

## Editorial: Postcards from War Zones—Personal Experiences During the COVID-19 Pandemic

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We're writing to you on April 2, 2020. Four weeks ago: "Biden Revives Campaign, Winning Nine States, but Sanders Takes California" [9].

Three weeks ago: "Panicked Shoppers Empty Shelves as Coronavirus Anxiety Rises" [8].

Two weeks ago: "Italy's Coronavirus Victims Face Death Alone, With Funerals Postponed" [7].

Last week: "Coronavirus in N.Y.: 'Astronomical' Surge Leads to Quarantine Warning" [6].

Yesterday: "Coronavirus May Kill 100,000 to 240,000 in U.S. Despite Actions, Officials Say" [12].

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Today: "U.S. Expected to Advise Everyone to Wear Cloth Masks in Public" [10].

The pace of change in those headlines—all of which were lead stories in the *New York Times*—gives a sense for how fast things have changed in just a single month during the coronavirus disease 2019 (COVID-19) pandemic.

To give even more perspective, we noticed that the same day's newspaper that lead with Biden's "Super Tuesday" victories did not even mention the Coronavirus in the headlines of its top three articles. And less than a month before the story that recommended cloth masks ran, the US Centers for Disease Control and Prevention (CDC) was recommending against the use of masks by asymptomatic individuals [11].

More impressively, between the time we typed the headline "U.S. Expected to Advise Everyone to Wear Cloth Masks in Public"—also from the *New York Times*—and the time we reached the end of this paragraph and went to find that article's citation, the headline already changed. It now is "White House Debates How Far to Go on Face Mask Guidance" [10]. That's

not a month, a week, or a day. That was 10 minutes.

But to an RNA virus, a day is a lifetime [14].

For those reasons, we at *Clinical Orthopaedics and Related Research*®—a monthly publication, that's once every 30 lifetimes or so, if you're a coronavirus—have not tried to keep up with the day-to-day and hour-to-hour "discoveries". It's just not possible to do that well, and we don't want to risk misleading our readers. Instead, as noted at the top of our homepage ([www.clinorthop.org](http://www.clinorthop.org)) we offer a fast-track review process to high-quality original musculoskeletal research on COVID-19, and, perhaps more importantly, we provide direct links to those organizations that have a chance of keeping pace with a single-stranded, enveloped, RNA-driven pathogen: The CDC [2], the World Health Organization [13], and the best-available models and projections [5].

But it would feel neglectful not to recognize the monumental changes in the lives and practices of *CORR*'s readers, and, more importantly, in those of the patients who have COVID-19, whom *CORR*'s readers care for.

With that in mind, we reached out to colleagues across the globe and, because most of them are desperately busy doing battle with this submicroscopic scourge, we asked each of them only for a single paragraph about their experiences. Nothing more than a postcard from the world's many war

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zones. Just a glimpse, a thought, or a feeling to share. Given how busy everyone is now, we sent 17 invitations, expecting three or four responses. To our surprise, nearly everyone wrote back.

So much will change between the moment we write this and the moment you read it. But we believe these memories will endure. We trust you will be as moved by them as we were.

**Yi Cai MD (Orthopaedic Surgeon)**  
**Wuhan Central Hospital; Wuhan, China**

Although I am the director of the minimally invasive spinal surgery department of Wuhan Central Hospital, during the COVID-19 epidemic I have been an ordinary front-line doctor. Since the outbreak of the epidemic, my orthopaedic colleagues and I have supported both the intensive isolation unit and the light disease ward of the Mobile Cabin Hospital. The team is temporary, the ward is new, and many difficulties have arisen. After weeks of fighting, it seemed we had finally settled into a routine, if a grim one. This changed when I received a call from a young nurse in my department. She was crying. She had just received word that she had an abnormal CT lung screening; I didn't know how to comfort her. Her coworkers were avoiding her; yesterday's colleagues, abandoned today. I tried to calm her down with a joke. It didn't help. To avoid infecting her parents at home, she planned to stay in a hotel and I helped her find a place to stay. Upon learning the news, her parents were tearful, overwrought. They wanted to come see her, but of course they could not. Making matters worse, she later learned that a close family member caught the virus from her, and that family member was even more ill than she was. Stories like this

came in one after the next; yesterday's colleagues, patients today. I tried to hold off depression by focusing on my responsibilities as a leader, but my heart can no longer withstand the slightest bit of hurt for my fellows around me. Finally, it seems that Wuhan may have hit the reset button. No matter how difficult it has been, we all can come back again.

**José R. Caeiro Rey MD, PhD, MSC**  
**(Orthopaedic Surgeon)**  
**University Hospital of Santiago de Compostela; Galicia, Spain**

I work at a university hospital in Galicia, in the northwest of Spain, and here the last several months have been distressing indeed. As the number of patients with COVID-19 increased so rapidly in the early weeks of the epidemic, and as so many of them required hospitalization and critical care—especially in Madrid and Catalonia—I wondered whether our public health system would have the capacity and the means to care for them. My second wave of concern was for the number of health professionals who became infected in the course of their duties, and the thought that perhaps this could have been prevented if we had not had such a shortage of personal protective equipment. Most recently, and most poignantly, I've been thinking about the many older, frail patients who have died from this illness. Many of them were institutionalized, and so perhaps less visible to society more broadly. This is a lonely way to die. And these deaths, whether visible or invisible, but always in loneliness, reminded me of this cri-de-coeur from a palliative care specialist in my country: "Nunca olviden ustedes, que los cuidados que un pueblo suministra a sus ciudadanos más pobres, más indefensos, más frágiles, más viejos, más enfermos, es un indicativo de su grado de civilización" [4]. ("Never forget that the care that a society provides to

its poorest, most defenceless, most fragile, oldest, and sickest citizens is an indication of its degree of civilization").

**Kenneth S. Boockvar MD**  
**(Geriatrics Specialist)**  
**James J. Peters VA Medical Center; Bronx, USA**

When I entered geriatrics, I did not expect to have long relationships with my patients, and yet I have cared for many for as long as 10-15 years (from, say, age 80 to 95). This week, I parted with two of them. They both had COVID-19 and both were nearing the 10th decade of life. They each came to the hospital with delirium and dehydration, and later developed fever. I'd known them both for 12 years. Writing a condolence card to each family will help provide closure for me. But many of my patients who have had COVID-19 have already recovered, and this keeps me optimistic. One, a frail older veteran, called me right after his symptoms resolved to offer to donate plasma to provide immune globulin therapy to someone else with the disease. That was a hopeful moment for me that I will return to during this epidemic.

**Cao Yang MD (Orthopaedic Surgeon)**  
**Union Hospital; Wuhan, China**

Wuhan was locked down from January 23 to April 8 because of the coronavirus pandemic. When this began, we did not know how easily, quickly, and silently this disease would spread. My service cared for a surgical patient with lumbar spinal stenosis. He had no viral symptoms when he was admitted. Five days later, he had a high fever and was diagnosed with COVID-19, but not before five of my colleagues contracted the disease in the course of caring for him. I was quarantined at home for 2 weeks because of close contact. The number of patients with COVID-19 overwhelmed the healthcare system here in Wuhan, and more than 40,000 medical staff from other cities came to here to help us. Most

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of my colleagues were also assigned to take care of the patients with coronavirus, including the spine surgeons. Although elective surgery of course is suspended, demands on our system have even resulted in delays for urgent surgery. In recent days, I have done six spinal operations for different conditions—cervical spondylotic myelopathy, spinal tuberculosis, tumor, and trauma—but all of these patients were paralyzed or incompletely paralyzed because of delayed surgery. Although the epidemic is almost controlled in Wuhan, things here have not returned to normal.

**Chigusa Sawamura MD, MPH (Orthopaedic Surgeon)**  
**Saitama Cancer Center; Saitama, Japan**

Here, we often compare the COVID-19 crisis with the Great East Japan Earthquake and nuclear accidents in 2011. But they're not the same. No one knows when an earthquake will happen, while we know the peak of the COVID-19 surge will hit Tokyo in few weeks. This gives us time for preparation. Viruses do not destroy roads, rail tracks, or buildings, and I don't expect a sudden disruption of electricity, supplies, or distribution networks. When the earthquake hit, we learned that CTs do not work without power, and needed deliveries of implants and supplies to operate on patients that did not come, things that we previously took for granted. The coronavirus pandemic will be another challenge for us, but we have overcome many disasters. We are strong.

**Paul Pottinger MD (Infectious Diseases Specialist)**  
**University of Washington Infectious Diseases & Tropical Medicine Clinic; Seattle, USA**

I'm an Infectious Diseases specialist, responsible for the COVID-19 infection-control team at my hospital, so I am working on this epidemic full time. Everything else has stopped. The hours are long, and the days are challenging

because of the many logistical issues involved. We cope with new crises every day. It is exhausting. By the time I get home each night I am spent—physically and emotionally. But home life recharges me, and is a source of constancy. Our son is still in high school but my daughter is in college now. Because of the epidemic, she has moved back home with us. I love seeing our two kids together again, being best friends. We are a connected, supportive family. I make time to eat dinner with them each evening, then return to email until the inbox is empty, then I fall asleep. In 2016, I climbed Mt. Everest, and the mountain has haunted my dreams each night since then, until now. I used to fall asleep listening to the avalanches, feeling the glacier move beneath me, and waking up expecting to be in my tent at high camp. No longer. I no longer dream of the mountain, or of my beautiful family. Now, there is only one dream: COVID-19. Night after night I bathe in a deep, unrelenting fear that my colleagues will become infected if I fail to make the right decisions with our protection plans. *I must keep them safe.* People ask how it felt climbing Mt. Everest—was it difficult? Yes, but COVID-19 is so much harder, more grinding, utterly exhausting. I know this will pass. But now, at the crest of the wave, that passing still looks to be a long way away.

**Zhen-Sheng Ma MD (Orthopaedic Surgeon)**  
**Xijing Hospital; Xi'an, China**

When I received the invitation to write this “postcard,” I was taking part in our traditional Qingming Festival, which in English would be called “Tomb Sweeping Festival.” It's a time to pay respects to the dead, and it is considered a major spring festival. Based on the Chinese Lunar Calendar, it occurred in early April this year. Around that same time, China held a national day of mourning for the martyrs—

healthcare workers and others—who have died in the fight against the novel coronavirus. As of April 8th, in China, we have 83,162 confirmed patients with COVID-19, and 3342 have died. As of now, it appears that the epidemic in China has been controlled, and after 76 days of quarantine, Wuhan City, the epicenter in China, has lifted the lockdown. All of China is once again running after a 2-month hiatus, though it is impossible to know if this will remain the case. During the epidemic, all citizens of China were ordered to stay home when possible, to go outside only when absolutely necessary, and to wear masks when in the community. Compliance with the mask guideline was so good that even now, when we go to work or to buy things in the supermarket, if we do not wear a mask, we feel naked; perhaps more importantly, we won't be allowed into places like supermarkets without one. It appears that as of the time I'm writing this (early April 2020), the CDC has endorsed this approach [3], but from what my friends in France, Germany, and the US tell me, mask usage in the community in those countries is inconsistent. I don't understand why. As an aside, though an important one, I've also read and heard firsthand stories about Asian people in western countries experiencing discrimination, even violence, perhaps in part for wearing masks (I understand that many Asian people adopted this practice early in those locations). This is wrong, and hearing these stories makes me sad. The SARS-CoV-2 virus knows nothing about culture. This is a time to work together, and to take sensible steps in each of our communities to care for one another.

**Shuichi Matsuda MD, PhD (Orthopaedic Surgeon)**  
**Kyoto University, Kyoto, Japan**

As of this writing (early April 2020), surgeons here still are performing elective procedures with some restrictions.

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The number of patients confirmed to have COVID-19 is increasing, though the number remains low compared to those in the US and European countries. But we fear that many patients have gone undiagnosed because public access to the PCR test for COVID-19 is extremely limited by the policy of the Japanese government. The government believes that seeing too many patients with COVID-19 who have only mild symptoms would overwhelm hospitals, and so energy instead is focused on arranging medical staff, rooms, and medical devices for treating patients with serious symptoms, whose numbers will rapidly increase in the near future. In daily life, we are advised to avoid nonessential outings, but the city is not under lockdown or quarantine. As of now, it's fair to say no one knows what the best approach is. We'll only be able to tell the people in the future what we learned. Japan has a very sad past. In 2011, we lost more than 18,000 people in one day to a huge earthquake and the tsunami that followed. One small village, however, lost fewer lives because the townspeople obeyed directions written on a local stone monument: "Do not build any homes below this point" [1]. The waves stopped just below the stone. This monument was built at the time of a previous huge tsunami, in 1933. Hundreds of such "tsunami stones," some more than six centuries old, dot the northeastern coast of Japan. Some places heeded these lessons of the past, but many were too confident about advanced technology and higher seawalls, and forgot the old warnings. In 2020, it appears that we have been overconfident in our belief that advanced medical technology is the only or best answer. Instead it seems that older approaches—maintaining social distance and handwashing—will be a big part of any solution here. Someday, perhaps, we will build a monument saying, "How we survived the COVID-19 pandemic."

**Megan E. Anderson MD (Orthopaedic Surgeon)**

**Beth Israel Deaconess Medical Center and Boston Children's Hospital; Boston, USA**

What strikes me about life now amidst the pandemic is a dichotomy of existences with reversed experiences. On the one hand is my virtual life, using online connections, where I meet with patients to evaluate their tumors and guide their rehabilitation, and with colleagues and staff to stay current on policies and safe practices. But instead of being cold and impersonal, I find that I can look at my patients, their caregivers, and my colleagues directly in the eye via the video camera. Indeed, I am looking so much more at their faces, that I seem to pick up more of their stresses and concerns than when I would see them in person, when I might have been distracted by other things. Surprisingly, at least to me, these virtual encounters are welcoming and friendly, with happy, safe patients at home, grateful for continued medical care, and happy, safe staff who can achieve more distance than we thought possible while still sharing warm exchanges. Contrast to this my actual life. Non-COVID care continues during the crisis, but it has changed. Halls at the hospital are empty and the few coworkers I see are in masks and rarely even nod hello. Patients with cancer from all the services are gathered together on one floor, as there are no elective patients in the hospital anymore. Wards have been converted to care for patients with coronavirus. People seem stressed and raw, and the hospitals seem dark and cold. Even at home, roles are different and more stressful. I've changed from working mother, someone who could savor every delightful non-work moment with my family, to home-school, home-organization dictator. My hope is that going forward in life after COVID-19 (if that does become a

reality), I can pull the best parts from both of these existences into some sort of new melded reality to become a better doctor, surgeon, mother, wife, colleague, and friend.

**Berardo Di Matteo MD (Orthopaedic Surgeon)**

**Humanitas Clinical and Research Institute; Milan, Italy**

March was a tough month. We were told that elective surgery was suspended. Although few patients had yet been diagnosed with COVID-19 here in Lombardy, Italy, bad feelings were in the air. On March 11th, all of Italy was placed under lockdown. It was a shock. Within days, my Institute was transformed into a COVID-19 Hospital, with more than 250 patients hospitalized and military medical tents placed at the entrance of our Emergency Department. What should an orthopaedic surgeon do in such a situation? The answer actually wasn't difficult; it is pretty clear that "our" category is almost useless as we fight this war against an invisible agent. I had to rethink my role, and try to help to those who were (and are) really fighting on the front line: Internists and anesthesiologists, both on the wards and in the intensive care unit (ICU). I had to recall "old knowledge", going all the way back to medical school. This helped me to rediscover a true sense of collaboration among physicians, nurses, and medical personnel, in a setting where each of us came in with different backgrounds. Now, on the April 4th, the situation seems a little bit better: Our authorities say the we are at the peak of the epidemic. There is still a long way to go, we all know. But we will resist, no doubt.

**Jun Yang MD (Orthopaedic Surgeon)**  
**AllinMed Internet Orthopedics Hospital, Northwest Center; Yinchuan, China**

Although I practice in Shanghai, my hometown is Wuhan, the coronavirus epicenter. I returned home to see family



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for the holidays and celebrated the most-important festival of the year, Chinese Lunar New Year. Shortly thereafter, my mother developed COVID-19. Her illness became severe; balancing my responsibilities as a physician and family member was not easy. My mother's condition went from that of a mild flu-like illness to full-blown hypoxia in a span of hours. I borrowed a blood oxygen saturation monitor and an oxygen generator to try to alleviate my mother's symptoms. This was not enough. My mother was admitted to Huoshenshan Hospital, an infectious-disease center built specifically (and quickly) to fight COVID-19. After 3 days of high-flow oxygen therapy, her oxygen saturation improved, and she was weaned off supplemental oxygen about 2 weeks later. Our approaches to this illness still seem so crude. Physicians around the world need to work together to share data and experiences, to refine our treatments, and to arrive at the best ways to allocate medical resources in the fight against this virus.

**Benjamin K. Potter MD, Director for Surgery (Orthopaedic Surgeon), Walter Reed National Military Medical Center; Bethesda, USA**

As we work together to treat our early batch of patients with COVID-19 and brace—through rapid development and deployment of new protocols, consumable scavenging and bed expansion—for many, many more, three words come up again and again: Teamwork, austerity, and change. The teamwork I've seen has been impressive. It's inspiring to watch individuals of different specialties, backgrounds and skill sets come together, work towards a common goal, and battle a common (if invisible) enemy. Next, austerity: The environment now seems borderline expeditionary and, for those of us in the military, it is reminiscent of deployment. This is not all bad; need instigates ingenuity. We've

restructured clinical workflows, built robust telehealth platforms essentially overnight, and—having wiped clean the elective-surgery slate—figured out the safest ways to proceed with medically necessary and time-sensitive surgery. And finally, change. Winston Churchill famously suggested “Never let a good crisis go to waste.” There is little doubt that our medical practices, and even the world, will not be the same when this crisis passes. Changes have been forced, but the “good” that may come from this may be achieved in ensuring that we are changed for the better.

**Enrique Gómez-Barrena MD, PhD (Orthopaedic Surgeon) Hospital Universitario La Paz, Universidad Autónoma de Madrid; Madrid, Spain**

I work in a large, tertiary-care Hospital in Madrid, Spain. Despite the available information from Italy, which appeared to be 1 week ahead in terms of pandemic-related suffering, nobody in Madrid imagined we would be so seriously hit. Then everything changed. The Orthopaedic Department abruptly transformed, as the hospital had to admit more and more patients with COVID-19. On March 17th, we had 269 inpatients with COVID-19, and 57 in the Emergency Room. By March 28th, those numbers were 803 with COVID-19 in the hospital (103 of whom were in the ICU) and 198 in the ER. Half the faculty and residents of the Orthopaedic Department were serving in the ER or on wards to support the internists by providing care or meeting with families. We established a rotating team to take care of trauma in the ER and the operating rooms, and urgent/emergent surgery continued as needed, though elective surgery has long since stopped. Still, there were hard decisions; admitting older patients with hip fractures risked nosocomial COVID-19 infections, and soon patients with COVID-19 dominated the surgical list.

The good news as of today (April 3rd), is that the numbers seem to be improving; while we now have 140 patients with COVID-19 in the ICU (the hospital has doubled its capacity, by blocking the operating rooms to host patients needing ventilators), there are only 73 patients with COVID-19 awaiting admission from in the ER. All the same, the orthopaedic team felt the pressure, as several surgeons and residents in our department tested COVID + and now are quarantined. So many questions remain: When will we be able to return to delivering full care? How many patients will deteriorate or die between now and then? Will there be as-yet undiscovered musculoskeletal complications? But one lesson we learned in the recent past is that orthopaedic surgeons, as physicians and human beings, must adapt together during crises if we are to have any hope of sharing a future.

**Choon Chiet Hong MBBS, FRCSEd (Orth) (Orthopaedic Surgeon) National University Hospital of Singapore**

It has been an eventful 12 weeks since the first patient with COVID-19 was diagnosed in Singapore, on January 23<sup>rd</sup>, 2020. Disease outbreak control measures were introduced quickly by the government, and we put in place containment measures early and avoided sustained community transmission. However, in the past 1 to 2 weeks, there has been a “second wave” of COVID-19 among Singaporeans returning from overseas, resulting in increased local transmission. The government responded with this by activating a “circuit breaker”, with stricter measures to reduce risks of a larger outbreak. As of today, we have 1375 patients who have been diagnosed with COVID-19, and six deaths. Colleagues have been quarantined after being exposed, and orthopaedic surgeons have been called to help

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out in busier departments, including the Emergency Department, Infectious Diseases, and ICUs. Those left in the department have covered their colleagues' duties in managing patients with orthopaedic emergencies, trauma, infections, and tumors. Surgical procedures are being triaged based on their urgency, and more outpatient surgery is being performed to reduce the hospital census, because hospital beds are needed for patients with COVID-19. Doctors, nurses, cleaners, porters, contact tracing teams, and many others are working hard together to combat the virus. But healthcare workers alone cannot stop the virus transmission. Community members making good choices are the first line of defense against this invisible enemy; healthcare workers are the last bastion, and people in the community need to play their part if we are to contain the virus. Meanwhile, let's find our goggles and personal protective equipment, and get back to work.

**John D. Kelly IV MD (Orthopaedic Surgeon)**

**Perelman School of Medicine, University of Pennsylvania; Philadelphia, USA**

For weeks now, the COVID-19 epidemic has threatened the health of many and, on a hypothetical level, I recognized that some of my colleagues at my institution would likely be affected. But this only really hit home when a close friend (and anesthesia attending) texted me a few days ago. He asked me to pray for a fellow physician who was critically ill with COVID-19. He was intubated, on a vent, requiring high positive end-expiratory pressure settings. While he battles for his life, my thoughts also turn to the real heroes in this pandemic: The critical care providers who risk exposure day in and day out, while I comfortably sit home and conduct "televisits". Though I await the call to serve, and it may come, my

exposure to the virus has thus far been limited. Those who answer the call to duty in trying times are not to be forgotten. I agree with Arthur Ashe: "True heroism is remarkably sober, very undramatic. It is not the urge to surpass all others at whatever cost, but the urge to serve others at whatever cost."

**Nicolò Martinelli MD (Orthopaedic Surgeon)**

**Galeazzi Orthopedic Institute; Milan, Italy**

My hospital is located 40 kilometers from Bergamo, the epicenter of the Italian epidemic. Other than trauma and cancer, most orthopaedic surgery was suspended early. Before long, hospitals in this area were overcrowded with patients symptomatic from COVID-19, and many patients on the trauma service who needed fracture surgery likewise were COVID +. Although our specialty had been fragmented by subspecialization before all this, surgeons quickly rediscovered strong community bonds. Subspecialists, like myself, volunteered for shifts in the first aid department to decrease the pressure on trauma surgeons, who bore a tremendous burden of care to those patients with COVID-19 who presented with surgical injuries. Several of my colleagues caught the virus, and although we want to help patients, we all bear the fear of getting sick, as well as of transmitting the disease to our families. This is a source of great distress. In terms of the care we deliver, it is sometimes necessarily below the normal level; this is particularly true for diseases requiring a multidisciplinary approach, such as with patients who have orthopaedic infections. Our colleagues in infectious diseases are stretched very thin. We depend on the empathy and support from family members and friends. These bonds encourage me to stay positive and persist with my job. We don't know what will happen, but we, as

surgeons and caregivers, must remain focused on our duties.

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