

Elective Orthopaedic Procedures Before and After the COVID-19 Pandemic: Effects on 146,430 American Seniors

David A Montaz, Rishi Gonuguntla, Ariana Olvera, Abdullah Ghali, Andrea Arce, Gautham Prabhakar, Farhan Ahmad

INTRODUCTION: Since the World Health Organization declared a pandemic in March 2020, COVID-19 continues to pressure the healthcare system. Elective orthopaedic procedures for American seniors were canceled, delayed, or altered due to lockdown restrictions and public health mandates. We sought to identify differences in the complication rates for elective orthopaedic surgeries before and after pandemic onset. We hypothesized that complications increased in the elderly during the pandemic.

METHODS: We conducted a retrospective analysis of the American College of Surgeons-National Surgical Quality Improvement Program (ACS-NSQIP) database in patients over 65 undergoing elective orthopaedic procedures in 2019 (pre-pandemic) and April to December 2020 (during the pandemic). We recorded readmission rates, reoperation, and 30-day postoperative complications. We compared the two groups and adjusted for baseline features with standard multivariate regression.

RESULTS: We included 146,430 elective orthopaedic procedures in patients over 65 (94,289 before the pandemic and 52,141 during). Patients during the pandemic had a 5.787 times greater chance of having delayed wait time to the operating room ($p<0.001$), a 1.204 times greater likelihood of readmission ($p<0.001$), and 1.761 times increased chance of delayed hospital stay longer than five days ($p<0.001$) when compared to pre-pandemic. Additionally, during the pandemic, patients were 1.454 times more likely to experience any complication ($p<0.001$), 1.439 times more likely to have any wound complication ($p<0.001$), 1.759 times more likely to have any pulmonary complication ($p<0.001$), 1.511 times more likely to have any cardiac complication ($p<0.001$), and 1.949 times more likely to have any renal complication ($p<0.001$) in the 30 days postoperation when compared to patients pre-pandemic undergoing orthopaedic complications.

DISCUSSION AND CONCLUSION:

During the COVID-19 pandemic, elderly patients faced longer wait times within the hospital and increased odds of complications after elective orthopaedic procedures than similar patients before the pandemic.

