

## Comparison of 90-Day Readmission Rates Between Retropubic, Laparoscopic, and Robotic-Assisted Radical Prostatectomy

**Introduction and Objective:** This study aimed to examine the risk of 90-day re-admission among patients undergoing retropubic radical prostatectomy (RRP), laparoscopic radical prostatectomy (LRP), and robot-assisted laparoscopic prostatectomy (RALP) in Taiwan.

**Materials and Methods:** We identified 2,741 hospitalized patients who underwent a radical prostatectomy. Of these 2,741 cases, 1,773 patients underwent RRP, 694 LRP, and 274 RALP. We performed a conditional (fixed-effect) logistic regression model to explore the odds of 90-day re-admission of radical prostatectomy among patients undergoing RRP, LRP, and RALP.

**Results:** In total, 257 out of the 2,741 (9.4%) sampled subjects were re-admitted within 90 days of the index radical prostatectomy. Patients undergoing a RALP had a significantly lower incidence rate of 90-day readmission than patients undergoing a RRP or LRP (3.6% vs. 10.7% vs. 8.2%,  $p < 0.001$ ). Compared to patients undergoing a RRP, the OR of 90-day re-admission for patients undergoing a RALP was only 0.35 (95% CI = 0.19-0.68) after adjusting for patient age, geographic region, year of surgery, score of Charlson Co-morbidity Index and surgeon age and the number of radical prostatectomy cases/year. However, there was no significant difference in the odds of being re-admitted within 90 days between patients undergoing a LRP and RRP. The adjusted odds of 90-day re-admission for patients undergoing a RALP were 0.46 (95% CI=0.23-0.94) those of patients undergoing a LRP.

**Conclusions:** Our study demonstrates that patients undergoing a RALP had a lower adjusted risk of 90-day re-admission than patients undergoing RRP. However, no significant differences were identified between LRP and RRP.