tionated heparin binds the COVID-19 spike protein in vitro at clinically relevant concentrations (*Br J Pharmacol* October 2020). The NIH recommends that chronic anticoagulant or antiplatelet therapies for underlying conditions should be continued, and venous thromboembolism prophylaxis for both outpatients and inpatients should follow existing guidelines as for non-COVID-19 patients.

- The NIH does not recommend either for or against vitamin C, vitamin D, or zinc.

Miscellaneous

- The NIH recommends that angiotensin-converting enzyme inhibitors, angiotensin receptor blockers, statins, and nonsteroidal anti-inflammatory drugs should be continued in patients with COVID-19.
- The NIH (and literally everyone else) strongly urges that everyone receive their annual influenza vaccination.

Monoclonal antibodies in development

Monoclonal antibodies may prove highly effective for immediate treatment of patients with worsening symptoms (*Nature* 2020;584:443-49), as documented in the curated data sources mentioned in the introduction (asamonitor.pub/38xCPYD; asamonitor.pub/3eJMpsI; asamonitor.pub/3lkeGIB; asamonitor.pub/35g8EmR). Novel techniques have been developed to rapidly isolate antibodies from the plasma or serum of individuals infected with SARS-CoV-2 (*Nat Med* 2020;26:1422-27). Bamlanivab has received an Emergency Use Authorization, as noted above. Several more appear poised for Emergency Use Authorization over the next few months

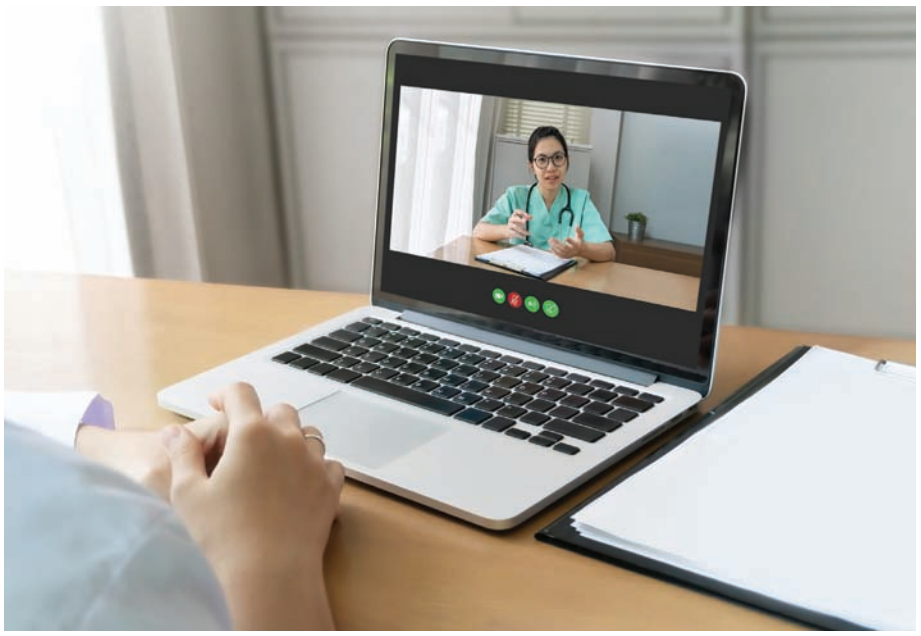
- **REGN-COV2** is a cocktail of two antibodies that bind non-competitively to the receptor-binding domain of the spike protein (*Science* 2020 October 2020). It is being developed by Regeneron. According to a company press release, in a study of 275 non-hospitalized patients, REGN-COV2 hastened alleviation of symptoms and reduced the nasopharyngeal viral load after seven days (asamonitor.pub/2UAzxeY). The data remain unpublished as of this writing. A second press release documented positive results in additional study of 524 patients (asamonitor.pub/38Ouyju). Neither of these studies has been published as of this writing. Regeneron has applied for Emergency Use Authorization from FDA.
- **AZD7442** is a cocktail of two monoclonal antibodies licensed by AstraZeneca from the monoclonal antibody discovery program and Vanderbilt University (*Nat Med* 2020;26:1422-27). The two antibodies interact synergistically at non-overlapping sites of the receptor-binding domain of the S protein. While AstraZeneca has published multiple press releases (asamonitor.pub/38OPk2i), there are no references to AZD7442 human studies in the peer-reviewed literature, bioRxiv, or MedRxiv at the time of this writing. Its protection may last for several months.
- **AeroNabs** is a completely synthetic "nanobody" developed by scientists at UCSF (*bioRxiv* August 2020). Although it is not a monoclonal antibody, functionally it behaves the same way and appears to be among the most potent SARS-CoV-2 antivirals discovered to date. AeroNabs strongly binds to the three receptor-binding domains (RBD) of the spike protein. It also prevents the spike protein from assuming an active state. Remarkably, it is a stable powder that can be self-administered through an inhaler (asamonitor.pub/3f58PVB). Clinical studies and commercial production are being pursued. Recently, FDA issued Emergency Use Authorization for baricitinib plus remdesivir as well as for casirivimab plus imdevimab. ■

Building Rapport in the COVID Era

Syed Sohaib Nasim, MD **Steven Minear, MD**

The COVID-19 pandemic has had a devastating impact on health care, and it has brought forth new challenges to the current system (*J Hosp Med* 2020;15:437-9). The communication process with patients and their families in the perioperative setting, especially during critical moments and critical illness, has changed significantly over the past few months, moving wherever possible to virtual platforms. Online or telephone appointments have become an expected aspect of care (*J Hosp Med* 2020;15:437-9).

During extended critical illness, this virtual setting is unsatisfactory for both patient and doctor. Building rapport with patients and their family members is crucial because it helps clinicians connect, and it improves patient care (*J Hosp Med* 2020;15:437-9). As patients continue through their perioperative course, especially patients in the ICU, these complicated treatment plans and their clinical implications cannot be easily translated to an episodic, virtual conversation (*J Hosp Med* 2020;15:437-39). Prior to stricter visiting policies, family would come frequently to visit, creating opportunities to interact with the care team. These frequent, casual, patient-family-doctor moments cements care team rapport: the feeling of being "on the same team" and present for families (*J Hosp Med* August 2020).



With multiple trips to the OR, rapid changes in clinical status, and the potential for eventual decline, palliative options and end-of-life conversations are made even more challenging due to necessarily strict hospital visiting policies in place (*J Hosp Med* August 2020). At times, the first instance physicians and family physically meet is for an end-of-life discussion. The unsung bystanders of the COVID pandemic are the families and care team of critically ill patients, who are missing that team dynamic, strengthened by many informal points of contact outside of the official "update."

The Centers for Disease Control and Prevention (CDC) has recommended that states limit visitation, allowing them in situations such as altered mental status or end-of-life settings (*J Hosp Med* August 2020). Hospitals by necessity are pressured to introduce strict policies, and consequently family members often could not visit patients even in non-COVID situations. This was done to limit COVID transmission while allowing clinicians the ability to provide compassionate care. However, it has raised challenges for communicating patient progress with family members (*J Hosp Med* August 2020).

There are feelings of isolation, and clinicians cannot communicate easily with different family members at the same time. This makes care discussion very challenging because family members are unable to witness patient progress, either to recovery or decline (*J Hosp Med* 2020;15:437-9; *J Hosp Med* August 2020). Moreover, there are challenges with discharge planning and education because family members are not present at critical moments, which can negatively affect care coordination. This is especially true for the ICU, where patients recovering from their illnesses may be expected to understand instructions about

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The 2020 Pandemic

Snapshot of the Impact of the COVID-19 Pandemic on Academic Anesthesiology Departments' Staffing and Compensation

Amr E. Abouleish, MD, MBA Mark E. Hudson, MD, MBA Charles W. Whitten, MD

The COVID-19 pandemic crisis has disrupted all aspects of our lives from personal to professional. Although there have been anecdotal accounts of staffing changes (e.g., layoffs, early retirements) and compensation changes throughout our specialty, we wanted to determine the impact of the crisis on academic anesthesiology departments.

Over a two-week period in August (August 7-21, 2020), we surveyed all academic chairs who are members of the Association of Academic Anesthesiology Chairs (AAAC, www.saaapm.org/aaac). The short survey was made up of 10 questions as shown in Table 1. The survey had IRB exemption.

Out of the 118 members of AAAC, 51 departments (43%) participated in the survey representing all regions of the United States (Table 2). These 51 departments reported information on a total of 4,130 anesthesiology faculty, 553 fellows, 2,760 residents, and 3,816 non-physician anesthesia clinicians (NPAC = nurse anesthetists + anesthesiologist assistants).

Impact on staffing: Early retirement, permanent disability, permanent reassignment to non-clinical assignments (question 2)

Throughout the pandemic, persons at high risk for morbidity were identified by age, existing medical comorbidity, or pregnancy. During a local surge in infections, especially early in the pandemic, many departments chose to temporarily reassign their high-risk clinicians to non-clinical assignments. But as we have learned, this crisis is not a short-term event and the risk of exposure and infection will continue to be an occupational risk, likely at least through mid to late 2021. Because of this risk, some clinicians have chosen to no longer provide direct clinical care. From the survey results, we can quantify the impact to academic anesthesiology departments. No residents or fellows left clinical practice due to the crisis. On the other hand, a total of 54 clinicians left clinical practice permanently due to the crisis, with 28 (0.7%) faculty and 26 (0.7%) NPAC (Table 3). Most clinicians chose early retirement (20 faculty and 22 NPAC), with some taking permanent disability (seven faculty and four NPAC) and one faculty permanently reassigned to non-clinical work only.

It is important to note that the majority of departments did not have any clinicians leave clinical practice. For faculty who left clinical practice, 17 of 51 (33%) departments had at least one faculty member. The range of number of faculty was one to three, but because of different sizes of departments, the percentage of faculty ranged from 0.7% to 5.9% (median 1.6%). In contrast, the loss of NPAC from clinical practice was more concentrated to six of 51 (12%) departments. The range was one to eight, but again because of the different sizes, the percentage of NPAC ranged from 0.8% to 11.1% (median 1.8%).

Impact on compensation: Furloughs, forced vacation, pay cuts (questions 3-5)

The health care industry has not been immune to the economic downturn due to the COVID-19 crisis. For a period of time, elective surgical cases were not done in response, and outpatient health care operations were reconfigured. Many health systems and anesthesiology departments saw a reduction in revenue while trying to maintain staffing levels (and costs). Anecdotally, we heard that many academic medical centers and medical schools were choosing forced vacation days in lieu of furloughs (layoffs) or pay cuts. Hence, we surveyed all three of these options.

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Building Rapport

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wound care, nutritional requirements, or learn about antibiotic infusions at home (*J Hosp Med* 2020;15:437-9). These activities require caregiver support and may also increase the risk of readmission if it is unsupervised.

One of the strategies proposed to improve communication between caregivers and family members is to hold virtual meetings with an identified contact. Ideally, this person is designated as the durable power of attorney regarding the patient's health care (*J Hosp Med* 2020;15:437-9). This person will in turn be responsible for contacting the rest of the family and to share information about the patient's progress. Family dynamics are often more subtle than this, and cross-cultural problems arise (*J Hosp Med* 2020;15:437-9; *Patient Educ Couns* 2020;103:1067-9). Furthermore, accurate information is dependent on this family member's ability to fully understand the patient's progress and to transmit the information effectively to other family members. Since the physicians are unable to spend time communicating with other members not present at bedside, this complex information can be overwhelming (*J Hosp Med* 2020;15:437-9). Concerns are therefor raised about effective communication of the patient's current status, and it can create further challenges in establishing rapport. Some care teams may decide to call the family during morning rounds so the family member can participate. This can be effective for rapport and team-building when this interval events occurs. The process is unfortunately dependent on the ability of the family member to be available at rounds time, which is very difficult to assess (*J Hosp Med* 2020;15:437-9; *Patient Educ Couns* 2020;103:1067-9). The many moments between official rounds – the handshake, the informal update, the excitement of progress, are all missed. They are filtered out in the efficiency and decorum of morning rounds.

The current pandemic has caused significant challenges for communicating with family regarding patient's critical illness, their current status, future care plans, and goals of care. The main goal of ICU and perioperative care still remains healing and compassionate care. But newer strategies are needed for effective communication and building rapport with family members. ■