**Abstract**

# COVID-19 pandemic and hip fractures: impact and lessons learned

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**Aims:**The coronavirus disease (COVID)-19 pandemic forced an unprecedented period of challenge to the NHS in the UK where hip fractures in the elderly population are a major public health concern. There are approximately 76,000 hip fractures in the UK each year which make up a substantial proportion of the trauma workload of an average orthopaedic unit. This study aims to assess the impact of the COVID-19 pandemic on hip fracture care service and the emerging lessons to withstand any future outbreaks.

**Methods:**Data were collected retrospectively on 157 hip fractures admitted from March to May 2019 and 2020. The 2020 group was further subdivided into COVID-positive and COVID-negative. Data including the four-hour target, timing to imaging, hours to operation, anaesthetic and operative details, intraoperative complications, postoperative reviews, COVID status, Key Performance Indicators (KPIs), length of stay, postoperative complications, and the 30-day mortality were compiled from computer records and our local National Hip Fracture Database (NHFD) export data.

**Results:**Hip fractures and inpatient falls significantly increased by 61.7% and 7.2% respectively in the 2020 group. A significant difference was found among the three groups regarding anaesthetic preparation time, anaesthetic time, and recovery time. The mortality rate in the 2020 COVID-positive group (36.8%) was significantly higher than both the 2020 COVID-negative and 2019 groups (11.5% and 11.7% respectively). The hospital stay was significantly higher in the COVID-positive group (mean of 24.21 days (SD 19.29)).

**Conclusion:**COVID-19 has had notable effects on the hip fracture care service: hip fracture rates increased significantly. There were inefficiencies in theatre processes for which we have recommended the use of alternate theatres. COVID-19 infection increased the 30-day mortality and hospital stay in hip fractures. More research needs to be done to reduce this risk.

Cite this article: *Bone Joint Open* 2020;1-9:530-540.

**Keywords:**COVID-19; Hip fractures; Pandemic

https://pubmed.ncbi.nlm.nih.gov/33215151/

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