

Transitioning from Laparoscopic to Robotic Bariatric Surgery: Early Experience at a Canadian Academic Bariatric Center of Excellence

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Introduction: Laparoscopy remains the standard approach to bariatric surgery in Canada's publicly funded health care system. However, robotic-assisted techniques may potentially address some of the limitations of laparoscopy. We aimed to evaluate early outcomes of transitioning from laparoscopic to robotic bariatric surgery at a Canadian academic center.

Methods: In this prospective single-center study, all patients undergoing either laparoscopic or robotic bariatric surgery from February to June 2025 were included. Patient characteristics, operative metrics, length of stay (LOS), and 30-day outcomes were prospectively collected.

Results: A total of 103 bariatric procedures were performed, including 58 robotic and 45 laparoscopic cases. Among the robotic cohort, 48 were Roux-en-Y gastric bypass (RYGB), 8 sleeve gastrectomy (SG), and 2 revisional/reversal cases, representing 59%, 42%, and 50% of all RYGBs, SGs, and revisional cases, respectively. Median BMI was 47 and 49 kg/m² in the robotic and laparoscopic groups, respectively ($p=0.13$). Median LOS for either cohort was 24 hours. Thirty-day readmission occurred in 5% of patients in the robotic cohort vs. 8% in the laparoscopic cohort ($p=0.46$), with only one reoperation in the robotic group and no mortalities in either. For robotic RYGB, median operative time decreased from 149 minutes in the first 10 cases to 138 minutes in subsequent cases.

Conclusion: The robotic approach to bariatric surgery, particularly RYGB, was successfully introduced within a structured multidisciplinary publicly funded program with no compromise to early patient outcomes. Further experience will determine whether efficiency and patient outcomes can be improved over the laparoscopic approach.