

# **Is there a difference in all-cause 30-day mortality following emergency general surgery performed during office hours versus non-office hours? – A register-based prospective quality control study**

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*Introduction:* Emergency general surgery has numerous covariables influencing its outcome, both patient-based and surgical-based risk factors. Identifying and evaluating these risk factors can improve patient survival. Surgical start time and its correlation to time of the day may be one important factor. This study investigates and evaluates the effect that the time of day has on 30-day all-cause mortality.

*Aims:* We sought to determine whether the surgical start time and time of day influences the mortality rate in a 30-day perspective.

*Material and Methods:* All patients over 18 years undergoing emergent general surgery at the General/Urological department at Danderyd Hospital between January 2015 and January 2020. All procedures classified as non-operations due to Swedish Perioperative Registry (SPOR) criteria was excluded. All data were obtained from SPOR, including 30-day mortality.

*Results:* A total of 677 patients were included. Mean age was 59.2 years. Our final analysis concluded 96 deaths within 30 days from surgery, 31 in the office-hours group (13.1%) and 65 in the non-office hours group (14.7%). ( $P = .57$ ). Our multivariable analysis established patient-related factors to have more impact on mortality than time of day when surgery started.

*Conclusions:* No significant relationship between surgical start time for emergency general surgery and post-operative all-cause 30-day mortality was found in this study.

*Keywords:* Emergency general surgery, office hours, non-office hours, time of day, mortality, surgical start time