

The Effects of Best Practice Models on 30-Day Readmission Rates at A Comprehensive Center Performing Laparoscopic Adjustable Gastric Banding, Laparoscopic Sleeve Gastrectomy and Roux-en-Y Gastric Bypass

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BACKGROUND

Best Practice Models (BPM) following bariatric procedures have been shown to decrease hospital morbidity and mortality. Major insurance carriers, hospital administrators and most recently the American Society for Metabolic and Bariatric Surgery (ASMBS) placed great emphasis on 30-day readmission rates. Currently, the national average is 5%. Weight loss surgeries present many challenges to patients as well as healthcare providers and so a commitment to best practice guidelines is a crucial part of being a bariatric center of excellence. We fully implemented Best Practice Protocols in 2012 and are looking to show a decrease in 30-day readmission rates following primary bariatric procedures at a Metabolic Surgery Accreditation Quality Improvement Program Accredited Center.

OBJECTIVES

1. To determine if our 30-day readmission rate using BPM was lower than the national guideline of 5%
2. To compare 30-day readmission rates between 2009-2011 (pre-BPM) and 2012-2014 (post-BPM).

References

- Frangou, C. (2015). A New Horizon for Bariatric Surgery: Reducing Readmission Rates. *General Surgery News*, 42 (02).
- Jencks S, Williams M, & Coleman E. (2009). Rehospitalization Among Patients in the Medicare Fee-for-Service Program. *New England Journal of Medicine*. doi: 10.1056/NEJMs0803563.

METHODS

The study is a retrospective review of all patients who underwent a primary bariatric operation from 2012-2014 and extracted their records from the hospital's electronic medical database. We also reviewed the Center's Bariatric Program readmission log and identified all hospital readmissions within 30 days of index operation, cause for readmission, type of operation performed, associated risk factors and patient demographics. We developed quality improvement projects and initiated practice protocols to decrease and or prevent potential adverse events. The protocols included standardized order sets, medications for specific procedures, a discharge checklist outlining specific criteria for pain, amount of liquid consumed, and patients' understanding of their discharge instructions. We also implemented a 24-hour post discharge telephone interview conducted by the nurse practitioner to discuss physical and emotional state of health, hydration status, pain satisfaction level and compliance with other postoperative recommendations following the bariatric procedure. The 30-day readmission rate, along with its corresponding exact binomial 95% confidence interval (CI) was reported. The binomial proportion for the 30-day readmission was compared to the current national benchmark of 5%. Additionally, 30-day readmission was compared between pre-BPM and post-BPM using the chi-square test.

RESULTS

A total of 506 patient records were identified and reviewed. From these patients, 10 (1.98%) patients were readmitted within 30 days of the primary operation (1.98%, 95% CI: 0.95%, 3.60%). The patients who had Laparoscopic Sleeve Gastrectomy had the highest 30 day readmission rate of 1.0% (6 patients), Laparoscopic Roux-en-Y Gastric bypass had a readmission rate as low as 0.4% (2 patients), and Laparoscopic Adjustable Gastric Band 0.4% (2 patients). Among the Gastric Sleeve Patients, nausea, dehydration, reflux, electrolyte imbalances, (0.4%), portal vein thrombosis (0.2%), and intra-abdominal hematoma (0.2%) were the adverse events identified. One patient (0.2%) of the six patients had port site infection and one was readmitted for renal calculi (0.2%). Other causes identified for readmission among the other procedures were lap band port site infection, intra-abdominal abscess, and SMV thrombosis. Our 30-day readmission rate, 1.98%, was significantly lower than the 5% national guideline (one-sided, $p < 0.0009$). In the pre-BPM period, there were a total of 539 subjects with 23 30-day readmissions (4.27%, 95% CI: 2.72%, 6.33%). The 30-day readmission rate was significantly lower in the post-BPM period as compared to the pre-BPM period ($p < 0.0343$).

DISCUSSION

Recently, hospital readmissions have been the focus for the healthcare industry. In a recent article by Stephen Jencks et al. in the *New England Journal of Medicine*, the high costs of readmissions have been brought to light. One of the current goals of the ASMBS is to decrease readmission rates to less than 5% through the MBSAQIP "DROP" or Decreasing Readmission through Opportunities Provided program.

CONCLUSION

With the implementation of 24-hour postoperative phone calls, practice protocols and best practice models, we found an overall improvement 30-day readmission rate to 1.98% following primary bariatric operations. Taken together, this study supports the concept that hospital readmission rates can be significantly decreased following primary bariatric procedures with the routine use of practice protocols and implementation of best practice models.