

Preoperative Optimization Time for Surgical Oncology Patients: Is Prehabilitation Feasible?

Presenting Author: Nisha Patel BS¹

Co-authors: Matthew J. Durand PhD^{2,3}, Kathryn K. Lauer MD³, and Julie K. Freed MD, PhD^{1,2,4}

¹Department of Anesthesiology, Medical College of Wisconsin

²Cardiovascular Center, Medical College of Wisconsin

³Department of Physical Medicine and Rehabilitation, Medical College of Wisconsin

⁴Department of Physiology, Medical College of Wisconsin

Introduction: The fastest growing age group consists of individuals over the age of 55. This change in demographic will result in a significant increase in the number of cancer diagnoses requiring surgical treatment. While elderly patients have higher rates of postoperative complications resulting in an increase in length of hospital stay as well as mortality, the majority of complications arise from elderly frail patients. The concept of “prehabilitation”, or improving functional capacity and decreasing frailty prior to surgical stress, has been shown to improve survival in post-surgical patients. Decreasing baseline frailty and increasing functional capacity in the preoperative period may thus improve postoperative recovery and function. However the majority of prehabilitation programs require 4-6 weeks of intervention prior to surgery to affect outcomes. The aim of this single-site study was to determine whether implementation of a prehabilitation program for cancer patients is feasible based on the amount of time available between the initial surgical visit and the date of the procedure.

Methods: Patient data was extracted from the McKesson Internal Decision Support System as well as the Medical College of Physicians (MCP) Decision Support systems through Enterprise Analytics. Retrospective data from cancer patients undergoing surgery at Froedtert Memorial Lutheran Hospital, Froedtert West Bend, or Froedtert Menomonee Falls was collected from 2016-2019. Patients were excluded in the analysis if there was no data available regarding the time of the initial surgical consult, the preoperative visit, or if any of the visits fell on the same day. Patients were also excluded if >100 days was reported between the surgical consult and the preoperative visit. 1,018 patients were included in the final analysis. Patients were categorized into six categories based on cancer type (pancreatic, liver, breast, abdominal, colorectal, and other).

Results: Of the 1,018 patients included in the analysis, 61% were female and 39% were male and the average age was 59 ± 13 yrs. The average time between the initial surgical visit to preoperative visit was 19 ± 11 days and the time between preoperative visit to surgery date was 10 ± 9 days. The time interval between initial surgical visit and preoperative visit was the longest in patients with pancreatic cancer. These patients also had the shortest time between their preoperative visit and surgery date. Patients with pancreatic cancer had the longest intensive care unit (ICU) length-of-stay (LOS), overall LOS, and highest total cost.

Conclusion: Together these data suggest that high variability exists with regard to when patients are seen in the preoperative clinic depending on their type of cancer. Cancer patients who experience the most postoperative complications appear to have the shortest time interval between becoming a surgical candidate and their surgery. This is particularly apparent in pancreatic patients, indicating that these patients may be better prepared for surgery by scheduling the preoperative visit earlier to optimize post-surgical outcomes. This suggests that prehabilitation strategies must be implemented immediately and traditional approaches that require 4-6 weeks may not be feasible.