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# The impact of the COVID-19 pandemic on orthopaedic trauma admissions in a central academic hospital in Johannesburg

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**Title of Project**: The impact of the Covid-19 pandemic on orthopaedic trauma admissions in a central academic hospital in Johannesburg.

# Abstract

**Background:** The Novel Coronavirus (SARS-CoV-2), commonly known as COVID-19, has caused a global economic and healthcare crisis. In response, many countries tried to curb the spread of the virus with the introduction of various lockdown alert levels to restrict transmission and prepare health care systems for an increase in COVID-19 admissions. The Republic of South Africa (RSA) implemented an alcohol ban as one of the lockdown restrictions.

**Objectives:** To describe the effect of the lockdown alert levels and alcohol availability on orthopaedic trauma admissions, compared to the preceding two years.

**Patients and methods:** A retrospective review of clinical records was conducted. The data collected included orthopaedic trauma admissions for the six-month time-period in a quaternary facility in Johannesburg from 01 March to 31 August in the years: 2018, 2019 and 2020, respectively. Lock down alert levels were categorised according to the Department of Health which included the ban, re-introduction and re-banning of alcohol consumption. Data collected for 2018, 2019 and 2020 included demographics of sex and age, as well as fracture location, open or closed injuries, polytrauma patients and those who suffered gun-shot wounds.

**Results:** Overall, 785, 718 and 556 patients were admitted in 2018, 2019 and 2020, respectively. There was a significant decrease of 22.56% of orthopaedic trauma admissions during the five-month lockdown time-period in 2020 compared to 2019 ($p$-value = 0.01) and 29.17% from 2020 compared to 2018 ( $p$-value = 0.011). In 2020, admissions increased by 112% ($n$ = 82) from alert level 4, when alcohol was banned, to alert level 3 (3a), when alcohol was reintroduced. Admissions decreased by 32.9% ($n$ = 51) from alert level 3 (3a) to alert level 3 (3b), when alcohol was re-banned. Patients were 1.27 times more likely to be admitted in alert level 3 (3a) than alert level 3 (3b) (95% CI: 0.99, 1.65). Motor vehicle accidents (MVAs) were the commonest cause of admissions in alert level 3 (3a), accounting for 40.6% ($n$ = 56) whereas in alert level 3 (3b), MVAs decreased to 12.4% ($n$ = 12). COVID-19 tests were positive in 10.18% ($n$ = 34) of the 346 tests performed on orthopaedic trauma admissions.

**Conclusion:** Our study showed the decrease in orthopaedic trauma admissions due to the COVID-19 lockdown regulations. Furthermore, our study demonstrated the impact of alcohol availability on orthopaedic trauma admissions in a central academic hospital in Johannesburg.