

## Resident Involvement and Patient Outcomes in Pancreatic Surgery at a Rural Pancreatic Surgery Center



Shelley Gabel  
Medical College of Wisconsin

**Shelley A. Gabel**, Rohit Sharma, Jessica Wernberg  
*Marshfield Clinic Department of General Surgery*

**Research area:** Clinical Research

**Background:** Pancreatic resections are complex abdominal operations with high morbidity and mortality rates. The current study identifies trends in outcomes based on patient and surgical team variability at our single, tertiary, high-volume, pancreatic surgery center. Specifically we compared surgical teams with a staff surgeon as the primary assistant versus a resident to explore how resident involvement affected operation metrics and outcomes in patients undergoing pancreatic resection.

**Methods:** Medical records of adult patients (18 years of age and older) who underwent pancreatic resection from 2008-2018 were retrospectively reviewed for data abstraction. Differences between groups were assessed using chi-square or Wilcoxon rank sum tests, where appropriate.

**Results:** During a 10-year period, 173 pancreatic resections were conducted at MCHS; 86 (50%) had a resident as the primary assistant. Patient demographics in the two study populations were comparable, including age, gender, BMI, ECOG scores, and comorbidities. The resident group had more patients with malignant indications (60% vs 40%,  $p=0.004$ ), and performed all operations involving vascular resection (8% vs 0%,  $p=0.007$ ). Median operative time was 309 minutes and 295 minutes for resident- and staff surgeon- assisted operations, respectively ( $p=0.42$ ). Based on the Clavien-Dindo classification of surgical complications, overall complication rate within 90 days of surgery was (53% vs 51%,  $p=0.11$ ), specifically pancreatic duct leak rate was (20% vs 22%,  $p=0.14$ ). Rates of ICU admission (14% vs 14%,  $p=0.17$ ), median post-operative length of stay (8d vs 8d,  $p=0.44$ ), 90 day readmission rate (23% vs 25%,  $p=0.13$ ), and 90 day mortality rate (0% vs 1%,  $p=0.50$ ) were comparable between groups.

**Conclusions:** Operations with a resident as the primary assistant tended to be longer in duration, although not statistically significant. There were no differences in patient morbidity and mortality. Resident participation as primary assistant did not negatively impact patient outcomes.