

# Comparison of Long-Term Functional Results of Colonic JPouch and Straight Anastomosis After Low Anterior Resection for Rectal Cancer: A Five-Year Follow-Up

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**PURPOSE** Few reports on the long-term functional outcome of colonic J-pouch reconstruction have been published, and data comparing J-pouch and straight reconstruction are contradictory. This prospective study compares the functional outcome of colonic J-pouch and straight anastomosis five years after low anterior resection for rectal cancer.

**METHODS** Functional outcome was compared in 46 patients with J-pouch reconstruction (J-group) and 48 patients with straight anastomosis (S-group). Clinical status was evaluated with a 17-item questionnaire inquiring about different aspects of bowel function. Reservoir function was evaluated by manovolumetry. The Fisher's exact test and Wilcoxon's rank-sum test were used to compare categorical and quantitative data, respectively.

**RESULTS** Among patients with an ultralow anastomosis (4 cm from the anal verge), the number of bowel movements during the day (5, 4.3 vs. 29.2 percent;  $P = 0.028$ ) and at night (>1/week, 4.3 vs. 33.3 percent;  $P = 0.013$ ) and urgency (4.3 vs. 33.3 percent;  $P = 0.013$ ) and soiling (21.7 vs. 50.0 percent;  $P = 0.043$ ) were less in the J-group than in the S-group. Among patients with a low anastomosis (5 to 8 cm from the verge), patients in the J-group had fewer bowel movements at night (>1/week, 0 vs. 20.8 percent;  $P = 0.028$ ) and less urgency (0 vs. 20.8 percent;  $P = 0.028$ ). Reservoir function was better in the J-group than in the S-group in both the ultralow (maximum tolerable volume (mean), 101.7 vs. 76.3 ml;  $P = 0.004$ ; threshold volume (mean), 46.5 vs. 30.4 ml;  $P < 0.001$ ; compliance (mean), 4.9 vs. 2.5 ml/cm H<sub>2</sub>O;  $P < 0.001$ ) and low-anastomosis (maximum tolerable volume, 120.4 vs. 97.9 ml;  $P < 0.001$ ; threshold volume, 58.3 vs. 40.8 ml;  $P < 0.001$ ; compliance, 5.2 vs. 3.1 ml/cm H<sub>2</sub>O;  $P < 0.001$ ) groups.

**Conclusions** J-Pouch reconstruction increased reservoir function and provided better functional outcome than straight anastomosis, even five years after surgery, especially in patients whose anastomosis is less than 4 cm from anal verge.