The Impact of Regulation on Resident International Experiences: A Multispecialty Review of Current ACGME and RRC Standards for International Electives

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OBJECTIVE: Partnerships between industrialized and nonindustrialized institutions have accelerated the growth of surgery and surgical subspecialties in the developing world. The results of these partnerships include qualitive and quantitative clinical benefits as well as unique opportunities for the development of resident clinical and surgical skills. Surveys demonstrate surgical residents have a strong interest in international humanitarian work. Ultimately, the opportunities for residents to participate in international work as a program elective are subject to the regulations of the Accreditation Council of Graduate Medical Education (ACGME) and the Residency Review Committees (RRC) that govern residency accreditation. The regulations from accreditation bodies serve to ensure resident safety and educational value; however, excessive regulation can be a major hurdle to programs initiating international electives. Though the regulations are publicly available there is no comparison of various subspecialty standards in the literature. Nor is there a review of how standards affect resident education and safety or the ability for individual residencies to initiate international electives.

METHODS: The regulations as defined by the ACGME and RRC of 7 surgical specialties (general, plastics, neurological, otolaryngology, ophthalmology, orthopedics, and urology) were reviewed from the available data on the ACGME website.

RESULTS: The regulations demonstrate a great deal of diversity in how the specialties regulate international work. On one end of spectrum, 2 programs have robust guidelines and an approval process that ultimately allows residents to claim credit for cases performed internationally. On the other end, the regulations for some programs make little mention of international rotations other than to deny that cases be counted for credit.

CONCLUSIONS: ACGME regulations have a strong effect on resident experiences while training internationally. Ideally, regulations should ensure resident safety and education without being overly cumbersome and preventing smaller programs from developing international electives. This would allow more residents access to the educational benefits available through meaningful international electives. Beyond the educational benefits, resident participation in international training creates a foundation for continued international work throughout their career. This could, in turn, increase the number of surgeons willing to travel internationally and bolster the development and consistency of international humanitarian e'fforts. (J Surg Ed 76:1588–1593. © 2019 Association of Program Directors in Surgery. Published by Elsevier Inc. All rights reserved.)

KEY WORDS: ACGME, RRC, Regulation, International, Training, Elective

COMPETENCIES: Patient Care, Systems-Based Practice

INTRODUCTION

Industrialized nations have experienced decades of rapid technological advances in the surgical field. As the industrialized world moves forward, the burden of cost and infrastructure leaves less wealthy countries without the same

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technological benefits. The technological dichotomy creates a divide between surgeons of industrialized and nonindustrialized nations which interferes with the reciprocal benefit of international collaboration.[1,2]

Multiple studies have shown the qualitative and quantitative benefit of industrialized nations working in humanitarian efforts with nonindustrialized nations.[3-5] At the same time, the resident trainees benefit from practicing in a foreign environment that forces them to develop clinical and technical skills.[1,6-9] Furthermore, the experience would build their understanding of how to address international healthcare needs with a systems-based practice mentality.[1,7,8,10]

More recently there has been a realization of the need for consistent humanitarian programs rather than short-term surgical trips. This includes ensuring appropriate postop care, continued education of the local practitioners, and regular updates with available techniques over time.[4,7,11,12] Including international electives in early training potentially fosters interest in international work that could span the career of a surgeon. Ultimately, this could generate the physician workforce necessary to create sustainable programs.

Coincident with the needs and educational opportunity of nonindustrialized nations is resident desire to pursue training abroad. Multiple studies have shown resident desire to train in a humanitarian capacity, even at the cost of vacation time and inability to count cases toward residency benchmarks.[8,13-15] Furthermore, multiple surgical specialties have put out calls to expand the presence of resident trainees in nonindustrialized nations.[1,3,6,8,9]

Thus, the stage appears set for international training of residents in nonindustrialized nations. However, despite the general agreement that these pursuits are a valuable idea, there is little agreement at the level of US residency governing bodies on how to regulate these experiences to ensure resident education and safety.

The purpose of this review is to examine the current landscape of Accreditation Council of Graduate Medical Education (ACGME) regulation of international rotations across the surgical specialties and discuss the impact these regulations have on current resident's ability to train safely and effectively in nonindustrialized nations.

ACGME AND RRC STRUCTURE

To understand the variation in regulations of international training a basic understanding of ACGME structure is useful. In the United States, the ACGME is an independent, not-for-profit organization that sets standards for US graduate medical education. In turn, they determine the accreditation status of a given program based on the compliance with the standards. For all specialties the ACGME provides a set of common program requirements that all residencies must comply with, for example the 80-hour work week. For each individual subspecialty there is a subcommittee known as the Residency Review Committee (RRC) that sets specific standards for each residency. The RRC is composed of rotating volunteer committee members predominantly from the respective specialty, but also a nonphysician member, and 2 nonvoting members. The committees are responsible for generating program requirements and periodically reviewing programs to determine accreditation status.

Each RRC publishes their specialty's accreditation standards online through the ACGME website. Other guidance is disseminated through a frequently asked questions (FAQ) document which is available alongside the accreditation standards on the website. The accreditation standards cover a wide variety of topics under the general categories of institutional support, personnel, resident appointments, educational program, resident and program evaluation, and learning and work environment. FAQ documents seek to clarify specific issues associated with regulations set in the accreditation standards.

The common program requirements for all residencies do not discuss international education or travel. Thus, any accreditation standards for international travel for resident education are set by the individual RRCs. Due to the independent nature of the RRCs the regulations from each subspecialty are generally diverse, despite similarities in obstacles and educational goals.

CURRENT GUIDELINES FOR SURGICAL SPECIALTIES

The accreditation standards were reviewed for: general, neurological, orthopedic, plastic, otolaryngology (ENT), ophthalmology, and urology. The standards are set forth in 4 different ways: Specific standards separate from the RRC program requirements including an application process, separate guidelines without an application, standards described in the RRC program requirements, and no standards described but issues addressed in the FAQ sheets (Table 1). No surgical specialty shares the exact same set of standards or application process.

A separate application process to establish an international postgraduate rotation is seen within the general, neurological, and plastic surgery specialties.[16-18] These represent the most robust standards among all subspecialties. The application process addresses several specific items that can be generally categorized into demonstration of educational value and resident protections.

Factors used in the application process to determine educational value of such rotations are detailed in

TABLE 1. Illustrating Methods of Disseminating Regulations and Basic Requirements for Length of Rotation and Potential for Counting Cases for Credit

	General Requirements						
	General	**Plastic**	**Neurological**	**Urological**	**ENT**	**Optho**	**Ortho**
Specific international rotation application process and guideline	X	X	X				
Separate guidelines without application				X			
International rotation standards in general program requirements					X	X	
International rotation discussed in FAQ only							X
Cases count for credit	X	X					
Minimum length of rotation	2 wk	≥5 d	1 mo				
Maximum length		3 mo		2 wk	1 mo	1 mo	

ENT, ear, nose, and throat surgery; Ortho, orthopedic surgery; Optho, ophthalmology.

Table 2. In brief, all 3 specialties require a description of educational rationale and goals, with additional details on the clinical scope and methods for assessment of goals. In addition to these basic elements neurological surgery also requires demonstration of an ongoing relationship with at least 2 prior visits by faculty, continued postsurgical care of patients by local practitioners, and local authority approval. Plastic surgery does require

TABLE 2. Comparing and Contrasting Specific Aspects of Residency Review Committee Application Process for International Rotations From General Surgery, Neurological Surgery, and Plastic Surgery

	Application Details		
	General	**Plastic**	**Neurological**
General Information			
Proof resident has license to practice in country	X	X	
Ineligible PGY years	1, 5		
Demonstration of ongoing relationship*		X	X
Clinical experience			
Educational rationale	X	X	X
Goals and objectives†	X	X	X
Description of clinical experience‡	X	X	X
Scope of practice	X		
Outpatient experience	X		X
Continuity of care plan			X
Continued care of patients by local practitioners			X
List of supervising faculty and qualifications	X	X	X (must be core faculty)
Appropriate infrastructure (anesthesia, radiology, critical care)			X
Local authority approval of site			X
Resident protections			
Statement of environment§	X	X	X
Proof of financial coverage‖	X	X	X
Letters of agreement and approvals			
Program letter of agreement with site	X	X	X
Program Director Review	X	X	X
Designated Institutional Official Review	X	X	X
Approval			
RRC	X	X	X
National society	X (ABS)	X (ABPS)	X (ABNS)

ABS, American Board of Surgery; ABPS, American Board of Plastic Surgery; ABNS, American Board of Neurological Surgery.

*Plastic — requires board certified faculty or preapproved physician attestation and supervision for first 2 rotations prior to local faculty supervision. Neurological — Requires 2 prior visits by program faculty prior to resident involvement.

†Goals and objectives: Statement of competency-based goals and objectives and method for evaluation.

‡Description of experience: Type (government, nongovernment, and private), operative volume, outpatient experience.

§Statement of environment: Housing, language, transport, safety, communication, educational resources, and web access.

‖Financial coverage: Travel, salary, health insurance, evacuation insurance, and malpractice insurance (plastics only).

vetting of the international site by approved sponsor site personnel, including at least 2 supervised rotations prior to supervision by the international physicians.[17] Neurological surgery goes a step further requiring the resident be fully supervised throughout their entire international rotation by a core faculty physician.[18] The definition of a core physician includes requirements of time, education, and qualifications that essentially necessitate a physician from the home institution act as the supervising physician.[19]

Allowing credit for surgical cases is another area under which specialties differ. General and plastic surgery, for example, do allow for cases performed internationally to be counted for credit. All other subspecialties do not allow cases to be counted for credit; including neurological surgery despite having the most stringent standards for demonstrating educational value among all subspecialties.

All 3 subspecialties with an application process required demonstration of adequate resident protections through standards including environmental and financial considerations. Exact coverage differs between specialties but items include adequate housing, travel expenses, health insurance, and malpractice insurance. See Table 2 for more detail.

Urology is unique in their regulation of international rotations. In 2018 the RRC released guidelines for international rotations that do not require any central submission or review. The guidelines are similar to the application process with a maximum rotation length of 2 weeks; however, the details focus on educational value and there is no language for resident safety while abroad.[20]

Two programs use the RRC program requirements to define regulations for international rotations, ENT, and ophthalmology.[21,22] The sections regarding international rotations are markedly shorter and less detailed than seen with the application processes or the guidelines sheet. ENT requires program director approval, continuity of institutional policies, and a 1-month limit. Ophthalmology limits rotations to 1 month and then uses the FAQ sheet to provide recommendations for completing regular didactics.

The most minimal standards are seen with orthopedic surgery where international rotations are only specifically addressed in the FAQ sheets.[23,24] Other than denying cases be counted for credit, orthopedic surgery additionally notes that the Review Committee should be informed by email of any plans for international rotations.

BALANCING REGULATION AND OPPORTUNITY – EDUCATION

The educational environment in a developing nation presents unique challenges and opportunities for the advancement of trainees. The clinical scope and methods used to provide surgical care in settings that lack advanced technology broaden the skills of a trainee. The lack of technology, however, can limit a trainee's access to resources for their education. Additionally, distant sites and limited time spent overseas complicate the ability to complete long-term follow-up. The programs with an application process for international rotations require solutions for these and other obstacles found with international rotations. Functionally, once the application process is completed, plastics and general surgery allow for counting of cases performed internationally. Neurosurgery stands alone as the subspecialty with a separate set of standards for international rotations but still does not allow for counting of cases for credit. It is unclear how subspecialties without specific standards for international rotations ensure educational standards are met. The default position by these specialties is to deny cases performed internationally be counted for credit. Not allowing cases to be counted for credit does not appear to discourage resident desire to perform international work as part of their training.[14,15] However, withholding case credit at an institutional level somewhat discredits the value of the experiences and skills that can be attained in nonindustrialized nations. This is in contrast to a body of literature across multiple specialties that demonstrate the potential value of international work.[2,15,25-28]

BALANCING REGULATION AND OPPORTUNITY – RESIDENT SAFETY

International training sites in developing nations may not have the same standards for safety in the hospitals and the surrounding city. Thus, the accreditation committees have a critical role in ensuring that international trainees have adequate protections to safely learn. Key components of the safety standards seen with plastic, neurological, and general surgery include financial protections for travel as well as evacuation insurance. These are particularly important considering that residents have a strong desire to do international humanitarian work. Thus, without appropriate guidelines a program may not consider the need for such protections or may find the cost prohibitive. This means a program that is not required to meet safety and protection standards could unintentionally place a resident at undue risk while on an international rotation.

RISKS OF OVERREGULATION

As discussed above certain standards are needed to ensure time spent internationally is productive and safe.

Overregulation, however, can create an environment where certain smaller departments are unable to establish international rotations. This leads to residents either missing out on educational opportunities only available outside of the United States or pursuing these opportunities independently. The primary example of this is the stipulation by neurosurgery that requires a core faculty oversee the resident for the entirety of their time spent overseas. Due to the definition of core faculty it essentially requires that a home institution faculty member take at least 1 month per year out of their schedule to work internationally. Beyond the loss of income for the individual faculty member there is also the possibility that a smaller department cannot afford the loss of productivity or loss of call coverage for that amount of time. Thus, a program may never establish an international rotation leaving a resident to pursue such experiences on their own. A resident-initiated trip may not provide an adequate educational experience but more importantly a trainee may not consider all the necessary components to ensure their safety while traveling for medical humanitarian work. Appropriate regulation through the ACGME and RRC could be an effective avenue to ensure resident safety and reduce the need for independent travel for international work.

CONCLUSIONS

Interest in international surgery is on the rise as many academic centers are now including global impact in their mission statement. That, combined with an increased societal awareness of social responsibility, is translating into growing interest in this area by medical trainees in all specialties. It behooves the established medical education system to promote these humanitarian endeavors while still overseeing their legitimacy and safety. The ACGME and respective RRCs provide a wide range of standards regarding international rotations. For some there is a notable lack of any regulations while others have a robust set of requirements to establish and continue an international experience in residency. Ideally, each specialty should develop regulations such that any international experience is of high enough quality to have the cases count for credit. Furthermore, the value of international education typically extends far beyond simply performing cases and adapting milestones to acknowledge nonprocedural value would be ideal, though notably challenging. Beyond education, the ACGME and RRC are likely in the best position to mandate a safe resident training environment while training internationally so careful drafting of standards to avoid underregulation or overregulation is key. In the last year, multiple subspecialties (urology, ophthalmology, and plastics) have updated or revised their international regulations. As the respective subspecialties work to improve their standards there may be an opportunity for the subspecialties to work together to make more uniform standards. Ultimately, it may be wise for the ACGME to provide general standards for resident protections while on international rotations. From that point the RRCs can continue to be responsible for the educational requirements and decisions on providing credit for any work done internationally. Effective regulations should ensure a positive international experience for each resident, in turn, cultivating continued international humanitarian work throughout their career.

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SUPPLEMENTARY INFORMATION

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