

## Capstone Abstract

### Comparative Assessment of Patient Surgical Risk by Surgeons vs. a Universal, Parsimonious Statistical Risk System

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Introduction: The literature lacks evidence on preoperative prediction of surgical outcomes by surgeons.

The Surgical Risk Preoperative Assessment System (SURPAS) provides accurate procedure-specific preoperative risk prediction of 30-day postoperative adverse outcomes including mortality, overall morbidity, & 9 other surgical complications. SURPAS predicts these values using 8 variables including procedure-specific risk and American Society of Anesthesiologists Physical Status Classification (ASA class). These risk algorithms were developed from American College of Surgeons National Surgery Quality Improvement Program (NSQIP) data.

Methods: We compared the surgeons' predictions of morbidity & mortality for a variety of surgical procedures to SURPAS predicted values, and the postoperative outcomes. 30 patients' NSQIP data was presented to surgeons in standardized vignettes, including the procedure performed & each patient's comorbidities. Vignettes in ASA classes I-V were randomly presented to the participants. Surgeons were asked to predict each patient's 30-day postoperative mortality & morbidity.

Results: Preliminary results from general surgery residents show that surgeons were able to accurately & precisely predict both the morbidity & mortality risk amongst low risk patients (ASA class 1-2). In high risk patients (ASA class 3-5) the agreement amongst surgeons on both mortality & morbidity was variable. Surgeons were also less accurate at predicting risk in the high risk patient pool.

Conclusion: The data supports continuing the study in attending surgeons of different specialties. Each subspecialty will be administered a survey using the same vignette format that includes common procedures from within their field of expertise. We will measure surgeon accuracy in risk prediction.