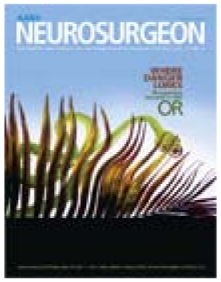
Bulletin: 2008 (Volume 17, Issue 1)

Feature

Stress and Burnout: Insidious Influences

By: Paul Klimo Jr., MD, and
William T. Couldwell, MD



(Click to view PDF)

A career in neurosurgery may take a substantial toll on an individual's body and mind. From the "baptism by fire" experienced by a brand-new junior resident, to keeping one's head above water as the residency proceeds, to the realization shortly after graduation of being responsible for the health and welfare of one's patients, and finally to the difficulties of lifelong challenges in patient care and administration, neurosurgeons are under continual stress that varies considerably among individuals and lasts for the duration of one's career.

Job-related stressors, in the broadest definition, are any process, task or environment that is directly related to or affected by neurosurgery and has the potential to create an unpleasant, negative physiological or psychological change within the individual. Stressors within neurosurgery are innumerable. They can be due to events that take place within the clinic or operating room (long hours, complications, complex cases), academic issues (publishing, promotion, continuing medical education), economics (billing, salaries), or medicolegal concerns (lawsuits). These stressors also can affect or be affected by domains outside of neurosurgery, such as maintenance of physical health, interests or hobbies outside of neurosurgery, and relationships with spouses, children, other family members and friends.

Surgeons in other disciplines have done a good deal of research into stress and burnout in their fields. In a landmark study, Harms and colleagues conducted interviews over a 25-year period with general surgeons who graduated from a single program (6). The interviews concentrated on serious health and practice issues that occurred after residency. There was a 21 percent postresidency divorce rate, major health issues occurred in 32 percent of all surveyed, and alcohol dependency was confirmed in 7.3 percent. In 50 percent of those age 50 or older, body mass index had increased to 26.6 kg/m from 23.9 kg/m at younger than age 40; however, only 10 percent reported a complete lack of weekly exercise activity, with 62 percent exercising at least three times per week, and 75 percent of surgeons surveyed were satisfied with their practice/career.

Job strain has clearly been associated with hypertension and cardiovascular disease, especially in men. Ohlin and colleagues found that men with baseline job strain had a significantly greater increase in both systolic and diastolic blood pressure, compared with the "relaxed" group that had low work demands and "high decision latitude" (14). High job strain also has been associated with progression of carotid atherosclerosis (3) and coronary heart disease. (1).

One of the consequences of the cumulative effect of stress is burnout. Burnout is a syndrome of lack of interest/enthusiasm for work (emotional exhaustion), a tendency to treat people as if they were impersonal objects (depersonalization), and a sense that an individual's work is not meaningful or important (low sense of personal accomplishment) (15). Burnout is associated

with an increased risk of medical errors, suboptimal patient care and reduced patient satisfaction. It also can spread into personal life and impact physician relationships and activities outside the professional domain, often leading surgeons to consider early retirement (4, 9, 12, 16, 17, 18). For example, Halbesleben and Rathert found that the depersonalization dimension of physician burnout was associated with lower patient satisfaction and longer postdischarge recovery time (5).

Kuerer and colleagues found a 28 percent burnout rate among surgical oncologists (10). Campbell and colleagues received responses from 582 actively practicing general surgeons and found a startlingly high percentage (32 percent) of physicians who admitted to having high levels of emotional exhaustion (2). Interestingly, younger surgeons were more susceptible to burnout, and burnout was not related to caseload, practice setting, or percent of patients insured by a health maintenance organization. Factors that were cited as causes of burnout included a sense that work was overwhelming; a perceived imbalance among career, family, and personal growth; perceptions that the career was unrewarding; and lack of autonomy or decision involvement.

Not surprisingly, there was a strong association between burnout elements and a desire to retire early. In a study of chairs of otolaryngology departments, high emotional exhaustion or depersonalization was correlated with low self-efficacy (belief about one's capability to produce effects), low spousal support, disputes with the dean, department budget deficits, working nights and weekends, Medicare audits, loss of key faculty, and being a malpractice defendant (7). In another survey of head and neck surgeons, 34 percent felt burned-out despite most respondents indicating that they enjoyed their work (8). Factors that were cited as contributing to burnout were the stress of extending working hours, dealing with severely ill patients and the increased need to deal with government and economic issues.

In fields in which the impact of high stress levels can have such profound effects, it is important to develop strategies to reduce stressors, or at the very least decrease the impact they have on the surgeon. Lee and colleagues found that mechanisms to cope with personal and job-related stress included eating nutritiously and exercising, spending time with family and friends, valuing relationships with patients, and participating in continuing medical education (11). Similarly, Shanafelt proposed a five-step process to promote personal job satisfaction (15):

1. Identify sources of greatest of professional motivation (goals).

2. Make critical appraisal of which practice type and setting provides the greatest opportunity to achieve these goals.

3. Become aware of and manage practice-specific stressors.

4. Achieve balance between personal and professional life.

5. Nurture personal wellness strategies.

Although no reports have dealt specifically with neurosurgeons and the effects of job-related stress, all of the stressors cited in other fields are common to neurosurgery. As a profession that has arguably one of the highest degrees of job-related stress, neurosurgery should begin to conduct similar research to determine how prevalent the effects of stress are and then propose ways to identify, cope with and overcome them. This knowledge could then be incorporated into residency training programs with the goal of encouraging and preserving the excitement that every junior resident feels as he or she enters a career as a neurosurgeon.

Paul Klimo Jr., MD, is a U.S. Air Force neurosurgeon at Wright-Patterson Air Force Base in Dayton, Ohio. **William T. Couldwell, MD, PhD**, is editor of *AANS Neurosurgeon* and chair of the Departement of Neurosurgery at the University of Utah School of Medicine, Salt Lake City, Utah. The authors reported no conflicts for disclosure.

References

1. Aboa-Eboule C, Brisson C, Maunsell E, Masse B, Bourbonnais R, Vezina M, et al: Job strain and risk of acute recurrent coronary heart disease events. JAMA 298:1652–1660, 2007

2. Campbell DA Jr., Sonnad SS, Eckhauser FE, Campbell KK, Greenfield LJ: Burnout among American surgeons. Surgery 130:696-702; discussion 702–705, 2001

3. Everson SA, Lynch JW, Chesney MA, Kaplan GA, Goldberg DE, Shade SB, et al: Interaction of workplace demands and cardiovascular reactivity in progression of carotid atherosclerosis: population based study. BMJ 314:553–558,1997

4. Haas JS, Cook EF, Puopolo AL, Burstin HR, Cleary PD, Brennan TA: Is the professional satisfaction of general internists associated with patient satisfaction? J Gen Intern Med 15:122–128, 2000

5. Halbesleben JR, Rathert C: Linking physician burnout and patient outcomes: exploring the dyadic relationship between physicians and patients. Health Care Manage Rev 33:29–39, 2008

6. Harms BA, Heise CP, Gould JC, Starling JR: A 25-year single institution analysis of health, practice, and fate of general surgeons. Ann Surg 242:520-526; discussion 526–529, 2005

7. Johns MM 3rd, Ossoff RH: Burnout in academic chairs of otolaryngology: head and neck surgery. Laryngoscope 115:2056–2061, 2005

8. Johnson JT, Wagner RL, Rueger RM, Goepfert H: Professional burnout among head and neck surgeons: results of a survey. Head Neck 15:557–560, 1993

9. Kent GG, Johnson AG: Conflicting demands in surgical practice. Ann R Coll Surg Engl 77:235–238, 1995

10. Kuerer HM, Eberlein TJ, Pollock RE, Huschka M, Baile WF, Morrow M, et al: Career satisfaction, practice patterns and burnout among surgical oncologists: report on the quality of life of members of the Society of Surgical Oncology. Ann Surg Oncol 14:3043–3053, 2007

11. Lee FJ, Stewart M, Brown JB: Stress, burnout, and strategies for reducing them: what's the situation among Canadian family physicians? Can Fam Physician 54:234–235, 2008

12. Lichtenstein RL: The job satisfaction and retention of physicians in organized settings: a literature review. Med Care Rev 41:139–179, 1984

14. Ohlin B, Berglund G, Rosvall M, Nilsson PM: Job strain in men, but not in women, predicts a significant rise in blood pressure after 6.5 years of follow-up. J Hypertens 25:525–531, 2007

15. Shanafelt T: A career in surgical oncology: finding meaning, balance, and personal satisfaction. Ann Surg Oncol 15:400–406, 2008

16. Shanafelt TD, Bradley KA, Wipf JE, Back AL: Burnout and self-reported patient care in an internal medicine residency program. Ann Intern Med 136:358–367, 2002

17. Shanafelt TD, Sloan JA, Habermann TM: The well-being of physicians. Am J Med 114:513–519, 2003

18. West CP, Huschka MM, Novotny PJ, Sloan JA, Kolars JC, Habermann TM, et al: Association of perceived medical errors with resident distress and empathy: a prospective longitudinal study. JAMA 296:1071–1078, 2006

Article ID: 51346