



The Trauma Fellow's Perspective on Grit and Resilience and Its Role in Wellness

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Accepted: 1 February 2023 / Published online: 30 March 2023
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Abstract

Purpose of Review To describe the unique stressors of surgical training and fellowship and how grit and resilience influence trainee wellness

Recent Findings Surgical training is an intense, high-stress experience. For fellows-in-training, unique stressors are associated with this chapter of training, from financial stressors to the stress of job acquisition. Wellness is essential for surgical fellows, not just for the critical need for quality mental health of providers, but also for the patients who are also affected by provider burnout. There are various wellness programs that can be instituted nationally and institutionally to optimize fellow wellness, but one of the most high-yield foci for fellow wellness is focused mentorship, the key to assuring wellness and harnessing grit.

Summary Surgical residency and fellowship are prodigiously demanding experiences, which mandate grit and resilience. It is imperative that widespread cultural and institutional changes take place to best support surgical trainees.

Keywords Surgery · Fellowship · Grit · Resilience · Wellness

Introduction

“...there are no shortcuts to excellence. Developing real expertise, figuring out really hard problems, it all takes time—longer than most people imagine....you've got to apply those skills....Grit is about working on something you care about so much that you're willing to stay loyal to it...it's doing what you love.”

—Angela Duckworth, *Grit: Passion, Perseverance, and the Science of Success*

In 2018, psychologist Angela Duckworth published her analysis of over a decade of intensive research on grit—a personality trait that drives tenacity, work ethic, passion, and goal-setting. Duckworth argues that this trait matters much more to success than talent or intelligence and outlines how to develop interest, practice, purpose, and hope in her writings [1]. This book became insatiably shared among the

medical community and surgeons in particular, as educators wondered how can grit be instilled and fostered in surgical trainees.

Stressors of Surgical Training

Surgical training is notoriously challenging. From the long work hours to the physical, mental, and emotional demands, it has been well established that both residency and then fellowship can be significant stressors [2••]. The stressors of residency and fellowship were further augmented by the COVID-19 pandemic, in which surgical residents and fellows experienced significantly deleterious effects on their professional and personal experience [3–5]. In a survey of the American College of Surgeons Resident and Associate Society [6•], the largest national organization which represents surgical residents and fellows-in-training, the authors found that a large percent of residents and fellows-in-training had new or increased depression symptoms during the COVID-19 pandemic, with 31% reporting depressed mood, 54% reporting anxiety, 37% reporting change in sleep habits, 22% reporting change in appetite, 31% reporting decreased interest or happiness in activities, 39% reporting weight

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changes, and 35% reporting difficulty in maintaining attention. Similarly, over half (55%) of residents and fellows-in-training reported feeling emotional exhaustion, 39% reported depersonalization, and 45% reported decrease in sense of personal accomplishment, concerning for burnout. Other data echoed a similar story of augmented stress among surgical fellows-in-training specifically with 50% stating future jobs were impacted and 29% delaying general board examinations [7]. Yet even before the COVID-19 pandemic, the fact remains true that graduating from surgical residency and fellowship mandates grit and resilience.

Contextualizing the Importance of Grit And Resilience

When surveying aspiring surgical residents, Hayek et al. identified core themes to the definition of resilience: support, learning from failure, adaptability, self-reflection, and perseverance [8•]. These qualities all certainly apply to what is required in surgical training, from residency through fellowship. And why do grit and resilience matter? For one, it matters because it affects the job performance of surgical trainees and, ultimately, their patients. Burnout, a combination of emotional exhaustion, depersonalization, and sense of reduced accomplishment, is associated with worse patient outcomes, increased medical malpractice suits and major medical errors among surgeons, and decreased patient compliance and patient satisfaction [9–13]. Secondly, from an academic perspective, surgical residents who perceive adequate support to succeed and have less burnout are also more likely to have high performance on the in-service examination [14].

Beyond patient outcomes and clinical care, from a personal perspective, grit and resilience matter for surgical trainees because it is intrinsically tied to wellness. In a longitudinal, single-institution survey of general surgery residents over a 3-year period, Cortez et al. found that residents with symptoms of burnout had lower grit scores (a metric consisting of 12 components related to consistency of interest and perseverance of effort) compared to those without burnout, and grit was positively linearly associated with decreasing emotional exhaustion, decreasing depersonalization, and increasing sense of personal achievement [15]; these findings have been demonstrated in similar studies [16]. Furthermore, burnout in surgical trainees and surgeons has been associated with a lower quality of life, high stress, suicidal ideation, depression, post-traumatic stress disorder, family discord, insomnia, and alcohol misuse [17–21].

Conversely, resilience in surgical trainees is associated with “flourishing,” defined as positive social, emotional, and psychological functioning constituting well-being; this definition of flourishing has been linked to greater job satisfaction and negatively associated with risk of future mental

illness, health care utilization, suicidality, and mortality [22]. In other works, grit has been positively associated with sense of well-being and negative predictive of depression and attrition in surgical trainees [23].

Wellness as It Pertains to Fellows

With 80% of graduating residents applying for fellowship training [24], it is imperative that the wellness of surgical fellows-in-training is discussed. Fellows-in-training are experiencing a unique chapter of training that includes specific stressors as one navigates the process of completing board examinations, finding a job, interviewing, contract negotiation, and identification of mentors which can give early-career advice. In the setting of these demands, similar to residents, rates of burnout have been described as high as 58% in surgical fellows [25]. A myriad of studies has examined factors that predict burnout, including younger age and more junior resident status as associated with higher levels of burnout [17]. Furthermore, increased autonomy, which naturally occurs in the transition to and advancement in fellowship, has been linked to higher resilience [26]. Therefore, these data may suggest that more senior trainees—surgical fellows—would have less burnout and increased wellness. Additionally, data suggests that surgeons who have completed surgical fellowships add hundreds of operative cases to their experience [27] and ultimately may perform procedures more efficiently and consistently, with better patient outcomes, higher level of knowledge, and increased scholarly activity [28–31]; this increased technical and clinical competence may increase a sense of accomplishment (a core component of mitigating burnout), optimizing the wellness of surgical fellows.

However, the stressors of surgical residency remain in fellowship, and depending on the structure of the program, the demands for grit and resilience may be higher for surgical fellows as compared to residents. In a mixed-method study to determine fellow training needs during transition into fellowship training in surgery, Sockalingam et al. found that fellows reported greatest difficulty with adapting to the hospital systems, medical documentation, and balancing professional and personal life, leading to disorientation, disconnection, and interprofessional challenges [32]. Frequency of on-call duty and total work hours are known to be drivers for burnout [33], both of which may be increased in fellowship, depending on program organization, size, and demands. Previous research examining biophysical monitor data from surgical fellows found that those who were compliant with work hours had fewer days of stress than non-compliant fellows [34]. Furthermore, high workplace psychological demand, which can be more significant in the role of a fellow with increased responsibility and autonomy, has been linked to negative affect (depressive symptoms, high

perceived stress, anxiety) and burnout (emotional exhaustion and depersonalization) [35]. For fellows focused on expanding their surgical skills alongside general surgery residents, this learner conflict can also be a source of stress and complicate the learning environment [36].

In addition to the clinical stressors of fellowship, there are additional external pressures such as financial strain and lack of leadership or administrative preparation needed for the early-career surgeon. Fellowship represents yet more years of deferred increased income and increased interest accumulation on loan principals like residency, but also potential increased demands of additional living expenses, savings for retirement, children's education, establishing financial safety nets, board examinations and licensing, and insurance [37]; thus, perhaps not surprisingly, many senior residents citing educational debt as the reason for not pursuing fellowship [38]. Additionally, once fellows transition to first career job positions, they often experience stress related to a dearth of knowledge as it relates to fundamentals of procedural coding, clinical billing, and compliance, finding and building a practice, and navigating organizational challenges [39].

Previous literature looking at burnout in surgical fellows-in-training specifically identify an association of burnout with a lack of support from their fellowship program, with other predictors of burnout in fellows including being in a second year of fellowship, spending less time per week doing scholarship activities, and decreased satisfaction with the fellowship experience [25]. A survey of abdominal transplant surgery fellows in the USA revealed that nearly a fourth of the fellows met criteria for burnout, and those with burnout were more likely to work > 100 h per week, have several work-related stress, consider quitting fellowship, or make a medical error [40]. Other survey data of surgical fellows has identified that fellows who report burnout have significantly higher stress levels, lower levels of satisfaction with life, and less self-esteem [41].

Wellness Initiatives

In recognition of the significant stress of surgical training and the prevalence of burnout, depression, and anxiety, the Accreditation Council of Graduate Medical Education (ACGME), Council of Review Committee Residents (CRCR), created a *Back to Bedside* Initiative, which is designed to combat burnout by fostering meaning in the learning environment and in patient interactions [42]. This initiative consists of 5 themes centered on enhancing meaning in daily work: (1) more time at the bedside, engaged in direct patient care, dialogue with patients and families, and bedside clinical teaching; (2) a shared sense of teamwork and respect among multidisciplinary health professionals and trainees; (3) decreasing the time spent on non-clinical and administrative responsibilities; (4) a supportive,

collegial work environment; and (5) a learning environment conducive to developing clinical mastery and progressive autonomy. These themes can be incorporated into institution and specialty-specific wellness programs for fellowships.

There are many examples of grassroots wellness programs across the USA which include these themes with success [43]. In a study by Acevedo et al., the authors describe the successful implementation of a wellness program at an otolaryngology residency [44]. The program was robust and included departmental initiatives such as a resident wellness week and retreat, annual assessments, quarterly mentored meetings, and crisis management protocols, institutional initiatives such as a wellness curriculum, mindfulness workshops, and resident lounge, and national wellness resources including those from the ACGME. After 1 year of the resident wellness program implementation, the Maslach Burnout Inventory results showed an increase in resident engagement and a decrease in burnout [44]. Thematic analysis found that the initiatives viewed most favorably included time away from work, faculty engaging with residents outside of the hospital environment, efforts to enhance residents' self-efficacy, fostering a positive culture among residents, and providing easy access to physical activity [44]. Another successful implementation of a wellness program was described by Aggarwal et al., in which surgery residents were offered protected time for education about the neuroscience literature on wellness, coupled with teaching about well-being using short evidence-based practices; this ultimately created an environment where mindfulness, optimism, gratitude, and social connectedness were fostered and residents chose to continue the program voluntarily [45]. Another well-described wellness program is Mindfulness-Based Stress Reduction (MBSR), which includes sessions focused on body awareness, yoga, meditation, and breathing and has shown to be effective and feasible to execute with surgical trainees [46]. While these aforementioned programs during surgical training have great value, there is also compelling data to suggest that mental skills and emotional regulation training should be incorporated into medical school training (and beyond through residency) to optimize surgical trainee wellness [47, 48].

Beyond Wellness Programming: the Power of Individual Mentorship

While these aforementioned wellness programs for residents have promising translational concepts for fellows, extensive data suggests that despite wellness programs existing, surgical trainees are often not aware of them or use them (6); furthermore, literature has suggested that individual wellness behaviors are not associated necessarily with less burnout [49]. However, the data does suggest that one of the most impactful ways to mitigate burnout and maximize wellness

in fellows-in-training is *mentorship*, with lack of mentorship being strongly associated with burnout in surgical fellows [50]. Perceiving adequate support to succeed is linked to less burnout and better organizational support, and job resources, educational stipends, and in-service board prep have been linked to improved well-being [14, 51•, 52]. Coaching programs have also been linked to significant improvement in professional fulfillment, burnout, work exhaustion, self-valuation, and well-being, in particular in surgical trainees [53, 54]. Support and mentorship benefits span the professional and personal sense. Fellows who receive assistance with fellowship and job applications and opportunities to pursue scholarship activity are associated with improved surgical trainee self-actualization [55••]. This ultimately highlights the crucial importance of a focus on mentorship, organization support, and educational resources for fellows as part of wellness prioritization.

Conclusions

Surgical training is an intense, high-stress experience, from residency through to fellowship. This was further augmented by the COVID-19 pandemic, with significant deleterious effects on the professional and personal lives of surgical trainees. For fellows-in-training, unique stressors are associated with this chapter of training, from financial stressors to the stress of job acquisition to board examinations. Wellness is essential for surgical fellows (and all health care providers), not just for the critical need for quality mental health of providers, but also for the patients who are also affected by provider burnout. While there are various promising wellness programs that can be instituted nationally and institutionally to optimize fellow wellness, one of the most high-yield foci is on mentorship, the key to assuring personal and professional wellness and harnessing grit.

Declarations

Conflict of Interest The author declares no competing interests.

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- Papers of particular interest, published recently, have been highlighted as:
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 - Of major importance
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