

How to Start a Microsurgery Practice: Success and Sustainability in Academic Practice

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Summary: Starting an academic microsurgery practice is a daunting task for plastic surgery graduates. Despite this, academic practice provides many advantages as a starting point for a career. Microsurgical faculty can make use of several unique benefits within an academic center. These include vast resources of clinical and basic science departments, communications and public affairs divisions, and quality improvement teams. Building a multi-disciplinary microsurgery practice with specific focus will jumpstart research questions and outcome data. Using residents and students to their full potential is both rewarding and efficient as a microsurgeon. Finally, peer faculty in an academic environment provide a stimulating resource for growth and assistance when needed. This special topic provides insight into starting a microsurgery practice for any resident considering a career in academics. (*Plast Reconstr Surg Glob Open* 2024; 12:e5571; doi: [10.1097/GOX.0000000000005571](https://doi.org/10.1097/GOX.0000000000005571); Published online 5 February 2024.)

INTRODUCTION

After the long road of plastic surgery residency and microsurgery fellowship, the task of starting an academic microsurgery practice can seem immense. A multitude of challenges and opportunities exist with starting in an academic position. Each arm of the tripartite mission of academic surgery (patient care, research, and education) requires its own focused attention. Academic surgeons must also advocate for the specialty within their institution, and must be ambassadors of their institution within the specialty at large. With careful planning and utilization of the vast resources available within an academic medical center, the start of a microsurgery career can be an exciting springboard to a long and rewarding career.¹

ECONOMIES OF SCALE

On day one of a new faculty appointment, a multitude of personnel and services are available to the academic microsurgeon. Administrative staff, nurses, research assistants, and OR personnel should be met with to review your processes and protocols for clinic and cases.² Start by seeking out best practices by senior surgeons. Ask how the new consult visit is completed in granular detail: how

are patients counseled, how is charting completed, what special sheets are used in each type of visit, what written information is given to patients, and who communicates what to each patient. Help the entire patient care team, from front desk to financial counselors, understand the *why* of what you do. The more your entire team can think like you do, the better and more consistent the patient experience will be.

A significant benefit of academic medical centers lies in the integration of multiple specialties under one roof, and in one EMR. This is particularly important for microsurgeons who interface with multiple specialties and departments. Identify where patients come from, and seek out relationships with those key “nodes” of referrals, including radiologists, surgical oncologists, and the various surgical subspecialties you will be consulting for.

Once you have established certain patterns of referrals and cases, whether breast reconstruction, lower extremity, head and neck, or general oncologic reconstruction, consider tracking the patient experience for each of these problems. What can be optimized from a patient experience standpoint from the time of diagnosis, extirpation, and reconstruction? Can clinic visits be consolidated? Can time waiting between specialist appointments be reduced? Meet with leadership in quality improvement and patient safety, as well as stakeholders in patient experience or those involved with your institutional healthcare performance metrics such as Press Ganey to track and improve the patient pathway for each diagnosis you treat.

As your clinical practice matures, research questions will naturally arise. Identify a problem, find a reason to

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solve the problem, implement appropriate methodology, and execute.³ Utilize the expertise of institutional biostatisticians, basic scientists, and clinical research specialists to solve problems driven by your clinical practice.

LEVERAGING INSTITUTIONAL BRAND

The high visibility of academic medical centers provides a major advantage to new microsurgery faculty. Immediate credibility is granted by virtue of affiliation with academic medical centers, which may be an advantage over independent private practice. Identify gaps in microsurgical care at your institution and community and meet with communications, marketing, and public affairs teams at your institution to advertise unique services that address these gaps. If cancer reconstruction is a significant part of the practice, strategize with the university to present to local advocacy groups highlighting your expertise. Vertically integrated healthcare systems have an advantage in connecting primary care and referring specialists to the practice. If the institution does not have this type of integration, develop a strategy to improve relationships with primary care groups. At the very start of your practice, trust by referring physicians is gained by ‘three A’s’. *Availability* is the simple act of saying yes when asked for help. This might also include going to outside practices for consultations with the referring physician and, in some cases, same-day evaluations. *Affability* fosters relationship development with referring providers and creates a positive working relationship and encourages more collaboration. The simple act of being nice does go a long way. This also can include professional and near immediate response to questions from referring physicians. Regarding *ability*, it cannot be understated how critical the first series of surgical cases are at your institution. Reputation is often established by the outcome and experiences of the first few patients. Through diligent planning, high-quality written pre- and postoperative instructions, and meticulous surgical and postoperative care, this can be accomplished. More than likely, a well-planned reconstruction will also require more than one operation for optimal outcome. A single breast cancer referral, if the patient selects delayed-immediate autologous reconstruction, commits the patient to at least three operations on average.^{4,5}

TRACKING OUTCOMES

A critical component to our success and sustainability is the use of a large, prospective patient database (Research Electronic Data CAPture)^{6,7} tracking all aspect of patient demographics, expander and flap data, complications, and outcomes. The first step as a new hire is submitting a research proposal to their institutional review board encompassing this prospective plan. Following this, identify which data program best fits the needs of your practice. Although multiple electronic data capture programs are available, the ideal software allows for re-tooling of the database to support new projects, transferability to data analysis platforms, and ease of use for trainees to learn year after year. The benefits of tracking patient data prospectively are two-fold: unlimited opportunity to generate

Takeaways

Question: How can academic microsurgeons start their careers to establish a foundation for long-term success?

Findings: Academic microsurgeons can leverage the vast resources of academic medical centers, institutional visibility, and talented colleagues and trainees for long-term success. This article provides practical strategies for success from an experienced academic microsurgery group.

Meaning: An academic practice offers a strong starting point for new microsurgeons, and, with the right vision and strategy, can lead to a rewarding career.

hypotheses for clinical studies and the opportunity to generate quality improvements for the surgical team. We also recommend using patient-reported outcome measures (PROMs) at the outset of practice, starting with baseline measures obtained in the clinic consultation. The Q portfolio is an excellent resource for PROMs, and beyond the well-known BREAST-Q module, microsurgeons would benefit by using LIMB-, LYMPH-, WOUND-, and SCAR-Q modules to name a few. Obtaining consistent baseline pre-operative data at the start of practice is critical for performing high-quality PROM analysis. It should also be noted that with ever-increasing cybersecurity threats to both private and academic enterprises, data security is critical for these online databases. Industry best practices including avoiding sensitive data on personal devices, password protected computers, hard drive encryption, and active security surveillance at the institutional level are critical.^{8,9}

SUSTAINABILITY

After establishing the system for success in an academic practice, long-term focus should be on sustainability, longevity, and personal satisfaction. The use of co-surgery models in microsurgery is an effective tool in helping share the strain of long microsurgical procedures, and thus limiting the individual strain. We have demonstrated shorter operative times, reduced complication rates, and shorter length of stay with the addition of a co-surgeon.^{10,11} The efficiency gained through co-surgery prevents surgeon exhaustion and allows more time for aesthetic inset and refinement.¹² Beyond these benefits, there are intangible benefits with a co-surgeon. These include a dependable second opinion with difficult problems, opportunity for brainstorming technical innovation, a partner to share the load when crises arise, and a more enjoyable operating room environment. Despite these advantages, certain payers may not recognize the work of co-surgeons. In these situations, surgeons can consider splitting bilateral cases into two unilaterally performed cases. For first-year surgeons in their case collection period, ABPS guidelines only allow for the primary surgeon to log cases for oral examination review.

Once the practice volume is optimized, a co-surgeon system is in place, and reliable outcomes are achieved, surgical trainees flourish. At our institution, bilateral breast reconstruction cases are performed simultaneously, and in consecutive manner, allowing for four to five surgical

trainees to gain experience in critical portions of the procedure.¹³ Our practice routinely allows the trainee autonomy for level-based portions of the procedure. A high-volume, reliable process allows for trainee involvement in every component of the case, and can be done safely and effectively for patients.¹⁴ Educating residents from the start of training until graduation is gratifying, allowing the addition of enthusiasm and often creativity.

A PRECIOUS RESOURCE

One of the most rewarding elements of academic practice is the stimulation of working with bright and motivated plastic surgery residents. The curiosity of the inquiring resident requires faculty to stay current and teach the latest techniques.¹⁵ The educational environment created by this relationship quickly hones the skillset of new faculty, and leads to personal fulfillment as residents progress to independent practice. It is no surprise that a plastic surgeon's career satisfaction is positively associated with teaching residents in a group setting.¹⁶ However, effective education is not without challenges. The demands of clinical productivity within academic practice can place a strain on dedicated time for teaching. Additional challenges include a lack of trainee consistency with resident rotation schedules, differences in learning curves, and practice variances.¹⁷ One way to answer these challenges is through standardization of patient care through all perioperative phases. Within our practice, all residents use standardized templates for discharge instructions for all major procedure types, as well as a standardized ERAS protocol for inpatient orders. Intraoperatively, instrument trays are standardized between faculty, and recipient and donor sites have identical Mayo stand setups for every case. We have previously described our step by step process for DIEP flap reconstruction.^{12,18} As residents progress through training, they are expected to take on more complex steps of the procedure with close supervision. This allows residents to rotate off and on service with minimal interruption and "relearning" of the practice and procedures of the service.

We also use a midlevel provider to assist with continuity of care in light of resident rotation schedules. This allows consistent management of floor patients and provides timely response to patient needs while residents are scrubbed in. Using a midlevel improves the operative experience for junior residents as well as the patient experience during admission.

SAFETY IN NUMBERS

The collective volume of a busy academic microsurgery group affords many protections to each surgeon. In an era of increasing and unforeseen threats to physician reimbursement, academic medical centers may have an advantage in negotiations with payors. Insurance contract negotiation at the institutional level is far more effective than what can be achieved by any individual surgeon.¹⁹ Microsurgeons are also able to leverage their value to the medical center by demonstrating reduction in length of stay for complex wounds, as well as facilitating the work of other specialties including surgical oncologists, radiation

oncology, and imaging services. A few plastic surgeons have achieved the highest level of institutional leadership, and their example can be followed.²⁰

Finally, the milieu of an academic environment spurs innovation and hones surgical skill. The competition for promotion encourages innovative clinical care, research, and education. The proximity to surgical trainees, basic scientists, and other world class specialists forces microsurgical faculty to remain current with the latest advances in the field.

CONCLUSIONS

Success and sustainability in an academic microsurgery career are possible with the proper mindset and planning. The rewards of a thriving practice, solving research questions, and training the next generation of plastic surgeons are immense. We should encourage the best and the brightest in our field to look no further than academic microsurgery.

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DISCLOSURE

The authors have no financial interest to declare in relation to the content of this article.

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