

**TITLE:** RESIDENCY TRAINING FACTORS MINIMALLY PREDICT REGIONAL ANESTHESIA IN PRACTICE

**AUTHORS:** W. G. Horton, M.D., C. W. Buffington, M.D., and L. B. Ready, M.D.

**AFFILIATION:** From the Departments of Anesthesiology, The Mason Clinic, and The University of Washington School of Medicine, Seattle, Washington 98101

**Introduction.** To test the relationship between factors during training and the use of regional anesthesia in subsequent practice, we surveyed practicing anesthesiologists.

**Methods.** 225 practitioners trained in two programs committed to regional anesthesia were surveyed regarding variables describing themselves, experience with regional anesthesia during residency and their use of regional anesthesia in current practice. Responses were analyzed using multivariable regression (SPSS Version H).

**Results.** Responses from 108 practitioners were divided into 3 groups. Group A respondents completed more than 20 months of training at either Virginia Mason Hospital or the University of Washington Hospitals between 1970 and 1980. Group B respondents completed greater than 20 months of training prior to 1970 and individuals in Group C trained in either residency for less than 20 months. Use of regional anesthesia by Groups A, B and C during residency training and in subsequent practice is described in Table I. The mean Group A experience during residency and in practice for several representative regional blocks is presented in Table II. Multivariable regression analysis identified factors among all respondents which influence the proportion of regional anesthesia used in practice and the use of several specific regional block techniques. These associations are shown in Table III. Factors which failed to show a relationship to practice were the number of months of training at either institution, number of years since completion of training and ABA certification.

**Discussion.** For the total group of respondents, the proportion of regional anesthesia performed in clinical practice is significantly less than performed during residency. Blocks as axillary and spinal are employed frequently in practice while other blocks as intercostal and supraclavicular are used less often. Preference for a particular peripheral block may result from the influence of the training institution and the number of blocks performed. The proficiency an individual attains in practice demonstrates the strongest relationship to the continued use of a specific block.

**Conclusion.** Residents participating in two training programs committed to regional anesthesia at Virginia Mason Hospital and The University of Washington Hospitals perform proportionally more regional anesthesia than in many other programs. However, currently identified factors

TABLE I  
USE OF REGIONAL ANESTHESIA DURING RESIDENCY  
COMPARED TO USE IN SUBSEQUENT PRACTICE\*

	Residency		Practice	
	Total Cases	% Regional	Annual Cases	% Regional
Group A n = 50	1503 ± 82	42 ± 2	931 ± 53	31*** ± 2
Group B n = 33	1978 ± 213	34 ± 3	927 ± 63	26** ± 3
Group C n = 25	1374 ± 95	30 ± 3	750 ± 78	29 ± 3
All Resp. n = 108	1603 ± 79	37 ± 2	892 ± 37	29*** ± 2

\* Values are reported as mean ± SE  
\*\* Paired T test P < 0.05  
\*\*\* Paired T test P < 0.001

TABLE II  
USE OF REGIONAL BLOCK  
TECHNIQUES DURING  
RESIDENCY AND SUBSEQUENT PRACTICE

Technique	Residency	Practice
Spinal	191 ± 23	124 ± 12
Epidural	108 ± 11	34 ± 9
Intercostal	79 ± 12	21 ± 9
Axillary	40 ± 5	36 ± 4
Supraclavicular	37 ± 7	17 ± 4
Interscalene	6 ± 1	6 ± 2

Values are reported as mean ± SE for total during residency and annual use in practice.

TABLE III  
MULTIPLE REGRESSION ANALYSIS OF FACTORS  
INFLUENCING REGIONAL ANESTHESIA IN PRACTICE

BLOCK	# RESIDENCY	PROFICIENCY RESIDENCY	TRAINING INSTITUTION	AGE	PROFICIENCY PRACTICE	MULTIPLE CORRELATION COEFFICIENT (R <sup>2</sup> )
% Regional						0.15
Spinal	S			M		0.14
Epidural					S	0.09
Intercostal	M					0.28
Axillary	M			S(-)		0.18
Supraclavicular	M		S		L	0.53
Interscalene		M(-)		S	L	0.51

△ R<sup>2</sup>: 0.05 - 0.10 = S (small)  
0.10 - 0.20 = M (moderate)  
> 0.20 = L (large)

during training minimally predict the subsequent use of regional anesthesia in practice.

#### References.

1. Bridenbaugh LD: Are anesthesia resident programs failing regional anesthesia? Regional Anesthesia 7:26, 1982