



## Editorial

# COVID-19 and the Role of Spine Surgeons



Nickul S. Jain<sup>1</sup>, Jeffrey C. Wang<sup>2</sup>

<sup>1</sup>Southern California Orthopedic Institute, Van Nuys, CA, USA

<sup>2</sup>University of Southern California Spine Center, Los Angeles, CA, USA

### Corresponding Author

Jeffrey C. Wang

<https://orcid.org/0000-0002-6297-7410>

University of Southern California Spine  
Center, 1450 San Pablo Street, Suite 5400,  
Los Angeles, CA 90033, USA  
E-mail: Jeffrey.Wang@med.usc.edu

In December of 2019, a novel coronavirus, referred to as severe acute respiratory syndrome coronavirus-2 or coronavirus disease 2019 (COVID-19) was discovered in Wuhan, People's Republic of China and has since been declared a global pandemic by the World Health Organization. As of April 17th, 2020, there have been more than 2 million confirmed worldwide cases with more than 150,000 deaths due to this novel pandemic.<sup>1</sup>

In the past few months, the world has radically changed in response to this global outbreak. Schools have been closed, public gatherings limited, worldwide travel severely restricted, families driven apart, businesses closed, and significant shifts in medical care have occurred. Hospitals, outpatient clinics, and medical delivery systems have all devoted near full force into combatting this new epidemic. Elective surgeries for nonurgent/emergent conditions have been curtailed throughout the world. In the modern era, the scale and severity of the COVID-19 pandemic is unprecedented for both society and health care delivery systems.

During this crisis, spine surgeons have a duty and obligation as physicians to focus care dedicated to protecting and advancing human health on both individual as well as systemic and global scales. During a time where health care resources are limited and being depleted at exponential rates, cautious and judicious utilization of these resources is critical. Spine surgeons have a crucial role to play whereby they still treat patients with urgent and emergent spinal pathology while maximizing patient and provider safety and minimizing health-care resource utilization. This is particularly important as many spine patients (older age with medical comorbidities) may be at increased risk of progressing to a severe and potentially lethal stage of COVID-19.

With regards to healthcare utilization, as the number of COVID-19 cases continues to rise throughout the world, there is growing concern that health-care systems may reach surge capacity and be unable to care for patients with moderate to severe symptomatology, particularly patients requiring mechanical ventilation. By delaying elective procedures, spine surgeons can help to preserve several hospital resources which are expected to be limited for the foreseeable future including healthcare providers who would otherwise be in the operating room (OR), inpatient beds, intensive care unit ventilators, blood bank reserves, and personal protective equipment (PPE) that would otherwise be consumed during surgery. Furthermore, delaying elective surgery avoids potential prolonged postoperative inpatient stays, decreases the risk of nosocomial transmission of COVID-19 and avoids having to treat postoperative complications in a setting where healthcare resources are already limited.



This is an Open Access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (<https://creativecommons.org/licenses/by-nc/4.0/>) which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

Copyright © 2020 by the Korean Spinal Neurosurgery Society

The identification and triaging of patients with spinal pathology that need emergent or urgent surgery versus those who can be delayed several months is a gray zone without clear consensus. Spine surgery triage has its own unique set of challenges and the acuity of cases may be higher than many other surgical specialties. However, the North American Spine Society has published guidelines on triaging spine case priority during this pandemic and should serve as a general guideline for most spine practitioners for judicious case selection.<sup>2</sup>

Recent publications have also suggested that the rates of asymptomatic carriers of COVID-19 can be up to 20%–41% of total patients and COVID-19 positive patients undergoing elective surgical procedures can have disastrous outcomes with potentially up to 20% mortality.<sup>3–5</sup> However, it is almost certain that treatment delays will increase morbidity among those with severe or debilitating degenerative spine pathology. This trade-off is at the heart of the matter and emphasizes the critical role spine surgeon decision making plays during this global pandemic. We encourage surgeons to continue to provide direct patient care via telemedicine and outpatient management of painful and debilitating conditions to avoid hospital and clinic visits while limiting patient morbidity.

When surgery is required, spine surgeons should take an active role taking the viral threat seriously and encourage appropriate perioperative and intraoperative precautions. Special consideration should be given to OR setup, negative pressure rooms, limiting OR personnel, preoperative testing, minimizing blood loss, minimally invasive techniques, appropriate PPE use, and intubation and extubation precautions.

As we become more aware of the disproportionate morbidity and mortality of COVID-19 among healthcare workers, new challenges will arise. As frontline treating physicians succumb to COVID-19 or are forced to self-quarantine due to exposures, hospitals will face increased needs for physicians. As spine surgeons, being available and trained for redeployment into medical or COVID wards can help offset the burden of hospitalists, internists and intensivist physicians. Spine surgeons can, in addition to urgent and emergent spine care, potentially aid in doc-

umentation, follow-up medical care, screening, and maximizing time for these critical frontline physicians.

During these difficult times, it is important that we all take a few minutes for self-care as well. Making time for family, connecting with colleagues and friends, and getting some form of physical activity can be effective stress mitigation strategies and should not be forgotten while societal limitations are in place. Academic productivity is another potential use of newfound time during the pandemic.

As the number of COVID-19 cases plateaus, a slow return to elective spine surgery will be both necessary and feasible. However, as we adapt to a new way of life, we must remain both vigilant and flexible—always prioritizing health, safety, and well-being of patients above all else.

## REFERENCES

1. Johns Hopkins University & Medicine. Coronavirus Resource Center [Internet]. Baltimore (MD): Johns Hopkins University & Medicine; c2020 [cited 2020 Mar 26]. Available from: <https://coronavirus.jhu.edu/>.
2. North American Spine Society (NASS). Burr Ridge (IL): NASS; 2020 Apr 22 [cited 2020 Mar 26]. Available from: <https://www.spine.org/Portals/0/assets/downloads/Publications/NASSInsider/NASSGuidanceDocument040320.pdf>.
3. Mizumoto K, Kagaya K, Zarebski A, et al. Estimating the asymptomatic proportion of coronavirus disease 2019 (COVID-19) cases on board the Diamond Princess cruise ship, Yokohama, Japan, 2020. *Euro Surveill* 2020;25:2000180. <https://doi.org/10.2807/1560-7917.ES.2020.25.10.2000180>.
4. Nishiura H, Kobayashi T, Miyama T, et al. Estimation of the asymptomatic ratio of novel coronavirus infections (COVID-19). *Int J Infect Dis* 2020;94:154–5.
5. Lei S, Jiang F, Su W, et al. Clinical characteristics and outcomes of patients undergoing surgeries during the incubation period of COVID-19 infection. *EClinicalMedicine* 2020:100331. <https://doi.org/10.1016/j.eclinm.2020.100331>. [Epub].



---

Title: The Old Guitarist

Artist: Pablo Picasso

Year: 1903-1904

The Old Guitarist was painted in 1903, just after the suicide death of Picasso's close friend, Casagemas. During this time, the artist was sympathetic to the plight of the downtrodden and painted many canvases depicting the miseries of the poor, the ill, and those cast out of society. He too knew what it was like to be impoverished, having been nearly penniless during all of 1902. This work was created in Madrid, and the distorted style (note that the upper torso of the guitarist seems to be reclining, while the bottom half appears to be sitting cross-legged) is reminiscent of the works of El Greco

More information: <https://www.pablocicasso.org/old-guitarist.jsp>

© 2020 - Succession Pablo Picasso - SACK (Korea)