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## Editorial

## The Fellowship Milieu in Adult Cardiothoracic Anesthesiology—Fostering Psychological Well-being During the Coronavirus Crisis

THE pandemic from coronavirus disease-19 (COVID-19) is now a global crisis.<sup>1-3</sup> The tsunami of healthcare demands for patients with severe COVID-19 has overwhelmed acute care services and has challenged the fellowship training milieu in adult cardiothoracic anesthesiology.<sup>4</sup> The magnitude of this challenge is directly proportional to the intensity of the pandemic at a given institution, which prompted the Accreditation Council for Graduate Medical Education (ACGME) to publish a staged classification system to help guide fellowship management and navigation during the crisis.<sup>4</sup> The ACGME described 3 stages: Stage 1—usual operations with minor disruption of fellowship activities; stage 2—adjusted operations with mild-to-moderate disruption of fellowship activities; and stage 3—crisis mode with moderate-to-severe disruption of fellowship activities (full details available at [www.acgme.org/covid-19](http://www.acgme.org/covid-19), last accessed April 6, 2020).<sup>4</sup>

The purpose of this freestanding editorial is to highlight the significant threats of the current pandemic on the psychological well-being of fellows in adult cardiothoracic anesthesiology.<sup>4,5</sup> These perspectives will attempt to define the challenges and solutions for the program leadership to foster the psychological well-being of the fellows and faculty through the duration of this health crisis. The references provide further detail for program leaders to manage the psychological demands of the pandemic in the year ahead.

### COVID-19 and Threats to Individual Psychological Well-being

The program should maintain an approachable leadership style that listens carefully to the fellows and faculty; relates important information from the ACGME, institutional graduate medical office, and department leadership; and maintains a focus on the psychological well-being of fellows.<sup>5-9</sup> The necessity of maintaining psychological health among physicians on the frontline of the pandemic has prompted an analysis of the literature to better understand the threats that COVID-19 poses.<sup>10,11</sup> The psychological effects of the SARS-

associated coronavirus (SARS-CoV) epidemic during 2003 to 2004 have served as a template for understanding the full spectrum of psychological responses to this crisis.<sup>11-14</sup>

The first set of presentations that program directors may encounter relate to anxiety with or without somatic features.<sup>10-14</sup> Concomitant sleep disorders also were seen commonly, with insomnia being the most prevalent issue.<sup>5,14,15</sup> Etiologies of this anxiety included fear of the outbreak, concerns about vulnerability to infection, uncertainties about the treatment process, social distancing, work disruptions, and balancing multiple responsibilities.<sup>14-16</sup> Mood disturbances were also common, including irritability, anger, grief, and depression that were at times associated with suicidal ideation or substance abuse.<sup>5,10,11</sup> A mix of anxiety and depression could persist and present later as posttraumatic stress traits, or in severe cases, as posttraumatic stress disorder.<sup>10,11,15-17</sup>

The psychological effects of the quarantine process and social distancing similarly include anxiety, frustration, anger, depression, substance abuse, burnout, and posttraumatic stress disorder.<sup>4,5</sup> As such, the reactions to this social isolation are a major consideration in the maintenance of psychological well-being during the coronavirus crisis, as psychological care of our fellows and ourselves is a professional and personal imperative.<sup>5,18</sup> There are several factors that may negatively affect a trainee's ability to cope with the psychological stress of the pandemic and accompanying quarantine, and they can be divided into 3 phases: before the crisis, during the crisis, and after the crisis.<sup>19</sup>

The stressors that may erode resilience before the crisis include baseline anxiety, depression, substance abuse, and burnout syndrome, in addition to social support system factors such as marital status, number of children, and extended family.<sup>5,10-12</sup> The factors that threaten psychological well-being during the crisis include the duration, anxiety about the risk of infection, financial concerns, and health system factors such as interruptions in essential supplies and chaotic communication.<sup>5,19,20</sup> After the crisis has passed, stressors that may slow the return of normalcy include financial losses and the effects of social stigma at work

and at home.<sup>5,10,11</sup> The threats to psychological health from COVID-19 can therefore be understood in a phasic model related to the advent, duration, and the departure of the crisis. These effects may affect not only the fellows and faculty in the work environment, but also the family unit that is the focus of the following section.

### COVID-19 and Psychological Threat to the Family Unit

The psychological effects of the coronavirus crisis also significantly may affect the family.<sup>21-23</sup> Children may experience significant disruptions to their daily routine and social support structures.<sup>21</sup> These disruptions may stem from multiple factors including infection with COVID-19, school closure, social distancing, and the quarantine process.<sup>21,22</sup> The effects of prolonged school closure and home confinement can precipitate high levels of anxiety, frustration, boredom, depression, and posttraumatic stress disorder.<sup>5,21-24</sup> The psychological reaction patterns of a child may resemble those of an adult during a pandemic but are significantly influenced by the child's age, level of understanding, and innate coping skills.<sup>22-24</sup> The response of the community may also be an important modifying factor, including the availability of online platforms for continuation of schooling activities and socialization with friends.<sup>21-23</sup>

The psychological stress from the COVID-19 crisis may affect fellows and faculty as individuals or as members of a tight-knit social community in and out of the workplace.<sup>10-12,25</sup> It is very helpful for the faculty and fellows to self-monitor these stressors based on an understanding of what they might be and how their effects may be expressed.<sup>5,18,25</sup>

### COVID-19 and Strategies to Promote Psychological Resiliency

Psychological well-being during the coronavirus crisis ideally should be part of a multimodal approach to contain the crisis, including synchronized strategies for surges in patient volume, patient acuity, and healthcare supplies, including personal protective equipment.<sup>1-4</sup> The fellows can participate as stakeholders during the crisis with the development and deployment of transparent and open communication that includes weekly townhall-style meetings using remote conferencing technology.<sup>20</sup> The program leadership should endeavor to manage the flood of incoming information (the “infodemic”) by highlighting those aspects that are most germane to the fellows from all levels, including the ACGME, the institution, and the department.<sup>4-9</sup>

This ongoing conversation with all stakeholders will facilitate a smooth integration of the adult cardiothoracic anesthesiology fellowship with the larger response to the COVID-19 crisis at departmental, institutional, and national levels.<sup>4</sup> The management of the fellowship will be most challenged during the Stage 3 “crisis mode scenario,” as outlined by the ACGME, wherein fellows may be deployed to other clinical areas in a safe and coordinated fashion to assist in the clinical care of patients with COVID-19.<sup>4</sup> The program director should focus on the graduation trajectory of each fellow to ensure that

this goal is preserved during and after the crisis. This path to graduation should be adjusted in realtime with the fellow and his or her mentor network as mandated by the fellow's performance and dynamic policy changes from the ACGME, the American Board of Anesthesiology, and the National Board of Echocardiography.<sup>26-28</sup>

The fellows may benefit from wellness resources available from their institution.<sup>4,5</sup> The institutional response to the COVID-19 crisis likely will include a wellness center with a menu of services to engage and support all trainees in their ongoing self-care and maintenance of psychological wellness.<sup>10,11,25</sup> These pooled resources may include discussion groups, regular news updates, and links to programs that cultivate mindfulness, relaxation, and cognitive skill-building.<sup>29</sup> The ACGME also has a catalogue of wellness resources on its website, including a workshop for cognitive skill development, a wellness mobile application that can be easily downloaded on a mobile device, and a set of podcasts.<sup>30</sup> The workshop provides a platform for program directors to discuss wellness and develop cognition skills with the fellows, covering concepts such as problematic mindsets, metacognition, mindful awareness, cognitive distortions, and cognitive restructuring.<sup>30</sup> After a review of these concepts, the curriculum then develops a set of cognitive tools and strategies that can be applied effectively during this time of crisis.<sup>30</sup> The mobile application has been designed to teach the fellows about common negative routines that promote stress and burnout and offer a set of cognitive behavioral strategies to move beyond these negative routines to build a cognitive culture of wellness.<sup>30</sup> The podcast series for the fellows similarly covers common negative mindsets and solutions to encourage psychological health.<sup>30</sup> The podcast series for program leaders has been arranged to introduce available wellness resources and the latest evidence to inform and invigorate the wellness milieu of the fellowship.<sup>30</sup>

Beyond these excellent resources from the ACGME, there are further web-based and mobile applications that may help to manage the negative psychological effects of the current crisis.<sup>29</sup> A recent systematic review identified the following web-based and mobile resources that can effectively foster wellness in these categories: meditation (headspace; guided meditation audios); breathing routines (breath2relax); web-based cognitive behavioral therapy (moodgym; stress gym); and suicide prevention applications (stay alive; virtual hope box).<sup>29</sup> This set of resources also can serve to engage the fellows and program leaders in a collaborative effort to foster psychological well-being through and beyond the coronavirus crisis.<sup>29</sup> The goal of these activities is to position the fellows and ourselves firmly in the path toward wellness.<sup>29,30</sup>

Many of these strategies could have a role in promoting wellness not only for the individual but also for the family unit.<sup>29,30</sup> Effective age-appropriate communication has been emphasized in the promotion of psychological well-being for children during the coronavirus pandemic.<sup>21,22</sup> This communication should be gentle but honest.<sup>31,32</sup> It is important to consider most children between the ages of 4 and 7 years old may have “magical thinking” that may lead the them to blame themselves for the current crisis as a result of their thoughts

and behavior.<sup>21-24</sup> Therefore, listening carefully to their understanding of the crisis remains important to ensure that it is accurate and that it does not burden them with anxiety and guilt.<sup>21-24</sup> Clearly, children should be referred for professional help as the need arises to ensure that they are able to successfully cope with the psychological demands of the pandemic.<sup>5,10-11,21-24</sup>

### COVID-19 and a Phased Response to Foster Psychological Well-being

A focused but balanced approach to the fellows can maximize their psychological well-being during the current crisis. The ingredients for a successful collective strategy include frequent communication at all levels, in-depth listening to concerns, developing solutions in real time, and an emphasis on collective responsibility and teamwork through all phases of the crisis.<sup>25</sup> The overall strategy for navigating the crisis successfully with concomitant promotion of well-being should be dynamic and synchronized to the intensity of the crisis, as defined by the ACGME.<sup>33,34</sup>

The fellowship timeline with its goals and activities should be managed in an fluid fashion dependent on the impact of the crisis in real time. The response phases could be thought of as conventional capacity (appropriate for stage 1 in the ACGME framework), contingency capacity (appropriate for stage 2 in the ACGME framework), and crisis capacity (appropriate for stage 3 in the ACGME framework).<sup>33,34</sup> This titrated response to the crisis intensity at the departmental and institutional levels will be enhanced greatly with engaged and thoughtful leadership of the fellowship. The value of a planned phasic and compassionate response for the fellowship cannot be overstated for successful navigation through the current crisis.<sup>33,34</sup> This crafted path can deliver high-quality patient care and foster resilient fellows who are ready for graduation and life thereafter as well-adjusted practitioners and leaders in our specialty.<sup>26-28,35-37</sup>

The multitude of challenges associated with the COVID-19 pandemic can invigorate the fellowship program with creative leadership in all of its activities. The clinical competency committee will require lean and efficient adaptation to overcome the hurdles through to graduation.<sup>26-28</sup> Innovations in the fellowship that were prompted by necessary adaptations to the coronavirus crisis can be captured and developed through the reflections and records of the program evaluation committee.<sup>35</sup> The engaging and energetic landscape of the fellowship can serve as a mentoring platform for the program faculty, including associate and assistant program directors to create and configure the new path ahead through the challenges of this crisis for both the graduating and incoming fellow classes.<sup>36,37</sup>

### Conclusions

The intensity of the coronavirus crisis has challenged the psychological well-being of fellows and faculty in adult cardiothoracic anesthesiology. The challenges affect the individual and the family. The strategies to foster psychological resilience should consider input from all of the stakeholders and create a

collaborative and supportive atmosphere to promote the psychological safety and wellness of all involved.

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### Conflict of Interest

None.

Jared W. Feinman, MD

Lourdes Al-Ghofaily, MD

John G. Augoustides, MD, FASE, FAHA

*Department of Anesthesiology and Critical Care Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA*

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