Editorial

Moving to the other side of the table—transitioning from residency to faculty and the value of mentorship

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The journey to becoming an academic thoracic surgeon

The journey to a faculty position as an academic thoracic surgeon is lengthy and often arduous, but with the challenges and long hours comes a sense of fulfilment and accomplishment. A full complement of clinical and research training prepares trainees for a future career in the academic realm, and often serves as a reservoir of experience to fall back on when facing difficult clinical and professional scenarios. Most academic surgeons find stimulus and satisfaction in the diverse challenges of their professional lives and are encouraged by the growth offered through dealing with complex problems. The majority of new faculty members are shaped by their training experience and the individuals and mentors they meet along the way. Together, this serves as a perfect backdrop to continue the learning curve into independent practice and past training.

The current academic surgical landscape often requires trainees to supplement their surgical residency with extra training in order to diversify their exposure and provide added value/experience. Often, future faculty members are encouraged to pursue extra clinical training and formal research education. The former offers the benefit of added volume, but also allows new faculty members to bring novel techniques and procedures to their respective division, allowing for increased clinical load and greater breadth of coverage. Formal research training (often in the form of a post-graduate degree) provides a multitude of benefits. Beyond the obvious experience of equipping a trainee with the armamentarium and fundamental knowledge required to conduct rigorous research, such training promotes future collaboration for research endeavors, and most importantly, teaches one how to ask the right research questions. There are several common features in the journey towards becoming an academic surgeon: (I) the long journey requires patience, perseverance and sacrifice; (II) everyone's journey is different despite the common goal, and there is added value to the differences in experiences garnered along the way; (III) those we meet along the path shape and define the journey and the destination; and (IV) the journey never ends and provides future obstacles to overcome.

The obstacles ahead

Academic thoracic surgeons are asked to wear many hats and serve different functions. As entrusted and determined members of the academic and clinical community, surgeons are asked to be leaders, administrators, teachers, advocates and researchers. In a recent publication, Rosengart *et al.* describes the various attributes of the academic surgeon. The authors suggest that the expectations of an academic surgeon include: identifying complex clinical problems requiring solutions; becoming an expert in their respective field; innovating new insights, treatments or procedures; observing closely the outcomes of such treatments to improve upon; disseminating knowledge and expertise; asking important questions to improve care; and training the next generation of surgeons/scientists (1). First and foremost however, the academic thoracic surgeon is exactly that—a surgeon; and it is important to recognize this as the common denominator encouraging new young surgeons to strive for honing their surgical skills and improving their clinical prowess.

With such diverse demands and responsibilities there are inherit obstacles that a new surgeon must face. Administrative duties and setting up a practice are uniquely novel experiences for new faculty members—ones that are difficult to prepare for in residency given the context and timing. The most obvious challenge is being at the top of the hierarchy of responsibility. This obviates the need for organization and creating a system that ensures that patients are provided the best care possible in a timely and responsible manner. In addition, one of the main responsibilities of an academic surgeon is clinical teaching. New surgeons are often closer to the completion of board examinations and are therefore great resources for trainees with good mastery of recent evidence and guidelines. Dedication to clinical education is important to new faculties. It establishes their contribution within the division, but also promotes the development of new mentorship relationships with trainees. More importantly, this is also a way of giving back to the very system that promoted one's success. Of course, the most prudent educational experience occurs in the operating room. At a time where new faculty is interesting in building up their technical acumen, this can create a conflict, with surgeons and residents vying for the same critical operative volume. The solution to this is graded responsibilities, where new surgeons slowly monitor and support trainees through different parts of operations. This promotes a sense of shared learning and growth, and also allows both individuals to continue to increase volumes and gain trust with each other—while ensuring the highest standard of surgical quality. As a new faculty member starts independent practice the concept of increasing volume and building on technical success is paramount. New surgeons are encouraged to build their volume and approach each operation with unique focus and determination, carefully monitoring outcomes as an opportunity for quality improvement. The notion that completion of residency is the finally of learning is a fallacy. The truth is that most surgeons continue along the learning curve particularly in their early years of practice. Most important, is to recognize the value of senior colleagues and surgeons in this endeavor—a concept that will be touched on later in this article.

Rather than approaching the responsibilities of academic surgery as different silos, where each different hat one must wear brings as a separate set of responsibilities, it is important to unify these with a common theme. This unifying common goal bridging together research scholarship, education and clinical practice is passion for achieving excellence. This passion for accomplishment empowers the new surgeon to excel in each discipline utilizing their diverse faculties and experiences. Diverse opportunities and accomplishments empower the surgeon and promote further success—a type of self-fulfilling prophecy. Such success of course does not come without a cost, particularly in the face of competing demands and time challenges. Dyrbye *et al.* evaluated physician satisfaction and burnout at different career stages. The authors demonstrated that early career physicians had the lowest satisfaction with overall career choice, the highest frequency of work-home conflicts, and the highest rates of depersonalizations. When not addressed this would lead to great challenges for mid career physicians who faced the greatest obstacles with the highest rates of emotion exhaustion and burnout (2). While this study applies to all physicians and is not surgeon-specific, the article highlights the importance of promoting career satisfaction and efforts to reduce burnout that are tailored to each speciality and individual. In fact, surgical specialities and academic practice were both independently associated with significantly higher risk of burnout (2). While this is a complex problem, the answer likely lies in optimizing healthy time management and maintaining emotional connection to the task at hand whether at work or in one's personal life.

Establishing a soft landing

One of the most important principles to starting an academic surgical practice is starting off on the right foot. Establishing the right start is important given that it serves as the foundation for future growth and promotes self assurance and the confidence of those around. One must realize that the journey of academic surgery is long and will not all be accomplished immediately. It is important to recognize the importance of stamina and strategic pacing—alike running a marathon. Ensuring a good start depends on several factors. Firstly, careful clinical selection is important. Choosing the right cases at the right time ensure optimal outcomes. In addition, complex clinical challenges and operation may require added support and time. It is important for the new faculty surgeon to recognize this and accordingly choose wisely. Equally as important one must rely on their training and experience, and have the necessary trust is the breadth of exposure accrued through a long duration of comprehensive training. Most crucial however, is realizing the value of those around us. An academic thoracic surgeon is truly a sum of the parts, and is empowered and enabled through the support of others. As such, it important to recognize the

value of colleagues and various team members in establishing success, and to rely on those who got you this far.

The value of mentorship

In his presidential address at the annual American Association of Thoracic Surgeons conference in 2018 titled "Gentle Handling", Dr. Duke Cameron highlighted the importance of mentorship through the training experience and into independent practice (3). Moreover, the conference hosted a speciality session titled "Preparing Yourself for and Academic Career", with one of the plenary podium presentations being reserved for a study highlighting the disparity between recent graduates and experienced surgeons' assessment of time to operative independence (4). This clearly highlights the new found value of directly addressing the importance of mentorship in academic surgery—a concept that has always been implicitly recognized but less published on historically. Most surgeons recognize an important mentor or role model in their career path, but until recently, there has been limited research focus on this notion. Several contemporary reports and editorials have focused on outlining the value of mentorship in surgical education and the impact it has in propelling a trainee's future career and success (5-7).

In their editorial, Healy *et al.* clarify the relevant difference between role models and mentors in surgery. The authors make a distinction between mentors and role models, with the former serving numerous *active* roles as advisers, consultants, friends, teachers and coaches; whereas role models provide a *passive* function as people we can identify with, who have qualities we wish to possess, or are in positions we aspire to reach. In as such, mentors are often role models, but the opposite is not necessarily true (8). Further clarification of the nomenclature of influencers in medical education is provided by Byyny who identifies the following unique descriptors contrasting teachers, coaches and mentors. *Teachers* impart knowledge and guide studies by precept, examples or experience. *Coaches* act as private tutors who instruct and train using fundamentals to improve performance. Finally, *mentors* are trusted counselor guiding the professional development of an individual (9). The qualities of a Socratic mentor are highlighted by Assael, who outlines *the need for every surgeon to have a personal mentor* (10). The author offers the following as roles of a good mentor: verify thinking, inspire imagination, multiply clinical experience, provide unvarnished criticism and advice, serve as a congenial colleague, and be understanding (10). In as much, the mentor becomes a coach, a teacher and more.

Taken together, the literature highlights two key principles. Firstly, mentors serve a wide range of functions, and as such serve a dynamic role in the lives of their mentees, and are accordingly crucial to the development of new surgeons (particularly in the academic realm). Secondly, we all need mentors. Gawande outlines the importance of this concept in his article in the New Yorker titled "Personal Best", where he suggests that "no matter how well-trained people are, few can sustain their best performance on their own" (11). Gawande uses this notion to justify the need of surgical coaching, but it perhaps better validates the importance of mentorship in academic surgery—ensuring the success of the new surgeon beyond the technical realm, and in various facets of professional life. In a survey conducted by the Association for Academic Surgery, 75% of respondent early medical graduates identified the importance of mentorship, with 72% of mentored residents choosing careers similar to those of their mentors. Respondents highlighted the following as key mentorship characteristics: expertise, being a role model and professional integrity (12).

Typically, mentorship relationships are fostered over time and are the result of serendipitous encounters—being at the right place at the right time. In finding a mentor, one must have clear goals of what they value most in the mentor. It is important to search for someone with altruism and experience, who can foster a relationship based on mutual respect and honesty. Certain individuals may be well-served with more than one mentor based on the different aspects of one's professional facets and ambitions. It is of course equally as important for the mentor to be as invested in the relationship as the mentee. Research suggests that the most common barriers to mentorship include: the necessary time commitment, the scarcity of qualified mentors, as well as gender, cultural and generational differences (13). The relationship however can be symbiotic, with the mentor also benefitting from the new faculty surgeon—who might be well versed in some newly emerging trends and innovation. In fact, in an editorial on the aging surgeon, Olsen recommends that "all surgeons older than 60 years should select a younger colleague they trust and ask him or her to honestly assess and inform them" regarding clinical or technical concerns (14). This completes the mentorship cycle, and demonstrates that mentorship in surgery is a lifelong process. While very important to new surgeons beginning their practice, the mentorship relationship continues to grow and mature with time.

In a good mentor, a young academic surgeon can

find various virtues and guidance. To the surgeon, the mentor serves various roles, and is as such of important in maintaining a health professional environment. This of course is not to say that mentors are the only source of tutelage and support available. In fact, guidance and knowledge can be garnered from many different individuals in the professional environment. I find that the old adage "it takes a village" applies well when thinking of the maturing surgeon. Various individuals can serve various roles of support in helping ensure the success of a new faculty member. It is important for the new academic surgeon to recognize the values and strengths of all those around them and use them as examples appropriately. Different individuals may find teachers, coaches and champions outside of the mentorship relationship, and these do not necessarily need to be like-minded academic surgeons. There is plenty to learn from administrative support staff, nurses, junior colleagues, and residents. It is important to recognize the value and experiences of all those around us, and to appreciate each individual as a unique resource for growth and improvement. Each of these will of course not replace the diverse role of a mentor, but no limit exists on who one can learn from and utilize as a personal resource.

Conclusions

Learning does not end at the end of residency, and neither do the challenges. One may argue that the growth and learning curves are even steeper at the onset of independent practice. With the multiple demands of academic thoracic surgery, it is important that new faculty members are firmly rooted in their experience/training, and have a balanced and thoughtful approach to each clinical or academic challenge. It is vital to recognize the importance of others in optimizing one's chances for success. New surgeons can find coaching, teaching and championing from various members of the team. These however do not replace the role of a mentor who wears the various hats of a guide, friend, confident, teacher and role model; just like the academic surgeon wears the many hats of a clinician, researcher and teacher.

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Footnote

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