

**SIMULTANEOUS COLORECTAL AND HEPATIC PROCEDURES FOR COLORECTAL CANCER:
INCREASED MORBIDITY BUT EQUIVALENT MORTALITY TO COLORECTAL OR HEPATIC
PROCEDURES ALONE - OUTCOMES FROM THE
NATIONAL SURGICAL QUALITY IMPROVEMENT PROJECT (NSQIP)**

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BACKGROUND: Simultaneous colorectal and hepatic procedures for colorectal cancer (CRC) are increasingly being performed as CRC surgery becomes safer, less invasive, and better tolerated. NSQIP provides validated, risk adjusted 30-day perioperative outcome data from over 250 hospitals nationwide, allowing large-scale examination of these procedures.

METHODS: Data from NSQIP 2005-2008 were used to compare 22534 patients (19925 colorectal procedures for primary malignancy; 2295 liver procedures for secondary malignancy ; 314 simultaneous procedures).

RESULTS: An increasing number of simultaneous resections were performed per year. Patients undergoing simultaneous procedures had higher rates of the following co-morbid conditions compared to colorectal only patients: Dyspnea, Coronary Intervention or Surgery, Hypertension, Peripheral Vascular Disease, Disseminated Cancer, Weight Loss, Chemotherapy, and Radiation ($p < 0.05$). Fewer complex colorectal and liver procedures were performed in the simultaneous group (LAR/Total Colectomy 21.5% vs 26% ($p = 0.014$), Hemihepatectomy or greater 19.1% vs 33.5% ($p < 0.001$)). Operative time (minutes) varied across groups: colorectal 148, liver 216, simultaneous 265 ($p < 0.001$), as did post operative stay (days): colorectal 6, liver 5, simultaneous 7 ($p < 0.001$). Compared to colorectal and liver procedures alone, simultaneous surgery resulted in a higher rate of the following complications: wound infection ($p < 0.001$), organ space infection ($p < 0.001$), and septic shock ($p = 0.014$). 30-day mortality rate did not differ among the groups (colorectal 2.4%, liver 1.2%, simultaneous 1.6%, $p = 0.35$).

CONCLUSIONS: Patients undergoing simultaneous colorectal and hepatic procedures have a higher comorbidity profile, and these procedures are associated with an increased operative time, length of stay, and rate of perioperative