

The dedicated ambulatory surgery unit at Danderyds hospital is time efficient. A Swedish perioperative register based study.

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Study Program in Medicine KI

Degree project 30 credits

Fall semester 2020

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Introduction: Ambulatory surgery is expanding globally, and increasing numbers of procedures are shifting from traditional in-hospital care to various forms of ambulatory units. There are many benefits of avoidance of in-hospital care in terms of patient recovery and satisfaction.

Aims: To assess to what extent perioperative time events differ in two high volume ambulatory surgical procedures performed in a dedicated ambulatory surgery unit and in the general operating department at Danderyds Hospital.

Material and Methods: Perioperative data and patients characteristics for hernia repair and laparoscopic cholecystectomy patients scheduled for ambulatory surgery was collected from the **SPOR database** from Danderyds Hospital for the time period 01-01-2015 – 30-08-2020. Primary outcome was duration of time events associated to anaesthesia and surgery.

Results: All time events studies, apart from time spent in the recovery room, were significantly shorter in the ambulatory surgery unit. Duration of anaesthesia was shortened by 28% and 26% for cholecystectomy and hernia repair respectively ($p < 0.001$). Efficiency, the proportion of anaesthesia time that was devoted to surgery, was also higher in the ambulatory unit; mean increase of 14% in surgery/anaesthesia quota. A major limitation was found in the register data; explicit information regarding time in post anaesthesia care unit and time of actual discharge was not presented. Available data from the ambulatory surgery unit shows rates of unanticipated admissions to be in line with previous studies.

Conclusions: The field of ambulatory surgery is expanding, and it is clear that dedicated ambulatory surgery units improve efficiency even within the same hospital. Ambulatory surgery units can enhance perioperative efficiency, thus reducing total cost of procedure, without jeopardizing discharge on day of surgery.

Keywords: Ambulatory surgery, day surgery, ambulatory anaesthesia, duration of procedure, time-efficiency.