

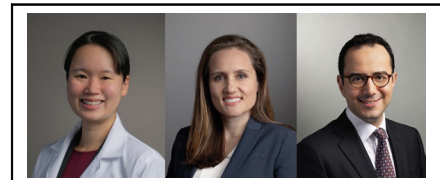
Connection through cardiothoracic surgery subspecialty collaboration: Strategies for Early Faculty Peer Network Development



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ONE IS THE LONELIEST SURGEON

When starting your first job, being the only junior faculty member in a specific surgical department is common. Yet, this may be the first time you are without another person who possesses the same title as you: A co-(fill in the blank). Without peers, assuming an individual role within an unfamiliar, complex organization is predictably arduous. Additionally, structured safeguards embedded in residency/fellowship training programs are suddenly eliminated. Social loneliness can become a debilitating obstacle during this crucial period of major career transition.¹ Each unique individual's professional journey is embattled with constantly shifting priorities and struggle to preserve time to complete important, nonclinical tasks. Currently, faculty development resources are concentrated at trainee audiences² or topics related to individual-specific challenges.³ However, navigating this complex environment doesn't have to be done in isolation. It can be practically approached by bolstering peer networks with other junior cardiothoracic surgery faculty members. Given standardized training paradigms, this cohort is a logical extension of peer support that replicates well into faculty life. As developing cardiothoracic surgeons, what are some collective strategies to promote connection early during career development? What are the potential benefits of having reciprocal support with accountability, growing skills together, and fostering mutual understanding at this new step in everyone's career? Effectively establishing a professional peer group will strengthen career resilience and



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CENTRAL MESSAGE

For junior cardiothoracic surgery faculty, collaboration and community building across subspecialties (congenital, thoracic, and adult cardiac) is an effective strategy for early career peer support.

PERSPECTIVE

Early career faculty in cardiothoracic surgical subspecialties find themselves pursuing studying, writing, and research opportunities for independent professional development. Although current focus is on career development for trainees and individuals, junior faculty should establish a peer-support group across subspecialties as a strategy to collectively navigate successful career paths.

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promote productivity across cardiothoracic surgical subspecialties (eg, congenital, thoracic, or adult cardiac) by strategically addressing communal stresses outside the operating room when starting a demanding surgical career.

GETTING LOST IN THE LOCAL LANDSCAPE

When junior faculty are hired in their first cardiothoracic surgery jobs, the environment will range from openly hostile to friendly depending on the level of support, resource allocation, and institutional priority for individual faculty growth. Although younger surgeons may move from their first job, switching jobs may not improve the consistent pressures that junior surgeons universally face. Once

surgeons have spent time identifying their own strengths and individual career aspirations, the next step is to obtain awareness with other junior cardiothoracic faculty to identify common challenges and overlapping individual goals. Younger surgeons may find peer support in developing clinical and operative practices early on; however, this is beyond the scope of this article. Instead, we will focus on specific areas of career development that junior faculty may find mutually challenging because these require dedicated time outside clinical responsibilities, include obtaining Board certification, writing, and/or research.

A Jungle of Competing Priorities

An enormous task that all newly graduated trainees in cardiothoracic residency and fellowship have in their first few years as junior faculty is the imperative to pass the American Board of Thoracic Surgery (ABTS) Board certification exam.⁴ Even if you choose a specialty-specific track within residency/fellowship, the relevant topics for cardiothoracic surgery encompass thoracic surgery, adult cardiac surgery, critical care, and congenital cardiac surgery. Yearly, about 15% to 20% will fail. In the midst of starting at a new institution, it can be difficult to prioritize study time. Also, surgical Board certification exams are in 2 parts: written and oral. This process extends the examination process over an entire year, at minimum, usually starting at the beginning of your faculty position. Also, mock oral exam preparation necessitates at least 2 people to practice—an examiner and an examinee. Literally, effective exam preparation cannot be completed by 1 individual. Thus, the strategy for preparing for this exam requires intentional studying—at least in pairs—with faculty members who are knowledgeable in these subspecialties.

In addition to studying, an extension of professional productivity that younger surgeons struggle with early on is maintaining consistent time to write. Professional writing is a broad term and includes manuscripts, essays, project proposals, and letters of recommendation, to name a few examples. This time also includes preparation around writing, including reading relevant articles, outlining, or reworking drafts with collaborator comments.⁵ Another example of meaningful work outside of an individual's current institution is finishing projects from training that are in the final stages. One can imagine that the greater the distance from the institution where the project was started (both time and space), the more difficult it is to complete, regardless of how much time has been invested.

Once at a new institution, what is the ability of a cardiothoracic surgeon to continue productive work outside of the operating room, such as publishing and research? In 2018, a database of more than 900 cardiothoracic surgeons in US academic teaching hospitals was created to track authorship publication history and National Institutes of Health grant funding. Wang and colleagues⁶ found that only 7%

($n = 73$) were actively leading basic science research and only 60% ($n = 599$) were actively leading nonbasic science research. In subgroup analysis, the proportion of women leading basic science research was much lower ($n = 2$). Proportionally, surgeons were designated as 47.6% ($n = 320$) cardiac, 35.4% ($n = 238$) thoracic, and 17.1% ($n = 115$) congenital. It is notable that research involvement was similarly distributed across cardiac (42.5% vs 48.2%), thoracic (39.7% vs 34.7%), and congenital (17.8% vs 17.0%) specialties when analyzing by basic and nonbasic science research categories, respectively.⁶ The uniform division of research type suggests that the specific category of research—nonbasic science versus basic science—is not a determining factor when comparing pursuit of research across different cardiothoracic subspecialties.

Some of the challenges to pursuing research include needing to obtain funding, staff, and statistical support. As a junior faculty member, finding, applying, and wisely managing these resources is not guaranteed with intentional, consistent effort. With limited time outside of operating rooms, it may be tempting to balance the desire to collaborate on projects with inexperienced, but enthusiastic, research participants; that is, medical students or residents/fellows. The potential conflicts are competing goals of pursuing high-quality, established projects; obtaining support for your own independent work; and/or sharing your research knowledge with less-experienced others. Strategizing and choosing collaborators may be difficult with differing experience levels and existing hierarchies. Self-advocacy is a necessary skill. Do not hesitate to ask for what you need early on or ask for assistance from those with skills to help you.

NAVIGATION TOOLS: HOW TO FIND A PATH TOGETHER WITH PEERS

The inevitable maze that is any new health system requires timely, flexible navigation and calibration to orient any faculty surgeon. Besides becoming functional in the operating room, other career development areas outside of clinical practice can also be challenging environments to become quickly self-sufficient. Befriending other junior cardiothoracic faculty members with similar training backgrounds can provide increased accountability in writing and studying with formation of dedicated groups. Exposure to research resources, prioritizing personal well-being, and finding mentorship are all examples of how an effective peer surgery support group can lead efforts toward achieving individual career goals while facing similar obstacles (Figure 1).

Peers as Study Buddies, Writing Partners, and Research Collaborators

For some board-eligible cardiothoracic program graduates, when it comes time to actually sit for the ABTS

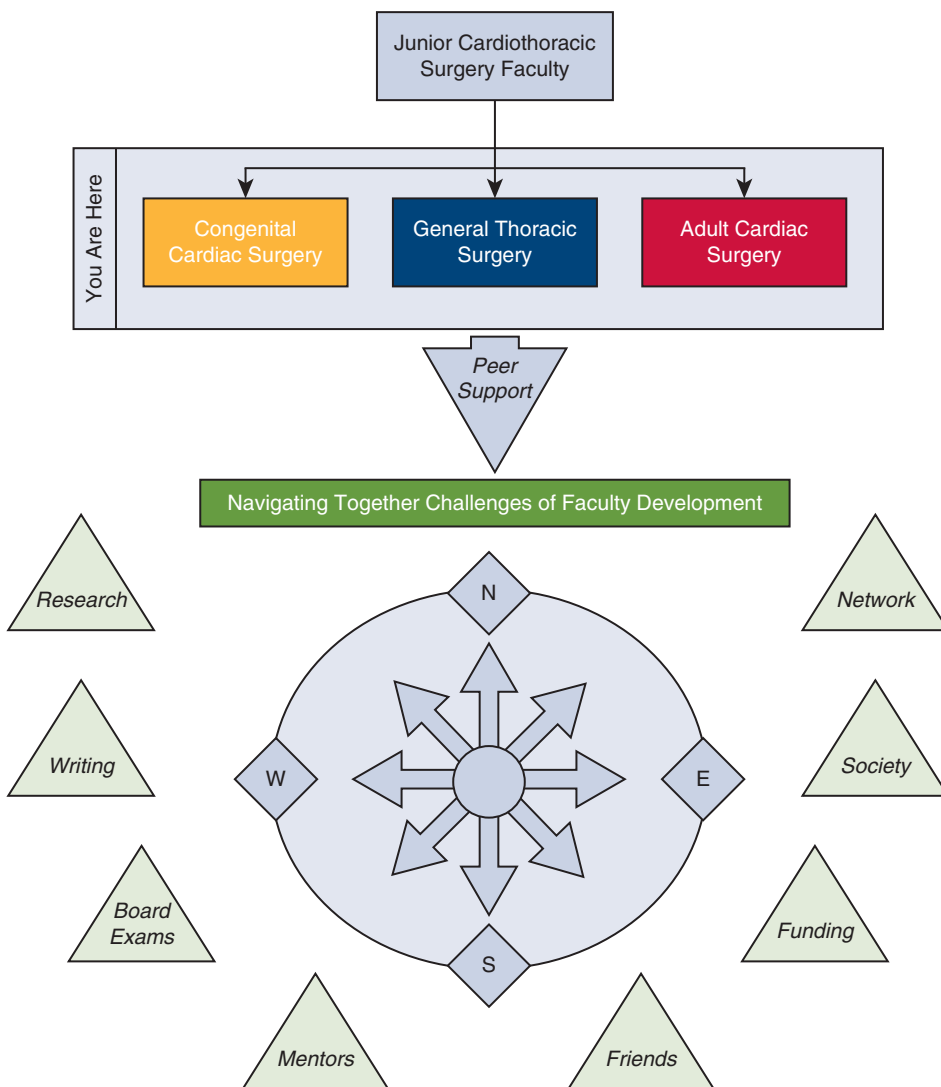


FIGURE 1. Faculty development areas that overlap across cardiothoracic subspecialties.

examination, it has already been years beyond when we were actively on clinical rotations in that particular subspecialty. Frequently, the most challenging topics to study for are those remote from what we are doing in our day-to-day surgical practice. By becoming study partners with faculty members in a different subspecialty, you can exchange clinical expertise. A list of study resources on various subspecialties shows the difference in study approach depending on topic focus (Table 1). For oral exams, plan on scheduling practice sessions focused on the subspecialty that is beyond your daily clinical practice. Being connected to someone simultaneously studying for the same exam provides an added level of accountability and motivation. For anyone who is faced with retaking the exam, peer support from cardiothoracic faculty in different subspecialties

who have taken the Boards can be an effective way to master unfamiliar topics.

In addition to keeping each other accountable for studying, writing accountability is another practical way junior surgical faculty can support each other. There are several strategies to become a more effective and productive writer. One of these strategies, suggested by Silva,⁵ is to create an accountability group. There are several types of accountability groups: reviewing each individual's written works, setting time to write individually but at a prearranged time, and meeting regularly to update each other on progress in writing goals. The beauty of this type of format is it can be virtual. Junior cardiothoracic faculty members should be motivated to continue their productivity; a writing accountability group can allow all members of this peer

TABLE 1. Resources for cardiothoracic surgery (CTS) Board examination preparation by subspecialty topic*

	All CTS topics	Congenital	Thoracic	Cardiac
Textbooks	<ul style="list-style-type: none"> • <i>Mastery of CTS</i>¹ (w) 	<ul style="list-style-type: none"> • <i>Khonsari's Cardiac Surgery Pitfalls</i>² (w/o) • <i>Johns Hopkins Textbook of CTS</i>³ (w) 	<ul style="list-style-type: none"> • <i>Sabiston's Surgery of the Chest</i>⁴ (w) 	<ul style="list-style-type: none"> • <i>Khonsari's Cardiac Surgery Pitfalls</i>² (w/o) • <i>Cardiac Surgery in the Adult</i>, Cohn Textbook⁵ • <i>Johns Hopkins Textbook of CTS</i>³ (w)
Study guides	<ul style="list-style-type: none"> • TSRA Clinical Scenarios⁶ (w/o) • TSRA Operative Dictations⁶ (o) • Case-Based Review of CTS⁷ (o) • <i>CTS Handbook</i>⁸ 			
Miscellaneous	<ul style="list-style-type: none"> • SESATS QBank⁹ • JTCVS Op-Tech articles¹⁰ • Osler Review Course¹¹ (o) • Intermountain (Doty) Review Course¹² (w) 			

w, Written; o, oral; TSRA, Thoracic Surgery Residents Association; SESATS, Self-Education Self Assessment in Thoracic Surgery; JTCVS, Journal of Thoracic and Cardiovascular Surgery. *Textbooks, study guides, and miscellaneous materials resources: 1. Kaiser LR, Kron IL, and Spray TL. *Mastery of Cardiothoracic Surgery*. 3rd ed. Lippincott Williams & Wilkins; 2014. 2. Ardehali A and Chen JM. *Khonsari's Cardiac Surgery Safeguards and Pitfalls in Operative Technique*. Wolters Kluwer Health; 2017. 3. Yuh DD, Vricella LA, Yang SC, and Doty JR. *Johns Hopkins Textbook of Cardiothoracic Surgery*. 2nd ed. McGraw Hill Medical; 2014. 4. Selke F, Del Nido PJ, Swanson SJ. *Sabiston & Spencer Surgery of the Chest*. 8th ed. Elsevier; 2016. 5. Cohn L. *Cardiac Surgery in the Adult*. 4th ed. McGraw Hill; 2018. 6. TSRA Resources for Residents: <https://www.tsranet.org/resources/tsra-resources-for-residents/>. 7. Cantu E, Turek JW. *Case-based Review of Cardiothoracic Surgery*. 2013. Cases structured for oral exam review with scenarios/questions on the left and answers on the right. <https://www.amazon.com/Case-Based-Review-Cardiothoracic-Surgery-Edward/dp/0615535348>. 8. Chikwe J, Cooke D, and Weiss A. *Cardiothoracic Surgery Handbook*. Oxford University Press; 2006. 9. SESATS. <http://www.sesats.org/>. 10. JTCVS Operative Techniques in Thoracic and Cardiovascular Surgery articles. <https://www.optechtc.com>. 11. Osler Review Course. <https://www.osler.org/product-category/specialties/thoracic-surgery/>. 12. Doty Intermountain Review of Cardiovascular & Thoracic Surgery. <https://intermountain.cloud-cme.com/course/courseoverview?P=5&EID=14145>.

group to benefit simply from each individual's presence and consistent participation.

Creating accountability through a peer group can also be applied to research. There are several obstacles to starting a research project for early-career faculty members. Some challenges are unique to the institution and can include completing online training, accessing databases, or applying for an institutional review board approval. Junior faculty members can assist each other by sharing resource templates or jointly asking a senior faculty member for guidance. In addition to institution-specific challenges, a universal challenge to pursuing research is lack of available funding. Research funding provides protected research time, which is critical to the development of early-career academic surgeons. Predictably, some factors for basic science research involvement include having a PhD degree, publishing a first-author publication during training, or possessing an active National Institutes of Health grant. Wang and colleagues⁶ concluded that to facilitate the development of surgeon-scientists, additional funding support must be granted to junior faculty members, especially women. Peer junior cardiothoracic faculty members can help each other by sharing resources to obtain research mentorship, navigate intense grant-writing processes, and obtain statistical support. Many cardiothoracic surgery subspecialties

have similar challenges to performing research as surgeon-scientists, so discovering and sharing opportunities across all domains can improve the chances for funding opportunities, identifying sustainable projects, or fostering multidisciplinary collaboration.⁶ Early success in obtaining valuable research resources will encourage cardiothoracic surgeons to engage in substantive research endeavors.

Peers as Pals

There is no doubt that this career path is stressful. And, the amount of social support each individual has may be limited.¹ Compounding these factors are the stresses of continuing to move and start over at each level of training. Oftentimes, to combat the isolation, it becomes necessary to connect with people outside your direct chain of command. During training, your closest friends could be co-residents or co-fellows because you shared similar experiences. Trustworthy, kind, and supportive colleagues can help you survive during the early stages of transition by offering emotional support and collegiality. Befriending junior faculty members outside your specific department may facilitate the coping process. Another idea is to find someone who is more advanced in his or her career to gain some valuable wisdom and perspective. Discover who else may share

your struggles and start to come up with creative solutions through connectivity. Ideas for spending time to decompress outside of work include getting coffee, taking a walk, or telling a joke. Even talking about nonwork-related topics can be cathartic. Most importantly, you should find faculty who can celebrate your successes with you. We all need these joyful moments to remind us that we are human, especially in a career field that can be dehumanizing.¹

NAVIGATING WITHOUT GPS—HOW TO FILL IN THE MAP GAPS

Not every junior surgeon in their his or her first job has an adequate pool to create local peer support in parallel subspecialties—whether due to lack of people or inability to establish collegial working relationships with specific individuals. Alternative options to filling the vacant spots in your peer support group through your local institution include finding faculty ahead of you in the hiring process or seeking faculty in different types of surgical specialties. Also, continuing to keep communication and mentorship relationships with other senior faculty members outside your own institution will add an external dimension and perspective for personal growth and career trajectory. This viewpoint from someone with more career experience at other institutions may be especially useful if you are seeking unbiased advice, such as considering whether or not to switch jobs.

Virtual Signaling

Although not without flaws, using social media as a method for finding and connecting like-minded peers professionally may be necessary if you have limited access to other junior faculty members at your local institution. Luc and colleagues⁷ have published several studies showing the importance of social media participation in increasing networking and mentorship among smaller groups, specifically for women interested in cardiothoracic surgery. As a real-world example of effectively utilizing social media to find underrepresented mentors within cardiothoracic surgery at different institutions, accessing cardiothoracic surgery peers and senior mentors could be enhanced by visibility through social media. This virtual network can grow through virtual communication and digital connections via already established thoracic surgery social media communities.²

Societies as Beacons

For any junior faculty, networking is a key strategy for establishing a regional, national, and international community in the exciting field of cardiothoracic surgery. By interfacing with faculty across cardiothoracic subspecialties, the potential pool of peer surgeons multiplies immediately. The Society of Thoracic Surgeons (STS), Women in

Thoracic Surgery (WTS), and the American Association of Thoracic Surgeons (AATS) are some examples of global networks that include all cardiothoracic subspecialties.

Recently, other organizations such as the Thoracic Surgery Resident Association have been instrumental at providing quality educational study materials for trainees.² These comprehensively cover all cardiothoracic surgical subspecialty topics in each resource (Table 1). However, there is a lack of these types of resources crafted by and targeted toward junior faculty members, at a deeper level of clinical practice and understanding. For instance, imagine a manual authored by junior faculty members focusing on common challenges and solutions to early career development unique to cardiothoracic surgery (eg, scarcity of cases early on, limited experience in surgical fellowship, knowing when and how to ask for assistance, learning to work with different surgical staff, getting familiar with new instruments, and completing documentation and billing). A companion piece with senior cardiothoracic surgery authors with advice and experience for each topic could also be created. The biggest challenge would be to create collaboration across all subspecialties as faculty instead of trainees.

The amount of scholarship and award opportunities through the various cardiothoracic surgery societies continues to grow for trainees as well.⁸ Or, specific subgroups within the specialty, such as WTS, offer targeted mentoring opportunities for individual trainees. Examples of career development opportunities for early career faculty do exist. Yet, these efforts are broadly provided at annual meeting 1-day sessions for individuals and 1-on-1 mentoring opportunities. In a recent systematic review of mentorship, published by Odell and colleagues⁹ as part of The STS Workforce on Career Development, there is undeniable value to these professional relationships in fostering career success. However, a construct of mentorship diversity and peer support becomes especially necessary when early-career surgeons need a variety of advice, support, and skills imminently. One example of how accessible an already-established professional community can make this wisdom is the STS Career Blog³ with practical, timely advice for all early career cardiothoracic faculty members. Furthermore, in-person relationship building could be an integral part that junior faculty members are missing. Group-based activities can be another strategy, similar to Thoracic Surgery Directors Association Bootcamp (now managed by STS) for cardiothoracic surgical residents/fellows at the beginning of their training.¹⁰ Envisioning a cardiothoracic surgery junior faculty career development bootcamp for the first few years of practice that fosters peer relationships and practical advice for overcoming the obstacles of early career surgeons is something that the societies or ABTS should provide. Why do the structured, collaborative resources for learning, training, and preparation have to stop when training has officially completed? Investment

by societies in junior faculty members will be paramount to growing the next generation of well-developed cardiothoracic surgeons, regardless of institution affiliation.

Besides creating educational resources, the advantage of surgical societies is in their community spanning across different institutions worldwide. To harness the power of this diverse mentorship and sage advice, there should be a directory accessible for graduating trainees during their job search and junior faculty members designed to facilitate contact of specific peers/mentors with a focus on early career development. A list of interested society members with subspecialty, practice type, previous job locations/rank, current position, and career focus, would make establishing these connections easier. This list would reflect the diversity of career paths within cardiothoracic surgery. Examples of how to use this type of directory would be: making a connection with faculty members who have left your institution so you can ask about his or her experiences, midcareer faculty members who are already going through the promotion process, or senior faculty members in leadership positions that align with your career aspirations.

NO SURGEON LEFT BEHIND

Starting a new job as a novice cardiothoracic surgeon can be intimidating. Wisdom from past Presidents of the AATS for aspiring cardiothoracic surgeons highlighted important themes of career development: humanism and balance.¹¹ Nonetheless, these characteristics go beyond a single individual and require investing in a strong community of cardiothoracic surgeons through building connection and collaboration. Peer networks can be mutually beneficial by identifying common challenges and creating supportive,

productive working groups to jointly achieve goals. Resiliency for career longevity can be obtained by sharing struggles, challenges, resources, and successes. An accessible peer group easily overlooked when starting a career include other junior faculty members in different surgical subspecialties. Establishing these relationships are important towards expanding a career support network involving peers, senior surgeons, and national organizations to navigate early career collective success.

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