

# CORR Insights®: What Proportion of Patients with Bone and Soft Tissue Tumors Contracted Coronavirus-19 and Died From Surgical Procedures During the Initial Period of the COVID-19 Pandemic? Results From the Multicenter British Orthopaedic Oncology Society Observational Study

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## Where Are We Now?

As of this writing, according to the Johns Hopkins Coronavirus Dashboard [2], globally, there are about 100 million individuals infected and more than 2 million deaths

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*This CORR Insights® is a commentary on the article “What Proportion of Patients with Bone and Soft Tissue Tumors Contracted Coronavirus-19 and Died From Surgical Procedures During the Initial Period of the COVID-19 Pandemic? Results From the Multicenter British Orthopaedic Oncology Society Observational Study” by Rajasekaran et al. available at: [10.1097/CORR.0000000000001568](https://doi.org/10.1097/CORR.0000000000001568).*

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attributed to COVID-19 [2]. Major events and holidays associated with social gathering have been associated with spikes in disease transmission.

During the initial US spike, most hospitals cancelled elective surgery and shifted resources to treat large numbers of patients with COVID-19, as intensive care units filled to capacity in some parts of the country. Other countries like Italy, Spain, and France were also hard hit by COVID-19, and they too experienced problems with personal protective equipment and ventilator shortages, exhausted healthcare workers, and questions about whether the respective healthcare systems could cope with the large numbers of infected patients.

Patient testing is critical to identify patients that are potentially infected, as observed in a study of elderly patients undergoing surgery for hip fractures [1]. In another study, mortality was substantially higher in patients with COVID-19 and to a lesser extent in COVID-19-suspected patients, whereas surgical complications in patients who tested negative were no

different than those observed in pre-COVID patients. This underscores the importance of patient testing prior to hospital admission for both urgent and elective procedures [7].

Despite abundant clinical experience and intense research, we have a poor grip on this disease; secondary outbreaks are occurring, patients are still getting infected, and mortality continues to rise. How safe are patients, especially those who have altered immune systems undergoing major surgery? This is the crux of the message in the recent and prescient study by Rajasekaran et al. [5]. The authors studied 347 patients admitted to multiple hospitals in the UK during the COVID-19 pandemic and reported a conversion of 4% and mortality of 1% in an “at risk” population of patients with malignant tumors of bone and soft tissue. They felt that testing (both patient and healthcare workers) as well as other precautions were critical in limiting the disease in patients and their healthcare team [5]. Limiting hospital access, decontamination of common spaces, temperature monitoring of all individuals entering the premises, and patient testing are seemingly important in creating a protective environment against COVID-19 [3].

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### Where Do We Need To Go?

As Rajasekaran et al. [5] have demonstrated, testing is important, although not without limitations [4]. Masks and social distancing have also been effective in slowing the spread of COVID-19, but these options are impractical in the long-term. Without access to widely available vaccines, we need to study what strategies have been successful for patients and hospital workers in achieving safe (virus-free) outcomes for elective and emergent surgery. This was the intent of an internet search that aimed to identify published state guidelines regarding the cancellation of elective procedures: 30 states published guidance regarding the discontinuation of elective procedures and 16 states provided a definition of “elective” procedures or specific guidance for determining which procedures should be performed. Only five states provided guidelines specifically mentioning orthopaedic surgery; of those, four states explicitly allowed trauma-related procedures, and four states provided guidance against performing arthroplasty. Ten states provided guidelines allowing for the continuation of oncological procedures. Clearly, standardized guidelines need to be developed and adopted by all 50 states [6]. Precedents aside (this is a crisis), states should accede control to the federal government, whose agencies (Health and Human Services, Centers for Disease Control and Prevention), in concert with academic and industry experts, can develop clear guidelines for operation under pandemic conditions.

Diagnostic COVID-19 testing is not infallible. It is important to recognize the limitations of present COVID-19

testing and the clinical and social implications of positive as well as negative tests. The authors of a recent editorial as part of the USC-Brookings Schaeffer Initiative for Health Policy [10] noted that even competent testing can result in “preventive misconception,” meaning that individuals who test negative may partake in risky behavior because they assume that they are not infectious. They go on to say that “overconfidence in the ability of a testing regimen to stop chains of transmission paradoxically embolden behaviors that increase transmission” [10].

A negative test for COVID-19 is no reason to relax precautions. A negative test today is of no value next week or next month, so it begs the question as to how frequently an individual should be tested, what to do about false-negative tests, and what the implications are of false-positive test results?

We need more studies that describe and validate how we deliver safe orthopaedic care without increasing the risk of viral transmission amongst patients and healthcare workers and to this end, the study by Rajasekaran et al. [5] is a good start. Equally important though is the need to study the effects and unexpected consequences of shutting down elective medical and surgical services on the health and well-being of our patients who do not have COVID-19.

### How Do We Get There?

In response, the FDA has taken action to facilitate vaccines [8], and since the article was submitted and subsequently accepted for publication, not one but three vaccines are or will soon be clinically available. This is unprecedented and cause for optimism. Furthermore, in October, the FDA

approved the antiviral drug Veklury (remdesivir) for use in both adults and children 12 years and older for the treatment of COVID-19 requiring hospitalization [9].

In addition to vaccines and new antiviral drugs, assuring our patients that it is safe to undergo necessary diagnostic tests and surgical procedures with appropriate precautions is vitally important to prevent the consequences of delays in diagnosis and treatment of life- and limb-threatening conditions.

Finally, we (physicians, scientists, and policymakers) need to assess current and future public health policies to be better prepared for the inevitability of future health crises inherent in a global economy. We need to learn from adversity so that we can make positive changes and engage in meaningful personal and professional development in the future.

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