

The Global Spine Community and COVID-19: Divided or United?

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Since the initial documented cases from Wuhan, China in December of 2019, the outbreak of COVID-19 has spread to over 210 countries, infecting more than 2,500,000 individuals and leading to more than 174,000 deaths at the time of this writing. To combat this pandemic, this has resulted in widespread work stoppages, hospital-wide reorganizations, drastic changes in societal norms, and has raised new amounts of anxiety and uncertainty for everyone. A great deal of attention in print and in media circuits has focused on emergency, critical care and respiratory specialists; however, the surgeon, in particular the spine surgeon, is often the “forgotten soldier” who is lost in the conversation. Due to the suspension of most elective surgeries worldwide and in-person clinics, many surgeons have had to rapidly adjust their practice and assist on frontline duties. Additionally, surgeons work in multidisciplinary teams, thus elective surgery cancellations have downstream effects on various healthcare workers. In fact, high burn-out rate and stress often are married conundrums to the spine specialist, further increasing their risk profile for COVID-19-related complications if they should ever get infected.¹ As part of the spine community, we need to gain insight on how our colleagues around the world are facing the challenging and changing landscape, in order to initiate conversations regarding how to unite a stressed healthcare system when it comes time to actively restart and rebuild medical practices and society as a whole. As such, we need to be forward-thinking in future directions that range from short to long-term in scope as well as work together in synergy as we draft a new canvas of a new normal in healthcare delivery and patient management to address spinal disorders. In moving ahead beyond the pandemic, this begs the question – is the spine community during COVID-19 divided or united?

Results of a Global Survey: What is on our minds?

As noted, these are trying times, uncharted territory that perhaps may never again surface. That said, the past two decades has seen other infectious outbreaks, as was the case with SARS and H1N1 viruses; therefore, future reoccurrence of a pandemic may not be highly unlikely and gives credence for advance preparation. However, currently, the “impact” of COVID-19 on spine surgeons worldwide is of tremendous curiosity and of much needed assessment if the plan of action moving forward is to be designed. To address such concerns, in

the tail-end of March of 2020, the AO Spine COVID-19 and Spine Surgeon Global Impact Survey was distributed to surgeons worldwide. Several domains were addressed including: demographics, COVID-19 observations, preparedness, personal impact, patient care, and future perceptions. In total, 902 spine surgeons completed the survey, representing 91 different countries and 7 global regions.² The survey noted some regional differences in opinions related to government and media impact, current clinical practice activities, current surgical management and impact of loss income. However, worldwide similarities were observed, predominantly involving family health concerns, resources available for testing and personal protective equipment for patient care, impact on trainees and research, the need for online education, and the demand for formal, standardized guidelines to guide future patient care. As a part of the survey, we also gathered optional free text responses from these surgeons worldwide addressing the following: 1) words of advice/encouragement for their colleagues, 2) words of advice/encouragement for their patients, and 3) their greatest concern upon restarting the standard clinical duties. Many responses were heartwarming with a focus on safety, hope, unity, perseverance, and self-care (**Figure 1A-C**). Specifically, among responses to colleagues, the majority of comments were focused around hope/optimism (43.7%), followed by caution/safety (28.2%). Conversely, responses directed toward patients largely focused on caution/safety (66.1%), followed by direct comments regarding their desire to provide patient care (49.0%). Lastly, most surgeons expressed concerns directly related to COVID-19 when resuming clinical practice (60.7%), while many also voiced issues related to overloading on deferred clinical case work (28.4%).

The Growing Arena of Technology-Driven Platforms for Education

Over the past few weeks, the spine societies and leaders have placed a significant focus on educating the spine community surrounding COVID-19. Technology has been embraced as numerous webinars – as hosted by societies such as AO Spine, the North American Spine Society, the Scoliosis Research Society and others – to discuss a variety of topics have been widely attended. Although the most popular topics have addressed the impact of COVID-19 on the spine community and how to prepare for the future, a diverse array of spine-specific educational sessions have arisen.³⁻⁶ Virtual case discussions, indication conferences, journal clubs, and didactics have created a new avenue of clinical and academic opportunities. Without

leaving the comfort of one's home, individuals have gained access to a wealth of learning at their fingertips. Given the growing attendance and active participation in these sessions, this tech-driven educational offering may be an area of expansion in the future. To disseminate important peer-reviewed editorials and studies surrounding COVID-19, many of the orthopaedic, neurosurgical, and spine-specific journals have expedited their evaluation/reviewing process to provide expeditious dissemination and mobilization of knowledge to the spine community.^{7,8} The wealth of new peer-reviewed studies focusing on the impact of COVID-19 on spine care has guided the current management of patients and plans for "return to *new* normal." Several societies/organizations and journals have created dedicated COVID-19 pages and article depositories to provide easy access to important evidence-based information. Similarly, societies are creating "information hubs" that provide COVID-19 and spine related information, patient management, personal well-being, proposed guidelines and educational offerings into centralized areas.^{5,6} Lastly, new blog posts, newsletters, and specialty updates through various electronic platforms continue to educate and engage the spine community.

A Unified Approach to Recovery

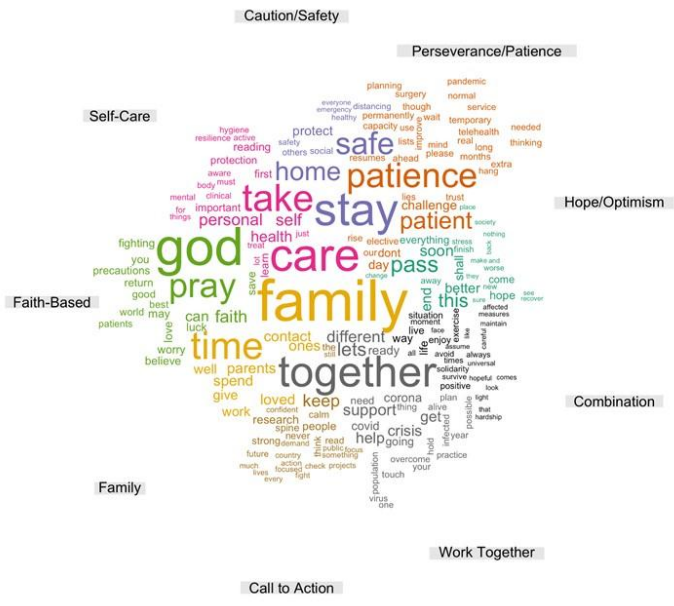
People are working together in synergy across borders, speaking the same language with a deeper appreciation for life during this period of immense uncertainty and challenging demands that mimic a war-time scenario. Global pandemics have an affinity to divide countries, states, cities, and communities. However, the spine community has become one of many examples that we are not as divided as some may have thought we would be. During this pandemic, spine surgeons and trainees have undergone significant temporary re-assignments to help cover the emergency department, inpatient care, and intensive care units. As care team restructuring has rapidly transformed their typical roles to focus resources and time towards care of COVID-19 patients, these diverse educational offerings have unified the spine community and have provided solidarity in times of anxiety and uncertainty. While we will return to our normal pre-COVID-19 activities with increased appreciation for our jobs, it would be a shame not to exploit/continue to implement lessons learned from the crisis. E-learning/interactions with colleagues from home and time efficient communication over face-to-face computer platforms without having to travel will enhance the efficiency of our educational possibilities while decreasing the stress of our busy and over-scheduled lives. The COVID-19 pandemic has

brought many challenges to our society and clinical practice. The time will come when the spine community will return their focus to their particular subspecialty. However, until then, we all have been “gifted” an opportunity to contribute and unify. We must make the most of this situation as we support our colleagues, patients, and communities during this uncertain time. We will prevail, and we will be stronger and more united!

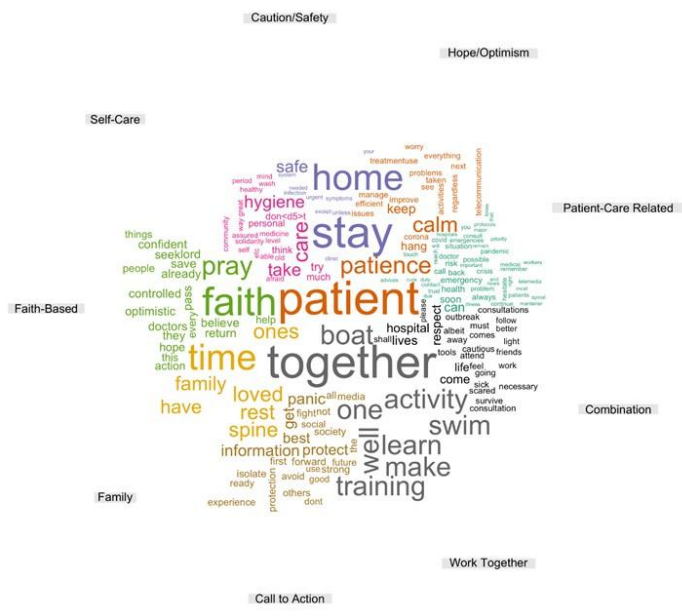
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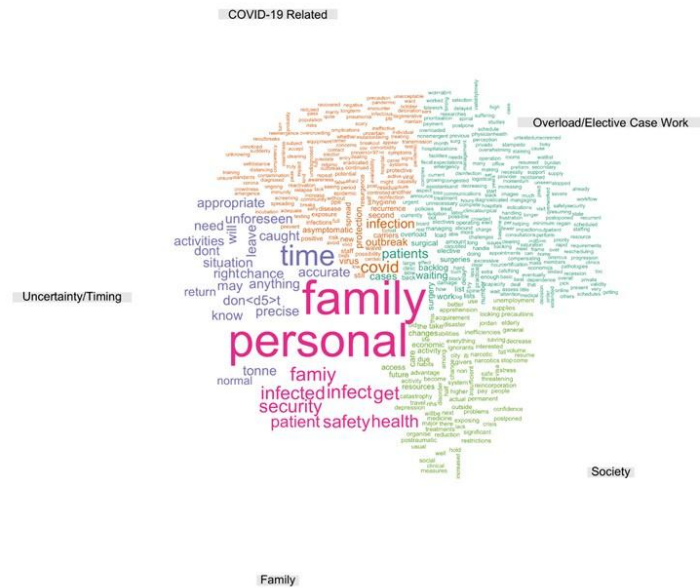
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A



B



C

Figure 1: Free text responses from the AO Spine COVID-19 and Spine Surgeon Global Impact Survey. **A)** What words of advice or encouragement would you like to provide to your colleagues? **B)** What words of advice or encouragement would you like to provide to your patients? **C)** What is your greatest concern when resuming full clinical care?