

Compassion Fatigue in Emergency Medicine: Current Perspectives

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Abstract: Compassion fatigue (CF), or loss of ability to empathize or feel compassion for others for whom one cares, is a growing concern for emergency physicians (EP). EPs, by the nature of their jobs, work under unpredictable conditions at odd hours with high levels of exposure to traumatic events. They are placed under substantial psychological, physical, and cognitive pressure, with little opportunity to recover or reflect. CF occurs when this workplace stress leads to feelings of being overwhelmed, helpless, unsupported, and unable to cope. Additionally, primary traumatic stress from threats of workplace violence and secondary traumatic stress (STS) from witnessing the suffering of others increase the likelihood of developing CF. Unchecked, this progression to CF causes reduction in quality of care to patients, reduction in patient satisfaction, increased levels of EP depression and anxiety, increased levels of EP substance use, and increased attrition from the specialty. To truly improve CF, individuals and organizations should be aware of the contributors to CF: namely, emotional exhaustion, depersonalization, primary and STS, and personal achievement. EPs should maximize their resilience to CF by using cognitive behavioral techniques and mindfulness, taking care of their physical health, seeking meaning and development within their work, developing hobbies outside of work, and creating boundaries between work and home. Organizations should actively address the known drivers of physician burnout: workload and job demands, efficiency and resources, meaning in work, culture and values, control and flexibility, work community, and work-life integration. Organizations should also provide adequate safety within facilities to reduce the threat of primary trauma and should supply adequate support and destigmatization for post-traumatic symptoms for EPs suffering from STS.

Keywords: burnout, secondary traumatic stress, emotional exhaustion, depersonalization

The Concept of Compassion Fatigue

Frontline healthcare workers experience high levels of job-related stress, repeatedly witnessing the distress of others facing natural disasters, mass casualties, and personal health crises. To remain effective at their jobs, they must maintain tremendous capacity for compassion (the desire to help a suffering individual) and empathy (the ability to understand and feel another's emotions). They must also foster resilience to endure exposure to the suffering of others. Empathy is, however, a finite resource, and the emotional cost of very high levels of empathy at work is paid for in an individual's ability to connect compassionately outside of work, with family, friends, or even themselves.¹ The cognitive, emotional, psychological, and physical investment of caregivers is a zero-sum prospect; they only have so much to give and, when pushed beyond their limits, they can no longer effectively care for the needs of others.

The term "compassion fatigue" (CF), coined in 1992, describes the "loss of ability to nurture" that occurred in some emergency department (ED) nurses.² Believed to result from job-related stressors, the term was refined in 1995 to apply principally to secondary traumatic stress (STS). STS is the process by which a caregiver indirectly becomes traumatized by the traumatizing experiences of the people for whom they care.³ An early prominent researcher in this field, Figley defined CF as "the natural and consequent behaviors and emotions resulting from knowing about a traumatizing event experienced by a(n) other".³ These definitions focused predominantly on the nature of vicarious

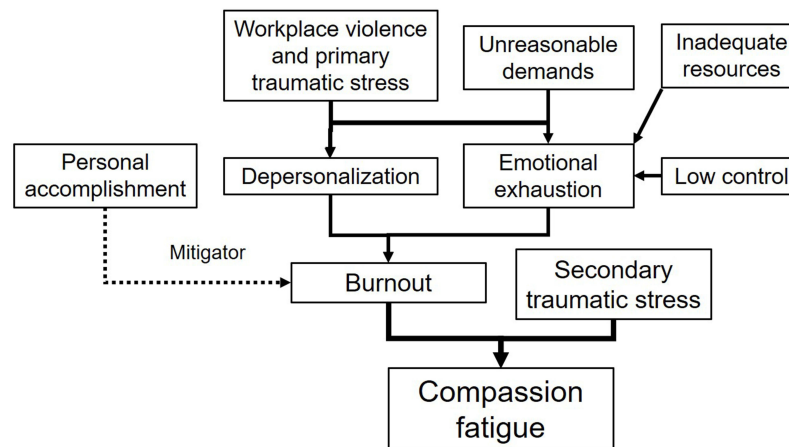


Figure 1 Flow diagram representing contributors to compassion fatigue. Workplace stress and resource/demand imbalance with low worker control contribute to emotional exhaustion and depersonalization. These factors lead to burnout. Burnout can be mitigated to some degree by personal accomplishment. Burnout and secondary traumatic stress ultimately cause compassion fatigue.

trauma, internalization, and emotional transference. More recently, some researchers of “CF” have added the phenomenon of “burnout” as a second contributing factor. The ProQOL survey, a validated instrument used to measure the positive and negative effects of working within caring professions, describes CF as the sum total of these two elements: STS and burnout.^{4–6} For the purposes of consistency and to promote understanding of available literature on this topic, we use the term “CF” as defined by ProQOL, and provide background on its component parts.⁵ Figure 1 provides a flow diagram of contributors to compassion fatigue for the reader to reference throughout the manuscript for clarity regarding this complex construct. We additionally review the available literature on these components, although few have been studied in emergency medicine specifically. Finally, we discuss the repercussions and possible mitigators to CF.

The literature used in this manuscript was identified through PubMed, GoogleScholar, and Science Direct searches with search terms of “Compassion fatigue”, “Burnout”, “Compassion satisfaction”, “Secondary traumatic stress”, “Post-traumatic stress disorder”, “Workplace violence”, and also using these terms combined with “Emergency medicine”, “Healthcare worker”, “Physician”, “Emergency department”, and “Emergency”. We also explored the references cited in our primarily identified literature for related concepts and papers that used different terminology for the phenomenon of compassion fatigue, burnout, secondary traumatic stress, and compassion satisfaction.

Traumatic Stress: Primary, Secondary, and Post-Traumatic Stress Disorder

Primary Traumatic Stress

In contrast to STS, primary traumatic stress is the process by which caregivers are directly traumatized in the course of their work. Primary traumatic stress has not been measured independently in assessments of CF, perhaps because its importance was not considered in the ‘90s when initial work in CF was being done. It is nevertheless important to consider its contribution to emotional exhaustion (EE) and thus burnout, which ultimately promotes CF, particularly in the ED setting.⁷ In the United States (US), healthcare workers are fivefold more likely to experience nonfatal workplace violence than any other profession including law enforcement. Consequently, it is not surprising that more than half of workers in the ED cite workplace violence and their mistreatment by patients as major stressors.⁸ Although hospitals are often overlooked as being highly dangerous places, 75% of all workplace violence in the US occurs in healthcare facilities, and the attendant burden of post-traumatic symptoms incurred by workers is high.⁹ In a large survey of 3500 US EPs, 47% reported being physically assaulted at work, with 60% of those assaults occurring in the prior year, and 70% of EPs reporting a significant increase in workplace violence during their careers.¹⁰ These trends are consistent internationally, and have worsened as a result of the COVID-19 pandemic.^{11–16}

While weapons are commonly brought to the ED by patients, only 11% of US EDs have walk-through metal detectors, and most EDs screen only a small subset of patients.¹⁷ Lack of weapons screening creates an opportunity for violence in the ED, but also represents a source of stress and unease in the workplace.

Secondary Traumatic Stress

As alluded to earlier, STS occurs by observing stressful, traumatic, and violent events experienced by others.³ Caregivers witness a wide variety of physically and emotionally traumatic events, with both the cumulative volume and the intensity of these exposures leading to an increased likelihood of developing emotional distress and symptoms related to STS.^{9,18} These secondary traumatic experiences can be amplified by retraumatization from exposure to similar events or through repeat exposure to the same event through news reports, social media, or visual media.^{7,19,20} Repeated exposure to STS is unavoidable and inherent in the day-to-day work of EPs who care for patients and their families on what is often the worst day of their lives. Symptoms of STS can develop suddenly and include intrusive and disturbing thoughts, nightmares and sleep disturbance, anxiety, avoidance, and hypervigilance.⁴ These symptoms are identical to those of post-traumatic stress disorder (PTSD) and can be just as disabling. Indeed, in addition to primary traumatic stress, STS has been recognized by the American Psychiatric Association as being a diagnostic criterion for the diagnosis of PTSD since 2013.²¹ There is a paucity of data on the incidence of STS in EPs, but one small study of 118 in Texas showed that almost 13% of their population had clinical levels of intrusion, arousal, and avoidance symptom clusters, and over 1/3 had at least one symptom cluster at positive levels as a result of STS.²²

Burnout: Emotional Exhaustion, Depersonalization, and Personal Accomplishment

Like the term CF, the term burnout has evolved since Freudenberger coined it in the 1970s. Per Freudenberger, burnout is the end result of severe stress and high ideals that affect people in “helping” or caregiving professions, essentially representing an imbalance of work demands in highly committed individuals that overwhelms their ability to cope.^{23,24} Maslach created the first instrument measuring burnout in 1981, defining the syndrome as having three domains: EE, depersonalization, and personal accomplishment.²⁵ In this model, high levels of EE and depersonalization and low levels of personal accomplishment correspond to high levels of burnout.²⁵ The dimensionality and high internal consistency of this model have led to it becoming the most commonly used measurement tool for burnout.^{26,27} Most studies related to CF in emergency medicine primarily explore burnout and its domain due to their ease of study and do not address STS despite its important contribution to CF. The Maslach Burnout Inventory (MBI) has been correlated with other well-being instruments in EPs, so we will use the items in this inventory for discussions on burnout and ultimately CF.²⁸

Emotional Exhaustion

EE is the feeling of being overwhelmed, depleted, helpless, and ineffective as a result of accumulated work stress. Although an in-depth discussion of EE is beyond the scope of this paper, it is helpful to understand how EE in occupational settings is measured, as it provides insight into sources of EE in emergency medicine.

Job Demands-Control-Support Model of Workplace Stress

The best studied model of work-related stress is Karasek’s job demands-control model, which Johnson and Hall modified into the job demands-control-support model.²⁹ According to this model, high levels of job-related stress and therefore EE occur in the setting of high levels of work demands combined with low levels of autonomy and job decision latitude.³⁰ In other words, workers will suffer from greater levels of EE when there are high requirements for workplace performance combined with high levels of external rather than internal controls.³⁰ In emergency medicine, this model has face validity. While medicine in general has high demands and a “no mistakes allowed culture”, EPs are expected to make accurate, high stakes decisions in rapid succession with little a priori information.³¹ EDs manage almost half of the hospital-associated medical care in the US, with EPs enduring the daily grind of a large, unpredictable, and unscheduled workload.³² EM culture places pressure on EPs to maximize the patient experience while also providing efficient, cost-effective care. This requirement can feel unmeetable under the best of circumstances, let alone when departments are

short staffed or faced with myriad patients with non-emergency medical conditions making unreasonable demands. Frequent ED users have been shown to produce feelings of helplessness and increased fatigue in healthcare workers who have no resources to assist these patients.³³ EPs often lack control over the type and number of patients they see, with the expectation that they care for the next patient regardless of their workload, physical needs (such as food), or the need for time to process STS from a prior encounter. EP reimbursement is often tied to patient satisfaction surveys and turnaround times, both of which are affected by many factors outside of the EP's control. Employer emphasis on difficult to obtain metrics combined with large administrative burdens can serve as additional triggers for EE.^{34,35} Furthermore, EPs often have unpredictable schedules, threat of physical violence, and unreliable staffing, all of which contribute to feelings of lack of control, helplessness, and EE.^{36,37} The presence of social isolation or the lack of coworker or leadership support, when added to this model, predicts worse mental and physical health for workers, and ultimately burnout.^{38–40}

The Job Demands-Resources Model of Workplace Stress

The job demands-resources model is less well studied than the job demands-control model, but adds understanding to the discussion of Emergency Medicine workplace stress. This model links EE and workplace stress to the characteristics of the job itself but also allows for the role of personal factors.⁴¹ In this model, job demands represent the physical, emotional, and psychological workload imposed by the job, similar to the job demands-control support model. "Resources" refers to material resources provided by the workplace (such as software, computers, equipment) as well as "intangible" resources, such as opportunities for growth, appropriately actionable feedback, autonomy, accommodations for workers' needs, promotion of positive interpersonal relationships, and support. Both adequacy and availability of equipment, physical work space and security, and opportunities for career growth have been shown to impact EE and burnout in EPs.^{34,35} "Resources" also refers to internal resources provided by the workers themselves, such as resilience, efficacy, and motivation. These resources are affected by an individual's personality traits, social supports, and lifestyles. In emergency medicine, internal resources are often impacted by the nature of the job itself. A demanding schedule with shifting hours can result in inadequate sleep, physical exhaustion, and poor work/life balance.⁴² EPs may experience feelings of isolation when family and friends with more traditional schedules do not appreciate the strain of their erratic lifestyle, subsequently leading to work-family conflict, loss of social support, and further burnout.³⁶ Friction among coworkers or towards consultants, predisposition to anxiety, and predisposition to depression also weigh into the "resources" portion of this model of occupational stress.^{34,35} In a Spanish study, EPs working in the ED experience higher levels of acute anxiety and stress than those same EPs working in inpatient settings, suggesting that increased resources for management of stress and anxiety are crucial to optimize working conditions in the ED.⁴³ Jobs that are "tipped" towards resources exceeding demands promote higher worker engagement and performance, while those that are tipped towards demands with inadequate resources promote EE and burnout.⁴¹

Depersonalization

The dimension of Depersonalization measures the degree to which individuals feel unattached or unfeeling toward the people they work for or with, and the degree to which they are indifferent to their work.^{25–27} Depersonalization is positively correlated with EE, though it is unclear whether it leads to EE, whether it is a defense or coping mechanism against EE, or whether the two elements build on one another in a feedback loop that ends in burnout.^{25–27} In both the US and Indian studies of EM, poor sleep quality and volume is linked to depersonalization, as is facing at-work criticism.^{44–46} In a large meta-analysis, the prevalence of depersonalization in EPs is greater than 40%.⁴⁷

Personal Accomplishment

Personal accomplishment measures the degree to which people feel competent, masterful or successful in their work.^{26,27} A key element to personal accomplishment is also a feeling that one's work is meaningful, impactful, or makes a difference.²⁵ Feelings of personal accomplishment correspond with reduced rates of burnout. In a US-based study of EPs, about 2/3 report high personal accomplishment within their fields, although less experienced EPs or those with less support tend to feel reduced accomplishment.⁴⁸ In spite of high feelings of accomplishment, burnout is more common in physicians than in the general population, and more common in front-line physicians than in specialists.^{49–59}

Effects of Compassion Fatigue on Patients in the Emergency Department

By definition, healthcare workers suffering from CF have a limited capacity to care or are unable to provide compassionate care to their patients.⁶⁰ This lack of compassion in the doctor-patient relationship impacts patient outcomes and safety, patient perception of care, patient trust and willingness to seek care, and likelihood of litigation.

Patient safety is of the highest priority for healthcare professionals, yet medical errors account for 100,000 deaths per year in the US alone.⁶¹ The literature quantifying the relationship and mechanisms between CF and patient outcomes is thus far sparse. Studies have demonstrated that medical errors positively correlate with physician physical fatigue and burnout.^{62,63} It is difficult to know the degree to which job demands that lead to EE, such as overcrowding, also lead to medical errors or suboptimal care. While there may be a correlation between CF/burnout and medical errors in under-resourced or understaffed departments, this does not necessarily indicate causation. Nevertheless, in both the US and European studies, EPs with higher levels of burnout are more likely to report that they provide suboptimal care. This occurs by not following protocols, admitting or discharging patients prematurely to make the ED more manageable, not fully answering patients' questions, and not treating patients' pain in a timely manner.^{53,62-67} Furthermore, higher levels of burnout were correlated with not communicating important information during handoff, not discussing treatment plans with important staff, and ordering more laboratory or radiology studies because of feelings of being busy.^{53,62-67} One European study found that burnout among EPs was associated with self-reported mistakes that inadvertently could have harmed or did in fact harm patients.⁶⁸ EPs with CF communicate less thoroughly and less well, and are more likely to have unchecked cognitive biases that impact patient care.^{53,62-69}

The consequences of EP CF impact patients' health even after patients return home. In a US study connecting CF and patient outcomes, ED patients with life-threatening medical emergencies who perceived greater compassion from EPs had fewer PTSD symptoms one month after treatment.⁷⁰ The inverse correlation between compassion and PTSD symptoms was present even after controlling for admission or discharge disposition, ED overcrowding, and severity of illness.⁷⁰ Discharged patients who are more satisfied with their care and receive more empathetic care are more likely to follow physician instructions on medications and follow-up.⁷¹ Conversely, patients who feel their EPs did not provide empathetic care are less inclined to return to EDs to seek emergent care when needed.⁷²

CF also impacts patient satisfaction beyond quality of care. Patients want empathetic care, but burnout and subsequent CF decrease EP empathy.⁷³⁻⁷⁵ Patients' experience of their ED visit is a metric that is followed by most EDs in the US, and many EPs' reimbursement is tied to this metric. Patient satisfaction has been demonstrated to decrease with lower levels of EP empathy, but there are also many aspects of the patient experience that are out of an individual EP's control (ie overcrowding, wait times, lack of specialty resources, etc).^{76,77} Decreasing reimbursement and providing negative feedback based on a metric that EPs can only partially affect can reduce EPs' feelings of personal accomplishment, increasing their EE, depersonalization, and thus burnout.

Patient perception of empathetic care also impacts the likelihood of malpractice lawsuits or threatening litigation.⁷⁸ Results from a randomized control trial in the US show that patients were less likely to harbor thoughts of litigation when presented with a fictitious medical error if their doctors were more empathetic, verbalized understanding of their patient's concerns, and did not dismiss patients' knowledge of their own health.⁷⁸ Therefore, EPs exhibiting CF are not only more at risk of making errors from poor communication and unchecked biases, but are also more at risk of litigation from those errors.^{53,62-69,78}

Effects of Compassion Fatigue on Emergency Physicians

CF is clearly an occupational hazard of a caring EP. The answer to the question of "What is the 'cost of caring' to the EP?" is a difficult one to answer.³ What makes the literature difficult to interpret is that there are few studies focused on EPs. Of studies of EPs, many combine samples of emergency nurses, technicians, and physicians and lack a separate analysis of the impact specifically on the EP. Moreover, no studies were identified that looked specifically at the association of CF with EP mental health and substance use, job satisfaction and longevity, and familial and interpersonal relationships but rather focused on these relationships with the components of burnout and STS. Further, it is difficult to draw conclusions from the data because there is no way to prove causation but only association. Is it that burnout causes

depression in the EP or vice versa, that depression accelerates the susceptibility to burnout? Are individuals who have a higher level of background anxiety more likely to feel higher STS from an encounter than those with lower baseline anxiety who are exposed to the same stimulus?

Depression and Suicidality

The association between burnout and depression seems to be the most studied of the personal effects of burnout on the physician. A meta-analysis published in 2019, examining articles published between 2008 and 2018, found 67 studies representing 84,169 participants. Although the articles were not necessarily focused on health care workers and had moderate heterogeneity, there was found to be a moderate correlation between burnout and depression ($r = 0.520$, $SE = 0.012$, $95\% \text{ CI} = 0.492, 0.547$).⁷⁹ From the American Medical Association's Physician Master File, Shanafelt et al surveyed 35,922 physicians across a range of specialties in the US and received a 19% response rate of 6880 completed surveys. Using the MBI to define burnout, they found 54.4% of the physicians had at least one symptom of burnout and EPs had the highest levels of burnout of any specialty (OR 2.59, 95% CI 1.94–3.47 compared with general internal medicine subspecialty). This is almost twice the reported rates of burnout in a sample of the US general population (28.4%). Of responding physicians, 39.8% screened positive for depression and 6.4% reported thoughts of suicidal ideation in the preceding 12 months.⁸⁰ This compares unfavorably to the reported rate of depression in US households of 7.6%.⁸¹ Likewise, the reported rate of suicidal ideation in the general US population is lower (4.3%) than that reported by physicians.⁸² In a survey of over 13,000 US physicians representing 29 specialties in 2022, 47% of the respondents reported experiencing symptoms of being burned out.⁸³ EPs had the highest levels of self-reported burnout of any specialty (60%). In that sample, 24% reported feeling clinically depressed and 64% reported feeling colloquial depression (feeling down, blue, sad).⁸³ The 2019 Medscape report reported lower values of clinical depression (4%) and colloquial depression (11%), but also reported high rates of reported thoughts of suicide (14%) and suicidal attempts (1%).⁸⁴ A cross-sectional survey of 99 EPs and 243 emergency nurses in China found that 36–38% screened positive for depression using the Center for Epidemiologic Studies Depression (CES-D) scale. There was a statistically significant correlation between having CF and the presence of depression, depressed affect, and somatic complaints.⁸⁵ A sample of 246 Italian health care workers including physicians (19%), nurses (61%), and intermediate care technicians (20%) found that compassion satisfaction was negatively correlated with depression, anxiety, and stress, while burnout and STS were positively correlated with depression, anxiety, and stress.⁸⁶

In a recently published systematic review evaluating the relationship between physician burnout and anxiety and depression, suicide risk and substance abuse, of 61 articles, many focused on resident physician burnout, 45 studies specifically evaluated the association between burnout and depression and all 45 found a statistically significant positive association. The 13 odds ratios reported from studies of burnout and depression ranged from 0.89 to 10.68. In studies that specifically evaluated the separate burnout domains, they found significant associations between the EE domain of burnout and depression. Of 15 studies that investigated the association between burnout and suicidal ideation (SI), 10 of them found an association between burnout and SI, one found no correlation, and the other four did not measure association or correlation. A study of 7900 US surgeons found that for each point increase in EE or depersonalization or for each point decrease in personal accomplishment, respondents were 5–10% more likely to report suicidal ideation.⁸⁷

As stated before, studies specifically looking at mental health in EPs are few, and those that examine the relationships to burnout are even rarer. One study examined the degree of burnout in attending and resident physicians at two US academic emergency medicine programs and its relationship to patient care, reporting burnout in 57.1% of 77 respondents. Although not the primary measured outcome, they found that EP burnout was significantly associated with a positive screen for depression (38.6% vs 12.1%, $p=0.011$) and lower career satisfaction (77.3% vs 97.0%, $p=0.02$).⁶⁴ A survey of 488 emergency residents involved in the Emergency Medicine Residents Association (EMRA) found that there was a positive correlation between perceived levels of stress and Center for Epidemiologic Studies – Depression Scale (CES-D) scores.⁸⁸

Anxiety

The relationship between anxiety and burnout and CF in physicians is less well studied than depression, and no articles were found in the literature addressing the unique work situations encountered by EPs. In their systematic review, Ryan et al found 12 articles that evaluated the association of physician burnout and anxiety and found a positive association between burnout or EE and anxiety. In the three studies that reported odds ratios, these ranged from 1.08 to 3.95.⁸⁹ In a survey of 98 Greek and Cypriot intensive care physicians, with a response rate of 81%, trait anxiety (the personality trait of being prone to anxiety) was positively associated with burnout, while state anxiety (the transient reaction to specific adverse events) showed no association.⁹⁰ A meta-analysis identifying 34 studies of employed individuals and professional athletes published between 2008 and 2018, representing 40,751 participants, found a significant, moderate correlation between the presence of burnout and anxiety ($r = 0.460$, $SE = 0.014$, $95\% \text{ CI} = 0.421, 0.497$).⁷⁹

Physician Substance Abuse

The relationship between physician substance abuse and burnout is difficult to study. Substance abuse likely goes under-reported, both because of the negative societal implications, as well as the negative ramifications of being identified as an impaired provider. In Ryan et al's systematic review, 16 studies were identified that investigated the association between substance abuse and burnout, with 14 of these focusing specifically on alcohol use and misuse. These studies found an inconsistent association between burnout and alcohol use.⁸⁹ Medscape surveys of physicians have consistently reported physicians' self-reported rates of using alcohol to cope with burnout of 23–24%.^{83,84} In a 2017 US-based survey of 171 anesthesiologists, 16% reported using substances (alcohol, tobacco, and cannabis) daily or frequently to manage job stress. They were unable to demonstrate any significant correlation between the components of burnout and the likelihood of substance abuse.⁹¹ A study of Danish physicians analyzed the relationship between burnout as measured by the MBI and risky alcohol use as measured by the Alcohol Use Disorders Identification Test (AUDIT). In their study, 1841 respondents (response rate of 46%), 18.8% reported risky alcohol use as defined by an AUDIT score ≥ 8 . They found that physicians with moderate to severe burnout had an increased risk of risky alcohol use in a dose-dependent manner and found that the depersonalization domain of burnout was most strongly correlated with alcohol misuse.⁹² Prevalence of alcohol abuse or dependence was reported to be 15.4% in 7197 US surgeons. Analysis of alcohol abuse or dependence, as identified by an AUDIT-C score of 5 or more in men or 4 or more in females, demonstrated a statistically significant linear relationship between EE and depersonalization.⁹³ In their study of 7209 US physicians, Oreskovich et al found that 15.3% of the respondents had alcohol abuse or dependence. In comparing specialties, EPs had more alcohol abuse and dependence than the mean. They found that there was a statistically significant association between alcohol abuse or dependence and burnout, depression, and suicidal risk.⁹⁴ From all these studies, the reported prevalence of alcohol use disorder in physicians is higher than the national average of 11.2% in US adults in 2022.⁹⁵

Emergency Physician Attrition

A study of 472 physicians in the Stanford Health Network examined the relationship between burnout and physician attrition. They found that 26% of the physicians reported burnout, 28% reported intent to leave the institution within 2 years, and a follow-up performed at 2 years found that 13% of the physicians actually left the institution. Of physicians reporting burnout, 59% reported intent to leave versus 18% of those without symptoms of burnout. Having burnout was associated with 1.68 times the odds of actually leaving the institution ($OR = 2.68$, $95\% \text{ CI}: 1.34\text{--}5.38$). This increased rate of attrition was estimated to have cost the institution between \$15 M and \$55 M in physician recruitment and start-up costs.⁹⁶ In a longitudinal study of institutional physicians at the Mayo Clinic between 2008 and 2014, physicians were 1.4 times more likely to decrease their FTEs over the next 24 months for each 1 point increase in their EE. Additionally, they were 1.28 times more likely to decrease their FTEs over the next 24 months for each point decrease in personal satisfaction.⁹⁷ Similarly, in a US-based survey study by Sinsky et al, 19.8% of 6880 responding physicians were likely or definitely going to reduce clinical practice in the next year and 26.6% were likely or definitely going to leave their clinical practice in the next two years. Burnout was an independent predictor of likelihood to reduce clinical practice and leave practice ($OR = 1.81$; $95\% \text{ CI}, 1.49\text{--}2.19$; $P < 0.001$).⁹⁸

Most of the known data on EP attrition are from the 1990s. A survey study sent to the American Board of Emergency Medicine delegates, resulted in 785 responders, 23.1% of whom would likely leave the profession within the next five years. Physicians planning to leave practice were significantly more likely to report feelings of burnout or impairment ($p < 0.001$) and had significantly lower mean scores for practice satisfaction ($p < 0.0001$).⁹⁹ Conversely, a longitudinal study of 1256 emergency physicians filling out the MBI (while at a wellness booth at the American College of Emergency Physicians annual academic assembly) found burnout rates of 60% but that this did not increase attrition rates of 2–3% annually compared with those who have low levels of burnout.¹⁰⁰ These rates of attrition correspond to a study with data derived from the American Medical Association Physician Masterfile of 30,864 EM-trained or EM board-certified physicians, which found attrition rates of 1.7% annually.¹⁰¹ More recently, a study analyzed Medicare Physicians and Other Practitioners data linked by the National Provider Identifier to the American Board of Emergency Medicine board certification data, looking at physicians who were reimbursed for at least 50 patient encounters during the year and seeing if they remained in practice the following year. From 2014 to 2019, EP attrition remained fairly steady at 5.4% per year (range 5.1 to 5.7%). In 2020, during the COVID-19 pandemic, US EP attrition climbed to 8.2%.¹⁰² Although not directly attributable to physician burnout and CF, the COVID-19 pandemic proved to be a stressful period for EPs.

In summary, burnout, secondary stress, depersonalization, and resulting CF likely have significant negative impacts on the EP. There have been demonstrated associations among burnout, depression, suicidality and anxiety. Data on the impact of burnout on substance misuse among physicians remains more conflicted. Although studies vary in whether burnout is associated with alcohol abuse and dependence, what can be said is that physicians misuse alcohol in reportedly higher proportions than the general US population. Also, it is unclear from the literature the impact that physician burnout plays in attrition. It is believable as physicians burnout, they protect themselves by decreasing clinical workload and reducing their FTEs, but might not fully leave the field of medicine after the substantial investment of time and effort.

Improving Compassion Fatigue in Emergency Physicians

In order to comprehensively improve CF, each of its component contributors (EE, depersonalization, personal achievement, primary traumatic stress, and STS) must be independently assessed and addressed at every level, from the individual physician to workplace expectations and safeguards to government policies to the attitudes of the public.¹⁰³

Individual Interventions to Combat Emotional Exhaustion and Depersonalization

Insofar as workplace models of stress and EE involve some personal factors, EPs need to be cognizant of their own wellness, habits, mindfulness, and psychological well-being. Studies in healthcare worker burnout and CF have shown modest improvement in empathy, well-being, and attitude with mindfulness and wellness programs, but these studies are limited by short-term follow-up, heterogeneity of programs, lack of randomized design, and sometimes lack of standard outcome measures.^{104–108} Nevertheless, most studies demonstrate at least short-term benefit in burnout and EE symptoms from mindfulness programs.

Counseling and therapy also likely have some benefits for EPs who are experiencing burnout.¹⁰⁹ Cognitive behavioral therapy is a treatment for depression, anxiety, and PTSD that is problem-focused and behavior-oriented. This form of therapy helps develop coping strategies and critical emotional regulation, and has the potential to play an important role in treating or combatting burnout as well as STS in EPs.^{110–112} In a randomized controlled study of Swedish healthcare workers on sick leave for burnout symptoms, yoga, cognitive behavioral therapy, and mindfulness-based cognitive therapy all had a moderate to large improvement in burnout symptoms at 20 weeks.¹¹³

Although research is very limited, small studies in the US demonstrate that workshops on stress reduction and support groups have some benefit in reducing healthcare worker EE.^{114,115} Stress reduction workshops focus on relaxation techniques, interpersonal skills, emotional resilience, coping techniques, and acknowledging the positives in the workplace, and are inexpensive interventions that have shown short-term benefit in burnout. Part of the success of support groups is likely that the social aspects of a group dynamic help combat depersonalization and isolation and create a common shared experience.

Organizational Interventions to Combat Emotional Exhaustion and Depersonalization

As we have discussed earlier, models of workplace stress place the majority of the responsibility for EE with the organizations themselves. The Mayo Clinic, which established a physician wellness center in 2007, has provided numerous research articles and toolkits for organizations regarding mitigation of physician burnout.¹¹⁶ They have identified 7 drivers of physician burnout, which echo nonmedical models of workplace stress: workload and job demands, efficiency and resources, meaning in work, culture and values, control and flexibility, social support and community at work, and work-life integration.¹¹⁷

Organizations should study each of these seven drivers within their workplace, assess workplace needs, and, using evidence-based practice, provide tailored interventions where needed. Organizations should focus on optimal staffing, coverage, and adequate recovery time between blocks of work to reduce work overload. In nonmedical settings, this reduces metrics of burnout, and it is intuitive that this would be true in EM, as well.^{118,119} Making sure staff have adequate physical resources, but also support personnel, improves burnout, as does focusing on realistic efficiency metrics over which physicians have control.¹¹⁷ Organizations have the ability to set adequate and fair reimbursement, which weighs into the reward model of workplace stress, and equitable and transparent decision-making and benchmarks for promotion also improve worker well-being.^{120,121} Allowing involvement and participation in decision-making and providing individuals the authority and resources to pursue work-related goals have also been shown to improve engagement and reduce burnout, although studies are scarce in medical settings.^{118,122,123}

Social interaction and standards for interpersonal communication are partly the responsibility of the organization. Providing individuals with communication toolkits through workshops and educational materials has not been shown to reduce metrics of burnout, but to improve physician self-efficacy and quality of communication and may reduce stress around communication.¹²⁴ Further, behavior and examples set by leadership are important drivers of positive interpersonal interaction and physician wellness in the healthcare setting, and institutions can provide leadership training, leadership feedback, and ultimately, removal of leaders who are not effective at promoting positive standards.^{117,125}

Organizational Interventions to Reduce Primary Traumatic Stress

Preventing workplace violence should be a high priority for emergency departments. Although in the US, state-wide mandates for hospitals to institute safety policies have been shown to improve rates of violence in the ED, these mandates do not specifically state what those safety policies should be.^{8,126} Therefore, ED safety needs to be assessed and addressed at the organizational level, and policies must be, by necessity, specific to the site.

Although not every ED is in a position to undertake a redesign, the physical design of EDs can impact their overall safety, and physical safety, lighting, and sightlines should be considered when designing EDs.^{127,128}

EDs should be locked and have limited numbers of visitors with no hospital thru-traffic to decrease hospital personnel exposure to potentially dangerous situations.¹²⁹ EDs should have multiple egresses in case of open shooters in the department, to facilitate evacuation of staff and patients.

Metal detectors, whether fixed and walk-through or wand detectors used by personnel, have been shown to increase the number of weapons removed from patients in US EDs and in at least one study have been demonstrated to have high acceptance from patients.^{130–132} In addition to improving ED safety, metal detectors also improve patient and healthcare worker impressions of safety and security.¹²⁹

Organizational policy regarding a weapon-free and violence-free ED should be prominently posted in waiting rooms and at registration sites to establish expectations with patients.

EDs should have adequate security personnel who are educated in terms of safety protocols, guidelines, and local law.¹²⁹ As EDs are the most common site of workplace violence in the hospital setting, security should be physically present in the ED. ED workers should also be educated in de-escalation, violence recognition, and violence mitigation.

Finally, organizations should promote and encourage reporting of all episodes of violence in the ED. It is difficult to study events that are not reported, and appropriate allocation of resources to violence mitigation is hard to justify without data. Unfortunately, most EPs believe that violence is part of the job, and some may fear repercussions against them for reporting or pressing charges against a violent patient.^{8,129} Some workplaces have a culture of blame, and EPs do not

report because they are made to feel responsible for the violence. Law enforcement may also fail to take these events seriously, which further puts pressure on EPs to accept violence as merely part of the job. Fixing this problem requires sweeping culture change within the organization as well as at the level of local and regional law enforcement.

Organizational Interventions to Reduce Secondary Traumatic Stress

Emergency medicine exposes workers to a wide variety of STS. This is unavoidable, and there are no studies addressing mitigation of STS in EPs. Like primary traumatic violence, it is difficult to address problems for which the scope is not fully known. Therefore, a first place to start for organizations would be to use validated tools to determine the symptom burden of STS and perform a needs assessment of their workers. Organizations should destigmatize mental health care for physicians, and provide resources for counselling, support, and education. Because of the nature of EM shift work, these resources need to be flexible and available in non-traditional ways. These resources need to be available in a longitudinal fashion, as single debriefing meetings after traumatic events have not been shown to be helpful in reducing STS symptoms.^{8,133,134}

There are programs that have been shown to reduce CF and hasten recovery from STS symptoms in emergency and oncology nurses, and these have been shown to improve CF and burnout in this population for up to a year.^{135–137} The Accelerated Recovery Program and its derivative programs provide training videos which focus on education about CF, approaching difficult memories, and cognitive exercises that are based on CBT and help reduce the intrusion of difficult emotions, thoughts, and subsequent behaviors that are associated with STS. Programs like these have the potential to reduce or even prevent symptoms of STS, and warrant further study in EPs.^{135–137}

Promotion of Personal Achievement

Personal achievement is described by Maslach as “feelings of competence and successful achievement in one’s work with people”.²⁵ This is an equivalent term to Compassion Satisfaction, which is defined by ProQOL researchers as the pleasure one derives from helping, the positive feelings we have for colleagues, and the good feelings resulting from the ability to assist others and make a contribution.⁵ EPs tend to have moderate to high feelings of compassion satisfaction/personal achievement, even as trainees, in spite of their high rates of burnout.^{42,48,138} Since personal achievement/compassion satisfaction weighs against burnout in the equation of CF, promoting compassion satisfaction reduces CF. There are no studies specifically addressing how to improve compassion satisfaction. However, since feelings of personal achievement are lower in individuals with less experience, less training/education, and less support, it is reasonable to postulate that compassion satisfaction might be increased through mentorship, career development, and professional development opportunities.^{48,117} A culture of respect and fairness that is fostered throughout healthcare organizations and echoed at all levels of leadership also promotes engagement and compassion satisfaction among physicians.¹¹⁷

Conclusion

Very little research on CF in EPs has been performed. Most information about CF in EPs has been extrapolated from nursing, social work, psychology, and occupational health research. Nevertheless, studies on primary and secondary trauma and burnout strongly suggest that CF is a real and growing concern for EPs. To combat CF, individuals and organizations should be aware of the contributors to CF: namely, burnout (including personal achievement, EE, and depersonalization), primary trauma and STS. Physicians should be aware of their own wellness, habits, mindfulness, and psychological health, and engage in activities that promote their well-being within the context of their careers and lives. Organizations should assess the drivers of physician burnout within their own workplaces, addressing workplace safety, workload, job demands, efficiency, and access to resources (both tangible and intangible). Organizations should promote respectful cultures and fair value systems that enhance physician engagement, agency, and compassion satisfaction. Finally, organizations and physicians should work together to optimize work flexibility and expectations to improve workplace community and support while maintaining physician work-life balance at home.

Disclosure

The authors report no conflicts of interest in this work.

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