

Ethics at the Head of the Bed: Anesthesiologists Confront COVID-19

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The COVID-19 pandemic presents unique ethical considerations for health systems and society.

Anesthesiologists, as experts in airway management, critical care and pain control, are thrust onto the front lines of the pandemic, treating critically ill patients while risking personal exposure. Our desire to care for patients, however, is challenged by rapidly shifting resources, a lack of critical supplies and unclear risks to personal safety. We address core ethical issues in emergency resuscitation and palliative care, surgical case planning and supplies, and maintaining personal protection. Finally, we argue the ethical obligation of anesthesiologists to communicate reliable health information to the public.



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Emergency Resuscitation

As intensive care units fill and ventilators become scarce, medical teams face decisions that preclude the administration of the standard of care; not all patients will receive life-saving measures. Our response to cardiopulmonary arrest must balance the potential benefit of resuscitation against health care workers' risk of exposure.

Cardiopulmonary resuscitation efforts (i.e., intubation and chest compressions) increase the risk of health care worker exposure to SARS-CoV-2, and prolonged resuscitation increases the risk of contamination. Among COVID-19 patients, however, it is not clear that these efforts significantly improve survival. Retrospective analyses of cases in Wuhan, China,



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reported that only eight out of 69 (11.6%) mechanically ventilated patients survived^{1,2}; in the general adult population, only around 15% of critically ill patients who receive CPR survive to hospital discharge.³ Given these outcomes and the risks to providers, CPR may not be appropriate for some patients. The appropriate use of extracorporeal membrane oxygenation (ECMO) during resuscitation should also be reconsidered during the pandemic. ECMO is resource-intensive and places providers at risk of exposure during emergency cannulation; furthermore, it has not improved survival in adult COVID-19 patients in Wuhan, China.²

To prepare for challenges during resuscitation, anesthesiologists must proactively identify teams that will perform intubation and respond to emergencies. These teams should consist of experienced personnel, and they must have a reliable supply of personal protective equipment (PPE). Team members should train in PPE donning and doffing procedures, and in strategies to reduce aerosolization during intubation. Exemptions from direct clinical care should be granted to providers who themselves are at high risk of coronavirus infection. Anesthesiologists must also be prepared to have frank conversations with patients about their wishes regarding resuscitation.

Palliative Care

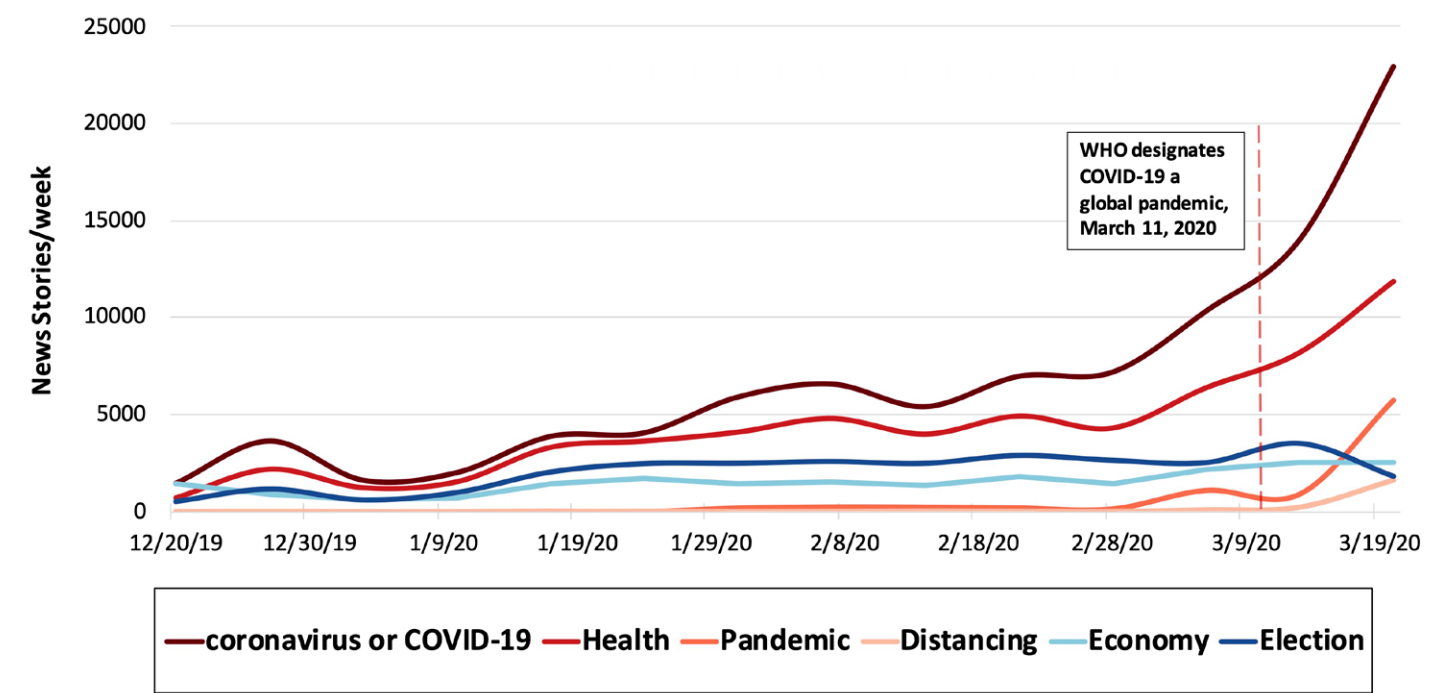
Many patients receiving intensive care will not survive to hospital discharge. This reality requires that anesthesiologists, intensivists and pain specialists prepare themselves with the knowledge and emotional support needed to provide palliative care to dying patients. The triage of a patient to palliative care may not come at the patient's request. Therefore, teams must prepare to discuss emotionally fraught decisions with families in a caring, empathetic manner.⁴ Complicating this is the need for strict isolation, which necessitates remote communication. Worse yet is the widespread limitation of visitors, meaning that patients may die without the peace of having loved ones at their sides. Discharge to hospice will likely be challenging due to PPE shortages and isolation requirements. Thus, it is critical to ensure palliative care teams are adequately staffed and supplied with PPE, which in turn will allow team members to offer emotional care and comfort to patients and families.

Checking the System

In early March 2020, the U.S. Surgeon General, anesthesiologists⁵ and surgeons⁶ recommended cancellation of elective procedures. This extraordinary measure sought to improve

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Figure 1: Level of U.S. News Media Attention of Select topics
December 20, 2019 – March 20, 2020



The weekly number of news stories in which at least one sentence contained the keyword of interest. Raw data obtained from www.mediacloud.com using the 'U.S. Top Sources 2018 Database,' a collection of the top 87 U.S. news sources based on the Pew Research Center.

surge capacity by conserving PPE, intensive care resources and a healthy workforce. Delaying elective cases has caused patients physical and emotional distress, led to an untenable practice environment for anesthesiologists in private practice, and created severe financial strain for hospitals. Nonetheless, given limited resources, such measures were necessary for the greater good of society. The decision to cancel elective cases (and return to regular operation) is complex and challenging. As such, the burden to decide should not rest solely with surgeons and patients, whose interests may conflict with public health goals. Anesthesiologists must use their unique position as perioperative physicians to serve as gatekeepers of the surgical schedule,⁷ partnering with surgeons and administrators to weigh the benefits and burdens of difficult cases.

Patients for whom surgery occurs during the pandemic face unique, uncharacterized risks, such as the increased risk of hospital-acquired infection, limited blood product supply due to a national shortage, and competition for other scarce resources. Anesthesiologists must remain nimble in their consent conversations to incorporate newly relevant risks. Initial aggressive containment efforts will reduce the likelihood of overwhelming the health care system. Such control will help flatten the curve, but the price is time. The possibility of extended periods of disruption will require anesthesiologists to thoughtfully consider the proper time to relax restrictions on elective cases. In some instances, cases that were safely delayed at the beginning of the pandemic will become increasingly urgent. Anesthesiologists also must continually assess the supply chain to determine when sufficient reserves exist to reintroduce procedures deemed non-essential, but which remain important to the health and well-being of patients.

Pandemic Pragmatics: Equipment, Shifting Roles and Protection of the Self

In-hospital management of PPE is a ubiquitous source of concern in the developed world. Face shields, gowns, disposable gloves and surgical masks (standard and N95 models) are in short supply due to increased usage and diminished manufacturer delivery. Hoarding PPE, both from within and outside the medical system, has exacerbated scarcity. Every provider who is in contact with a potential SARS-CoV-2 case must protect themselves accordingly. But how is this accomplished when traditionally single-use equipment is limited or unavailable? By necessity, unorthodox and “off-label” cleaning and re-use of items such as surgical masks are already commonplace in the U.S.

Contemplating the range of staff members required to care for a critically ill patient (EMS services, intensivists, nurses, residents/fellows, respiratory therapists, environmental services, transporters), it is easy to understand the rapid depletion of supplies. Some facilities may initiate preferential allocation of PPE to high-risk, high-contact specialties such as anesthesiology, emergency medicine or pulmonology. The criteria for such decisions must be transparent and consistent, thereby minimizing feelings of distress and resentment among providers working in specialties that provide lower-risk, lower-contact care.



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Ventilator scarcity is a concern for ICUs overwhelmed with patients in respiratory failure who need mechanical ventilation. Allocating critical life support to one patient over another is morally distressing. Contingency plans should include using anesthesia machines in re-purposed O.R. suites or other high-need areas (e.g., PACU, ICU). In this scenario, it is conceivable that anesthesiologists who are no longer working an elective surgical schedule could be deployed to manage critically-ill patients. The issue of equipment scarcity extends beyond ventilators – we expect limited availability of invasive monitors, laboratory equipment, infusion pumps and even physical ICU beds.

Lurking behind the pragmatic concerns is the specter of each caregiver's fears about their mortality and that of loved ones. Health care workers have become infected, and some have died from COVID-19. The protection of one's self has implications for the protection of one's family and all close contacts. Young, healthy providers may have lower risks for developing severe illness, but they will be understandably concerned about spreading the virus to a highly susceptible family member such as an elderly parent, a newborn child or an immunocompromised partner. Even the most resilient among us may feel anxiety about bringing COVID-19 home.

Anesthesiologists and the Public

News about COVID-19 suddenly overwhelms the public consciousness. Anesthesiologists have an ethical obligation to disseminate trusted health information. During the week in which “social distancing” entered the collective lexicon (March 15-21, 2020), more than 23,000 news stories about COVID-19 appeared in U.S. media outlets, far outnumbering stories about the economy or election (Figure 1).

A Pew Research Center survey of randomly selected U.S. adults in late March found that 62% of Americans think the news media have exaggerated COVID-19 risks, and half of the respondents reported seeing made-up “news.”⁸ Americans, however, maintain widespread confidence in public health officials at the Centers for Disease Control and Prevention (83%), doctors (74%) and medical researchers (68%).⁹ These results suggest fertile ground for anesthesiologists to serve as trusted voices of truth, evidence and hope.

Given the trust that society places in us as anesthesiologists, as well as our specialized training and expertise, we are uniquely qualified to promote accurate health information: we must share truthfully, direct people to reliable resources and correct falsehoods. The AMA Code of Medical Ethics calls upon physicians to “make relevant information available to patients, colleagues and the public,” and “recognize a responsibility to participate in activities contributing to the improvement of the community.”¹⁰ In the digital age, these ethical obligations are particularly pertinent. As the country longs for clarity and answers to health questions, open discourse in this environment ensures we meet our ethical obligations to improve public health. We suggest anesthesiologists consider educating their local communities, engaging in social media to spread accurate information, and speaking with journalists. (ProPublica has an intake form for health care workers willing to be interviewed.)

Conclusion

The COVID-19 pandemic presents historic ethical challenges to our profession. We outline wide-ranging, value-laden choices: from supply chain to bedside, resuscitation to palliation, and from the public to our own homes. We are not the first anesthesiologists to face a public health crisis; thankfully, lessons learned from Hurricane Katrina, SARS, Ebola and others will help us work through this unfolding disaster. The overwhelming scale of this pandemic compels us to re-frame our mental model of “emergency,” proceeding urgently and decisively, but honoring duties to our patients, colleagues, and selves. The uncertainty and stress of this time unite

us in unexpected ways. As we courageously provide expert knowledge and specialized skills, we strengthen and sustain the global response to this mounting threat. We hope that one day we will look back on the COVID-19 crisis as a time when anesthesiologists contributed meaningfully to humanity’s battle against a formidable disease.

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