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Intra- And Post-operative Surgical Complications By BMI Category Among Patients Undergoing Roux-En-Y Gastric Bypass: A Retrospective Database Analysis

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TORONTO2026 The Future of Obesity Management: From Weight Loss to Health Gain

Disclosure Slide

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All the authors of the study, including the presenting author, are employed by Johnson & Johnson.

	No, nothing to disclose
✖	Yes, please specify:

Company Name	*Honoraria/ Expenses*	*Consulting/ Advisory Board*	*Funded Research*	*Royalties/ Patent*	*Stock Options*	*Ownership/ Equity Position*	*Employee*	*Other – please specify*
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Introduction and Methods

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Objective

To examine the trends in the proportion of patients undergoing **Roux-en-Y gastric bypass (RYGB) by BMI category** in the US and to **quantify the association between common intra- and post-operative surgical complications and related health economic outcomes.**

Background

In 2022, guidelines for metabolic bariatric surgery (MBS) were updated to include patients with Class I obesity who have obesity-related comorbidities (e.g., type 2 diabetes, hypertension) and those with Class II obesity regardless of the presence of obesity-related comorbidities.

Methods

- **Retrospective, observational study using the Premier Hospital Database** (clinical and billing records from over 1,500 US hospitals).
- **Population:** adults ≥18 years undergoing RYGB from 1/2016–12/2024 with an eligible BMI category — Class I (30 to <35), Class II (35 to <40), Class III (≥40).
- **Complications:**
  - Leak (Staple line/anastomotic leak)
  - Bleeding
- **Outcomes:**
  - Length of stay (LOS)
  - Total hospital costs through 30 days post-discharge (30-day costs)
  - All-cause 30-day readmissions
- **Analysis:** multivariable generalized linear models quantified the association of complications with outcomes, adjusting for patient, procedural, hospital, and provider characteristics.

Results

Proportion of RYGB procedures performed on patients with Class-I and Class-II increased and decreased for Class-III from 2016 to 2024

Class I	Class II	Class III
1.5% ▲ 2.4%	16.8% ▲ 19.8%	81.7% ▼ 77.8%

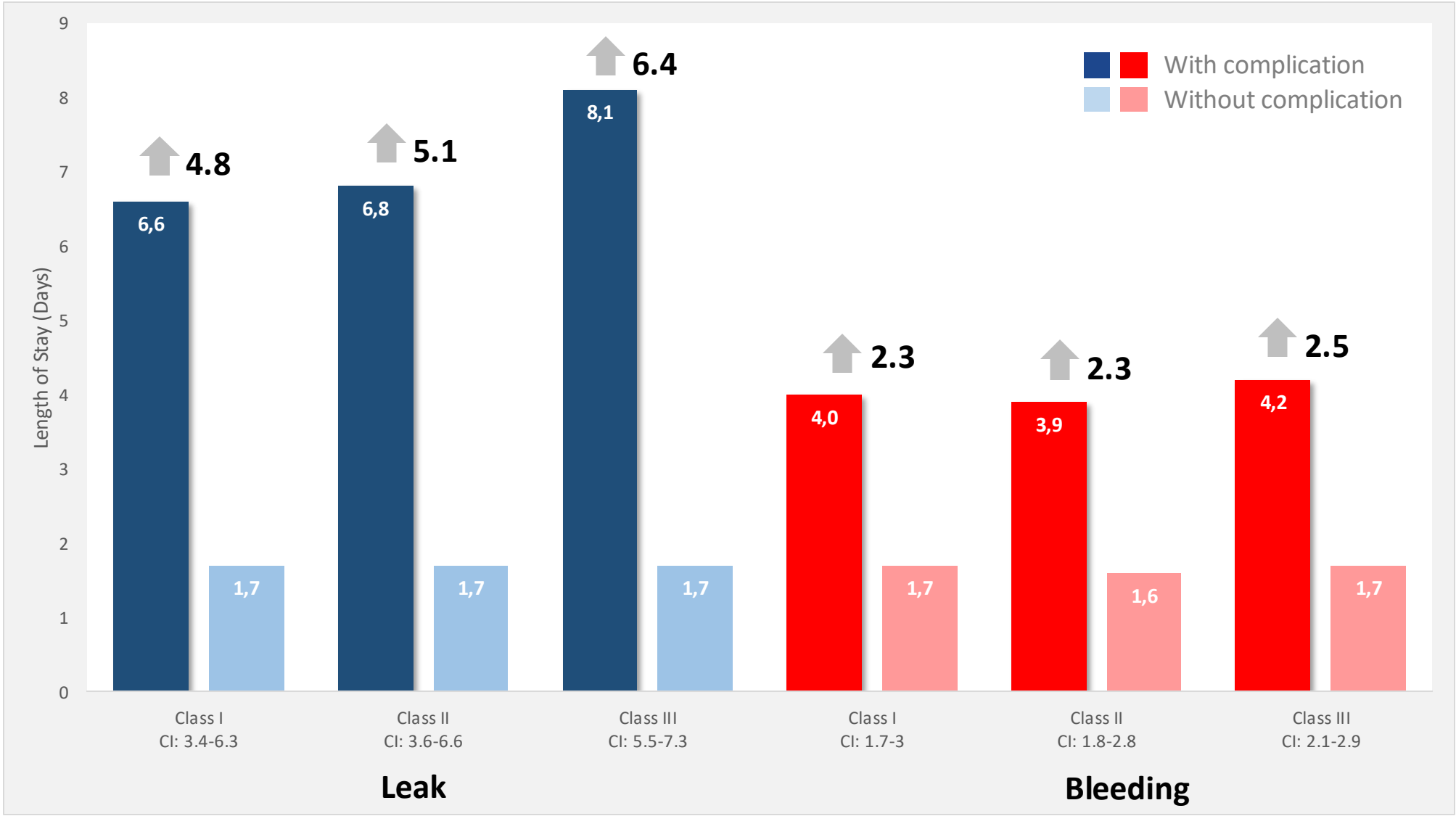
Fig 1. The 30-day incidence proportions of leak and bleeding by BMI category

BMI Category	Leak Incidence	Bleeding Incidence
Class I	4.3%	5.7%
Class II	3.3%	4.2%
Class III	3.0%	3.7%

Study Cohort

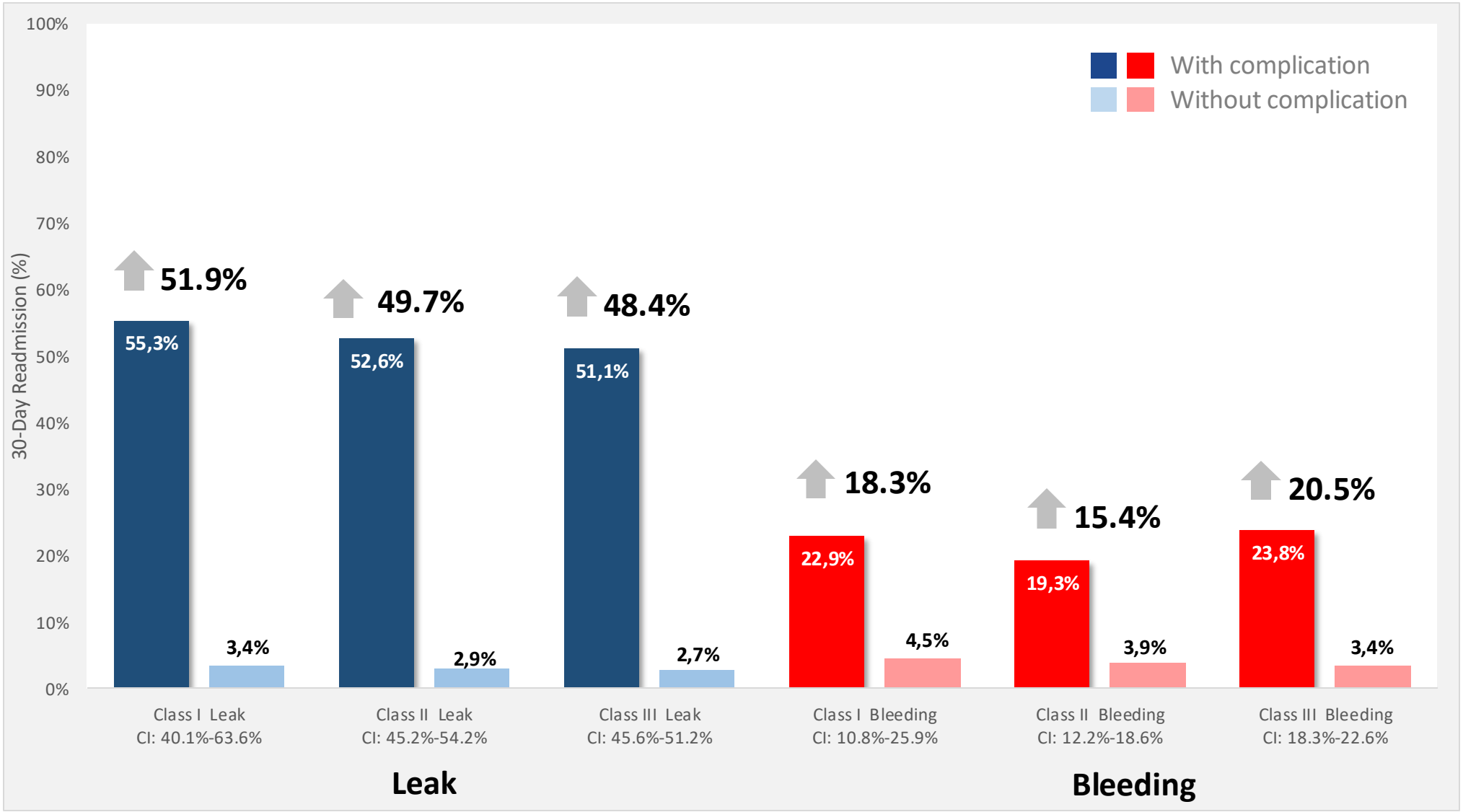
- **103,854 patients**
- Mean age 44.6 (SD=11.5) years
- 83.4% female

Results: Impact of Complications on Length of Stay (LOS)



All differences p < .001

Results: Impact of Complications on 30-Day Readmission



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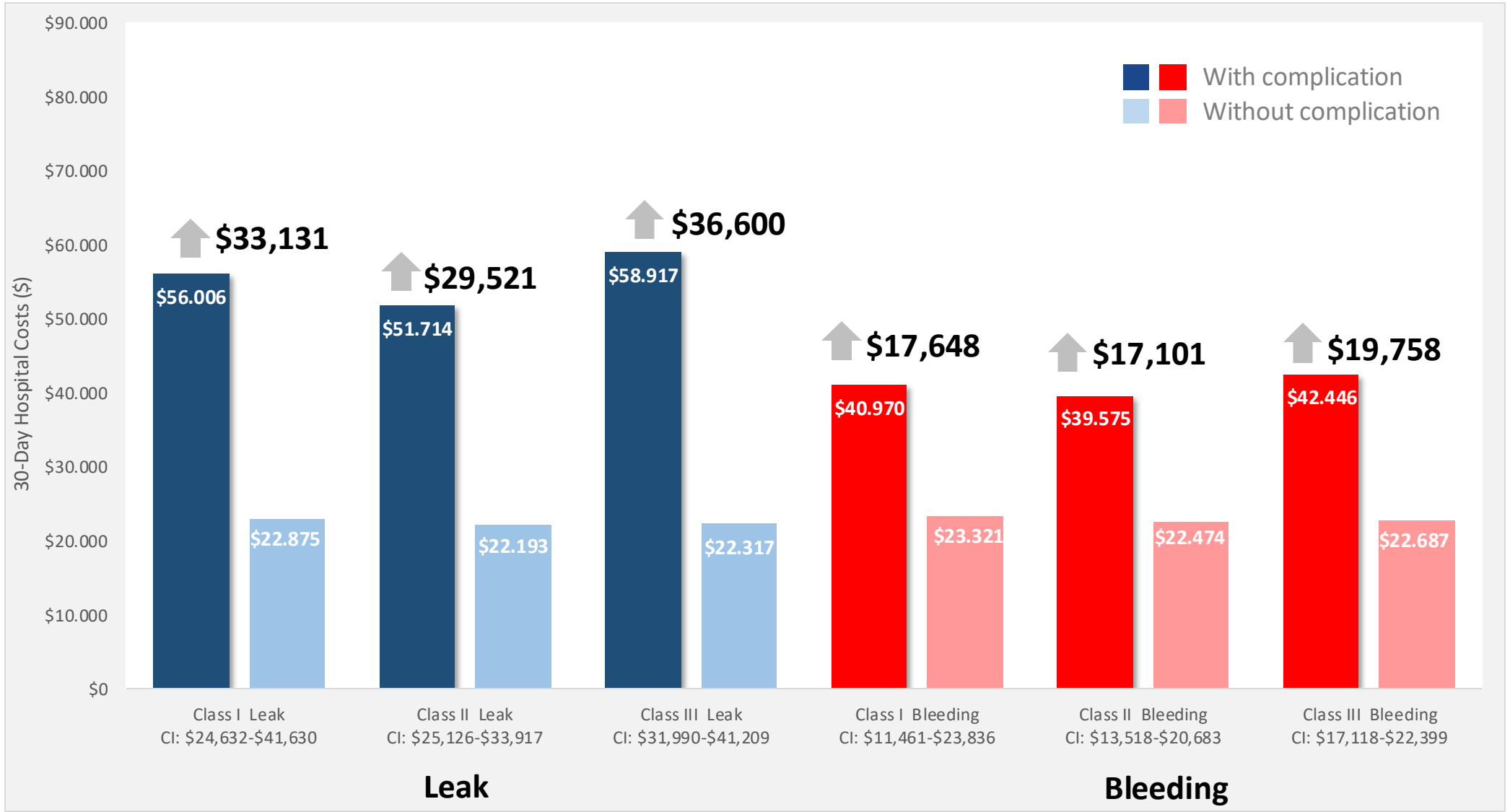
Results: Impact of Complications on 30-Day Hospital Costs



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Conclusions

- In this retrospective study of patients undergoing RYGB in the US, the incidence proportions of leak and bleeding complications were numerically higher among patients with Class I obesity.
- The impact of complications on health economic outcomes trended highest among patients with Class III obesity.
- Leaks and bleeding were associated with significant increases in length of hospital stay, 30-day readmissions, and 30-day hospital costs across all BMI categories.

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