

# **The impact of COVID-19 pandemic on surgical care at a university hospital in Sweden, with focus a on acute appendicitis and acute hip fracture.**

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Degree project, 30 credits

Spring 2021

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*Introduction:* During the initial pandemic wave in 2020, a surging number of COVID-19 infected patients were admitted to Danderyd University Hospital in Sweden. The delivery of elective care was limited early on and the surgical domain was quickly reconfigured.

*Aims:* The aim was to investigate how the initial phase of the COVID-19 pandemic affected the number of surgeries at Danderyd hospital. The study further investigated if perioperative care, surgical technique, and 30-day all-cause mortality for the high-volume procedures appendicitis and hip fracture were affected.

*Material and Methods:* This was a single centre registry cohort study based on data retrieved from the Swedish perioperative registry (**SPOR**). The dataset included 30 829 patients admitted within the years 2018-2020. *Results:* Urgent surgeries decreased by 10 % ( $p < .018$ ) and elective surgeries decreased by 39 % ( $p < .001$ ). Age ( $p < .001$ ), distribution of sex ( $p < .001$ ) and ASA-class ( $p < .006$ ) were significantly different among elective surgeries. Laparoscopic technique for appendectomy increased significantly ( $p < .001$ ), while the 30-day all-cause mortality for patients with acute hip fracture was not significantly affected ( $p < .388$ ).

*Conclusions:* The initial phase of the COVID-19 pandemic had a profound effect on the surgical volumes at Danderyd Hospital, however urgent surgeries to a far less extent. The incidence of the urgent high-volume procedures appendectomy and hip fracture repair was not affected. There were minor changes in the perioperative time events, however, no impact was seen on all-cause 30-day mortality for hip fracture procedures. Thus, urgent surgeries were seemingly prioritized even under this dramatic first wave of the pandemic.

*Keywords:* covid-19, elective surgery, acute surgery, surgical care, appendicitis, hip fracture

