The Road to Wellness: Engagement Strategies to Help Radiologists Achieve Joy at Work

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Physician wellness is recognized as a critical component of enhancing the quality of health care. An epidemic of symptoms related to stress and burnout among medical professionals, including radiologists, in the workplace is threatening not only health care providers at a personal level but also the entire health care system. In this review, the authors highlight recognized stressors in the contemporary radiology workplace and offer practical suggestions for mitigating burnout, improving professional engagement, and promoting wellness. Thematic goals to focus on include fostering an integrated and harmonious community at work, diminishing workplace detractors, creating opportunities to cultivate positive attitudes and intellect, and implementing effective leadership practices.

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SA-CME LEARNING OBJECTIVES

After completing this journal-based SA-CME activity, participants will be able to:

■ List the required Accreditation Council for Graduate Medical Education policies and procedures that are essential to running a residency program.

■ Discuss the associations between workplace success and having committed program leadership, dedicated faculty, unwavering support from the department chair and graduate medical education office staff, and enthusiastic and engaged trainees.

■ Discuss the importance of engaging residents in programmatic decisions, providing ongoing faculty development, and adopting innovative teaching methods and content.

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Introduction

Burnout is a common syndrome in the contemporary American workplace, contributing to at least 120 000 deaths and between $125 billion and $190 billion in health care costs annually (1). The majority of radiologists, nearly 55% of them according to recent survey results (2–8), are increasingly experiencing symptoms related to stress and burnout. The physical and emotional consequences of chronic stress can be dire and range from cardiovascular and related disorders to sleep deprivation and ultimately severe psychologic changes, including suicide (9–12). Chronic stressors can cause the three-component syndrome of burnout (13–17): *(a)* exhaustion, which might be physical, cognitive, or emotional; *(b)* cynicism, or depersonalization and disengagement; and *(c)* inefficacy, which refers to feelings of incompetence and a lack of achievement and productivity (18).

Burnout is not solely a consequence of overworking. Additional factors include perceived constraints, distractions, and barriers to purposeful, autonomous, fair, and efficient working conditions in many organizations (1). If a radiologist does not feel that she or he is contributing value or having a positive influence, or feels underappreciated and unable to achieve personal goals, burnout may ensue. The consequences of burnout can be personal and include disengagement and disaffection, which can influence the morale of both the affected radiologist and others in the workplace. Burnout may result in an inability to provide the most effective patient care and promote disruptive or other harmful behavior, which can negatively affect a radiologist's ability to be an effective teacher, mentor, researcher, team player, and colleague. Ultimately, the burned-out radiologist may leave the practice of radiology or medicine entirely.

TEACHING POINTS

- The majority of radiologists, nearly 55% of them according to recent survey results, are increasingly experiencing symptoms related to stress and burnout.

- Burnout may result in an inability to provide the most effective patient care and promote disruptive or other harmful behavior, which can negatively affect a radiologist's ability to be an effective teacher, mentor, researcher, team player, and colleague.

- Including radiologist wellness as a quality metric enables a practice to raise awareness regarding the burnout issue, estimate the extent of the problem by obtaining baseline and ongoing measurements of burnout and wellness, and convey a sense of commitment to the issue.

- Specific drivers of stress include lack of autonomy, inefficiency, time pressures, clerical burdens, loss of control, and loss of meaning in one's work.

- Leaders at all levels must recognize the impact of their effectiveness or lack thereof and be willing to self-reflect, seek and respond to feedback, and make efforts to continuously improve their performance.

Much attention is already being focused on the worsening epidemic of stress and burnout, with few effective and sustainable solutions identified. As radiologists collaborate to reduce burnout and improve wellness, it is important that they focus less on temporary solutions to personal symptoms and more on sustainable longer-term organizational, cultural, and practice efforts that will lead to enhanced satisfaction and meaning in their work. Since the drivers of burnout are complex and may vary among organizations, attempted interventions can be misguided and ineffective and even enhance negative outcomes. More productive interventions will have to be focused on simplifying and improving the effectiveness of and meaning in our work.

The purpose of this review is twofold: to highlight recognized drivers of stress and to describe and promote mitigation strategies that can instill joy in the workplace. An equally important aim of this article is to stimulate engaging discussion among radiologists in the hope that solutions can be jointly identified, implemented, and shared.

Wellness: A New Radiology Lexicon

In the evolving discussion of organizational demands and employee happiness, many terms have been used when describing the symptoms and targeted outcomes. These terms include stress, burnout, satisfaction, wellness, joy, and engagement. In this review, *wellness* is used as a comprehensive term, with burnout at one end of the spectrum and joy and engagement at the opposing end. The National Wellness Institute (19) defines *wellness* as "a conscious self-directed and evolving process of

achieving full potential." Wellness is a desired goal, and joy is a manifestation of wellness. Stress and burnout, on the other hand, are symptoms of an undesirable emotional-psychologic state.

Wellness embraces the physical, emotional, intellectual, spiritual, social, environmental, and occupational domains (20) that contribute to quality of life. To optimize success in achieving wellness, remediations should be focused on all domains, with use of an ongoing expansive and sustainable approach. For example, although a low serum cholesterol level and low blood pressure may indicate a degree of physical well-being, they are not indicators of satisfaction or joy at work. Another example that is applicable to radiologists is reduced workload, or study volume, which may alleviate one obstacle to wellness, but it does not address—and it may even exacerbate—others.

Achieving a state of wellness in the imaging work environment is a continuous multistep journey that is the responsibility of team members of all levels, including administrators, physicians, technologists, nurses, and practice-support personnel. The first step in achieving wellness is a genuine acknowledgment that a problem exists, followed by adequate planning, allotment of resources, and persistent efforts toward implementation. For success in achieving the desired outcomes, the leadership and individual radiologists must be equally engaged and committed to the process.

Lessons Learned from Others

Before embarking on a major wellness initiative, it is critical to be aware of the prior attempted programs that were successful and those that were ineffective. Investigators in previous studies (7,21) describe four categories of drivers that contribute to stress in the workplace: individual or personal factors, the work unit, organizational factors, and national trends. In their book on preventing physician burnout, DeChant and Shannon (21) list individual strategies for fostering physician satisfaction and high performance (Fig 1), which are based on the "lean" principle of respect for people. However, focusing on individual solutions (eg, teaching mindfulness and resiliency) will not be effective unless organizational changes are implemented in the workplace and external detractors are resolved.

In most studies (4,5,22), the challenge to improve wellness and mitigate burnout has been approached from an organizational perspective, and there are limited published data regarding personal and practice efforts (3). The American College of Radiology Commission on Human Resources (2) proposed 10 practice-level solutions that require personal and organizational adjustments, including hiring more radiologists
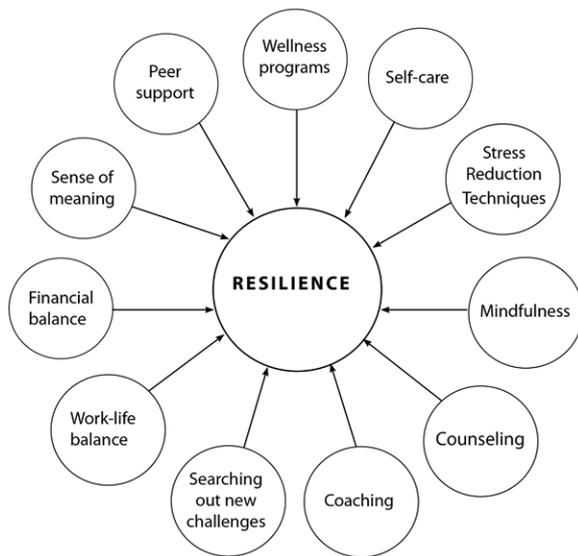
Figure 1. Diagram illustrates strategies that may help in building resilience against burnout (21).

Table 1: Recommendations for Radiology Leaders and Practices When Addressing Potential Risk Factors for Radiologist Burnout

Have adequate staffing

Improve radiologist efficiency

Reduce prolonged stress

Develop reasonable financial expectations and goals

Restore a sense of control

Reduce isolation of radiologists

Reduce night and weekend call obligations

Seek professional help

Restore lifestyle balance

Invoke action by radiology community

Source.—Reference 2. Recommendations are those of the American College of Radiology Commission on Human Resources.

(have adequate staffing), taking more vacation time (restore lifestyle balance), and working fewer hours (restore lifestyle balance, restore a sense of control), and are intended to engage radiologists in this important communal debate (Table 1). While these solutions are enticing, successful implementation depends on factors in individual practice settings.

Any attempts to mitigate burnout and stress must address all of the categories of drivers. Radiology is not the only medical subspecialty experiencing burnout (23–27). Thus, radiologists should engage their nonradiologist colleagues in this dialogue so that practitioners in different subspecialties can share and learn from each others' experiences and avoid duplicating efforts and implementing ineffective solutions.

A Seven-Step Solution Program

We propose seven areas (Fig 2), based on departmental experience and various published paradigms, in which radiologists can focus efforts to foster greater satisfaction and joy at work and begin the journey from burnout to wellness. These areas are outlined in the sections that follow.

Step 1: Acknowledge the Problem

As the majority of radiologists are experiencing symptoms of workplace stress and burnout, individuals and groups should not delay addressing this growing problem. Including radiologist wellness as a quality metric enables a practice to raise awareness regarding the burnout issue, estimate the extent of the problem by obtaining baseline and ongoing measurements of burnout and wellness, and convey a sense of commitment to the issue. Burnout can be surveyed and measured by using different tools (15,24,28), including the Maslach Burnout Inventory and the American Medical Association mini-Z survey.

Because few questionnaires are likely to reflect the specific details and challenges of individual practices, creators of these evaluations should consider tailoring existing surveys to an individual practice or system by adding specific questions regarding known challenges. The results obtained with each method used can serve as both baseline and interval metrics for monitoring improvement efforts at the individual, practice, or even organizational level.

Step 2: Address Drivers of Stress

The factors that affect wellness and stress in the workplace include external (extrinsic) and individual (intrinsic) influences, some of which are specific to radiologists and other physicians and some of which are generalizable to organizational practices in 21st century businesses (Fig 3). Established external drivers of stress related to the radiologist's work unit include increased workload, productivity metrics, picture archiving and communication system (PACS) issues, demands for extended service coverage, and increasing case complexity.

On an organizational level, electronic health records, growing patient access to medical records, information technology (IT) frustrations (which are exacerbated by new health care models such as accountable care and by changes resulting from health care and payment reform), and escalating regulatory and compliance requirements for radiologists (such as mandatory modules and seminars for *International Classification of Diseases, 10th revision* training; infection control; medication reconciliation; and codes red, blue, purple, and silver) can be perceived

Figure 2. Diagram illustrates a seven-step program to help radiologists re-engage, have improved job satisfaction, and experience joy at work. The first to last steps are presented from the bottom to the top.

as burdensome and stressful. Knowledge of the individual drivers, including a radiologist's work priorities, aspirations, and daily routines (eg, commuting or after-work responsibilities), is critical to understanding individual employee challenges and for considering outcomes. Leadership needs to be aware of these individual drivers and, when possible, focus on addressing them.

Shanafelt and Noseworthy (7) categorized seven major drivers of burnout (Table 2) and addressed them from the individual, work unit, organizational, and national levels. Shanafelt and Noseworthy (7) and other colleagues (29) also addressed the effects of effective and ineffective leadership on stress. Specific drivers of stress include lack of autonomy, inefficiency, time pressures, clerical burdens, loss of control, and loss of meaning in one's work. Gunderman (30) and Maslach et al (31) identified six "mismatches" (Table 3) that can exist between individual employees and organizations and lead to stress and the associated sequelae, including insufficient rewards, breakdown of the work community, absence of fairness, and conflicting values. Both classification systems (involving the seven major drivers of burnout and engagement and involving the six mismatches of the individual and organizational domains) are useful for helping radiologists understand specific drivers of stress and determine approaches for mitigation.

Step 3: Create a Community of Work-Life Integration and Harmony
Finding colleagues who are experiencing similar workplace challenges is one way to identify and introduce solutions that foster camaraderie. The benefit is the empowerment of these individuals to form departmental or organizational wellness committees that are charged with implementing programs to increase joy in the workplace.

As the boundaries between our professional and personal lives have become increasingly

blurred (32–35), there has been a shift from the concept of work-life balance toward work-life integration and harmony, with recognition that a complete separation is unlikely, given our digitally connected world. Most people prefer to have meaningful engagement among the interconnected roles, relationships, and responsibilities in life (35). The following suggestions can help nurture the radiology workplace community and promote a harmonious and integrated work life.

Support Social and Other Meaningful Activities.—These activities fall into three categories: group socializing, radiologist volunteer work, and radiologist participation in workplace operations. The categories of these activities are outlined in the following sections.

For group socializing, radiologists should find common interests to spark conversation and interaction with their colleagues. Activities can be planned for the workday (eg, tea time, coffee hour, lunch breaks, stroll during lunch) or times after work (eg, dinner, happy hour, movie night, karaoke, bowling, concerts, sporting events, or outdoor adventure). A book club, wine and beer club, special interest group (within and outside of radiology), or art gallery for exhibiting original photography, crafts, and other artwork created by members of the practice can be started. Radiologists can form exercise and sports groups that meet for activities such as stair climbing, rock climbing, indoor tennis, kickball, and soccer. They should also consider participating in group relaxation activities such as hiking, cycling, yoga, meditation, and painting. Group participation in such activities is essential to promoting group unity, given the increased isolation brought about by our distributed work environments.

Radiologists should consider volunteering their time and efforts to engage in impactful and meaningful projects. Through such activities, they
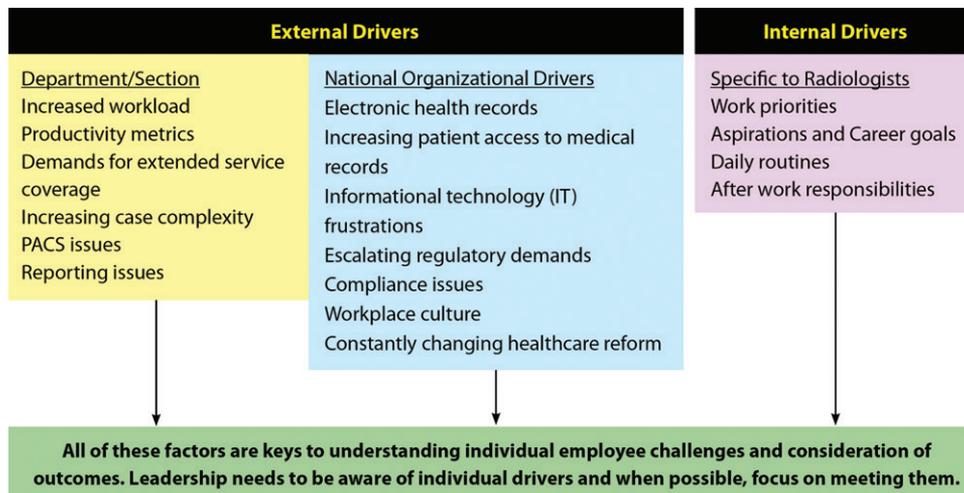
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External Drivers		Internal Drivers
Department/Section	**National Organizational Drivers**	**Specific to Radiologists**
Increased workload	Electronic health records	Work priorities
Productivity metrics	Increasing patient access to medical	Aspirations and Career goals
Demands for extended service	records	Daily routines
coverage	Informational technology (IT)	After work responsibilities
Increasing case complexity	frustrations	
PACS issues	Escalating regulatory demands	
Reporting issues	Compliance issues	
	Workplace culture	
	Constantly changing healthcare reform	

All of these factors are keys to understanding individual employee challenges and consideration of outcomes. Leadership needs to be aware of individual drivers and when possible, focus on meeting them.

Figure 3. Diagram outlines drivers of stress at the individual radiologist, departmental, and organizational levels. The factors that affect wellness and stress in the workplace include external and internal issues, some of which are specific to radiologists and other physicians and some of which are generalizable to organizational practices in 21st century businesses. Organizational and national trends may result from rapidly evolving technological advancements, new health care models such as accountable care, and changes resulting from health care and payment reform.

Table 2: Drivers of Burnout and Engagement

Workload and job demands
Efficiency and resources
Meaning in work
Culture and values
Control and flexibility
Social support and community at work
Work-life integration

Source.—Reference 7.

can find meaning and build relationships with colleagues by giving back to others. Examples include working at community organic farms or animal shelters; participating in or coordinating food, toy, or clothes drives; volunteering at homeless shelters and elderly care facilities; and reading to hospitalized children.

Volunteering can even be incorporated into the workday. During their lunch period or other designated times, radiologists (including trainees) who work in hospitals can visit inpatients who were selected from case studies that they read that morning. For radiologists who work remotely, away from patient care centers, coordinating to volunteer for hospital rounds or in outpatient clinics occasionally, whether in person or remotely with use of telemedicine tools, may provide a similar experience and exposure for the radiologist as part of the health care team. Not only can volunteering foster team building and socialization among radiologists; it can also support the goals of patient-centered care, in keeping with the Ameri-

can College of Radiology Imaging 3.0 Initiative, by highlighting the underlying purpose of the practice—caring for the individual patient. This goal can feel elusive in this age of digital medicine (36). Understanding the groups, activities, and organizations that are meaningful to radiologists will aid in identifying opportunities for their engagement.

Engaging radiologists in the operations of the practice—for example, as members of operational committees—will lead to their better understanding of the strengths, challenges, and growth opportunities of clinical practice. Interdepartmental inclusion also can be fostered through committee membership. Assigning leadership roles to radiologists on the basis of only a track record of effective involvement should be avoided. With this approach, younger, less experienced, and recently hired radiologists tend to be excluded. One method to promote inclusion is to establish an effective onboarding policy. This could include a welcoming peer committee, a mentoring "big brother–big sister" program, and/or involving the new radiologist in practice-building activities. These measures also facilitate the radiologist's smooth integration into the practice.

Explore Opportunities That Enable Time Off and Tailored Schedules.—Radiologists can take additional time off in several ways, including taking a furlough without pay or rotating opportunities for short sabbaticals. With these options, the challenge is that of balancing time away from work with the financial impact on the practice. This may require allocating funds to support moonlighting, hiring additional staff, or

using teleradiology coverage. Some radiologists may desire the flexibility of working part time, limited night or overnight coverage, and decreased weekend call obligations. Each practice should consider specific radiologist requests and offer creative ways to implement flexible scheduling, job sharing, and/or working from home to meet individual needs.

Identify Fulfilling Work Tasks Outside of Case Study Interpretation.—Are there nonclinical roles that radiologists can fill and contribute to the practice or organization? Are radiologists encouraged to think about their preferences for roles? Does the practice allow the radiologist to take on new roles? Does it offer succession planning that allows leaders to rotate and give others opportunities for leadership? Specific roles, which may vary between academic, private, and other practice models, include administrative, management, quality and safety, education, informatics, wellness, research, and community outreach positions.

Create a Better Sense of Control in the Work Environment.—Options for improving feelings of control in the workplace include creative and flexible scheduling options, including part-time work; effectively outsourcing administrative and related time-consuming tasks; and fair processes for trading call responsibilities. The radiologist's involvement in decision-making processes is critical in all practice settings, but it may be more challenging with hierarchical and less-transparent systems. Open discussion of important practice issues during regular radiology staff meetings and group decision making (whenever possible) can help improve transparency and contradict the individual's feeling of powerlessness by countering the perception that all decisions are made behind closed doors (2).

Create a Wellness Space.—Has the organization or practice dedicated a space for staff to engage in exercise, disengage, and relax with yoga, mindfulness exercises, meditation, and/or listening to music? Are lockers, showers, and towels available to encourage exercise? Free snacks, coffee, and/or other refreshments may help radiologists recharge and serve as a means with which to increase connectedness by promoting commensality.

Step 4: Diminish Detractors and Obstacles in the Work Environment

Understand Where and How the Work Is Done by Going on a Gemba Walk.—A radiologist can apply the basic lean tool, the so-called gemba walk, to examine the work environment. Use

Table 3: Domains of Individual and Organizational Mismatches That Drive Stress
Workload
Control of the work environment
Perceived and real awards
Sense of community
Sense of fairness
Organizational and individual values

Source.—Reference 31.

this opportunity to seek feedback from people working in different practice locations. Is the workplace a sweatshop or an environment fostering collaboration and supporting effective health care delivery? Is the group proud of the workplace, including its cleanliness, ergonomic efforts, lighting, and soundproofing, and the messages and welcomes received from colleagues? Would you feel comfortable bringing a patient into the reading room? Imagine showing the workplace to a highly desired potential new "superstar" recruit. What would you wish to improve?

Reduce the Workload.—One simple solution to minimizing stress is to decrease the radiologist's daily workload; this can be achieved by hiring more radiologists or outsourcing work. The concerns regarding this solution are that potential salary reductions may cause additional stress and outsourcing work may negatively affect the relationship between the radiology practice and the affiliated hospital. Another potential way to reduce the workload is to use the clinical decision support tools in the electronic health record. Clinical decision support tools offer benefits to the radiologist beyond the elimination of unnecessary imaging studies to reduce wasteful workloads. They also guide the ordering of appropriate imaging studies according to evidence-based guidelines (37,38). This helps to create practice standards and results in quality improvement, with the added value of greater visibility and relevance in clinical care, as exemplified by recent successes in adhering to incidental pulmonary nodule guidelines (37–39).

Improve Radiologist Efficiency by Facilitating Workflow and Limiting Informatics Contributors.—IT is both a burden and a solution. As radiology practices become more complex, the reliance on IT resources and associated informatics tools increases. While the use of these tools can improve efficiency, unfamiliarity with how to use new technology and suboptimal informatics tools can increase stress and frustra-

tion. There should be a focus on the elimination or mitigation of tedious repetitive tasks, such as those involving paperwork, constantly changing passwords, and ergonomic challenges. There should also be a commitment to identifying and implementing processes to minimize the frustrations that these tasks cause in the workplace (2). Informatics solutions must be considered, but with continued support of the perception of the radiologists' value as an essential cog in the wheel of value-added care. For example, a variety of informatics solutions ensure the timely and effective communication of critical results with follow-up, saving radiologists time, adding value with prompt clinical turnaround, and limiting potential medicolegal issues related to suboptimal communication (40,41).

Consider Workflow Interruptions from a Different Perspective.—A frequent complaint of radiologists is related to the many daily interruptions that impede one's ability to sustain a high rate of study result interpretations. Five main interrupting tasks are *(a)* calling and finding referring physicians to communicate important results; *(b)* documenting the communication of results; *(c)* answering telephone calls; *(d)* working with technologists when they present new cases or with questions regarding the protocols for upcoming cases; and *(e)* consulting with referring physicians, either in person or by telephone or e-mail, which may include the review of outside studies or the involvement of multiple specialty teams caring for the same patient(s).

One solution to consider is that of hiring a reading room assistant to answer the phone, communicate findings, or even transcribe reports. Potential downsides include the minimal medical training of the assistant such that radiologist involvement is required, and the lack of positive feedback to the radiologist from the consultant, who may be a colleague or even a patient.

Alternatively, specific radiologists can be assigned to staff a radiology consultation service (42). Policies can be established and reimbursement issues can be resolved such that there is sufficient time for interpretation and reporting of outside study results. In this setting, the ability to talk with referring physicians might be embraced as a unique opportunity to engage stakeholders, and the protocol can be extended to the interactions that occur when teams come to reading rooms.

There is a growing concept of placing radiologists directly at the point of care in clinical areas, including radiology consultation clinics, multidisciplinary conferences, and tumor board meetings (43–47). As multidisciplinary conferences involve hours of preparation and meeting attendance, without clinical work relative value units being

generated and potentially creating even more stress, departments and institutions should focus on rewarding participation and consider collaboration mechanisms to diminish work burden. One disadvantage is the sense of isolation, within both the radiology department and the larger hospital or institution.

Rethink Regulatory Demands; Understand and Explain the Purpose of Regulations.—Everyone wants to get paid for the work that they do, and certain metrics are linked to reimbursement. A lack of understanding regarding the purpose of regulatory requirements may result in an uneasy balance between feeling obligated to follow requirements and doing what one believes is helpful and will lead to improved outcomes. For example, hand washing supports infection control, and the timely communication of critical results is linked to patient safety and clinical outcomes. Peer review is an example of a time-intensive process that affects workflow but is not universally considered to result in measurable performance improvement. However, ultimately, peer review is aimed at improving the quality of care and is thus very valuable. Helping radiologists understand why certain regulations are required will result in greater compliance. In the absence of simple solutions, efforts to identify team-based rather than individual approaches to fulfilling regulatory requirements will be supportive.

Step 5: Commit to Wellness

Establish Practice Policies.—Policies that promote wellness include those that support fair assignments of holiday and weekend call coverage, the outsourcing of call services when possible, equal case assignments, part-time work, and family leave and child support programs. These policies go a long way toward reducing stress and exhaustion.

Manage the Mania of Metrics.—The ineffective and inappropriate use of metrics is likely to negatively affect radiologist morale. While metrics are used to manage practice operations, a focus on turnaround times, case volumes, and related productivity metrics, especially if they are linked to incentive bonus programs, may detract from joy in the workplace. Metrics should be carefully and thoughtfully selected—with use of accurate, timely, and relevant measures—and actively managed. Automation of data collection and analysis is desired to relieve radiologists of responsibilities that might be perceived as irrelevant. To foster openness and understanding, knowing which metrics have been selected and seeing the actual

data and how they improve patient care and outcomes may be helpful.

Conduct Performance Evaluations.—The annual performance review is an important component of any large organization. Performance reviews should be taken seriously and performed effectively and in a timely manner, especially since they might be associated with career advancement and salary adjustments. The review should be conducted according to defined and publicized metrics and processes and include evaluations of the worker's satisfaction and perceived hurdles and any factors contributing to his or her stress in the workplace. Although these reviews typically are performed annually, they should perhaps be conducted more frequently so that there is greater opportunity for feedback regarding how the leadership is serving the worker. In addition, an evaluation process that is constructive, professional, and honest can make an individual feel valued.

There are competing philosophies regarding annual performance reviews, and not all evaluations are helpful (48–50). Poorly performed evaluations can be detrimental and demoralizing. There may be cognitive or implicit bias and sugarcoating of negative issues, and the reviewer may not be fully prepared with appropriate or helpful data. In these situations, the review may do more harm than good. The goals of performance evaluations may be a "moving target," and, thus, many advocate the use of regular feedback, with an emphasis on the positive aspects, and recommend constructive collaborative reviews whenever possible.

When work performance is evaluated, the use of specific metrics should not be surprising to the radiologist. Rather, metrics of performance should be clarified at the time of hire and in advance of the evaluation. To every extent possible, anonymous input and feedback should be avoided, as they heighten internal conflict and promote a lack of trust. Performing a self-evaluation can be a helpful and productive process. The practice leadership should take an interest in and wholeheartedly support the career aspirations of its employees by establishing clear and achievable time lines for promotion.

Foster Healthy Physical Activity at Work.— With the exceptions of interventional radiology, breast imaging, and fluoroscopy, the practice of diagnostic radiology can be very static. This limited mobility can contribute to negative long-term health outcomes for the radiologist (51,52). Thus, radiologists should take the opportunity to use the stairs rather than the elevator and go for short walks during breaks.

In addition, the practice should consider conducting walking meetings rather than sedentary office meetings. In addition, a host of related ergonomics-enhancing tools are now being used, with the goal of minimizing physical contributors to workplace stress. These tools include elevated desks for PACS workstations, some of which have treadmill or stationary bike attachments. An organizational design audit can be conducted to enhance the human factors that interface within the reading room. This audit could involve the installment of innovatively designed chairs and PACS monitors, lighting and sound-absorbing panels, and improvements in the overall aesthetics of the office.

Step 6: Pledge to Self-care
An awareness of self-care is important, but the actual implementation of this personal directive in daily life is essential. Radiologists and other physicians must learn to care for themselves rather than depend solely on their employers for support. According to management professor and executive coach Monique Valcour, it is important to replenish lost resources and not forget to "secure your own oxygen mask first" (53). She recommends the use of four achievement strategies: *(a)* prioritize self-care, *(b)* shift perspective, *(c)* reduce exposure to job stressors, and *(d)* seek connections and interpersonal interactions. Self-care involves participation in activities such as journaling, meditation, mindfulness activities, exercise, sleep, and regular breaks during the workday when stress is greatest. Valcour recommends taking a "digital detox" to disconnect, both during and after work, by avoiding e-mail, texts, and social media (53).

Shifting the focus of attention from oneself to others can help calm an individual, strengthen his or her resilience, and give him or her a sense of purpose (54). Emotional intelligence can guide a person's self-awareness, enabling him or her to recognize situations that trigger stress, anxiety, and loss of focus, all of which can result in harm to self and/or others if they are not identified and ameliorated (54). Individuals need to be mindful of personal, emotional, and spiritual balance, as well as the health of different interpersonal relationships, including those with disruptive colleagues. Limiting exposure to stressful relationships at work may be challenging. Rather than avoid colleagues, engage with them in a positive manner to help create a culture of safety and openness, in which team building, professionalism, and socialization are valued.

Reboot and Refocus.—Halvorson (55) emphasizes the importance of reassessing priorities and

Table 4: Questions Radiologists Should Ask Themselves When Reassessing Priorities and Commitments

Why did I choose radiology as a career?

Have my career goals changed over time?

To what extent have the radiology field and my specific practice changed over time?

How has IT, including voice recognition software and PACS, affected my work satisfaction?

Am I having less contact with patients, colleagues, referring physicians, and/or my family and friends?

What has my practice done to facilitate greater contact with stakeholders and my colleagues?

commitments in our personal and professional lives and focusing on the meaning of what we do for a living and why it matters. We should consider asking ourselves questions to investigate our motivations and responsibilities (Table 4). If work obligations restrict your time away from the office and interfere with your personal life and ability to relax and refresh, make sure that you understand and continue to support your beliefs regarding why your work matters and the associated implications and consequences.

Recharge.—Friedman (56) recommends engaging in restorative experiences to recharge. These experiences include participating in activities with colleagues, friends, and/or family that can be planned and looked forward to, as opposed to avoidance activities such as not checking e-mails. Engaging in activities that are interesting, even if they are physically or intellectually taxing, may be preferable to simply relaxing and doing nothing (56).

Opportunities for long weekends, in practices that allow them, should be fairly distributed among all staff. For example, part-time staff should not have priority for long weekends over their full-time colleagues. To support recharge activities and limit the contemporary stressor of 24/7 availability, the practice leadership can establish policies that limit work-related e-mails on weekends and/or after hours.

Learn to Be Resilient.—Resiliency is the ability to bounce back quickly—and, it is hoped, stronger, wiser, and personally more powerful—from the challenges that we encounter in life and work (57–60). How is resiliency cultivated? Suggestions for fostering resiliency published in the literature include being flexible, acting to remove or mitigate stress contributors, remaining connected with your work community, finding ways to release physical and emotional tension, identifying your personal sense of purpose, participating in projects that are meaningful to you, and developing and adhering to healthy habits (57–66). Unfortunately, even for highly resilient individuals, unless the obstacles are removed or altered, the ability to bounce back is

more challenging, if not impossible (67). Simply growing a thicker skin to deflect repeated challenges may not foster healthy levels of wellness, understanding, and compassion.

Feed Your Brain.—Participate in group or personal relaxation efforts. There are endless options and opportunities to explore in this regard, including many of the exercises described earlier. Choose those that are meaningful and satisfying to you. It is important to acknowledge that approaches that are focused solely on the individual radiologist serve as temporary solutions only and cannot be successful unless the larger organizational and/or departmental stressors, detractors, and obstacles are effectively addressed in tandem. Purchasing better running shoes is not the best way to experience joy if you are running on a "hamster wheel"!

Step 7: Implement Effective Leadership Practices

Effective leadership should be included in the discussion regarding countermeasures, as leaders at all levels must recognize the impact of their effectiveness or lack thereof and be willing to self-reflect, seek and respond to feedback, and make efforts to continuously improve their performance. Effective leadership is even more important during times of adversity. To shepherd the journey toward improved wellness, a leader should be skilled in the practices of change management and communication. Ultimately, a leader is responsible and accountable for ensuring that wellness is a strategic imperative, forming a wellness committee, providing the resources to support the committee, and promoting resilience and inclusion. An organizational and departmental culture guided by inclusion and diversity is critical to creating and implementing effective and sustainable wellness programs.

Identify Factors That Drive Engagement.—Leaders must understand the particular factors that drive staff engagement. They should never assume to know what their staff members value; rather,

they should make sure to ask them. In our experience, staff radiologists want fairness and equity, to feel valued and appreciated, and to be acknowledged and supported. Examples of ways that leaders can demonstrate regard for their staff include transparent and equitable compensation and incentive bonus plans, time off for administrative and academic efforts, promotion opportunities, succession planning, productivity expectations, and other steps to show appreciation and value. These initiatives should be implemented whenever possible to ensure that expectations are met, or at the very least that efforts are underway to address these drivers.

Demonstrate That Every Radiologist and Member of the Imaging Team Is Valued.—As a practice, section, division, or even committee leader, showing genuine appreciation for the efforts of colleagues and team members is critical. To be most effective, staff recognition needs to be timely, specific, public, and honest. This could be in the form of a personal thank you to acknowledge their efforts. For an even greater effect, discover what people are doing and verbally share your appreciation for their specific contributions. Consider sending online notes of appreciation for direct interaction with any individuals in a department.

Since leaders rarely have the opportunity to work with all frontline staff, a system by which leaders are informed about great work and extraordinary staff efforts should be developed. Leaders should hear about these events from managers and section chiefs. Therefore, staff appreciation efforts should be made an expectation for managers' and section chiefs' performance evaluations. In addition, the development of a peer-to-peer appreciation program should be encouraged, because staff working together daily are in a unique position to provide timely recognition of those colleagues who are exceeding job expectations.

Identify Opportunities to Celebrate.—Letters from patients or colleagues, birthdays, service milestones, new recruits or retirement announcements, academic achievements (grants, research awards, published manuscripts), family achievements (wedding, new baby, new grandchild), and successful match or board examination results are all causes for staff celebrations. Other possible reasons for staff celebrations include a new PACS system, interventional suite, or MRI unit; a Super Bowl victory; the Chinese New Year; or even a mention in the local newspaper.

Recruit, Nurture, and Retain the Right People.—There are many ways to approach staff

recruitment and retention, including the process and criteria for selecting new team members. Recruitment teams may comprise radiologists, nonradiologists, and human resource leaders. The hiring of disruptive radiologists, especially those with records of misbehavior, should be avoided (68). Ensure that implicit bias does not undermine hiring and promotion practices. Use rewards and incentives wisely to retain staff. Clear pathways and create opportunities for career advancement; this may include succession planning for all leadership roles. It may also include transparent and documented promotion processes, constructive annual reviews, and career development planning.

Eliminate Negative Influences in the Workplace.—Members of health care practices should work hard to eliminate all negative influences in the workplace, which might be individual, departmental, or organizational. Leaders are called on to manage disruptive individuals and establish a fair and just culture within a practice. Disruptive behaviors include gossip, yelling, lengthy corridor conversations, office politics, and meetings that deteriorate into blame sessions. Unprofessional behavior should not be welcome in any environment, and any leader who condones or tolerates such activity must be held accountable. A culture in which staff members feel safe to speak up to prevent disruptive events should be cultivated. Departmental or organizational detractors include a lack of transparency and a perception of unfair practices, such as compensation, incentive bonus, promotion, and career advancement inequities.

Define the Practice Mission and Culture.—The goals of individual radiologists should be aligned with the mission of the practice, as misaligned motivations and objectives create stress and can limit productivity. For example, if the mission of a private practice is focused largely on financial gains, partners in the group may accept stress drivers such as workload, throughput, lean staffing, and productivity metrics as means of achieving the common mission. However, if this same goal is presented to an academic practice, the stressors may be amplified because they conflict with the academic mission. If the mission of a practice is focused on improving patient outcomes, then different drivers will affect the culture of the group.

The culture of an organization can affect the satisfaction of workers, as can the financial state of the practice and the nature of organizational policies. For example, if policies demand that the final attending physician read all inpatient MRI studies

within 3 hours, this will place additional demands on the practice in terms of service hours and coverage. A review of policies that may negatively influence the degree of staff satisfaction, stress, and engagement can help identify change opportunities, with a positive rather than negative effect on patient care and outcomes.

Rotate Administrative Responsibilities.—In every practice, there are radiologists who accept frustrating and seemingly thankless tasks for which others are grateful that someone embraced on their behalf. Often, the effort outweighs the reward. Some accept responsibilities as good citizens, while others are assigned tasks as part of a job description, although they may be ill suited to complete them. In these situations, consider a twofold approach: First, effective leaders should solicit feedback to identify "spinning wheel" situations and use information gleaned from annual performance reviews. Second, succession planning should be considered a helpful component of faculty engagement. Some time-limited tasks (such as managing the holiday time-off approval schedule and process) can be rotated so that the associated complex tasks and challenges are shared.

Another option to consider is that of establishing term limits on leadership positions. Many practices, both private and academic, have already introduced this concept, facilitating an equal distribution and balance of power. In these practices, frequent performance reviews are used to measure the continued support of the group. For example, to promote new ideas and provide opportunities for leadership experience, Mayo Clinic mandates term limits for all physician and executive leadership positions (7,69). This practice highlights the values that drive an underlying organizational culture in which the team is recognized over the individual and pride is balanced with humility (69).

Delegate Tasks Effectively.—Rather than simply suggest task delegations, practice leaders should actively assist staff members in delegating tasks. When providing advice regarding the delegation of a task that is causing frustration, not being performed effectively, or being performed without effective supervision, proper management and communication are critical. Focus on working with the responsible person to identify another individual who may be interested in taking on a new project or leadership position, potentially under his or her supervision. In this way, two people may benefit.

Task assignments should be routinely optimized by means of delegations to the best avail-

able staff. Old habits die hard. The fact that a radiologist has performed a given task for many years does not mean that the job cannot be performed by another person such as a nonradiologist. Think outside the box and consider how trained administrative assistants can take on traditional tasks, not only to simplify a radiologist's daily work routine but also to remove some barriers to work satisfaction. For example, scheduling, taking meeting minutes, sorting out IT problems, and the myriad of other tasks that radiologists manage can be delegated to an effective practice extender, allowing the radiologist to focus on clinical duties or other work that invokes passion, such as education and research.

Implement Safe and Effective Communication and Listening Strategies.—The leadership should clearly and routinely communicate the mission and policies of the practice to all team members. It must also engage radiologists by listening to, acknowledging, and enabling them and following up with them. In meetings, leaders should ask thought-provoking questions and model optimism. A safe and just culture allows staff members to speak up, regardless of their status or rank, and helps to deconstruct communication barriers.

Commencing the Journey toward Wellness

Recovery from and prevention of burnout symptoms can be addressed at an individual, local, or organizational level. Wellness cannot be delegated. If effective mitigation strategies are to be identified, implemented, and sustained, all radiologists must embrace the effort together.

It is important to acknowledge that the problem exists, is widespread, and is unlikely to disappear without collaborative intervention. The entire group should be engaged in the journey toward wellness, providing input in assessments, data analyses, discussions to identify solutions, and the implementation of solutions. The lessons learned must be shared so that the unsuccessful efforts of others are not repeated.

Wellness should be made a strategic imperative of your practice. Compared with achieving goals in the strategic pillars of radiology such as education, clinical care, and research, achieving a state of wellness is equally, if not more, important. Wellness should be established as a quality indicator of the strength and status of a group. In addition, metrics that reflect wellness efforts and outcomes should be created and applied by using an annual wellness survey of the practice. Wellness can be added as a standard agenda item at meetings so that the issue is not forgotten

or delegated to next year's "to-do" list. Health practice members should consider selecting a wellness "champion" who serves as the chief wellness officer to guide and nurture the practice or system culture.

Establishing a wellness committee in which staff radiologists are members is one way of helping radiologists participate in the wellness conversation, collaborate in identifying and implementing solutions, and engage in practice activities. This committee should report to the practice leadership on a regular basis. Committee members should be acknowledged by the leadership and feel valued for their important contributions. The leadership must help the committee set goals and define current and desired future projects. It should also support the committee by contributing the necessary time and resources to achieve wellness benchmarks. Although the committee can help guide change, wellness is ultimately everyone's responsibility. Leaders must be engaged in and supportive of efforts to achieve wellness.

It must be recognized that radiologists work as members of larger teams and that other team members, including trainees, nurses, and technologists, are probably experiencing similar challenges in the workplace. Rather than work independently to prioritize stress and burnout drivers and potential solutions, each group should work together to achieve better outcomes. Constructive conversation is an important component in the long journey toward greater joy in the radiology workplace, which is an important indicator of wellness. As with any improvement effort, some solutions will work better than others.

Reducing the incidence and consequences of burnout requires a sustained effort at the organizational, workplace, and individual levels. Addressing this issue at just one of these levels will not result in success in the long term. Rather, a permanent and substantial reduction in or elimination of burnout requires organizational commitment and resources, improved workplace efficiency, and adequate support that enables individuals to become strengthened and more resilient.

Conclusion

The approach to mitigating workplace burnout and nurturing wellness is multifactorial and rooted in organizational rather than personal factors. There are many challenges in the radiology workplace, and this review is intended to provide suggestions for creating a program that promotes wellness and to prompt an ongoing debate on this topic among practice members in the larger

radiology community. The road to wellness is ongoing, and learning from colleagues in radiology and other medical specialties, business, and other professions is essential to mitigating challenges and developing innovative methods to instill joy and satisfaction in radiology practices.

While the proposed solutions may not be successful in all workplaces, and some of them may even exacerbate stress levels, a firm commitment to the goal of wellness, combined with frequent constructive feedback, accountable leadership, and free exchange of information between practices, will bring radiologists closer to professional happiness.

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