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Title: *Effects of Proton Pump Inhibitors vs Histamine Type-2 Receptor Antagonists in Combination with Oral Corticosteroids on Hospital Readmission Rates*

## Abstract

### Background

Proton pump inhibitors (PPIs) and histamine receptor-2 antagonists (H2RAs) are widely used by patients in both the institutional setting and in the community for many indications. One such indication is reducing the risk of ulcers in high risk patients, such as those taking oral corticosteroids. Several studies have determined PPIs to be inappropriately prescribed in a large number of patients. There is limited data on readmission rates for patients who are prescribed these medications.

### Methods

This study is a retrospective chart review that has been approved by the Institutional Review Board at Memorial Medical Center, a 500 bed teaching hospital located in Springfield, Illinois. This study population includes adults 18 years old or older who were discharged on a PPI or H2RA in combination with a corticosteroid as well as patients discharged with a corticosteroid alone. Data analysis includes descriptive statistics for baseline characteristics and multivariate logistic regression for the results.

### Results

There were 436 patients readmitted within 30 days and 1248 were not. Odds ratios were evaluated for several risk factors for readmission. There were 208 (16%) patients on corticosteroids that did not get readmitted within 30 days and 76 (17%) that were readmitted within 30 days. Hospital admissions in the last year (OR 1.32; 95% CI 1.15-1.50), ED visit within the last 6 months (OR 1.25; 95% CI 1.13-1.39), HOSPITAL score (OR 1.462; 95% CI 1.31-1.63), chronic heart failure (OR 1.51; 95% CI 1.12-2.04) and renal disease (OR 1.40; 95% CI 1.03-1.90) were all found to have odds ratios higher than 1 that were statistically significant. LACE index (OR 0.87; 95% CI 0.8-0.94) and H2RA use (OR 0.59; 95% CI 0.36-0.93) were found to have odds ratios less than 1 that were statistically significant.

### Discussion

Corticosteroids in combination with PPIs or H2RAs were not associated with higher 30-day readmission rates. PPI use alone was not associated with increased 30-day readmission risk. Limitations include lack of standard dosing protocol and differences in baseline disease states.

### Conclusion

This data shows no correlation between the use of PPIs or H2RAs alone or with concurrent oral corticosteroid use and 30-day readmission rates. Further investigation is warranted before any clinical significance can be determined