Background: The Covid-19 pandemic has affected all aspects of healthcare globally. Theatre utilisation assumes a substantial proportion of hospital resources, creating a streamlined pathway increases efficiency and productivity. With concerns regarding aerosol generating procedures, viral transmission to health care workers in theatre and patient pathways through the hospitals the covid-19 pandemic has added another dimension to the theatre pathway. The aim of this study was to quantify the impact of Covid-19 on the "knife to skin" (KTS) time and compare it to previous historical data (HD).

Methods: Retrospective analysis of real time theatre data was analysed for the first 12 months of the pandemic from 11th March 2020 to 11th March 2021. To try and minimise variability between different specialities and operations we picked one operation to study: Laparoscopic cholecystectomy (LC). Historical data was also gathered from the same time frame over the last 5 years (2015-2020) for comparison. Data collected included emergency or elective, time sent for patient, anaesthetic start time, knife to skin time and duration of operation. Comparison of means were analysed by One-way ANOVA tests and Student's T-Test.

Results: 399 laparoscopic cholecystectomies were performed during the first year of the pandemic. KTS time was calculated as operation start time minus time sent for patient. Average time during the pandemic for emergency LC KTS was 56 minutes and 35 minutes for elective LC. Comparison of these times to HD revealed no statistical difference (Emergency LC 56 mins vs 58 mins p > 0.05, Elective LC 35 mins vs 35 mins p > 0.05). The anaesthetic time for emergency LC during the pandemic vs HD was 10 mins vs 14 mins (p < 0.05), no statistical difference was found in the elective group, 16mins vs 14mins (p > 0.05) Conclusions: The Covid-19 pandemic has had no detectable effect on Knife to skin time as compared to our previous historical data. It seems the extra Covid 19 precautions involving PPE, pathways etc. have not affected theatre efficiency or utilisation. In fact, there was very little variance in KTS time over the six years studied (2015-2021) with very consistent levels for both elective and emergency procedures. The shorter anaesthetic time for emergency LC during the pandemic needs to be further investigated but one hypothesis is the unconscious or conscious decision to decrease the amount of preoxygenation to minimise aerosolisation.