

Surgical Practice and Perceived Training Needs of Selected Ohio Family Physicians

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This study was performed to determine, relative to Ohio, what percentage of family physicians are actively involved in providing surgical care, what types of surgical care are provided, and what variations exist in opinions and practices regarding surgery related to previous training and practice location. Data were collected from active members of the Ohio Academy of Family Physicians; usable returns were secured from 76 percent of the members.

Several conclusions were made. Overwhelming percentages of family physicians in Ohio are actively involved in providing surgical care. A considerably greater percentage of family physicians are actively involved in performing minor surgery compared with major surgery, although they perform a wide range of minor and major surgical procedures at relatively high frequencies. Over the years, however, there has been a decrease in performance of major surgery on the part of family physicians in Ohio. Issues related to surgery in family practice are more positively influenced by being in a rural practice rather than an urban or suburban practice, having had more surgical training, and having had family practice residency training. Family physicians in Ohio definitely think that surgical training should be included in family practice training programs, and they think that the surgical training should be balanced between a curriculum standardized for all residents and one individualized to the anticipated future practices of the residents.

The role of surgery in the training of family physicians has been debated since the earliest discussions regarding specialty status for family physicians. Largely as a result of this debate, a resolution to form this new specialty was rejected by the 1962 House of Delegates of the American Academy of General Practice.¹

Periodically, the leadership of the American College of Surgeons has questioned the qualifications of family physicians to perform any surgical services.² In 1979 this organization expelled a Nebraska member for delegating postoperative care to a local family physician after he had performed surgical procedures in outlying communities.

In studies of family practice graduates, Ciracy et al,³ Mayo et al,⁴ and Geyman et al⁵ found varying levels of surgical practice. However, a consistent 17 to 20 percent of graduates felt their programs left them inadequately prepared for in-office surgery, and 30 to 50 percent felt unprepared for the care of fractures that they ultimately would be required to provide.

Clinton et al,⁶ in a survey of American Academy of Family Physicians (AAFP) membership, did not specifically report the percentage doing office surgery, but did find that 50 percent of the members aged 40 years or over provided fracture care, while 56 percent aged less than 40 years did so. They also found a difference depending on American Board of Family Practice (ABFP) diplomate status; 56 percent who were ABFP diplomates provided such care, whereas 44 percent who were not ABFP diplomates did. In a study of graduates of their residency program, Zervanos and Stone⁷ found that graduates spent 5 percent of their clinical time in surgical practice. Gaede et al⁸ found that 6.2 percent of US Air Force family practice graduates reported being unprepared for performance

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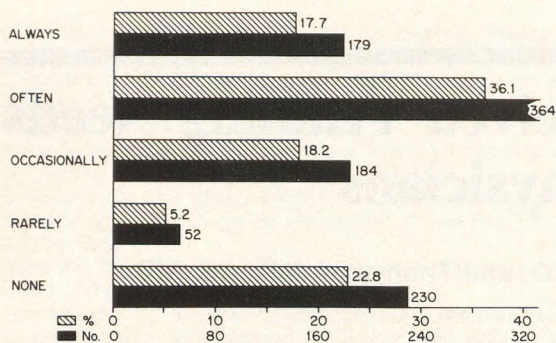


Figure 1. Percentage of respondents by frequency of preoperative care provided

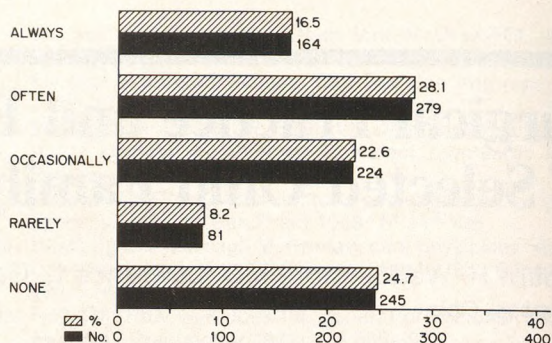


Figure 2. Percentage of respondents by frequency of postoperative care

of office surgery and procedures, and 51.7 percent reported being unprepared for fracture care.

These studies document the significant role of family physicians in the surgical care of their patients. It has also been indicated that family practice residency graduates are agreed that improvement in certain surgical areas of their training is indicated. This competency conceivably is more important today than in the past because the success of future family practice graduates must be achieved in a more competitive environment. If past experience holds true, this more competitive environment will result in the creation of higher standards, which will certainly have an impact upon the educational needs of family practice residency programs.

This study was performed to identify in greater detail the surgical practices of Ohio family physicians and in the hope that it might serve as a guide to residency directors developing an appropriate surgical curriculum.

METHODS

After a review of the literature and a series of discussions with a variety of physicians, a questionnaire was developed to seek information regarding demographics, type of practice, past and present surgical procedures, surgical training, and opinions about current surgical training of residents. In April 1980 the questionnaire was mailed to the 1,474 active members of the Ohio Academy of Family Physicians with a cover letter describing the study. Additionally, a postcard and a stamped, addressed return envelope were included in the mailing. The postcard identified the respondents and allowed the investigators to maintain confidentiality of the respondents in that they were requested to return the unsigned questionnaire

and the postcard separately. This procedure permitted a follow-up mailing in June 1980 to those physicians who did not respond initially.

The first mailing produced 834 responses; the follow-up produced 236. After excluding 72 physicians whose responses indicated retirement or out-of-state relocation, it was determined that 76 percent of the members of the Ohio Academy responded to the survey (n = 1,070).

RESULTS

CHARACTERISTICS OF RESPONDENTS

The mean age of the respondents was 52.6 ± 13.0 years. The majority (53.3 percent) had graduated from medical school between 1941 and 1960. The average number of years in medical practice was 24.9 years with an average of 20.7 of these years in the current practice. A suburban practice was reported most frequently (37.4 percent), followed by urban (32.3 percent) and rural (20.9 percent); the remaining 9.4 percent reported some combination of practices. Regarding practice profiles, the greatest percentages (38.1 percent) were devoted to older adults (31 to 70 years); younger adults (18 to 30 years) followed (23.3 percent), with geriatrics and pediatrics being nearly equal (21.1 percent and 17.1 percent, respectively).

Regarding training for practice, most respondents participated in a rotating internship (37.6 percent) or a rotating internship plus other types of postgraduate training (36.3 percent). Only 12.7 percent of the respondents reported having had a family practice residency training program. On the average, the respondents reported 5.5 months of postgraduate training in surgery. The majority (59.9 percent) reported six months or less of surgical training with approximately one fifth reporting no surgical training.

AMOUNT AND TYPE OF SURGICAL CARE PROVIDED

Overwhelming percentages of respondents reported participating in surgical care of some variety. Preoperative care was provided by 76.5 percent of the respondents and postoperative care by 74.7 percent. Performing minor surgery was reported by 87.5 percent. Involvement in major surgery, as might be anticipated, was less: 42.5 percent reported assisting in major surgery, while 27.7 percent said they currently performed major surgery. The levels of preoperative care provided by these physicians are reported in Figure 1, while in Figure 2 the same information is provided for postoperative care. The average numbers of selected surgical procedures performed per year are listed in Table 1.

ATTITUDES TOWARD SURGICAL TRAINING

Respondents indicated their perceptions of the adequacy and appropriateness of their surgical training for their present practices; it was deemed adequate by 82.7 percent and appropriate by 85.9 percent. Nearly all respondents (94.4 percent) reported that surgical training should be an essential part of a family practice residency program, and of these, nearly one half recommended that the training be individualized to the anticipated practice of the resident. However, over one third (34.1 percent) thought that surgical training should be standardized for all residents. No matter how the curriculum is organized, an average of 7.5 months of surgical training was recommended for a family practice resident.

INFLUENCE OF PHYSICIAN CHARACTERISTICS

To determine whether physician characteristics (age, total years of practicing medicine in current medical practice, and length of own surgical training) are systematically associated with the physician's involvement in surgical care, point-biserial correlations were computed. These correlations permit the determination of the strength of a relationship between continuous variables, such as age and years in medical practice, and dichotomous variables, such as the presence or absence of involvement in particular forms of surgical care.

These correlations revealed that younger physicians, in relation to older physicians, were more likely to perform significantly more minor surgery ($r = -.17$), assist in more major surgery ($r = -.09$), provide more postoperative care ($r = -.09$), and think that surgical training for family physicians is essential ($r = -.06$). Physicians who reported that they had a longer period of surgical training were more likely to perform minor surgery ($r = .08$) and major surgery ($r = .14$),

TABLE 1. AVERAGE NUMBER OF SELECTED SURGICAL PROCEDURES PERFORMED PER YEAR

Procedure	Number
Forceps delivery	66.4
Lacerations	61.5
Anoscopic surgery	51.7
Skin lesion	49.3
Tonsillectomy and adenoidectomy	48.1
Warts	46.5
Proctosigmoidoscopy	45.8
Tubal ligation	36.6
Dilatation and curettage	35.8
Fractures	33.6
Appendectomy	31.4
Vasectomy	29.8
Hysterectomy	29.7
Circumcision	27.6
Hernia, inguinal	25.8
Skin tumor	25.8
Abscess	25.1
Skin biopsy	20.4
Abortion	20.3
Cesarean section	19.4
Myringotomy	16.4
Ingrown toenail	16.2
Cholecystectomy	14.7
Subungual hematoma	14.1
External hemorrhoid	12.4
Breast biopsy	10.1
Umbilical repair	8.8

assist in major surgery ($r = .15$), provide postoperative care ($r = .06$), and think that surgical training should be an essential aspect of residency training ($r = .06$). While these associations are all statistically significant at a probability level of .05 or less, they may not be meaningful because of small magnitudes. Thus, the most reasonable interpretation of these results would be that these physician characteristics have only a small effect on whether physicians provide preoperative or postoperative care, perform minor or major surgery, assist in major surgery, or think that surgical training is essential.

RURAL VS NONRURAL DIFFERENCES IN SURGERY PRACTICE AND TRAINING

To examine differences between rural and nonrural physicians regarding involvement in surgical care and attitudes toward surgical training, responses from the 221 family physicians who indicated their practices were in rural areas were compared with the responses of the 736 physicians who indicated they practiced in either urban or suburban settings. Physicians who indicated they practiced in some combination of these locations were not included in these comparisons to provide as clear an examination of these issues as

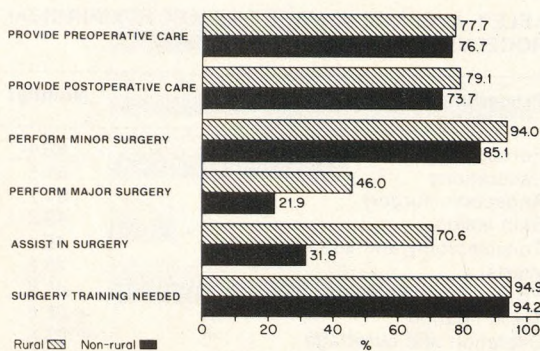


Figure 3. Comparison of rural and nonrural physicians on selected variables

possible. Given that more rural communities generally have access to fewer health facilities and specialists, it was anticipated that family physicians in rural areas would be more active in providing surgical care to their patients. These comparisons are presented in Figure 3.

Rural practitioners did indeed report being more active in surgical care than did their nonrural colleagues. Results of chi-square analyses indicated that rural physicians reported performing significantly more ($P \leq .01$) minor surgery and major surgery as well as assisting in more major surgery. Differences in preoperative and postoperative care and attitudes toward the necessity of surgical care favored rural physicians but were not large enough to reach statistical significance.

EFFECT OF TYPE OF PRACTICE

Point-biserial correlations were computed for respondents' reported practice of surgical care and their attitudes toward surgical training with the percentage of the respondents' practice devoted to pediatrics, younger adults, older adults, and geriatrics, respectively. Results indicated that the respondents who devote a larger proportion of their practice to pediatrics, on the average, perform significantly more minor surgery ($r = .19$) and major surgery ($r = .11$) as well as assist more in major surgery ($r = .17$). On the other hand, physicians who devote more of their practices to older adults (aged 31 to 70 years), on the average, reported performing significantly less minor and major surgery ($r = -.09$ for both) as well as assisting less in major surgery ($r = -.11$). It should be noted again that the effects of these relationships are relatively small and reach statistical significance primarily as a result of the large number of physicians responding to the survey. Finally, the proportion of practice devoted to either younger adults or geriatrics was not systemati-

cally related to surgical practice. Neither preoperative nor postoperative care nor attitudes toward surgical training were systematically related to type of practice.

EFFECT OF RESPONDENTS' TRAINING

It was possible to divide the respondents by their report of their own formal postgraduate training regarding family practice. Approximately 134 respondents reported having formal family practice training; approximately 110 reported having only some formal family practice training, and approximately 770 reported no formal family practice training (Table 2).

Formal family practice training had a significant statistical effect on whether the respondents reported performing selected procedures (Table 2). Regarding selected procedures, having had formal family practice training had a statistically significant effect on performance of five specific procedures. However, the reverse trend was true regarding performance of one procedure; this was tonsillectomy and adenoidectomy.

DISCUSSION

The results of this study demonstrate several points regarding the characteristics of the respondents. By and large, the investigators think that these points can be generalized to the entire membership of the Ohio Academy of Family Physicians because of the large response rate (76 percent).

With regard to personal characteristics, the physicians' age range is skewed toward 51 to 60 years. This skew probably reflects the consequences of the recent advent of family practice residency programs. No matter what the age, it would appear that family physicians tend to remain in practice in the location where they began practicing medicine.

Given the highly industrialized nature of Ohio, most of the populace is concentrated in urban or suburban areas rather than rural areas. Therefore, the distribution of practice settings seems quite representative of the population distribution within the state. Regarding the percentage distributions of these practices to the various age groupings, geriatrics seem disproportionately low. This lower percentage of elderly most likely reflects the geriatric group's being defined as 71 years or older.

Given the age distribution of the physicians, that most had only a rotating internship or a rotating internship and other partial residencies is not surprising. The percentage who had taken their training only in family practice residency programs is representative, given the existence of these programs for only about 15 years. No matter what type of postgraduate training,

TABLE 2. PERCENTAGE OF RESPONDENTS PROVIDING TYPE OF CARE AND SELECTED MINOR AND MAJOR PROCEDURES (n = 1,070)*

Care/Procedure	Statistically Significant**	Probability	Family Practice Training (n = 134)	Some Family Practice Training (n = 110)	No Family Practice Training (n = 770)
Type of care					
Preoperative	No	.535	77.6	80.4	75.7
Postoperative	No	.657	78.2	74.8	74.5
Minor surgery	Yes	.002	96.2	90.1	85.6
Major surgery	No	.831	28.4	25.2	27.9
Selected procedures					
Incision and drainage of abscess	Yes	.043	94.7	90.7	87.5
Treatment of warts	Yes	.003	93.0	88.9	82.4
Anoscopy	Yes	.002	78.6	66.7	62.6
Circumcision	Yes	.001	69.5	55.6	46.7
Lacerations	Yes	.001	95.4	88.0	80.4
Tonsillectomy and adenoidectomy	Yes	.003	0.0	6.4	7.9

*For each procedure the actual number was slightly less than 1,070 because of selective nonresponse

** χ^2 at $P \leq .05$

that nearly 60 percent report from 1 to 6 months of surgical training and 10 percent report from 7 to 12 months is an expected response.

The large percentages of family physicians who report involvement in preoperative care, minor surgery, and postoperative care confirm the important role played by family physicians in surgical aspects of medical care. Nearly one half of the family physicians assist in major surgery and over one fourth of them perform major surgery of some type. Again, this amount of care attests to their important role in the total care of the patient.

It is apparent that family physicians perform a wide range of minor and major surgeries. Given selected procedures, these procedures are performed with considerable frequency, ranging from more than one each week to one every six weeks.

The family physicians perceived their surgical training to be both adequate and appropriate. They definitely consider surgical training as being important and essential to the current training of family physicians. Their recommendations regarding surgical training for most residents are interpreted to be a standard curriculum except for those residents who anticipate a unique type or style of practice. For these latter residents, the surgical training should be individualized. The average of 7.5 months of surgical training seen as appropriate for family practice residents closely parallels the amount of surgical training that the family physicians received themselves.

Although the relationships could be anomalies of the large sample size, it appears that younger family phy-

sicians are more likely than older family physicians to perform minor surgery, to assist in major surgery, to provide postoperative care, and to attest to the importance of surgical training of family physicians. This finding seems most logical in that these younger family physicians were more likely to have trained in family practice residency programs. Likewise, family physicians reporting longer periods of surgical training were more likely to perform minor and major surgery, assist in major surgery, provide postoperative care, and attest to the importance of surgical training of family physicians.

Generally, rural family physicians reported being more active in surgical care than their urban and suburban counterparts. They were more likely to perform more minor and major surgery and assist in more major surgery. Although the finding was not statistically significant, they also tended to provide more preoperative and postoperative care and to affirm the necessity of surgical training of future family physicians.

CONCLUSIONS

Based upon the successful conduct of this study, the large response to the survey, and the results of the data analyses, several conclusions are possible:

1. Overwhelming percentages of family physicians in Ohio are actively involved in providing surgical care, be it preoperative, operative, or postoperative.
2. A considerably greater percentage of family physicians in Ohio are actively involved in performing

minor surgery compared with major surgery.

3. Family physicians in Ohio perform a wide range of minor and major surgical procedures at relatively high frequencies.

4. Over the years there has been a decrease in performance of major surgery on the part of family physicians in Ohio.

5. Issues related to surgery in family practice are more positively influenced by being in a rural practice, having had more surgical training, and having had family practice residency training.

6. Family physicians in Ohio definitely think that surgical training should be included in family practice training programs.

7. Family physicians in Ohio think that surgical training in family practice training programs should be balanced between a curriculum standardized for all residents and one individualized to the anticipated future practice of the residents.

8. Family physicians in Ohio, on the average, would recommend 7.5 months of surgical training in family practice residency programs.

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