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Satisfaction and Sustainability in a Surgical Career

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Background

Surgery is an extremely rewarding career; however, it can also be emotionally and physically exhausting. There is increasing awareness of the tendency of physicians to become burned out during their careers. The goal of the keynote address at the 19th annual meeting of the American Society of Breast Surgeons in Orlando, Florida was to acknowledge the increased rates of burnout and decreased satisfaction with surgical careers, and identify ways to sustain satisfaction with a surgical career.

The focus of this manuscript and the keynote address is how to recognize burnout and what can be done about it. However, it is important to point out that while burnout is a significant problem, the majority of surgeons are satisfied with their careers. A 2008 survey conducted through the American College of Surgeons (ACS), yielding data from 7905 surgeons in both academic and private practice were surveyed to assess their satisfaction in their careers [1]. The good news is that most respondents would become a physician again, and would become a surgeon again. However, there is a difference in surgeons practicing in academic compared to private settings, (77.4% of academic surgeons would become a surgeon again vs. 64.9% for those in private practice; $P < 0.0001$). Another interesting gauge of how content we are with our careers is whether we would recommend our children become physicians. Although 70–80% of us say we would do it all again, only 61.3% of those in academic and 43.7% of those in private practice would recommend this career for their children.

Academic surgeons were also less likely to experience burnout compared to those in private practice (37.7% vs. 43.1%, (OR= 1.172, $P = 0.02$). These numbers are similar to what we see for all physicians, where there is close to 40 years worth of studies showing that burnout is common amongst physicians [2] [3]. Shanafelt et al. administered surveys to physicians from the American Medical Association Physician Master File in 2011 and 2014, yielding 7,288 and 6,880 responses, respectively. The data from these large surveys confirmed that burnout is common in physicians, and is experienced by those in all specialties, including surgery. The authors further compared the 2011 and 2014 cohorts and uncovered some concerning findings.

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They noted that 54.4% of the physicians reported at least one symptom of burnout in 2014, which was a significant increase when compared with 45.5 % in 2011 ($p<0.001$). Conversely, there was a decrease in career satisfaction between 2011 and 2014, from 48.5% in 2011 to 40.9% in 2014 ($p<0.001$). What is more alarming is that this increase in burnout and decrease in satisfaction appears to be something inherent to the physician career. Population control samples were also surveyed in 2011 ($n=3442$) and 2014 ($n=5392$) to compare to the physician cohorts. Results showed that in the general, working population rates of burnout remained stable. In the same timeframe, 2011–2014, that physician career satisfaction decreased, the general population actually gained fulfilment in their careers with 55.1% being satisfied in 2011 and 61.3% in 2014. These data suggest that there is something inherent about a career in medicine that increases the risk for burnout.

Although physicians in various specialties experience burnout to differing degrees, some specialties are at increased risk, including emergency medicine, general internal medicine, and neurology [4]. A meta-analysis of 16 studies of burnout amongst surgeons ($n=20,560$) shows that approximately 34% of surgeons experience burnout [5]. In 2006, Kuerer et al. administered an anonymous survey to members of the Society of Surgical Oncology (SSO) to evaluate demographic variables, practice characteristics, career satisfaction, burnout, and quality of life (QOL) [6]. The data from 549 respondents indicated that surgical oncologists are greatly satisfied with their careers, with 85.4% saying that they would become surgical oncologists again. However, a significant proportion of respondents (28.2%) experienced burnout when evaluated by the Maslach Burnout Inventory (MBI), the gold standard of burnout assessment [7, 8].

What are the consequences of burnout?

Burnout is a syndrome symptomized by emotional exhaustion, depersonalization, and inefficacy [9]. It is something that we can all recognize when we see it. While we might not take the MBI or other survey tools, asking the following questions can be a gauge for assessing burnout: 1) Are you more cynical, critical and sarcastic, 2) Have you lost the ability to experience joy, 3) Do you have to drag yourself to work, 4) Are you more irritable and less patient, and 5) Do you lack the energy to be productive? There are both personal and professional consequences of burnout. Shanafelt's work has shown that burnout is correlated with broken relationships, alcohol and substance abuse, depression and tragically, suicide in physicians. There is strong data showing the personal effects of physician burnout [6, 10]. The most tragic consequence is exemplified by the increase in suicide and suicidal ideation amongst physicians. In the Shanafelt study, comparing physicians to non-physicians, there was a significantly higher percentage of physicians who had thoughts of taking their own lives compared to non-physicians (7.2% vs 4%, $p<0.001$) [11]

Surgeon's careers also suffer as burnout is associated with decreased quality of care and increased medical errors, decreased patient satisfaction, decreased productivity and professional effort, and increased physician turnover. For example, in the survey of 7905 surgeons from the ACS, 700 (8.9%) reported concern they had made a major medical error in the 3 months prior to the survey. Of these errors, 13% were attributed to stress or burnout [1]. Burnout and depression remained independent predictors of reporting a recent major

medical error on multivariate analysis that controlled for other personal and professional factors.

Not surprisingly, the turnover in physicians is linked to burnout [12–14]. It was recently reported that turnover in physicians was twice as high as other faculty at Stanford University [15]. The cost of replacing a physician is estimated to be between \$500,000 and a million dollars, and the loss of productivity from burnout is estimated to be equivalent to eliminating the graduating class of seven medical schools [16]. These data show that burnout results in grave consequences at the personal and organizational level and that burnout to this degree is specific to the medical field.

What factors contribute to burnout?

There are several factors that increase the risk of burnout in surgeons. Shanafelt analyzed the data from the 7905 surgeons from the 2008 ACS survey to look at factors independently associated with burnout on multivariate analysis [1]. Younger age was associated with increased risk of burnout. Having children was associated with a lower risk of burnout, however, among those with children, those whose youngest child was <21 were at higher risk than those whose youngest child was older than age 21. Professional characteristics associated with a higher overall risk of burnout included area of specialization (frontline specialties seem to be affected more), a higher number of nights on call per week, working more hours per week, a greater number of years in practice, and having compensation determined entirely based on billing. As a result, his data showed that only 36% of surgeons felt their work schedule left enough time for their personal life [1]. A recently published study surveyed 6957 surgeons to identify factors associated with burnout and identified that females and surgeons less than 60 years of age demonstrated decreased job satisfaction ($p = 0.003$ and $p = 0.008$, respectively). These data suggest that work-life balance are driving factors in burnout and that there are specific cohorts at higher risk [17].

Just as burnout affects the individual and the work institution, there are both personal and organizational factors that contribute to burnout. Together, these factors can be grouped into seven areas. Each area is influenced by both individual and organizational factors: work load and job demands, efficiency and resources, meaning in work, culture and values, control and flexibility, social support and community work, and work-life integration [18].

The resource efficiency area is an area of growing interest as newer technologies, such as electronic health records (EHR), are supposed to increase efficiency and theoretically should reduce administrative work, yet they appear to be doing the opposite in our daily lives. A small, but powerful study of 57 U.S. physicians in family medicine, internal medicine, cardiology, and orthopedics were observed for 430 hours, and 21 individuals also completed after-hours diaries. Physicians reported spending 27% of their work day on direct clinical face time with patients and 49.2% of their time on EHR and desk work. While in the examination room with patients, physicians spent 52.9% of the time on direct clinical face time and 37.0% on EHR and desk work. The 21 physicians who completed after-hours diaries reported 1 to 2 hours of work each night after-hours, devoted mostly to EHR tasks [19].

The NEJM Catalyst Insights Council is a group of executives, clinical leaders and clinicians from organizations across the country that are surveyed on a regular basis for input. More than half of the respondents said that increased productivity requirements/expectations contribute to burnout. Untenable payment and reimbursement models and erosion of professionalism tied for 3rd place. EHRs and the burden of increasing documentation requirements by physicians has become very time consuming and “click” intensive. This trend has led to the phrase “death by 1000 clicks” [20].

What can be done about physician and surgeon burnout?

Reversing the trend of increased burnout and decreased career satisfaction is going to require increased awareness by physicians and institutions, periodic self assessment and changes on the personal level to decrease the risk factors that can be controlled by the individual. These include taking care of oneself, in order to take better care of our patients, and identify the meaningful aspects of your work and personal life and then make these things your priorities. Working to establish communities in the work place that address the needs of different cohorts (women, physicians with young children) will be critical in providing support for those at highest risk.

Gabbard published a landmark paper in JAMA in 1985 identifying the physician personality as one that manifests itself in both adaptive and maladaptive ways, which seemingly puts the surgeon at inherent risk due to personality type. The adaptive personality traits include thoroughness and care for our patients; traits that make us successful in our careers. On the other hand, the maladaptive parts of our personalities make it difficult to relax, reluctant to take vacations from work, and allocate time to family. Overall, we have an inappropriate and excessive sense of responsibility for things beyond one’s control, chronic feelings of “not doing enough,” difficulty setting limits, guilt feelings that interfere with the healthy pursuit of pleasure, and the confusion of selfishness with healthy self-interest [21]. How various personalities recognize and respond to stressors has not been well studied in surgeons.

Lebares et al. recently surveyed 566 surgical residents and showed that the stressors that cause burnout are present and even elevated in trainees (an 11% suicidal ideation rate was found in this cohort). They found that the presence of higher dispositional mindfulness and higher trait resilience provided risk-reducing benefits (85% and 65% decrease in risk of high stress, respectively). This is particularly striking because although mindfulness can be inherent, it can also be taught. Therefore, the authors suggest that mindfulness training can be a promising stress-resilience intervention [22].

It is clear that organizations contribute to burnout, and are negatively impacted by the loss of productivity and cost of surgeon turnover; therefore, it only makes sense that by improving organizational behavior, we can decrease physician burnout. Ways that organizations can reverse the contributing factors to burnout include: acknowledge and assess the problem, harness the power of leadership, cultivate community, use rewards and incentives wisely, align values and strengthen culture, promote flexibility and work-life integration, provide resources to promote resilience and self-care, and facilitate and fund organizational science [18].

An excellent resource for facilitating organizational health is “The Advantage” by Patrick Lencioni [23]. In this book Lencioni recognizes four disciplines of organizational health, including: 1) building a cohesive leadership, 2) creating clarity, 3) overcommunicating clarity, and 4) reinforcing clarity. Cohesive, strong, leadership has been shown to significantly decrease burnout. A survey of 2813 physicians asked 12 questions about their immediate supervisors (also physicians/scientists) and the responses were converted to a composite leadership score. Each 1 point increase in composite leadership score was associated with a 3.3% decrease in the likelihood of burnout ($p < 0.001$) and a 9% increase in the likelihood of satisfaction ($P < 0.001$) [11].

Creating clarity minimizes confusion and facilitates organizational alignment. The answers to the following questions need to be clear: Why do we exist? How do we behave? What do we do? How will we succeed? What is most important, right now? Who must do what? There is an excellent TED talk by Simon Sinek, entitled “How great leaders inspire action” that helps to generate this type of clarity [24]. Sinek describes how successful companies understand what they do, how they do it and, most importantly, “why” they do it. I recently asked my children if they knew their “why”. My daughter, who is a first year medical student, said “*I exist to be with someone and help them understand what is happening to them and what they can do to help*”. My son, a first year law student, said that his “why” is “*To advocate for those who are unable to do so for themselves and their families*”. I was impressed with how quickly they responded and that they understood how it is not what you do that defines you but why you do it.

Providing clarity in purpose is crucial as being connected to your purpose or company’s purpose is ranked as the #1 factor in job satisfaction [25]. Knowing your purpose quadruples the likelihood of being engaged at work, [26] which is the other extreme of being burned out [18]. Knowing your purpose makes you 50% more likely to have meaningful relationships at work, 54% more likely to report that your work has a positive impact, and yields a 64% higher level of career fulfillment [27].

The University of Texas MD Anderson Cancer Center has begun a program called “CREWS”, which stands for career, resiliency, engagement, wellness and sustainability and is an institution-wide effort that was created in the fall of 2017 as an initial focus on the Operational Priority of [Recruitment, Retention and Development](#). The vision is to create and maintain a culture that promotes professional excellence, organizational collaboration, and self-care with a goal of professional fulfillment and engagement for all MD Anderson faculty and staff. The program is in response to the results of an institution wide survey that found over 30% of employees (physicians and staff) experience more than occasional symptoms of burnout. The mission is to improve and sustain wellness beyond eliminating burnout. MD Anderson is not alone in recognizing and addressing burnout as a barrier to sustained career satisfaction. The National Academy of Medicine has collected statements from over 150 organizations describing their goals or commitments to action to reverse clinician burnout and promote clinician well-being [28].

A stand out example of a collaborative effort of an organization to address physician burnout is the Department of Family Medicine at the University of Colorado health system. In 2015

they instituted a team-based model called ambulatory process excellence, or APEX, which increased the ratio of medical assistants to clinicians from 1:1 to 2.5:1. Within 6 months after the APEX launch, burnout rates among clinicians dropped from 53% to 13%. The practice was able to add nearly three extra patients per doctor per day and reduce waiting times for new patients. With increased provider productivity, APEX remained cost-neutral [29].

As Chair of the relatively new Department of Breast Surgical Oncology at MD Anderson, I have been interested in creating a healthy organizational structure to increase the satisfaction of our faculty, staff and trainees. One focus has been to identify what additional areas of interest the faculty enjoy in addition to patient care (research, education, network expansion, quality and safety). It has been shown that those able to find meaning in their work show decreased burnout in a multivariate analysis of 7197 surgeons responding to an ACS survey in 2010 [30]. In a study of 556 physicians, time spent on the most meaningful activity was the largest predictor of burnout on multivariate analysis (odds ratio, 2.75; $P=.001$) [31]. This data supports that spending at least 20% of our time on work we find most meaningful is optimal, and should be our goal [31].

A long-term study on happiness reported by Robert Waldinger followed the health of 268 Harvard sophomores beginning in 1938 throughout their lifetime. Investigators followed this group, along with 1300 of their offspring, for nearly 80 years (later expanded to include other cohorts including women), and found that “relationships and how happy we are in our relationships has a profound impact on our health”. People most satisfied with their relationships (family, friends, community) at age 50 were the healthiest at age 80, and was a better predictor of health than cholesterol levels [33].

Organizations are certainly recognizing the burnout crisis. It is a shared responsibility of the physician and the organization to identify ways to reduce burnout. As a starting point, there are tools available to gauge our well-being. Members of the ACS have access to the Physician Well-Being Index [32]. Additionally, surgeons should be encouraged to identify what part of their career they find most meaningful and ensure that they remain engaged in these activities. Understanding our purpose and “why” we do what we do are important factors in our personal health and well-being. The welfare of the surgeon, patients, and healthcare system hinge on addressing these issues immediately.

“Your purpose in life is to find your purpose and give your whole heart and soul to it.”

-Gautama Buddha

References

1. Shanafelt TD, Balch CM, Bechamps GJ, Russell T, Dyrbye L, Satele D, Collicott P, Novotny PJ, Sloan J, Freischlag JA: Burnout and career satisfaction among American surgeons. *Ann Surg* 2009, 250(3):463–471. [PubMed: 19730177]
2. Hales RE: Physician burnout: the seeds are planted early--in the critical years of residency. *Am Med News* 1981, 24(29):suppl 3, 12. [PubMed: 10252938]
3. Orlowski JP, Gullledge AD: Critical care stress and burnout. *Crit Care Clin* 1986, 2(1):173–181. [PubMed: 3331307]

4. Shanafelt TD, Boone S, Tan L, Dyrbye LN, Sotile W, Satele D, West CP, Sloan J, Oreskovich MR: Burnout and satisfaction with work-life balance among US physicians relative to the general US population. *Arch Intern Med* 2012, 172(18):1377–1385. [PubMed: 22911330]
5. Bartholomew AJ, Houk AK, Pulcrano M, Shara NM, Kwagyan J, Jackson PG, Sosin M: Meta-Analysis of Surgeon Burnout Syndrome and Specialty Differences. *J Surg Educ* 2018.
6. Kuerer HM, Eberlein TJ, Pollock RE, Huschka M, Baile WF, Morrow M, Michelassi F, Singletary SE, Novotny P, Sloan J 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* 2007, 14(11):3043–3053.
7. Maslach C, Jackson SE, Leiter MP: *Maslach burnout inventory manual*, 3rd edn. Palo Alto, Calif (577 College Ave., Palo Alto 94306): Consulting Psychologists Press; 1996.
8. Rafferty JP, Lemkau JP, Purdy RR, Rudisill JR: Validity of the Maslach Burnout Inventory for family practice physicians. *J Clin Psychol* 1986, 42(3):488–492. [PubMed: 3711351]
9. Dyrbye LN, West CP, Shanafelt TD: Defining burnout as a dichotomous variable. *J Gen Intern Med* 2009, 24(3):440; author reply 441. [PubMed: 19130150]
10. Oreskovich MR, Kaups KL, Balch CM, Hanks JB, Satele D, Sloan J, Meredith C, Buhl A, Dyrbye LN, Shanafelt TD: Prevalence of alcohol use disorders among American surgeons. *Arch Surg* 2012, 147(2):168–174. [PubMed: 22351913]
11. Shanafelt TD, Gorringer G, Menaker R, Storz KA, Reeves D, Buskirk SJ, Sloan JA, Swensen SJ: Impact of organizational leadership on physician burnout and satisfaction. *Mayo Clin Proc* 2015, 90(4):432–440. [PubMed: 25796117]
12. Dyrbye LN, Satele D, Sloan J, Shanafelt TD: Utility of a brief screening tool to identify physicians in distress. *J Gen Intern Med* 2013, 28(3):421–427. [PubMed: 23129161]
13. Landon BE, Reschovsky JD, Pham HH, Blumenthal D: Leaving medicine: the consequences of physician dissatisfaction. *Med Care* 2006, 44(3):234–242. [PubMed: 16501394]
14. Sinsky CA, Dyrbye LN, West CP, Satele D, Tutty M, Shanafelt TD: Professional Satisfaction and the Career Plans of US Physicians. *Mayo Clin Proc* 2017, 92(11):1625–1635. [PubMed: 29101932]
15. Shanafelt T, Goh J, Sinsky C: The Business Case for Investing in Physician Well-being. *JAMA Intern Med* 2017, 177(12):1826–1832. [PubMed: 28973070]
16. Shanafelt TD, Dyrbye LN, West CP, Sinsky CA: Potential Impact of Burnout on the US Physician Workforce. *Mayo Clin Proc* 2016, 91(11):1667–1668. [PubMed: 27814840]
17. Jackson TN, Percy CP, Khorgami Z, Agrawal V, Taubman KE, Truitt MS: The Physician Attrition Crisis: A Cross-Sectional Survey of the Risk Factors for Reduced Job Satisfaction Among US Surgeons. *World J Surg* 2018, 42(5):1285–1292. [PubMed: 29067517]
18. Shanafelt TD, Noseworthy JH: Executive Leadership and Physician Well-being: Nine Organizational Strategies to Promote Engagement and Reduce Burnout. *Mayo Clin Proc* 2017, 92(1):129–146. [PubMed: 27871627]
19. Sinsky C, Colligan L, Li L, Prgomet M, Reynolds S, Goeders L, Westbrook J, Tutty M, Blike G: Allocation of Physician Time in Ambulatory Practice: A Time and Motion Study in 4 Specialties. *Ann Intern Med* 2016, 165(11):753–760. [PubMed: 27595430]
20. A Day in the Life of “Death by a Thousand Clicks” [<http://www.arcadiasolutions.com/a-day-in-the-life-of-death-by-a-thousand-clicks>]
21. Gabbard GO: The role of compulsiveness in the normal physician. *JAMA* 1985, 254(20):2926–2929. [PubMed: 4057513]
22. Lebares CC, Guvva EV, Ascher NL, O’Sullivan PS, Harris HW, Epel ES: Burnout and Stress Among US Surgery Residents: Psychological Distress and Resilience. *J Am Coll Surg* 2018, 226(1):80–90. [PubMed: 29107117]
23. Lencioni P: *The advantage : why organizational health trumps everything else in business*, 1st edn. San Francisco: Jossey-Bass; 2012.
24. How Great Leaders Inspire Action [https://www.ted.com/talks/simon_sinek_how_great_leaders_inspire_action]
25. Job Satisfaction Index [https://docs.wixstatic.com/ugd/928487_f752364b0a43488c8c767532c0de4926.pdf]

26. Gallup Organization.: The state of global well-being. In. New York, NY: Gallup Press.
27. 2016 Workforce Purpose Index [https://cdn.imperative.com/media/public/Global_Purpose_Index_2016.pdf]
28. the National Academy of Medicine Action Collaborative on Clinician Well-Being and Resilience [<https://nam.edu/initiatives/clinician-resilience-and-well-being/commitment-statements-clinician-well-being/>]
29. Wright AA, Katz IT: Beyond Burnout - Redesigning Care to Restore Meaning and Sanity for Physicians. *N Engl J Med* 2018, 378(4):309–311. [PubMed: 29365301]
30. Shanafelt TD, Oreskovich MR, Dyrbye LN, Satele DV, Hanks JB, Sloan JA, Balch CM: Avoiding burnout: the personal health habits and wellness practices of US surgeons. *Ann Surg* 2012, 255(4): 625–633. [PubMed: 22388107]
31. Shanafelt TD, West CP, Sloan JA, Novotny PJ, Poland GA, Menaker R, Rummans TA, Dyrbye LN: Career fit and burnout among academic faculty. *Arch Intern Med* 2009, 169(10):990–995. [PubMed: 19468093]
32. Surgeon Well-Being.