

Identifying and Addressing Burnout in the Orthopaedic Surgeon

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ABSTRACT

Throughout the career of a physician, they are subjected to long working hours, high stress, life and death situations, risk of malpractice, significant financial debt, and an increasing bureaucratic load. This, in turn, has led to significant rates of burnout and potential suicidal ideation. Suicide prevalence has increased roughly 30% over the past 2 decades, with surgeon suicide rates reaching as high as 3x that of the general cohort. Orthopedic surgeons are most severely affected, composing 28.2% of physician suicides and seeing one third of their suicides from 2003 to 2017 occurring in the last 2 years alone. We provide the latest data and the current trends in orthopedic burnout and suicide rates, delve into the possible inciting factors driving their increase, and provide recommendations to identify their early signs and mitigate progression.

Physicians are subjected to long hours, high stress situations, risk of malpractice, significant financial debt, and increasing bureaucratic load. This has led to significant rates of burnout, which has been defined as of exhaustion (emotional, physical, or mental) that may lead to psychological and/or physical breakdown. Physicians can adaptively or maladaptively react to the symptoms of burnout. Adaptive interventions include exercise, spousal and social support, feelings of purpose and gratitude, meditation, and prayer. Maladaptive interventions, on the other hand, include substance abuse, withdrawal from social support systems, and attempting to self-treat burnout. Failing to recognize burnout and treat productively can lead to disruptive physician behaviors (DPB). DPB is defined as “a style of interaction by physicians with others, including hospital personnel, patients, and family members, that interferes with patient care or adversely affects the health care team’s ability to work effectively.”¹ This can potentially lead to loss of medical license, and for many, sense of purpose. Increased stress and burnout have also been directly and indirectly linked to several disease processes such as heart disease, stroke, suicide and homicide, cancer, chronic liver disease, and emphysema.² In this manuscript, we provide current data on the trends in orthopedic burnout and suicide rates and delve into possible factors in their increase. Subsequently, we address early warning signs and give recommendations to identify these early signs and mitigate their progression.

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Previous Recommendations and Current Trends

In 2006, we examined potential interventions and practices to help mitigate risk of burnout. Prevention through individual stress resilience, leadership intervention, and support groups created by orthopedic societies was found to be the most successful.² The causes of stress today have not varied greatly since this study, yet burnout and suicidal ideation continue to rise. It is reasonable to assume, then, that there are more factors contributing to this serious problem. Suicide prevalence has increased roughly 30% over the past 2 decades, with the physician suicide rate disproportionally increasing.³ Surgeons 45 years and older have 1.5 to 3x higher rates of suicidal ideation than the general public, yet only 26% sought psychiatric help, with the majority stating fear of medical license issues as the reason for not seeking help.⁴ Orthopedic surgeons compose the largest percentage of physician suicides at 28.2%, with a third of the suicides between 2003 and 2017 occurring in the last 2 years alone.^{3,5} The signs can present early in one's career, with over half of orthopedic residents reporting being burnt out, 13% screening positive for depression, and 61% meeting the criteria for hazardous alcohol use.⁶ Overall, surgeons were shown to be 362% more likely to have a mental health disorder, 139% more likely to use alcohol before suicide, and 289% more likely to have experienced civil and/or legal issues.⁵

Risk Factors for Burnout and Suicidal Ideation

Meaningless Work: Purpose and Hours Worked

Physicians who spend less than 20% of their time on work that gives them meaning, such as patient care, are found to be significantly more burnt out.⁷ This scenario typically arises as sheer number of work hours increases, with more administrative duties and stagnant time for meaningful work.⁷ This suggests that the number of working hours alone may not explain increased burnout in-and-of itself. Instead, the proportion of those hours spent performing non-meaningful work is a more impactful factor.

Saleh et al⁸ determined that the most important factors affecting orthopedic surgeon burnout were excessive workload, increasing overhead, departmental and hospital budget deficits, tenure and promotion, disputes with the dean, loss of key faculty, staff dismissal, and

night/weekend work. They found an average workload of 68.2 hours with 36% of surgeons feeling burnt out. More recent studies have demonstrated similar rates of burnout at 32% with an average workload of 70.3 hours.^{9,10} This again suggests that hours alone are not responsible for increasing rates of suicide and burnout among orthopedic surgeons.

Burnout is even more frequent among orthopedic residents, with 52% claiming to be burnt out.⁶ The Accreditation Council for Graduate Medical Education routinely imposes duty hour restrictions to help combat this, but the workload is still high enough to impair a resident's ability to form a social support system in and outside of work. Tohmami et al recognized this high rate of burnout and initiated a program which employed scribes in the clinic, hoping to reduce burden on the residents. After 1 year, residents noted that scribes allowed them to focus more on patient care, attain more teaching from faculty, have more time to teach medical students, enhance their own surgical education, decrease daily workload, and improve their fatigue and well-being.¹¹ This possible solution is a relatively low-cost and effective option to mitigate burnout in residents.

Social Isolation and Family Conflict

Family and social support drastically affect levels of burnout. Over 70% of orthopedic surgeons feel that long hours hurt their family lives, with only 13% having some form of support group at their institution.⁸ In turn, 75% of individuals with high emotional exhaustion were dissatisfied with their personal-professional life balance.¹² Quick et al² found several factors that exacerbate work-family conflict including alcohol/substance use, sleep disturbances, business travel, toxic corporate cultures, and the e-mail paradox (newer technologies blurring the boundaries between work and home life).^{2,12} Quick noted that these factors must be identified, and addressed, to reduce the amount of stress experienced by orthopedic surgeons.

While marital separations may elevate suicide risk and divorce rates among surgeons may be above other medical specialties, there is mixed data with one study showing that only 7% of spouses to academic orthopedic surgeons and no spouses to residents were dissatisfied with their marriage.¹³ It was noted that factors straining the marriage were stress, work-life balance and family time issues, sacrifices made that prioritized the orthopedic career over the spouse's career, irritability after work, and coming home from work too tired.¹³

Van Orden et al developed the Interpersonal Theory of Suicidal Behavior, proposing that suicide results from

two drivers: a sense of “thwarted belongingness” and “perceived burdensomeness.” They conclude that social isolation is one of the strongest predictors of suicidal ideation and attempts independent of other demographic and clinical factors. They also found that 95% of individuals who commit suicide have a pre-existing mental disorder.¹⁴ Feelings of social isolation can be reduced with social support, with a supportive spouse reducing burnout by 40% and supportive colleagues reducing burnout by 45%.¹⁵ This can be applied to the region in which physicians practice, with rural counties seeing more drastic increases in suicide rates than urban counties.¹⁶ In more recent times, quarantining during the coronavirus disease-2019 (COVID-19) pandemic has caused increased feelings of hopelessness and loneliness, both strong risk factors for suicide.¹⁷ In physicians specifically, female sex, salary, workload, and access to personal protective equipment were risk factors associated with increased burnout during the COVID-19 pandemic.¹⁸

It is also important to consider the demographics of the orthopedic field. Women only represent 15% of all orthopedic surgery residents in the United States.¹⁹ Women live longer and are better equipped to develop support networks than are men, leaving men in general with less robust social support systems that help mitigate the stress and pressures of professional practice.

A narrative review analyzing major risk factors associated with suicide concluded that social isolation and loneliness were most associated with suicide. It was suggested that social isolation should be included in a suicide risk assessment.²⁰ Further studies should investigate the amount of loneliness and social isolation experienced by today’s orthopedic surgeons to determine if there has been an increase, thus driving the recent increase in suicide rates.

Mental Health

Another possible explanation for the dramatic rise in suicides is the prevalence of poor mental health among surgeons. Roughly 25% of orthopedic residents have an underlying generalized anxiety disorder or depression.²¹ The focus on mental health has seen a promising increase in recent years but, unfortunately, there is no data from the early 2000s to compare these rates with. Quick highlighted the importance of understanding pre-existing stressors and mental health conditions, noting that a third of suicides are associated with an underlying mental health condition. He emphasized the importance of early screening and surveillance, recommending to screen with the Trait-State Anxiety Inventory, Beck Depression Inventory, and the maslach burnout inventory (MBI).²²

Recent studies show that 80-hour work weeks decreased mental health, while strong mentorship opportunities, autonomy in the operating room, volume and variety of cases, reputation of faculty, and educational opportunities strengthen mental health.²² This suggests that Accreditation Council for Graduate Medical Education duty hours and programs focusing on strong faculty mentors are good steps towards increasing resident mental health.

Financial Debt

Medical students and residents graduate with substantial levels of student loan debt that often follow them far into their career. High levels of educational debt have been shown to lead to decreased mental health in medical students, with the level of debt influencing where to establish their future practice.²³ West et al found a direct correlation between amount of debt and levels of emotional exhaustion and depersonalization, two components of burnout.¹⁶ The average medical school graduate has just under a quarter of a million dollars in loan debt, with 43% also having debt from undergraduate education.²⁴ This is over six-times the debt of an average college graduate.²⁴ While not much can be done about the level of debt taken on during medical training, learning skills to cope with debt can reduce burnout and make a positive mental health impact on medical students, residents, and practicing physicians.

Measuring and Identifying Burnout

There is not a single, widely accepted measure of burnout. Leiter and Maslach,²⁵ leading scholars in burnout research and practice, provide an excellent, comprehensive yet concise discussion of measuring burnout within the context of the World Health Organization’s (WHO) construct definition. These authors distinguish research measures from clinical measures. Research measures are intended for discovery, for example the causes and effects of burnout. Clinical measures are intended for diagnosis, primarily for identifying what individuals have burnout and what individuals do not. While many developed self-designed measures in the 1970s, Maslach was one of the first to rigorously develop a psychometrically grounded measure, the MBI, which measures the three WHO dimensions of burnout: exhaustion, cynicism, and efficacy. Leiter and Maslach note that Freudenberg and Richelson as well as Pines, Aronson and Kafry developed measures that were limited to measuring the single dimension of exhaustion. Following this notion of the centrality of exhaustion in

the burnout construct, they note that Shirom and Melamed developed The Shirom-Melamed Burnout Measure to distinguish three types of exhaustion: physical fatigue, emotional exhaustion, and cognitive weariness. Kristensen, Borritz, Villadsen, and Christensen developed the two-dimensional Copenhagen Burnout Inventory to distinguish physical exhaustion from psychological exhaustion. Leiter and Maslach²⁵ discuss some additional research measures. Far fewer clinical measures of burnout have been developed and more diagnostic work has focused on the health problems or issues associated with burnout, such as psychosomatic complaints, psychological distress, impaired cognition, or forms of depression and anxiety. They cite early clinical measurement work by Montero-Marín and García-Camayo focused on distinguishing three different clinical subtypes of burnout: frenetic, under-challenged, and worn-out. More recently, Leiter and Maslach²⁵ point out that there has been a general

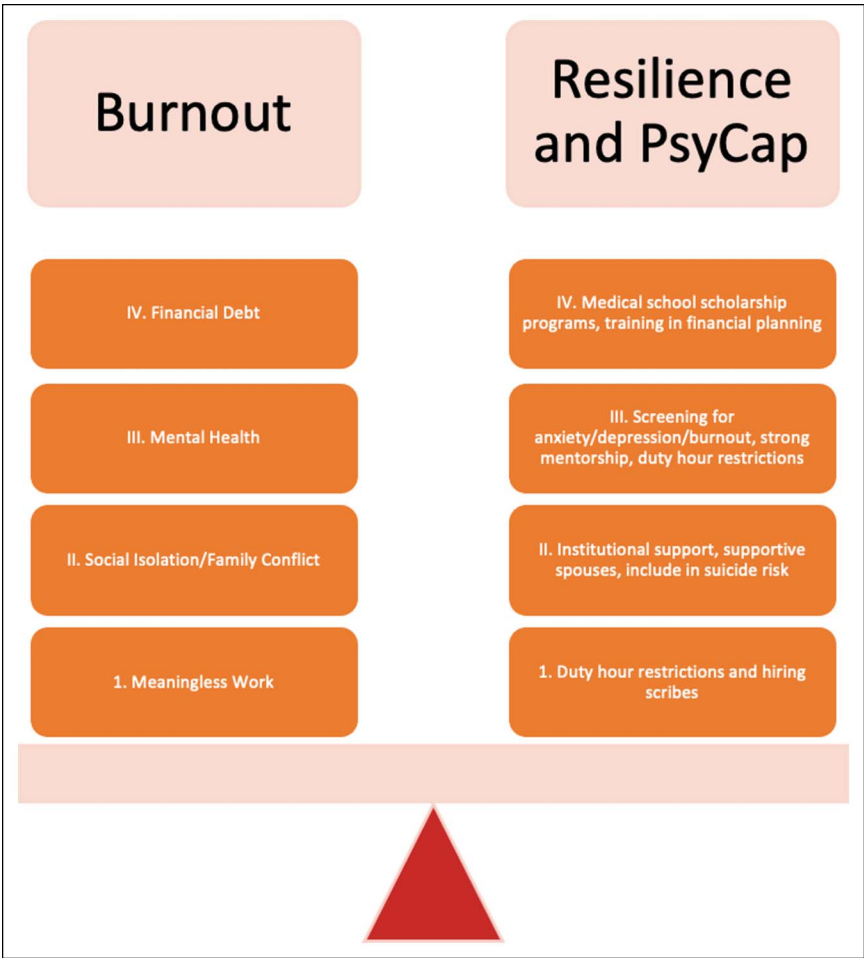
societal trend toward wanting to diagnose individuals who have burnout, thus treating it as some sort of personal medical disease. However, that is contrary to the WHO definition of the construct. The balancing act of burnout risk factors and alleviating interventions can be seen in Figure 1.

Early Warning Signs

Suicide risk in the physician cohort is known to be greater than the general cohort.³

It has become so severe that suicide was the leading cause of death among residents from 2000 to 2014.²⁶ In this high-risk cohort, orthopedic surgeons have the highest suicide rates, which may attribute to increased burnout.³ Burnout has been described as “a state of exhaustion (emotional, physical, mental) that can result in complete psychological and/or physical breakdown.”²⁷ The three

Figure 1



Surgeons stress loads, antidotes, and preventive interventions.

components to burnout are documented as “overwhelming exhaustion, feelings of cynicism and detachment from the job, and a sense of ineffectiveness and lack of accomplishment.”²⁸ The long hours and high demands of a physician start in medical school and continue as their career progresses.

The innate demands that come with being a physician lend to a certain level of stress and potential burnout, and it is imperative that program leaders place heavy emphasis on identifying early warning signs, providing adequate support and resources, and, hopefully, reduce burnout and risk of suicidal ideation. The issue, however, arises when individuals are unable to cope with this level of burnout and resort to feelings of hopelessness and anxiety. These individuals should be recognized and further assessed by program heads to reduce the risk of suicidal ideation.

Disruptive Physician Behaviors

A natural progression of increased stress and burnout can involve the development of DBP. DPB is “a style of interaction by physicians with others, including hospital personnel, patients, and family members, that interferes with patient care or adversely affects the health care team’s ability to work effectively.”¹ Studies have shown that the causes of DPB include depression, burnout, and stress.²⁹ There are varying reports on the prevalence of DPB, ranging from 3 to 5% to as high as 77%.^{30,31} In addition, 67% of those who witnessed DPB believed it was directly linked to adverse events such as medical error and patient mortality.³² Due to the position a physician holds and their impact on patient outcomes, DPB is extremely important to recognize early and intervene upon.

Interventions

When experiencing burnout, surgeons can diverge down two paths: adaptive or maladaptive interventions. A major goal in reducing physician burnout, besides preventive measures, is diverting more people to the adaptive interventions. Maladaptive interventions are a later warning sign of burnout, but should still be recognized and acted upon to, hopefully, divert more physicians down adaptive pathways.

Maladaptive

Opioid, Alcohol and Drugs

Compared with the general cohort, surgeons are 139% more likely to have used alcohol before committing sui-

cide, with 38% using intoxicating substances at the time of death.³ Studies show that 61% of orthopedic residents meet criteria for hazardous alcohol use, with major risk factors being male sex, being single, and being divorced.⁶ Similar studies report orthopedic surgeons having the second highest prevalence of alcohol abuse, with 21.4% of females being alcohol dependent as compared with 12.9% of males.³³ Age, hours worked, being married, having children, and specialty choice are known factors in assessing risk of alcohol abuse.³³ However, surgeons are significantly more likely to enroll in a health program for physicians due to alcohol-related problems when compared with non-surgeons.³⁴ The abuse of prescription drugs and use of illicit drugs was not frequent and there was no association with an increase in positive drug tests when comparing surgeons and non-surgeons.³⁴

Social Isolation

Social isolation is another maladaptive intervention seen among orthopedic surgeons. Hogan et al demonstrated that, although it is a risk factor for suicide, it seems modifiable through non-work-related group activities, training in stress management and psychological resistance, mental health infrastructure development, negotiations with insurance companies to eliminate repercussions of seeking mental health, and self-auditing surgeons about work demands.³⁵ Van Orden et al, as well as Chu et al, discussed an interpersonal theory of suicidal behavior, proposing that suicidal behavior is caused by “thwarted belongingness” and “perceived burdensomeness”. This suggests that social isolation leads to suicidal ideation, regardless of other demographic risk factors.^{14,36} This emphasizes the importance of social connections to reduce suicide rates, especially in orthopedics.¹⁴ Suicide rates have increased most drastically in the rural counties of the US, further supporting the relation between social isolation and suicide.¹⁶ During COVID, burnout has increased in physicians, with risk factors identified as decreased opportunities for contact with people and loss of friends and family to the disease.^{17,18} Social support plays an intricate role in burnout. McMurray et al showed that when supported by a spouse and colleagues, the incidence of burnout in physicians was reduced by 40% and 45%, respectively.¹⁵ Unfortunately, the rate of divorce is very high among surgeons. The risk factors for spousal dissatisfaction among orthopedic surgeons include stress, career sacrifices made for the sake of the partner’s career, conflict between the the schedule of the partner and family time, irritable partner at home due to

stress suffered in work, no participation in family activities by partner due to the tiredness in hospital, and decreased spouse satisfaction with the work/life balance.¹³ A factor that was shown to protect the marital status of orthopedic surgeons was a workload between 32 and 44 hours per week.¹³

Recommendations to Address Social Isolation

Social isolation is an important risk factor for suicidal ideation. Hogan et al put together a series of recommendations to reduce risk factors for suicidal ideation.³⁵ To reduce social isolation levels, they recommended that surgeons routinely carry out “self-audits” to determine their work demands, group activities unrelated to work, and informal “check-ins” by colleagues.³⁵ They also recommended dedicated training in stress management and psychological resistance to reduce burnout levels.³⁵ To carry this out, dedicated mental health infrastructure needs to be invested in, including telephone hotlines and interventions that are sex specific. Another important note was to negotiate with insurance companies to eliminate repercussions surgeons potentially face when seeking mental healthcare.³⁵

Adaptive

Screenings

It is essential to screen physicians for risk factors and symptoms of burnout and depression. A study by Norcross et al implemented the Healer Assessment and Referral Program, a screening tool that educated, encouraged, and reached out to health professionals at the UC San Diego Health System. It involved a multidisciplinary team of counselors, case managers, and mental health providers that worked to organize educational events, overlook stress and depression screening questionnaires, and provide custom case management and mental health referrals to anyone who screened positive. This system was completely anonymous and could be accessed by anyone on its campus. After 8 years of having this system in place, they observed a 75% decrease in suicide prevalence on the campus.³⁷

Shanafelt et al similarly used a screening and intervention tool, a computer-based program that provided individualized wellness sessions to surgeons. First, surgeons would take the Physician Well-Being Index survey and receive immediate feedback on the state of their well-being, including measuring their risk of making a medical error, suicidal ideation, and the severity of their fatigue.

Then, they were ranked and compared with other surgeons in the United States. After viewing their results, 46.6% of surgeons wanted to act to reduce their level of burnout.³⁸

Meditation + Prayer + Recovery + Mindfulness

Screening identifies the presence of burnout and its symptoms, but intervention is then required to address and treat these symptoms. One of the most effective ways to reduce these symptoms is to focus on mindfulness and meditation. Bryan et al studied suicide prevention in the military and found two major components of reducing suicidal ideation: “emotional regulation” and “cognitive flexibility.” They found that suicide was reduced greatest with brief cognitive behavioral therapy. Interestingly, they also found that any intervention decreased suicidal ideation. This goes along the theory of social connectedness and how reaching out to address suicidal ideation can be a powerful tool by itself.³⁹ Krasner et al also examined the effect of intervention on burnout. The study consisted of a group of physicians and took place over a 12 month long intensive course focused on mindfulness, awareness of thoughts, feelings, and biases, conflict management, and burnout prevention. It included 2.5 hours of sessions per week for 8 weeks, a 7 hour retreat, and then a 10 month maintenance phase that was 2.5 hours per month. After a 15 month follow-up period, they noticed significant reduction in burnout and burnout disturbances.⁴⁰ A less intensive study focused on the “Take 10 Initiative,” which provided methods to reduce burnout for residents with busier schedules. This was a simple, evidence-based 10 minute survey taken 3 times per week that focused on meditation and exercise.

Social Support

The feeling of being supported by those around you can be a powerful tool to reduce suicidal ideation. Several studies have merged the concepts of mindfulness and social support and leveraged that interplay to examine their effects on burnout and depression. Dunn et al examined the effect of simply asking physicians about the sources of their burnout. Clinic leaders found that their physicians were most stressed by (1) a lack of control and respect from leadership, (2) low perceived efficiency of the office, and (3) unsatisfactory patient care. To address these needs, clinic leaders (1) implemented routine group meetings to listen to physician concerns and incorporated physician interests such as teaching, (2) increased medical assistant training, and (3) held meetings that focused on patient care instead of administrative issues. Meetings

would begin with a case presentation and group discussion, moments of silence were also included for patients who had passed away. This study followed the group over 4 years and found significant reductions in burnout and work exhaustion.⁴¹

Another study by West et al implemented biweekly meetings where physicians focused on mindfulness, reflection, and were able to interact with other physicians over a 9 month period. They found after a 12 month follow-up that physicians experienced decreased levels of depersonalization and increased meaning and engagement of work.⁴² Six years later, West et al expanded their previous project. Biweekly meetings began with a 15 minute discussion on a topic relevant to the physicians, followed by a group lunch where topics such as “meaning in work/job satisfaction, teamwork/social support/collegiality/relationships/work-life balance” and “personal strengths/problem solving/coping/resources for thriving and flourishing” were discussed. After a 6 month follow-up, they found a 12.7% decrease in burnout and a 12.8% decrease in depressive symptoms.⁴³

Leadership is a strong form of social support, as direct supervisors play a pivotal role in one’s day-to-day activities. Shanafelt et al studied the relationship between leadership and physician burnout. Physicians completed a five point Likert scale on the qualities of their direct supervisors, who were also physicians. They also completed a baseline MBI. They found that a one point increase in leadership quality was associated with a 3.3% decrease in the level of burnout experienced by physicians.⁴⁴ This would suggest that strong leadership has a significant impact on burnout.

Gratitude

Feelings of gratitude have also been shown to reduce levels of burnout. Sood et al implemented a “Stress Management and Resiliency Training” program that initiated a 90 minute meditation session focused on breathing techniques and “feelings of gratitude, acceptance, and higher meaning.” They found after an 8 week followup, a statistically significant improvement in resiliency, stress, and anxiety in its users.⁴⁵

Resilience and the Bounce Back

Resilience is defined as “the capacity to rebound or bounce back from adversity, conflict, failure or even positive events, progress and increased responsibility.”⁴⁶ The heart of burnout and despair are the energy depletion from the exertion required to manage the demands and load that the surgeon experiences from all sources. The question therefore becomes one of how to

reenergize and rebound from that depletion. A number of the adaptive behaviors and skills for reenergizing have been enumerated. US Navy and academic psychiatrist Richard Rahe⁴⁷ brings attention to the requirement to have a set of coping skills for a resilient response. Two key path to sustained resilience and positively adaptive behavior are physical fitness and psychological health.

Physical fitness includes cardiovascular health through aerobic activities such as running, cycling, dancing, and other physical activities that elevate the heart rate for 20 or 30 minutes. In addition to cardiovascular health, physical fitness entails flexibility activities, which can be achieved through yoga and stretching, as well as muscular strengthening activities, either through resistance training or through weightlifting.

Psychological health is a second key pathway to resilience and positive adaptive behavior. There is not a definitive set of psychological attributes that lead to health but among the core characteristics are an attitude of optimism (realistic optimism), hope, and a belief in one’s performance-based abilities (ie, efficacy). Psychological health is not just in the mind, it includes actions, behaviors, and performance that leads to a heightened sense of well-being. The essence of this psychological health is that it enables the person to bounce back from the whole range of demands and adversities that come with professional and personal living.

Resilience Training

To prevent burnout symptoms in physicians, it would be most efficient to target medical students early in their training to learn how to be resilient. Houpy et al⁴⁸ surveyed medical students on their levels of burnout, their need of resilience training, and their response to difficult clinical scenarios. They found medical students had lower resilience levels than the general cohort and that medical students with lower burnout symptoms had higher levels of resilience. Students who felt comfortable discussing burnout and stress levels with their peers also had higher resilience. Most students agreed there is a need for resilience training and a space to discuss difficult clinical scenarios with their peers and attendings.³⁰ Bird et al⁴⁹ created a curriculum that addressed this very need. They set up workshops for medical students that taught how to recognize stressors such as strained team dynamics, disappointment in performance, and uncertainty.³¹ In addition to recognizing stressors, they taught how to let go of negative emotions,

Table 1. Summary of Recommendations Using GRADE Criteria

Risk Factor/Interventions	Recommendation	GRADE
Social isolation	• Self-audits to assess work demands, group activities unrelated to work, and 'informal check-ins' by colleagues ¹	• ++
	• Dedicated training in stress management and psychological resistance to reduce burnout levels ¹	• ++
	• Investment in dedicated mental health infrastructure ¹	• ++
	• Negotiate with insurance companies to eliminate possible repercussions for seeking mental healthcare ¹	• ++
	• Bi-weekly meetings for physicians focusing on mindfulness ²	• ++++
Mental health and screening	• Assess and address underlying stressors and mental health conditions ³	• +++
	• Early screening and surveillance with Trait-State Anxiety Inventory and Maslach Burnout Inventory ³	• +++
	• Anonymous depression screenings with subsequent referrals for those who need mental health providers ⁴	• +++
	• Implementation of well-being surveys that provide surgeons with their severity of fatigue and risk of making medical errors compared with other surgeons who took the survey ⁵	• +++
Meditation and prayer	• Brief cognitive behavioral therapy to reduce suicidal ideation ⁶	• ++++
	• Courses focused on mindfulness, awareness of thoughts, feelings and biases, conflict management, and burnout prevention ⁷	• ++++
	• Short surveys for residents taken 3 times per week that focus on meditation and exercise ⁸	• ++++
	• Implementation of a "Stress Management and Resiliency Training" (SMART) program ⁹	• ++++
Other	• Implementation of routine group meetings to listen to (1) physician concerns (2) incorporate physician interests (3) focus on patient care ¹⁰	• ++++
	• Increase Medical Assistant training ¹⁰	• ++++
	• Initiation of a program service to reduce electronic health record alerts by filtering out low quality alerts ¹¹	• ++

GRADE = Grading of Recommendations, Assessment, Development and Evaluations.

dealing with setbacks, and how to find meaning in their work.⁴⁹ They surveyed students before and after these sessions and found that many valued the ability to connect with their peers.⁴⁸ This simultaneously addresses resilience as well as the social isolation component of suicidal ideation. They expanded their project to internal medicine interns with workshops that focused on setting realistic goals, managing their expectations, being able to let things go, and being grateful.⁵⁰ These sessions were led by the chief residents and after their workshop they found interns were more

comfortable discussing symptoms of stress and burnout and medical errors, they also benefited from the sense of togetherness (Table 1).⁵⁰

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