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SAGES

# Profile and Outcomes of Emergency Colectomy in Veterans

U.S. Department of Veterans Affairs

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## Introduction

Emergency colectomy (EMC) accounts for up to 20% of colectomy cases, with morbidity and mortality rates approaching 38% and 13%, respectively. This study examines the profile and outcome of emergency colectomy in the US veteran population in relation to elective colectomy (ELC).

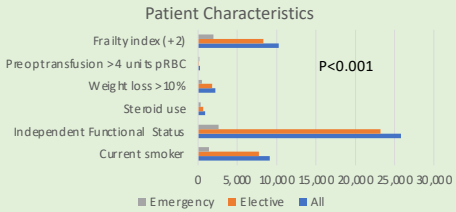
## Methods

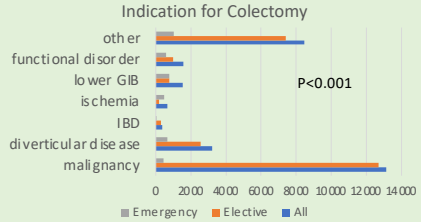
We retrospectively analyzed 28,935 colectomies in the Veterans Affairs Surgical Quality Improvement Program database from 2008-2015. EMC was defined as surgery within 12 hours of admission or onset of illness. Demographics, clinical/operative details, and postoperative outcomes were compared in EMC and ELC cases. Logistic regression was performed to detect independent predictors of morbidity and mortality in EMC.

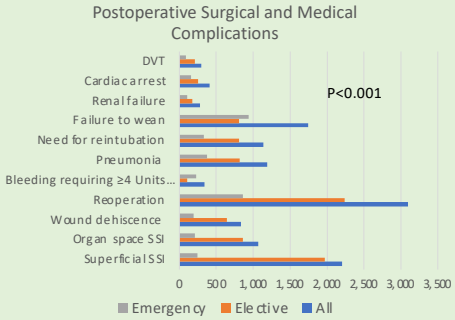
## Results

**Table 1. Patient Characteristics and Comorbidities Comparing Elective vs. Emergency Colectomies.**

| n. (%) | All n= 28,935 | Elective n=24,894 | Emergency n=4,041 | P value |
|---|---|---|---|---|
| Age (Mean ±SD) | 65.5 ± 10.9 | 65.3 ± 10.7 | 67.3 ± 11.8 | <0.001 |
| Age ≥65 | 14,826 (51.2) | 12,595 (50.6) | 2,231 (55.2) | <0.001 |
| Sex (Male) | 27,814 (96.1) | 23,919 (96.1) | 3,895 (96.4) | 0.354 |
| ASA Class | | | | <0.001 |
| 1 or2 | 4,640 (16.0) | 4,325 (17.4) | 315 (7.8) | |
| ≥3 | 24,292 (84.0) | 20,566 (82.6) | 3,726 (92.2) | |
| BMI (Mean ±SD) | 28.1 ± 6.2 | 28.3 ± 6.1 | 26.9 ± 6.7 | <0.001 |
| Obesity (BMI ≥30) | 9,316 (32.4) | 8,244 (33.3) | 1,072 (26.9) | <0.001 |



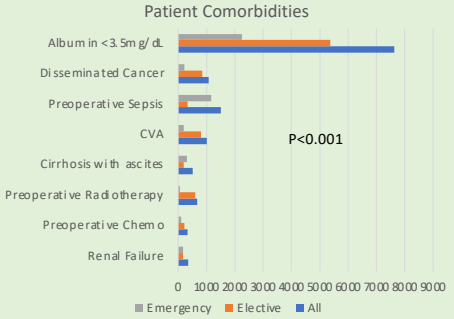




**Table 2. Unadjusted Analysis of Operative and Postoperative Mortality, LOS, and Morbidities Comparing Elective vs Emergency Colectomy.**

| n. (%) | All n= 28,935 | Elective n=24,894 | Emergency n=4,041 | P value |
|---|---|---|---|---|
| 30- day mortality | 1,143 (4.0) | 541 (2.2) | 602 (14.9) | <0.001 |
| Postoperative LOS (mean ± SD) | 10.2 ± 10.4 | 9.2 ± 8.9 | 16.4 ± 15.6 | <0.001 |
| Morbidity | 8,031 (27.8) | 6,145 (24.7) | 1,886 (46.7) | <0.001 |

**Table 3. Multivariable Logistic Regression Analysis for Independent Predictors of Morbidity and Mortality in Emergent colectomy.**

| | Odds Ratios | Confidence Interval 95% | P value |
|---|---|---|---|
| Morbidity | | | |
| Preoperative Sepsis | 1.6 | 1.4-1.9 | <0.001 |
| Chronic Steroids | 1.7 | 1.3-2.2 | <0.001 |
| Dependent functional status | 1.4 | 1.1-1.6 | <0.001 |
| Frailty Index >1 | 1.6 | 1.3-2.1 | <0.001 |
| Mortality | | | |
| Cirrhosis with ascites | 1.7 | 1.2-2.3 | 0.001 |
| Renal failure on dialysis | 2.1 | 1.4-3.1 | <0.001 |
| Preoperative Sepsis | 1.7 | 1.3-2.1 | <0.001 |
| Chronic Steroids | 1.6 | 1.1-2.2 | 0.008 |
| Weight loss > 10% | 1.6 | 1.2-2.1 | 0.001 |
| Dependent functional status | 2.2 | 1.7-2.8 | <0.001 |
| Hypoalbuminemia | 1.7 | 1.3-2.2 | <0.001 |

## Conclusion

In US veterans, EMC is performed in higher-risk patients and is associated with significantly worse outcomes when compared with ELC. More attention toward addressing benign colonic pathology preemptively on an elective basis, as well as increased application of laparoscopy when clinically feasible in the emergent situation, may improve outcomes.