

**Title:** MEDICAL STUDENT'S ATTITUDES TOWARD ANESTHESIOLOGY BEFORE AND AFTER ROTATION.

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**Introduction.** We asked third year medical students to rate anonymously their degree of agreement or disagreement with 15 potentially contentious statements about anesthesiology. Our intention was to determine overall attitudes toward anesthesiology, the effect of anesthesia rotation on those attitudes, and factors which determine whether a student will enter the field.

**Methods.** 227 students rated their agreement on a scale of 1 to 10 (1 indicating strong disagreement, 10 indicating strong agreement) with the following statements: 1. Anesthesiology is appealing because of the regularity and flexibility of work hours. 2. Anesthesiology requires little direct patient care and responsibility. 3. General anesthesia is more dangerous than most general surgical procedures. 4. Anesthesiology is primarily mechanical and requires little conceptual effort. 5. The Director of an intensive care unit should be an anesthesiologist. 6. Nurses can administer anesthesia as competently as physicians. 7. Anesthesiologists choose the anesthetic agent and technique used during surgery. 8. Anesthesiologists do not work as hard or as long as other physicians. 9. Anesthesiologists have exceptional knowledge of physiology and pharmacology. 10. Anesthesiologists make less money than most other physicians. 11. Anesthesiology is hazardous because of the gases used in the operating room. 12. The Director of a pain clinic should be an anesthesiologist. 13. It is difficult to obtain a residency appointment in a prestigious anesthesiology program. 14. The anesthesiologist is a leader of the operating room team. 15. I am considering a career in anesthesiology.

In order to avoid contamination from previous cognizance of the statements, individuals responded only before (127) or after (100) rotation. Gender was also designated (149 males, 71 females, 7 non-committed). Means and standard errors of responses to each question were computed and broken down separately for males and females, and for those who answered before vs. those who answered after rotation. In addition, the Spearman rank correlation coefficient (Rho) was computed between responses to statements 1-14 and responses to statement 15. The statistical significance of differences in responses between males and females, and between those who responded before vs. after rotation were assessed by the Mann-Whitney-U-Wilcoxon Rank Sum Test for ordinal data. Results for these differences, and correlations with statement 15, were considered significant at  $p < 0.01$ .

**Results/Discussion.** Table 1 lists mean  $\pm$  standard error and Rho with statement 15 (if significant) for each statement. Our results suggest the following primary conclusions: 1. With the exception of anxiety over the toxicity of anesthetic gases, there are no differences in attitude toward anesthesiology between males and females. 2. Although several of the correlations with statement 15 were statistically significant, and all such correlations were in the expected direction (i.e., negative statements about anesthesiology correlated negatively with intention to go into anesthesiology, positive statements correlated positively), the absolute magnitude of the correlations was low. This suggests that much of the impetus to become an anesthesiologist depends either upon attitudes not tested by our questionnaire, or upon attitudes and circumstances that are largely idiosyncratic. Surprisingly, neither regularity and flexibility of work hours nor financial remuneration appear to be significant conscious determinants of a desire to enter anesthesiology. 3. The effects of anesthesiology rotation were also, with the exception of responses to statement 6, in the expected direction but surprisingly modest. This finding indicates that medical students have, by their third year, substantially solidified their attitudes toward anesthesiology - which suggests that attempts to influence the attitude of students toward anesthesiology should be initiated early on in their medical education.

Table 1.

Statement	All (N=227)		Before (N=127)		After (N=100)	
	$\bar{X} \pm SE$	Rho	$\bar{X} \pm SE$	Rho	$\bar{X} \pm SE$	Rho
1	8.3 $\pm$ 0.1	*	7.9 $\pm$ 0.2	*	8.8 $\pm$ 0.2	*
2	4.0 $\pm$ 0.2	-.25	*	-.40	*	*
3	5.5 $\pm$ .2	*	*	*	*	*
4	2.9 $\pm$ .1	-.2	*	-.33	*	*
5	4.7 $\pm$ .2	+.22	4.0 $\pm$ .2	+.28	5.6 $\pm$ .2	*
6	3.7 $\pm$ .2	*	3.1 $\pm$ .2	*	4.4 $\pm$ .3	*
7	7.0 $\pm$ .2	*	6.6 $\pm$ .3	*	7.6 $\pm$ .3	*
8	6.2 $\pm$ .2	-.33	*	-.32	*	-.33
9	7.7 $\pm$ .1	+.21	7.3 $\pm$ .2	+.23	8.1 $\pm$ .2	*
10	2.8 $\pm$ .1	*	*	*	*	*
11	4.3 $\pm$ .2	*	*	*	*	*
12	6.7 $\pm$ .2	+.16	5.9 $\pm$ .2	*	7.8 $\pm$ .2	*
13	6.1 $\pm$ .2	*	*	*	*	*
14	4.0 $\pm$ .2	+.36	3.6 $\pm$ .2	+.32	4.7 $\pm$ .3	+.41
15	4.6 $\pm$ .2			*		*

All differences and correlations significant at  $p < 0.01$ .

\* = Not significant.