Nothing supplants or supersedes the effectiveness of a team that includes technology, finance, and the most vetted strategy. In order to establish such a team, a leader must do more than just recruit and assemble talented individuals. He/she must play a pivotal role in developing the members of the team, in order that they can complement each other and develop the requisite skill sets needed to be effective in advancing the mission and specific goals/objectives of the organization.

What appear to be ubiquitous are celebrities. In practically every setting and during almost all occasions, a celebrity (or self-proclaimed celebrity) is present. However, what is not omnipresent are leaders. The American surgery has a legacy of leadership. From the largest world organization of surgeons in the globe (American College of Surgeons Table 9.5) to the nation's oldest and world's most prestigious surgical organization (American Surgical Association Table 9.6), there has been a long list of distinguished and accomplished leaders.

A prime example of leadership in action was Dr. Franklin Martin, the principal architect of the Clinical Congress and the American College of Surgeon and founder of the journal Surgery, Gynecology, and Obstetrics (now known as the Journal of the American College of Surgeons). With necessary attributes and requisite skills previously underscored, Dr. Martin succinctly formulated the following principles that formed the cornerstone of the foundation for the American College of Surgeons [1]:

- To provide a learning environment for surgeons to have a "practical surgical experience" instead of listening to "literary treatises based on theoretical deductions"
- To enroll American surgeons who, in the opinion of their "confreres," were competent to do surgery and were "morally and ethically reliable," along with being loyal to the profession
- To eliminate "'financial dickering' (e.g., fee splitting) and bar from its ranks" those surgeons who violated this rule
- To seek by "legitimate means" to protect the public from "incompetent, dishonest, and unnecessary surgery" and "to take lead and bring to bear" all the

Table 9.5 Past presidents of the American College of Surgeons

American College of Surgeons presidents past and present					
1913	John M.T. Finney	1939	George P. Muller	1965	Howard A. Patterson
1916	George Crile	1940	Evarts A. Graham	1966	Walter C. Mackenzie
1917	William J. Mayo	1941	W. Edward Gallie	1967	Reed M. Nesbit
1920	George E. Armstrong	1946	Irvin Abell	1968	Preston A. Wade
1921	John B. Deaver	1947	Arthur W. Allen	1969	Joel W. Baker Seattle
1922	Harvey Cushing	1948	Dallas B. Phemister	1970	Howard Mahorner
1923	Albert J. Ochsner	1949	Frederick A. Coller	1971	Jonathan E. Rhoads
1924	Charles H. Mayo	1950	Henry W. Cave	1972	William P. Longmire, Jr.
1923	Rudolph Matas	1951	Alton Cchsner	1973	Claude E. Welch
1926	WW. Chipman	1952	Harold L. Foss	1974	Charles W. McLaughlin, Jr.
1927	George David Stewart	1953	Fred W. Rankin	1973	H. William Scott, Jr.
1928	Franklin H. Martin	1954	Frank Glenn	1976	George R. Dunlop
1929	Merritte W. Ireland	1955	Warren H. Cole	1977	Frank E. Stinchfield
1930	C. Jeff Miller	1956	Daniel C. Elkin	1978	William A. Altemeier
1931	Allen B. Kanavel	1957	William L. Estes, Jr.	1979	William H. Muller, Jr.
1932	J. Bentley Squier	1958	Newell W. Philpoit	1980	James D. Hardy
1933	William D. Haggard	1959	Owen H. Wangensteen	1981	G. Thomas Shires
1934	Robert B. Greenough	1960	I.S. Ravdin	1982	John M. Beal
1933	Donald C. Balfour	1961	Robert M. Zollinger	1983	Henry T. Bahnson
1936	Eugene H. Pool	1962	Loyal Davis	1984	Charles G. Drake
1937	Frederick A. Besley	1963	J. Englebert Dunphy	1985	David C. Sabiston, Jr.
1938	Howard C. Naffziger	1964	James T. Priestley	1986	W. Dean Warren

American College of Surgeons presidents past and present			
1987	C. Rollins Hanlon	2002	Richard R. Sabo
1988	Oliver H. Beahrs	2003	Claude H. Organ, Jr.
1989	M.J. Jurkiewicz	2004	Edward R. Laws
1990	Frank C. Spencer	2005	Kathryn D. Anderson
1991	Ralph A. Straffon	2006	Edward M. Copeland III
1992	W. Gerald Austen	2007	Gerald B. Healy
1993	Lloyd D. Maclean	2008	John L. Cameron
1994	Alexander J. Walt	2009	Lamar S. McGinnis, Jr.
1995	Lasalle D. Leffall, Jr.	2010	L.D. Britt
1996	David G. Murray	2011	Patricia J. Numann
1997	Seymolr L. Schwartz	2012	A. Brent Eastman
1998	George F. Sheldon	2013	Carlos A. Pellegrini
1999	James C. Thompson	2014	Andrew L. Warshaw
2000	Harvey W. Bender, Jr.	2015	J. David Richardson
2001	R. Scott Jones	2016	Courtney M. Townsend, Jr.

Table 9.6 Past presidents of the American Surgical Association

American Surgical Association presidents past and present					
2016	Keith D. Lillemoe	1988	John S. Najarian	1960	John D. Stewart
2015	James S. Economou	1987	Henry T. Bahnson	1959	Warkenh.Cole
2014	Anna M. Ledgerwood	1986	Charles G. Drake	1958	I. S. Ravdin
2013	Layton F. Rikkers	1985	W. Gerald Austen	1957	John H. Mulholland
2012	L.D. Britt	1984	Eugene M. Bricker	1956	Loyal Davis
2011	Timothy J. Eberlein	1983	Mark M. Ravitch	1955	Alfred Blalock
2010	Kirby I. Bland	1982	W. Dean Warren	1953	Howard C. Naffziger
2009	Donald D. Trunkey	1981	C. Rollins Hanlon	1952	Robert S. Dinsmore
2008	Anthony D. Whittemore	1980	James V. Maloney, Jr.	1951	Daniel C. Elkin
2007	Courtney M. Townsend, Jr.	1979	G. Thomas Shires	1950	Samuel Clark Harvey
2006	Jay L. Grosfeld	1978	Oliver H. Beahrs	1949	Thomas G. Orr
2005	Carlos A. Pellegrini	1977	David C. Sabiston, Jr.	1948	Fred Wharton Rankin
2004	Hiram C. Polk, Jr.	1976	Claude E. Welch	1947-45	William E. Gallie
2003	R. Scott Jones	1975	James D. Hardy	1947	Elliott Carr Cutler
2002	Murray F. Brennan	1974	William H. Muller, Jr.	1946	Edward D. Churchill
2001	Haile T. Debas	1973	H. William Scott, Jr.	1944-45	William Darrach
2000	John L. Cameron	1972	Jonathan E. Rhoads	1943	Frederick A. Coller
1999	Basil A. Pruitt, Jr.	1971	Francis D. Moore	1942	Vernon C. David
1998	Lazar J. Greenfield	1970	William D. Holden	1941	Harvey B. Stone
1997	Frank C. Spencer	1969	William A. Altemeter	1940	David Cheever
1996	Clyde F. Barker	1968	Owen H. Wangensteen	1939	Allen O. Whipple
1995	Samuel A. Wells, Jr.	1967	William P. Longmire	1938	Dallas B. Phemister
1994	George F. Sheldon	1966	Oscar Creech, Jr.	1937	Arthur W. Elting
1993	Seymour I. Schwartz	1965	Leland S. McKittrick	1936	Evarts A. Graham
1992	Lloyd D. Maclean	1964	Robert M. Zollinger	1935	Eugene H. Pool
1991	James C. Thompson	1963	Warfield M. Frior	1934	Edward William Archibald
1990	Robert Zeppa	1962	Oliver Cope	1933	Daniel Fiske Jones
1989	John A. Mannick	1961	J. Englebert Dunphy	1932	Arthur Dean Bevan

Table 9.6 (continued)

American Surgical Association presidents past and present					
1931	Charles H. Mayo	1911	Arpad G. Gerster	1891	Phineas Sanborn Conner
1930	Alexander Primrose	1910	Richard H. Harte	1890	Claudius Henry Mastin
1929	Fred B. Lund	1909	Rudolph Matas	1889	David W. Yandell
1928	Ellsworth Eliot, Jr.	1908	C. B. DE NANCRE DE	1888	David Williams Cheever
1927	Emmet Rixford	1907	William H. Carmalt	I887	D. Hayes Agnew
1926	Harvey Cushing	1906	Dudley P. Allen	1886	Hunter McGuire
1925	John H. Gibbon	1905	Albert Vander Veer	1885	Moses Gunn
1924	Albert J. Ochsner	1904	George Ben Johnston	1884	William Thompson Briggs
1923	George W. Crile	1903	Nathaniel P. Dandridge	1883	Edward Mott Moore
1922	L. L. McArthur	1902	Maurice H. Richardson	1880	Samuel David Gross
1921	John M. T. Finney	1901	Deforest Willard		
1920	John B. Roberts	1900	Roswell Park		
1919	George E. Brewer	1899	Robert F. Weir		
1918	Lewis S. Pilcher	1898	William W. Keen		
1917	Thomas W. Huntington	1897	Theodore F. Prewitt		
1916	Samuel J. Mixter	1896	John Collins Warren		
1915	Robert G. Leconte	1895	Louis McLane Tiffany		
1914	George E. Armstrong	1894	Frederic Shepard Dennis		
1913	William J. Mayo	1893	James Ewing Mears		
1912	Charles A. Powers	1892	Nicholas Senn		

resources of organized scientific medicine in an endeavor to improve the entire environment in which surgery and medicine were being taught or practiced

- To assist the public "in obtaining all the benefits of scientific advice and all the services of preventive medicine" in order for society to be able "to distinguish between the reliability of scientific medicine and false sophistries of quackery"

Although styles and strategies differ depending on the individual leader and his/her team, what has very little (if any) variability are the fundamental principles that provide the sturdy and durable underpinnings of leadership.

Contrary to popular opinion, there is no "natural" leader. Leadership, invariably, emanates from a matrix of experiences and is effected by a culture of mentorship/sponsorship. Substantive change through leadership is often the formula for success (Fig. 9.5). However, leadership requires a maturation process, with mentorship/sponsorship being an integral factor of the process.
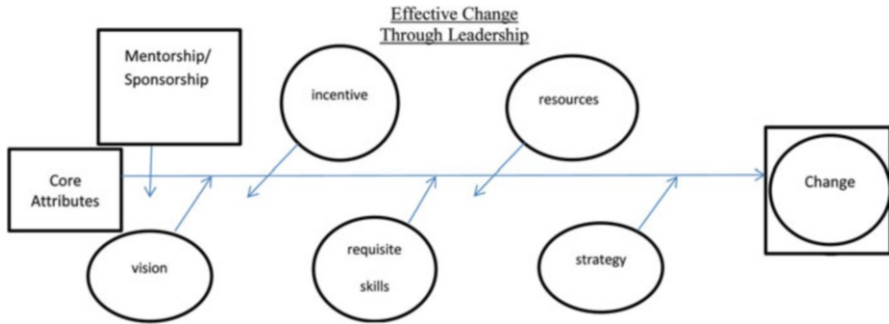
Fig. 9.5 Leadership requirements for effective change

In summary, the road to academic leadership is lined with mentors and sponsors. There are great expectations once the destination is reached. The aggregate of such expectations, for anyone reaching this destination, is the willingness of that person to provide mentorship and sponsorship to others traveling that same one.

Academic leadership is short lived if it is void of mentorship/sponsorship. An academic leader has three paramount responsibilities:

- To advance the science of his/her discipline
- To protect the specialty from the omnipresent threats both perceived and real
- To serve as a mentor/sponsor for deserving individuals

The resulting and meaningful currency is not in dollars. On the contrary, the true "currency" conversion is an enhanced education and scientific discovery, along with the assurance of a smooth leadership transition.

Reference

1. Ochsner A. A report of our founders. Bull Am Coll Surg. 1953;38:15–23.

Chapter 10
Mentorship for Mid-Career Decisions: Aspirations for Personal Organizational Leadership Opportunities

E. James Kruse and Daniel Albo

What Is "Mid-career"?

Mentoring is widely perceived as a critical element in academic surgery career development. Most institutions, departments, and centers focus their mentoring efforts on the "early" career development phase of their faculty. This is loosely defined as the first 5–8 years out of training of a faculty's appointment, and it is focused on the transition from an entry-level assistant professor to an associate professor rank.

As the surgeon's career progresses beyond this "early" phase, it enters into a "mid-career" phase. Most mid-career surgeons have been in practice for a minimum of 8–10 years and are at the associate professor rank level. The purpose of this chapter is to explore the unique set of challenges and opportunities facing this unique group of surgeons in terms of the intertwined aspects of mentoring and leadership development.

What Are the Challenges of the Mid-career Academic Surgeon?

Unlike early career surgeons, mid-career surgeons have busy surgical practices. As a result, they spend a larger amount of time providing clinical services vital to their hospitals in the operating room, clinics, and other clinical environments. In a healthcare world of ever-decreasing reimbursements and profit margins where the highest reimbursements are associated with surgical procedures, these "clinical

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workhorses" are of an ever-increasing importance for the bottom line of the healthcare system where these surgeons work.

The demands for the mid-career surgeon's time are not limited to the busy clinical service activities. As his/her career progresses, the expectations for administrative services to the department, hospital, and university also increased. By virtue of their busy surgical practices, they are also expected to carry a larger load of the clinical teaching of medical students, residents, and fellows. Furthermore, these more senior surgeons are also expected to dedicate a considerable amount of time mentoring their younger early career surgeon colleagues.

While these valuable activities may be good for the job security of the mid-career surgeon, it can easily become a sinkhole that consumes the majority of his/her time and energy, detracting from the time available to advance his/her academic career advancement. More worrisome, it hinders the development of rich academic programs that could, and should, be blossoming around these more experienced and talented surgeons.

Are You Stuck?

Many mid-career faculty get stuck in the move from the early career organizational position of intense external constraint (meeting promotion and tenure expectations) to the mid-career organizational position of freedom and choice. Mid-career surgeons can suddenly choose to expend their energy in a variety of directions: becoming a master clinician, developing the skills for higher-level administrative positions, investing in more ambitious research projects, applying their research to consulting or product development, and becoming a master teacher, among others.

The problem is that most mid-career faculty do not chose a path based on clear long-range goals. Instead they get stuck in ambivalence, and by not choosing a clear direction, they get pulled into many different directions that keep them busy doing a lot of work, but without significant achievement in any area. Not choosing a path and moving decisively in that direction can result in a crushing level of invisible, unrewarded, and career-stunting service.

As a result mid-career surgeons experience some combination of the following emotions:

(a) Exhaustion from the daily grind and mad about how little time they have to pursue their academic projects
(b) Confusion about their career direction
(c) Numb from daily disrespect, devaluation, and being taken for granted
(d) Feeling stuck and uncertain of whether they should leave for another job
(e) Unmotivated to pursue broader projects and uncertain as to what comes next

Associate professors faced with such uncertainties often have lower job satisfaction than do either assistant or full professors. Results of a national survey conducted by Harvard University and recently published as a white paper found that, on most

measures of satisfaction (e.g., recognition for teaching, advising, scholarship, and service; institutional support for research; and overall satisfaction), associate professors ranked last. Furthermore, the longer they remain at this rank, the lower the satisfaction scores. This view can negatively affect their clinical, education, research, and administrative productivity and overall performance.

The question then becomes: how do you move out from this rut? At a recent meeting of public university provosts, the sentiment was unanimous: every associate professor is expected to work toward promotion to full professor. Yet, according to results published by the Collaborative on Academic Careers in Higher Education (COACHE), departmental cultures do not reflect these expectations. Nearly 45% of experienced associate professors disagree that there is a culture of promotion in their departments. Nearly two out of three experienced associate professors say they have never received formal feedback on their progress toward promotion. They are more than two times more likely than recently tenured associates to have no plans to submit their portfolio for promotion. In fact, nearly 20% say they intend never to come up for full professor.

Does the Mid-career Surgeon Need Mentoring?

Mid-career surgeons often feel "stuck" in an endless cycle of often unrecognized clinical service and educational activities. These activities, although of critical value for their medical schools and health systems, occupy all of the surgeon's time and prevent them from dedicating time to program building and academic career advancement initiatives. Getting people unstuck requires a combination of foundational skill training plus addressing rank-specific needs.

Core skills that faculty need across rank and discipline are things like aligning your time with your priorities and evaluation criteria, conflict resolution, project management, planning and implementation of a clear agenda, saying "no," efficient teaching, stress management, and the development of a healthy, consistent, and sustainable writing practice. Rank-specific issues for mid-career faculty are fundamentally different than they are for early career faculty. The latter are primarily concerned with establishing themselves in their new environments, developing a clinical practice, building a new research project, and getting their first promotion. Once faculty enter their mid-career phase, a different set of issues set in that are about deeper questions of meaning, identity, leadership, power, and legacy. Because of this, they do need as much (if not more) mentoring than early career faculty but in completely different ways.

What Are the Roles of a Mentor?

Tobin summarized seven roles a mentor might play in a mentee's career:

- As *role models*, mentors demonstrate behavior protégés wish to emulate. Without this, good "chemistry" between mentor and protégé is unlikely.
- As *teachers*, mentors provide information regarding institutional politics and procedures, as well as guidance about time management, teaching, research, and leadership.
- As *advisors*, mentors are guides and counselors who help mentees navigate their careers and work toward their own definitions of success. As such, mentors are catalysts for growth, helping the protégé develop skills and self-reliance.
- As *academic coaches*, mentors provide instruction, training, strategic advice, and motivation. A skilled mentor is able to sense when the mentee needs encouragement, guidance, or even a shove.
- As *confidantes*, mentors are empathic listeners, offering insights[23] and providing emotional and psychological support.
- As *agents*, mentors protect protégés, helping them overcome obstacles and providing protection from excessive institutional demands.
- As *sponsors*, mentors advocate for mentees in the professional world, adding to their visibility and credibility by expanding their local and national network.

Mentoring the Mid-career Surgeon: It Takes a Village

The Traditional Mentor: The Guru (Table 10.1)

In this traditional format, the mentor is a highly supportive all-knowing senior person who shares knowledge, cares for, protects, and guides the career development of the faculty over prolonged periods of time. This is an all-encompassing model where the mentor provides for all of the mentoring needs of the surgeon so they can grow into being a successful clinician, teacher, researcher, and administrator.

There are several flaws with this, in my opinion, outdated traditional mentoring format:

1. It doesn't actually exist. Finding a single person that has all of the skills and connections necessary for a complete career-mentoring role is virtually impossible.
2. It assumes that the mentor has the time, energy, and desire to actively assist the new faculty member and ignores the reality that mentoring is invisible and unrewarded labor that goes to the bottom of the priority lists of busy people.
3. Even if it were possible, it is arguably the most inefficient way possible to meet the complex mentoring needs of a mid-career surgeon.

Table 10.1 Mentoring models: advantages and disadvantages of individual versus network-based mentoring

	Advantages	Disadvantages
Individual (The Guru)	Expert guide and support Long relationship period Clear roles of mentor One point of contact for all career aspects	Extremely difficult to find this mentor Time/resource intensive for mentor Mentor deficits reflected on mentee Large impact if mentor is lost
Network-based (mentoring team)	Selects best attributes of each team member Easy to build team or replace when a mentor is lost Less time intensive for each mentor Increased mentee job satisfaction	Increased effort of mentee in building a team Multiple separate meetings for mentee Mentor team may change over time Roles may overlap

Network-Based Mentoring: Developing a Mentoring Team (Table 10.1)

Network-based mentoring involves the faculty actively seeking a team of mentors, with each mentor performing a different role in his/her professional development. Higgins and Kram refer to these as "relationship constellations," emphasizing that individuals are best served by relying on a community of mentors for developmental support. Careers are multifaceted and fluid, and people are complex. Thus, it is unrealistic to think that one mentor could support a mid-career surgeon's every need over time. Having multiple mentors has been associated with both job satisfaction and satisfaction with mentoring.

In a mentoring team, one mentor may help with career planning, another with leadership, and others with certain specific academic work projects. Mentors may come from different fields or disciplines. Notably, the different members of this mentoring team do not all have to be surgeons, and it is often more helpful that they are not. These different mentors can come from different departments, from multiple compartments of the health system, from different geographical locations, and even from outside the healthcare industry.

The fundamental principle behind the network-based mentoring concept is that the function each mentor fills for the mentee is as important as the individual relationship. For example, mid-career surgeon who is the director of a complex clinical and an educational program may have separate mentors for leadership, clinical program growth initiatives, budget management and financial skills, conflict resolution, education administration, teaching, and overall career planning.

By actively developing a mentoring team, the mid-career faculty gets access to expertise in multiple areas critical for program as well as career development. Because no one mentor is expected to do it all, the mentoring role is also more

approachable and less time-consuming for the mentor. Ideally, the mentoring team forms a well-fitting matrix of support design to meet all of the complex and varied needs of the mid-career surgeon.

Mentors Versus Sponsors

Although mentors may sometimes also be a sponsor, often times they are not. Sponsors are people who have power and influence and use it on your behalf to shape the story about who you are. Sponsors extend their political capital on your behalf, helping frame the importance of your work behind closed doors when people are talking about you and you are not there.

Sometimes sponsorship occurs in informal settings, other times it occurs in high-stakes review meetings. Either way, perceptions of you and your work are being shaped by these ongoing conversations in many different areas of the medical school and health system. Thus, finding these sponsors are critical for the mid-career faculty development.

The challenge is how to find these critically important sponsors. Most surgeons operate on the wrong assumption that their work will speak for themselves and that everything else will take care of itself. Unfortunately, this is not always the case. It is imperative that you find thought leaders and vision shapers in your health system that will help frame your work in its proper importance and help establish the right narrative about you. These two elements are going to help shape people's perception about you and your leadership potential within your institution.

It is often not possible to ask for sponsorship directly, since this is almost always perceived as self-serving and, thus, counterproductive. It is more effective to recruit these sponsors indirectly. Some helpful tips on how to recruit these sponsors to advocate on your behalf include:

1. Show up, and show up on time: Most mid-career surgeons see committee and task force participation as a drag on their time. Instead, these meetings can be invaluable opportunities to network with a lot smart people from different compartments of your healthcare system. Showing up is important. Doing so on time, demonstrating that you value your peer's time and effort would go a long way to show the type of person that you are. Remember, if you want to have a voice in final product, you need to have a seat at the table. Participating in the governance structure of your medical school and hospital will help you showcase your abilities to potential valuable sponsors.
2. Volunteer to help find solutions: It is not enough to just show up to these meetings. Being a fly on the wall will not exactly help you get noticed. Volunteering to help find solutions to complex problems that are vital for your health system will frame you in appositive light. As opposed to the people that only like to show up when the credits are rolling down the screen at the end of the

project, these doers are exactly the kind of people that power brokers in health systems want to have in their team when the stakes are at their highest.

3. Be assertive but collaborative: Remember, there is a fine line between being assertive and overpowering. It is important that you work on your communication skills, actively listening to other people's opinion and recruiting them in finding the solutions for the problems at hand. This collaborative approach to problem-solving will help you establish your personal network of sponsors. This network, in turn, will become a powerful advocate for you and your work.

4. Select potential sponsors carefully: Participating in these meetings will also give you the opportunity to find out who are the people whose voices are heard more often. Think of these people as thoughts leader. These people have the ability to help shape the culture of your organization and, as such, can help to frame you and your work in a positive light in the eyes of people across your organization. These are exactly the people with whom you want to cultivate relationships, as they would be your most powerful sponsors.

5. Seek advice, and be prepared: Once you identify your potential sponsors, seek their advice early and often. Schedule a short meeting to present them with your career development plan. Remember, do your homework prior to this meeting and spend some time putting together a business plan around you and your program. Be prepared to show your potential sponsors what your program is all about, what you have accomplished to date, and, more importantly, your goals for the 1-, 3-, and 5-year future. Frame your program plans and goals in the larger picture of your institutional needs. It is important to listen constructively to the potential sponsors' advice, take extensive notes on their observations and suggestions, and incorporate them into your original plans. This way, you not only take advantage of their expertise and experience, but you also show them that you really value their time and energy spent helping you.

6. Follow up: Shortly after your meeting is over, follow up with your sponsors. I find it very useful to send them an email to thank them for their generosity and for their time. These email communication pieces have to be perfect. Make sure that your grammar and composition is impeccable. It is very helpful to summarize your meeting findings and action items generated from your meeting. Following up shows not only your appreciation for your sponsor's time but also represents an opportunity for you to incorporate their advice into your plans and to establish an open line of communication with him/her.

7. Rinse, wash, and repeat: Establishing contact is just the beginning. Establishing a meaningful relationship will mean meeting multiple times and with multiple people. Make it a habit to periodically connect with the people in your network of sponsors, both virtually and in person. Face-to-face time allows for the development of powerful connections between people.

How to Build a Mentoring Team

Building a mentoring team is an active process, and it requires a very thoughtful process from the mid-career surgeon. Remember, it is your academic career development that is at stake. Taking ownership in the mentoring team development and being proactive will in and by itself be a powerful exercise in leadership development for the faculty. A few tips to remember when selecting the members of your mentoring team:

(a) Know yourself: Take inventory of your strengths and weakness; be brutally honest with yourself. What areas of your personality need work?

(b) What is your passion: Identifying what is it that you are really passionate about will help you develop a self-sustainable program. Concentrating on the things that you love to do the most will allow you to better deal with the challenges that you will invariably have to face when building your academic program

(c) The star is the program: I always advice our faculty to think of themselves not as an individual, but as a program. Thinking of yourself as a program will help you see the different clinical, educational, research, and administrative components that you have. These different programmatic elements have very different mentoring needs. This will help you determine which type of mentors you need to include in your mentoring team

(d) Competency-based mentors: When choosing your mentors, do so by focusing on the specific competencies needed for the particular aspect of your program that you are trying to develop. Core competencies that you want to include in your mentoring team include clinical, research, education, administration, conflict resolution, and overall leadership development.

(e) Interview mentor candidates: Have formal meetings with potential candidates for your mentoring team. Do your research and be prepared for these meetings. Your research will allow you to know ahead of time the potential mentor's strengths and weakness. The face-to-face interaction will allow you to see whether the potential mentor candidate is passionate about mentoring. It will also help you determine if there is the right chemistry, a very important element in developing lasting mentor-mentee relationships.

(f) Think outside the box: It is advisable to have mentors from outside your specific specialty, even from outside the world of surgery. No single mentor will have expertise on all elements involved in your programs and career development. Mentors from different areas of your health system, and even from outside of your geographical area, can help bring different perspectives and skill sets to you. These differences and diversity will greatly enrich you.

(g) The proof is in the track record: Ask yourself the question: Has this potential mentor done this before? How many people has he/she mentored? What happened to the mentees? Take your time to interview some of the mentees as well; they will give you a different perspective on the evaluation of the mentor's capabilities and level of involvement with his/her mentees.

(h) Program builders versus acid rain: Program builders develop complex teams and greatly value faculty recruitment, retention, and development. They build richly

textured programs where individuals can thrive in a team-oriented environment. Acid rainers, like their name implies, are interested on their own personal development at the expense of the program. Although they can hold considerable power and high positions, they tend to kill the development of people under them. When choosing potential mentors for your team, I strongly advise that you choose program builders. These people tend to have a much more evolved emotional intelligence and derive pleasure from helping people blossom to their full potential around them.

Getting Started: Checklist

For the mentor-less mid-career faculty, the formula is straightforward. Just fill in the blanks:

- In 5 years I want to be _____.
- However, I currently feel _____.
- In order to close the gap between where I am today to where I want to be, I need to focus on _____ and let go of _____.
- To move in that direction, I need to sharpen my skills in _____.
- The community, support, and accountability I need to move in a new direction are _____.
- The mentoring map for this new pathway looks like _____.

Career Pathways: Retooling and Reinventing Yourself

Perhaps one of the most important aspects of mentoring a mid-career surgeon is to help him/her redefine his/her career pathway. What is it that you are passionate about? What aspect of your job would you like to develop an academic program around? Trying to be a master of all trades (the so-called academic quadruple threat) has become a nearly impossible task due to constraints on the faculty's time and resources. Instead, it is best to guide the mid-career surgeon to achieve excellence into one of the core areas of academic program development (clinical, education, research, administration) as the primary aspect of his/her new career pathway.

In order to develop a new career pathway, there are several important elements to consider:

(a) Develop a 5-year plan, with 1- and 3-year measurable goals long the way to monitor your progress toward your programmatic goals.
(b) Develop a promotion timeline plan with stretch goals centered on your career pathway development plan. Have tour Department Chair and the Promotions Committee review, modify, and ultimately approve your promotion timeline plan. This way, as you accomplish the goals that are necessary for the

development of your academic program, you will simultaneously obtain your academic promotion to full Professor.

(c) Retool. Do not be afraid to invest a significant time commitment in acquiring new tools and skill sets. Examples include:

1. Obtaining and MPH or equivalent could help you develop a robust healthservices research program
2. Obtaining an MBA or focused courses in Healthcare Administration andManagement could help you establish a career pathway into hospital administration.
3. Obtaining focused training in newer surgical techniques (i.e., minimally invasive surgery) could help you develop a cutting-edge clinical program.
4. Obtaining formal training in education (options range from PhD and Masters degrees to more focused workshops) could help you establish a master educator program

Ultimately, understand that in order to get out of your current rut, it is imperative that you reinvest actively in yourself. Staying within the status quo because it is confortable to stick to what we already know will not be conducive for you to advance academically. Retooling aggressively, while potentially unsettling, will reinvigorate your career and expand your horizons into exciting new opportunities and personal growth. Redefining your mentorship team composition with new mentors who can help connect you to the kinds of skill training and networking that can help move you in your new career pathway is critically important.

COACHE Recommendations for Institutional Leadership

Fortunately, other scholars and COACHE's own experiences working with administrators in the trenches are creating models and collecting promising examples of career interventions for faculty in the associate professor stage. Baldwin and Chang (2006) created a diagram (Fig. 10.1) describing three possible stages of a mid-career faculty development process: from career reflection and assessment to career planning and to career action and implementation. These processes tend to include some combination of interventions along several categories. Many institutions are already performing a few of these activities; some, even, can point to versions of most of them. Few, however, are coordinating them, and rare is the example of rigorous evaluation and assessment to determine which interventions work best for an institution's particular faculty culture.

Through its work with partners in the field, COACHE has identified interventions that can help academic leaders identify midcareer challenges and support their faculty in their advancement.

• Frame the issue with data. Before you take steps to address the challenges, be sure you understand them. Use your "frozen" data—numbers of associates, time in rank, and numbers by department, by gender, and by race/ethnicity—and your
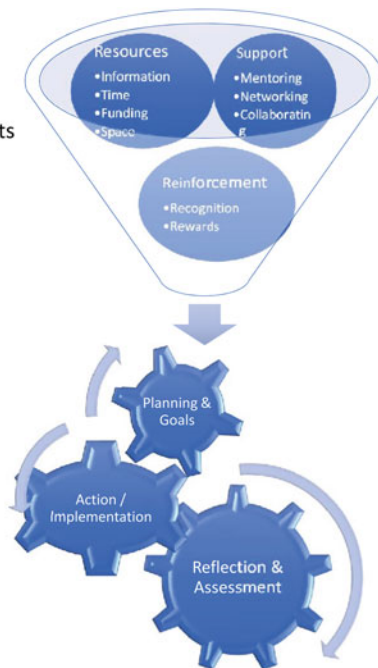
Fig. 10.1 Stages of mid-career faculty development: planning and goals, action/implementation, and reflection/assessment

transactional data: research productivity, teaching loads, and other activities you track. Are there patterns where women and faculty of color are disproportionately stalled or service-burdened? Are there associates who are ready for promotion?

- Partner with your faculty. Engage them in researching and solving the problem. Look to former chairs, emeritus faculty, and recently retired faculty for leadership.
- Design orientations that span the career. At new faculty orientations, describe the faculty career life cycle, including a description of the realities of newly tenured life and possibilities for success at the associate level.
- Implement a career revisioning program. Talk with faculty about what excites them, and develop a plan that allows them to do it.
- Open doors to reengagement through tenure and promotion reform. Consider whether you need to broaden the criteria required for promotion or define more inclusive notions of mid-career "excellence."
- Require departmental plans for mentoring associate professors. Institute an expectation of mid-career mentoring, but allow departments to discuss and identify the mentoring plans that best solves their particular challenges.
- Recognize that there is no "capital F" Faculty, but many faculties. The needs and challenges of departments will differ, but common themes will emerge from open-ended, faculty-led discussion.

- When all else fails. . . Engage faculty in candid but circumspect discussion about the few professors whose behavior may be causing problems for their colleagues and departments.

Become a Mentor Yourself: Pay It Forward

Although the mid-career faculty face a unique set of challenges, they also have a great opportunity: the capacity to reinvent themselves and launch a mid-career renaissance. I'm not saying it's easy to get this honest about your future. It's not! And there are usually lots of intense emotions that come up. But that intensity enables a different conversation and a new plan forward.

Letting go of your fears, identifying your passion, and retooling and acquiring new skills are important elements in advancing your academic career forward. But the most important element of all is for you to actively develop a rich and diverse mentoring network that will nurture and help develop you. Lastly, what I learned out of my own mid-career challenges is that the most rewarding aspect of this mid-career transformation is that in the process, you become a mentor yourself. So remember, pay it forward, and mentor somebody today!

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Chapter 11
Mentorship for Mid-Career Decisions: Aspirations for Multi-disciplinary Programmatic Leadership Opportunities

Jordan M. Cloyd and Timothy M. Pawlik

Part I: Mid-Career Mentorship for the Academic Surgeon

Importance of Mid-Career Mentorship

Successful academic surgeons frequently credit the ability of a few experienced mentors to develop and accelerate their personal and professional growth. In previous chapters, we have seen the importance of mentorship in initiating and promoting the careers of aspiring academic surgeons. We have learned the importance of formal mentorship in the subspecialty selection, research productivity, grant awards, technical skill ascertainment, and career satisfaction of surgical trainees and early faculty. However, the mentorship needs of more senior academic surgeons are often overlooked. Indeed, a large qualitative study of two academic centers found that more senior and established faculty often felt neglected and reported the desire for equitable access to mentors [1]. In addition, despite the fact that mid-career faculty have distinct circumstances and challenges that justify strong mentorship, dedicated research on mid-career mentorship remains scarce. In this chapter, we focus on mentorship of the mid-career academic surgeon and discuss opportunities for multidisciplinary programmatic development that can be fostered through effective mentorship.

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The Unique Mentorship Needs of a Mid-Career Academic Surgeon

The mid-career phase of an academic surgeon presents several unique challenges to their personal and professional wellness. The demands on the mid-career surgeon's time have increased now with a full operating schedule, overbooked clinic, research expectations, ongoing teaching obligations, and increasing administrative duties. Emotional exhaustion and depersonalization may lead to work-related stress and/or burnout. Some may have uncertainty about their career outlook and chances for promotion. Others may feel stagnant in their current academic capacity and are searching for new career opportunities to stimulate professional growth. At the same time, these surgeons are transitioning to new roles mentoring students, trainees, and junior faculty just as their own mentorship needs evolve.

In a previous survey study of mid-career pediatric faculty, respondents reported a desire for mentorship regarding promotion and tenure, effective networking, and how to redefine or refocus their careers [2]. This study reinforces the observation that the professional goals of the mid-career physician, regardless of specialty, change over time and that not surprisingly, the mentorship strategies should as well. One opportunity to provide career refocusing, professional growth, and personal satisfaction is through leading the development of new multidisciplinary programs. Given the need for effective networking, strong communication and leadership skills, institutional resources, and an ambitious overlying vision, these initiatives may best be implemented under the tutelage of an experienced mentor.

Initiating and Maintaining a Mentorship Relationship

Choosing a mentor is one of the most important decisions an academic surgeon can make. By now, the mid-career physician has presumably had several mentors in their career. However, mentoring is a dynamic process, and, as their career trajectory shifts, so does their need for evolving surgical mentorship. Most would posit that the selection process for a mentor should be driven by the mentee. Some research has evaluated the role of assigned versus voluntary mentor selection (also known as formal or informal mentoring), though, at this stage in one's career, the needs and goals of the mentee should be the primary determinant for selecting a mentor. In the plainest terms, a mentor's job is to cultivate a mentee's professional growth through their experience, expertise, and general support. For the mid-career surgeon, the mentor is often their department chair or a senior advisor in the same or related discipline, though, frequently, mentees might seek out multiple mentors to fulfill various advising roles (e.g., clinical, research, academic).

The characteristics of an outstanding mentor have been well studied [3, 4]. Important qualities include admirable personal attributes (honest, trustworthy, reliable, generous), high professional standards (accessible, responsive, hardworking,

Table 11.1 Characteristics of outstanding senior mentors

Domain	Characteristic
Personal	Honest
	Trustworthy
	Reliable
	Patient
	Compassionate/understanding
	Respectful
Mentoring behaviors	Invested in mentee's success
	Responsive
	Accessible
	Advocates for mentee's best interests
	Present new opportunities
Track record	Excellent publication record
	Extramural funding
	Mentoring experience
	Connected

invested in your success), and a sterling academic reputation (already successful, well-respected, well-connected) (Table 11.1). Some cross-sectional studies have reported on mentees' preference for mentors of the same gender, ethnicity, and specialty training. These characteristics may become less important as the mentee refocuses their professional goals and prioritizes the mentor's experience, accessibility, and engagement. Most importantly, your mentor should have a track record of success, whether that be in building multidisciplinary collaborations, writing manuscripts, acquiring extramural funding, and/or developing other leaders in academic surgery. An important consideration for the mentee is to elicit feedback from their potential mentor's prior mentees. These responses may prove helpful in gauging whether the mentor would be an appropriate fit for you.

The relationship between a mentor and mentee may best be viewed as a partnership, where both parties benefit from working toward a shared set of goals. As the mentor imparts knowledge, shares experience, advises, and advocates for the mentee's professional success, the mentee brings motivation, innovative ideas, and a commitment to the process. The most productive mentoring relationships are characterized by excellent communication, mutual compatibility, and a shared enthusiasm for the project(s) and goal(s) they are working toward. The end result of such a partnership is that both parties benefit: one is mentored down a path toward independent academic success, while the other benefits from a passionate apprentice. Examples of mentoring goals for mid-career academic surgeons might include assisting with promotion preparation, providing resources or new opportunities, offering advice on new professional initiatives, protecting against unhelpful and time-consuming obligations, and connecting with collaborators in other departments or institutions.

Part II: Developing Multidisciplinary Programmatic Leadership

Multidisciplinary Clinical Programs

Identifying Opportunities for Leadership

Establishing a new multidisciplinary clinical program is an opportune way of stimulating and accelerating one's professional growth. By demonstrating sound leadership, building new relationships with other healthcare team members, and making an impactful contribution to one's academic department and/or hospital setting, building a multidisciplinary clinic is a fulfilling career initiative that should strongly be considered by ambitious academic surgeons. In the planning and development of such a program, direct consultation and engagement with one's mentor would be imperative for several reasons. First, the mentor might be able to identify gaps in current clinical programs in which efforts at program development would be the highest yield. Second, they may be in a position to steer financial resources or protected time toward such an endeavor. Third, they can provide constructive knowledge regarding certain regulation steps or compliance issues that must be addressed. Finally, your mentor should be able to connect you with key team members and stakeholders that will be critical to the success of the program.

While you will undoubtedly have at least a broad idea for which clinical program to implement, one which is consistent with your interest and expertise, your mentor should be able to provide sound insight during the planning stages. They may have key inside knowledge about other departmental or institutional programs or changes that might positively influence your plans. For example, your mentor may be aware of a new hospital partnership in which an expanded or shared multidisciplinary program would be opportune. Your ideas may align well with other departmental or institutional goals (e.g., building a disease-based center, developing centers of excellence) which would enable your mentor to steer additional resources to this project. The mentor may suggest broadening or narrowing the scope of the clinic, for example, designing a high-risk hereditary breast cancer clinic (instead of general breast cancer clinic) or a benign gastroesophageal clinic (instead of Barrett's esophagus clinic). Together, the mentor and mentee should be able to formulate a multidisciplinary clinic plan that is compatible with their clinical interest, stimulates their academic passions, and fulfills a clinical need for the institution.

Establishing Your Team and Implementing Your Program

Once the groundwork for a multidisciplinary program has been laid, key stakeholders should be selected and leadership teams built. The personnel will vary depending on the specialization of the clinic, but it is important to initially cast a wide net. In addition to colleagues in other physician departments (e.g., medicine

subspecialties, radiology, pathology, oncology, dermatology, other surgical subspecialties, etc.), it is important to recruit ancillary service leads as well (e.g., nutrition, social work, research coordinators). It is also critical to partner with clinic and hospital leadership early, working closely with the clinic director and selecting a clinic nurse coordinator. Many of these individuals will be people you have worked with before; however, your mentor may also be able to make personnel recommendations or reach out to senior leadership in departments that you may be less familiar with. It is also possible that the mentor is aware of an upcoming key new recruitment with whom you may wish to partner.

Once your team has been established, the next step will be to start implementing your program. Most multidisciplinary clinics function in a relatively similar and streamlined fashion. The nurse coordinator works with new patient and registration services to enroll patients, acquire their outside records, upload imaging studies, have scans or pathology slides reviewed by in-house experts, and coordinate the patient's visit. Patients are typically seen first by a nurse practitioner, physician's assistant, fellow, resident, or student who then presents them in complete detail at a multidisciplinary conference attended by all team members. After consensus is achieved by the group, the patient is seen and counseled by the appropriate physician(s) and staff.

Evaluating and Improving Your Program

It is important to remember that establishing a multidisciplinary program is a process. Once your clinic is running, regular evaluation is imperative. There are multiple methods of assessment: traditional and nontraditional, subjective and objective, etc. Surveys can be distributed to team members and patients. Referring providers' opinion should be sought regarding both the ease and convenience of referral and the quality of care they believe is being delivered. More formal metrics (e.g., timeliness of referrals, change in diagnosis or management from outside recommendations, length of overall appointments, etc.) should also be assessed. While evaluating the program, consider ways for expanding and improving it. This is a topic worthwhile of discussion with one's mentor. Possible examples might include expanding the clinic's scope, coordinating with an existing or new multidisciplinary cancer conference, more effectively aligning with the educational mission of the institution by incorporating trainees or students, or adding web-based and telemedicine capabilities. Your mentor may also be able to suggest methods of advertising and promoting the clinic to increase referring provider's knowledge of its existence and purpose.

Multidisciplinary Research Program

Clarifying your Research Vision

An alternative direction for professional growth and academic development is the formation of a multidisciplinary research program. In many ways, a multidisciplinary research program achieves many of the same professional goals as a multidisciplinary clinic, specifically opportunities for leadership in programmatic development and collaboration with interdisciplinary and multidisciplinary partners, focusing in a specific area of scholarly work and making impactful contributions to one's particular field of interest.

While the traditional academic surgeon maintained a basic science laboratory in addition to their clinical duties, today there are a diverse range of academic career paths. For example, clinical research (including outcomes research, health services research, and clinical trials) and surgical education are both viable career pathways in addition to basic and translational sciences. In this chapter, we will focus on health services and clinical trial research as illustrative models for multidisciplinary research that is supported by strong mid-career mentorship.

Clarifying your research vision is an important first step in the process. Ultimately, this should be formulated into a mission statement which defines the specific goals of the program and how these goals will be accomplished by the proposed program. The mentor will be pivotal not only for helping to focus your research topic/questions but also for refining your thought process regarding your research goals and methodologies for achieving them. Is the primary goal to structure a research program facilitate similar analyses across multiple disciplines? Or is the goal to develop a research program permit a broader investigation in a single field of study?

Developing a Research Skill Set

Before embarking on leading a multidisciplinary research program, it is important to ensure that one has developed the appropriate research skill set [5]. Health services and clinical trial research are increasing in popularity as academic career pathways and structured training programs for these research domains are becoming more available. Therefore, it is important to devote time and resources into learning the skills and strategies most likely to maximize the effectiveness of your program.

Many professional societies, including the American College of Surgeons and Association for Academic Surgery, offer formal training courses and didactic seminars. Specialty-specific organizations, such as the American Society for Clinical Oncology, offer courses on clinical trial design. Large academic institutions frequently offer courses and training programs, in addition to degree-granting programs such as the Master of Science in Public Health or Clinical Research. Consultation with one's mentor would be imperative to discuss the pros and cons of each of these

programs and to identify resources that would support dedicated time away from clinical responsibilities in order to pursue them, if appropriate. Finally, self-directed learning (e.g., online resources, webinars, textbooks, peer to peer) may fill specific gaps in knowledge or skills.

Establishing Your Team

One of the most important steps in building a research program is identifying key partners to collaborate with. For designing and running clinical trials, the number of required team members is extensive. For example, most trial protocols will require co-principle investigators from affiliated disciplines (e.g., oncology, gastroenterology, radiology, etc.). The team should include a study coordinator, nurse coordinator, and statistician as well as personnel from the data safety monitoring board, institutional review board, clinical review committee, pharmacy, laboratory/pathology, and sponsor. If designing trials with basic science correlates, partnering with basic or translational scientists will be prudent. Roles for team members should be clearly defined, acknowledging that there may be overlap in assignments and that a clinical trial team needs to be adaptive as protocols and circumstances change over time. Finally, leading trials through national clinical trial groups (Alliance, ECOG, etc.) while challenging is impactful and professionally rewarding.

A common misconception is that health services research only requires an electronic database and some basic statistics knowledge. In fact, a high-functioning health services research program requires a large team: multiple faculty leaders, data analysts, biostatisticians, administrators, and project or clinical coordinators. In addition, as health services analyses become more sophisticated and complex, you may consider collaborating with nonmedical specialists such as economists, psychologists, anthropologists, and health policy experts outside of academic surgery. Building an expert team can be a daunting task for any individual. Discussions with your mentor(s) will assist in the identification of candidates, the forging of new relationships, and the securement of resources to recruit team members.

Securing Support and Funding

Another common misconception is that clinical research (unlike basic science research that uses equipment, reagents, animals, etc.) does not require funding. However, for multidisciplinary clinical research, whether clinical trials or health services research, to be meaningful requires significant investment to support the costs of software, personnel, infrastructure, salary support, and more. On the other hand, the amount of available NIH funding is decreasing, and applications are becoming increasingly competitive. Investigators are therefore encouraged to seek out alternative sources of funding. Potential opportunities include other government-funding sources (AHRQ, PCORI, HRSA, and VA), professional society grants, disease-specific foundations, institutional funds, and philanthropy. Occasionally,

especially at the time of recruitment, "start-up" funds may be included in your hiring package. These funds are considered an investment, expecting that, eventually, your research program will lead to independent external funding. Regardless of funding source, selecting a mentor with a track record of obtaining extramural funding will increase the chances that they can successfully mentor you toward becoming independently funded as well.

Part III: Evaluating the Impact of Mid-Career Mentorship

Benefits and Challenges of Multidisciplinary Programmatic Development

As the surgical sciences become increasingly specialized, effective clinical care and impactful health services research will depend on collaborative efforts across disciplines. Although challenging and resource intensive to build, multidisciplinary programs have important benefits for both patients and team members. Multidisciplinary clinics are associated with improved quality of care and frequently lead to a change in the comprehensive treatment plan among patients seeking a second opinion [6, 7]. Because of their convenience and expertise, they are viewed favorably by patients. Similarly, by bringing people with diverse sets of experience and expertise together, multidisciplinary research programs may be the best mode for producing novel research.

At the same time, these programs offer innumerable benefits to those involved with their development and especially the academic surgeon leading the process. Establishing a multidisciplinary program offers the opportunity to hone one's leadership skills including effective communication, networking, and relationship building. There is incredible personal satisfaction and professional growth that accompanies successful programmatic development. Either program will lead to new academic opportunities. A multidisciplinary clinic may lead to new skill acquisition, increase in referrals, or prestige as an expert in specific area. A successful health services research program will not only result in a diverse portfolio of interesting research and high-impact publications but also attract new faculty, trainees, and collaborators as well as present opportunities for extramural funding.

One of the biggest impediments for the mid-career academic surgeon in programmatic development is lack of necessary time and resources. Multidisciplinary clinics and research programs require significant investments of time which is challenging given current clinical, research, teaching, and administrative commitments. In addition to assisting with allocating dedicated time to this project, one's mentor may also be able to help identify "disopportunities" in your current schedule. For example, are there excessive institutional obligations that are no longer academically productive (e.g., hospital committees) that could be transferred to a junior faculty member? Funding your program may prove challenging, and nontraditional sources may be a

need to be considered. For example, is a charitable giving or even endowment an option for the multidisciplinary clinic? Are institutional pilot funds available for a health services research program?

Assessing and Improving Your Mentorship Relationship

It should be clear by now that aspiring to build multidisciplinary programs requires thoughtful mentorship. Indeed, quality mentorship is important, and it should be prioritized by academic departments as it is associated with increased publications, grant funding, and faculty retention [8, 9]. Nevertheless, there are challenges to initiating and maintaining effective mentorship. Therefore, regular assessment and early identification of "at-risk" warning signs, such that effective intervention can be applied, are critical. These objective signs might include frequent canceled or "no-show" meetings, failure to meet prespecified deadlines, poor communication (e.g., delayed email responses), or nonproductivity (e.g., publications, grants, etc.).

Previous research has found that failed mentoring relationships were often characterized by poor communication, lack of commitment, personality differences, lack of mentor experience, and/or competition with the mentor or other mentees [10]. Another major cause of failed mentorship is insufficient time or failure to prioritize time. In addition, it may become apparent that the mentor and mentee are less compatible than they initially thought. On the other hand, lack of motivation or inflexibility on the mentee's part can lead to an ineffective mentoring relationship.

All efforts at improving mentorship should begin with an open dialogue about diagnosing the cause(s) of the ineffective mentorship. Once the problem(s) have been identified, the optimal strategy for handling these challenges will vary and therefore should be implemented on a case-by-case basis (Table 11.2). After implementation of any of these steps, repeated assessment and intervention should be

Table 11.2 Common contributors to failed mentorship and potential opportunities for improvement

Examples of factors contributing to failed mentorship	Potential intervention
Insufficient mentee time	Request "off-loading" of administrative obligations
Conflicting schedule	Consider meeting before/after typical work hours or on weekend
Delays in email response	Hold some meetings/discussions over the phone
Perception that mentoring undervalued	Recommend a departmental "mentoring award"
Lack of mentoring experience/ confidence	Formal mentoring coursework or coaching
Distracted or unfocused meetings	Establish agenda prior to meeting
Perception of lack of commitment	Establish regularity of meetings and commit to shared expectations and goals
Concern for abuse of power	Consult with senior member of the department

considered on a regular basis. While the mentee may need to eventually seek out a new mentor, it may behoove him to first work to salvage the relationship since, compared to who is available for junior faculty, the number of senior faculty available for mentoring mid-career surgeons is likely considerably less. Finally, it is important to acknowledge that developing relationships with multiple mentors, in order to gain input from people with diverse strengths and backgrounds, is not only acceptable, but typically encouraged.

Conclusions

Effective mentorship is critical to inspiring and developing the careers of successful academic surgeons. While mentorship has clearly been linked to the academic success of junior faculty, the mentorship needs of mid-career academic surgeons are less appreciated. As these faculty are often at a professional inflection point, seeking out new academic opportunities and transitioning to senior leadership roles, the value of effective mentorship could not be greater. Establishing a multidisciplinary program, either a specialty clinic or clinical research program, represents an important opportunity for professional growth with considerable potential for clinical and academic impact. Nevertheless, aspirations for programmatic building are much more likely to be successful under the guidance of an experienced mentor who can assist with programmatic vision, identify necessary resources, and network with key personnel. Ultimately, mentorship is most effective when it is prioritized, individualized, and regularly maintained through direct assessment and improvement.

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Chapter 12
Mentorship for Those Whom the Operating Room Is No Longer Their Theater

Murray F. Brennan

When Is It Time to Stop Operating?

It is well established that different occupations have different criteria for retirement [1]. In farm laborers, less than 4% are 65 years or older, whereas for professionals, managers, and administrators, 15–20% are over the age of 65. The difference between men and women is real. For service workers in the retail trade, over 65-year-olds make up greater than 30% of the female workforce; in contrast, in construction, less than 5% of males and 2% of females are in excess of 65 years. The explanations for these differences are multifactorial. It is no surprise that workers in occupations that entail physical activity and risk are more likely to retire earlier, often associated with poor health. Employment opportunities vary widely by country. For people over the age of 55, opportunities for employment in Turkey and Greece are between 30% and 35%, whereas in Ireland and New Zealand they are 75–80% [2].

Pension plans, where they exist, are more likely to address the requirements of the entire workforce rather than to be a major factor in inducing retirement. Conversely, the absence of a pension plan or deferred compensation plan limits the options for many. In 2018 living off Social Security benefits is tenuous at best.

Even the definition of elderly is variable within occupations. The OECD (Organisation for Economic Co-operation and Development) defines elderly as being over the age of 55! In the USA that may well be perceived as age discrimination. Certainly if the definition of elderly is linked to the availability of access to a retirement plan, then this can be a factor for many.

Most surgeons claim that they are at the peak of performance between 40 and 60. There is little doubt that cognitive and technical skills decline with aging although

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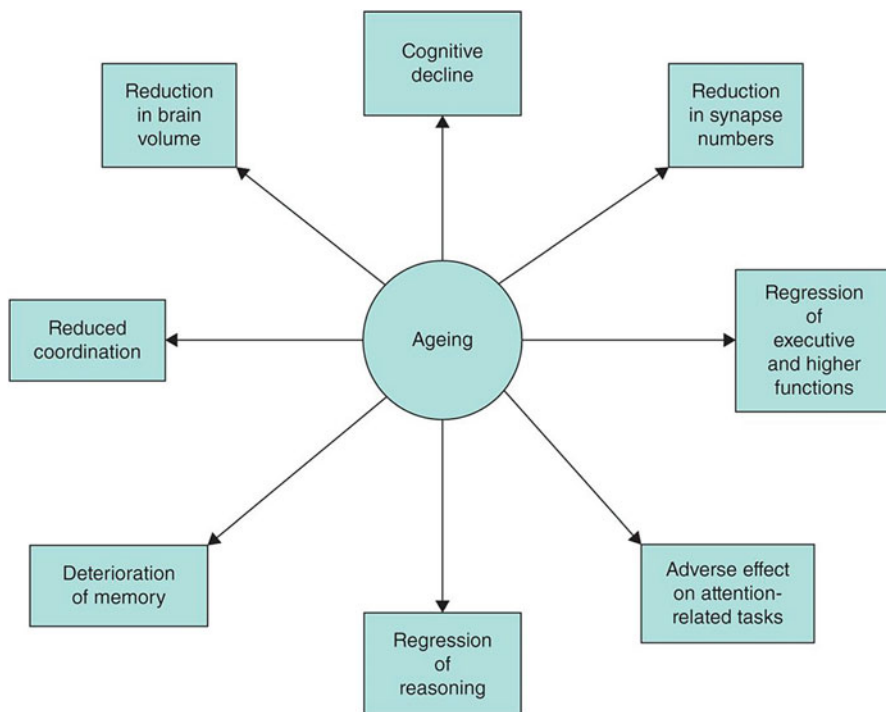
Fig. 12.1 Effect of aging on the biology of the brain and its functions (With permission from: Bhatt et al. [3])

not in any uniform manner. In a major literature review [3] (Fig. 12.1), the changes that accompany aging are truly frightening. When I look at this figure and realize that my aged brain is smaller with less synapses, my ability to perform executive function is decreased, my attention span is lost, and I have overall cognitive decline; it amazes me that I have gotten this far with this treatise! The American College of Surgeons has addressed these issues in a series of articles in the bulletin (bulletin.facs.org). They emphasize that one-third of active operating surgeons are over the age of 55. They do not recommend mandatory retirement but emphasize the diminution in technical and cognitive skills after the age of 65 and strongly encourage oversight by other colleagues. This is easily said and hard to perform. The surgeon most likely to need oversight is the one least likely to accept or receive it.

Operative surgery is one of the most fulfilling careers that one could hope for. Operative performance becomes an essential part of who we are, and the more active and involved the clinical surgeon, the more difficult it is to let go. We all know people who exit well and people who do not exit with grace. We all know surgeons who operated too long, and few know of surgeons who voluntarily gave up too soon. The balance between the two is a great challenge.

Who is there to mentor someone in this transition? Far too often we hear of senior surgeons who become an embarrassment to their colleagues and yet because of seniority and preeminence are rarely challenged.

The when, how, and why of retirement has been examined in numerous studies. Much is decided by personal financial considerations [4]. How do we make these decisions? Once the financial issues are addressed and it is possible to retire, other issues become far more important. Most surgeons are not limited by financial considerations but much more dominated by personal identity and perceived self-worth. We think that we will ask the important questions whether or not we remain physically, mentally, and technically capable. Often, however, emotion gets in the way of sensible decisions, and at the time we should be most self-critical, we are least likely to be so.

A 2002 review by Greenfield describes what is known about aging and emphasizes previous descriptions of cognitive and technical diminution [5]. The data that does exist emphasizes that cognitive decline begins in the 60s and progressively declines [6, 7]. We all age differently [8]; hearing impairment occurs in 25% of individuals 65–75 years old, cataracts and glaucoma a great deal more. Among those over 65, other unique factors that influence the surgeon include cognitive change which results in errors in diagnosis or the diminution of sustained concentration which limits the ability to complete prolonged and complicated operations.

For me the data was highlighted by Dr. Waljee [7] and Birkmeyer [9] (Figs. 12.2 and 12.3). Clearly there was a higher mortality for complicated cases in the surgeon over 60, but having gone from an individual and departmental operative mortality for pancreatectomy of 4% in the 1980s at a time when operative mortality in New York State was as high as 25% to now less than 2%, perhaps I could have continued. However, if all that was achieved was an increasing individual mortality hidden in the large volume of the institution, that must be inappropriate for the individual patient. The high mortalities described by Waljee and Birkmeyer were a reflection of administrative data sets not individual institutions considered centers of excellence. Increasing mortality with age was, however, compensated by increasing the number of cases, i.e., the age impediment was balanced by high volume. Many surgeons do not want to do high volume as they become more senior which would appear to be the exact wrong thing to do. The concept of slowly fading away should be replaced by "flaming out."

We do not pay attention to this information; we think of the surgeon who believes that he can slow down and gracefully exit or at least avoid embarrassment. For those involved in major operative procedures, this is exactly the wrong thing to do. One can only compensate for age-dependent cognitive and physical decline by maintaining one's physical health, taking advantage of excellent assistance, relying on experience, and most importantly maintaining volume. The senior surgeon rarely is willing to perform in this manner. He or she, at the time of failing judgment, is the one least likely to recognize his or her own frailties.

Another question is how does the senior surgeon adapt to technological change? For my generation, was it appropriate to retrain with minimal invasive techniques, especially the robot, which are well mastered by younger colleagues, or should we
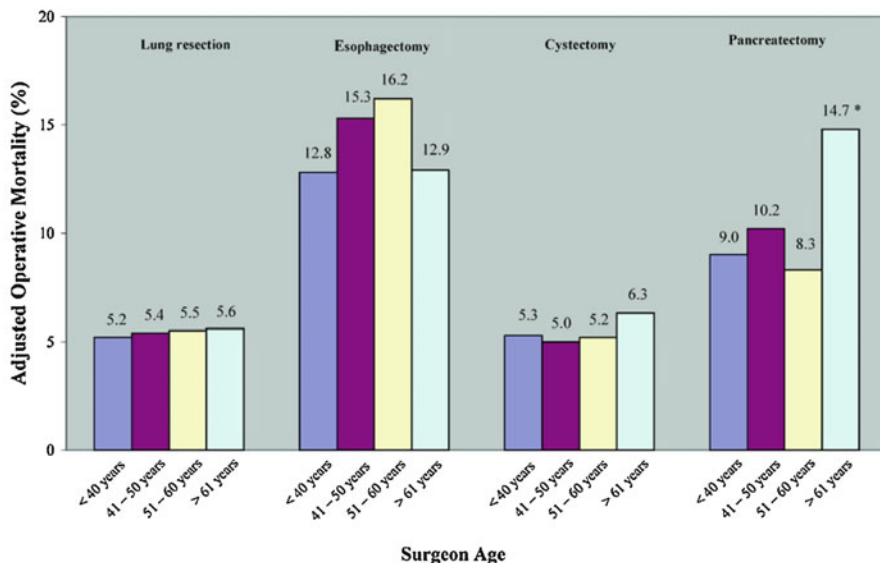
†Adjusted for patient severity, race, gender, age, surgeon volume, hospital volume, and hospital teaching status.
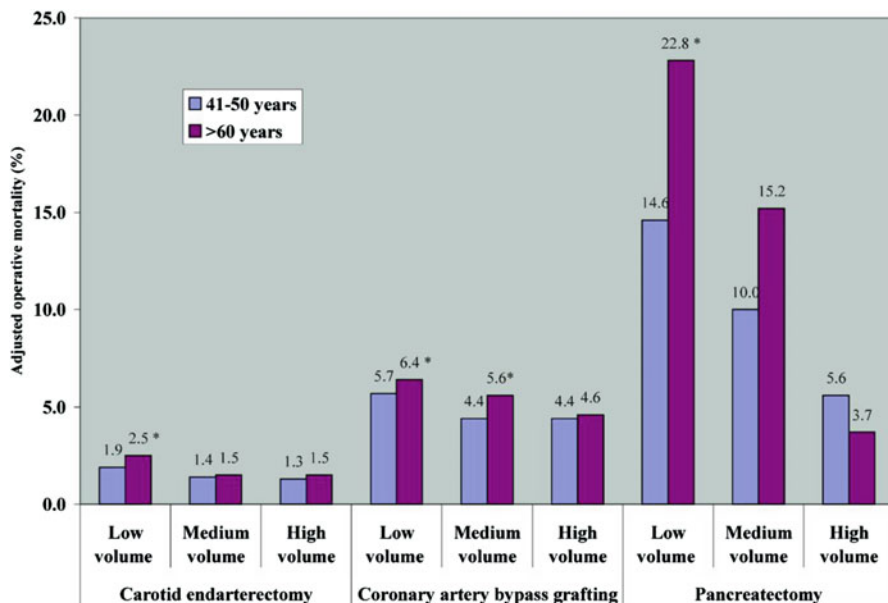* $p < 0.05$

Fig. 12.2 Adjusted operative mortality among Medicare patients in 1998 and 1999, according to surgeon age, for four cancer resections (With permission from: Waljee et al. [7])

continue to do what we do best inevitably being seen as an antedated curmudgeon? [9].

How should we judge? Others have suggested [3] that individual competence or functional ability should be the limiting factor, but who makes that decision? The individual surgeon immersed in his/her own emotional issues may well be the person least capable of making such a decision.

So when is it time? It has to be "two years before someone tells you it is time." Having used that mantra as a department chairman, I was faced with playing by my own rules. But as it is hard to define when to stop, it is even harder to know when the two-year time clock has begun to tick. Having in my own case made a firm decision in my late 50s to stop being a chairman at the age of 65, I needed to do as I had previously declared. For me that was a good decision, and I would strongly encourage the concept of setting dates and times ahead of such major decisions. When I reached 65 as chairman, I was encouraged to stay, and had I not previously formally declared my intention, I may well have continued, risking deteriorating competence and departmental degradation. In retrospect I may have stopped too soon, but it was time – time for other people to provide new leadership and open the way for more youthful leadership. This is not a common event but is one I firmly believe in and to which more attention should be paid. Never "sit on a winning hand too long."

The decision to stop operating was a further extension of that defined time process that worked best for me. I chose a date and time, announced that a year earlier, and

† Adjusted for patient gender, race, admission acuity, age, and Charlson Score.
* p<0.05

Fig. 12.3 Adjusted operative mortality among Medicare patients in 1998 and 1999, according to surgeon age and stratified by surgeon volume (With permission from: Waljee et al. [7])

then carried through. This was a much more difficult emotional decision, intellectually correct but emotionally very challenging. Who am I if I am not a surgeon? That is the essence of finding mentorship guidance, to give up something that truly characterizes and defines one.

How do we do this? For most surgeons operative surgery is what they do, and for many it is who they are. How can we give up who we are? How do we substitute that action that has been the essence of our being? The inability of many to stop operating can be tragic. Every physician, certainly every chairman, knows of a few people frightened by the inevitability of giving up who they were or are and continue to operate long after they should cease. How to convey it is not "giving up" but that it is "moving on"? How can we gain insight into this problem? How can we advise and consider and help with this transition? The major concern that I see is an unwillingness to accept the inevitable. We all die, death is not an option. So too will we all stop operating; we will all stop participating in clinical care. But when and how?

For many senior clinicians and those who have led in their field, giving up the identity that defines them is an extraordinary challenge to self-esteem. The larger the ego, the more difficult is the retreat.

The idea that after a lifetime of being a mentor a senior surgeon could once again become a mentee is rarely if ever discussed. Who was there to tell the senior surgeon,

"It is time"? We all advise our young trainees and junior faculty to either come with a mentor or find one. But who is there for the senior surgeon? My only solution to this is to formalize the process. Life is about expectations, and if we define for the faculty that there will come a time when he or she will be guided to seek an exit that sustains an identity he or she would wish, then it is not unexpected.

While the data are clear from Birkmeyer [9], Greenfield [8], etc. that in complicated operations the older surgeon can only continue if he or she maintains volume, there is still the question of is there room for a partial exit? Some surgeons have enjoyed becoming assistant rather than lead surgeon. Others find this intolerable. I would not have been good at giving absolute responsibility to someone else or to be asked to assist in a procedure that I perhaps did not agree with, or more importantly did not think was indicated or performed appropriately. For me no matter how much I saw myself as an intraoperative teacher, in my mind there was no doubt who was in charge and who was ultimately responsible. Part of the challenge when active was to be able to assist and provide guidance and develop the skills of the residents and fellows, but a reversal of that role may well mean just another interfering fogy. Overall I thought that was a bad idea; others may disagree.

Certainly it is different for those involved in less physically challenging surgical procedures, perhaps breast and endocrine, melanoma, or inguinal hernia repair, than it is for those with the demanding challenges of major operative care such as transplantation, trauma care, or major gastrointestinal procedures. Where clinical care and operative care involve a 24/7 commitment, the awareness of the physical demand with variable and inconsistent sleep should make the decision to exit easier, but it often does not. Who has not heard of the senior surgeon who famously does not take calls after 9 pm? Is he still a surgeon? Would you wish him to be your surgeon?

One aspect that makes the exit from operative surgical care easier is the awareness that there are subsequent options. The problem is many do not address these options until a precipitous exit is demanded. Here is where the option for active intervention and mentorship can make a difference. This usually devolves to the chairman or the division head who recognizes in advance the need for a process for transition. This like any other area of mentorship requires definition of timing with clear programmatic goals. As much of life is about defined expectations, the earlier the expectations are articulated, the better. The failure of a chairman to address this issue is a failure in leadership.

Alternatives to Allow a Graceful Operative Exit

One valuable role is to transition to a different teaching role. How valuable it is to ask the senior surgeon, 5 years prior to his presumed exit from operative care, to begin to document and record his major operative procedures in video form. This is an asset to the department, an asset to the individual, a great opportunity to involve young faculty, a testament to the senior surgeon, and a wonderful tool for future teaching. This commitment to document operative procedures allows the discussion of how

the senior surgeon will spend his or her time when the operating room is no longer his theater. In retrospect I wish that I had done more of this myself, for although I encouraged others to do so, I would like to see how well I did a procedure now years ago. I would like to see if I was as good as others told me, even as good as I might have thought myself to be. No use relying on personal memory, we all recall we were better athletes in our youth than we were! I did not do what I encouraged in others because I felt that I did not have the time, and I knew I had other options when the operating room was no longer my theater.

What other options exist? How can one take the 5 years pre-operating room exit to redefine a life after operative surgery? My decision began somewhat slowly conceptually. I imagined a role in international surgical education. This philosophical thought was just an extension of one aspect of my active academic and surgical career. But this time it would not require that I personally perform the operative procedure. What was required was how to refine such an activity into a full-time or at least part-time career activity. So, no longer chairman, I took the time while continuing to operate to redefine my role. The freedom from the administrative burden of chairman meant I had time, a unique resource. The feeling when you are no longer a chairman and you actually have control of your time is remarkable – control of your time such that there is actually time to put aside for specific activities that relate to the development of your future. All surgeons come to work in the dark, but what a pleasure to recognize that you could go home in the daylight and that it was just not true that the sun only comes out on the weekend, usually after noon on Saturday.

I was able to take my interest in international surgical education and begin to identify a serious role of managing the institution's international programs. This was a widespread activity ranging from international patient triage, establishing a strong financial base for the institution in referred self-pay or government-supported patients, consulting on the development of cancer centers in various parts of the world, and maintaining my interest in developing an international surgical disparities program. This latter activity while not requiring major institutional finance gave another opportunity to mentor young faculty in academic careers in global surgery.

Nothing succeeds like success. You receive administrative support when you prove to be a viable financial entity. Given the observed vagaries of our healthcare system, self-pay patients essentially pay 100% of charges, way in excess of what is provided by many insurance programs and all government-supported programs. How unfortunate that we use the self-pay patient as a revenue generator to substitute for and bolster up a society unable to come to grips with a sensible healthcare delivery plan for the uninsured. Are we proud to ask international self-pay patients to support in part the under-supported, under-insured US citizen? But I digress.

This new reinvention of self seems to be working for me, but nobody mentored me; nobody told me what to do. But I did as a chairman try to help those reaching seniority. Simply asking the question of what was next resulted in everything from a graceful request for assistance to threats of a legal suit claiming age discrimination. So for the surgeon contemplating on exiting the operating room, he or she has a burden to identify what the next step might be; that is the challenge. Once identified,

there are numerous areas that can provide support if you know what you want. If your nonoperative follow-up is to be in teaching or administration, then that discussion must start with the chairman to define a role as a teacher, operative assistant, clinic or operating room supervisor, promotions committee facilitator, or some combination. That this can be part- or full-time can be a great blessing, knowing that nonoperative full-time is no longer full-time.

Defining the expectations of yourself and the chairman will help ensure a gracious and laudatory exit. You cannot expect the chairman to be clairvoyant, but you can anticipate his or her help if you ask the question long before its initiation. If however it is a role within the institution more broadly based than the Department of Surgery and you have to have another collaborator, you have to clearly understand what you want to do in order to obtain it. This is an example of the reversal of the mentor-mentee relationship. The current mentor now must become a mentee.

Central to these activities is the maintenance of personal physical and mental health. Once out of the operating room, out of the responsibility of 24/7 patient care, you certainly have no excuse not to begin to take care of your body and mind, if you are not already doing so. One challenge is that with the control of your time, lunch and supper become realistic options, and for bodies accustomed to eating only on the run, this is a real threat to your BMI. Only moderation in intake and increased exercise can help. Having not eaten lunch outside of the operating room for 35 years, this was a real personal challenge. Discovering, however, that the sun comes out during the week not just on the weekends was a joy.

When to stop all academic activity is perhaps a greater challenge. How do I now describe myself? I note that as I fill out various documents when asked my occupation, I no longer say surgeon. Am I justified in still saying physician? Perhaps there is never a time to stop. There should be no stopping of thinking, reading, and being active. For many surgeons, they had no other friends but those within the profession with whom they spent their life. Where will my friends come from? Am I fortunate enough to have a church or synagogue or temple or mosque, a volunteer program, a veterans hall, a fitness facility, a family, or even a vineyard or a boat? Can I indulge myself in riding my bicycle more slowly or playing old man squash? Those who do are fortunate, but many are not. Beware of suddenly appearing to an unsuspecting spouse who has not seen you in daylight for years and expect instant companionship. Most marry or partner for life and love but not breakfast or lunch. Plan ahead and embrace family and your family's family before you show up unannounced to enjoy but not care for the grandchildren.

Institutions should help more; some institutions are generous in their support of retired and partially retired faculty. The current leadership of any faculty should begin to design a process or system that supports the retired or less active faculty that have been responsible for the reputation of the department. Gravitas does come with age, although some express gravitas as being a curmudgeon. Administrations rarely see the value of support of such faculty despite their contribution to prior and current institutional preeminence. No RVUs (relative value units), no office, no support. How unfortunate. To avoid this requires leadership – leadership by the institution,

the department, the chairman, and indeed the young faculty planning for their own gracious operative exit.

Industry often does better; the retired CEO if not a resource is often supported by space and assistance. It will be easier for the next generation who, while as talented and capable as this generation, almost certainly appreciate the work-life balance far better than we did. Perhaps they are the ones that will define how to make this transition as they try to avoid the problems inherent in a profession that truly is life consuming. I would not have had it any other way, but I am equally certain that my way is not the only way. How fortunate I am. I had the cake and it is now here for the eating.

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Chapter 13
Mentorship for Life Balance Success

John L. Tarpley and Margaret J. Tarpley

Just as there are seasons of one's life, there are phases to one's academic surgical career; life balance success may look slightly different in each. Concern for academic grades shifts to cognitive and technical skills with added attention to personal relationships involving partners, spouses, children, and parents, as well as career decisions involving geography, finances, and potential for advancement, and eventually decisions concerning career refocus, administration, leadership opportunities, and finally retirement. The period as mentee shades gradually into that of mentor as life experiences contribute to knowledge and, hopefully, wisdom to share with the surgeons that one establishes relationships with as teacher, coach, leader, colleague, and friend [1] (Table 13.1).

A relatively recent addition to the medical vocabulary is emotional intelligence (EI), popularized by Daniel Goleman's 1995 book that elaborates on the neurological and psychological aspects of that ability to control one's own emotional impulses, read another person's emotions or feelings (empathy), and thus handle interpersonal relationships more intelligently [2]. EI is not innate but must be intentionally internalized and then practiced. Mentorship involves intelligent interpersonal relationships that should result in life balance success as well as career success.

These keywords – mentorship, balance, and success – will be discussed as they relate to the different challenges and prospects that confront one during the various developmental periods of one's academic surgical career, often followed by our "unsolicited advice."

Mentorship Homer's *Odyssey* introduces Mentor as the individual to whom Odysseus entrusted his son Telemachus as he set out to fight in the Trojan War. More than an advisor, Mentor (plus the goddess of wisdom Athena who impersonated Mentor

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Table 13.1 Academic surgery

1970s	2018
Residency pyramid	Retention vs. attrition
General surgery – Robust	Balkanization of general surgery
Mostly men, at-home spouses	Men and women: Dual-career couples
Salary	Incentives
Remuneration rising	Reimbursements down
Public appreciation	Litigation/malpractice
Relative resident autonomy	Documentation of resident supervision
Unlimited resident hours	Resident work regulations – ACGME
Few full professors	Academic rank inflation
Education/apprentice model	Business model/marketing/bottom line
Low medical school tuition	Medical school debt
Documentation – minimalist	Electronic medical record: data entry

on occasion) lived with Telemachus and served as teacher, guardian, and essentially the "parent in absentia" [3]. In current parlance, the word "mentor" frequently becomes a synonym for "advisor" during some finite period (research project, career decisions, etc.) but without the long-term commitment and level of responsibility of the original. During one's academic years, many advisors will be sought and consulted along the way. A surgeon is fortunate indeed to have one true mentor, that individual who, over time, serves as role model, advocate, advisor, and more (surrogate parent). Moving to the latter twentieth century, the acronym proposed by Wiley Souba in his article "Mentoring Young Academic Surgeons, Our Most Precious Assets" highlights actions constituting a useful job description for the mentor of today. Carlos Watson in *Beyond Mentoring* adds "I" for "Introduce" [4]:

*M*otivate,
*E*mpower and encourage,
*N*urture self-confidence,
*T*each by example,
*O*ffer wise counsel,
*R*aise the performance bar, and.
*S*hine in the reflected light [5].

*I*ntroduce at every opportunity.

Souba's acronym plus "I" can serve as a template for examining and evaluating the mentor relationship. The concept of "strategic vulnerability" arises as one decides how much to share; academic and career issues are usually safe, but disclosing confidential personal matters might involve risk, thus requiring trust and assuming confidentiality. In some situations, a person may be fortunate enough to have more than one mentor due to career choice, location, or other circumstance.

As one moves from mentee to mentor, one should examine one's own motivation and method when seeking to serve as a mentor to younger surgeons as well as peers.

Balance Work-life balance is a relatively new concept in the medical community with almost nothing in PubMed until the mid-1980s. Of the total 1991 articles, over three-quarters appeared in the last 11 years (2007–2017), and only 26 concern balance in academic surgery. Balance between work and life outside of work has definite seasons, wherein various aspects of life require greater or lesser attention, plus balance will display (rightly or wrongly) gender differences with studies revealing women physicians may shoulder a disproportionate burden of household chores, childcare, and elderly parent responsibilities [6].

Success Sir William Osler in his address "The Master-Word in Medicine" commented: "I owe my success in life, if success means getting what you want and being satisfied with it. . . ." [7]. In Charles S. Bryan's *Osler: Inspirations from a Great Physician*, the eighth and final chapter is entitled "Seek Balance: A Simple and Temperate Life." Indeed, all Bryan's chapter titles apply to the charge of this chapter and are worth noting: 1, Manage Time Well; 2, Find a Calling; 3, Find Mentors; 4, Be Positive; 5, Learn and Teach; 6, Care Carefully; 7, Communicate (Learn to Write. Learn to Listen. Learn to Speak. Share Concerns. Be Political. Be Careful What You Say); 8, Seek Balance; and Epilogue, Osler on Character [8].

There are habits and practices that one builds up from youth and the undergraduate university years which permitted success in gaining entry to medical schools. As one moves throughout life, there are some habits and practices which are honed and others which are discarded. One's values and nonmedical commitments, relationships, and avocations will interact with the challenges of one's career. William Sloane Coffin Jr. in *A Passion for the Possible* distinguishes career and vocation. Career derives from *carrera*, Latin for "racetrack," with the image of one going round and round in search of transitory fame and glory. "Career," "car," and the pejorative term "careerist" derive from *carrera*; there is even a Porsche named the Carrera. Vocation, from the Latin, *vocatio* and *vocare*, "to call," bespeaks "calling, that whereunto God has appointed us to serve the common good," the term used by religious (priests and nuns) for their life's work [9].

In "The Fixed Period," Osler's 1905 valedictory address at Hopkins before he moved to Oxford as the Regius Professor of Medicine, he advised, "The teacher's life should have three periods, study until twenty-five, investigation until forty, profession until sixty, at which age I would have him retired on a double allowance" [10].

With increasing lifespans since Osler penned these words as well as more career fluidity with engineers, English teachers, ecologists, and others electing to pursue medicine as a second career, this chapter will examine four seasons of one's academic surgical journey without age designations: (1) medical school; (2) residency and fellowship; (3) faculty positions – entry level, mid-career, and senior; and (4) the mature surgeon and retirement.

Undergraduate Medical Education Years: Medical School

Prior to medical school, the aspiring physician evinced prowess (academic, athletic, musical, literary, service, etc.) in high school and college. Currently, earning an interview – not to mention gaining entry – for medical school is a daunting exercise necessitating an exemplary academic record often coupled with research as an undergrad, good to excellent MCAT scores, likely a humanitarian service record, perhaps a year abroad or in an underserved area working with the homeless or abused, great interviewing skills, and a robust record of leadership plus athletic, dramatic, artistic, or musical accomplishments. Publishing a book or leading cheers for a pro football team won't harm. Reality testing sets in the first year, the first set of exams when two-thirds of the class are no longer at "the top." We liken this to noting up close the differences by a few feet in heights of sequoias or redwoods, when, in fact, every tree is exceedingly tall. Some med schools have responded by shifting to pass/fail for the first year or second or even fourth. "Kathryn" is a Dean's reflection on the suicide of a fourth-year medical student in which he notes:

> . . . .one of the root causes of the national epidemic of burnout, depression, and suicide is a culture of performance and achievement that for most of our students begins in Middle School and relentlessly intensifies for the remainder of their adult lives. . .. . .From their very first shadowing experience to their first foray in the lab; from high school advanced-placement courses and college admissions tests to grade point averages and the Medical College Admissions Test (MCAT); with helicopter parents, peer pressure, violins and varsity soccer, college rankings, medical school rankings, medical licensing exams, and the residency Match, we never let up on them — and it's killing them [11].

In the past decade, the words "wellness" and "work-life balance" have taken on an increasing significance (gone viral in the twenty-first-century parlance) for medical educators, particularly in medical school, with curriculum including planned outings away from academic pressures and classes on wellness. Medical students vigorously cite work-life balance in open debates about lifestyle options of specialty disciplines such as comparing emergency medicine to general surgery. Even during surgery clerkship rotations, medical students may be pulled from clinical responsibilities for walks in nature, yoga exercises, team building, and myriad of other activities, all to augment balance and wellness. This initiative may derive in part from reports such as Muller's concerning a spate of suicides among medical students and residents over the past decade. However, a 2017 ACGME study of resident suicides between 2000 and 2014 reported that resident death rates from suicide were lower than in the age- and gender-matched general population [12].

Obtaining a highly competitive residency, the goal for academically focused medical students, necessitates conducting research, presenting at meetings, and – best of all – publishing. The trek continues with the first job, joining societies, moving up the ranks academically, and competing yet again for promotions or perhaps positions at a "more prestigious" institution, and on and on.

Suggestions (Unsolicited Advice) for Balance in Medical School

- Challenges during the 4 years of medical school are academic, time management and efficiency skills, refining priorities, and seeking to not only survive but somehow thrive.
- Be realistic: Not every person in a med school class can finish in the top half of the class even if they were in the top 1% of the undergrad. Innate intelligence is not a substitute for hard work, and sometimes the technical skill and judgment prized by the surgical community may not correlate with the highest MCAT score.
- Set goals and establish priorities: Study, exercise, eat sensibly, don't abuse alcohol or drugs, get sufficient rest, attend to psychological and spiritual needs including personal relationships, and work on time management skills. Is training for a marathon or being the chair of multiple extracurricular activities compatible with academic success?
- Take advantage of the attention paid to wellness and balance in today's medical schools. Make use of interested faculty and seek out persons who might serve as advisors; seek help when feeling overwhelmed or ill, especially for mental and physical problems – neoplasms and suicide are implicated in the ACGME study of resident deaths. Seeking a medical school mentor (or advisor with mentor potential) who is willing to evaluate the whole person and can offer sensible advice about career objectives and residency potential is essential.
- Learn what emotional intelligence means and practice it: Think before you speak, try to see issues from other points of view, and be empathetic.

The Graduate Medical Education Years: Residency and Fellowship

The internship year (PGY I), chief residency year, and the first year post residency or fellowship are arguably 3 years with the steepest learning curves in a surgeon's 40 or so years of preparation and practice. The 20s and 30s are challenging ages on multiple fronts: intellectual, technical, relational, financial, physical, etc. What discipline to consider for fellowship? To marry or not? What of children? Should I buy a house or rent? Can we keep all the relationship wheels on? Balance in residency and fellowship involves not only skills improvement, career direction, and financial decisions but also personal relationships involving partners, spouses, or children. Law and colleagues from Toronto declare, "Erosion of personal relationships could affect resident wellness and lead to burnout" [13]. Surgery fellow Brenessa Lindeman posits that spouses of residents may qualify for sainthood [14]!

The burden of student debt hangs heavily over many (most) residents and may influence any or all decisions. Making sensible financial choices (translation – what one can truly afford) regarding housing, vehicle, and even leisure/vacation activities

can lessen stress. Are 1 or 2 years of research and 2 or 3 years of fellowship obligatory or necessary? Yes, likely if one aims for an academic career today. Surgery training ranges from a minimum of 5 years to as many as 10 years, perhaps the most important and formative period of one's life. Women shoulder the added burden of overlapping their training years with the most health-auspicious period for having children. Seeking a mentor in residency is critical, and finding that right person can lead to a lifelong relationship. Same-gender (or other shared characteristics such as underrepresented minority status or ethnicity or gay, lesbian, bisexual, transgender) and mentor-mentee relationships are not mandatory but may be advantageous and safer; the mentee requires a mentor who can empathize and sensibly advise when issues involve pregnancy, interpersonal relationships, bias, harassment, or other sensitive situations. A 2016 survey of gay, lesbian, bisexual physicians in the UK National Health Service reported 70% of respondents had experiences just below harassment level within the past 2 years [15].

Suggestions (Unsolicited Advice) for Balance in Residency

- Take advantage of the mentor program (if there is one) in the residency program and be intentional in seeking a mentor if no formal system exists. Lacking a mentor who models work-life balance has been cited as contributing to resident attrition [16].
- Maintaining one's personal relationships when working twice the hours of nonmedical neighbors and avoiding inappropriate relationships including power imbalance ones (need to know institutional policies) can be challenging but is a function of priority setting.
- "Eat when you can, sleep when you can. . . ."
- Practice emotional intelligence.

Postgraduate Medical Education Years: The Faculty and CME, MOC, Recertification, Etc.

In contrasting the present era with the 1970s when many current surgical leaders trained, one notes numerous social, financial, workforce, workplace, and regulatory changes that have altered the landscape and pertain to entry-, mid-, and even senior-level faculty.

The early or entry level faculty years In "Developing the Young Academic Surgeon," Staveley-O'Carroll and colleagues provide useful advice: "Today, as the complexities and vicissitudes of our work increase, it is practically impossible for even the most gifted young surgeon to be successful without careful attention to career development. Faculty development must be deliberate and strategic:

customized, measurable goals, monitored, buttressed by effective mentoring" [17]. In growing successful new faculty members, there are various and competing routes: the busy clinical surgeon, the clinical investigator, the surgical educator, and the surgical scientist. In the 1960s and 1970s, one heard talk of the "triple threat": excellence in clinical care, research, and education. In the current era, the surgical administrator now creates the "quadruple threat." Few can succeed in all three or four areas, though some proficiency in all four is expected. How to proceed? The task and challenge for the entry-level faculty member is to intentionally chart the course. A young surgeon who has an advisor, group of advisors, and/or mentor whose goals are success for the young faculty member and who actively nurture the process is fortunate. Remember, too, that "the perfect is enemy of the good." Seeking perfection may lead to inaction and impede forward progress [18].

Attention to relationships continues to be paramount. Female physicians are more likely to divorce than male physicians with work hour differential cited as a likely contributing factor [19].

Suggestions (Unsolicited Advice) for the Early Faculty Years

- The first substantial salary check anticipated by the new faculty leads some to make unwise financial decisions. Indulging in immediate acquisition of any or all of those "things" that were out of reach on a resident's salary likely proves risky. At some stage, a financial advisor might be required.
- Continue to communicate with the mentor attained in residency if that relationship has been fruitful. If a mentor is needed, seek one who can provide guidance in the new environment.
- Value a mentor who introduces you to colleagues and surgical leaders.
- Family concerns may surface for those with children and in committed relationships. Gender differences arise when children and domestic responsibilities are involved as shown in many studies that report women physicians may prioritize home above work [20] although there is evidence that this might be related to lack of appropriate childcare and flexible scheduling.
- Job security strategy: Make yourself indispensable and outwork nigh everyone. Be a good institutional citizen such as serving on committees which may offer opportunities to network with colleagues outside surgery as well as within your own discipline.
- *The Power of Nice*: Be nice to everyone from environmental services personnel to the CEO. Learn the names of cleaners as well as colleagues, nurses, and others on the healthcare team. Saying hello, smiling, and asking about families will always be appreciated. Think before you speak and avoid writing emails that would embarrass you if they were forwarded by mistake (or on purpose).
- Praise in public; critique in private.
- Everyone makes mistakes. Admit errors and work toward not repeating them.

- Balance often includes having interests outside work and even family. While early career surgeons may struggle with carving out any "extra" time, as the years pass, children grow up, work hours change, and the absence of meaningful interests such as athletics, game playing, reading, music, art, or spiritual activities can make the retirement years difficult.
- Eat sensibly, don't abuse alcohol, and exercise.
- Pay attention to health issues, physical and psychological; depression and burn-out occur gradually and the mentor can provide vital insight and assistance.

The mid-career faculty years A challenge at all decades of one's professional life is successfully integrating the medical with the nonmedical parts of one's identity and life. Family, for those who elect to marry, with or without children, is one key area that warrants attention and intention. Osler reportedly stated that medicine should be either your spouse or mistress but not a third or fourth priority. Those of us trained in the 1970s struggled with work/life/family tension, whereas the generation who trained in the twenty-first century may have a greater comprehension of balance value because of increased societal and educational attention in the last decade or so. Likely, few surgeons on their deathbeds wished they had performed more gastrectomies, etc., but many regretted not seeing more of their children's ball games, recitals, plays, etc. Adding a weekly afternoon for "kid time," where surgeons formerly may have booked an afternoon for golf, might be an equity investment. One mid-career improvement I made was booking each Tuesday afternoon 2:30 to 6 p.m. on my work calendar for time with our third son. If someone had to schedule a meeting then, I was not available, thus signaling to son number three: you are my priority on Tuesdays for the Science Museum, a bookshop, a walk, or whatever. The residents knew to contact me before 2 pm. Many commented that the Tuesday with my son was one of the more important lessons learned. A joking, although wise, mantra during med school was: "You need to give the wife an hour a day." Friendships and relationships, especially with one's spouse/partner, need regular watering, and intentional scheduling might be warranted. One study, reporting a 33% divorce rate among surgeons, stated, "It is clear that the physician or surgeon who spends most of the day and night engaged in his or her profession will not be spending any significant time with a spouse" [21].

Healthily dealing with disappointments, failures, complications, and rejections which will occur in all phases of one's career but perhaps especially in mid-career will be a requisite for "success."

We all have or will fail and disappoint ourselves at times, whether professionally or personally, whether in grant and job opportunities, clinically, on the family front, financially, or with lifestyle choices. We will experience complications, anastomotic leaks, bleeds, deep space infections, deaths, and likely malpractice legal challenges. "The only way not to spill water is not to carry water." Complications come with the territory. A sixteenth-century scholar commented: "If in a race one falls and rises immediately to continue it is as if he never fell" (comment: true for a marathon, not a 100-meter sprint). In our own era, Thomas J. Watson, founder of IBM, commented: "If you want to increase your success rate, double your failure rate" [22]. Dealing

with adversity, learning from mistakes, healthy reflection, and at times seeking help all can enhance our judgment and wisdom. Admit errors. Never waste a mistake. Reflect. The quote by AC Beall Jr., in *Top Knife*, rings true: "Good judgment comes from experience. Experience comes from poor judgment" [23]. These life experiences suggest that mid-career becomes an ideal time to seek and initiate opportunities to mentor younger colleagues.

In his presidential address for the SSAT, Selwyn Vickers talked about GRIT (an acronym for growth, resilience, intensity, and tenacity) and addressed burnout. Resilience, relationships, and keeping one's vision are antidotes to burnout:

> We have to re-think this concept of balance but be in the present in those key areas of our lives. We must remember the absence of misery is not the goal. We must commit to deepening our emotional intelligent quotient. We have to counter daily hassles with daily uplifts. We have to work to deepen critical relationships. We have to work to develop those relationships...At the end of the day, as in most of the cases, one's ability to develop resilience is often based on one's faith, family, and friends [24].

Suggestions (Unsolicited Advice) for the Mid-career Faculty

- Reread the suggestions under early years.
- Encourage the development of emotional intelligence in younger colleagues.
- Study about problems related to burnout, stress, alcohol, suicide, or career inertia. Charles M. Balch, starting in 2007 with colleagues including Tait Shanafelt and Julie Freischlag, has contributed many articles on recognizing and dealing with such issues [25, 26].

The senior faculty years Often by mid-career and surely by the senior faculty years, one has a realistic idea of their place in the surgical pantheon and hierarchy. Will they be a chair; a division head; in the more exclusive surgical societies; in leadership roles at the board, the RRC, or the college; or continuing as vital contributor to clinical and education efforts in one's surgery department? The senior years are often some of the better years of one's life, given reasonable health and intact relationships with one's spouse/partner, children, etc. It is a time that one can focus on mentoring those coming along, relinquish some obligations and responsibilities, perhaps back off on call, take more trips, etc. Each of us can recall someone who was instrumental in our academic development, whether an advisor or perhaps a mentor. Often that person was someone who was no longer "climbing" but rather investing in those coming behind. I owe much to Richard Kieffer Jr. of the Baltimore (Loch Raven) VA Medical Center and a Johns Hopkins faculty member. As John L. Cameron mentioned when informed of Dr. Kieffer's demise: "He taught all of us how to operate," an enviable epitaph for any academic surgeon [27]. Lack of effective mentoring has been cited by underrepresented minorities as a reason to avoid academics [28]. Women also report a strong need for mentors in various environments as they navigate between work and family responsibilities [20]. The experienced mentor will have a perspective that comprehends how the academic

environment may appear to operate differently for those groups such as women and underrepresented minorities whose life experiences and priorities may differ from the current leadership.

Suggestions (Unsolicited Advice) for Balance in the Senior Faculty Years

- Appropriate interpersonal relationships are still valued as the empty nest years may tempt some to change course at work or at home. Read: mid-life crisis, affairs, and divorce.
- Actively serving as a mentor is an academic responsibility.
- At every opportunity, introduce younger colleagues to your surgical friends and surgical leaders at meetings as well as the home institution.
- Advocate for diversity, realistic parental leave, and quality childcare.

The Mature Surgeon and Retirement Years

Knowing when to say "when," re: curtailing clinical practice is a major milestone or stumbling block for the aging surgeon. My favorite quote on this topic comes from Gypsy Rose Lee, the famous stripper: "Always leave 'em wanting more." We have all seen professional athletes who stayed 1 or 2 years too long. Surgeons I know, as a rule, prefer to quit on their own terms while "on top" rather than be asked to step down and cease active practice. The classic example from the mid-twentieth century was Thorwald's *The Dismissal: The Last Days of Ferdinand Sauerbruch* [29]. In a score of articles, Lazar Greenfield and his colleagues document and explore issues of the aging surgeon [30]. Because there is "life after surgery" if one is cognitively intact, the nonclinically active surgeon has numerous opportunities to serve – in organizational leadership, administration, teaching, or perhaps that long-deferred volunteer/humanitarian activity or trip. Other viable options include painting or music or travel.

Suggestions (Unsolicited Advice) for the Mature Surgeon

Stepping down from clinical activities does not preclude one from serving as a mentor. In fact, the nonoperating surgeon has more time to devote to mentoring activities and offers a wealth of experience to those who are eager for suggestions and advice.

Concluding Thoughts Robert Waldinger, MGH psychiatrist and Harvard researcher, serves as the fourth director of the ongoing ~80-year-long study on aging that tracked the health of 268 Harvard sophomores beginning in 1938. In his popular (viewed 13,000,000 times) 2015 TED presentation entitled "What Makes a Good Life? Lessons from the Longest Study on Happiness," Waldinger commented: "When we gathered together everything we knew about them about at age 50, it wasn't their middle-age cholesterol levels that predicted how they were going to grow old. It was how satisfied they were in their relationships. The people who were the most satisfied in their relationships at age 50 were the healthiest at age 80." When interviewed by the Harvard Gazette, Waldinger observed: "The surprising finding is that our relationships and how happy we are in our relationships has a powerful influence on our health. . . . Taking care of your body is important, but tending to your relationships is a form of self-care too. That, I think, is the revelation." He added: "Loneliness kills. It's as powerful as smoking or alcoholism." Waldinger's colleague George Vaillant added: "When the study began, nobody cared about empathy or attachment. But the key to healthy aging is relationships, relationships, relationships." Waldinger concluded: "It's easy to get isolated, to get caught up in work and not remembering, 'Oh, I haven't seen these friends in a long time.' So, I try to pay more attention to my relationships than I used to" [31].

When one reviews Souba's acronym MENTOR (plus "I"), one could also recommend those words for most healthy and long-lasting friendships and other personal relationships.

Quotes, Aphorisms, Proverbs, and Tarpisms for the Journey

- Get in the habit of having good habits.
- Be your own best friend. Love yourself. The second most important commandment is this: "Love your neighbor as you love yourself" (Mark 12: 31, Good News Bible, Today's English Version after Deuteronomy 19:18).
- Time is the most valuable thing that one can spend (Theophrastus (d. 287 BCE)).
- Nobody can go back and start a new beginning, but anyone can start today and make a new ending (Maria Robinson).
- Adversity is a given; misery is an option.
- Keep your relationships in order.
- It's a mighty thin board that has only one side.
- Don't let your critics set your agenda.
- Return good for evil and heap coals of fire on their heads (Deuteronomy and Romans 12).
- Nobody ever drowned in sweat.
- Nobody ever owned a cow but that the cow owned them (Do I own my job/my career or does my job/my career own me?).
- Live beneath your means. Be downwardly mobile.
- Make yourself indispensable.

- The getting is in the giving. He who waters will be watered (Proverbs 11:25).
- Needs vs. wants. French monks to pilgrims to Spain as they offered them a bed and food: "Tell us what you need. We will tell you how to do without it."
- We only have that degree of freedom to decide whose slave we will be (Zairian proverb).
- Work is not a four-letter word (εργον).
- Balance: Hoe your spiritual garden. We are physical, emotional, psychological, intellectual, and spiritual beings.
- You get more flies with honey than with vinegar (*The Power of Nice*).
- If you like what you do, you never have to work again (Confucius and John Lemuel Cameron, MD).
- No condition is permanent. Who knows tomorrow? (African proverbs)
- Epitaph: What do you want written on your tombstone?

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Chapter 14
Establishing Departmental Mentorship Programs

Steven M. Steinberg

Mentorship is almost uniformly accepted as an excellent method to assist the development of the academic physician to achieve their mission and goals. We all know of great mentor-mentee relationships that helped the mentee achieve successes well beyond what might have been predicted. Cutler mentored Zollinger, who went from an Ohio farm boy who was the first from his high school to go to college to one of the giants of American Surgery. Welch mentored Halsted, helping to turn an addicted, withdrawn surgeon into the founding Professor of Surgery at Johns Hopkins Medical School and who also helped establish the modern surgical training paradigm. There are many other examples of successful mentoring relationships in which both renowned and relatively unknown academic physicians have benefited from the professional and personal advice that a good mentor might provide. In this chapter, we will discuss the factors that I consider to be important in establishing a successful faculty development program of which, mentoring is a key element.

Before starting down the path to create a faculty development platform, it is essential to be clear about what the goals of such a program are. In most academic departments, the goal is not as simple as to arrange for a "friend" for a new faculty member who may know very few of the other faculty members when they first arrive, although the end result may be some very long-lived friendships. In almost every case, the goal is to set up a program that will help the faculty members, and frequently the junior faculty members, achieve their professional goals and, by doing so, enable the department and entire organization to achieve their aspirations. A successful mentoring program will, in almost all cases, be an important part of the program. It is well established that those junior faculty who develop a well-functioning mentor-mentee relationship will be happier in their position, will progress to promotion more quickly, will be more productive, and are more likely to be

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retained in the organization compared to their colleagues who do not have a mentor-mentee relationship or who have one that does not function well.

Most academic departments have as a goal, perhaps their main goal, to be "great," however one might define "great." In many institutions in this era, greatness may be constrained by available resources, but every academic physician and unit strives to be great in their own way. That may be primarily as a clinical enterprise, in which case, they will seek to provide the highest level care possible to their patients and have the best quality and patient satisfaction metrics. Some departments view their path to greatness via educational successes and will work to develop innovative educational approaches and become leaders in education on a national level. Those fortunate departments who are in institutions that have a relative abundance of resources may seek to excel in all three of the main pillars of academic medicine: clinical care, education, and academic productivity. Regardless of what sort of institution one is at or what one's department's goals are, it is possible to strive to be excellent. I have never met a leader of an academic unit of any kind who had mediocrity as a goal! It may sound rather simplistic, but the most direct route to organizational excellence is a faculty who are achieving their professional goals. One of the main purposes of faculty development and, therefore, to create a faculty development program is to help the department and institution to achieve its stated goals.

Faculty development programs, as opposed to mentoring programs, have a variety of functions that they must address in order to be successful. First, there must be a clear statement of the purpose of the faculty development program. This is important because the departmental leadership is going to request that the faculty do "more work" in developing and maintaining the program and that work will likely not seem to be directly related to their everyday duties. Everyone should be clear about the goals so as to assure the faculty expending the extra time and effort to create and maintain the program understand the benefits being sought and, therefore, justifies their time and effort. Second, there must be a structure that is responsible for maintaining the program. The faculty generally will be willing to invest the intellectual capital necessary to develop the program and will be engaged in running it, but they usually do not have the free time or the inclination to perform the management, coordination, and other logistics of a program. The departmental expenditure on administrative personnel who will support the program demonstrates to the faculty that the department leadership is willing to share in the effort to make the program successful. Third, the subjects of the faculty development program, usually the junior faculty, need to assess and, as clearly as possible, identify their personal mission, goals, and objectives. They need to gauge their skill levels in the areas of importance to those missions, and they need to set measurable goals for themselves that can be achieved over both a shorter 6–12-month term and those to be achieved over a medium-term 3–5-year period. Fourth, the junior faculty should be strongly encouraged to seek a good mentor and the program should assist them with this if they have difficulty finding the right person on their own. It seems clear that the best mentor-mentee relationships, at least in academic medicine, occur when the mentee identifies their own mentor rather than have one assigned. Fifth, the program needs

to be able to support, via either internal or external educational opportunities, skill development in the areas faculty members are judged to be weak in which that particular skill is important for their success. Lastly, the program must be held accountable by creating and measuring objective programmatic metrics.

Before delving into the steps, one might take to create a faculty development program; it is helpful to consider the reasons why such programs have failed in the past. Any one of the following problems can cause a faculty development program to be ineffective. Ineffective programs tend to be short-lived as nobody has the time to expend on unproductive activity. Interestingly, most of what is written pertains only to the mentoring aspect of faculty or employee development programs. Rebecca Ryan very succinctly listed the reasons mentoring programs fail in her blog. They included "(1) Lack of purpose; no one asks "why," (2) The culture is allergic to mentoring, (3) Mentors are the wrong people to mentor, (4) Mentees are not chosen with clear intention, and (5). No measurable outcomes." Dorothy Dalton suggests that, when training for mentors and mentees is inadequate, mentoring relationships are successful less than one-third of the time, whereas with good training, that success rate more than doubles. Sometimes, the wrong structure is chosen. In corporate America, mentoring programs are frequently run by the company's human resources department. In academic medicine, it is easy to understand why that structure would not work as well as a mentor with more shared experiences with the mentee. Incorrect matching schemes are likely to result in poor performance by the program. While there is probably no single "best" matching process, we do know that, in academic medicine, when the mentee chooses the mentor a better relationship is more likely to result. Dalton does assert that, occasionally, it is risky to allow a mentee to choose their mentor as that will sometimes result in two very similar people coming together. That may inhibit the mentor from pushing the mentee out of his or her comfort zone, which may be important in order for the mentee to make forward progress in their career. The best approach in academic medicine is probably to encourage the mentee to choose their mentor but for the program to provide oversight of the process to assure the most beneficial match. Next, failure to establish rules and expectations between mentor and mentee can result in disenchantment by one or the other members of that relationship. For good mentors, helping a mentee succeed is almost an entirely altruistic venture. Over use of a mentor's time can very well lead to the mentor dropping out of the relationship. On the other hand, the mentor who views the relationship as "cheap labor" with the expectation that he or she be included on every manuscript the mentee publishes may make the mentee feel as if they are being used regardless of how good the mentor's advice is otherwise. In addition, Sandman suggests that programs that lack structure in which the program is actively managed by the organization, which in his case was a law firm, were more likely to fail. Lastly, mentoring programs frequently please the faculty subject to them as the presence of such programs demonstrates that the leadership cares about them and usually results in a more engaged faculty, but if there are no metrics to measure the outcomes of the program, the leadership may be unlikely to continue the program as there is clearly expense associated with these programs.

The concepts of mentorship and faculty development are often confused in the literature. Where does one end and the other start? For the purposes of this chapter, I have determined that programs that include other development processes besides simply matching mentees with mentors will be classified as faculty development programs. There are many descriptions of mentorship programs in academic medicine and the business world. They can be classified as informal or formal programs. The former would be described as those in which faculty are told it would be a good idea to have a mentor, but all or most of the rest of the process of finding and utilizing a mentor is left uncontrolled. Formal programs place a structure around the process. That may mean that mentors are chosen for the junior faculty members and they are instructed on how often to meet and other details of the relationship. Some organizations have developed systems to create opportunities to meet potential mentors but then leave the actual matching to the individuals. Some have used computer algorithms to match mentors with mentees based on common interests or even personality traits. It is very difficult to identify long-term objective benefits to these sorts of mentorship programs. That is not to say that there are not important perceived benefits. Those include the strong belief that the organization cares about them, happier employees, feelings of better support, a greater sense of camaraderie, a high level of satisfaction with the process, improved retention, and an improved sense of improvement of knowledge, skills, and attitudes important for professional advancement.

In contradistinction to the mentoring-only programs, some of the faculty development programs have actually resulted in measurable improvement in performance. Possibly, the best example of this was reported by Freel and colleagues out of Duke University. They clearly identified their goal, which was to improve the external funding in their School of Medicine. They created two programs, one as a path to research independence for "late" junior faculty who had already established a research presence and the other for "early" junior investigators who were just beginning their academic careers. The former used as a metric of success the number of submitted NIH R grants and percentage of faculty who achieved NIH R awards. The latter used the number of K grant submissions and rate of successful K awards in their cohort. The programs included a defined, 20-h curriculum, workshops, career development counseling, peer group discussions, and an internal award study section. They were able to increase both the number of grants submitted and the success rate of grants being funded in both cohorts. Just prior to the start of the program, only 5 out of the 31 NIH grants submitted were funded by the cohort of faculty included in the path to independence program. Two years into the program, 17 out of 83 total submissions were funded with 13 of those submissions still pending as of the writing of their manuscript. By the third year of the program, 118 grants had been submitted with 20 having been funded, 38 were not funded, and 60 pending. Their "K Club" was a smaller cohort than the "Path to Independence" group but the results were similar. There was a more than doubling of the number of K grants submitted and a dramatic increase in the number of K awards obtained and percentage of K grants that were funded. That is a remarkable improvement in both numbers of grants submitted and the number funded, but I primarily am using the

description of their program to illustrate the concept that we can apply objective metrics to how well these programs perform. There are individual and institutional costs to these programs – the time and effort required by the mentee and mentor may be considerable and there are monetary, productivity, and, possibly, job satisfaction costs. In a nonmedical setting, Parise and Forret describe the benefits and costs to the mentor in mentoring programs. From the mentor's perspective, they describe the potential costs as being *loss of credibility and reputation* if their mentee happens to perform poorly, having to participate in a *dysfunctional relationship* if the pair are unable to work well together, and an *opportunity cost* associated with time spent mentoring. There seem to be modulators, at the programmatic and organizational level, that can mitigate the perceptions of these costs. These were discovered almost accidentally because of changes that occurred in the program over time. The data that formed the basis of this report came from a survey of all mentors from a formal mentoring program at a Midwestern financial institution. Of the 116 mentors who participated in this program, 97 responded to the survey – a remarkable 84% response rate. The purpose of the mentorship program was to improve diversity in the organization and was not related to individual job performance. On the part of mentors in the program, initially only volunteer mentors were used, but it became clear that they needed more mentors for all the possible protégées. The leadership, in order to increase the pool of mentors, requested that more senior managers, more successful middle managers, and high-performing nonmanagers participate as mentors. It could possibly be seen that this cohort of the mentors joined the program in a less voluntary manner than the initial set of mentors. Mentor matching, early in the program, also was more controlled by the mentors and mentees, but as the program grew, that became more difficult, and more involuntary matching was performed by the human resources department. Training of mentors did not exist at the initiation of the program but, based on comments from the mentors, some basic training was provided as time went on. Their survey disclosed that when the program design allows for voluntary participation and mentor-mentee matching, the mentor perceives their training to be effective, and the leadership is perceived to be providing support for the program are all associated with a more satisfying experience for the mentors.

Keeping these several themes in mind, designing a successful mentorship or faculty development program should be, conceptually, simple, but I will issue a warning at this point: taking shortcuts or not paying attention to the details will increase the risks of failure and a brief longevity for the program. I will, as an example, discuss the steps we have taken in our department in creating a faculty development program. I do this only as an example; I am very certain there are many other ways of going about the process. The first step in the design process really involved strategic planning for the portion of the organization that was going to be subject to the faculty development program. A clear picture of where the unit wishes to be in 5–10 years and what it will take to get there is key. We are an academic Department of Surgery that was solid academically, provided excellent clinical care, and had a couple of extremely highly thought of educational programs, but it was also clear that there were opportunities for improvement in all three areas, and that, if

we wished to be perceived as one of the top programs in the country, we would need to improve in all three. The equation for achieving such a goal is straightforward. The first pillar of such a "triple threat" academic department is that one needs to provide the absolutely best clinical care. There are metrics for such care: the best clinical outcomes, processes that assure compliance with accepted clinical guidelines, the ability to avoid "failure to rescue," and a very good mortality rate. The second pillar is to have educational programs that are sought out for their quality by the highest caliber trainees in the world. One needs to attract trainees to the general surgery residency and associated fellowships that nobody would judge as being anything but top notch and they need to go to positions at other highly rated institutions when they complete their training. Lastly, academic productivity must be both high volume and high quality. The metrics are the number of publications in high impact factor journals and external funding, particularly from federal sources such as NIH. We were very lucky that we were starting from a good position. We have a very highly accomplished and skilled faculty almost evenly split between the three core missions of patient care, education, and research. After analyzing where we were compared to where we wanted the department to be in 5–10 years, we decided that the best approach would be to help our current faculty achieve the goals that they indicated they had. The second step was to ask each junior faculty member to complete a survey in which they explicitly listed their professional mission, their goals, and objectives for the next 3–5 years and filled out a skill self-assessment. We called the tool we used for this purpose the ISAP (Individualized Skill Assessment and Plan). While the junior faculty were completing their ISAP, we put in place a structure for the program. That structure included the chair of the department, the chair of the Faculty Development Advisory Committee, that committee, and administrative support in the form of a part of an administrative assistant FTE. We also created a set of 1-h seminars to deal with specific skill development that ranged from how to avoid burnout to how to be a great clinical educator. Given the limited resources within the department to support that sort of skill development program, we have gradually shifted away from producing those experiences within the department to the College of Medicine-wide Center for Faculty Advancement, Mentoring and Engagement, a program that has a suite of live, online, and archived educational options that are helpful for faculty working to gain particular skills. We invited a number of the mid-level and senior faculty members join a Faculty Development Advisory Committee. That committee's charge was to oversee the entire program including reviewing the junior faculty members' choices of mentors for goodness of fit and suggesting possible mentors for those who did not have one. Each junior faculty member was assigned one committee member as a "facilitator" (not a mentor!). The facilitator's job is to meet with the junior faculty member and review their ISAP, determine if they have a good mentor, and report back to the committee on those matters. Every 6 months, the junior faculty member submits a progress report that details the specific progress the faculty member has made in achieving his or her goals and lays out specific goals for the next 6 months to the committee and facilitator. The facilitator meets with the junior faculty member every 6 months and reviews both that progress report and assessed how well they are

achieving their stated goals. Next, the facilitator presents the junior faculty member's report to the whole committee. After a discussion, recommendations are brought forward and the committee chair sends a letter to the junior faculty member with copies to the department chair and division director with the committee's assessment of their progress and recommendations as to how to move their career forward. Lastly, the committee reviews the progress of the entire program, makes course corrections should they be needed, sets metrics for judging the program's impact, and provides an annual report of its activities and metrics to the chair. Of the 41 assistant professors in the department at the time we initiated this program, 38 completed their ISAP, and approximately two-thirds have continued in this voluntary program. Again, I relate our experience as just a single example of how a department might go about setting up a faculty development program. There are many other examples that one might study in preparation to instituting such a program.

To reiterate, a successful faculty development program is likely to require all of the following in order to be both successful and long-lived:

1. A clear set of goals to achieve with metrics to measure success.
2. An infrastructure to support the various parts of the program's mission and processes, which may include assessment of a faculty member's strengths and weaknesses relative to their individual professional goals, oversight of the faculty members' progress toward their goals, and input into program direction and assessment of success. This includes enough administrative support to keep the whole process organized and moving along.
3. Except for the very smallest of departments, a committee to assist the program director in the tasks of faculty assessment, mentor matching, and measuring faculty progress toward their goals. This involves engaging and gaining the commitment of a number of mid- and upper-level faculty.
4. A suite of opportunities for faculty members to gain skills that will assist them in achieving their goals.
5. Development of metrics for determining whether the program is functioning well or not. And if not, a mechanism to make the necessary modifications in the program to allow it to accomplish the goals set out for it.

While much of the literature on mentoring and faculty development programs deals with *perceptions* of success, there are more than enough reports that indicate that specific metrics can be met with well-designed and executed faculty development programs. All of the programs that I am aware of include mentorship as a key component of the program. It is clear that mentoring is a necessary ingredient, but in most situations, mentoring, by itself, will not be sufficient.

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Part II
Leadership

Chapter 15
Qualities of a Good Leader

Meera Kotagal and Carlos A. Pellegrini

What Is Leadership?

Leadership is a combination of skills that involves creating a meaningful vision to which others can relate, as well as the ability to influence others to act in a certain way in support of that vision. Demonstrating leadership requires that an individual possess both of these skills: the ability to create a meaningful vision and the ability to influence others. This influence must be exerted through noncoercive means, and the ability to do so depends on utilization of series of essential leadership skills, including emotional intelligence, team building, development of trust, and communication skills.

Leadership can be identified in – and is central to – almost all human endeavors, and it is most visible in certain areas such as government, education, healthcare, and commerce. Key to understanding the importance of leadership and its many manifestations is the recognition that leadership exists at all levels, from entry-level employees to chief executive officers of large corporations. The skills needed to be a successful leader transcend roles, although in any given role one aspect of leadership skills may be emphasized over others.

Leadership skills were originally thought to be innate traits that individuals were born with, and that therefore leadership was God given. T. Carlyle wrote in 1841 in "trait leadership" that "great men born with certain personal talents, health, or physical characteristics have the capacity to affect change" and become leaders [1]. However, this concept of God-given leadership skills was challenged by Herbert

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Spencer who described a "situational" theory of leadership, suggesting that leaders develop in situations as they rise to meet circumstances [2]. These two theories may coexist with certain individuals more predisposed to be leaders than others and their leadership skills inspired by situations that demand leadership.

The characteristics of leaders have evolved over time. In general, the evolution has been one in which authority and rigidity, as well as strict adherence to rules, have evolved into meaning and purpose. For example, Kail identified six leadership characteristics: courage, integrity, humility, selflessness, empathy, and collaboration [3]. Each of these traits describes the modern leader, and the possession of these traits is key to the development of leadership. *Courage* focuses on the ability to stand for important moral principles, not, as one might presume, the capacity to absorb risk in dangerous situations. *Integrity* is crucial for the development of trust and connection between a leader and follower. *Humility* focuses the leader on the follower and the team and emphasizes loyalty and trust. *Selflessness* is the ability of the leader to focus on the followers and their development to their full potential, without a focus on his/her own accomplishments or success. Lastly, *empathy* is the ability to relate to others' feelings and needs and therefore more successfully connect with them and be able to lead.

The development of these characteristics is key to good leadership. They can be utilized in a myriad of styles that define the way in which the leader functions and interacts with his/her followers – who become the members of the "team."

Leadership Styles

Individuals in positions of management within organizations are often asked to be leaders, but these two roles – managers and leaders – have often been distinguished from each other. Abraham Zaleznik, in the *Harvard Business Review*, writes that managers often take an impersonal approach to trying to accomplish their goals and focus on proscribed pathways and limiting risks, while leaders engage in the development of innovative ideas and work with those they lead to change how they think and to harness their best talents [4]. Within this framework of leadership, Goleman describes six styles of leadership: authoritative, affiliative, coaching, democratic, pacesetting, and coercive/commanding [5, 6]. While a given individual may utilize a single strategy of leadership, the best leaders understand these different mechanisms for leading and utilize each or a combination of these styles depending upon the circumstances, the time, and the skills/capacity of the team being led.

Authoritative Style

This style focuses on the standards set by the leader in a clear and authoritative fashion. Of the leadership styles, this is the most rigid with each aspect of the climate

and decision-making set forth by the leader. This style works best in the context of a situation where the team is adrift or has lost direction or focus. It may serve best during the management of an emergency. It is however, not as effective, in settings where the leader is working with other experts or peers, and when effective, it must be used in short "bursts." The prolonged and constant use of authority by the leader as the main mechanism to influence the team eventually erodes the confidence of the team.

Affiliative Style

This style focuses on relationship between individuals and promotes the creativity and innovation of an individual. It gives followers freedom to act and is most useful in settings where trust has been broken or morale is low. It focuses on re-building the team and working together, with the leader as a partner in that process.

Democratic Style

As the name suggests, this style relies on building consensus among the team to move in a certain direction. This style involves a significant amount of listening and soliciting ideas from other members of the team. It is most useful in settings where the vision and charting the course forward are unclear and ideas and guidance from followers and team members are crucial to choosing the next step. A substantial downside to this style is that it is very time-consuming and can result in relative inaction due to the challenges of building consensus.

Pacesetting Style

Lead by example. This is a phrase we have often heard throughout our lives, and particularly childhood. This idea drives the "pacesetting style." Leaders demonstrate the standards they expect from others by setting high standards for themselves. The benefits of this style are that the leader can garner respect and allegiance from team members because they too are seen to be hardworking and committed to the vision. However, the converse can also manifest, with followers finding themselves outpaced by the leader and discouraged by their inability to meet the unspoken standards.

Coaching Style

This style focuses on helping individuals to identify their strengths and weaknesses and to maximize their effectiveness within that framework. Coaching leaders encourage followers to identify and develop long-term goals and to work toward them, bringing out the best in each individual based on their unique strengths. Coaching leaders are the most focused on mentorship and help to grow the skills of individual team members, thereby improving the team overall.

Coercive Style

The coercive style forces on mandating compliance and enforcing regulation. Of all of the styles, it is the most ineffective and creates a very hierarchical structure with edicts pronounced by the leader. This style reinforces the authority (through coercion) of the leader at the expense of the confidence of the followers. Followers become disempowered in a coercive environment and lose motivation to work toward the vision or goal, as they have minimal ownership over the goals or results. Coercive leadership can have moments where it is necessary – particularly in times of crisis where styles such as the democratic or affiliative may have less of a role. But this method should be used minimally and with caution.

As noted above, the most crucial thing about understanding leadership styles is to recognize that no single style applies to all settings. All styles are necessary at times, and insightful and perceptive leaders are able to maneuver through using different styles at the appropriate times. Most individual leaders focus on two or three styles that they use most often in their interactions with their teams.

Leading Up, Leading Down, and Leading Across

Leadership is commonly thought to focus on leading a team of followers. And while this is a crucial component of leadership, leaders must also lead their bosses as well as their peers. Dee Hock, founder and former CEO of VISA, divided up a leader's time and suggested that leaders should spend 50% of their time leading themselves, 20% of their time leading up, 15% of their time leading down, and 15% of their time leading across [7]. The time spent leading oneself is time focused on self-reflection and on developing a personal vision and goals. This time requires great self-awareness and insight for a leader to truly understand his/her goals, strengths, and weaknesses. Spending this time focused on understanding oneself allows leaders to be most effective in their interactions with others.

Leading up focuses on interactions with those who are above the leader in the hierarchy. This time centers on "selling" the leaders vision to those above them,

generating investment and buy-in from those above the leader, both in the vision and in the leader him/herself. Leading down is the idea that is most often equated with good leadership. It involves cultivating and growing the team of followers to help the team reach a goal. Hock also emphasizes the concept of servant leadership saying, "If you do not understand that you work for your subordinates, then you know nothing about leadership. You only know tyranny." [7]. Leading up, leading down, and leading across are three of the five components of meta-leadership, built on the foundation of self-awareness and situational awareness that are crucial to being a good leader [8].

Leadership Practices of Successful Leaders

James Kouzes and Barry Posner, in their chapter *When Leaders Are at Their Best: Five Practices and Ten Commitments*, describe five leadership practices that they observed in successful leaders: challenge the process, inspire a shared vision, enable others to act, model the way, and encourage the heart [9].

Challenge the Process

Opportunities and progress are sometimes the result of chance and timing, but Kouzes and Posner postulate that leaders engage in the situations and work around them actively, rather than passively waiting for opportunities to come to them. They are willing to take risks and ask tough questions. Oftentimes this focus is not on their own innovative ideas or risks but the support of the ideas of others on their team. Malcolm Gladwell, in *The Tipping Point*, describes individuals as innovators, early adopters, early mainstream, late mainstream, or laggards [*citation*]. Leaders may be innovators themselves, but even more frequently there are early adopters. They recognize innovation and bold choices and are willing to support them, even as them challenge the status quo.

Inspire a Shared Vision

Central to the role of a leader is to be able to create a clear vision and articulate it to those around him/her. This vision must be anchored in the leader's values but also stretch the leader and the team to achieve something that may seem just beyond their reach. In addition to creating and articulating this vision, leaders must be able to incorporate the vision of other members of the team, something that will increase the confidence of the team and contribute to them owning the project.
This includes "leading up" to gain support for the vision from superiors in the

hierarchy, as well as to build support among peers and followers. Individuals on the team must be able to relate to the vision.

Enable Others to Act

Leaders must be able to translate the vision into action and must support the action of individuals on the team. Sometimes those actions result in "failure," and good leaders do not react negatively to those "failures" or to those whose actions did not result in success. Rather, good leaders recognize that failures have a lot to teach and understanding failure can promote the next success. In fact, failure should be considered a treasure in disguise: failing often and failing rapidly moves the teams to success. Being a strong leader also centers upon recognizing that the work cannot be done alone, and the success of the leader depends on the success of the team.

Model the Way

In keeping with the pacesetting style, good leaders understand that there is a difference between authority and respect and that respect as a leader comes from modeling the way and encouraging others to live up to the very high standards that are set for the leader him/herself. Leaders must demonstrate consistency between the values they support, the vision they articulate, and their own behaviors. Doing so motivates trust and respect from the followers and sets the tone for the work that is to come from the remainder of the team.

Encourage the Heart

Leaders must also be able to support their followers through challenging times or times of "failure" by helping them to focus on the small successes. They must encourage persistence and commitment to the shared vision, by recognizing achievements, no matter how small. This ability to "celebrate the wins" generates hope, confidence, and continued investment in working toward a goal.

Conclusion

Leadership is a collection of attributes and skills that focus on the ability of an individual to influence others. Leadership traits may be innately present in an individual, but many of the skills of leaders are developed. Leaders possess self-

awareness (looking at themselves) and situational awareness (looking at those around them) and spend as much time on leading up and leading across as they do leading down. A number of individual styles of leadership exist, but good leaders recognize that each style has a time and a place, and they use a combination of styles to be most effective in managing their team. Leaders cultivate trust and respect in their team, articulate bold visions, and help to build collective energy toward those visions. Good leadership is crucial to the field of medicine, especially as the field shifts and grows in the face of challenges.

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Chapter 16
Resources to Grow Your Leadership Skills

Audra T. Clark and Rebecca M. Minter

Introduction

Current surgical practice now necessitates not only expertise in medical knowledge and surgical technique but also mastery of modern leadership skills. Surgeons are the obvious leader in the operating room, but this is no longer the only setting in which leadership abilities are needed. The health-care system suffers from a scarcity of physician involvement in organizational management. Physician leaders are needed to participate in the administrative, financial, research, and quality improvement initiatives of their institutions to shape policies and to advance the health-care system for the benefits of patients.

Many types of leaders exist and leadership can occur at all levels; it often does not come from the top. Additionally, the concept of true leadership is broader than just a title or position but rather a mind-set and a way of interacting with others. The older "command-and-control" style of leadership is being replaced with team-based, collaborative approaches. Exceptional leaders are now recognized as those people who can bring out the best in everyone and find a way to make a team greater than the sum of its parts. Diversity is also now recognized as a critical element of building great teams and an important strategy of leadership and not just a feel-good mantra. Diverse teams and leaders have been shown to improve performance at problem-solving and predictive tasks by drawing on different perspectives, knowledge, and experiences and avoiding "groupthink" [1]. Organizations, universities, and

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hospitals should seek out people with diverse backgrounds and skill sets to maximize productivity and problem-solving.

In the past, leadership was considered an innate ability, but it is now accepted that leadership consists of a set of definable skills that can be taught and cultivated through experience, observation, and education [2]. Most doctors inherently possess needed traits for leadership such as honesty, compassion, problem-solving, and passion, but few have the technical proficiencies such as financial and economic knowledge, strategic planning, negotiation skills, and organizational principles which are imperative for leaders in the current health-care market. Surgeons who serve in administrative positions often assume these roles with little or no experience or formal training in this arena [3]. Physicians, and especially surgeons, at all levels of health care should develop leadership skills which will allow them to direct decision making and to ensure the delivery of high-value care.

Medical School

Medical school is an exciting and sometimes overwhelming stage of education and training. Obviously, the main emphasis should be mastery of the medical knowledge, clinical skills, and professionalism needed to be a good physician. Additionally, medical students need to take time to reflect on their professional and personal aspirations as well as their strengths and weaknesses to guide decisions regarding specialty choice and residency options. Students should not, however, be deterred by the misconception that a leader can only be someone in a high position.

Numerous leadership positions and opportunities are available to medical students at the local, regional, and national level. Keeping in mind that leadership is a larger concept than a single title or position, medical schools often have various student-run specialty interest groups, volunteer programs, research and quality improvement projects, and curriculum committees that can be good opportunities to act as a leader and to work within teams. It is important to avoid the pitfall of overcommitting to too many obligations, in favor of becoming more deeply involved in areas in which you are interested. National organizations such as the American Medical Student Association (AMSA) are rich with opportunities to get involved with groups addressing various aspects of medical training and health care. AMSA also offers a free yearly series of leadership webinars for senior medical students that covers topics such as communication, finance, and time management [4].

Simply by fulfilling the responsibilities of being a student, you will be exposed to countless ways to grow your leadership skills. Students are thrust into various teams in multiple specialties and settings. Observe how multidisciplinary teams interact, use oral patient presentations as public speaking practice opportunity, note the leadership styles of the residents and attendings, and engage in problem-solving with the staff, nurses, doctors, and your fellow medical students. Being present and participatory will ensure growth of your leadership skills, with or without formal training.

Table 16.1 Perceived importance and competence of surgical residents in 18 leadership skills

Skill	Importance mean score	Competence mean score
Academic program development	3.2	2.4*
Leadership training	3.8	2.3*
Leadership theory	3.2	2.1*
Effective communication	3.7	2.7*
Conflict resolution	3.8	3*
Management principles	3.7	2.7*
Negotiation	3.7	2.8*
Time management	4	2.8*
Private of academic practice, managed care	3.6	2*
Investment principles	3.5	2.2*
Ethics	3.6	3.2
Billing, coding, and compliance	3.5	1.7*
Program improvement	3	2*
Writing proposals	3.3	2.2*
Writing reports	3.4	2.4*
Public speaking	3.7	2.7*
Effective presentations	3.7	2.7*
Risk management	3.5	2.1*
Total	3.6	2.5*

Adapted from Itani et al. [6]

1 not competent, *2* minimally competent, *3* somewhat competent, *4* very competent

*$P < 0.001$ by student t test between mean importance and mean competence scores

Residency/Fellowship

Surgical residency and fellowship are often most focused on developing clinical judgment and technical skills. Trainees *are* evaluated on leadership abilities such as communication, teaching, and interpersonal skills; however formal training is rarely provided. Residents and fellows face rigorous clinical and educational demands within an increasingly limited workweek, which may cause certain skill development, such as leadership, to receive less attention.

The Accreditation Council for Graduate Medical Education (ACGME) has established six core competencies (patient care, medical knowledge, interpersonal and communication skills, practice-based learning and improvement, professionalism, and system-based practice) for residents, all of which encompass various aspects of leadership [5]. Despite this focus on leadership, most residents perceive their leadership skills to be inadequate. A study by Itani et al. surveyed surgical residents on 18 core leadership skills and found that 92% rated all 18 skills as important, but more than half of the residents rated themselves as "minimally" or "not competent" in 10 of the areas (Table 16.1). Ethics was the only domain in which more than 75% of those surveyed perceived themselves to be more than minimally competent [6].

During residency and fellowship, the main goal of leadership development should be to become an effective leader of a clinical team. A simple place to start is to observe and emulate faculty in your institution who are themselves excellent leaders. Both sound clinical judgment and good leadership skills can be learned when modeled by attending surgeons who demonstrate positive leadership skills on clinical rounds and in the operating room. Unfortunately, negative behaviors can also be demonstrated, and it is important for residents and fellows to guard against adopting these ineffective and damaging behaviors and approaches.

More and more residency programs are instituting formal leadership training, either in the form of integrated curriculum or retreats and seminars [7–9]. The ACGME holds several leadership skills workshops throughout the year for interested residents, and related webinars can be found on their website [10]. Additionally, the American College of Surgeons hosts an annual 3-day "Residents as Teachers and Leaders" course that focuses on developing and leading productive teams, resolving conflict, using different leadership styles effectively, and maximizing various working styles [11].

Junior Faculty

The transition from trainee to faculty is often one of the most anxiety-inducing periods of a surgeon's practice. For the first time, you are the principal expert in the operating room and the final arbiter of all clinical decisions. Young faculty should prioritize being a good clinician, and leadership development during this period should focus on being a strong "leader at home." This is the time to lead by example by being a successful leader of your clinical team and refining skills such as problem-solving and communication. Take this time to become an effective institutional citizen by working interdepartmentally and building teams around patient needs.

Young faculty should take the time to reflect on and evaluate their career goals, as well as evaluate their strengths and weaknesses. This is the time that young surgeons will determine in which nonclinical aspects of academic medicine they will contribute, such as research, education, quality improvement, or administration. Developing an academic focus that is aligned with one's passion and interests is very important, as individuals who are energized by their work are generally happier and more effectual and productive. As one develops their mentorship team, it is valuable to identify and connect with individuals who can assist in goal setting and achieving these goals; an ideal team will consist of diverse individuals from multiple arenas.

Resources for leadership development at this stage will be somewhat specialized based on the skills you are trying to gain. Identifying senior faculty mentors can be helpful for guidance regarding both career advancement and clinical skill development. Informal networking both within your institution and at national meetings

provides an important opportunity to gain different perspectives and ideas from other surgeons and institutions.

The Association for Academic Surgery offers an annual "Early Career Development Course" that focuses on building a framework to reach your academic and research goals and how to succeed as a leader [12]. The American College of Surgeons organizes a "Leadership and Advocacy Summit" that is open to ACS members, residents, and medical students. The leadership portion of the meeting is devoted to building communication and strategic thinking skills for effective leadership in and out of the operating room, and the advocacy portion is designated to learning about legislative and health policy priorities and developing advocacy skills. Additionally, presentations discussing multiple areas of leadership from previous years are available on the website [13]. Specialty societies will often offer additional programs for career development and leadership.

Mid-career Faculty

As surgeons shift into their mid-career, they have likely become comfortable as the leader in the operating room and on the wards and hopefully have identified other areas in which they would like to lead. This is the time to transition from advocating for your personal career advancement to effectively advocating for your group and learning how to help develop others. This is also a time to start to better understand how to function in complex organizations. Start to look "outward" from your own institution; reach out and develop relationships with national leaders from whom you can learn and get new ideas. As your career advances, it is important to broaden your perspective and to become less myopic. This broader view and engagement will often lead to opportunities to lead at a national level.

A qualitative study of surgical faculty members who voluntarily applied and were selected for participation in a newly created leadership development program aimed to elicit motivations and goals for leadership training. Three themes emerged regarding the surgeons' motivations for seeking leadership education. The first theme was "recognizing key gaps in their formal preparation for leadership roles." Many of the subjects felt that medical school and residency did not adequately prepare them well for leadership. Secondly, the surgeons were "exhibiting an appetite for personal self-improvement." Many of the participants found themselves in leadership roles and wanted a chance to grow their skills. Lastly, they were "seeking guidance while at a crossroads in their career." Multiple surgeons reported that they were at a critical point in their career where they must take on leadership responsibilities to continue to grow. When the surgeons were asked about what specific leadership knowledge and skills they needed, they identified four main areas including leadership and communication, team building, business acumen/finance, and a greater understanding of health-care context [14].

This is an important place to note that mid-career is often a time when burnout is at its highest [15]. This is a period where your own scholarly activities are taking off,

your clinical practice is peaking in intensity, you are being asked to lead at multiple levels, and you likely have important family commitments. It is extremely easy during this time to become overcommitted and spread yourself too thin. As you take on more responsibilities, it is critical to evaluate what roles represent meaningful work. Give up what is not meaningful and identify those responsibilities that can be transitioned to someone else.

A myriad of formal leadership training opportunities is available for surgical faculty (Table 16.2). The Society of University Surgeons, in conjunction with Kellogg School of Management, hosts an annual 4-day "Leadership Agility Program" focused on the development of business and financial knowledge, negotiation techniques, collaboration, and team building [16]. The Society of University Surgeons also offers a "Mid-Career Academic Surgery Professional Development Course" for 1 day during the Academic Surgical Congress that covers identifying and seizing career opportunities and effective management and leadership. The Association of American Medical Colleges also offers numerous leadership development courses that are stratified for early-career, mid-career, and senior physicians [17]. The American College of Surgeons hosts a yearly 3-day "Surgeons as Leaders: From Operating Room to Boardroom" course which is designed for surgeons "who currently serve in leadership positions or aspire to such positions." This conference concentrates on strengthening leadership qualities, team building, conflict resolution, and application of leadership principles to clinical practice [18].

Senior Faculty

Leadership at the senior faculty level should be in the mode of "servant leadership." A senior leader should be focused on the development of others and the continued promotion of whatever entity you are leading, whether it is a department, a center, or an entire institution. Your role is to set the broader vision and identify people who can achieve that vision. It is important to minimize micromanaging. You must hold those on your team accountable for progress toward the goal but allow that their chosen methods might differ from yours. The legacy of a great leader is not based on personal identity but rather the sustainability and durability of what they have built.

Many formal training seminars specifically for senior faculty are available. The Association of American Medical Colleges offers a "CMO Leadership Academy" which is an 18-month course that teaches use and application of performance data and standards, management strategies, risk management, communication, interprofessional team building, and public speaking. An "Executive Development Seminar for Deans" addresses talent and financial stewardship, advocacy, and communication of strategic vision. They also host the "Organization Leadership in Academic Medicine: An Executive Development Seminar for Associate Deans and Department Chairs" which discusses people management, legal issues, financial management, and communication [17].

Table 16.2 Formal leadership development courses

Program title	Sponsored by	Website
Medical students		
Leadership Program	American Medical Student Association	http://www.amsa.org/events/ new-amsa-leadership-program/
Residents and fellows		
Leadership Skills for Chief Residents	Accreditation Council for Graduate Medical Education	http://www.acgme.org/Meetings-and-Events/Workshops
Residents as Teachers and Leaders	American College of Surgeons	https://www.facs.org/education/division-of-education
Faculty		
Early Career Development Course	Association for Academic Surgery	http://www.aasurg.org/index.php
Leadership Agility Program	Society of University Surgeons/Kellogg	http://www.susweb.org/leadership-development-program
Mid-Career Academic Surgery Professional Development Course	Society of University Surgeons	http://www.susweb.org/mid-career-course
Surgeons as Leaders: From Operating Room to Boardroom	American College of Surgeons	https://www.facs.org/education/division-of-education/courses/surgeons-as-leaders
Being a Resilient Leader	Association of American Medical Colleges	https://www.aamc.org/members/leadership
Leadership and Management Foundations for Academic Medicine and Science	Association of American Medical Colleges	https://www.aamc.org/members/leadership
Leadership Education and Development (LEAD) Certificate Program	Association of American Medical Colleges	https://www.aamc.org/members/leadership
Transforming Conflict into Collaboration	Association of American Medical Colleges	https://www.aamc.org/members/leadership
CMO Leadership Academy	Association of American Medical Colleges	https://www.aamc.org/members/leadership
Organizational Leadership in Academic Medicine: An Executive Development Seminar for Associate Deans and Department Chairs	Association of American Medical Colleges	https://www.aamc.org/members/leadership
Leadership for Physician Executives	Harvard Medical School	https://hms.harvard.edu/departments/continuing-education
The International Leadership Development Program for Physicians	Harvard School of Public Heath	https://www.hsph.harvard.edu/ecpe/category/leadership-management/
Management and Leadership Skills	Harvard School of Public Heath	https://www.hsph.harvard.edu/ecpe/category/leadership-management/

Table 16.2 (continued)

Program title	Sponsored by	Website
Leadership Development for Physicians	Harvard School of Public Heath	https://www.hsph.harvard.edu/ecpe/category/leadership-management/
Leadership Strategies for Evolving Health Care Executives	Harvard School of Public Heath	https://www.hsph.harvard.edu/ecpe/category/leadership-management/
Leadership Development for Physicians in Academic Health Centers	Harvard School of Public Heath	https://www.hsph.harvard.edu/ecpe/category/leadership-management/
Leadership Program for Health Policy and Management	Brandeis University, The Heller School for Social Policy and Management	http://heller.brandeis.edu/executive-education/programs/leadership-hpm.html
Ladder to Leadership: Developing the Next Generation of Community Health Leaders	Robert Wood Johnson Foundation	http://www.rwjf.org/en/library/articles-and-news/2016/rwjf-leadership-programs.html
Women		
Early Career Women Faculty Leadership Development Seminar	Association of American Medical Colleges	https://www.aamc.org/members/leadership
Mid-Career Women Faculty Leadership Development Seminar	Association of American Medical Colleges	https://www.aamc.org/members/leadership
Executive Leadership In Academic Medicine	Drexel University College of Medicine	http://drexel.edu/medicine/Academics/Womens-Health-and-Leadership/ELAM/
Women on Boards	Harvard School of Public Heath	https://www.hsph.harvard.edu/ecpe/category/leadership-management/
Women Executives in Health Care	Harvard School of Public Heath	https://www.hsph.harvard.edu/ecpe/category/leadership-management/
Underrepresented minorities		
Minority Faculty Leadership Development Seminar	Association of American Medical Colleges	https://www.aamc.org/members/leadership
Mid-Career Minority Faculty Leadership Seminar	Association of American Medical Colleges	https://www.aamc.org/members/leadership
Leadership and Faculty Development Institute	Society of Black Academic Surgeons	http://www.sbas.net/
For all levels		
Leadership and Advocacy Summit	American College of Surgeons	https://www.facs.org/advocacy/participate/summit

Women and Underrepresented Minorities

Even though more than 50% of all medical school students are women, females have not progressed in statistically equivalent proportions in academic rank or leadership positions [19]. This is likely due to many factors. Unconscious bias likely plays a role as female traits are commonly viewed as incongruous with leadership. Women are perceived as communal, supportive, and nurturing which do not always align with the traditional view of leaders as being strong, decisive, and risk taking. Additionally, women are less likely to advocate for themselves and may need more "sponsorship" than male counterparts. Having more women in leadership positions is not tokenism but rather an investment in building a more diverse team which possesses amplified problem-solving abilities and an increase in new ideas. Otherwise, as Dr. Catherine DeAngelis says, "we will waste half our genetic pool of intelligence, creativity, and critical insights and experience. Medicine simply can't afford that loss." [20].

Multiple resources are available that endeavor to teach skills which address the unique challenges women face in academic medicine and surgery. The Association of Women Surgeons (AWS) has developed a searchable mentor database to facilitate formal mentorship between female surgeons. The AAMC offers 4-day leadership courses for women in both their early and mid-academic careers [17]. Drexel University College of Medicine established the Executive Leadership in Academic Medicine (ELAM) program in 1995, which is an intensive 1-year fellowship of leadership training aimed at expanding the national pool of qualified women candidates for leadership in academic medicine [21]. Harvard School of Public Health created two courses for female leadership development entitled, "Women on Boards" and "Women Executives in Health Care."

Underrepresented minorities, specifically African Americans and Latinos, face many barriers just gaining entrance into the medical profession, let alone climbing the academic ladder [22]. Asians are not underrepresented in the overall medical profession, but similar to women, they are sorely underrepresented in top leadership positions. Again, increasing diversity at all levels of academic medicine is not just the right thing to do, but it is a very effective strategy for making medical institutions better [23]. The AAMC offers two 4-day courses, "Minority Faculty Leadership Development Seminar" and "Mid-Career Minority Faculty Leadership Seminar," that discuss career planning, academic and organizational leadership, grant writing, communication, and networking [17]. The Society of Black Academic Surgeons hosts a "Leadership and Faculty Development Institute" at their annual meeting focused on growing leadership skills and career advancement in academic surgery [24].

Conclusion

One of the most underestimated, yet powerful, ways to grow leadership at every level is simply being present and making a conscious choice to participate. Showing up and being engaged in whatever task you are undertaking have enormous impact. If you want to be perceived as a future leader, you need to be viewed as being involved and committed. This is true at the institutional and national level. Show up to the committee or national meetings that interest you and network and learn from others. You will develop your leadership skills just by being observant and likely will be asked to take on leadership roles due to your interest and engagement.

Good leaders are made, not born. Leadership skills can be learned and honed through observation, experience, education, and practice. Leadership development is an active and continual process that involves trial and error and learning from both success and failure. Additionally, leadership is not solely the purview of the "higher-ups." Leadership may manifest differently at various levels within an institution, but persons at every hierarchical station can and must display leadership if an organization is going to reach its maximum potential.

Callout Box

- Leadership is needed and is enacted at all levels.
- Leadership skills can be learned and developed through experience, observation, education, and practice.
- The skills needed to be an effective leader will change as your career and your role in your institution evolve.
- Diverse leadership and teams outperform those that are more homogenous in composition.

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Suggested Reading

Essentialism, Greg McKeown
First, Break all the Rules, Marcus Buckingham and Curt Coffman
Getting to Yes: Negotiating Agreement without Giving In, Roger Fisher
Lean In, Sheryl Sandberg
Multipliers: How the Best Leaders Make Everyone Smarter, Liz Wiseman
Start With Why: How Great Leaders Inspire Everyone to Take Action, Simon Sinek
Team of Teams, *New Rules of Engagement for a Complex World*, General Stanley McChrystal, Tantum Collins, David Silverman, and Chris Fussell
The Cost of Bad Behavior – How Incivility is Damaging Your Business and What to do About It, Christine Pearson and Christine Porath
The Difference: How the Power of Diversity Creates Better Groups, Firms, Schools, and Societies, Scott E. Page
The Practice of Adaptive Leadership, Ronald D. Heifetz, Alexander Grashow, and Marty Linsky
Turn the Ship Around: A True Story of Turning Followers into Leaders, L. David Marquet

Chapter 17
Choosing the "Right" Leadership Style for You

Jennifer F. Waljee and Justin B. Dimick

Introduction

The culture in our workplace—and the leader that creates it—has profound consequences. Prior research consistently demonstrates a strong relationship between organizational culture, psychosocial conditions, and health and well-being [1]. For example, the perception of low autonomy in the workplace is correlated with coronary risk, and poor job satisfaction is associated with burnout, depression, and anxiety [2–4]. In turn, organizational culture is profoundly influenced by leadership, and perceptions of organizational climate are highly correlated with leadership behaviors [5]. Paradoxically, employee satisfaction with their job is more dependent on the predominant leadership behaviors within the organization than the work itself [6].

To date, surgical residency programs are almost entirely devoted to clinical training, with very little focus on leadership skills. However, effective leadership skills are essential for surgeons, and opportunities to lead are ubiquitous in our clinical, academic, and educational roles. Our profession demands that we are able to lead a team in performing procedures safely, no matter how simple or complex. Beyond the operating room, surgeons lead in outpatient settings to ensure safe perioperative care and often serve as organizational leaders within their healthcare systems and professional societies. Surgeons in academic practice are required to effectively lead a research team to identify innovative ways to improve the delivery of care and are also charged with leading as educators for the next generation. In this

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chapter, we will outline prevailing theories regarding leadership style, examine the fundamental attributes that define leadership, and describe a practical approach to uncovering these skills among surgeons to become more effective leaders.

Do You Need Leadership Skills?

Consider an attending surgeon who is leading a team of clinicians during a trauma resuscitation of a critically ill patient. Although all members of the team are committed to the mission of patient care, the situation is high risk, and individuals may be of mixed competence and effectiveness working together. For example, if the team of residents, nurses, and technicians are experienced in managing complex trauma patients as well as working together, clinical care often progresses far more smoothly than those instances in which the majority of individuals have little experience either clinically, working together, or both. During the resuscitation, the patient becomes increasingly unstable, individuals from the emergency department and surgery teams begin to crowd around the bedside calling out orders and preparing for procedures, and another unstable trauma patient is wheeled into the next bay. What kind of leader is needed?

Consider a surgeon leading an outpatient surgery center with multiple surgical disciplines. All surgeons of are high competence with patient care, but all work in different practices within their specialties, and different investment within the surgery center. Within this organization, a subspecialty service requests to increase their share and utilization of the building in direct competition with another service performing similar procedures. What kind of leader is needed?

Consider a surgeon leading a team of researchers in an academic setting who have just received a large grant to support their work. The team is comprised of highly accomplished investigators and assistants and investigators across disciplines. Although the proposed experiments are discrete, they are complementary to the overall research question. Each investigator is seeking publications, future grant funding, and promotion, as well as resources to support their individual teams. What kind of leader is needed?

Leadership Style: What Is the Evidence?

Traditional Leadership Models

Numerous conceptual models and theories have been proposed to define leadership and have been primarily derived from psychological literature regarding personality traits. In the early twentieth century, the trait theory was proposed asserting that there are measurable traits, defined as habitual behaviors, thoughts, and emotions, across individuals that are relatively fixed [7]. These personality traits are typically stable

over an individual's lifetime and are the foundation for social interactions and behaviors. For example, the "big five" theory of personality traits posits that openness, conscientiousness, extraversion, agreeableness, and neuroticism represent the basic structure of personality [8]. In this framework, effective leaders were thought to possess common traits, including specific behaviors, and interpersonal skills that lead to superior outcomes within an organization.

Building on this early work on personality traits, traditional archetypes of leadership were described. These archetypes represent discrete styles that an individual would embody when leading an organization. For example, *autocratic leaders* make decisions without input from other individuals within the organization. Although autocratic leadership styles lack buy-in and engagement of other individuals within an organization, they may be ideal in high-risk situations or those in which close supervision is necessary (e.g., the deteriorating critically ill patient described above). In contrast, *democratic leaders* engage all individuals during decision-making. Although the ability to achieve consensus is driven by the leader, individuals are more likely to feel empowered as they have a voice in the organization. Democratic leadership models could thrive in situations in which quick decisions need to be made that are relatively low risk, and obtaining buy-in from all individuals is beneficial. Finally, the laissez-faire style describes the absence of leadership, and individuals in the organization primarily function through self-management.

In the mid-twentieth century, the behavioral and contingency theories emerged. In contrast to the trait theory, these models proposed that leadership skills were not necessarily innate but could be learned, and leadership style varies depending on the setting or circumstances of the organization. For example, Hersey and Blanchard described the Situational Leadership Model as one in which effective leadership depends on both an individual's leadership style along with the organization's performance readiness [9]. Broadly, the organizational environment can be considered in four ways: competence, commitment, consequences, and change. In this model, leadership depends on the task at hand, and leaders must be able to adapt their focus and potentially their style to the organization's propensity to progress and change.

Transformational Leadership

Described initially by Downton and Burns in the 1970s, a transformational leader is one who is able to inspire an organization toward a higher vision, goal, or morality. Unlike prior theories, the transformational theory of leadership was one of the first to include purpose into the context of leadership. Transformational leaders are effective by modeling desired behaviors, inspiring a collective vision for the organization, and generate intrinsic motivation within each individual in the organization to achieve these goals. In contrast, transactional leadership describes organizational structure in which rewards and penalties are used to achieve successful performance, motivate behaviors, and assure compliance [10]. Transactional leadership models are less

focused on vision and primarily respond when challenges or problems arise [11]. Compared with transactional leaders, transformational leaders have been shown to achieve greater success with respect to organizational metrics (e.g., financial productivity) and individual metrics (e.g., promotion) [12]. In addition, transformational leaders often achieve higher employee satisfaction ratings and perception of employee success. Productivity is often higher within an organization with a transformational leadership model [13]. Finally, evidence suggests that transformational leadership empowers and motivates individuals within an organization toward growth and positive change, whereas transactional leadership suppresses commitment by constraining autonomy, creativeness, and innovation [13].

Leadership: Style or Substance?

In this context, is it possible that leadership can be entirely explained by innate behaviors, personality traits, and situational factors? For example, Bono et al. demonstrated that transformational leadership was most correlated with extroversion and least correlated with neuroticism [14]. In contrast, transactional leaders are more likely to be pragmatic, introverted, and avoidant of change and conflict. If leadership was entirely due to traits and situation, it would seem that anyone would be able to lead any organization with the right constellation of traits in the right setting regardless of purpose or values. However, we know that leaders who we would expect to be great can fail, and other leaders emerge in the most unlikely circumstances. How can this be?

Substance 1: Emotional Intelligence

Emotional intelligence describes the ability to maintain and build relationships with others and has emerged as the dominant model for achieving leadership. In 1990, Mayer and Salovey described four abilities central to emotional intelligence: (1) the ability to perceive emotions within and among others accurately, (2) the ability to effectively use emotions to facilitate thinking, (3) the ability to interpret emotions, and (4) the ability to manage emotions (Table 17.1) [15]. In 1997, Goleman reframed this model to include both abilities and traits, describing emotional intelligence as a constellation of self-awareness, self-regulation, social skill, empathy, and internal motivation [16].

Modern leadership theory suggests that emotional intelligence includes both traits and behaviors among successful leaders. Importantly, unlike other aspects of intelligence, such as intellectual or managerial intelligence, which is often dictated by fixed attributes, such as genetic factors, emotional intelligence may be learned. Moreover, emotional intelligence accounts for a greater proportion in the variation in leadership skills. Prior research indicates that IQ accounts for 27% of variation in

Table 17.1 Goleman model of emotional intelligence

Self-awareness	The ability to identify the influence of one's behaviors, emotions, beliefs, and actions on other's well-being	Accurate self-assessment Improved self-confidence Awareness of moral compass
Self-regulation	The ability to recognize, restrain, and direct instinctual or impulsive reactions	Awareness of unconscious bias Open to new perspectives and ideas Adaptability
Social skill	The ability to manage relationships, gain trust, and mitigate conflict within a group	Effective negotiation and conflict resolution Inspire others Enhance collaboration
Empathy	The ability to feel the emotions of another	Deeper compassion Ability to engage individuals
Internal motivation	The ability to act from core beliefs or desires, rather than external pressures	Optimism Integrity

leadership performance ratings, MQ for only 16%, but emotional or social intelligence for 36% [17].

Emotional intelligence also likely represents one of the primary factors by which transformational leadership yields greater success over other leadership styles. For example, Bass and Avolio described the four dimensions of transformational leadership: idealized influence, inspirational motivation, intellectual simulation, and individualized consideration [10, 13]. Palmer et al. found that the inspirational motivation and individualized elements of transformational leadership are significantly correlated with an individual's awareness and management of emotions [18]. Moreover, transformational leaders are attune to the energy and concerns of the individuals of the organization and are able to channel their emotions to motivate individuals toward a common goal [19].

In addition to self-awareness, individuals with high levels of emotional intelligence are also able to leverage the resources around them to detect weaknesses, both recognized and unrecognized (blind spots). An individual can actively work toward strengthening known weaknesses or adapting to them by focusing on other strengths. However, it is much more challenging, and important, to address unrecognized weaknesses. These blind spots commonly include tendency for isolation, tendency to focus on one's self, conflict avoidance, responsibility avoidance, and complacency (Table 17.2). Prior research has demonstrated that individuals with high social intelligence, and transformational leadership styles, effectively cope with unrecognized weaknesses through identifying candid feedback mechanisms, creating cognitive diversity within their environment and scheduled self-reflection exercises, and developing a framework for accountability.

Table 17.2 Common blind spots

	Examples	Causes	Effects	Strategies
Isolation	Completing task or decision-making without engaging others or asking for assistance when needed	Fear, lack of trust, introversion, ego	Frustration, disengagement of team members, loss of cognitive diversity	Intentional engagement and feedback from individuals and group
Conflict avoidance	Deferring difficult conversations, failing to relay negative information, ignoring deeper issues	Fear, apathy, lack of trust	Lack of forward progress, failure to overcome problems	Creating safe opportunities to address conflict, identifying arbitrators and processes for conflict resolution
Lack of accountability	Placing blame on other factors outside of one's self, such as situational factors or other individuals	Conflict avoidance, fear, ego	Lack of trust within the organization or in the individual	Reflection of tasks, processes, successes, and failures
Indifference	Lack of commitment to purpose, tolerating substandard processes or results, failure to follow up on tasks	Disengagement, fear, lack of focus, inability to prioritize	Lack of trust in individual, stagnation, apathy in organization	Identifying clear goals and tasks toward broader mission

Substance 2: Mental Models

Mental models are frameworks for how we perceive our reality. They provide a structure for us to interpret events that occur and the relationships around us and consist of our core values, assumptions, and biases [20]. They are influenced by our circumstances, education, and past experiences. We are often not aware of our mental models, but they provide a scaffold by which we can categorize and organize the information we receive daily. With awareness, mental models can be challenged and changed. For example, the Thinking-Action-Outcomes Model proposes that our mental models influence our actions and responses to events, yielding predictable results. To develop as a leader, our mental models can be examined, refined, and reframed to achieve different, and potentially more successful, outcomes [21].

For example, Quinn has defined a useful mental model for transitioning from a transactional to a transformational leadership style: the fundamental state of leadership. This mental model proposes that leaders are most effective when they are able to channel their core values and instincts toward a purpose that has profound meaning for them. Although these qualities are typically only apparent during times of stress or crisis, it is possible to enhance our consciousness of our normal state to a fundamental state of leadership by focusing on integrity, authenticity,

Table 17.3 Quinn model of fundamental state of leadership

	Normal state	Fundamental state
Am I results-centered?	In our normal state, we are often focused on short-term goals that allow us to maintain the status quo and remain in our comfort zone	In the fundamental state of leadership, we are focused on the goals that are most aligned with our long-term vision and purpose
Am I internally directed?	In our normal state, we respond primarily to external cues and pressures, in order to preserve the balance of our comfort zone	In the fundamental state of leadership, we act out of our core values, morals, and beliefs. Although we are aware that these may differ from others around us, we accept this challenge as our values are most aligned with achieving our greater purpose
Am I focused on others?	In our normal state, we are focused on our immediate needs, rather than the needs of the larger organization and the individuals within that organization	In the fundamental state of leadership, we are able to place our immediate needs aside in favor of the needs of the organization and its individuals
Am I open to change?	In the normal state, we are reluctant to take risks and deviate from established routines in order to maintain the status quo	In the fundamental state of leadership, we embrace change and are open to cues in the environment around us to create necessary growth

selflessness, and progressiveness [22]. This model centers around four critical questions: (1) Am I results-centered? (2) Am I internally directed? (3) Am I focused on others? and (4) Am I externally open? (Table 17.3).

In the "normal" state without stress, individuals are focused with maintaining the status quo, focusing on their immediate needs and surroundings to maintain comfort (i.e., transactional leadership). However, in a stressed state, individuals rely on their core values and beliefs, are pushed out of their comfort zone, and are observant to external cues for change (i.e., they often shift to a transformational leadership mindset). Quinn proposes we are able to channel this emotional energy toward a fundamental state of leadership, in which we draw on our own values and strengths to achieve transformational leadership. In this mental model, if we are results-centered, rather than comfort-centered, we are open to risk to achieve our goals, and these goals reflect the desires of the group, rather than the individual leader. In addition, we have heightened awareness of our environment and perceive the need for change more astutely. To achieve this, we act in accordance with our moral compass, rather than react to the desires of others to avoid conflict. Traditional, trait-based models of leadership assume that leadership attributes are discrete and static. In contrast, the fundamental state of leadership allows an individual to more effectively interact with their dynamic environment and leverage their core qualities to accomplish their vision [23]. In short, the fundamental state of leadership is defined by integrity and remaining true to one's core values to achieve balance between competing demands.

Similarly, the Michigan Model of Leadership defines a mental model centered around the core purpose of creating positive change within society. This model proposes that leadership is not position or title but rather a set of behaviors that all individuals are potentially capable of. These leadership behaviors allow an individual to balance competing interests and conflicts in order to create continual positive change within an organization and within society [24]. The core elements of this model include empathy, integrity, courage, and drive. Individuals can achieve positive change by mindful engagement, a leadership development process in which an individual prepares for growth and takes action to identify and embrace leadership opportunities to continue learning and thoughtful reflection on their experience, successes, and failures.

Achieving Leadership Substance: The Michigan Approach

At the University of Michigan, the Department of Surgery has created a longitudinal leadership development program for surgeons to enhance their leadership substance. This 8-month program includes full-day sessions encompassing both didactic and experiential learning on core leadership principles. Topics were chosen and developed based on a comprehensive needs assessment. Surgeons seek formal leadership training in order to prepare for future leadership roles and career advancement, as well as for personal growth [25]. Modules are led by a multidisciplinary group of faculty with expertise in leadership, team building, business acumen, and healthcare context and include both individual and coaching-based models. Critical elements of this program include audience, experience, balance, feedback, opportunity, engagement, and program evaluation. For example, the information provided should be tailored to the audience. Trainees and early-career faculty members will likely have some similar needs with respect to leadership training compared with more senior faculty. However, the information may differ in the context in which it is provided. In addition, each module should provide a valuable experience with balanced information from experts in specific elements of leadership development, including experts in organizational behavior, strategy, and finance. This program also includes both opportunities for feedback and coaching, as well as venues for practical application of leadership skills. Most importantly, the leadership development program engages surgeons of all levels including the leadership, underscoring its importance and value in professional development [26].

Early evidence from our Michigan Department of Surgery Leadership Development Program indicates that surgeons gain self-empowerment to lead, self-awareness, team-building skills, and knowledge in business and leadership, and satisfaction with the curriculum and its effects are positive [27]. This program has been extended to include surgical trainees and surgeons across all levels of experience, including early-career, mid-career, and senior faculty. By emphasizing leadership development as a core competency of surgery, we have created a sustainable vehicle for faculty and department growth. This program has also expanded

opportunities for leadership within the department and has promoted deeper engagement among faculty of all levels, particularly early-career faculty, for whom attrition rates from academic surgery are commonly high [26]. Going forward, such strategies to empower surgeons to identify and leverage their leadership substance will be essential to include in the rubric of training and ongoing development in our dynamic and often high-risk professional environment.

In conclusion, surgeons serve as leaders in nearly every aspect of their professional life. Therefore, it is important to identify one's leadership substance and the aspects of their character and environment that strengthen their ability to lead. Encouragingly, emotional intelligence can be learned and used to understand the mental models that frame our view of the world. In addition, with close attention and practice, mental models can be modified to allow us to tap into our fundamental leadership state and achieve transformational leadership.

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Chapter 18
Building a Successful Clinical Program in the Academic Medical Center

Herbert J. Zeh, III

Building a successful clinical program is perhaps one of the most important roles for a leader in the academic medical center. The evolving pressures of healthcare economics have forced modern academic medical center to transition over the past several decades from "ivory tower" centers where clinical care took a backseat to the research and training mission to clinical referral centers. These referral centers rely on multidisciplinary clinical programs to attract patients and maintain clinical revenue streams. The most successful academic centers build clinical centers of excellence that are able to leverage the flow of patients through these clinical programs into academic productivity, publishing on clinical outcomes, care pathways, and clinical trials. Despite the importance of clinical programs to the modern academic medical center, there is almost no formal direction for academic physicians on how to build successful programs. Undoubtedly, there are unique selection pressures at every medical center that will dictate how a particular clinical program takes form; however, there are shared features that leaders can use to guide development (Table 18.1). This chapter will reflect on the author's experience in building a clinical program of excellence highlighting the features felt to be most important with specific examples of how our team managed these issues.

Vision

"Begin with the end in mind" is the mantra of famous life coach Stephen Covey in his book *7 Habits of Highly Effective People* [1]. This is the first piece of crucial advice to the leader in the academic medical center who wants to build a successful

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Table 18.1 Features of a successful clinical program

Features of successful clinical program	Considerations
Vision	Mission statement
Team building	Aligning financial incentives
Infrastructure	Program manager
Metrics	Patient and financial databases
Academic productivity	Care pathways, outcomes research, clinical trial accrual

clinical program. To begin with the end in mind is to create a mission statement for the proposed program that encompasses as many aspects of what success would look like as possible. When we set out to build a program around pancreatic cancer at our center, we considered many aspects of the final program that we considered crucial to success in our mission statement. First, the program had to be truly multidisciplinary with input from medical oncology, surgical oncology, radiation oncology, palliative care, and nutrition. Second, we wanted the program to facilitate the most state-of-the-art care for patients with easy to understand care plans stratified to stage. Lastly, we wanted the program to be innovative with emphasis on helping patients participate in novel clinical research protocols. Our initial mission statement, a product of all the relevant stakeholders, reflected these goals and gave all future participating clinicians a vision of what success would look like. The mission statement should be an inspirational document. Try to avoid including specific metrics of success (discussed below). Specific goals or milestones are used to track progress toward your vision; the mission statement should be a "platonic" vision of your program. One additional word of caution when composing the mission statement is to avoid the trap of never-ending perfection. That is to say, at some point you have to stop planning, start building, and accommodate change as things unfold. The final program will almost never exactly replicate what you initially envisioned in your initial mission statement. The mission statement is not a rigid construct meant to be an immutable pathway but rather a rallying point for all the stakeholders to set course.

Team Building

One fundamental psychological truth of human motivation espoused by Maslow in his hierarchy of needs [2] is that humans must have their base needs of safety, food, and shelter met before they can respond to the higher transcendent motivations. Thus, it is my experience that even the most noble and altruistic mission statement of a clinical program will have trouble motivating the rank and file to join in unless their pyramidal base needs are met first. Thus, aligning the financial incentives of all the stakeholders is perhaps the one aspect of a successful clinical program that requires the most forethought. Once this "need" has been addressed, the leader of the clinical program will often see natural evolution of the individuals in the group to support the

higher calling of the mission. The easiest place to start this process when building a clinical program within the modern academic medical center is within the distinct disciplines. For example, when we launched our multidisciplinary pancreatic program, one of our initiatives was to increase the use of preoperative therapy, which the leadership team felt was the direction that pancreatic cancer was heading at the time. We immediately recognized that one hurdle to this was the surgeons' fears that they would "lose the case" if they referred the patient to chemotherapy first rather than operate up front. Since most of our surgeons have some component of individual productivity in their compensation plan, losing a case threatened their "food and shelter" needs. In order to overcome this, we instituted a comprehensive tracking program such that any surgeon who referred a patient to the clinical program would be guaranteed that particular patient would make it back to them. Moreover, if they referred a patient for preoperative therapy who did not eventually make it to surgical resection, they were given a nondirected referral to compensate. We further offered these surgeons the ability to place the vascular access device necessary for administration of the chemotherapy if they chose. Lastly, we worked with administration to modify the compensation plans to include nonproductivity incentives for working in the clinical program. These initial steps, while seemingly trivial, were enough to overcome the energy of activation and get the program moving in the desired direction. Later as we accumulated success in getting patients onto chemotherapy first approach, we were able to conduct several novel clinical trials of preoperative chemotherapy. All the participating surgeons were included as authors which served to appeal to their higher motivational needs and further encourage their participation in the clinical program. Years later we encountered another financial incentive hurdle that threatened the Maslow base needs of our surgeons when our program began to explore application of innovative robotic surgical approaches to pancreatic resection. As early adopters of this technology, we immediately recognized that it was in the best interest of patient safety to have two attending surgeons participate in these early cases. However, at the time the department incentive program had no ability to fully compensate the assistant surgeons. We lobbied leadership of the department to allow for 100% RVU credit of the department incentive program for the assistant surgeon for these complex cases. This alignment of financial incentive allowed for the participating surgeons to move up their hierarchy of needs, and as a result our program within a few short years was able to accumulate the world's largest experience in robotic pancreas resections. Another example of aligning incentives within specialties is how we addressed medical oncology participation. Prior to initiation of our clinical program, referral patterns were largely preference of the individual clinicians. We instituted a rotating inclusive schedule (created by the participating oncologists) based on the years of experience in pancreatic cancer, their own interests, and overall clinical volume. These aligning of financial incentives within departments were critical to the early success of our clinical program.

Despite the early ability to ally our clinical program participants within distinct academic departments, it was difficult initially to build shared financial motivations across specialties. Historically the financial incentives of the academic medical center were focused around the narrow silos of the academic departments. This

legacy is often a hurdle to building a truly successful multidisciplinary clinical program. One possible work around that we used when building our pancreas program was to secure from administration FTE (Full-time Equivalents) that were dedicated to the program. These took the shape of medical assistants, schedulers, and concierges. Thus, each of the stakeholders in the program had value-added support to meet their lower-level Maslow's needs, which allowed them to focus on the greater mission of the program. Future reimbursement models like value-based purchasing and bundled payments may facilitate building a clinical program with multiple specialties by building stronger financial ties for collaboration.

The Framework

Critical to the successful clinical program is a solid infrastructure that can function to forward the goals of the program independent of the staff of the individual participating clinicians. As a leader of a program, securing these resources from administration should be a high priority. We have found in our own experience that the most critical of these resources include a program manager, finance support, and nursing clinical support. The program manager should be carefully considered as this person should and will become the "face" of the clinical program. We have tried several different paradigms in our pancreatic program including an early MBA graduate and senior nurse practitioner. Each of these has had some pros and cons. The administrative track person excels in tracking important metrics of success of the program and marketing aspects, while the senior physician extender can be useful in facilitating care across the spectrum of the complex matrix of the academic center. Regardless of their background, the program manager is indispensable to a successful clinical program. It cannot be overstated how important it is to have dedicated FTE forward the goals of the program every day while the individual practitioners are going about their "day jobs." We also have this person serve as a concierge role facilitating acquisition of records and visits across disciplines in the academic center. Because resources are often limited at large academic medical centers to build clinical programs (especially new initiatives without proven revenue streams), we constructed our clinical program to utilize the infrastructure of the individual practices as much as possible. Thus the program manager needs to be someone well-versed in functioning in a matrix responsibility reporting structure. For example, in our pancreatic program that sees nearly 300 new cases a year of all stages of the disease, our program manager will access the surgical oncology physician extenders and nurses for specific testing and care from surgical oncology or early stage patients and similarly for metastatic patients from medical oncology. This matrix reporting can sometimes be a source of friction that a leader of the clinical program needs to be aware of and constantly address. It is often simply enough to point out to the staff that caring for patients from the clinical program is not "extra" responsibility but rather value added. It is very important to make sure that when having organizational and motivational meetings for the clinical program

to include these staff as well so as to give a sense of cohesiveness for the clinical program.

Tracking Progress/Metrics of Success

Nothing will limit the success of a clinical program quicker than a sense of lack of progress. The obverse is also true; hitting well-defined metrics of success will build momentum. The leader of a clinical program must spend considerable time deciding which metrics of success they will track and develop for a robust infrastructure that facilitates easy access to reports and data on these metrics. In the modern academic medical center, this is not as trivial as it may seem and requires considerable time with members of administration and finance departments. For our pancreatic cancer program, we have monthly reports that include baseline demographics of patients, number of new visits, number of procedures, wRVUs generated per member of the clinical program, as well as revenue. Depending on the payer mix, the wRVU and the revenue may or may not be proportional and should be tracked separately. One metric that we have found helpful is the zip code of the patient. We use this database to create a heat map that visually allows us to see where our patients come. We also track metrics of efficiency including time from first visit until institution of definitive care, number of patients who present for second opinion, number of second opinions where the diagnosis is changed, patient satisfaction surveys, and of course overall survival. It is critically important to have a baseline of the metrics you want to follow before the initiation of the clinical program. Other housekeeping issues include a quarterly review of referring doctors. We have taken to sending a thank you letter to all new referring doctors as well as yearly updates on any innovative aspects of our program. This information is also shared with members of the clinical program and administration during a yearly review. It is important to note here that these metrics should not be presented in a vacuum to the stakeholders, especially administration, but rather as categorical values of success or needs improvement. The specific metrics of success should have been agreed upon at the time of launching the new clinical program with stakeholders and administration. These markers of success are different from the mission statement (which should avoid specific goals but rather serve as transcendent call). The milestones you choose will vary on the landscape of your institution, but they must be measurable. This point is worth emphasizing; it is a common trap that some leaders fall into, failing to define metrics of their programs progress that cannot be measured. This will severely hamper ability to keep the momentum for your program. Lastly, it should be agreed upon with administration to reevaluate the goals on a yearly basis. As your program builds, you will need to frequently redefine success. For example, in the early years of our pancreatic cancer program, our chief measures of success were to document the number of patients who were seen through the program as opposed to being cared for in the traditional silo model. As the program matured, we added new metrics like decreasing the time

between diagnosis and first definitive treatment and increasing the number of new patients outside of our usual zip code referral area.

Marketing

Even the most well-planned clinical program will not succeed if referring doctors are not aware of the program and how to refer their patients. The initial "marketing" of your program will be internal by engaging your clinicians to bring their patients to the program; however, the goal should be to build a program that will receive referrals directly. Marketing will depend on the specific demands of the healthcare market in each academic center's geographic area, but there are some strategies that are likely universally applicable. Our initial marketing efforts in our pancreatic program included brochures and letters explaining the services that referring doctors and patients might find attractive. From there we hired a marketing person to target specific referring physician groups with cold calling, CME, and outreach dinners. We required all clinicians in the program to give at least one outreach event a quarter. This "kissing babies and shaking hands" approach to marketing was critical to establishing our clinical program success. Having a better mouse trap is important, but more important is looking the referring physician in the eye so that they know their patient will receive great care. From these early efforts, we expanded out to media including local newspapers, television ads, and of course internet. The pay for click methodology is perhaps the highest-value marketing available today, and a wealth of information can be found in the marketing departments of most large academic medical centers about the many sophisticated nuances of this approach.

Leveraging Academic Productivity

The raison d'etre of the academic medical center is producing and disseminating new knowledge for society. A well-designed clinical program can and should serve as a fundamental building block for many academic projects. One of the first and most obvious benefits is the ability to study a large group of patients all treated in a standardized fashion through care pathways. In our pancreatic program, the coalescing of all of our practitioners into a care pathway emphasizing preoperative therapy allowed us to build on one of the world's largest databases with patients treated with this approach. This simple standardization gave birth to multiple projects that examined outcomes, complications, biomarkers, and more nuanced subjects like optimal cycles of chemotherapy. We also discovered that our accrual to clinical trials dramatically increased after building a unified clinical program around pancreatic cancer. We attribute these increases to several things. First, the program incorporated research staff thus alerting clinicians to the possibility of research protocols that they may not have been aware. Second, and perhaps most importantly, we observed an

esprit de corps in our patients being treated in a "program" as opposed to an individual practitioner's office. I believe this sense of being part of a program imbued in them a greater sense of altruism and willingness to participate in clinical research. Clinical research includes registries linked with serum and tumor biopsies as well as therapeutic trials. Our pancreatic registry study has accumulated nearly 3000 patients and familial controls since the inception of our clinical program and has led to multiple direct publications as well as collaborations with other institutions. Lastly, there may be "unexpected academic revenue" from a successful clinical program. For example, we studied access to our clinical center examining demographics, distance traveled, and how referral to the center impacted outcomes. The academic fruits of a clinical program serve as a catalyst to drive participation, especially after the initial excitement of a new program has passed. The leader of the program should periodically review the projects being generated and ensure attribution is spread through as many of the stakeholders as possible. A yearly newsletter to the program outlining success is a great way to promote enthusiasm.

Getting Started

"The journey of a 1000 miles starts with the first step." This age-tested maxim is never truer than when launching a new clinical program in the academic medical center. A successful program will require significant vision and planning, but then the question arises "how do you start?" There is probably no one right answer for this question, but I would offer a philosophy that can be summarized as "have a conference." Even with all the high-level planning and organization, you should not expect that your program will take form overnight. This is a common source of failure for many leaders of clinical programs—taking that first step. My suggestion is to start with small goals (always keeping the end game in mind). When we started our clinical pancreatic program, the landscape was one of individual practitioners each pursuing their own agenda when caring for the patients with pancreatic cancer. We had a vision for a multidisciplinary program but knew initially we did not have the political capital or trust to roll it out as one fait accompli. When I queried my mentor, he simply recommended that "have a weekly conference" as a way to start building trust. This turned out to be the best advice. We initiated a nonthreatening weekly conference for each of the practitioners to bring their cases and discuss. After several months trust developed from these weekly interactions, and we were able to solicit their input on their needs of the clinical program, and 6 months later we rolled out the first multidisciplinary clinic.

Conclusion

Clinical programs that attract referrals, coordinate care, and facilitate academic productivity are an important component of the academic medical center. Development of a successful clinical program requires thoughtful vision, careful team building, and fastidious tracking of metrics. Leaders who put forth the effort to consider these crucial attributes will likely find their efforts rewarded.

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Chapter 19
Being a Leader: Organizing a Basic Science Research Program

Alan Dardik

Introduction

The origins of the modern surgeon-scientist lie in greatness. Ambroise Paré (1510–1590) performed the first clinical trial in medicine, comparing gunshot wound treatments of cauterization and debridement, on the battlefield in 1545. John Hunter (1728–1793), the "Father of Scientific Surgery," stressed meticulous research and education for surgeons, leading to new treatments of diverse conditions including aneurysms and venereal diseases as well as conduct of scientific research trials. William Stewart Halsted (1852–1922), father of the American surgical residency training system and introducer of the concepts of aseptic technique and soft tissue handling, as well as developer of new operations for breast cancer and hernias, stressed the importance of research during training as well as during practice. These greats enabled contemporary surgeon-scientists to bring new ideas and treatments to unprecedented greatness and utility for patients. Some of these surgeon-scientists include Judah Folkman, creator of implantable drug release (Norplant) and identification of tumor angiogenesis; Bernard Fischer, whose hypothesis that cancer is a systemic disease led to minimally invasive surgery and the first modern surgical randomized controlled trial; Thomas Starzl, performer of the first human liver transplant as well as the first simultaneous heart/liver transplant; and Joseph Vacanti, a creator of the new field of tissue engineering. These surgeon-scientists inspire us to stand on their shoulders and push the field to even greater heights.

Common wisdom tells us that there are three essential resources in life: time, money, and strength. Unfortunately these are limited during early, middle, and older age, leading to our perpetual need to negotiate and balance (Fig. 19.1). Early age is characterized by time and strength but not money; middle age has money and

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Fig. 19.1 The balance of life
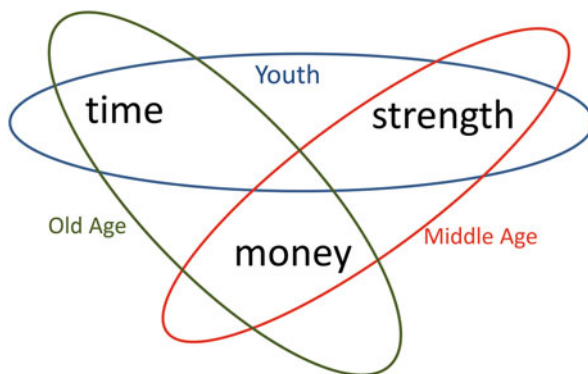
strength but no time; and older age has time and money but no strength. This wisdom applies to the demands placed daily on the surgeon-scientist, who must balance time, money, and strength, e.g., the environment. Being the quintessential "triple-threat" academician – performing patient care, teaching, and research or even adding the fourth pillar of administration – requires having all of these three resources in harmony to be able to accomplish each one safely and successfully. But for those few who truly succeed in academia, this formula is a traditional one for success.

Preparation for a Career as a Surgeon-Basic Scientist

Building a basic science research program takes preparation at multiple stages of one's career. During training, including university, medical school, postdoctoral fellowship, residency, and clinical fellowship, it is necessary to focus on building the basic skills necessary to do research during one's later career. Gathering and perfecting basic skills make sense, as a fundamental principle of leadership, necessary to lead a basic science laboratory as well as a Department of Surgery, is leadership by example. You have to have the skills. Many people minimize the need to have diversity of core skills – "I could do it if only I had the time. . ." No they can't. In a surgical laboratory, one must have a diverse skill set, frequent requiring everything from microsurgery to molecular biology. Such is frequently shown, especially in one's early career, by the publication of papers that develop new methods.

The training environment is critical to promote skill acquisition. Three important considerations include:

1. Time – dedicated training time is typically needed. Many people consider a graduate PhD program for its rigorous training, but the trade-off to a surgeon who also needs clinical training is time. Careful advance planning is critical.

2. Money – one usually needs funding to support research effort; laboratory residents frequently moonlight to support their salary, although ideally one will obtain grant support. Unlike other fields, past grant support does predict future grant support.
3. Mentorship – typically one has an established laboratory investigator serving as a mentor, but it is important to use career advisors as well; ideally a surgeon-scientist should be used as a role model for surgeon-scientists in training.

There are numerous other skills that need to be learned that will support a future career. Some of these basic skills include basic laboratory management, such as keeping a notebook, computer skills (word processor, spreadsheet), literature searching, and formal training courses (especially in experimental design, ethics, human subjects, animal training, and statistics). It is also important to obtain basic in vitro skills such as cell culture, molecular analyses such as Western blotting, PCR analysis, and histology and immunohistochemistry or immunofluorescence. In vivo skills are also important, including animal husbandry and small animal surgical skills. Typically one learns essential skills of people management in order to accomplish one's work in the laboratory as well as to accomplish work with collaborators; this skill set is frequently either acquired informally or formally as part of leadership training.

A First Position

An important hurdle, and perhaps a goal, of the new faculty's first career position is academic survival. It is critical for academic survival to establish the laboratory, developing a brand name with national and international recognition. This is typically accomplished by developing a solid and consistent scientific theme, bolstered by numerous publications and talks to publicize the science and show ownership of this research area. It is also critical to maintain consistent funding for the laboratory, not in the least to maintain operations, e.g., perform the scientific experiments, but also to show that one is "established." Many people start this task but few finish. One can still be a leader without a basic science laboratory; one has to know when to leave the laboratory effort too. It is critical to be true to one's self ("know thyself" in popular parlance); will you be passionate about science if you cannot be funded?

The environment of the faculty position is critical to success. One of the fundamental qualities of a nurturing and enabling environment is the ability to have time to perform one's research program. A corollary of this concept is that it is crucial to accept the right job with the right expectations. Do not be tempted to become the clinically busiest surgeon in the practice; do not do every case! It is important to learn the skills of a new surgical faculty member and become board-certified; however, it is equally important to have balance and set your own – and others', especially patients' – expectations of your clinical work. It goes without saying that partners who are understanding and value the research effort are critical. Another

type of position that enables academic success is one that is not benchmarked to relative value unit (RVU) performance standards. Ideally this allows the position to have "protected time," somewhat of a misnomer since there is an implication that the time is paid for and "free." However, this is far from the truth; one always pays for this time by one's self. Early in a career, 75% protected time is ideal, especially if one is targeting K08/K23 funding from the NIH that demands this level of research effort; however, frequently only 50% effort is needed later in the career, and sometimes even less, depending on one's level of support, environment, and career expectations. However even these reduced levels of "protection" are frequently difficult to accomplish as one's career responsibilities frequently diversify and increase. As such, the surgeon-scientist frequently requires increased (!) time to perform one's activities, compared to surgeons with purely clinical effort; unfortunately, a typical response is to spend effort on nights and weekends despite always striving to do the work during the week and day. Time management skills are critical to sanity and survival. One tip is to try to align one's clinical and research priorities; there is less diverse literature to master, it is easier to publish in a smaller number of journals, and there may be better access to surgical specimens if one does research in one's clinical area of expertise. Other considerations for one's time include the time to attend meetings, such as the Academic Surgical Congress (ASC); it is fundamentally important to be able to balance the time away from one's home environment with the ability to gain knowledge and network with others in the field. It is also critical to have time for family, including the important aspects of life such as pregnancy, illness, children, meals, and vacations.

Another fundamental aspect of a successful environment is money. A start-up package frequently includes money to start the laboratory with purchase of supplies, equipment, and manpower. Yet equally important is a yearly budget allowance, as recurrent expenses – such as a technician's salary, supplies, travel, computer support, etc. – are predictable and important to expect. Although surgeon-scientists frequently feel that they should be the highest paid members of the department, according to the effort spent, the reduced clinical billings of surgeon-scientists frequently place them among the lower-paid clinicians. In addition, the frequent expenditures that are typically paid for personally, e.g., travel, food, and lab personnel-related items such as end-of-year gifts, further erode the take-home pay. It is critical to remember that no matter what the compensation level is, it is still better than the majority of people in our society.

Mentorship is a critical aspect of the environment. Make sure you have help. Having friendly senior faculty outside your department is frequently helpful and provides different perspectives. Academic mentors, or committees of them, are frequently useful throughout one's career, and many institutions are more aware of their value, helping to set them up even before a new faculty's arrival on campus. Coaches that help with work-life balance and other life issues are also an important resource for many.

Collaborators in your institution are of particular value. It is important for them to share their expertise with you; close collaborators who are part of your grants can share their preliminary data for use in grant applications. Similarly, your clinical expertise can frequently give clinical applications to their science, increasing your value. Collaborators can promote feedback on ideas, as well as share manpower, resources, and core facilities. Ultimately the institutional culture can "make or break" a career.

The physical resources of a laboratory are important considerations for a new faculty that are not always presented as choices. It is important to be aware of the value of space being within or outside of one's home department; is it better to be in surgical space with surgeon-scientists who do research in different topics or perhaps with researchers in one's scientific home field but physically further away from the department? Proximity to cores and collaborators, or even mentors, is helpful. Inheriting old functional equipment may help entice a new researcher to spend less start-up money on equipment. Core facilities are an important consideration to planning research; cores help avoid "reinventing the wheel" and improve experimental quality and lower costs. They also help one keep up to date with what is happening in your institution as well as promote awareness of out-of-institution resources such as external biobanks.

Regardless of the laboratory physical location, the interface to the home Department of Surgery is a continued item of importance. Acknowledge the department on papers and grants. Include surgical work on your biosketch. Celebrate your successes; tell the chairman what your science is all about. Give a copy of your book to the department. Even better, bring your grant back to the department. Give grand rounds on your scientific research. Let surgery residents and students into your laboratory. As your reputation expands, increased "opportunities" will come to you, including clinical work, clinical trials, and even administrative positions. It is important to give many of these away to keep focusing on your research.

Diverse leadership skills are important to lead a successful laboratory. Beyond the basic laboratory and scientific skills that help guide the scientific investigations, it is critical to have advanced personnel management ("human resource") skills. Management of other people – and their expectations – is a primary leadership skill and part of developing emotional intelligence; it promotes conflict resolution, team building, and negotiation. Cultural sensitivity is critical to successful personnel management. One must also like to write; writing takes time and repetition to improve. Papers and grants must be written; publish or perish is true. One is only as good as one's last paper. Basic legal awareness is important to working with attorneys that protect intellectual property and patents. Common themes are change, resiliency, and persistence. Failure is unfortunately common; paper and grants frequently require resubmission. Research timelines are long; the immediate gratification of clinical surgery is not always applicable.

All of these skills help develop one's ability to work with others, frequently thought of as "politicking." Although sometimes thought of as institutional-dependent, there are many common themes. One has to work well with one's clinical partners and scientific collaborators to live between their two worlds. It is critical to

maintain positive, healthy relationships with laboratory personnel, administrative assistants, and financial support people; all of these people help support research. Gather political support within your institution to help with promotion, and occasionally help defend against others that become jealous of your success. Gathering political support from your friends at other institutions and professional societies who will help you with leadership positions and opportunities to present your work; they may even write letters to support your promotion.

Later Positions

As one moves up the ladder, new opportunities and challenges frequently arise. Academic promotion opens opportunities, not the least of which is frequently sabbatical-type leaves to improve one's skills further. Clinical leadership is common but must be approached with caution as poor time management skills can frequently lead to laboratory dissolution, especially if one loses the time to write and resubmit grants. Broadening one's perspective to healthcare management can lead to opportunities of deanships, CEO, or even CFO positions, depending on one's personal interests and expertise. Other common institutional leadership positions include vice-chairman or dean of research, faculty affairs, or student affairs. It is critical to recognize and balance your institutional contributions with your interest in the position; one needs to recognize the value of the title compared with the value of the position. Are you just "climbing the ladder" or are you "navigating the tree branches?"

The when and why one moves to a different position is complex and frequently personal. It is important to differentiate between advancements up the ladder to positions of section head, chair, or dean, with lateral moves. Although lateral moves are frequently avoided, one may need them; contracts may be run out and not renewed, especially if funding runs out; occasionally it is an easier way to be promoted. Another reason to move is to accomplish a greater task that answers the fundamental question of "what is the legacy that you will leave?" Some positions may allow easier translation of your findings into clinical applications if there are better, or frequently just different, resources. However, there is rarely a move to a "better" environment; new positions are frequently just a different balance of priorities. No position is perfect.

Being a Leader in Surgical Science

I believe that being a leader in surgical science requires establishing an environment for others to accomplish your investigative program. What is the first class science that will be accomplished? Some common elements frequently include use of the tools of modern molecular biology and genetics; use of current computer resources

such as large databases and advanced statistical analyses; rigorous experiments that include adequate controls, repetition, and confirmation; keeping within modern ethics of science and publishing; and spreading the results of science to publish in the best journals possible. One difference between the pure clinician and the clinician-scientist is the need of the scientist to constantly push and test the limits and boundaries of our knowledge.

It follows that management of your laboratory personnel is a very high-priority task, worthy of spending your time and effort. People who are interested in coming to my laboratory are frequently introduced by email and in-person introductions upon referral from friends. As such, it is critically important to develop relationships with your laboratory fellows, not just for the scientific experience but for the continued future relationships that you will have; the best reflection on their experience is their future recommending of their junior fellows to learn and work in your laboratory. One can frequently get referrals from lectures that you give, especially international lectures; say "yes!" to some of these opportunities. The increased number of these invitations frequently coincides with the requirements for promotion. Be responsive, and use technology such as email.

Set expectations early. Acknowledge the realities of families, children who need schooling, other calendars, and competing priorities with the person's home institution. Work on funding the position in advance of their arrival, but maintain flexibility if the scientific direction evolves to better science and discovery. Keep expectations that the person's project will be allied with the priorities of the laboratory, as priorities are frequently aligned with grant funding, but allow for individual variability and interests. I frequently say "if you accomplish your goals then I will accomplish my goals." I rarely need to set specifics early and frequently allow new personnel to see what projects our laboratory is doing and where their skills and interests lie. My job is to help them accomplish their goals, even if they do not know them.

The experience of laboratory personnel is critical. Cultural expectations must be met. I recommend to people in my lab to take time to travel and especially to experience American culture. Learn English if necessary. Learn the American academic system. Learn the ethics of science and of publishing. Learn how to work in groups, especially beyond political boundaries. In some cultures, pleasing one's superior is important; however, in science one must learn to have integrity at all stages. I encourage working with friends in other laboratories to see how other labs work. I also encourage attending many seminars and using institutional resources such as core facilities; this helps understand the institutional culture and its place in the greater scientific field.

Establishment of a laboratory esprit de corps comes from following through on your promises. Be a great mentor, not just a good one. In my lab, everyone can work on their own project, but everyone also works together. A consequence is that we typically have multiple authors on each paper; be inclusive! At our weekly lab meeting, everyone speaks. Everyone's opinion is valued. However, English language is required, remembering that it is both part of the experience and a necessity to read future records. Celebrate accomplishments. We often have lab lunch, dinner

with spouses/families, summer barbecues, Super Bowl parties, and other get-togethers during the year. Maintain a lab Web page or Facebook page.

Some of my advice to my lab members comes from my own PhD mentor, Richard Schultz. Keep focused on the lab. Our lab competes with other basic science labs; this is their only job and how they get paid; they do not go back to a clinical position afterward. Science takes time; it is slow; however, good science takes even more time. The pace is slower, so the distractions are frequent; every non-lab encounter takes time: for the setup, for the encounter itself, and for recovery. Good examples are post-call sleep and work pile up after vacation. Clinical papers take time and effort; some are worth it, especially reviews and chapters; these are generally good "after-hours" projects, as the main lab work still needs to get done.

Science happens despite everything that happens in your life. Life's interruptions constantly happen, especially with children and illness. However, at the end of the lab time, you still need to have a paper showing what you did in the lab. Everyone else expects this, especially you.

It is important to pace the experiments. Keep focused and work hard. When things are working, work hard! And when things are not working, work hard! Read, read, and read. Focus on the key experiments. Go for the critical experiment early. Control experiments must be run simultaneously. If it is only done once, it didn't happen. There are many good ideas, but you need time to focus on the one good idea that works and that you can publish. Keep making figures and tables; this will let you focus on the big picture and controls. Leave enough time to do additional experiments. It is easy to run out of time. Remember that MD papers convince you of many things and PhD papers convince you of just one thing.

Data does not belong to you. All data, notebooks, and data files belong to the institution. Copies need to be stored in a safe place: with the PI, in the cloud, and on a lab site. If you don't publish it, it didn't happen. And $n = 1$ didn't happen either. Plan experiments wisely. Constantly make figures. Leave enough time to write. Leave enough time to answer reviewers. Label all equipment, no matter how small! Talk to your PI every week, at a minimum; and more frequently is good! Make sure you learn basic lab techniques, including cell culture, PCR, Western blotting, histology, and small animal microsurgery.

Time Management

I am continually asked how to accomplish all the tasks that are necessary and required of a successful surgeon-scientist. It is almost as if people expect to be able to "steal" time or have more than 24 h in a day. However, I find that one can promote work-life balance by increasing the efficiency of work time, not by using more personal time (e.g., nights and weekends); personal time is critical to prevent burnout. A good example of increasing the efficiency of work time is aligning your clinical and research interests. Schedule meetings later in the day, when you are tired. Work on your most important problem first, especially if the morning is your

optimally efficient time. Use a single calendar so you don't miss things, especially family obligations. Try not to operate on a patient right before you leave town or if you are jet lagged. These time management recommendations avoid problems in the first place; of course this is hard to do and becomes harder with seniority. The lesson to junior faculty is to consider protecting your time from the initial negotiations for your position. Use local role models and mentors – how do they do it? And ask other successful people; of course what is successful is highly personal.

Capitalize on time that you have but is not being used for personal time; it is frequently personal preference whether these are early or late hours. When I was a resident, it was late hours; now as an attending, it is early hours. Long airplane flights are a fabulous resource. On a long-haul flight from New York to Asia, I can frequently accomplish four tasks, such as papers or talks. Fly business class. If you have a long connecting time between flights, then consider getting into an airport lounge.

Schedule a block of time for grants. One trick is to schedule, publicize, and then cancel a trip, but don't tell anyone that you are not actually away. Use an email auto-response telling people you are gone. One of my friends checks into a local hotel for a few days and turns off his phone. I find that international travel is actually hard to write grants, due to jet lag, but is frequently good for reading grants.

Leave town to get away. You are always on call if you are in town. The corollary is that it is hard to have a meeting in your hometown. Meetings are important for many professional reasons, but bringing a spouse changes many dynamics; however, one can consider bringing the spouse and/or family to add personal time to a meeting or to add professional time to a vacation. However, this will take practice, as mixing family and work is an advanced time management skill.

Conclusions

Building a career as a surgeon-scientist is complex but rewarding. Becoming a successful surgeon-scientist requires a large number of skills, including clinical, scientific, and leadership skills. Success requires negotiation and careful management of resources including both internal resources, such as time, training, and priority management, and external resources, such as your environment, money, and personnel. Build your opportunities to make a difference to patients on both a local, patient-oriented focus and a broader scientific level.

Dr. Francis Moore wrote in 1958: "A surgical investigator is a bridge tender, channeling knowledge from biological sciences to the patient's bedside and back again. He traces his origin from both ends of the bridge. He is thus a bastard and is called this by everybody. Those at one end of the bridge say he is not a very good scientist, and those at the other say that he does not spend enough time in the operating room. If only he is willing to live with the abuse, he can continue to do his job effectively." Nothing has changed since then.

Suggested Reading

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Chapter 20
Being a Leader: Organizing a Health Services Research Program

Ravinder Kang and Sandra L. Wong

Bulleted Pearls

- Health services research (HSR) seeks to understand the factors that influence the need for healthcare services, the care delivered, its cost and quality, as well as the outcomes experienced.
- Organizing an HSR program requires research expertise, infrastructure, resources, and a supportive institutional culture.
- Key leadership principles include dedication to mission of advancing surgical care through research and a strong commitment to the success of program members.

Surgeon-scientists play an instrumental role in advancing the scientific underpinnings of medicine. They lead the drive toward better patient care and are integrally involved in the continuous innovation of surgical techniques. While surgeons have traditionally focused their research efforts on basic science and clinical research, they have also had the tremendous opportunity to link discoveries made at the "bench" to the care delivered at the "bedside." Examples of results from such remarkable undertakings include the foundation for solid organ transplantation, cardiopulmonary bypass, and asepsis in infection control.

Clinical challenges continue to be the source of inspiration for surgical research. One of the most formidable challenges today is providing high-value, patient-centered surgical care. The delivery of such care relies on surgeons broadening the concept of the "bench" beyond animal physiology and molecular biology laboratories to a different type of translational research, focused on "dry labs" with secure data servers and community partners.

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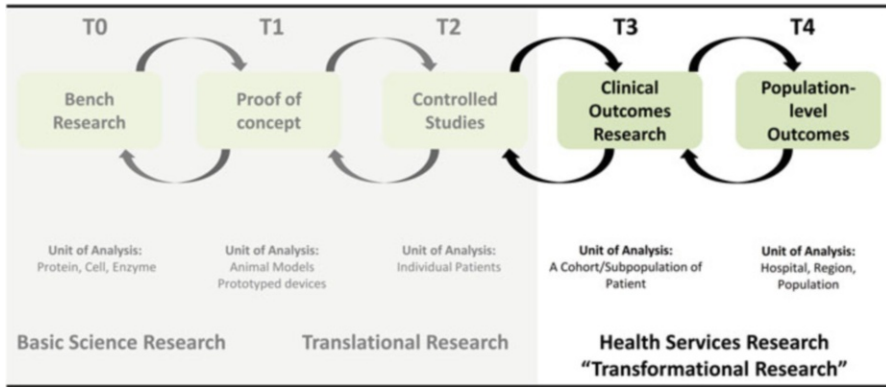
Fig. 20.1 The National Institutes of Health has previously defined translational research, as bench to bedside research. The latter phase of translational research which concerns itself with understanding and advancing best practices at the patient and population level is health services research (Adapted from the CTSA program at NIH: Opportunities for advancing clinical and translational research) [16]

To conceptualize an efficient and effective process for moving new "bench" discoveries to the "bedside" and beyond, the National Institutes of Health's (NIH) roadmap initiative can be used [1, 2]. The roadmap's intended purpose was to outline the scope of biomedical research. The goal of biomedical research is, quite simply, to improve patient care, and to accomplish this, rigorous scientific investigation across the continuum of research is required.

This continuum includes basic science, clinical, and health services research (HSR) [3]. The NIH's framework for translating research into practice can also be used to distinguish between these interrelated but distinct fields of research (Fig. 20.1) [4]. T1 and T2 research translate the discoveries made in basic science laboratories to clinical trials or the investigation of new drugs, devices, and treatments. The latter two stages, T3 and T4 research, are centered around integration—the delivery, dissemination, and diffusion of research. The distinction between T2 and T3 is one way to differentiate clinical research from HSR.

An alternative way of conceptualizing HSR is to consider the unit of analysis. Basic science research is often concerned with what happens at the level of a cell or protein. Clinical research, on the other hand, investigates at the patient level. HSR focuses at the level of a unit or ward, hospital, geographic region, or within a specific demographic/patient population. Broadly speaking, HSR seeks to understand the factors that influence the need for healthcare services, the care delivered, its cost and quality, as well as the outcomes experienced [5]. Both quantitative and qualitative methodologies are used to conduct health services research. Specific disciplines of HSR include clinical epidemiology, outcomes research, comparative-effectiveness, patient-centered research, quality improvement, quality assurance, implementation science, disparities research, health economics, and health policy [6] (Box 20.1).

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Box 20.1   Examples of Health Services Research

Clinical epidemiology is the science of making health predictions about a particular patient or patient population based on observations from a large cohort [12].

Comparative effectiveness research (CER) evaluates strategies for the diagnosis, treatment, and surveillance of a particular ailment, while taking efficacy and cost into account. CER allows for informed decision on the part of consumers, clinicians, purchasers, and policy makers.

Disparities research attempts to identify factors contributing to health disparities, with the goal of establishing health equity. Investigative efforts include behavioral and psychosocial interventions.

Health economics applies the theories of production, competition, and regulation to inform providers, healthcare systems, and the public and policy makers on the potential impact of proposed regulations/policies.

Health policy research is a spectrum of research which includes an effort to update health policy to reflect new knowledge/clinical understanding as well as a study of how health policies at the governmental or insurance carrier level translate to health outcome metrics.

Implementation science focuses on the delivery of evidence-based medicine and takes into account the contextual factors which influence the successful uptake of best -practice [13].

Outcomes research seeks to understand the impact of an intervention (screening, diagnostic test, or procedure) on the endpoints of healthcare (disability, death, or quality of life) [14].

Patient-centered research explores both disease and illness experiences from the patient perspective. Interventions may focus on enhancing the patient-physician relationship, developing prevention strategies and promoting health.

Quality improvement/assurance is a process of experimental learning based on systematic changes made by all members of the healthcare system from patient to provider with the goal of improving patient outcomes, healthcare delivery systems, and professional development [15].

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Since the 1990s, surgeons have been investigating surgical quality and outcomes with scientific rigor; however, only recently surgeon-scientists have begun to organize surgical HSR centers and institutes. A blueprint for organizing such a center does not exist. The oldest surgical HSR programs are only two decades old, and most are truly in the early phase of growth. The path from inception to sustainable organization has varied for each existing center, and surgical leaders would do well to learn from the experiences of the community.

Semi-structured interviews with leaders of existing surgical HSR programs were conducted to inform the content of this chapter. Purposive sampling techniques were employed, and a total of nine surgeon-scientists were interviewed (Table 20.1). Use

Table 20.1 Overview of programs and directors interviewed

HSR program	Director/institution	(Faculty/current research fellows)	Mission
Surgical Outcomes and Quality Improvement Center (SOQIC)	Karl Bilimoria MD, MS Feinberg School of Medicine, Northwestern University	10 faculty 4 research fellows	To improve the care of the surgical patient through quality improvement research, health policy research, and developing future research leaders
Wisconsin Surgical Outcomes Research (WiSOR) Program	Caprice C. Greenberg MD, MPH University of Wisconsin, School of Medicine and Public Health	28 faculty 4 research fellows	To improve the quality, safety, effectiveness, and efficiency of surgical care through research and innovation
Center for Healthcare Outcomes and Policy (CHOP)	Justin B. Dimick MD, MPH University of Michigan	17 faculty 16 research fellows	To evaluate healthcare policy and launch innovative large-scale quality improvement interventions
Surgical Outcomes Analysis and Research (SOAR)	Jennifer Tseng MD, MPH Founding Director of SOAR at the University of Massachusetts and Beth Israel Deaconess	3 faculty 8–10 research fellows	To decrease perioperative morbidity and mortality, address healthcare disparities, and increase overall patient survival and quality of life
Veterans Affairs Outcome Group (VAOG)	Louise Davies MD, MS Philip P. Goodney MD, MS Geisel School of Medicine at Dartmouth	10 faculty 2–3 research fellows	Critically evaluate the effectiveness of healthcare, advance the knowledge needed to improve health, and train the next generation of clinical investigators
Center for Surgical Quality and Outcomes Research (CSQOR)	David Penson MD, MPH Vanderbilt University	19 faculty 2–4 research fellows	To improve outcomes and overall quality of life for surgical patients
Center for Surgery and Public Health (CSPH)	Adil Haider MD, MPH Brigham and Women's Hospital Harvard Medical School and the Harvard T.H. Chan School of Public Health	32 faculty 15 research fellows	To advance the science of surgical care delivery by studying effectiveness, quality, equity, and value at the population level and to develop surgeon-scientists committed to excellence in these areas
Center for Surgical Trials and Evidence-based Practice (C-STEP)	Lillian S. Kao MD, MS University of Texas-Houston Medical School	9 faculty 6 research fellows	To advance evidence-based practice in surgery by providing young faculty and surgical trainees with formal training in clinical research, mentorship, resources, and funding to perform high-quality research

Table 20.1 (continued)

HSR program	Director/institution	(Faculty/ current research fellows)	Mission
Center for Surgery and Health Economics (CSHE)	Rachel R. Kelz, MD, MSCE University of Pennsylvania, Department of Surgery, Leonard Davis Institute at Wharton	15 faculty 11 research fellows	To improve the quality of surgical care delivered across the United States through the use of novel techniques in education, clinical investigation, and health services research

of qualitative methods allowed us to identify those patterns and themes around organizing an HSR program which were present across programs [7]. Quotations, a common feature of qualitative research reports, are used here to illustrate ideas and experiences from those interviewed.

Critical Research Agenda

> For surgeons to have a seat at the health policy table... [we have to] develop the basic body of research needed to truly inform how we practice healthcare in the United States.

One of the main aims of surgical HSR is to understand and improve the practice of surgery. Accomplishing this may entail investigating why variation in surgical quality persists across hospitals or finding ways to mediate the tension between spending constraints and the adoption of technological innovations. Surgeon-scientists are indeed uniquely poised to study these issues given clinical expertise and an intimate understanding of patient care across various delivery settings.

Surgeons must lead these investigations, particularly now, as the healthcare system reevaluates its structure. The critical issues surrounding healthcare expenditures are sure to impact the organization, delivery, financing, and regulation of surgical care. Currently, surgical care represents 5% of the US gross domestic product (GDP) [8], and it is projected to rise at an unsustainable rate. Rising costs are juxtaposed with inequitable access to care and inconsistent quality of surgical services. For instance, operative mortality following elective surgery varies widely based on where a procedure is performed [9]. There is a professional imperative to identify the factors that contribute to unacceptable variations in mortality rate as well as to improve quality across the board by addressing safety, timeliness, effectiveness, efficacy, equity, and patient-centeredness.

With increasing sophistication of data collection and the ability to efficiently amass "big data" as well as collect granular patient-centered data points, surgeon-scientists have unprecedented access to rich datasources which can be used to inform

the continuous improvement of surgical care. As surgeons learn to couple this data with the proper tools of analysis such as advanced statistics and econometrics, the field of surgical HSR will continue to see exponential growth, and surgeons will need to "have a seat at the table" for policy-related issues.

Like-Minded Individuals and a Group Identity

> To do this you can't be out on an intellectual island, you have to find like-minded people to come together.

Health services research requires the efforts and expertise of multiple individuals. Typically, HSR groups identify individuals with shared research interests, though not necessarily overlapping clinical interests. Assembling this cohort of like-minded individuals provides an intellectual forum for the group. Together, ideas can be shared, constructive feedback given (and received), and research efforts refined throughout various stages of progress—from conceptualization to completion.

As the group grows, and depending on the group's focus and interests (or a particular member's specific needs), individuals with special methodologic expertise may need to be recruited. This may include data analysts, biostatisticians, implementation scientists, health policy experts, health economists, and epidemiologists. A "rolodex" of potential collaborators for the group becomes critical when organizing a program. True collaborations introduce new ways of thinking and contextualizing research projects. The diverse training backgrounds, clinical expertise, and analytic know-how each member brings to the group are ultimately the group's most valuable assets and contribute to the critical mass that is needed to build a program.

HSR groups begin with the identification and convergence of colleagues. The transition to a research program happens when a shared vision and mission are established. A vision describes what the group's ideals and aspirations are, while the group's mission much more precisely articulates the shared purpose of the group— why the program exists. The mission also aids in creating a group identity and pride in the team's work. This common identity promotes the development of a recognizable "brand" for the HSR program. The brand recognition/visibility of a group may foster opportunities for collaborations with other researchers or research entities.

Some HSR groups are founded on a central mission, for instance, health services researchers at Dartmouth (now the Dartmouth Institute for Health Policy and Clinical Practice (TDI)) have traditionally worked around the concept of variation in healthcare and intensity of practice. Individual members across a variety of medical and surgical specialties challenged the idea that more healthcare equals more health and TDI became the thought leader in the study of small area/regional variation.

For many other groups, a central mission developed as the focus of the investigators narrowed. When organizing an HSR group, it is important to collectively espouse a mission. An effective HSR group has a mission that resonates with its members. A formal mission statement can guide the research program's goals and

growth strategy. As an HSR center expands, it may become necessary to establish subgroups focused on a specific topic matter, such as the Center for the Evaluation of Surgical Care at Dartmouth. However, as one director stated, it is important that the "different programs should run around the core central mission."

Organization and Leadership

> To ensure the success of your program. . .you need passion and drive and determination to be bigger than yourself.

Early experience with HSR programs did not necessarily define roles or allocate tasks to team members. In fact, the majority of programs started with a skeleton structure and an "all-hands-on-deck" approach. For many groups, the work initially revolves around a few key members and their research interests. As members and projects are added on, the need to clearly demarcate roles and create a structure for the center becomes evident. As one director put it, "The structure grew with opportunity, it looks pretty and organized now but it took time, it developed as we added projects."

The structure of a health services research organization should facilitate achieving the program's mission, which may evolve as the group grows and more clearly defines its areas of interest.

Operationalizing the mission requires a conscious design. For instance, many HSR programs have an educational mission; they strive to train the next generation of surgeon-scientists who will continue the work of studying surgical care. Centers may actualize their educational mission by hosting seminars and workshops to promote learning. Other programs may establish a formal fellowship within the center, in which case a fellowship director is needed. The fellows themselves will need training in the methodology of HSR. To meet the training needs of fellows and faculty, some programs cultivated partnerships with graduate schools at the time the centers were built. For instance, when Dr. Michael J. Zinner and colleagues were establishing the Center for Surgery and Public Health (CSPH), at Brigham and Women's Hospital, he developed a close partnership with the Harvard T.H. Chan School of Public Health, and CSPH ultimately became a joint endeavor between the School of Public Health and Harvard Medical School. Alternatively, as the program grows, the educational mission may expand beyond training fellows, as happened with Dartmouth's HSR group, TDI, which went on to establish its own degree-granting graduate education programs.

Structuring a research program requires a leader who advocates for the interests of the center. The directors interviewed for this chapter exemplify the leadership needed to run a successful HSR program. These individuals are passionate about research, committed to the success of their members, and want to make a meaningful contribution to surgical care. As one director stated, "the basic tenet of leadership for health services research centers needs to be servant leadership, where you help everybody else succeed." These leaders understand that for the center to be
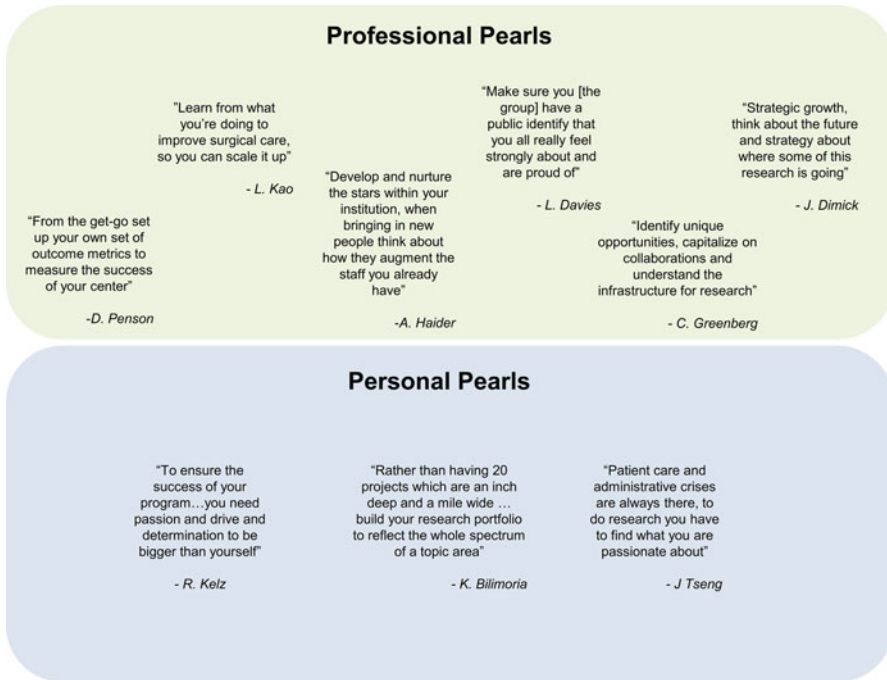
Fig. 20.2 Professional and personal pearls from directors of surgical HSR programs

successful, it has to be about more than a single individual's research (Fig. 20.2). Another director quoted a nineteenth-century Jesuit priest when discussing the leadership required, "there's no limit to what you can accomplish if you don't care who gets the credit."

The leadership of an HSR program also has to ensure the sustainability of the program. They have to seek opportunities to grow and evolve to meet the needs of the surgical community. In fact, many directors mentioned a shift in the research focus of their centers, from data analysis to implementation science. This transition is rooted in the concept that reporting observations and associations is not sufficient to change our healthcare systems and a more active role on the part of researchers and surgical HSR programs is needed. Visionary leadership is needed to lead relevant investigations.

In many ways, the characteristics of a successful HSR leader are the same traits possessed by successful section leaders, chairpersons, or hospital chief executive officers. These are individuals who lead by example and happen to be quite resourceful, optimistic, persistent, and collaborative.

Resources

> If you don't have money, you look at the resources within your school, you think outside of that box and consider indirect benefits you can get.

> Don't reinvent the wheel, don't generate redundant resources, look to others who have done it [HSR] already at the institution or nearby, maybe even at other institutions and find ways to collaborate, because that makes it happen a lot quicker.

"Leveraging resources" was a theme touched on by many directors. Leveraging resources extends beyond personnel and includes optimal utilization of pre-existing infrastructure, location, environment, and institutional culture. Many directors noted that young investigators should spend their first 6 months at an institution actively identifying existing resources and opportunities. When looking to build an HSR program, it may be important to focus efforts on establishing collaborations and gaining access to relevant resources, as opposed to generating redundant support. "Look at the institution as a whole and identify what the unique opportunities are that you could capitalize on... look for collaborations with the basic scientists and methodologists that are in other departments and look at the landscape of surgical healthcare services research to see what is being done and then try to find areas where you can build and make unique contributions to the field."

Infrastructure

Institutions engaged in research of any type (e.g., basic science, sociological, clinical trials) are likely to have some infrastructure already in place. For instance, the IT department can help provide needed secure servers for the storage of patient data. Prior experience with administrative data means that there may be experience with data use agreements. Important career development offerings such as grant writing seminars may be available through an academic affiliate.

The importance of co-location was another dominant theme present when discussing infrastructure. Sharing physical space provides a natural venue for developing a group identity, as well as exchanging ideas. Seeing what others are studying and learning from formal or informal discussions around projects can provide alternative ways of conceptualizing research questions: "Sharing a research office, helps you really appreciate the importance of being in a group and learning from each other." Shared space also provides research fellows and junior faculty access to more senior members of the group.

Support Staff

A somewhat hierarchical organizational structure exists at most HSR programs. If the group works across the spectrum of HSR, members may organize into subgroups

with a specific focus. These subgroups have dedicated leadership and key faculty members. Support staff (project managers, research coordinators, data analysts) may work exclusively within a subgroup or work across the organization based on their own content expertise. For instance, support staff members at the Northwestern's Surgical Outcomes and Quality Improvement Center (SOQIC) work with a variety of members based on their content expertise. Support staff at Brigham and Women's CSPH works within one of the seven areas of investigation (e.g., Program in Patient-Oriented Policy and Practice).

At the inception of a program, it is often not necessary to have full-time analysts or program managers. However, administrative assistance may be available for grant applications or Institutional Review Board (IRB) submissions via the Department of Surgery or the institution at large. When looking to bring an analyst or project manager on board, you may only need to secure a portion of their time to get the group started. Program-based support may be dependent on the research projects under way (or in the pipeline). As the program matures, one director noted, "I do think it's important for each faculty member to have at least a portion of a person's [time], who is specifically assigned to them so the research continues to move forward, because surgeons are busy, they're in the OR or they are trying to track the many different facets of their career that, they need somebody who is really watching out for their research program."

External Collaborations: National, Regional, and Local

Many directors advised taking advantage of collaborative opportunities, including investigation into national, regional, and local delivery of high-quality surgical care.

National

The Northwestern's SOQIC benefited from its proximity to the headquarters of the American College of Surgeons. SOQIC was able to foster a collaboration with the ACS and American Board of Surgery (ABS). Together they conducted a national cluster randomization control trial on flexible resident duty hours (the FIRST trial). They demonstrated that greater flexibility in hours did not negatively impact patient safety [10]. Following the FIRST trial, the Accreditation Council for Graduate Medical Education (ACGME) announced a policy change in 2017 to allow for greater flexibility in duty hours for surgical trainees.

Regional

The Northern New England Cardiovascular Disease Study Group (NNECDSG), often referred to as the NNE, was the first surgical quality improvement group of its

kind. Spurred by a surgeon-specific mortality report from the Health Care Financing Administration (the predecessor of the Centers for Medicare and Medicaid (CMS)), a consortium of medical centers performing coronary artery bypass graft (CABG) surgery within Maine, New Hampshire, and Vermont was formed in 1987. The NNE organized a clinical database and provided regular feedback to its participating centers. Further, they provided participating centers with training in continuous quality improvement techniques. Together they were able to reduce inhospital mortality by 24% [11].

The University of Michigan's Center for Healthcare Outcomes and Policy (CHOP) has been able to nurture multiple statewide quality initiatives in conjunction with a third-party payer. They have targeted common yet costly areas of surgical care, including bariatric surgery, trauma, arthroplasty, and urologic operations. Each participating site stands to gain from this partnership. Together they were able to identify and disseminate processes of care that result in improved outcomes.

Local

Collaborations need not cross state lines or institutions to be effective. Such "local" HSR efforts are essential to improve the delivery of surgical care. Partnerships across clinics and between departments or within the community can be extremely fruitful. In many respects, quality improvement and implementation work must happen at the local level as institutional culture and local environment are the key drivers of processes of care. Undertaking research at this level allows direct advancement, measurement, and study of the effect of systems engineering and the role of innovations in improving outcomes.

Funding

In general, funding for HSR programs comes from institutional or departmental support, extramural grants and contracts, and philanthropy. Institutional support may come in the form of infrastructure (space to house an HSR program or access to secure servers) or "soft money," which is funding to be used at the discretion of the director. While few programs have been able to leverage philanthropic efforts to raise funds for HSR, this remains a potentially viable source of funding for the future.

Extramural grant funding represents the largest revenue stream at most HSR programs. Health services researchers may be funded via traditional NIH or Agency for Healthcare Research and Quality (AHRQ) grants (K awards for career development, and R awards for independent research projects), Patient-Centered Outcomes Research Institute (PCORI) grants, and professional society grants to name some major examples.

Mentorship and Career Development

Mentorship

> Having multiple different mentors is good… [the] exchange of ideas outside of their own little world or their own little niche that they're studying is helpful.

Leading an HSR group requires an honest assessment of proficiencies and deficiencies. A single individual cannot effectively mentor the entire group. While finding personal mentors is at the discretion of the individual members, leaders must see, sow, and share opportunities for the group and its members to grow professionally. This may entail connecting individuals who share research interests or holding workshops to hone analytic skills. The advice and guidance of a research mentor cannot be understated. Often with research fellows and junior faculty members, there is a tendency to gravitate toward one individual mentor; however it appeared that developing multiple mentoring relationships was beneficial when dealing with complex, multifaceted research endeavors.

For research fellows and junior faculty, it is important to recognize that the road to success in terms of publishing and acquiring funding is often paved with hard work and rejection. Papers you submit may require major revisions and grant applications may go unfunded. While this experience is not unique, this can become a major pitfall especially when there may be financial disincentives for surgeons to pursue a rigorous research program. Seeking mentorship from faculty who successfully balance clinical work with successful research programs can be of tremendous help to young investigators.

In addition to one-on-one mentoring, group meetings can serve as a way to collectively mentor members of a larger HSR program. All research groups appeared to have regularly scheduled "work-in-progress" meetings. The structure of this meeting depends on the size of the program and scope of the research. Larger groups may have a regular meeting where all members give updates, and then working sessions are conducted within smaller subunits. Smaller HSR programs may have a weekly working session. Regardless of the meeting interval or scale, as a group, there must be a strong commitment by researchers to attend these sessions. In surgical training programs, a parallel commitment is seen, with Mortality and Morbidity (M&M) conferences. Faculty and residents alike attend M&M to gain insight and experience in a structured educational venue. Similarly, the HSR work-in-progress sessions serve as a venue to present one's work, to receive feedback, and to collectively learn from colleagues. Work should be presented in its early stages, where input and direction from the group can help guide and refine the project. Participants can utilize the expertise available to navigate roadblocks and to identify potential solutions. A well-run meeting can effectively function as a writing group or ad hoc editorial board, as researchers prepare manuscripts and hone specific aims for grant applications.

Career Development

As opposed to the basic science model, where most of the time the trainee goes into somebody's lab, does the lab work, comes out with an incredibly enhanced knowledge and understanding research but they haven't necessarily launched their own career... [in HSR] we try to have people over time identify their true passion and interest whether it's an area of study or a method so that they can really nurture that as they go on into their own academic career.

Conducting high-quality health services research may require continuous expansion of a research skill set. No one specific advanced training degree is needed to be a health service researcher, and, of course, the skills needed vary with research interests. All of the HSR program directors interviewed had a mechanism in place by which research fellows and junior faculty could receive advanced training, often in conjunction with a degree program. Most commonly, trainees and young faculty obtain a Masters in Public Health or Masters of Science in a related healthcare research field. Others obtain training in business or healthcare administration, health policy, health ethics, clinical epidemiology, or biostatistics. Didactic education can be a valuable supplement to work on specific projects, linking analytic tools to practice. Other important aspects of education include modules on career or professional development, such as grant writing.

The theme of dedicated time for development of research projects and personally careers was present with all directors. Research requires time; it cannot be done haphazardly after-hours or between operative cases. For research fellows within an HSR program, there is time to learn how to do research without competing clinical obligations. This means time to "think outside the box" and explore different ideas and time to develop skills that expand ones' research toolbox. Too often, duties associated with patient care overwhelm surgeon-scientists early in their careers.

All of the HSR program directors interviewed strongly advocated for protected research time specifically for their junior faculty members. While the exact proportion of research to clinical time proposed varied by program (from 80:20 to 20:80), it is clear that time, space, and resources have to be purposefully dedicated to successfully develop a career in health services research. Even for directors, time is crucial to pursue ongoing research commitments, building programs and collaborations.

Metrics of Success

From the get-go set up your own set of outcome metrics to measure the success of your center.

A program's success is built on the success of its members. Clearly laying out expectations for the program as well as for individual members allows the program to objectively assess if it is meeting its goals. For research fellows, metrics may include number of abstracts submitted/accepted and number of presentations or

publications. For faculty, the ability to successfully obtain extramural funding may be the measure used. For those interested in policy or implementation science, success may include the adaption of a proposed policy change or dissemination of a best practice. The success of a program may be gauged by its ability to recruit talented young faculty and the capacity to assist these faculty in obtaining career development awards.

Impact

Surgeon-scientists are uniquely positioned to make an impact by studying factors that influence the need for health services, the care delivered, its cost and quality, as well as the outcomes experienced. More specifically, the drive to improve surgical care for patients continues to be a source of inspiration. A strong HSR program is based upon a group of colleagues who share a vision and passion for such research. Collectively, the surgical HSR community has already and continues to influence the way healthcare is delivered.

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Chapter 21
Being a Leader: Cultivating Surgical Education

Amy T. Makley and Timothy A. Pritts

Bulleted Pearls

- Surgical educators must develop the next generation of surgeons, scholars, and leaders.
- Surgical educators should promote an "education first" culture.
- Education and teaching must be distinguished from each other.
- Leaders in surgical education must overcome barriers including time, lack of compensation, and increasing regulatory requirements.

Introduction

The face of surgical education has undergone a drastic but essential revolution, but its roots remain firmly seated in history. The dominant method of training up until the nineteenth century followed an apprenticeship model, with close observation and imitation with little structure and no set curriculum [1]. The beginning of the twentieth century marked a major shift in surgical education, when the principles of a standardized and more formalized model of surgical training were introduced by William S. Halsted. The first surgery training system was established by Halsted as the Surgery Residency at Johns Hopkins Hospital and consisted of a pyramidal model of advancement with strong remnant elements of an apprenticeship program [2]. Repetition of tasks, patient care, and procedural skills remained the standard educational method, with minimal formal evaluation processes or curriculum (Table 21.1). Surgery residents learned by watching, spending long hours living in

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Table 21.1 Halsted's principles of surgical education

Pyramidal advancement
Intensive and repetitive opportunities under supervision of skilled surgeon
Focus on scientific basis of disease process
Graded responsibility and independence
Little formal evaluation
Lack of defined curriculum

the hospitals, and advancing when master surgeons felt they were ready for independent practice. There was little objectivity in these assessments, and this has remained the basis for surgical training until recently. While apprenticeship principles and graduated autonomy remain the cornerstones of surgical training today, new challenges have required that general surgery residencies adapt.

Challenges in Surgical Education

The American Board of Surgery (ABS), the Accreditation Council for Graduate Medical Education (ACGME), and the Residency Review Committee (RRC) have implemented increased regulations and mandates to attempt to improve consistency in training across the spectrum of residencies in the United States [3]. While necessary, these mandates have required that training programs adjust. Constantly changing and evolving technology has demanded that surgical training become more efficient. Conversely, advancements in laparoscopic, robotic, and endoscopic techniques have brought challenges to trainees and educators alike, including the need to expose trainees to a significantly increased number of techniques, ultimately requiring more case volume and more time. Duty hour restrictions implemented by the ACGME have required that training become more concise and even more restrictive [4]. These changes, although necessary, have revealed new issues, such as the need to evaluate handoff processes that were not recognized as concerns under previous training models. In addition, prior to the 1990s, only 50% of residents pursued additional fellowship training as compared to over 80% of graduating trainees today [5]. New pathways to early fellowship and specialization have expanded, additionally altering the landscape of surgical training and increasing the diversity of learners [6]. Ultimately, perhaps the biggest obstacles to surgical training are the demands placed on surgical educators, with increasing limitations on resident autonomy due to Medicare and Medicaid regulations, as well as external and internal pressures to maximize hospital and operating room efficiency. These challenges must be met in order to ensure a well-trained surgical workforce.

The challenges have created an opportunity for surgical educators to lead the way. Surgical educators must lead the development of the next generation of surgeons, scholars, and leaders. Educators must create an "education first" culture, cultivating faculty development and specifically distinguishing education from teaching.

Mentorship programs require dedication and effort but are key to success within surgical education. Finally, programs with advanced simulation curricula that emphasize innovation, paired with the goals of advancing the field of educational research, are necessary to promote forward progress. Teaching leadership in education is crucial to developing the key personnel to be the next champions for surgical education. Equipping surgical trainees and junior faculty with the tools necessary to nurture the future of surgical education needs to be a focus of every surgical training program in the United States.

Education First Culture

As defined, culture represents the way of thinking, behaving, and working that exists in an organization [7]. Within surgery, creating a culture that puts education first involves nurturing an environment that continually introduces ideas and ways of thinking that emphasize surgical education. In addition to improving the system itself, the focus of leadership needs to be on innovation, transformation, and faculty development. To create real cultural change, this process must not simply improve the system at hand, but must create a new system that is better equipped to train surgeons in the future.

Cultural Change

Leaders, whether in surgery, education, or business, require critical factors for the successful creation of cultural change. These factors include vision, strategy, permission, routine habits, and urgency. While most surgical leaders have historically functioned in a command style, modern effective surgical leadership now is much more collaborative [8]. To be successful, leaders in education must have a clear and consistent vision, which faculty and surgical trainees alike can articulate. Through alignment behind a clear and common vision, faculty and residents are empowered to initiate action without feeling vulnerable. Thus, change is compounded and dramatically increased across any organization, including surgical education [9]. Successful leadership is not itself organizational, but rather visionary, and a successful cultural transformation with a focus on education requires a long-term plan that is realistic, uncomplicated, and well-matched to the interests of surgical trainees. Most successful strategies for cultural change are not original or unique, but are achievable, thereby creating incremental steps toward cultural transformation.

In addition to a clear and well-articulated vision, successful leadership qualities involve embracing permission. Education must be explicitly encouraged, celebrated, and rewarded to maintain a culture focused on surgical education. As leadership strategies become more collaborative, democratic, and consensus-driven, leaders must motivate and challenge senior residents and young faculty to become surgical

educators. Implicit in permission is empowerment, and success must be concretely rewarded, while failures are routinely shared and openly discussed as learning opportunities. Unfortunately, if unfamiliar, education within surgery is random and sporadic if it occurs at all. A major tenet for creating a culture of education requires the development of routine habits of teaching. Once team members are disciplined regarding educational habits, they become routine and expected from all faculty and residents. Collaboration then results and educational habits are embedded into the surgical culture as a routine event. Finally, a sense of urgency is necessary. Surgical leaders must prioritize education at the same level as departmental finances, clinical growth, research, and patient care. When surgical education is valued as an urgent priority within a department of surgery, aggressive milestones and expectations can be set, and the pace of cultural transformation will be rapid.

Faculty Development

Most divisions of education within general surgery departments rely solely on clinical faculty for resident training. Faculty development is necessary for the development of a culture of surgical education. In a recent survey regarding the role of nonphysician educators in general surgery residency training, a majority (67%) did not have access to a nonphysician expert in education, and those departments with this resource had only acquired it recently [10]. In addition to teaching, surgical education involves curriculum development, counseling, mentoring, creation of surgical simulation programs, educational research, evaluation processes, and recruitment. Without dedicated faculty with expertise in educational processes, most surgical training programs have piecemealed together these vital components of surgical education. To create and maintain a culture of surgical education, leaders must prioritize and embrace formal faculty development and give concrete value to these positions. From the standpoint of faculty professional effort, education cannot be nebulous, but must be measured, standardized, and rewarded. Faculty development programs can be created internally within a medical college itself, or faculty can attend established programs and workshops at the state or national level. Internally, junior faculty must be exposed early in their careers to an orientation program that clearly defines the role he or she will play in resident education. Educational grand rounds should be timely and focused on teaching strategies. Formal programs, including annual educational retreats, should be routine in surgical training programs, and informal coaching and mentoring should be performed regularly by educators [11]. The American College of Surgeons (ACS) Surgeons as Educators and Residents as Teachers courses should be applied to and attended regularly by surgical educators. These courses provide intensive immersive experiences, emphasizing the knowledge and skills necessary to cultivate an educational environment and equipping surgeons and residents with the tools to succeed as teachers.

Education Vs. Teaching

Education and teaching must be distinguished from each other, and awareness of the difference can improve development of surgical faculty as educators. In 1923, Wilfred Trotter, a surgeon, noted that, "By teaching I mean the imparting of knowledge and for that we are dependent on our teachers; by training I mean the cultivation of aptitude, and for that we are dependent on our opportunities and ourselves" [12]. Educating and training surgical residents goes beyond teaching discrete tasks, facts, or technical procedures. Education involves the presentation of information, with assessment and reassessment until true learning has been achieved. Education is often based in relationships; goes beyond instruction to encompass intellectual, moral, and social development; and focuses on the progression of trainees to proficiency [7]. While good surgical educators are often good surgical teachers, the converse is not necessarily true. Education involves influence, affecting the behavior, mind, and life of trainees and students. Motivating surgeons to become excellent educators requires engagement in these principles that go beyond teaching, and ultimately, a culture that puts education first is necessary for success.

Leadership in Education

In a survey of surgical residents, over 50% of residents rated themselves as not competent or minimally competent in ten leadership skills ranging from communication skills to management principles and conflict resolution [13]. Until recently, few formal opportunities existed to train residents and faculty for leadership positions in surgical education. The majority of leadership positions in American surgery were held by surgeons from a defined set of medical schools and training programs, and leadership skills were taught by observation and emulation of the leaders at these institutions [13]. Physicians, especially surgeons, are ideal candidates for leadership positions innately, but the skills required to successfully lead need to be taught and nurtured, particularly within surgical education. Growing evidence now exists that learning management tools can enhance a surgical trainee's experience, particularly during the senior years, and ACGME now recognizes several aspects of leadership within its core competencies as a new mandate of surgical training (Table 21.2) [14, 15]. There are many opportunities for leadership in surgical education at all

Table 21.2 ACGME core competencies

Medical knowledge
Patient care
Interpersonal/communication skills
Professionalism
Practice-based learning and improvement
Systems-based practice

levels of training, with an increasing number of resources and guides available to trainees and faculty to foster these leadership skills.

Medical Students

Clerkship directors are often junior faculty with little official educational experience, but these leaders are vital in the guidance and mentorship of medical students interested in surgical careers [16]. Successful leaders have almost routinely had early career challenges during their twenties and thirties with the opportunity to lead, take risk, and learn from failure. These early learning opportunities are essential to develop the skills necessary to lead [9]. Surgeons can contribute to medical student education, both in formal and informal leadership roles. While gratifying, this position is time-consuming and requires the assistance of all house staff and faculty to successfully implement a strong medical student education program. Informally, residents and faculty can engage in didactic teaching, shadowing and mentorship programs, and development of student "boot camps" and adjunct curriculum. Formally, in addition to the clerkship directorship, additional leadership roles in medical student education can be available in the Dean's office, on curriculum and admission committees. From the faculty standpoint, focusing on medical students with potential leadership skills early can facilitate their development professional and personal development as these young physicians are the future of surgical leadership.

Surgical Residents

Leadership training within medical residency has been shown to improve overall healthcare, including medical error reduction and improved patient satisfaction scores, and has been tasked as the "new mandate" of surgical training [17]. As surgical residents, increasing opportunities exist to engage in leadership within surgical education. Senior residents are expected to lead and manage complex teams including faculty, junior residents, students, physician extenders, nurses, pharmacists, and consultants. Training residents in these leadership skills is often unstructured and learned "on the fly" from observation and emulation. To best develop leaders in surgery, didactic programs need to be accompanied by action-based learning projects with longitudinal and repeated exposure [18]. This is true also for the development of leadership skills in surgical education.

The modern model for surgical education is "residents as educators." First introduced at Vanderbilt University to empower surgical residents to organize and teach the curriculum, this is a prime example of resident opportunities to lead within surgical education [19]. Aristotle adeptly understood that "teaching is the highest form of understanding." Peer-assisted learning, defined by individuals of similar training levels (not professional teachers) who help each other learn and learn by

teaching, has been proven to be successful in resident education and lead to mastery of the material. By empowering residents to lead surgical education within the institution, a culture of education is promoted, and residents develop both teaching and leadership skills that carry forward into junior faculty positions.

The American College of Surgeons also offers leadership training opportunities to aid residents in the maturation of these skills through the Residents as Teachers and Leaders course, the Leadership and Advocacy Summit, and within the Resident and Associate Society. The Surgical Council on Resident Education (SCORE), developed in 2008, has established an online surgical curriculum that is focused on improving resident training, with ongoing opportunities for resident involvement [20]. In addition, leadership roles held by residents exist within national surgical professional societies, including the Association for Academic Surgery, the Association of Program Directors in Surgery (APDS), and the Association for Surgical Education (ASE).

Surgical Faculty

Formal leadership opportunities within residency education include the roles of program director and associate program director. The strength of the educational program, however, is based on all teaching faculty, as much of resident education occurs outside of these formal roles. The clear majority of academic faculty enjoy and benefit by working in a teaching environment. Successful leadership in surgical education harnesses the energy of these faculty, carefully allocating their skills and cultivating those faculty with specific educational strengths. Barriers to surgical education include time, lack of compensation, and increasing regulatory requirements. Leaders in surgical education must overcome these barriers to optimize learning opportunities for trainees [21]. Additional opportunities exist for faculty engagement in the development of surgical simulation, mentorship programs, teaching rounds, and resident recruitment. All faculty are encouraged to participate in educational leadership opportunities in surgical professional societies on open committees (Table 21.3), as well as attend development workshops and leadership courses established by these organizations to augment teaching skills.

Administration

Administrative positions exist within medical education, with leadership positions at institutional, state, regional, and national levels. Higher-level administrative roles in medical and surgical education, such as those of Designated Institutional Official (DIO) and Assistant DIO, may be best filled by those with formal education in business and education as these leaders must have a comprehensive understanding of the finances and cost of graduate medical education. Surgical residents, trainees, and

Table 21.3 Surgical education professional societies

American College of Surgeons (ACS)
Association of Program Directors in surgery (APDS)
Association for Surgical Education (ASE)
Accreditation Council for Graduate Medical Education (ACGME)
Surgical council on resident education (SCORE)
Association for Academic Surgery (AAS)
Society of University Surgeons (SUS)
National Board of medical examiners (NBME)
American Educational Research Association (AERA)
Society of American Gastrointestinal and Endoscopic Surgeons (SAGES)

junior faculty can gain exposure to these career trajectories early in their experiences by involvement in both the Dean's and GME offices.

Mentorship

Strong mentors are necessary for the growth of surgical trainees into leaders. The word "mentor" itself is derived from the Greek mythology, as Mentor was tasked by Odysseus to raise and teach Odysseus's son Telemachus. Within medical education, mentoring is described as "a process by which an experienced, highly regarded, empathetic person guides another individual in the development and re-examination of their own ideas, learning, and professional and personal development" [22]. Unfortunately, the attrition rate for surgical residency remains constant at 20%, higher than in other medical subspecialties [23]. There is concern that either medical students are not mentored consistently in their choice of profession and enter surgery erroneously or residents are not supported and mentored during their training, resulting in attrition. A minority of training programs have established formal mentorship programs, but the role of mentorship in the development of future surgical leaders is perhaps the most important tenet of surgical education and cannot be overemphasized.

Role Model Vs. Mentor

While both role models and mentors play formative roles in the development of medical students and residents, they are distinctly different. Role models are described as "people we can identify with, who have qualities we would like to have, and are in positions we would like to reach" [24]. Physician role models have attributes of professionalism, teamwork, leadership, and a commitment to excellence and are powerful in their ability to influence through observation and emulation.

Mentors, conversely, engage in a formal relationship and active process with the mentee. Surgical leaders often quote the influence of several mentors, including those engaged in research, patient care, education, and personal development as mosaic mentorship teams [22]. Peer mentorship has no hierarchical differences and represents peer support. The most successful mentorship programs are multi-faceted, multileveled, and formal in their structure.

Halsted first established the concept of a surgical mentor, targeting the development of surgeons who would become innovators and leaders in medicine. Although surgical education has changed drastically, the need for mentors has not. To provide mentees with professional support and guidance, mentors must have experience, effective communication skills, empathy, maturity, willingness, and humanism to avoid corrupting the mentor-mentee relationship into one of personal gain. Mentors "offer guidance…stimulate and challenge, to encourage self-realization, to foster growth" from their mentee [25]. The benefit of a successful mentor-mentee relationship is proven; as within academic medicine, mentees are more productive obtaining research grants and have more success obtaining leadership positions. As mentorship, unlike role modeling, is a relationship, the mentee also bears responsibility for its success or failure. It is essential that mentees be committed to the process and be open-minded and unbiased, as well as accountable. Mentees must be willing participants in the relationship. Both mentors and mentees should be able to identify a failing mentor-mentee relationship and have the ability and foresight to disengage prior to negative consequences.

Opportunities for Mentorship

Structured mentorship programs should be introduced early in medical training. Interventions including the early exposure of students to surgeon-mentors resulted in a fivefold increase in the number of students interested in surgical careers [26]. Residents, including junior residents, are in an excellent position to serve as mentors to medical students, as they are closer to their level of training and understand generational differences that more senior faculty may not. Surgical departments should establish formal mentor-mentee relationships internally and provide exposure to opportunities for outside mentorship. National meetings, including the American College of Surgeons Clinical Congress and the annual Academic Surgical Congress, each provide mentoring courses for residents and faculty. Specialty organizations including the Association for Women Surgeons and subspecialty groups have also developed formalized mentorship programs targeting the development of junior faculty, residents, and medical students. Within the national surgical education organizations, mentorship committees are targeted at the maturation and professional development of surgical educators. These committees not only develop the next generation of leaders in surgical education, they provide ample resources to training programs to build internal mentorship programs. Utilization of these resources can build the foundation to create a sustainable and

productive mentorship program in surgical training, compounding the productivity and success of a surgical department.

Simulation and Educational Research

Changes in surgical education from the Halstead model of apprenticeship to current evidence-based training strategies have left gaps in two areas of education that require additional effort to build and maintain successful residency programs. These include innovation through advanced surgical simulation and improved coordination and focus in educational research. Simulation efforts are necessary to combat the competing priorities of duty-hour restrictions and increasing technology, while educational research has historically lagged behind its basic and clinical science counterparts. Both areas are primed for growth and represent opportunities for the development of educational leaders.

Simulation

Allowing for a bridge between classroom teaching and patient care, simulation provides a safe environment for trainees to gain introductory experiences to new techniques and procedures. Now a mandated ACGME requirement, surgical simulation facilities are ubiquitous in all surgical residencies. The American Board of Surgery now mandates that all residents complete simulation programs in both laparoscopic and endoscopic skills prior to board eligibility, and many training programs are now equipped with advanced simulators that allow maturation of these very specific skills [27]. These regulations are only likely to increase in training, providing additional opportunities for programs to develop specific simulation programs.

Simulation can range from very advanced technology to very simple tools and can target any of the gaps that exist in surgical education. With ongoing advancement in technology and methodology, educators are looking to surgical simulation to provide their trainees with the exposure necessary to augment their clinical experiences. To combat external pressures to reduce resident autonomy as well as increasing regulations regarding patient safety, simulation provides the ability to move education out of the operating room, office, or intensive care unit into the low-risk setting of a simulation center. Introduced at the medical student level, simulation provides an opportunity for students to practice surgical skills as well as the core competencies of communication and professionalism in a simulation as simple as patient interviewing. These skills carry forward into resident training, in which advanced laparoscopic, endoscopic, and surgical skills can be simulated in animal, dry, and cadaver labs. In addition, tasks such as team training and task saturation can easily be built into simulation and are targets for future educational research.

Simulation, however, is not a replacement for patient care and surgical experience. Simulation programs can be costly and time-consuming to create and maintain but can augment any training program and provide limitless opportunities for surgeons interested in building leadership positions in surgical education.

Education Research

Much of surgical education research is centered in single institution and retrospective studies, and as a field, educational research has not been consistently recognized as a route toward promotion or tenure as compared to either basic science or clinical research [28]. Funding streams are even more challenging than those for basic or clinical science, and educational research has often been criticized as being unfocused and fragmented. Much of published research in medical education is either not formally funded or is substantially underfunded [29]. While more funding sources are becoming available, this remains a major hurdle to the advancement of surgical educational research. Several national surgical societies offer grants focused on innovation within surgical education, including the American Association of Program Directors in Surgery, the Association for Surgical Education, and the Association for Academic Surgery. The National Institute for Health (NIH), however, does not have a specified category for education research directed toward either medicine or surgery. This represents a large deficit in funding and focused importance on surgical educational research.

To combat fragmented educational research in surgery and increase cohesion, the Association for Surgical Education has created the Multi-Institutional Education Research Group [30]. The focus of this group is to promote direction and collaboration in surgical education. To achieve this, the group has created an itemized agenda targeting the priority topics for educational research with the hope of providing direction and guidance to leaders in surgical education who are building research portfolios. They generated the top 40 research questions spanning a broad range of topics including performance assessment, simulation, teaching methods, student preparation and selection, the impact of work hour restrictions, curriculum development, teamwork and communication, and faculty development. While a lack of ideas for surgical educational research has never manifested as a weakness, the lack of generalizability across training programs, weak scientific rigor, small sample sizes, time constraints, limited funding and resources, and lack of recognition for educational research all remain barriers to overcome to successfully implement research programs. The trajectory for educational research, however, is continuing to advance, and its relevance will only increase with the additional regulations and restrictions placed on surgical training programs [31]. Educational research in addition to surgical innovation and simulation remains prime opportunities for the development of surgical leadership.

The Future of Surgical Education

Surgical education leadership is a key component of our training programs. Surgical educators are tasked with teaching residents the medical knowledge and technical skills necessary to become competent surgeons as well as develop of the next generation of surgical leaders. Teaching leadership skills to current trainees and students is necessary and paramount to the sustainability of general surgery. The future of surgical leadership and the degree which it will serve society will be determined by the nature of these training programs and the behavior of mature, practicing surgeons who are responsible for the mentorship of their surgical trainees. Incorporation of leadership training into residency has been shown to improve overall health care, enhance communication, encourage team building, reduce error reduction, and increase patient satisfaction. Integrating important aspects of leadership, including tactical planning, communication, conflict resolution, interviewing skills, operational efficiency, and collaboration, into residency and medical student training augments educational experiences. Through the addition of leadership training, structured mentorship programs, simulation and education research, a culture of surgical education can be cultivated and maintained in surgical residency in order to yield the next generation of leaders in general surgery.

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Chapter 22
Physicians in the Boardroom

Jeffrey S. Guy

From the Burn Unit to the Boardroom: A Personal Journey

Modern healthcare is complex and requires leaders to have advanced managerial skills [1]. Service line directors and division chiefs are taxed with the day-to-day job of leading providers and delivering care while working with executives to meet business goals. In essence, they are serving two masters: patient care and the business of medicine. This is no easy task. Doctors are well-trained in patient care, but many lack innate business sense. Fortunately, formal business training is available for those who need to acquire business skills and knowledge. Many physician executives have felt that the practical thing to do was to actually go to the business school to get the formal training and credentials to have a seat at the table to be taken seriously by the C-level executives running their organizations. This is what I needed to be effective and to be able to lead. I felt like we (the providers and the executive team) simply weren't talking the same language. So, in order to learn their language, I enrolled in business school.

Business school can be quite enlightening. What I learned, with tremendous surprise, is this: within business there are tremendous precision and evidence-based management practices. This should resonate with physicians, as it is analogous to evidence-based medicine that we constantly talk about on rounds and in conferences. The application and execution of sound business theories and practices will produce predictable results that benefit the healthcare organization. In doing so, we can provide beneficence to the patient and those dedicated to the advancement of medical care. In situations where physicians may be frustrated, one often finds that either there is a lack of evidence-based management strategy being used or there is an issue with execution of a tactic resulting in friction. This is especially frustrating

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229

to physicians who are routinely reminded and expected to practice evidence-based medicine.

The Value of Physician Executives

It is becoming increasingly apparent that physician-led hospitals and healthcare systems are well-managed and provide quality care. In the not so distant past, physicians filled the roles within healthcare leadership without question. Having a physician in a senior administrative role was not considered unusual. In fact, not having a physician in such a role was considered strange. These physician leaders attempted to divide their time between clinical duties and leading medical staffs and hospitals. Through periods of dramatic change in healthcare, many executive leadership roles were increasingly occupied by nonphysicians. This is readily apparent all around healthcare. One has to only look at the meteoric rise in the number of hospital administrators to see how the bureaucracy has created the need for middle managers and vice-president positions. Though well-trained and experienced, these nonphysician executives still lack the ability to see healthcare delivery from a first-person perspective.

Critical clinical and operational environments such as operating rooms, emergency departments, and ICUs are incredibly complex ecosystems. Physicians who have worked and lived in these environments develop a keen ability to see operational inefficiencies or safety hazards. Furthermore, the demands of the doctor-patient relationship provide physicians with a unique insight into healthcare that a nonclinical executive cannot understand. A middle manager can't possibly understand how to make an assembly line better if they do not understand the inner workings of the assembly line. Physicians possess a deep knowledge of patient care that can be combined with business training to enhance healthcare delivery. These experiences, brought to the boardroom, can be quite powerful and drive quality.

The challenge for physicians is pivoting between the traditional training and practice of medical care which has historically been a very individualistic type of activity. Traditional medical school curricula have trained physicians in a model that is not really focused much on collaboration and teamwork. Traditional medical training has resulted and a very hierarchical organization and autonomous, independent decision-making. Another challenge that may be faced by a physician coming into the leadership ranks is the realization that being an effective executive is about empowering others. Decisions made in the boardroom are meaningless without the ability to execute on those decisions. This means delegating and empowering others within your organization. Within medical training and practice, there is a well-established vertical hierarchy. Physicians are accustomed to giving "orders." When leading a large organization or within the confines of a boardroom, issuing orders is seldom a productive strategy. In additional to actually executing a project in

a transactional sense, one needs to assure that those who are following you, those doing the work, understand and believe in the mission and the work they are doing. Therefore, physician executives need to do less "ordering" and more work influencing, developing consensus, and discussing "the why." Effective leadership requires one to be more collaborative and less autocratic.

Delegation

Physicians value their own autonomy which in turn may cause them to be reluctant to delegate authority. Business executives understand the value of team building and work delegation. In order to accomplish anything at scale, leaders are going to have to rely on the collaboration of other team members to get the job done. For many physicians, this can be a challenge. The physician executive needs to rely and trust on his other team members. Delegation requires communicating one's expectations effectively to the appropriate individual, setting expectations about deliverables as well as expected timelines. Delegating a task does not mean that one has removed oneself from the responsibility to assure that the task is completed on time. Instead, effective delegation involves having the right people working on a project that they understand and believe in while the leader provides oversight and guidance.

A primary principle of economics is that wealth is created from maximizing an asset from a low-value use to a high-value use. A leader or executive should view their time as a perishable asset. Delegation allows the maximizing of one's time to provide attention to higher-value activities. Delegation can be very effective in leveraging one's time and personal resources. Delegation can also be hazardous if one simply deflects tasks and does not provide proper oversight in the cadence or quality of the work product. For an executive, delegation can be a very effective tool or a significant liability. This is a skill that physician executives must master.

Doctor Versus a Suit Versus a Doctor in a Suit

Many executives that physicians encounter within a boardroom have years of experience and are highly skilled in various aspects of business. In contrast, many physician executives have years of experience in patient care but little in the way of business experience. In fact, physicians typically come into administrative roles later in their careers. All leaders, physician and nonphysician, must realize that physicians provide a unique perspective to the boardroom table. The perspective of the physician is invaluable when considering operational issues in key hospital departments such as emergency departments or operating rooms. All stakeholders around the table must value this unique clinical perspective. Furthermore, there are in the

intangible but highly emotional elements of healthcare, such as having to tell a family about a death of a relative or disclosure of a medical error. Understanding these aspects of patient care is essential for the leadership team, and no one has a better grasp than the doctors who have been in the trenches.

When a physician migrates from the bedside to the boardroom, some physicians will interact with them differently. There may be a general attitude of "selling out" or "going to the Dark Side." Being true to one's roots is essential and, if done properly, will result in pushing the organization forward while maintaining the confidence of the medical staff. Regardless of one's reason for moving into a greater administrative role, the physician executive must recognize and reconcile the fact that they are in a different professional role. In that new role, professional peers and friends are likely to treat you differently.

Meeting and Agendas

It's almost a cliché among physicians to express their disdain for going to meetings. This is typically due to the fact that a lot of meetings are poorly planned and poorly executed. The old saying "The best way to crush productivity is to have a meeting" is true. A meeting that is poorly run feels much like a waste of time and people are less well engaged. Having a well-thought-out agenda and adhering to a timeline help to mitigate this. A well-planned agenda circulated in advance of the meeting will allow everyone to come to the meeting prepared and willing to focus on the tasks at hand. The ultimate goal of a meeting should be to make decisions that advance the mission of the organization. If the meeting's agenda is not aligned with the overall goals of the organization, then perhaps that meeting should be canceled.

It is in the author's opinion that a meeting agenda should be decided upon and locked down approximately 1 week in advance of a scheduled meeting. Agenda items should be labeled as to whether a particular item is for decision-making or for information sharing. Furthermore, the person responsible for making the presentation and the allocated time should also be listed. It is important to make sure that the agenda runs on time. Invariably, there will be some discussion that risks making a meeting longer than the allocated time. Should an agenda item require further discussion, a small group can meet to discuss the item further and report back to the larger group. It is important when scheduling an agenda of those items of greatest importance where decisions need be made perhaps be placed at the top of the agenda. Another way to improve meeting efficiency is to minimize information-only agenda items. Unless something needs face-time discussion, one might consider simply forwarding that information to the participants via email. Labeling agenda items as information only makes it clear regarding expectations. If you're presenting something for information only that is relative to a new project, you may be able to minimize a lengthy discussion about the item. However, one must consider anything

that is on a meeting's agenda as potentially up for discussion, even if the item is not up for debate. Choose wisely when setting the agenda.

Prioritization

Within any organization, there is a continuous competition of priorities and resources. A thoughtful and effective executive will have to consider various requests and demands and prioritize them relative to the overall strategic objectives of their enterprise. The strategic objectives may be outlined by guidance document such as a formal strategic plan, a department of enterprise goals, and an organizational budget. Stakeholders and team members will frequently present numerous initiatives that will require either time, personnel, or monetary resources. The effective leader will have to determine which of those requests serve the needs of the organization and advance the enterprise. Those ideas and request that are not acted upon in the short term might need to be reconsidered at a later date as an organization may revise or amend budgets or strategic plans. Many proposals or projects that get presented to an executive may be good ideas and perhaps even create value; however, a disciplined executive team will have to determine whether to divert limited resources from one project to the newly proposed idea or table a proposal. Prioritizing innovation while not hampering creativity is key.

Once one has clearly defined the group objective and what it wants to accomplish, it is important to define reasonable timelines. Time to execute or time to market is extremely important to all organizations for numerous reasons. A rapid pace of execution is an advantageous skill for an organization that is wanting to compete. For instance, the time to do a market analysis for a new service line might be driven by external market forces as well as budget cycles of an organization. Being nimble helps the enterprise to quickly assess the market and adjust accordingly. It is important for a leader to understand the time considerations involved to achieve the goals of the group. Having clear definition of timelines will reduce miscommunications with other leaders and stakeholders within an organization and avoid unnecessary conflict or disappointments relative to expectations.

Time management and project management are two essential attributes of today's healthcare leaders. Professional project management software is available and helps to organize various tactics and project milestones. However, it is my opinion that physicians typically make good project managers. Because physicians are experienced with managing several complex patients at one time, it is a natural transition to managing several business projects at once. Therefore, in a business setting, I am of the opinion that physicians should be receptive to the concepts and discipline of working on a project management plan. We will discuss more about this as we discussed the idea of execution. Physician executives must have a solid grasp of the basic financial reporting tools. While there is an entire chapter dedicated to financial leadership in this book, it bears mention here that the financial ramifications of a project will play into prioritization. I believe that framing financial reports within the

clinical context allows physician executives to make a lasting impact. The doctor has the insight regarding the clinical impact of a decision, and bringing that into the discussion will help steer policy.

Execution

After all of the careful planning and strategy sessions, everything ultimately comes down to execution. Do you have the discipline to get the job done or not? I believe that surgeons understand execution better than any other field of medicine. Patient selection and preoperative planning are akin to developing a plan and strategic thinking, but it is the conduct of the actual operation that matters most. In surgery, if one cuts well and sews well, the patient usually does well. Successfully executing a strategic initiative or new venture requires intense concentration and skill. In the book *The 4 Disciplines of Execution*, Chris McChesney and Sean Covey describe a blueprint for achieving results. The authors outline that good teams narrow their focus on the very thing that is critically important for the enterprise and then act on lead measures. They also describe how important it is to create a compelling scoreboard that helps team members see progress and adjust accordingly. Finally, there is the need to create a cadence of accountability. This is akin to a progress report that quickly shows progress and where the team needs to focus energies. This is one of the most influential writings on execution and every executive would be served well by reading it.

Influence and Persuasion

Perhaps one of the most challenging things about transitioning from the wards to the executive suite is the issue of influence and persuasion. Physicians work in an environment where they are the ultimate decision-maker. Directions are given in written form of orders. Physicians are trained in a hierarchical system. There are the interns, the lowest-ranking physicians, who report to junior-level residents, who report to senior-level residents, who in turn report to chief residents, and on up to the attending physician. The lines of responsibility and accountability are very clear, vertical, and very linear. However, as one assumes a position in leadership, challenges may arise with the complexities of a matrix organization structure. The ability to work within a matrix organization is a requirement for any individual striving toward a leadership role.

One common challenge for physicians working within hospital committees or with executives is the notion that the doctors often feel like they can dictate orders and the hospital leadership will execute those orders. This simply is not the case. To be effective within the boardroom, the physician must learn to use business data and strategy to influence others and help shape strategy. Once again, this is a skill set that

the effective executive must develop and sharpen over time. It is not necessarily an easy skill to learn for someone like a surgeon who is accustomed to working in the autocratic environment of the operating room. Recognizing that one must learn to influence individuals for which you have no direct authority over can often be very frustrating. However, like any other skill, with practice and experience, one should become more effective. Recognizing that this is a required skill and studying and practicing will certainly make any leader more effective.

Negotiation is another skill that the physician executive must develop. Influence and negotiation are seemingly very similar to the uninitiated but in fact are quite different. With negotiation, one is attempting to reach an agreement between parties, sometimes with opposing goals. The inexperienced may approach a negotiation as a win-lose situation. The key to successful negotiation is finding the win-win where both parties feel as they have benefitted.

Emotional Intelligence

Emotional intelligence is the ability of an individual to recognize emotions both within themselves and others and using that recognition to adapt the environment to help one achieve one's objectives. There is an increasing body of professional literature that would suggest that those who have greatest success and advancement within leadership and executive ranks demonstrate high levels of emotional intelligence which is commonly referred to as "EQ." Having awareness and control of one's emotions at times of confrontation or stress while recognizing how others feel is easy to some but difficult for others. In the conduction of business, one cannot overvalue the importance of interpersonal relationships. It is a worthwhile exercise for a physician leader to make efforts to refine their emotional intelligence.

Conflict Management in the Boardroom

Conflicts arise in life, and given the high-stakes environment in healthcare, they are sure to continue to arise in the boardroom. Successful conflict resolution requires keeping one's cool, exercising emotional intelligence, and negotiating mutually beneficial endpoints. All of the attributes we have discussed in this chapter come in to play when dealing with conflict. It is hard to execute strategy when team members are at odds and emotionally charged. The structure of large healthcare organizations into matrices (with vague reporting structures) combined with ineffective communication methods (email is easily misconstrued and non-communicative) help to foster conflict within the workplace. When conflict arises, the best method for dealing with it is to find a mutually beneficial solution,

where both parties feel as though they have gained something. Then, truly successful managers find ways to mitigate conflict and foster greater collaboration.

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Chapter 23
The Business of Surgery: How to Lead as Financial Manager

Charles R. Scoggins and Kelly M. McMasters

Introduction

One of the most important aspects of leadership is being fiscally responsible. Surgical departments are complex and often have variable revenue sources as well as a variety of expenses to manage. Many physicians have little to no formal training in finance yet are called upon to act as financial stewards. Furthermore, the large sums of money at stake and the regulatory issues in play make sound financial managing all the more prudent. This chapter was developed as a primer to assist surgical leaders by providing a framework for managing departmental finances.

Understanding Financial Documents

Today's surgical leaders must be comfortable with assessing a variety of commonplace financial documents. While there is some variability in the appearance of these documents, the standard reporting mechanisms are used by nearly all accountants, businesses, and financial institutions. Each of the documents tells a particular part of the financial story of the business or unit, and having a basic grasp of their significance gives decision-makers the necessary information needed to steer their department effectively.

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Balance Sheet

The balance sheet is simple and provides a quick look at your business' vital signs. Many financial institutions look to the balance sheet first as an easy method of getting a sense of the health of your finances. In the simplest of terms, the balance sheet must be balanced. Figure 23.1 shows a simple formula for the balance sheet that must always be true. All of the assets combined must be equal to the liabilities plus any owner's equity. If one earns $100 a month (and carried $0 over from the prior month), then spends $60, there must be $40 left over (owner's equity). Figure 23.2 demonstrates a balance sheet with various asset and liability classifications. Current assets are those assets that are generally intended to be used within 1 year. Cash, short-term investments, inventory, and accounts receivable are all categorized as current assets. For an academic surgical department, income from patient care, endowed chairs and professorships, hospital contracts, and academic

Fig. 23.1 Balancing the balance sheet

Assets = Liabilities plus owner's equity

Department of Surgery

Balance Sheet

July 1, 2017

Assets

Current assets	$500,000
Investments	$100,000
Property, plant & equipment	$75,000
Other assets	$25,000
Total assets	$700,000

Liabilities & Owner's Equity

Current liabilities	$450,000
Long-term liabilities	$125,000
Total liabilities	$575,000

Owner's equity $125,000

Fig. 23.2 Sample balance sheet

program support would be listed as current assets. External grant funding would also be accounted under current assets. Investments made by the organization would be included in the assets section of the balance sheet. They are not as liquid (easily converted to cash) as current assets but should be counted as assets nonetheless. In addition, fixed assets such as property owned, equipment owned, and furniture and fixtures should be accounted as assets.

Liabilities are generally self-explanatory. Accounts payable (such as payroll and amounts owed to vendors), income taxes, and other expenses (such as any dean's taxes for academic units) are listed in the liabilities section of the balance sheet. If a unit borrows money (such as from a bank), this also represents a liability since the unit has an obligation to pay this money back. For healthcare departments, any anticipated legal payouts (such as malpractice premiums and deductibles) are considered liabilities. Once all of the expenses are accounted for, the remainder is considered owner's equity.

Statement of Cash Flows

The statement of cash flows is another one of the key financial reporting tools and reports the cash that is generated and spent during the reporting period. The statement of cash flows is dependent on accrual-based accounting (since many of the activities a department or unit would be involved in span more than one financial reporting period). This reporting tool is particularly adept at demonstrating where a department's cash is being used. Also, if a department is generating more cash than it is using, it will be able to reduce debt, invest in people or research, and grow programs.

There are four basic sections to a statement of cash flows: cash involved in operating activities, investing activities, financing activities, and supplemental information. Figure 23.3 is an example statement of cash flows. The cash that is earned and used for day-to-day business is accounted for in the operating activities section. This includes cash received, wages paid, cash used to pay utilities and purchase supplies, and taxes (such as income or payroll taxes). This is analogous to your personal checking account. You earn money from working and then spend that money to buy the things you need to support your life such as rent, food, and electricity. Cash that is earned from or used for investments is accounted for under investing activities. This includes purchase or sale of long-term investments, purchasing land, property, and equipment. Cash flow from long-term investments and changes in owner's equity (such as dividends paid on investments) is reflected under the financing activities section. This section is probably more important for traditional businesses, as they can issue stocks. Finally, the supplemental information section accounts for amounts of cash paid for income taxes and interest paid.

Department of Surgery

Statement of Cash Flows

Fiscal year ending December 31, 2016

Cash flow from operating activities	$
Cash from patient care activities	25,000,000
Cash from Hospital contracts	5,000,000
Cash from endowments and grants	3,500,000
Cash paid for expenses, payroll, taxes	-32,000,000
Net cash flow from operating activities	1,500,000
Cash flow from Investing Activities	
Equipment purchases	(20,000)
Net cash flow from investing activities	(20,000)
Cash flow from financing activities	
Payment of loan	(50,000)
Net cash flow from financing activities	(50,000)
Net Increase/decrease in cash	
Cash at the beginning of the period	5,000,000
Cash at the end of the period	6,430,000

Fig. 23.3 Sample statement of cash flows

P&L Statement

The income statement (also known as the profit and loss statement) is an important financial reporting tool as it reflects a unit's profitability over a given time. The P&L statement shows revenues and expenses over the reporting period but does not show any cash receipts or payments made. Figure 23.4 shows an example of a P&L statement. One can quickly see a snapshot of the profitability of a company through this easily understood reporting tool. Revenues are reported at the top of an income statement in the period that they are earned, not in the period when the cash is received. This is a critically important concept and reflects the accrual basis of accounting. For example, a revenue will have been realized when an operation is performed. It might take 30–60 days to collect the money for this operation from the insurance carrier. When the check actually arrives in the lock box, then a receipt has

Fig. 23.4 Sample income
statement

<div align="center">

Surgery Department
Income Statement
For 6 months ended May 31, 2017

</div>

Revenues & Gains	
Clinical revenues	$10,000,000
Hospital contracts	4,500,000
Grant revenues	1,225,000
Endowed chairs	250,000
Other revenues	125,000
Total revenues & gains	**$16,100,000**
Expenses & Losses	
Salaries & benefits	$7,525,000
Office supplies	$200,000
Research expenses	$1,750,000
Malpractice expenses	$200,000
Dean's taxes	$400,000
Equipment	$75,000
Other	$5,000
Total expenses & losses	**$10,150,000**
Net Income	**$5,950,000**

been received. This subtle difference makes all the difference in the world when looking at an income statement. This difference is also reflected somewhat in accounts receivable from clinical care.

The Budgetary Process

Like managing personal finances, it is critical to develop a realistic departmental budget that accurately predicts revenues and expenses. This is a challenging endeavor that requires a thorough understanding of the sources of revenue, the timing of payment posting (accounts receivable), and expense management. Today's unit heads and department chairs frequently have nonphysician unit business

managers who possess specific business training to aid in day-to-day financial management. Working closely with these professionals will surely make the process of developing and adhering to a budget much easier.

When estimating revenue streams for a clinical department, leadership must take into account several key features. First, it is critical to conservatively estimate funds from clinical activities. In the ever-changing landscape of physician reimbursement, collections from patient care are continually decreasing per wRVU (work relative value unit). Furthermore, competition from outside sources within the local/regional market might cause an unforeseen decrease in productivity within a specific division or for a clinically busy surgeon. When estimating the ramp-up time needed for a newly hired faculty member to reach benchmark levels of clinical productivity, it is commonplace to count on 2 years or more to achieve median productivity. Changes in the fundamental payment models are looming, and unit managers must remain nimble and consider how changes to payment structures might impact their departments.

Basics of Revenue Cycle Management

Physician payment for services rendered is an exceedingly complex process. The revenue cycle involves critical steps and processes that start long before an operation is performed (Fig. 23.5). At the forefront of this cycle is a collection of components termed "front office" procedures. These include functions such as patient intake, registration, insurance verification, and co-pay collection. Consider how important it is that the patient's insurance information be obtained correctly and coverage verified. Any single error within these multiple steps can (and probably will) result in either delayed or denied payment. Even before this, however, is the process of contract negotiation. Each institution negotiates with the various third party payors for payment contracts. These contracts are typically based on governmental payment (i.e., Medicare) and are usually expressed as a "% Medicare." The better your institution is as contracting, the more money that will be paid for services provided.

Physician payment is based on the documentation provided for the services that they provide. This includes both evaluation and management (E&M) services and
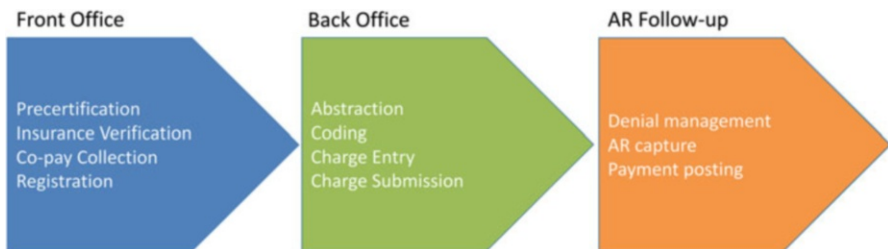
Fig. 23.5 The revenue cycle

procedural billing. E&M documentation is the more difficult of the two, and the rules are always changing. Having a policy of constant provider education on current E&M coding requirements is critical to maintaining optimal billing practices. Electronic health record systems have many E&M encounter templates that help to ensure that the documentation provided matches the charge submitted. Some physician practices are heavily dependent on E&M coding (primary care, trauma, and critical care to name a few), while others are heavily weighted toward procedural billing. One thing that is key, however, is to have provider participation in timely charge submission so that the business office can properly code each encounter and remit charges to the payor in a timely fashion. Multispecialty groups often have medical coders that are employed across departments, and for E&M coding, this is an efficient use of resources. Procedural coding, however, requires specialty-specific expertise. Many central business offices deploy coders into "pods" that are dedicated to subspecialty-specific procedural coding. This allows further expertise to develop and reduces the amount of payor rejections.

Once charges have been posted, work shifts to the accounts receivable (AR) team. Clean claims that contain no errors, match the service to the precertification code, and have complete agreement between the ICD and CPT codes are typically processed without rejection or delay. Maintaining a low rejection rate helps to minimize aging AR. It is generally accepted that aging AR requires more effort and is therefore more expensive to collect. Benchmarking the percentage of clean claims against contemporary metrics allows business managers to focus on processes that will ultimately reduce the workload on the AR team. Surgical charges are complex and frequently involve changes in the work done compared to the work that was precertified, so having a strong, experienced AR team is key to working rejections and chasing down accounts receivable.

Business Plan Development

Any new venture, whether a startup company or a new service line, should be well-thought-out and vetted. Investing critical resources into a new venture without putting in the necessary due diligence is a setup for failure, and the risk of failure can be in part mitigated with thorough planning. One of the most effective tools is the business plan. It brings together all of the elements of the new venture into one document and serves as a template for growth and/or modification of the venture as things evolve.

Most formal business plans have similar elements that work together to create a readable, viable document. Each of these elements serves a purpose and is key to execution of the venture (Fig. 23.6). Many of the specific elements are self-explanatory, while others deserve further explanation. One of the most useful components is the SWOT analysis. SWOT stands for strengths, weaknesses, opportunities, and threats. In essence, this is an exercise in "thinking it through." Strengths are the things that your unit does better than the competition and might also include

Fig. 23.6 Elements of a thorough business plan

Elements of a thorough business plan

Executive Summary

Business Model

Competitive Position

Analysis of Competition

SWOT Analysis

Opportunity for Growth

Competitive Advantage

Marketing Plan

Development Plan

Analysis of Critical Risks

Operational Structure

Financial Data

leveraging barriers to entry from potential future competitors. Weaknesses are the aspects that your unit might not do as well, including a critical analysis of your financial ability to support the venture and recruit/retain key personnel. Opportunities are specific potential benefits to the organization if the venture is realized, and threats are both internal and external. When done well, the SWOT analysis points to multiple areas that need attention., including critical risks to the proposed new venture.

Not only does a thorough business plan help guide the launch of a new venture, it serves as a roadmap for growth and development. Intermediate and long-term goals specifically defined within the original business plan can (and should) be modified as events arise. This not only keeps the management team focused on the goals of the venture but also allows critical decisions to be made based on changing market forces. Departmental leadership should revisit the business plan regularly and update it as conditions change. This will help to keep the venture on track.

Grant Management

One of the most important methods for cultivating a successful research program is having grant funding. Grants provide extramural funding to the institution and are critical to the overall mission of any academic department. In order to develop a

grasp on grant stewardship, one needs to understand the processes of grant management. Before any grant is awarded, careful attention to detail and financial planning constitute the pre-award phase. Judicious budgeting is key, and various granting institutions have their own regulations on how the money can be spent. Formal grant writing training and National Institutes of Health-sponsored grant workshops provide valuable information to researchers regarding grant budgeting. Each grant will specify the dates of the grant award period.

After a grant has been awarded, there are multiple regulatory issues that require constant vigilance. Research procurement systems, personnel management, and regulatory agencies all play into the mix. Having the proper institutional checks and balances for records retention and expenditure management is paramount and helps should an audit be performed. Financial reporting and accounting are required for most grants, including federal grants. Ensuring that researchers adhere to specific grant reporting requirements will go a long way to maximizing satisfaction and performance.

Summary

Having a solid grasp on the basics of financial management is imperative for today's surgical leaders. The principles in this chapter should go a long way to forge the foundation of a newly minted leader's understanding of key concepts in running the finances of a surgical department. The old saying "no money, no mission" is rooted in truth, and in no time period has it been truer than today. Smart leaders always surround themselves with smart people and find ways to get the most out of their resources. This is especially true with regard to financial management.

Suggested Readings

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Chapter 24
Leading the "Critical Conversation": Surgeon Leadership in HR

Douglas Tyler

Introduction

As one increasingly takes on supervisory roles during the advancement of their academic career, there tends to be a shift from mostly managing themselves to increasingly managing others to function as a team. In both situations, whether you are the supervisor or the supervisee, you will have situations arise that you may find challenging to discuss and optimally resolve. These situations can involve a range of topics from compensation, promotion, obtaining resources, to problems interacting with other personnel including faculty, staff, and/or residents to name a few. While none of these situations are unique in Medicine, the lack of training we recieve in how to best manage them is now being recognized. A surgeon's training typically focuses on improving technical skills, with very little training on conflict resolution and how to best manage difficult conversations. As such, conversations that should occur often never do, resulting in a worsening of the problems and increased levels of frustration. Developing a successful strategy for having these conversations can be beneficial at all levels of one's career. The goal of this chapter is to begin outlining an approach to having critical conversations allowing for a more productive and positive interface with your colleagues and co-workers.

What Is a Critical Conversation?

A critical conversation is one in which either of the participants may feel that something is at risk. These conversations frequently have at their core common themes such as differing opinions about a topic, strong emotions about the topic,

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Table 24.1 Strategies to carrying out a critical conversation

Strategy 1. Try to frame the conversation by learning as much as possible about the issues that are fueling the situation to be discussed
Strategy 2. Develop the goals and outcomes desired for the conversation you want to have
Strategy 3. Try to develop a mutual goal for the discussion and create an environment of respect for all parties
Strategy 4. Solving the problem together

and/or strong feelings about the subject to be discussed. In most situations, it is important to recognize that there is time to prepare for these conversations. Furthermore, unraveling the conflict or disagreement may require several conversations over a period of time. The one aspect for which you have the most control over is how to best approach the conversation. What follows is a brief overview of four strategies to help navigate and these difficult conversations (see Table 24.1). The three references at the end of this chapter provide a more detailed insight to these discussions and are highly recommended additional readings on the subject of critical conversations.

Strategy 1. Try to frame the conversation by learning as much as possible about the issues that are fueling the situation to be discussed

I initially start by trying to frame the issue that I feel I will need to discuss in the context of a critical conversation. What is the information that I am receiving, how am I receiving it, and what are my prior experiences with this issue or with related issues that may cause me to interpret things in a specific way? For example, as chairman of a department, I notice that one of my divisions is not meeting its work targets. There are five faculties in the division, and all are at their expected goals except the division chief whose productivity is down 75%. While an examination of concrete data like cases, WRUVs, clinic visits, and out-of-town dates might seem to help define what is going on, frequently, there are other issues at play. I try to explore and question what I may have added to the mix that could be contributing to the problem. Examples of this may include:

1. Providing unrealistic growth targets for individuals in the division
2. Hiring new junior faculty that need unexpected levels of supervision
3. Giving the division chief a new time-consuming assignment such as residency program director

I also try to make sure I review my past experience with this individual to look for patterns of behavior while at the same time trying not to let previous experiences with these individuals bias me. For example, while prior activity may have nothing to do with the current diminished clinical productivity, I could easily be tempted to think about the issue differently if I knew that this division chief was frequently out of town getting paid to give drug talks versus if I knew the individual was intensely busy resubmitting a large NIH grant. Factors like these may ultimately need to be considered as one is working through the issues and problem-solving (strategies

3 and 4, discussed later in this chapter) as they potentially contribute to the understanding the backdrop against which the decrease clinical activity is occurring.

Another example of a challenging conflict can arise when you receive a complaint from the operating room charge nurse that one of your faculty yelled at a surgical scheduler for not letting him post an additional case in his OR block. In this situation, it is very important to realize that the issue may be much more subjective and the facts are not always clear. Here again, it is important to try and get as much information about the incident as possible such as:

1. Who witnessed the event?
2. How did the surgical scheduler react to the situation?
3. What was the perspective of the attending surgeon who was yelling?

Often there will be very different perspectives of what happened even when people are observing the same event. Participants in the event are observing and making assessments from their own individual framework that in isolation seem totally appropriate. For example:

1. The surgical scheduler believes they are following the case posting rules.
2. The charge nurse thinks that yelling among professionals is inappropriate in any situation and shows a lack of respect shown to their staff.
3. The surgeon may desire to add on an extra procedure to avoid having to do it over the weekend when hospital efficiency is lower.

Strategy 2. Develop the goals and outcomes desired for the conversation you want to have
The second component in approaching a difficult conversation is assessing what you hope to achieve by having the conversation. Often the goal of the conversation should not simply focus on the specific problem but instead on developing a deeper understanding of why the problem occurred. Let's revisit the example above of the surgical division chief whose productivity is down. I may feel that the division chief is not working hard enough, while the division chief may feel that he and his group are being overworked. If the focus of the conversation is only on productivity targets, then one has to be careful not to have the conversation turn into an argument about how hard people are working. The real problem is not that the division chief is well below the productivity target but instead that there is a difference in what I and the division chief think of his/her level of activity. As such a more productive conversation would be one where I try to understand why the division chief feels overworked and that they hear why I may think they are not working hard enough.

Similarly, in the other example, it would be easy to simply have a conversation telling the surgeon who yelled at the scheduler that yelling at employees is not a behavior that is tolerated. While this is true, the more important goal of the conversation is trying to understand why the surgeon felt he had to yell in the first place. Often there may be an underlying personal problem or time management issues affecting the physician versus a systems issue or inefficiency that needs to be addressed with the health system. These types of conversations may often benefit by bringing other individuals into the conversation. By being brought into the

conversation, the charge nurse and scheduler can not only provide feedback on the physician's behavior but may also help you gain insight into any system issues that are playing into the problem.

Strategy 3. Try to develop a mutual goal for the discussion and create an environment of respect for all parties

When starting the difficult conversation, your initial goal should be to diffuse any tension that may be present to the greatest degree possible. Try to create an environment in which other individuals feel safe and respected. This environment will allow them to feel comfortable opening up and share their perspective on the issue. When appropriate, it can be useful to apologize for potential miscommunication on your part that may have contributed to the issue at hand. Critical listening is imperative to these conversations. Engage, acknowledge, and ask questions. One strategy recommended is to paraphrase what they have said to make sure you are correctly hearing and understanding their perspective. It is also important to share your viewpoint, enabling them to see the issue from your perspective. Explain how you have arrived at your initial point of view based on your prior experiences and perspective (from strategy 1). During the course of the conversation, continuously try and reframe the issue at hand to keep the focus on the goals of the conversation and desired outcome (from strategy 2).

Another important strategy is to depersonalize the conversation. Avoid the "you" or "I" component of a discussion, and speak from the third person frame of reference. In addition, it is important to avoid an evaluating or judgmental tone. Ideally, you want to avoid a conversation style that is driven by you trying to persuade the other person what is wrong and how to fix the problem. Critical conversations that are based on four tenants of (1) trying to understand what is going on from the other person's point of view, (2) explaining your point of view, (3) sharing feelings about the situation, and (4) mutually solving the problem are more likely to be viewed as a positive conversation. Discussions developed in this fashion not only provide you with new insight into a situation but also increase the probability that the other person will be satisfied with the outcome.

Using the examples we have initially discussed, let's explore the division chief whose productivity has decreased. To start the discussion, you may want to get his assessment of the department at present, with regard to the many changes and new hires. Could some of this change be affecting his division's productivity? This approach avoids the accusatory tone of starting a conversation with "your case numbers are down and why are you not working harder?" In the discussion, his assessment may be that the new hires are inexperienced and he has decreased his own case volume in order to be available to supervise them during their surgeries. It's important to be aware and acknowledge any contribution you might have made to his assessment of the division's problem. In this case, the recruitment of two inexperienced new hires joining the team at the same time should have been factored in when creating clinical targets for the division. The goal of prioritizing patient outcomes by your division chief over case numbers should be praised. In this example, there was a clear reason for the decrease in case volume. Taking the time

for this conversation provides new insight and a concrete explanation for the true source of the problem and a clearer path to resolve the issues.

In this case, the mutual goal is to develop a pathway to independence for the junior faculty that will allow them to become safer and more productive. This endpoint would then free up the chief to continue his/her own practice. There might also be a discussion on cutting back on travel until the junior surgeons are more independent. It would be important to convey specific financial pressures that the division and/or department may be facing that are pushing your desire to hit productivity targets.

Similarly in the example of the surgeon who yelled at the scheduler, although it may initially be time-consuming, meeting with each individual involved in the incident will lead to a more positive long-term outcome. Ideally in both individual and group conversations regarding this yelling complaint, the goal should be to air individual perceptions and feelings while trying to avoid blame and accusations. Issues like these can have a myriad of contributing factors that are specific to individuals or group dynamics and exacerbated by system issues. The discussions above can help the participants feel valued, empowered, and respected. This two-step approach (individual and group meetings) to more subjective issues allows you to observe the individual and group dynamics as well as sets the stage for identifying individual versus group solutions.

Strategy 4. Solving the problem together

The final phase of the difficult conversation involves problem-solving. This is the part of the process that attempts to take all the input from the first three strategies and create solutions that are acceptable to all parties. In this problem-solving phase, the engagement through the first three strategies outlined above has identified potential solutions and mutually agreeable goals. The challenge is to agree on the endgame and how best to get there. This frequently requires multiple meetings to create strategies together that will solve the issues to both parties' satisfaction. The likelihood of success is dramatically increased when the ideas and solutions to problems come from the individual(s) who you are working with, instead of yourself. In some cases, it will be necessary to create some of the pathways to resolution that will meet your needs, since not all individuals will have your insight or perspective on the magnitude of a problem. The more specific and concrete the steps are, the easier it will be to meet an objective. During this phase, it will be important to keep lines of communication open as you will need to keep the individual(s) engaged.

Again if we refer back to our examples, we can see how this might work. For the division chief, you might arrange for weekly meetings to keep the dialogue open and assess progress. It would be important to find ways to monitor how the chief is supervising the junior faculty so that a pathway is created for the independence of the younger surgeons. Agreeing on milestones for the junior faculty to achieve with regard to case times and/or outcomes is one example. They might also lump cases that need supervision together so the division chief can more efficiently use his/her time. There should be some discussion about the appropriate clinical targets for the

division and what the chief's contribution to these targets would be. Finally, there should be a discussion about potentially decreasing the chief's travel while he/she is still supervising the new hires. By airing all these issues in a non-accusatory way, solutions can be crafted that have the best chance of benefiting both the department and division.

For the surgeon who was yelling at the scheduler, the problem-solving may involve interventions aimed at both the individual and the group. For the surgeon, some solutions might revolve around time management, exploring stress outside of work or burnout at work. The surgeon may need a coach or mentor. Group interventions could include meetings with the involved parties that center around reviewing case times and how exceptions to the block policy affect other surgeons. For the charge nurse and scheduler, if the surgeon is able to articulate how important it is to get this patient taken care of, they may be able to come up with new options that could work for everyone. Ensuring that the nurse and scheduler are part of a critical conversation may help facilitate future interactions so the surgeon realizes that yelling is not necessary to make a point as new channels have been created for discussion.

Putting It All Together

Conflict resolution and critical conversations are always challenging and often do not have a quick fix. It is best to address them early and have discussions that will help resolve them quickly. Do not hesitate to get help from more experienced individuals. Their insight from a perspective that might not be directly affected by the issue at hand could prove invaluable. Inevitably, the time spent mastering the art of carrying out these challenging discussions will significantly help optimize your "people skills." Your willingness to foster good open communication will allow you to increasingly be able to defuse situations before they become larger problems. As a leader, the ability to master the critical conversation is one skill set that will have the greatest impact on moving people in a positive and productive direction.

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Chapter 25
Being a National Leader in Surgery: Roles, Responsibilities, and Opportunities

J. David Richardson

It is an honor to be a contributor to this important book. Enclosed are my personal observations on leadership in national surgical organizations; as such, it is subject to my potential biases as there are no scientific data or comprehensive studies on this topic to my knowledge. Rather, this chapter will focus on views distilled from involvement in multiple organizations during a 40-year career in academic surgery including the opportunity to have been President or Chairman of several such groups.

I will briefly discuss four topics: (1) the path to becoming a national leader, (2) the possible roles that leaders may play within national organizations, (3) the roles and responsibilities inherent in leadership depending on the type of organization, and (4) the opportunities national leadership may provide.

The Path to National Leadership

Many of the activities and efforts that may eventually culminate in leadership roles are covered in other chapters on mentoring and leadership. However, I will outline some features I have observed that may ultimately lead to national leadership and pitfalls that may derail such aspirations (Table 25.1).

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Table 25.1 Important
elements in the path to
national leadership

Protect your home turf
Visibility
Service
Find a "Yoda" (effective mentorship)
Grit/persistence
Avoid pitfalls
Luck

Protect Your Home Turf

If one is to have a successful football or basketball team, it is imperative that a team maintain their home turf or home court advantage. Similarly, if one is to rise to national leadership, strength at "home" or in your own institution is often critical. Unlike athletic events where most teams play better at home than on the road, the corollary does not always hold true in surgical organizations, i.e., some would-be leaders appear better on the road than they do in their home hospital, department, or university. Being recognized as a leader within your home institution may not be a prerequisite for national success, but it certainly is an advantage. I often marvel at how my perception of purported leaders changes after observing them on their home turf. Not infrequently, surgeons who may be less impressive on a national stage are viewed in an entirely different light when viewed at home. Surgical residents, in my experience, invariably have a laser focus on who the effective local leaders are. Conversely, they may be dismissive of those who are less skilled and unkind or have excessive ego needs even though these surgeons may have a positive "national" reputation. Portraying a positive image at home is certainly an asset when aspiring to national leadership. Likewise, some national leaders are not well respected at home. In many instances, local problems eventually undo national leadership roles.

Clearly, not all surgeons are gifted with technical virtuosity, but being a "surgeon" and developing an area of expertise are a valuable asset. The rise to leadership within a national organization for surgeons who appear poised for success is often derailed by the discovery that they are not regarded favorably in their home institution. Examples I have encountered include a variety of the following: not a local surgical leader or occasionally not a surgeon at all. In other words, the would-be leader does not operate or does so sparingly. Even though the administrative load may be considerable, the mere mention that a person does not operate often terminates the discussion about a leadership role. Even if they do not derail leadership opportunities, such traits are not helpful. Similarly, failure to "carry one's load" as a clinician tends to become known. Several of the most talented surgeons I have ever encountered have never achieved their potential because of interpersonal problems in the operating suite. I am amazed at how amicable individuals in everyday life can be transformed into tyrants in the operating room. While this behavior was tolerated in a previous era, it is no longer acceptable.

Pitfalls happen to everyone in life and failures often occur on the path to success. However, some issues are not easily overcome. The pitfalls to which I refer are not

mere failures or adverse events which may actually strengthen character and resolve but indiscretions that represent a blight on one's career. Issues of character, accusations of plagiarism or falsification of data, sexual misadventures within the workplace, and the like may be career-enders in terms of advancement to leadership. I have also seen a number of leadership careers stalled or even terminated by personal peccadilloes or major transgressions of a nonprofessional nature. Personal problems occur with the most well-intentioned individuals: divorces occur, difficult interpersonal situations happen, etc. However, major problems may arise when these personal issues spill into the public domain or enter the workplace. While it is facile to suggest these types of behaviors can be logically controlled, as they generally are a result of emotion over reason, it is important for potential leaders to recognize the harm that can be done by personal indiscretions. Having an affair with a healthcare worker if one is married may be a major impediment to career development. Similarly, any type of financial improprieties may be an appropriate obstacle to national leadership. I am aware of several situations where there was evidence of some type of financial imbroglio. In some instances I am convinced that these problems were due to innocent mistakes often caused by naiveté or carelessness rather than an attempt to be fraudulent. Nonetheless, having such issues on one's record may be a viewed as a major transgression. Obviously, any criminal record is a huge problem; a drunk driving record often remains with one as they move across state lines. While these issues may appear self-evident, young surgeons often stumble into a personal issue that may tarnish their reputation and overshadow an otherwise enviable record. My advice, when confronted with questions about past improprieties, is to be humble, honest, and accepting of responsibility.

I have chaired several search committees for national leadership positions. One question I have asked of all candidates is whether or not they have any issues, personal or professional, that could bring discredit or embarrassment to the organization searching for a leader. I then document the responses (usually denials) for the record in the event future episodes might occur. As one moves up the ladder toward leadership roles, input from those closest to a potential leader will invariably be sought. A reputation within the home institution for honesty, integrity, strong work ethic, fairness, etc. is essential in the rise to national leadership.

Visibility and Service

It is difficult to rise to leadership without prior visibility within the organization. The most effective form of visibility in most organizations is through the development of a strong work product. In surgical organizations, this ideally includes papers that are strong enough to merit podium or major plenary presentations. However, presentation of posters or acting as a discussant may be a catalyst for broader participation. When acting as a discussant from the floor one must overcome the temptations toward too much visibility by frequently approaching the microphone, but well-thought discussions that may even make contrary points increase visibility. If one is

a frequent attender of meetings, presents an occasional podium paper, and is a thoughtful and courteous discussant, the opportunity for broader organizational participation often presents itself.

The organizational opportunities that are initially presented are often rather mundane and are not necessarily "sexy." Most organizations have committee assignments that are the military or residency equivalent of "grunt work" or "scut work." Many membership committees are not stellar assignments, but if one is prepared and actively participates, then more responsibility may follow. Lack of preparedness may end the chance for organizational advancement. I can remember several instances where committee members opened their discussion materials for the first time at the meeting or labeled every abstract with the same score; clearly these actions are not a path to advancement.

The opportunities for visibility and service vary greatly from organization to organization and are often dependent on the size and scope of the organization. I am amazed at the number of individuals who desire to start at the top of an organization with little, if any, regard for the effort required to reach that pinnacle. Granted, there are occasional individuals who appear to reach the highest rung on the ladder quickly through a variety of means: an obvious brilliance or innate penchant for leadership, a breakthrough discovery or innovation that catapults one to prominence, or the anointing by a well-placed advocate, among others. However, most leadership opportunities are derived from a bottom-up approach that occurs because of dedication to the organization and a commitment to working for the group.

In most of the regional surgical societies, faithful attendance, especially when coupled with the aforementioned visibility offered by presentations and discussions, may lead to committee assignments, which if done well often leads to a larger organization role. The American College of Surgeons (ACS) actually tracks organizational participation beginning with chapter activities. Most chapters of the ACS are crying for engaged local leaders. I started as chapter secretary-treasurer which led to the chapter presidency and eventually a college governor. Local involvement in the State Committee on Trauma (there were only three or four members at the time) led to a National Committee on Trauma role and the eventual opportunity to serve in other capacities at the ACS.

The American Board of Surgery prefers to have directors who have served as guest examiners. While taking 3 days from a busy schedule may seem onerous, these types of opportunities may lead to an eventual broader position within the board. Invariably, they provide extensive networking experiences. If one aspires to national leadership, be prepared for a journey – not a destination. In most cases, it is a stepwise process.

If one searches the internet for "contamination theory," there are a myriad of examples that readily appear, including legal definitions, educational theories, and business applications. While I make no claim to originality, I believe in the "contamination theory" that leads to organizational leadership. As an example, if one opens a Petri dish and lets it sit open overnight, organisms will invariably grow and flourish. In other words, "stuff happens." If we acquire a knowledge base, it is often difficult to precisely remember how we acquired that knowledge. It may have come

from personal experience, or perhaps we read it somewhere (we may remember exactly where or may not). We may have specific recollections of a lecture or discussion, but we may not. In other words, we learn things but often cannot clearly document the steps of the learning process; like the open Petri dish, things start to grow from a mélange of life experiences! I would contend the path to national leadership often occurs in the same way. Activities in one organization often attract attention in another. Service to the broad field of surgery may lead to focused leadership in a narrow field or vice versa. I have found there is often tremendous cross-pollination and cross-fertilization between the leadership of various groups. Like organisms in the open Petri dish, growth occurs. This phenomenon is why I encourage young surgeons to not restrict themselves to organizations strictly within one's discipline. Whether a surgeon has an interest in oncology, trauma, vascular surgery, etc., broader participation in at least one general organization such as a regional society is important. Remember, those who may be eventual deciders of the leaders of national organizations may not be in your field. Podium presentations in general groups may be less difficult than in highly competitive discipline-based organizations, and the opportunities to network outside your discipline are great.

Find a "Yoda"/Effective Mentorship

Mentorship is now used so commonly it has become somewhat of a cliché. Virtually every presidential address mentions "mentors" in some form. Scores of books have been written about mentorship; many businesses have adapted mentoring into their culture. In the ultimate test of the word "mentoring" as an overworked term, our medical school now "requires" that all faculty below the rank of professor be assigned a mentor. In my experience (where I have attempted to mentor dozens, if not hundreds, of colleagues at various career stages), effective mentoring is not a simple process and akin to many other aspects of human endeavor is much easier to talk or write about than actually do.

If one aspires to national leadership, I opine that being assigned a simple mentor may not suffice, hence my suggestion that one attempts to find a "Yoda." At the risk of being very dated, "Yoda" was a Jedi master in early Star Wars films (millennials can refer to Google). Some have speculated that Yoda came from the Yiddish word "yodea" which means "one who knows." For those familiar with the character in the film, Yoda demonstrated to his mentee (Young Luke Skywalker) three features: he understood how things worked, and he was not afraid to criticize or demonstrate shortcomings, but he was ultimately a champion for the positive qualities of his protégé. Navigating national leadership roles can be difficult, and mere "advice" may not suffice, but landing a wise counsellor is invaluable.

Finding an appropriate mentor can be difficult. There is often an assumption that a mentor must invariably be a very senior person, and that is not necessarily the case. I am now very senior, and while I would prefer to believe my experience in the American Board of Surgery or the Residency Review Committee of Surgery gives

me current knowledge, I am clearly cognizant that is no longer the case. While those past experiences may provide insights into the culture of an organization, they may lack the necessary currency to be relevant in the present. I am aware of senior, well-respected leaders in surgery who have (in my opinion) given terrible advice to mentees based on outdated information, a lack of awareness of cultural shifts within organizations, or other factors. Unfortunately, the ability to provide surgical mentorship may have a finite "shelf life" akin to many other areas where one loses relevancy. To that end, I encourage those aspiring to leadership to seek multiple opinions. As with "second opinions" in medicine, confirmation of the initial input does not guarantee the genuineness of the advice but may offer additional support.

In addition to seeking multiple sources of advice, one might consider utilizing various "coaching" services of a nonmedical nature that may aid in advancement within the sphere of national leadership. Even if one does not wish to undertake obtaining a MBA degree, there are various short courses in business and management that may be useful. There are various avenues to enhance one's speaking ability or communication skills. Virtually every university offers leadership courses that may be useful. Emotional intelligence training may seem an anathema to a surgeon but may be of great value within the perspective of national leadership.

Many who desire to advance the leadership ladder simply have no one within their immediate sphere who can serve as an effective mentor. In such instances, I encourage reaching out to perceived leaders from other institutions. While not all leaders are approachable, many are not only willing to be of assistance but are flattered by the request. In my career, I have spoken to literally hundreds of people about career advice of various sorts. In many instances I have developed close relationship with surgeons from other institutions that have been insightful to me, and I often suspect I gain more from the interaction than the so-called mentee does.

To return to the Yoda analogy, the mentor (Yoda) was not afraid to give unpleasant advice. One of my personality traits is forthrightness. While I try to never be hurtful, I realize that at times, my counsel is truly contrary to what an individual wants to hear. I generally have recognition of what one may desire to hear but find myself giving my heartfelt opinion even though it represents a contrary viewpoint to what may be desired. If one wishes a true mentoring relationship, it may require occasionally hearing things one does not desire to hear. This type of "negative" advice may be the best ever delivered; I attempt to explore alternatives when possible in giving a contrary opinion. My best approach is to discuss options and allow those seeking a sounding board to arrive at their own decisions. The key point is that in seeking a mentor, one attempts to find one with wisdom, openness, and honesty.

Grit and Luck

In her book entitled *Grit: The Power of Passion and Perseverance*, [1] Angela Duckworth opines that grit or perseverance and determination trump talent. Although this word "grit" now runs the risk of being overused, there is no doubt

that ascending to leadership often requires this level of perseverance. Countless leaders in surgery have been nominated repeatedly for positions only to lose to another candidate but ultimately succeed and contribute mightily as a leader.

I was nominated five times for the American Board of Surgery and on the final of the occasions was elected. Some people campaign for positions, and that is perfectly logical and permissible but must be done adroitly so not to be offensive. I was raised in a Scotch-Irish heritage in Eastern Kentucky where requesting any outside assistance was frowned upon; thus, I would never have campaigned for a position. In my mind, "grit" has less to do with being goal oriented, i.e., repeatedly seeking a certain position than with continuing to perform admirably in one's daily professional life. Many individuals who have done good solid work throughout their career with little fanfare or attention suddenly are "discovered" later in their career simply because they continued to work diligently and professionally within their home institution and/or various surgical organizations. Inherent talent is a precious commodity, but it rarely flowers without hard work (grit). Malcolm Gladwell [2] is credited with the concept that 10,000 h of "deliberate practice" is required to become world class in any field. While that has more recently been disputed, there is no doubt that persistence and hard work are invariably an integral part of the rise to national leadership. It is important to realize that much of the "work" is not glamorous. Nights in hotel rooms crafting rules for trauma center verification are not exciting, albeit important. Likewise developing questions for the American Board of Surgery In-Training Examination is a thankless task. These are but two of the "opportunities to serve" that I have encountered. Excessive travel and time away from family are important considerations for those who aspire to national leadership.

There is a saying, "The harder I work, the luckier I get" or "Luck is the residue of hard work." Both of these aphorisms are undoubtedly true. However, it is undeniable that luck is an important aspect of ascension to leadership in many instances. It is critical that one have a prepared mind to take advantage of the opportunities that good fortune may, on occasion, present. Often the most difficult part obtaining a leadership position is simply being nominated and/or having a strong advocate within the nomination or selection process. My election as a Regent of the American College of Surgeons required several elements of luck. One of the Fellows who were involved in the nominating process placed my name in nomination, and the Chair of that committee was a person with whom I had collaborated on numerous endeavors through the years. When my eventual nomination reached the floor of the Board of Governors where an affirmation vote is generally automatic, an objection was raised from the floor concerning my election because I was listed as a "vascular surgeon." Although I had a large vascular surgery practice, I was not a "pure" vascular surgeon. This was the most embarrassing moment of my professional career, before or since, and I offered to withdraw my name. I was encouraged to continue in the process and was subsequently elected. I use the still-embarrassing anecdote to demonstrate the "luck" part of having been nominated and supported by two individuals with whom I had worked through the years. I also was fortunate to have had many supporters among the Governors of the college who ultimately determined the outcome. Subsequently, I received numerous calls and letters of

support from Governors I knew well, hopefully demonstrating that much of the efforts I had put forth in various surgical endeavors was recognized by many friends I had made in the profession.

Roles of Leaders

In my view, it is incumbent on national leaders or those who aspire to such positions to determine answers to three fundamental questions regarding the surgical organizations they may be called upon to lead. The first question is, "What type of organization am I leading?" Secondly, "What does the organization need?" Thirdly, "What type of leader do I wish to be?" While these questions may seem simplistic, I contend they are fundamental to effective leadership.

The first question, "What is the nature of the organization I am leading or seek to lead," is the most fundamental. Some surgical organizations are primarily scientific in nature and as such may have a fairly narrow, defined organizational scope. Leadership in such an organization usually consists of "steering the ship" and ensuring the presentation of cogent, interesting clinical or scientific information. The surgical organizations serve as a conduit for the dissemination of knowledge through the presentations at the meeting and the networking and informal learning that may be equally valuable.

Conversely, some organizations must produce an important work product; think of surgical boards and various residency review committees within surgery. While the American College of Surgeons does not have prescribed work product, its leadership through the Governors, Regents, and officers is constantly bombarded with issues that require decisions, position statements to be determined, and efforts to be made in advocacy and health policy. An effective leader must discern the inherent differences in an organization that is primarily for dissemination of education and one with duties and responsibilities that transcend a scientific meeting. This point seems obvious, but I have observed on more than one occasion the temptation of organizational leaders to transform inherently scientific or educational groups into policy-making organizations. While groups interested in trauma or cancer, for example, have a legitimate interest in various policies important to their discipline, the temptation to change the organizational mission may be problematic. Even more common in my experience is the desire for organizational leaders to develop a "legacy" agenda that memorializes their term in office. Each succeeding leader desires a "retreat" or focused agenda on a pet project whose primary purpose, at least on occasion, appears to be to place a personal stamp on an action.

When I served as Chair of the Board of Regents of the American College of Surgeons, I had two very specific agendas in mind that I wished to push: one was to focus light on the problem of access to surgical care in rural America, and the second was to explore college involvement in resident training. I was not so naïve as to believe these were soluble in a 1-year term (and may never be soluble!). My attempt was to draw attention to these issues. One could then rightly state that I was focused

on "pet projects" which is likely true. Although undoubtedly self-serving, I would argue these were not ego-driven initiatives.

Many organizations have dual purposes. Many of the specialty societies or academies does not only have an educational mission but an advocacy as well. Clearly, advocating for patients served by surgeons within a discipline is noble, but I would urge some degree of caution in attempting to broaden the scope of an organization beyond its traditional roles. Formulating and promulgating health policy are extremely difficult and can become financially taxing for an organization. Under the broad topic of "understanding the organizational mission," I would offer two caveats. The first involves the area that could be characterized as "blurring of the mission," "mission creep," or "mission expansion." Having served as both the American Board of Surgery (ABS) and the Residency Review Committee (RRC) for surgery, it was sometimes unclear whose responsibility it was to do a certain task. If, for example, the ABS determines a certain experience is mandatory to take a board examination, are they encroaching on the RRC's responsibilities for determining program accreditation? When the college started a program to improve surgical training called "Fix the Five," was that appropriate since it could have been viewed as "poaching" the mission of the ABS or RRC? I am not implying these are inappropriate, but they raise legitimate questions about an organization's mission.

The second caveat is the failure to distinguish between the elucidation of principles and that of attempting to empower these principles through politics or, even worse, lecturing or preaching in a condescending manner. There are dozens of controversial issues where an organization such as the ACS or a major academy may issue a statement of principles. However, it may not be wise to attempt to drive implementation of these principles. Most rational people (including surgeons!) would agree with a principle that states that gun violence is a major public health concern or that teaching gun safety might be appropriate. However, it is, in my opinion, another matter to become part of a major campaign to ban guns. In addition to Second Amendment issues, there are many practical issues that should be considered. If the President of the United States is unable to make an impact on such a controversial issue, it is doubtful a campaign by a group of underfunded surgeons will make a difference. The response I usually have heard in these types of debates on controversies is for the imperative to "take a stand." My advice is simply this: recognize the difference between a statement of well-founded principles and wading into a political imbroglio as an organization.

The second question a perspective leader should ask is "What does the organization need?" There are many surgical organizations that are well-established and function well and where little or no change is needed. I have been a member of the Southern Surgical Association for nearly four decades and was blessed to have been its President several years ago. The organization is rich in tradition, and attempts at major changes would likely be met with strong resistance and are generally unnecessary. All groups must adapt to some degree, and "tweaks" may be advantageous, but attempts to leave an imprint by radical change will likely be counterproductive. In this organization the officer's main responsibility is to guide the organization on

its predetermined course and to not "mess up." The presidency is largely honorific. The secretary does the majority of the work and major actions are usually unnecessary.

In contrast, I was involved several years ago with a regional organization that had also had a long history and established traditions. The meetings had historically appealed to senior surgeons in private practice and were conducted at golf resorts, and afternoons were free for golf. Unfortunately, the organization was dying; attendance was dwindling and abstract submissions plummeting. A small group of roughly three surgeons determined that radical changes were needed for the viability of the organization and also pondered whether its survival had any advantage. This small cadre dramatically restructured the group dynamic and purpose of the meetings. There was a strong impetus to comingle academic leaders with surgeons in private practice. The organization began to embrace younger surgeons and residents, in particular, with resident forums, paper competitions, poster sessions, and subsidized attendance. The journal owned by the group was leveraged to provide an outlet for the publication of papers by young authors (often their first). With these efforts the organization has been revitalized and is the largest regional surgical society. These examples illustrate the importance of determining the answer to the question, "What does the organization need?" In the former, nothing of consequence was needed, while the latter required a total restructuring to ensure success.

The third question is, "What type of leader do I wish to be?" Shakespeare in *Twelfth Night* pens the phrase, "Some are born great, some achieve greatness, and some have greatness thrust upon them." One could substitute "greatness" for "leaders," and the lessons might be equally applicable. Some seem to be born natural leaders, but others rise to the task when confronted with the need to serve. In my opinion, the most crucial element of organizational leadership is the ability to be a strong leader yet not allow personal ego needs to subsume the welfare of the organization.

Types of Leadership: "Servant First" Vs. "Leader First"

In 1970, Robert Greenleaf wrote an essay entitled "The Servant as Leader"[3] which introduced the term "servant leadership." He followed that essay with a book entitled, *Servant Leadership: A Journey into the Nature of Legitimate Power and Greatness* [4]. While there are times and places where a "top-down" approach is undoubtedly needed, I recommend anyone seriously interested in leadership read Greenleaf's work. This philosophy seems particularly appropriate in larger complex national organizations often populated by highly motivated, competitive individuals. In such instances, attempting to lead by coercion and control may be extremely difficult, and Greenleaf argues that the source of true legitimate power was through the servant leader being "granted" allegiance or power by those being led. One portion of one paragraph is worth quoting: "A new moral principle is emerging which holds that the only authority deserving of one's allegiance is that which is

freely and knowingly granted by the led to the leader in response to, and in proportion to, the clearly evident servant stature of the leader. Those who choose to follow this principle will not casually accept the authority of existing institutions. Rather, they freely respond only to individuals who are chosen as leaders because they are proven and trusted as servants."

Similar themes are expressed in the contrasting styles of what is termed "transformational leadership" versus "transactional leadership." These terms are now in such common usage that they occasionally seem cliché. Transformational leadership occurs when the leader acts as a catalyst for change and works with the team under her/him to create a vision that inspires committed team members. Conversely, transactional leadership focuses on a more traditional leadership style though goal-directed action that is often "top-down" and in a business parlance often relies on a reward/punishment mantra.

Similar views are expressed in the book *Wisdom of the Crowd* [5] where a case is made that group decisions will likely trump individual ones. As a bit of a natural contrarian, I personally do not necessarily believe in the wisdom of groups. In my experience, collective wisdom is often "group think" rather than carefully analyzed positions and/or actions. I would find it difficult to quantitate the number of occasions where a board or governing body voted unanimously for a proposal only to grumble or even rant about the proposal after the meeting. How then should the leader of a national organization (surgical or otherwise) manage such situations? Often, they are simply afraid to speak up, especially if they have a dissenting view. In my view, there is often too much a "me too" attitude within boards or leadership groups. Inherent in leadership is the responsibility to be unafraid to express contrary, or at times unpopular, opinions.

Clearly, dissent should be civil and courteous but should, at times, be unambiguous. As previously noted, a leader must assess the type of organization they are leading: scientific or informational with a leader who is honorific vs. a policy-making or work-producing group. In the former, the main duty of a leader may be to deliver a presidential address; in the latter, the leadership role may be more crucial and ultimately much more important. In my experience, there are several potentially important steps to success in the latter situations (Table 25.2). Most major organizations have staff leadership, and it is imperative to have mission alignment between leadership and staff and to understand the fundamental difference between board functions and those of staff. Boards should determine major policies and organizational direction, while staff is the effector arm. Board members should eschew the temptation to micromanage staff functions. Likewise, staff should not unilaterally adopt major policy changes without board approval. If missions and goals are not aligned between leadership and staff, success will likely not occur. When I chaired the American Board of Surgery, there were several simple (I thought noncontroversial) items I desired to accomplish. Even though several received unanimous board approval, the actions never came to fruition. The staff simply did not view them as a priority. Since staff are invariably relied upon to discharge directives, their "buy-in" is essential. One delay tactic by staff is to simply "slow

Table 25.2 Potential steps to success for major organizational leaders

Good alignment with executive staff
In controversial areas, plan and prepare premeeting
Seek input from other key team members well in advance
Develop a coalition of "thought leaders" within the organization to facilitate your agenda
Anticipate possible opposition and have candid discussion in advance
Explain position (if needed) to "outside" policy influencers
Don't overreach/know when to quit

play" the directives realizing the board leadership will likely change before that of the staff.

If there are controversial items to be considered, it is foolhardy to spring those on the leaders and/or staff without a thorough premeeting discussion. In my view, a thoughtful leader should plan and prepare well in advance of the meeting. Thorough discussions with key team members should be done. This allows for opposing views to be presented in advance as well as the possibility of developing a coalition to support the proposal. However, the purpose of such communications should not be merely to line up votes but to consider alternative suggestions and to develop a sense of whether or not the proposed action has the possibility of success. Any leader can likely line up votes if one tries hard enough, but in surgical groups success ultimately requires consensus. In this regard a "servant leader" or "transformational" leader is much more likely to be successful by building consensus and seeking input and criticism. My experience was always to invite criticism either via premeeting discussions or in a public forum as well. If a proposal is unpopular, criticism will invariably occur. In my view it is better to have differences aired rather to have festering resentment that may arise from a lack of meaningful discussion of their proposals. I have marveled at the tone leaders occasionally assume when there is public criticism or even discussion of their ideas. When I conduct a meeting, I purposely call on those who may disagree to present their viewpoint. If no dissension is then publically raised, it is unfair to privately grumble.

In many of our influential surgical organizations, there are others who will have influence even though they have no "official" voice in the decision-making process. Examples could include past presidents or leaders of other groups who may be stakeholders in the process. If the American Board of Surgery, for example, were to contemplate a major policy change, it would seem incumbent on its leadership to discuss potential actions with the Residency Review Committee for Surgery. Not only does this represent common courtesy but may allow consensus building that is essential to completion of the objective. Since there are many overlapping agendas and responsibilities among different surgical groups, attempting to discern and discuss these in advance of a concrete proposal may be wise.

Finally, a leader must navigate the sometimes blurred lines between being a consensus builder and being a "wishy-washy," spineless leader who cannot make a decision. This is always difficult, but I have been involved in an occasional

situation where consensus was not possible but a decision was absolutely required. In that unpleasant situation, a leader may have to take a stand and do their job as a leader, even though it may be extremely difficult. I would offer several recommendations regarding navigating difficult situations: (1) be prepared in advance as mentioned above, but resist the temptation to "overreach." Overreaching may, in my experience, take two forms. First, the leader may present a series of dramatic changes each of which may be controversial, expensive, unlikely to succeed, etc. Most surgical organizations do not have the "fate of the free world" hinging on their actions so pick one major topic instead of a buffet of ideas from which to choose. The second example of "overreach" is to persist and insist upon an action during a meeting when it is clear there is major opposition. Occasionally it is better to drop the initiative and attempt to build support for another later attempt. I use several hackneyed homilies to make this point to younger colleagues who are embroiled in controversies: "Keep your powder dry," and wait for a better opportunity. Or a favorite: "How do you eat an elephant?" Answer: "one bite at a time." Often total and complete success is not possible, but stepwise, incremental progress can be made by not overreaching and destroying momentum completely.

Opportunities in Leadership

In this discussion I posited a question as to what type of leader did one wish to be along with determining what type of organization one was leading. In policy-making organizations, I have, broadly speaking, observed three types of leaders. The first type, which is most common in my experience, is what I might term a "place holder" type of leader. They may have been a good and faithful steward within the organization and may desperately desire to be the nominal "leader" of the group (e.g., President or Chair, etc.). However, their primary motivation is to "check the box" that I have accomplished this goal of leadership, e.g., "another notch on the belt" for their curriculum vitae. The second type is one who has a genuine desire to foster change but simply is unable to do so. There are numerous reasons for this inability to produce results: it may be the individual is an ineffective leader, but more often than not, it is simply that the time isn't right for change. Luck or alignment of extraneous factors is occasionally more important than a leader's ability in altering an agenda.

Finally, there are leaders who desire change and attempt to place the pieces in motion that might alter current circumstances. I would urge leaders of major organizations to not avoid or shy away from opportunities presented to them. In determining the opportunities, I suggest a potential leader consider the following questions: (1) Is change needed? Don't attempt changes for ego or legacy reasons. (2) Will contemplated efforts make the organization better or positively alter the lives of those served by the organization, be those affected, our members, our patients, or our society in general? I have been blessed to have served as a leader of a number of surgical organizations including several with major responsibilities. I can honestly affirm that I have only actively campaigned for one position, and that

was one with likely the least visibility of all others. I strongly desired to be the Chair of the Board of Regents of the American College of Surgeons. I desired this position in an attempt to shine a light on two aforementioned problems I believed to be of major important to the country. During the interview process, I was asked if I "had an agenda" as if having an agenda was a bad thing! I responded in the strongest possible terms, in the affirmative, with a simple declaratives sentence (something akin to "Heck yes!). As previously mentioned, my two agendas were to ask the ACS leadership to begin a journey to, at least investigate, two areas I believed to be highly important: (1) access to care, particularly in rural areas, and (2) improvements in surgical training. I was not so naïve as to believe I could more than initiate a process but have been gratified to have that organization initiate steps to, at least, consider possible improvements if not solutions. In that spirt, leaders may have the opportunity to affect profound changes that extend far beyond their "shelf life" as a leader.

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Chapter 26
The Role of Leaders, Supervisors, and Individual Surgeons in Reducing Burnout and Promoting Physician Wellness

Charles M. Balch and Tait D. Shanafelt

Introduction

National studies suggest that 40–50% of US physicians are experiencing professional burnout, indicating executives and leaders address the issues involving a disillusioned physician workforce [1–3].

There is a moral and ethical imperative to address physician burnout [4]. In addition, there is a strong professional and business case to reduce physician burnout and promote physician engagement [4]. Extensive research now indicates the well-being and professional satisfaction of physicians have a profound effect on their quality of care and patient adherence with treatment recommendations and satisfaction with medical care [5].

What are the consequences of burnout and dissatisfaction? Physician burnout and patient satisfaction have been shown to influence the quality of care, patient safety, physician turnover, and patient satisfaction [6–11]. Physician burnout contributes to work/personal conflicts and broken relationships, alcoholism, and physician suicide [1, 2, 11–15].

In this chapter, we will review the definition of burnout and briefly describe risk factors and adverse consequences of burnout and then our recommendations from our own extensive research and from the literature on proactive steps that can be taken by the individual physician and the leadership of the workplace environment to prevent or mitigate burnout and to engage the surgeons (including trainees), with the goal of increasing job satisfaction, retention of surgical staff, and better quality of patient care.

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What Is Burnout?

Burnout is characterized by emotional exhaustion, depersonalization, and a decreased sense of personal accomplishment [1, 3, 16–18]. It is a syndrome present in individuals under constant pressure. The symptoms and signs of burnout include physical exhaustion, repetitive cynicism, guilt, ineffectiveness, and a sense of depersonalization in relationships with coworkers or patients. Burnout and stress may contribute to alcoholism [12, 13]. Burnout has also been associated with impaired job performance and poor health, including headaches, sleep disturbances, irritability, marital dysfunction, fatigue, hypertension, anxiety, depression, and myocardial infarction [3, 19]. These consequences not only impact physicians personally but also their family. Burnout differs from the global impairment of depression, which affects all aspects of an individual's life, and primarily relates to their effectiveness on the job. Burnout can affect both physician satisfaction and the quality of medical care they provide. The causes of burnout are multifactorial and varied among individuals and have been described in the literature [3, 16, 18]. Important etiologic factors are a sense that work is "overwhelming"; a perceived imbalance between career, family, and personal growth; perceptions that career is unrewarding; and lack of autonomy or decision involvement. A strong association was noted between burnout elements and a desire to retire early [11, 20, 21].

Adverse Consequences of Burnout

There are both personal and professional consequences of physician burnout (Figs. 26.1 and 26.2). Increasing evidence suggests that physician burnout can adversely affect patient safety and quality of patient care and even contribute to medical errors [5, 6, 8, 10]. Major medical errors reported by surgeons are strongly related to a surgeon's degree of burnout and their mental quality of life (QOL) [9, 10]. Surgeon burnout can also have potentially profound personal consequences for the individual surgeon, of which suicide is perhaps the most tragic example [14].

These effects on quality of care, combined with the impact of satisfaction and burnout on turnover and associated costs, underscore the critical importance of physician satisfaction and burnout on the long-term success of healthcare organizations [4, 5, 22–24]. This fact has led to greater recognition, and cultivating resilience/career satisfaction is the shared responsibility of physicians and the organizations in which they function [3, 5, 25].

Studies indicate that physician burnout influences and patient satisfaction quality of care, patient safety, and patient satisfaction [4, 7, 8]. Physician distress has also been linked to physician prescribing habits, test ordering, risk of malpractice suits, and whether or not patients adhere with physician medical recommendations [9, 10, 26] (Fig. 26.1). Burnout has strong links to physician turnover and professional work efforts [9, 11, 27–29]. The costs of replacing a physician are estimated to be two to
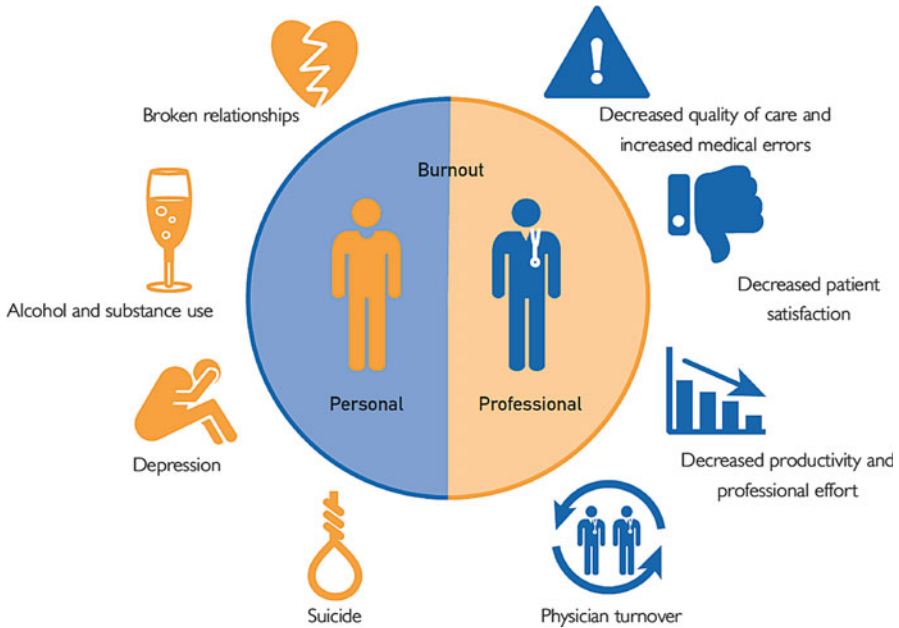
Fig. 26.1 Personal and professional repercussions of physician burnout Ref. [4]
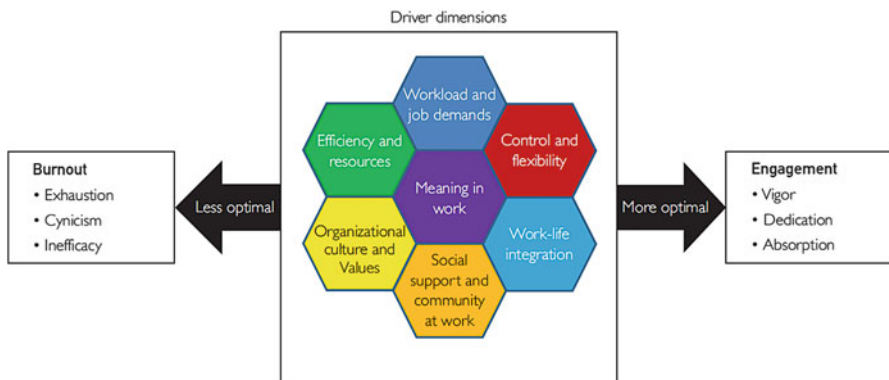
Fig. 26.2 Key drivers of burnout and engagement in physicians Ref. [4]

three times the physician's annual salary and are often estimated to be $500,000–$1,000,000/physician [23, 30–32].

Work-home conflicts appear to be a major contributor to surgeon burnout and are more common among women surgeons [15, 33]. In a subanalysis of a major survey conducted by the American College of Surgeons, more women than men surgeons had burnout and depressive symptoms and have experienced a work-home conflict in the past 3 weeks. Although the factors contributing to burnout were remarkably

similar among women and men surgeons, women were more likely to experience work-home conflicts than were their male colleagues [15, 33].

Burnout affects surgeons in all practice settings (i.e., private practice and academic settings), at all age groups, and at all stages of career [34–37]. Early-career physicians (i.e., in practice for less than 10 years) have the highest frequency of work-home conflicts and the highest rates of depersonalization, while physicians in the middle of their career (i.e.,:11–20 years in practice) have the highest workload, greatest career dissatisfaction, and the highest prevalence of burnout, regardless of sex, practice setting, and specialty [36].

Even medical students, residents/fellows, and physicians are more likely to be burned out compared to their nonmedical peers [2, 35]. Medical students and residents/fellows were more likely to exhibit symptoms of depression than the population control samples and had a prevalence of burnout that was more common at each stage of training than their peers not in medical training [35]. In a national survey involving 665 general surgery residents in training in the United States, 69% meet the criteria for burnout on at least one domain, including 57% exhibiting high levels of emotional exhaustion (which was higher among women surgical trainees) [37].

Dual Responsibility of the Individual and Leadership in the Workplace

Extensive evidence suggests that the organizational and practice environment has an important critical role in whether physicians remain engaged or burned out (Fig. 26.2). Although burnout is a system issue, most institutions operate under the erroneous framework that burnout and professional satisfaction are solely the responsibility of the individual physician [4]. There is a strong business case for organizations to invest in efforts to reduce physician burnout and promote engagement. Engagement is the positive antithesis of burnout and is characterized by vigor, dedication, and absorption in work [4].

Burnout and surgeon well-being are also important components of leadership. An important component of surgical leadership is practicing personal wellness and implementing burnout awareness programs among its faculty, staff, and trainees.

Defining the problem and solutions at the individual level and at the level of leadership in the workplace environment is discussed below.

Individual Responsibility to Avoid or Mitigate Burnout

One of the tragic paradoxes of burnout is that those most susceptible appear to be the most dedicated, conscientious, responsible, and motivated [19]. Individuals with these traits are often idealistic and have perfectionist qualities that may lead them to submerse themselves in their work and devote themselves to it until they have nothing left to give. Thus commitment to patients, attention to detail, and recognizing the responsibility associated with patients' trust—the very traits that define a good surgeon—also place them at greater risk for burnout [19]. This is a condition that all surgeons may face at some point in their career. When it begins to develop, complacency or inaction can lead to incremental worsening, for the burnout condition usually does come with prodromal alerts and may not present itself fully until the surgeon is confronted with some type of personal or professional tragedy that has occurred because of insufficient introspection.

We would make the following recommendations to our surgical colleagues as individuals: [38]

1. Make a personal commitment to understand and promote your own work/personal life balance.
2. Periodically assess whether you are achieving such balance (Tables 26.1 and 26.2).
3. Cultivate an awareness of the risk factors for burnout that apply to your professional and personal life, and be able to assess where you fit on a "risk scale."
4. Take personal responsibility and make a commitment to practice good health habits, especially in the context of your own practice setting.
5. Periodically assess your state of wellness in all domains: physical, psychological, emotional, and spiritual.
6. Establish a mentor/mentee relationship with one or more individuals.
7. Familiarize yourself with the types of physician assistance programs and related resources that are available at your institution or medical facility.

In an important survey of the health habits and personal wellness strategies of over 7000 American surgeons, those who participated in regular exercise, who followed prevention recommendations of the Centers for Disease Control and Prevention (CDC), and who had seen their primary care provider in the past year had a lower incidence of burnout and a higher quality of life (QOL) [39]. Surgeons who placed greater emphasis on finding meaning in work, focusing on what is important in life, maintaining a positive outlook, and embracing a philosophy that stresses work-life balance were less likely to be burned out (Table 26.3). The study identified specific measures associated with lower rates of burnout and improved QOL, which included (1) increasing weekly aerobic exercise and weight training to recommended levels, (2) annual visits to their primary care provider, and (3) age-appropriate preventative testing [39].

Why are activities to promote better quality of life (QOL) important to the surgical profession? There are many reasons, of which the most important are the

Table 26.1 Steps to promote personal well-being [16]

1. Identify personal and professional values and priorities
(a) Reflect on personal values and priorities
(b) Strive to achieve balance between personal and professional lives
(i) Make a list of personal values and priorities; rank in order of importance
(ii) Make a list of professional values and priorities; rank in order of priorities
(iii) Integrate these two lists
(iv) Identify areas of conflict where personal and professional goals may be incompatible
(c) Based on priorities, determine how conflicts should be managed
2. Enhance areas of work that are most personally meaningful
(a) Identify areas of work that are most meaningful to you (patient care, patient education, medical education, participation in clinical trials, research, administration)
(b) Find how you can reshape your practice to increase your focus in this area(s)
(c) Decide if improving your skills in a specific area would decrease your stress at work or if seeking additional training in this or other areas would be helpful for you
(d) Identify opportunities to reflect with colleagues about stressful and rewarding aspects of practice
(e) Periodically reassess what you enjoy most about your work
3. Identify and nurture personal wellness strategies of importance to you
(a) Protect and nurture your relationships
(b) Nurture religion/spirituality practices
(c) Develop hobbies and use vacations to encourage nonmedical interests
(d) Ensure adequate sleep, exercise, and nutrition
(e) Define and protect time for personal reflection at least monthly
(f) Obtain a personal primary care provider and seek regular medical care

following: (1) QOL correlates with better patient care, including less self-reported medical errors, less self-reported depression and suicide ideation, and lower rate of self-reported alcohol misuse/abuse, (2) QOL correlates with a lower probability of malpractice experience, (3) QOL correlates with lower work-home conflicts, (4) it is associated with greater career satisfaction, and as a consequence, (5) QOL correlates with lower rate of leaving a surgical practice [10, 34, 38].

While identifying personal values and protecting personal time are necessary to achieve work-life balance, time away from work should be more than simply a chance to rest for another workday. Caring for self, cultivating relationships, and nurturing personal interests are what make time away from work meaningful and provide individuals the opportunity for achievement and personal growth outside of work [40].

Table 26.2 Examples of personal wellness strategies [40]

Relationships
(a) Spouse/significant other
(b) Children
(c) Friends
Personal reflection
(a) Journaling
(b) Reflection or storytelling groups
(c) Experiencing the arts (theater, music, poetry, etc.)
Spiritual practice
(a) Services
(b) Religious practice
(c) Meditation
(d) Personal awareness and growth
Self-care
(a) Exercise
(b) Adequate sleep
(c) Nutrition
(d) Medical care
(e) Vacations
Hobbies and personal interests
(a) Reading
(b) Arts
(c) Activities (cooking, hiking, fishing, sporting events)
(d) Community service (coaching, civic activities, tutoring, scouts, etc.)
(e) Travel

Table 26.3 Independent factors associated with high quality of life characteristics from the American College of Surgeons survey [39]

Take a positive outlook on things (OR 1.736, $p < 0.0001$)
Married (vs. single) (OR 1.736, $p < 0.0001$)
Incorporate a life philosophy stressing balance (OR 1.578; $p < 0.0001$)
Find meaning in work (OR 1.523, $p < 0.0001$)
Focus on what is most important in life (OR 1.442, $p < 0.0001$)
Take vacations (OR 1.368, $p < 0.0001$)
CDC compliant with exercise guidelines (OR 1.250, $p = 0.0004$)
Participate in recreation/hobbies/exercise (OR 1.246, $p = 0.0015$)
Talk with family/friends about feelings (OR 1.244, $p = 0.0004$)
Protect time away from work with family/friends (OR 1.198; $p = 0.0068$)

Leadership Responsibilities to Avoid or Mitigate Physician Burnout

Most institutions operate under the erroneous framework that burnout and professional satisfaction are solely the responsibility of the individual physician. There is a strong business case for organizations to invest in efforts to reduce physician burnout and promote engagement [4].

Healthcare organizations have an economic stake in the well-being of physicians. Workers who are satisfied tend to be more productive. As discussed above, there is evidence that the well-being of physicians is related to patient quality of care and satisfaction, a key outcome variable that is tracked by most organizations. Further, attention to well-being promotes patient safety and reduces the probability of poor judgment, medical errors, and, consequently, the threat of malpractice litigation [16].

There is no doubt that both individual-focused and structural or organizational strategies can result in clinically meaningful reductions in burnout among physicians [41–45]. West and colleagues reviewed 15 randomized studies (involving 716 MDs) and 37 cohort studies (involving 2914 physicians) of interventions to prevent or reduce physician burnout [45]. The overall interpretation of these intervention studies was that (1) overall burnout decreased from 54% to 44% ($p < 0.0001$), (2) high emotional exhaustion decreased from 38% to 24% ($p < 0.0001$), and (3) high depersonalization decreased from 38% to 34% ($p = 0.04$) (West, 2016). Similar results were obtained in a second subsequent systematic review [46].

The Mayo Clinic has utilized nine organizational strategies to promote physician well-being that represent tangible organizational actions that are supported by evidence and experience (Table 26.4) [4]. The Mayo experience demonstrates that sustained and comprehensive efforts by the organization to reduce burnout and promote engagement can make a difference. Although a host of factors can contribute to burnout and engagement, these can largely be grouped into seven dimensions: workload, efficiency, flexibility/control over work, work-life integration, alignment of individual and organizational values, social support/community at work, and the degree of meaning derived from work [3–5, 29]. Each of these dimensions is influenced by individual, work unit, organizational, and national factors (Table 26.4). Given this fact, reducing burnout and promoting engagement are the

Table 26.4 Organizational strategies to reduce burnout and promote physician engagement [4]

Acknowledge and assess the problem
Harness the power of leadership
Develop and implement targeted work unit interventions
Cultivate community at work
Use rewards and incentives wisely
Align values and strengthen culture
Promote flexibility and work-life integration
Provide resources to promote resilience and self-care
Facilitate and fund organizational science

shared responsibility of individual physicians and healthcare organizations. [4, 5, 45, 47] Rather than assuming that effective interventions to reduce burnout will be cost-prohibitive, the reality is that an engaged physician workforce is requisite to achieving institutional objectives and that even small investments can have a large impact and many are cost neutral [4]. The details of these strategies are described in the full article [4].

In subsequent articles, Swensen and Shanafelt described an organizational framework that leaders can deploy to reduce professional burnout and bring back joy in practice [48, 49]. Leaders can take the following evidence-based actions to eliminated or mitigate structural and functional drivers of burnout on the one hand and to better satisfy human social and psychological needs while strengthening individual resilience: (1) design organizational systems to address human needs, (2) develop leaders with participative management competency, (3) build social community, (4) remove sources of frustration and inefficiency, (5) reduce preventable patient harm, and (6) bolster personal wellness [48].

If strategies are to be developed at the local level to prevent or mitigate stress and burnout, it is important to understand the contributing factors that are associated with relatively higher risk for distress. Each surgeon brings to the issue of personal wellness a complex array of risks factors, whereas each medical institution, surgical practice groups, and surgical specialty corporations face a complex array of workplace issues that may contribute to burnout [38].

Leadership at the Memorial Sloan Kettering Cancer Center (MSKCC)conducted a burnout survey among their faculty and concluded that surgical oncology generates high levels of stress and exhaustion, with the potential for maladaptive coping responses such as distancing and emotional detachment from patients, use of alcohol and hypnotic medication, and dependence on a culture of productivity without thoughtful self-care [49, 50]. They offered a number of insights and solutions that were perceived to be important in their own workplace environment, some of which may be applicable to surgical practices elsewhere [49, 50].

These recommendations include (1) creating a culture that promotes work-life balance and personal wellness; (2) reducing the taboo against discussing personal distress that otherwise can become "a culture of bravado"; (3) addressing problems with the reimbursement system, inadequate administrative support, and scheduling issues; and (4) establishing a mentoring program for faculty [51].

The MSKCC investigators also emphasized the importance of the workplace environment in what they appropriately characterize as a "mutual pact between the individual surgeon and the leadership that control their workplace environment." [50, 51] They further state that leaders must acknowledged that "stressors have an adverse effect on faculty, and then take action to address modifiable factors that are most strongly associated with burnout. Hospital decision makers should realize that a surgeons' wellness appears to be greatly impacted by stress related to difficulties scheduling holidays, conferences, and time available to be with family" [51].

The MSKCC authors concluded that "Surgical leadership can begin by acknowledging that stressors have an adverse effect on faculty and then take action to address modifiable factors that are most strongly associated with burnout and low quality of

life. Ultimately, quality outcomes for our patients may be enhanced if greater wellness can be cultivated in our surgical teams" [50].

These results highlight the importance of accounting for the diverse influences within each surgical specialty, the practice setting (private practice and academic practice), and their association with both surgeon distress and career satisfaction. Such information would be helpful to individuals and supervisors to target programs for surgeons that are more specific to the underlying factors associated with distress in their workplace environment, especially for those surgeons who are at particularly higher risk for stress, burnout, and depression [3, 17, 33, 34]. For example, working more than 80 h a week and/or having two or more nights on call per week was associated with a detrimental impact on surgeons in almost every setting, both professionally and personally [52].

Be Mentored and Be a Mentor

There is good evidence that mentoring is an important component of surgeon well-being and an important component of a burnout reduction program, both at an organizational and an individual level.

Mentorship has been recognized as a key element of career satisfaction because it has a very important influence on career guidance, physician productivity, and personal development [53]. Yet, a recent survey of Departments of Surgery in the United States showed that only half the departments have established mentorship programs and most are informal [53]. The authors recommended that a mentorship program within a department of surgery should be carefully designed, with the involvement of the four key stakeholders: the mentor, the mentee, the department, and the institution [53]. In an editorial that accompanied this survey, Dr. Gerard Doherty stated: "Our faculty is our most important and most expensive asset. The department should be the 'home base' that provides guidance, resources, ongoing technical operative development, and peer support to pave a professional path for surgeons, including residents. Career development is the defining 'fourth mission' of the department" [53].

In the national surgical resident survey discussed earlier, Elmore et al. found that a lower proportion of residents training at programs that provided a structured mentoring program reported less burnout when compared with residents training at programs lacking a formal mechanism for personal and professional support (63% versus 76%, $p < 0.001$) [37]. Another study of junior faculty holding mentored career development awards showed strong associations between several aspects of mentoring and career satisfaction, indicating that those concerned about faculty attrition from academic medicine should consider mentor training and development [54, 55].

A more formal process of mentoring is the concept of professional coaching [55, 56]. Coaching enhances self-awareness, drawing on individual strengths, questioning self-defeating thoughts and beliefs, and aligning personal values with

professional duties; it presumes that the client already possesses strengths and skills to handle life's challenges but is not accessing them maximally [55]. Coaching should increase one's sense of accomplishment, purpose, and engagement, all critical in ameliorating burnout. Strategies for implementing a surgical coaching program have recently been published [56].

The Role of Leadership to Prevent or Mitigate Burnout

The leadership qualities of physician supervisors impact the personal well-being of the physicians they lead in their healthcare organization. The findings of a survey of almost 2800 Mayo Clinic physicians have important implications for the selection and training of physician leaders and provide insights into organizational factors that affect physician well-being [5]. Items evaluating physician opinion of the leadership qualities of their immediate physician supervisor are listed in the Table 26.5. The data compares the prevalence of burnout and physician satisfaction with physicians who were rated favorably versus unfavorably. Leadership ratings demonstrated a strong association with burnout and satisfaction at the level of individual physicians after adjusting for age, sex, duration of employment at the Mayo Clinic, and specialty area. At the work unit level, the leadership rating or the division/department chairperson explained 11% of the variation in burnout and 47% of the variation in satisfaction with the organization. This is notable given all the other factors that influence physician satisfaction [5].

An integral component to successfully cultivating and sustaining a surgical workforce involves understanding the factors that lead to surgeon satisfaction and discontent. An important survey was conducted by the Association of American Medical Colleges that evaluated physician workplace satisfaction and overall engagement among faculty subgroups, including a comparison of surgical and nonsurgical clinicians [57]. A total of 1356 surgeons from 14 medical schools responded across different faculty subgroups, and comparisons were made with 1105 nonsurgical clinicians. The strongest predictors of surgeons' overall satisfaction with their department included department governance, collegiality and collaboration, and their relationship with supervisor. Surgeon faculty turnover is a serious concern, both in terms of the break in delivering patient care and also in the added cost of replacing a surgeon [31].

In this study, 11% of responders recorded a serious intent to leave their institution within the next 1–2 years, and 19% were uncertain of their intent to stay [57]. The survey dimensions that had the highest association with intent to leave included the nature of work, collegiality and collaboration, and promotion equality. The authors of this study concluded that institutional understanding of, and improvement in, specific work environment factors can enhance recruitment and retention of academic surgeons [57].

Table 26.5 Leadership qualities of immediate supervisors [5]

Leadership qualities of immediate supervisors and the prevalence of burnout and satisfaction in the physicians they supervise

Leadership quality	Burnout (%[95%Cl])			Satisfaction (%[95%Cl])		
	Prevalence of those rating leader favorably	Prevalence of those rating leader unfavorably	P value	Prevalence of those rating leader favorably	Prevalence of those rating leader unfavorably	P value
Holds career development conversations with me	36 (34.1–38.4)	51 (47.5–55.2)	<001	82 (80.2–83.5)	51 (46.6–55.1)	<001
Inspires me to do my best	36 (33.6–37.8)	52 (48.6–56.3)	<001	83 (81.6–84.8)	46 (42.2–50.5)	<001
Empowers me to do my job	35 (33–37.1)	56 (52.4–60.4)	<001	86 (84.9–87.8)	46 (41.8–50.1)	<001
Is interested in my opinion	36 (33.7–37.9)	54 (49.6–57.5)	<001	85 (83.4–86.5)	48 (44.1–52.5)	<001
Encourages employees to suggest ideas for improvement	37 (34.5–38.6)	52 (48–56.4)	<001	86 (84.9–87.8)	53 (48.7–57.1)	<001
Treats me with respect and dignity	38 (35.6–39.5)	56 (50.7–61.9)	<001	94 (93.1–95.1)	69 (64.7–72.5)	<001
Provides helpful feedback and coaching on my performance	35 (33.1–37.4)	50 (46.5–53.6)	<001	78 (76.2–79.7)	41 (37–45.4)	<001
Recognizes me for a job well done	36 (33.9–38)	53 (48.6–56.5)	<001	84 (82.8–85.9)	48 (43.5–51.9)	<001
Keeps me informed about changes taking place at Mayo Clinic	37 (34.5–38.6)	53 (49–57.7)	<001	88 (86.7–89.4)	54 (49.8–58.1)	<001
Encourages me to develop my talents and skills	35 (33.2–37.3)	54 (50.4–58)	<001	84 (82.1–85.3)	45 (40.4–48.8)	<001
I would recommend working for your immediate supervisor	36 (34.1–38.2)	53 (49.3–57.6)	<001	87 (86–88.8)	49 (44.9–53.3)	<001
Overall, how satisfied are you with your immediate supervisor?	36 (34–38.1)	53 (49–57)	<001	87 (85.3–88.2)	47 (42.5–50.7)	<001

Summary and Recommendations

Each institution, and surgical specialty groups within it, is faced with a complex array of factors that contribute to burnout. Many solutions must be developed and applied at the local level. There is no single formula for achieving a satisfying professional career that can be applied to such a diverse set of surgical practice environments. No doubt every one of us has (or will have) to deal with stressful issues in our personal and professional life on a regular basis.

As we stated in a recent editorial [47]: "Health care institutions should recognize the potential effects of physician well-being on the long term viability of their organization. Dimensions of engagement and well-being should be routinely assessed as institutional performance metrics. Supervisors who lead physicians need to recognize the key impact they have on the well-being and fulfillment of the physicians they lead. Individual physicians have a professional responsibility to take care of themselves. Adequate sleep, exercise, and attending to personal medical needs should be considered a minimum standard for self-care. Physicians must also proactively identify personal and professional priorities and take deliberate steps to integrate their personal and professional lives. Meaningful progress will require collaborative efforts by national bodies, health care organizations, leaders, and individual physicians, as each is responsible for factors that contribute to the problem and must own their part of the solution."

We recommend that leaders and supervisors of surgical programs for faculty and trainees should:

1. Know their individual risk for burnout and practice personal wellness habits.
2. Recognize the impact their leadership has on the risk of burnout among those they lead.
3. Understand the driver dimensions of burnout (workload, efficiency, flexibility/control, work-life integration, meaning in work, collegiality/community at work, values alignment).
4. Implement programs about burnout and personal wellness for those they lead, including mentoring programs.
5. Identify faculty and trainees at increased risk for burnout.
6. Help physicians engage the physician health, mentoring, and well-being services at their institution.

We recommend that each surgeon continuously map their own career pathway that integrates their personal and professional goals with the outcome of maintaining value, balance, and personal satisfaction throughout their professional career. Each individual surgeon must commit to practice healthy lifestyle and to participate in mentoring of younger physicians and trainees. Just as the approaches to "personalized medicine" take into account the individual variability of a disease state, the genetic background of the host, and their quality of life, so too do the solutions of preventing or addressing burnout and low professional satisfaction among surgeons

require solutions at the individual level and the individual surgical practice environment.

With these results, as well as those previously published, individual surgeons and leaders of group practices of specific specialty surgeons should be able to better understand the relative risk for distress for them personally and for their colleagues. Although it is important for all surgeons to address the issues of personal wellness, it is particularly important for those who are at increased risk based on combinations of high workload, specific surgical specialty, practice environment, age, family responsibilities, and work-home conflict resolution that, in the aggregate, span a spectrum of risk for burnout, depression, and low mental quality of life.

We physicians must be guided from the earliest years of training to cultivate methods of personal renewal, emotional self-awareness, connection with social support systems, and a sense of mastery and meaning in their work [17]. Being proactive is so much better than reacting to a situation that can spiral into a crisis that damages ones professional life or personal wellness and may take months or years to repair [17]. Maintaining these values is the work of a lifetime.

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Index