Transition to Practice: A Global Surgery Approach

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OBJECTIVE: To determine the feasibility of a global surgery setting for a transition to practice experience.

SETTING: A rural hospital in Malawi, Africa.

PARTICIPANTS: A recent graduate of a U.S. general surgery residency program.

RESULTS: Fellow performed 305 cases across the surgical disciplines with demonstrated improvements in operative ability.

CONCLUSION: The global surgery approach to transition to practice offers a unique opportunity to complement domestic training while providing critical assistance to communities with few surgical providers. (J Surg Ed ▮:▮▮▮-▮▮▮. © 2017 Association of Program Directors in Surgery. Published by Elsevier Inc. All rights reserved.)

KEY WORDS: global surgery, humanitarianism, surgical education, range of skills

ACGME COMPETENCIES: patient care, practice based learning

INTRODUCTION

Controversy exists regarding whether graduating general surgery residents are prepared for independent practice. Many graduating residents feel confident in their skills, but others feel they need additional training.[1] Board examination failure rates have increased and some residency and fellowship program directors do not believe graduating trainees are ready to practice independently.[2-4] This phenomenon is not isolated to general surgery.[5,6]

The response by the American College of Surgeons (ACS) has been multifaceted. Investigations, surveys and work groups have described several probable causes for the problem, some of which may be addressed by changing the structure of residency programs.[7] Transition to Practice (TTP) programs have been created to complement residency training. These programs are 1 year, fellowship positions with graded responsibility and increasing autonomy combined with dedicated, goal directed senior surgeon mentorship, and supervision.[8]

The purpose of this study is to evaluate the feasibility of a global surgery (GS) setting for a TTP experience. We hypothesize that this setting is conducive to the fulfillment of many of the guiding principles outlined by the ACS for TTP programs.

METHODS

A graduate of general surgery residency was invited to Malamulo Mission Hospital (MMH) to augment his training. The department of surgery agreed to provide appropriate, graduated supervision to enable the fellow to achieve confidence and competence in the care of a diverse array of pathology spanning the surgical disciplines in a GS setting.

The fellow completed residency training in July 2015. He passed the written and oral examinations required for certification by the American Board of Surgery. Due to the limited offerings of these exams, in August and October 2015, his arrival at MMH in rural Malawi, Africa could not practically be achieved until November 2015. The program was scheduled for the ensuing 12 months. The costs of this program were borne by the fellow.

The surgical department at MMH consists of 2 general surgeons and 1 obstetrician/gynecologist. Among them 1 general surgeon and the obstetrician/gynecologist are U.S. trained and certified by the American Boards of Surgery and Obstetrics and Gynecology, respectively. The other surgeon is certified by the College of Surgeons of East, Central and Southern Africa. There are no subspecialist surgeons or

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practitioners of other surgical disciplines (orthopedics, urology, otorhinolaryngology, etc.). The department trains general surgery residents through the Pan-African Academy of Christian Surgeons[9] and regularly hosts visiting general surgery residents from Loma Linda University.[10] There are occasional, short term (1-2 wk) visits by subspecialists 2 to 3 times per year. Additional details regarding the practice setting have been previously published.[11]

The fellow was responsible for resident supervision and teaching on ward rounds, in outpatient clinics and in the operating room. He participated in and led didactic and morbidity and mortality conferences. He received graduated supervision from the senior staff with appropriate autonomy as dictated by the pathology and his ability. After 1 month, the fellow began to take independent overnight and weekend call with a senior surgeon available by phone and with the ability to be physically present if needed.

The fellow's cases were electronically recorded in the ACS Surgeon Specific Registry. His operative ability pertaining to commonly encountered, index procedures was evaluated using the Zwisch scale. The Zwisch scale describes the supervision required to guide a trainee safely through a given procedure. The 4 categories, from most assistance to least, are show and tell, active help, passive help, and supervision only.[12] A numerical scale was assigned to each category. Scale of 1 indicates "show and tell" and 4 represents the "supervision only" category. The scale was administered to the principal mentor as index procedures were encountered during the beginning of the year, with most being encountered within the first 6 weeks. One evaluation was completed for each index procedure. During the last month of the year, the mentor re-evaluated the trainee with the same instrument, again generating 1 score per index procedure. A total of 2 evaluations were thereby completed for each index procedure, 1 at the beginning and 1 at the end of the year. An average, prescore and postscore was calculated for each surgical discipline.

RESULTS

The fellow participated in 305 cases during the 12-month period, 54% of which fall under what is contemporarily considered the purview of the general surgeon (Table 1). These included dozens of debridement and grafting procedures for burn patients, 12 inguinal hernia repairs with mesh, 13 hand-sewn enteric anastomoses, 9 thyroidectomies, and 2 parotidectomies. Twenty upper endoscopies were performed.

The remainder of the cases consisted of orthopedics (18%), obstetrics and gynecology (15%), urology (11%), and neurosurgery (1%) (Table 2). The most common orthopedic procedure was open reduction-internal fixation of long bone fractures (54%). Total abdominal hysterectomy was the most common gynecologic procedure (34%), and transvesical prostatectomy the most common urologic procedure (29%). The neurosurgical cases were 1 ventriculoperitoneal shunting and 1 encephalocele repair.

The fellow was cosurgeon, meaning operating with 1 of the 3 senior members of the department, for 91 cases (30%). These were largely within the first 3 months of the year. For 60 of the total 305 cases (20%), the fellow was assisted by a fourth-year general surgery resident from a U.S. residency program. The MMH residents consisted of a first and second year during the TTP year, and were first assistants on 103 of the cases (34%).

Pediatric patients, those less than 18 years of age, accounted for 21% of the series. A total of 19% of patients required multiple trips to the operating theater for ongoing

Table 1. Total Cases by Surgical Discipline

Discipline	Number of Cases
Total	305
General	165
Orthopedics	56
Obs/gynecology	47
Urology	35
Neurosurgery	2

Table 2. Total Cases Per Subcategory

	Number of Cases
General surgery	
Total	165
Skin, soft tissue, and breast	77
Abdominal	20
Alimentary tract	15
Endoscopy	26
HEENT	17
Thoracic	5
Vascular	5
Orthopedics	
Total	56
ORIF	30
MUA	11
Joint	8
Hand	5
External fixation	2
Obs/gynecology	
Total	47
Uterus	29
Cesarean section	10
Ovary/oviduct	5
Vulva	2
Vagina	1
Urology	
Total	35
Prostate	10
Scrotal/testes	8
Penis	6
Cystoscopy	6
Urethra	5

HEENT, head, eye, ear, nose, and throat; MUA, manipulation under anesthesia; ORIF, open reduction and internal fixation.