

## Are Surgical Progeny More Likely to Pursue a Surgical Career?

Scott Pinchot, M.D., Barbara J. Lewis, R.N., M.S., Sharon M. Weber, M.D., Layton F. Rikkers, M.D.,  
and Herbert Chen, M.D., F.A.C.S.<sup>1</sup>

*Clinical Science Center, University of Wisconsin, Madison, Wisconsin*

Submitted for publication January 8, 2008

**Background.** For nearly two decades, interest in general surgery has been declining among U.S. medical school graduates. Many factors appear to be important in a medical student's choice of a surgical residency and career. We hypothesized that previous exposure to family members who are surgeons would significantly influence a student's decision to pursue a career in surgery.

**Methods.** Since 2001, nearly 600 third-year medical students completing the general surgery clerkship were issued a pre- and post-clerkship survey. Responses were collected, retrospectively analyzed, and correlated to the 2001–2007 National Residency Matching Program match results.

**Results.** The response rate of students completing both surveys was 87% ( $n = 510$ ). Based on a numeric scale, surgical progeny (SP) indicated a significantly higher likelihood than nonsurgical progeny (NSP) of pursuing a surgical career/residency in the pre-clerkship period (SP mean,  $5.1 \pm 0.42$ ; NSP mean,  $3.7 \pm 0.11$ ;  $P = 0.0005$ ). Post-clerkship, SPs noted no more enjoyment from the surgical clerkship than NSPs (SP mean,  $7.2 \pm 0.25$ ; NSP mean,  $6.9 \pm 0.96$ ;  $P = 0.91$ ); furthermore, there was no difference in the percentage of students pursuing a surgical residency (categorical or surgical subspecialty) in the National Residency Matching Program match (SP, 12.5%; NSP, 12.7%;  $P = 1.00$ ).

**Conclusion.** These data suggest that previous exposure to a surgeon within the family positively influences a medical student's pre-clerkship interest in pursuing a surgical career. However, this interest is not sustained; SPs and NSPs match into surgical residencies at equivalent rates. Clearly, further

studies are needed to identify the factors responsible for this phenomenon. © 2008 Elsevier Inc. All rights reserved.

**Key Words:** surgical education; surgical progeny; medical student; clerkship; occupational following.

### INTRODUCTION

Contemporary trends in career choice by U.S. medical school graduates (USMDs) have varied greatly. Most significant is the recent decrease in the percentage of graduating medical students choosing a career in general surgery as reflected in the National Residency Match Program (NRMP) data. Interest in general surgery peaked in 1981, when 12.1% of USMDs selected it as their first choice of specialty [1]; just two decades later, this number had decreased to 6.5% in 2005 and 5.1% in 2007 [2, 3]. This declining trend has important implications for the U.S. surgeon workforce, prompting Grosfeld *et al.* [4] to conclude “the need for an increase in surgeons is becoming acute” and “a shortage of surgeons exists and is becoming a limitation to optimal health care of the public.” With the number of general surgery trainees completing residency unchanged and the population growing faster than physician output, it is estimated that the surgeon-to-population ratio is now 5.0/100,000, down from 7.1/100,000 just 10 years ago [4].

Multiple, complex factors are believed to influence medical student specialty choice, including lifestyle considerations, operative exposure, income potential, and surgical clerkship experience [1, 5–8]. More recently, several studies have shown that positive role models in medical education not only facilitate learning but significantly influence medical student specialty choices [9–12]. Commonly identified sources of role models are varied. While surgical faculty have traditionally been identified as the most significant

<sup>1</sup> To whom correspondence and reprint requests should be addressed at H4/750 Clinical Science Center, University of Wisconsin, 600 Highland Avenue, Madison, WI 53792. E-mail: [chen@surgery.wisc.edu](mailto:chen@surgery.wisc.edu).

role models, recent literature suggests that residents also possess qualities essential to being an outstanding mentor [10, 11]. Interestingly, in a recent survey of United States high school students, nearly half of all teens surveyed responded that their primary role model was a family member, while only 9% of students identified a teacher or educator as a role model [13]. No study to date has identified the importance of exposure to surgeons at home and its effect upon medical student specialty choice. We hypothesized that previous exposure to family members who are surgeons and/or surgical subspecialists would significantly influence a medical student's decision to pursue a career in surgery.

## METHODS

All third-year medical students at the University of Wisconsin are required to complete an 8 wk surgical clerkship comprised of 4 wk of general surgery and 4 wk of surgical subspecialties. During the 2001 through 2006 academic years, comprehensive surveys were administered to medical students prior to and immediately following the completion of the third-year surgical clerkship. Students were assured that their responses would be confidential, and retrospective analysis of each survey was withheld until each student had completed the third-year of medical school.

The pre-clerkship survey was composed of questions regarding the student's demographic information and any previous exposure to physicians, surgeons, or surgical subspecialists in the family. Family members considered significant for this study included parents, grandparents, siblings, aunts/uncles/cousins, and spouses/partners. The likelihood of pursuing a career or residency in general surgery or a surgical subspecialty was requested; student responses were based on a numeric scale (1 = not very likely; 10 = very likely) (Fig. 1A). Several medical students who expressed a significant interest in a surgical subspecialty (i.e., 10 = very likely) ranked their corresponding desire to pursue a general surgery career quite low (i.e., 1 = not very likely). To address this reporting anomaly, a "highest answer" category was included in the analysis of pre-clerkship data; in other words, the higher score between the two categories was selected and tabulated in the "highest answer" column.

After completion of the 8 wk surgical clerkship, students were asked to complete a post-clerkship survey. Students were asked to provide information on which general surgery service and surgical subspecialty service they had rotated and to rate their overall enjoyment with these rotations. Student responses were based on a numeric scale (1 = "I hated it"; 10 = "This is the best rotation EVER!"). Additionally, based on their experience during the surgical clerkship, students were asked whether they were more or less likely to pursue a general surgery or surgical subspecialty residency following the clerkship. The influence of several factors, such as faculty and patient interactions, cases observed, and hours spent on rotation, were assessed with regard to increasing or decreasing student interest in surgical careers (Fig. 1B).

Pre-clerkship and post-clerkship survey responses were compared to students' residency choices elicited from the NRMP data. For purposes of this study, students were categorized into those entering a categorical general surgical residency, surgical subspecialty residency, or nonsurgical residency. Preliminary surgery, neurosurgery, otolaryngology, orthopedic surgery, plastic surgery, and urology residency positions comprised the surgical subspecialty residency group. For purposes of this study, ophthalmology and obstetrics/gynecology were not included as a surgical subspecialty. Statistical significance between variables was determined by analysis of vari-

ance and Fisher's exact tests. All data analysis was conducted with the use of SPSS ver. 10.0 software (SPSS, Inc., Chicago, IL).

## RESULTS

Overall, the response rate of students completing both the pre-clerkship and post-clerkship surveys was 87% ( $n = 510$ ); 51 students who completed the pre-clerkship survey failed to complete the post-clerkship survey after their surgical clerkship, and 22 students completing the post-clerkship survey did not complete the pre-clerkship survey prior to the initiation of the clerkship.

### Demographics of Students Entering the Third-Year Surgical Clerkship

A total of 561 third-year medical students completed the pre-clerkship survey prior to beginning their surgical clerkship. The majority (58%) of medical students were 25 to 29 years old; 32% of students were 20 to 24 years old, 9% of students were 30 to 39 years old, and 1% of students were  $\geq 40$  years old. Most students identified their marital status as single (60%); 22% of students were married, 17% of students were involved in a significant relationship, and only 1% of medical students were divorced. Over 90% of medical students did not have children; the remaining 10% of students noted having between 1 and 5 children. The majority of students had completed a bachelor's degree (B.S. or B.A.) prior to medical school (95%); an additional 7% of students had completed a Master's degree, Ph.D. or J.D. prior to matriculating into medical school.

### Pre-Clerkship Likelihood to Pursue a Surgical Residency or Career

Overall, 9% ( $n = 48$ ) of medical students surveyed in the pre-clerkship period indicated the presence of a surgeon in the family (surgical progeny [SP]). Demographically, there were no statistically significant differences between third-year medical students identified as SP and those students who did not have a surgeon in the family with respect to age, marital status, number of children, and education level. When asked about the likelihood of pursuing a surgical residency or career, students identified as SP indicated a much greater desire than students from families without a surgeon to pursue a career in either general surgery or a surgical subspecialty. These results achieved statistical significance ( $P = 0.049$ , general surgery;  $P = 0.0007$ , surgical subspecialty;  $P = 0.0005$ , "best answer") (Table 1).

### Post-Clerkship Survey Data

Of 532 third-year medical students completing a post-clerkship survey, 44 students (8%) were identified as SP. After the clerkship, SP noted no more enjoyment

Download English Version:

<https://daneshyari.com/en/article/4304278>

Download Persian Version:

<https://daneshyari.com/article/4304278>

[Daneshyari.com](https://daneshyari.com)