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Editorial

Balancing Choices to Recover From the COVID-19 Pandemic

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"Can someone grab a new box of face masks?" a familiar voice likely asked before scrubbing in at any one of several thousand surgical centers this past month. The unprecedented nature of the coronavirus disease 2019 (COVID-19) pandemic continues to deliver an astounding impact worldwide, and the response to this new infectious disease is both challenging to predict and interpret. While many of us may not yet (and hopefully never) have the biological infection, regardless of our national, professional, or ideological community, we are all now coping with the psychological prodrome of the coronavirus infection. This biological threat now demonstrates that it will not be contained, and this will be a defining moment for humanity. Our focus is shifting from containment and delaying transmission to how we will balance our decisions on the tough road ahead. Although pandemics almost certainly deliver change, the roughly 3%–4% mortality rate[1] afforded by COVID-19 assures us that even in the grimmest scenarios, the vast majority of us will be making the decisions that guide our recovery.

Though overseas efforts to contain this pandemic were admirable, a mere twelve weeks later, the rest of the world now faces infection on their doorstep. Even though pandemics are rare, the spread of novel viral pathogens are not.[2] With a brief reflection on the nearly 200 years it took to promulgate the Smallpox vaccine, or the unrealistic quarantines and futile attempts to contain diseases like the bubonic plague in San Francisco from 1900–1904, we know failed attempts to limit disease can take many forms.[2] Now that hopes of avoiding contagion fade, we are witnessing the human and economic toll as the world becomes overwhelmed with COVID-19. As of writing this, COVID-19 cases are growing exponentially with individual countries forecasting that overall national populations may have nearly 80% infected by the end of this season. Clinical treatment plans involve hospital monitoring and supportive care, though both resources are finite and rapidly becoming overutilized. From the first presentation in the United States in mid-January 2020 to the recent slew of emergency funding packages, our institution and many others are now taking precautionary steps involving telemedicine, infectious disease emergency room protocols, and renewed hand-hygiene campaigns.

In a not-so-distant past, we may have hypothesized that even if COVID-19 did cross our borders, at least the problem would remain in the Emergency Department or medical wards. Surely, it would not impact our operating rooms. Regardless of the pandemic's origin, global economies are so vastly interconnected that no individual or field is unaffected. Ideally, the largest global economies, China, the European Union, and the United States, could symbiotically function. In light of COVID-19 spread in China, it is no surprise that the global economy dipped. It is also worthwhile to mention that the United States receives

one-fifth of China's exports.[3] Reports indicate that China, however, is beginning to recover its production. The fear, however, of a more significant supply chain disruption is now associated with "stockpiling" or hoarding of items ranging from food, to hand soap, sanitary wipes, and surgical facemasks.[4]

My favorite iPhone apps tell me that hand soap and sanitizer are "unavailable until further notice." We are now hearing that pharmacies are completely out-of-stock of hydroxychloroquine. Hospital supplies seem scarcer than before—or am I just noticing that more now? Disinfectant wipes, antibacterial soaps, and alcohol-based hand rubs (ABHR) are in high demand as a consequence of hoarding, profiteering and fear behaviors. As surgical professionals, we have been pursuing the art of perfecting sanitization techniques for the past 2 centuries. In the 1800s, the Hungarian physician, Dr. Semmelweis identified doctors to be their own worst enemies. He postulated that doctors were the source of germ transmission.[5] By introducing the practice of handwashing in a simple chlorinated lime solution before assisting with childbirth, he was able to reduce maternal mortality.

Stockpiling hand sanitization products, however, is the tip of the supply chain disruption iceberg. Some of the supply chain deficiency is expected to impact human and animal pharmaceuticals.6 Additionally, there are shortages of essential medical supplies, such as surgical gowns, masks, respirator devices, and other equipment used for personal protection. This may invariably affect our operating rooms. Of course, the Centers for Disease Control and Prevention and U.S. Food & Drug Administration recommends *against* travelers wearing surgical masks for COVID-19 barrier protection. Regardless of anyone's' beliefs, the decrease in supply, increase in demand, and crippled supply chain is very tangible, and may impact our operating rooms.[6]

These fears are not all in vain. Several pandemics have foreshadowed the end of very prosperous eras. Between 165–180 AD, a disease that is now thought to have been Smallpox, ravaged through the Roman Empire's trade routes. It wiped out nearly a third of the Empire's population and decimated the economy to a point it did not recover from for nearly one thousand years. Just over a century later, the "Plague of Cyprian" furthered the economic decline to a point the western empire was unable to ever overcome. Without even considering the advent of modern medical care, it is essential to note that diseases like Smallpox can deliver mortality rates of nearly 75%.

Not all pandemics have been so ubiquitously negative. While COVID-19 likely involves numerous morbidity and mortality challenges ahead, the vast majority of those infected will physically recover. The societal recovery after a pandemic can rapidly improve beyond the levels that existed before the times of despair. No one will discount the extreme human cost thus far with COVID-19 or during past pandemics like Black Death. At the time of Black Death, roughly 60% of human life in Europe was lost. This dramatic change, however, meant that field workers had a new-found negotiating power. This power shift is thought to have catalyzed toppling the archaic feudal economy. Similarly, after the Spanish flu, states with greater human losses were ultimately able to recover their supply chains and make larger gains than previously documented.

A possible positive outcome of our current pandemic is improved knowledge and adherence to sanitation protocol, many of which spine surgery operating rooms have championed for decades. COVID-19 is transmitted by hand to mouth/face, aerosol transmission, and via the fecal oral route. Unsurprisingly, current protocol in hospitals adequately addresses these routes. Regulations often require handwashing for 2 minutes before and after patient encounters. To increase adherence, the more convenient ABHR has become the standard worldwide, though soap and water continue to outperform ABHR for viral load reduction. Improving hand hygiene with the concepts of sterile field practices in the operating room could arm us with tools needed to defend against current and future microbe intruders. Examples of practices we could borrow from the operating room include awareness of sterile fields, distancing to prevent instrument contamination, and barrier protection. In the end, hand hygiene is one of the most important steps anyone can take to prevent infection.

Although the long-term impacts of COVID-19 are unknown, attempting to decide if our current situation is grounded in sound rationale or overactivity is irrelevant. The care for the numerous patients that will be infected, and our ultimate ability to balance social distancing while limiting economic damage will depend on our collective efforts. We are a part of a finely interwoven global economic, medical, and social network. In whatever country we reside, and whichever operating room we practice, the COVID-19 pandemic now affects us. As part of the team of surgical and medical practitioners that will lead the recovery from COVID-19, it is on us to choose how we economically, psychologically, and medically recover to a place more advanced than before.

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Title: Figures at the seaside
Artist: Pablo Picasso
Year: 1931
A series of bizarre erotic beach scenes, including The Kiss, was painted in the summer of 1931 at Picasso's French Riviera vacation resort, Juan-les-Pins. Said to be inspired by the 50-year-old painter's liaison with 19-year-old model, Marie-Therese Walter, the grotesque nature of the depicted forms reduces this moment of intimate contact to a level of crudity, probably more representative of his deteriorating relationship with his wife, Olga.
More information: https://www.pablopicasso.org/figures-at-the-seaside.jsp