

# Orthopaedic Trauma Units Across the Globe Greatly Impacted by COVID-19, Study Finds

A [study](#) led by medical and public health researchers at the University of Miami Miller School of Medicine found that orthopaedic trauma departments across the globe have been impacted by the COVID-19 pandemic in a myriad of ways. Among the impacts are reduced caseloads, shortages in equipment, and the implementation of telehealth.

The study, published in the journal *International Orthopaedics* on June 17, includes the largest data set characterizing global COVID-19 situations and responses of orthopaedic trauma practices from around the world.



“The goal of this study was to understand the experiences and lessons of orthopaedic trauma surgeons internationally in combating COVID-19,” said study lead author Bradley A. Lezak, a candidate in the M.D./M.P.H. program at the Miller School of Medicine and Department of

Public Health Sciences. “We hoped to shed light on current practices and challenges in order to help manage the current

pandemic in addition to preparing for future global pandemics that may arise.”

During April, researchers sent a 20-item questionnaire to 150 orthopaedic trauma surgeons representing 42 countries. The study was based on responses from 63 surgeons from 28 countries, including 14 from the U.S. Given the global and regional diversity represented by the sample pool, the researchers said, each participant provided a unique perspective on when and to what extent COVID-19 affected their orthopaedic practice.

Among the many key findings:

- 91 percent of participating hospitals reported having a reduced case load compared to pre-COVID-19 conditions
- 17 percent of respondents performed elective orthopaedic surgery
- 30 percent of orthopaedic departments have deployed orthopaedic personnel to other floors to help mitigate the increased patient load
- 86 percent of respondents noted at least some shortage of personal protective equipment (PPE)
- 37 percent of participating orthopaedic departments, including those in low- and middle-income countries, have incorporated telemedicine into their practice with a majority stating that it would most likely become a permanent change to their practice post-COVID-19

“This study reinforced many of the common themes that have been discussed throughout the COVID-19 pandemic in terms of the PPE shortages, re-deployment of medical trainees to medical floors outside of their given field in order to help

mitigate the COVID caseload, as well as the rapid adoption of telemedicine,” Lezak said. “The results highlight the need of hospitals across the world to develop strict Standard Operating Procedures for the allotment of PPE in order to minimize shortages and protect health care providers on the front line.

“The rapid implementation of video and telephone health care consultations across the world, including in low- and middle-income countries, as shown in the study, highlights the need for us to revisit telemedicine policies and understand how we can continue the momentum that COVID-19 has created around telemedicine into productive health care policies that can help those in need,” Lezak added.

The surgeons were identified based on professional relationships and/or prior involvement in international meetings either led or participated in by Peter A. Cole, M.D., chief of orthopaedics at Regions Hospital and orthopaedic section head at HealthPartners Orthopaedics, who served as senior author on the study.

The study was also co-authored by Peter A. Cole Jr., M.H.A., a graduate of the University of Miami Herbert Business School, as well as by Lisa K. Schroder, M.B.A., director of Orthopaedic Trauma Academic Programs at the University of Minnesota and Regions Hospital.

### **Equipment Shortages, Strategies, and Adoption of Telehealth**

Emerging literature on COVID-19 reveals the shortages in equipment, such as ventilators and PPE, and emphasizes the need for structural change and for policies to mitigate the

shortages, researchers said.

Surgeons who responded to the questionnaire noted the same challenges, signaling that the shortages are not unique to one region or country, but may be a global issue.

The study suggests several strategies that have worked well for study respondents, which include:

- Donation of PPE by local community members and businesses
- Reduction in allotted PPE per provider per day
- Prioritizing the types of providers at highest risk of exposure to the virus, which has allowed hospitals to maintain supplies at a level necessary to continue to function and to treat patients during the pandemic.

Researchers noted that future planning must account for the medical shortages to implement the new policies.

The study also revealed that the majority of orthopaedic trauma surgeons worldwide have implemented telehealth capabilities and believe that the use of telemedicine will be a permanent change in their practice moving forward.

### **The Importance of Global Communication**

While there is much to be learned from each of the responses from participants, the distribution and completion of this questionnaire highlight the positive effects of worldwide communication and coordination.

“This study was remarkable in that in just three days, we were able to gather information from over 60 surgeons in 28

different countries,” Lezak said. “This included surgeons from countries facing a significant COVID-19 caseload such as China and Spain, as well as countries that have yet to face COVID to the same extent with less than 100 confirmed cases at the time such as Malawi, Haiti, and Gabon.

“By gathering the unique experiences of surgeons in various environments in terms of COVID-19 caseload and distributing their learnings and advice to those who have yet to experience it, we hope that localized planning may transition from rapid-fire response to informed expectations and processes. This study also highlighted the power of global communication and how shared experiences can help the world as a whole move forward.”