

# **Radiologists Can Thrive in the Midst of COVID-19--and Beyond**

## **Abstract and Introduction**

### **Introduction**

The coronavirus pandemic has forcibly altered the way we live and work. Beyond the health threat posed by the virus itself, COVID-19's presence poses a threat to the healthcare landscape. Radiology as a whole has been impacted; volumes are down, some radiologists have been furloughed, and financial sustainability for many centers and practices has been jeopardized. Record-high unemployment means fewer people will likely have health insurance in the near future, leading to concerns that demand will soon rise as reimbursements fall. Such threats are only exacerbated by ongoing uncertainty around social and political reactions.

Destabilizing as these forces may be, this is a time to consider how the current demands are impacting radiologists and to lay the groundwork for future success.<sup>[1]</sup> Lessons emerging from the pandemic are occurring across industries. Several prominent organizations, including Twitter and Microsoft, adapted to the need for a remote workforce and discovered that such changes enhance the creativity and productivity of many employees.<sup>[2,3]</sup> The purpose of this article is to reflect on comparable opportunities for radiologists and identify lessons that can potentially improve job satisfaction and support productivity, even after the need for physical distancing has lessened. To do this, we draw on research from human factors and psychology. Our goal is not so much to propose answers as to highlight principles and practices that may serve radiologists going forward and increase their ability to thrive irrespective of work climate.

### **Alternative Work Arrangements**

The need for physical distancing has forced many radiologists into alternative work arrangements (AWA), each presenting a range of challenges. Some work from home, sharing space with family during working hours. Some live alone, without the benefit of interacting with others in person. Some continue to work in healthcare settings while navigating workspace modifications and being hyper-vigilant about wearing masks and washing their hands. Many are working through some combination of all these conditions.

To varying degrees AWAs have likely contributed to a state of ongoing stress both on and off the job. Sleep disturbances, fatigue, inability to focus, changes in eating habits, and feeling sad or anxious are all well-documented manifestations of stress.<sup>[4]</sup> The effective management of stress, including healthy eating, adequate sleep, regular exercise, and rewarding interpersonal connections, is similarly well-documented.<sup>[5]</sup> Beyond these basic life activities, success in the workplace involves attending to factors that support fundamental aspects of well-being and productivity.

## **Structure**

The shift to AWAs has highlighted how lack of structure can impede performance. Social and environmental cues facilitate the ability to direct energies toward primary tasks, such as interpreting cases or making treatment decisions. The cues radiologists encounter throughout the workday, such as walking into the office or a reading room, help to cognitively transition to the mindset needed to perform optimally. Many of these cues have been lost with the rise of AWAs. Consequently, some radiologists are struggling to force themselves to work while others are finding it challenging to stop working. As one executive noted, "It's not so much working from home; rather, it's really sleeping at the office."<sup>[6]</sup>

All radiologists benefit from structured work routines; these minimize time and energy spent on nonessential tasks and free up cognitive resources for primary tasks.<sup>[7]</sup> The absence of a supportive environment, as many discovered when first transitioning to AWAs, can facilitate

radiologists intentionally creating the structure they need.<sup>[8]</sup> Radiologists who thrive in AWAs are those who can carve out a workspace separate from that used for non-work related activities. The space can be as large as a full room or as small as a corner dedicated to sitting at a computer. Structuring around time is also important. This can be done by defining start and stop times for particular tasks, as well as for the entire workday. Setting an alarm is one way to differentiate segments of the day. Additional support can also come from playing background music, which has been proven to help in focusing attention.<sup>[9]</sup>

The continuing need for physical distancing into the foreseeable future has practical implications. Office spaces and reading rooms may need to be reconfigured to ensure safe interpersonal distancing; this may mean many radiologists will have to continue working full- or part-time under AWAs. Radiology groups that were not previously utilizing a hybrid arrangement may find it preferable in the long-term. Thus, crafting and attending to optimal workday conditions will continue to play an important role for radiologists.

## **Physical Well-being**

Adapting to different work environments means radiologists will want to manage their workspace to support their physical well-being. Whether working under an AWA or in a conventional setting, radiologists engage in work-related activities that stress the body in particular ways. Most problematic is the extended time spent seated in front of a computer monitor. Healthy posture involves positioning the monitor at a height equal to or slightly below eye level,<sup>[10]</sup> with feet resting flat on the floor or on a footrest, with arms, back, and neck well supported, ideally with adjustable arm and neck rests, and lumbar support.<sup>[11]</sup> Standing and light walking at regular intervals are also helpful, with the goal of standing for four hours per workday.<sup>[12]</sup>

In addition, eye health is paramount for radiologists. Eyestrain and dry eye resulting from prolonged computer use can be addressed by incorporating the "20-20-20-20 rule:" every 20 minutes, focus your eyes

at least 20 feet away for at least 20 seconds, then blink 20 times. Regular application of lubricating eye drops can also help.<sup>[13]</sup> Similarly, prolonged high-energy light exposure tends to produce squinting, extended pupillary constriction, and sleep disruption. These effects can be counteracted by wearing blue-light blocking glasses or adding a blue-light absorbing coating to prescription lenses.<sup>[13]</sup>

## **Thriving Through Challenge**

Beyond developing basic practices around maintaining structure and physical well-being, radiologists can adopt lessons from psychology to facilitate success in working in AWAs now and into the future. Research on people who perform well and experience satisfaction in everyday settings, as well as those who have survived life-threatening circumstances, indicate that fostering a mindset of opportunity and clarity of purpose can enhance success working under AWAs.<sup>[14]</sup>

### **The Importance of Mindset**

The mindset or perspective from which people interpret their environment shapes possibility. Effective adaptation – through positive emotions and productive actions – tends to favor those who accept their current circumstances as they are. In contrast, those who see their world in relation to how it used to be or how they want it to be are often less successful. Problems emerge among those who wait for their environment to 'return to normal' or who rigidly maintain a model of the world that no longer matches reality. Accepting the need for AWAs and profound reductions in case volume does not mean these circumstances will forever remain this way. Rather, an opportunistic mindset is one that works with these conditions as they are, not as one wishes they were.

Several notable qualities characterize those who thrive. First, they move at a sustainable pace. Survivalist trainers teach the value of taking breaks and resting before feeling tired.<sup>[15]</sup> The threat of becoming overburdened has impacted radiologists for some time; burnout is rampant throughout the profession.<sup>[18]</sup> There is reason to believe that the coming months will

bring even greater workloads. As volumes recover, medical imaging practices that have had to reduce staffing may find themselves understaffed, further contributing to the demands on those who remain.<sup>[15]</sup> Radiologists can prepare by learning more about burnout,<sup>[19]</sup> the financial importance of investing in physician well-being,<sup>[20]</sup> and how technology can be used to reduce burnout.<sup>[21]</sup>

Radiologists will be well served to anticipate workflow and financial uncertainty indefinitely; resisting the desire to target an end date by when things will go back to 'normal' can facilitate success. As predictions about subsequent waves of infection and the economic downturn persist, radiologists who can institute flexible and self-sustaining structure and effective practices that can endure over time will be more likely to thrive.

Second, engaging a mindset of gratitude has been shown to be highly effective in improving mood, even contributing to competent problem solving.<sup>[22]</sup> Gratitude should not be conflated with the common trope to just "think positive." The latter often feels burdensome and insincere; forcing one to overlay a positive attitude on top of a negative experience. This advice frequently backfires, as efforts to suppress negative thoughts typically cause them to surge even more powerfully.<sup>[23]</sup> However, radiologists who can acknowledge aspects of their circumstances for which they can be grateful may experience more positive emotions and enhanced decision making.<sup>[24]</sup> Gratitude can come in recognizing that large segments of the population, including some in radiology, are currently unemployed, underemployed, or engaged in unfulfilling work. Those currently seeking meaningful work, whether employed or unemployed, may benefit from reflecting on the unique skills and expertise they can bring to flexible work arrangements, including teleradiology. Acknowledging strengths can direct one's thinking toward novel possibilities rather than current limitations.

Cultivating a flexible, adaptable mindset involves remaining open to new and changing information, and filtering out the "noise" from non-credible sources. Following the excessive speculation in the lay press and on

social media about the pandemic can be exhausting. Focus instead on what is and can be known; obtain credible information from reputable sources, such as the Centers for Disease Control and Prevention,<sup>[25-27]</sup> the American College of Radiology, and the American College of Surgeons, and others that are providing guidelines for safely reopening practices and conducting imaging services and elective procedures. The Radiological Society of North America recently offered valuable guidance for post-COVID surge preparedness.<sup>[28]</sup>

## **Cultivate a Sense of Purpose**

Purpose refers to knowing one's aims and direction in life.<sup>[29]</sup> Having a clear purpose has notable benefits, irrespective of environmental conditions.<sup>[30]</sup> Many psychology studies have documented those whose clarity of purpose fueled their resilience through trying circumstances.<sup>[31]</sup> Individuals have persisted through the worst of conditions because of a clear commitment to a meaningful purpose, such as reconnecting with loved ones.<sup>[32]</sup> A clear purpose also supports decision making.<sup>[33]</sup> Indeed, focusing on or rediscovering why one has chosen to specialize in radiology can serve as a touchstone while navigating challenges.

In addition, a sense of purpose helps reframe the threat and instability brought on by the pandemic. Many healthcare providers have a commitment to serving others that motivates their actions despite the risk of contracting the virus. Those who feel enriched by their work exemplify what happens to those who maintain and act on a meaningful purpose; they move concretely toward a goal ("I will contribute to patient care in a way that utilizes my expertise"), as opposed to avoiding or moving away from difficulties ("I hope to not lose the connections and opportunities I've built over time"), or merely tolerating their situation, waiting for it to change ("I will find meaningful work or see better case volumes once a vaccine is available").

Clarifying a purpose can be frustrating, often because of an erroneous assumption that that purpose must be singular and world-changing (eg, setting out to transform health care). Purpose around work is often

different from purpose at home, although the two should not conflict. Purpose may also change over time.<sup>[34]</sup> The challenge is not so much to sit down and craft a formal statement of purpose (although that is possible) as it is to reflect and clarify why one is engaged in work. This reflection can be empowering, opening a line of inquiry that can lead to new possibilities.

The broad range of subspecialties and practice settings across radiology likely reflects an equally broad range of reasons why radiologists do what they do. Irrespective of how one defines this reason, knowing it can help preserve a calm, focused perspective while the COVID-19 pandemic continues to impact radiology. The radiologists most likely to thrive in this environment are those who recognize that, no matter the level of uncertainty, they have the ability to alter the way they interpret and relate to their circumstances. Engaging in effective practices – creating a supportive work structure, adopting a mindset of opportunity, and clarifying their sense of purpose — can help radiologists to thrive in the most challenging of environments.

By doing so, they not only empower themselves to successfully navigate the current pandemic, but also to lay the groundwork for future success.