

TITLE: SOURCES OF STRESS IN BEGINNING ANESTHESIA RESIDENTS
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Introduction Stress in medical personnel at all levels of training and experience has been documented in a number of prospective and retrospective studies. Stress may be dealt with by dysfunctional coping mechanisms which may eventually lead to the one of ten physicians who becomes impaired at some point in his career. (1) We attempted to document causes of stress in beginning anesthesia residents, as a first step in planning an intervention program. We anticipated that most causes of stress are unavoidable, but the coping mechanisms could be taught or modified.

Methods CA 1 residents from three programs were tested in the first months of their training. The evaluating tool was "StressMap" (Essi Systems, 764 A Ashbury St., San Francisco, CA 94117), a self-scoring questionnaire which has been used extensively in industry and recently in the health care professions. There are 21 scales divided into four sections in the evaluative tool. Each scale is scored according to answers to several questions which pertain to that aspect of life. Part one explores the work and personal environment, part two allows the subject to evaluate his skills in managing stressful situations, part three measures thinking and feeling patterns that are used in managing stress, and part four explores symptoms that reflect difficulty in managing stress. Subjects scored themselves on each item, then mapped the scores on a grid which placed them in individual performance zones for each item. Each author summarized the scores obtained by the residents in his program, and the pooled results were summarized and averaged in order to identify the most common areas causing distress. None of the authors was aware of which "StressMap" came from which resident. After filling in the scoring grid, residents were given the accompanying workbook which allowed them to interpret their scores and think about ways to take action to improve their performance level.

Results Twenty residents participated in the study. Each resident's scores were coded according to the performance zone into which the score fell on the map. The Table describes the four zones, shows the number of residents falling in each zone, and the average zone for each scale.

Discussion These beginning anesthesia residents identified their major source of stress as the recent change in their work; and this was not surprising. More than half the residents were satisfied by their work, and not distressed by the pressures of their new jobs. Of greater concern was the identification of major stress in personal and family lives by more than half of the respondents, and specifically the lack of personal satisfaction. These findings agree with those of other studies identifying the causes of residents' failure. (2) While coping response scores were the highest of any section, half of the residents were not able to say they were control of their situations. Acknowledging an "external locus of control" has been cited as a basic predisposing factor for development of dysfunctional coping mechanisms. (3) The average scores for support seeking and time management were also less than optimal. The highest score on the StressMap for these

residents was achieved for adaptability, allowing optimism that these residents will be able to successfully continue their careers despite the stresses they encounter. With respect to thoughts and feelings which could be used to handle stress, these residents identified self esteem and compassion for others as their weakest assets. Lack of self esteem has frequently been mentioned as a cause for stress and contributing factor to chemical substance abuse among students and residents. (2,3) These residents had a very low incidence of physical symptoms, but some emotional symptoms at the time of the study.

Conclusions These beginning anesthesia residents identify their new jobs as the major source of stress in their lives, but are significantly distressed by their personal lives as well. This knowledge presents training programs with an opportunity to address residents' ability to cope with stress in a way that might allow the development of lifelong mental and physical health. Ongoing studies are evaluating the benefit of intervention in improving performance as measured by this tool as well as performance on the job.

SCALE	NUMBER OF RESIDENTS IN PERFORMANCE ZONE				AVERAGE SCORE
	1 Burnout	2 Strain	3 Balance	4 Optimal	
Part 1: Pressures in Environment					2.68
Work changes	10	5	5	0	1.75
Work pressure	1	3	6	10	3.25
Work satisfaction	2	4	6	8	3.00
Personal changes	3	4	8	5	2.75
Personal pressures	2	8	7	3	2.55
Personal satisfaction	6	4	5	5	2.45
Part 2: Coping Responses					2.95
Self care	1	5	6	8	3.05
Direct action	3	2	8	7	2.95
Support seeking	3	4	9	4	2.7
Situation mastery	1	9	7	3	2.6
Adaptability	0	2	5	13	3.55
Time management	2	4	9	5	2.85
Part 3: Thinking and Feeling Patterns					2.79
Self esteem	3	6	6	5	2.65
Positive outlook	2	5	8	5	2.8
Personal power	1	5	10	4	2.85
Connection	1	5	8	6	2.95
Expression	3	4	5	8	2.9
Compassion	2	8	6	4	2.6
Part 4: Signals of Distress					2.8
Physical symptoms	1	4	7	8	3.1
Behavior symptoms	2	3	12	3	2.8
Emotional symptoms	3	4	11	2	2.5

References

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2. Vitaliano, et.al. J Nervous Mental Dis 172: 730, 1984.
3. Linn & Zeppa. Journal of Medical Education 59: 7, 1984.