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**Review Article**

# Effect of Adjuvant Drugs in Combination with Propofol on GI Recovery Times: A Retrospective Chart Review

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## Abstract

***Purpose and objectives:*** Decrease in length of Post-Anesthesia Care Unit (PACU) recovery time has been linked to both patient satisfaction and reduced healthcare cost. This was a quality project which retrospectively reviewed patients` chart to assess recovery time whether administration of co-analgesics and sedatives in combination with propofol prolong recovery time. Primary outcome: PACU recovery time using the modified Aldrete scoring system. The ideal anesthetic for ambulatory cases should provide rapid and smooth emergence and recovery. Propofol is recently preferred short acting agent for gastrointestinal endoscopic procedures for induction, maintenance of anesthesia/deep sedation (1). The randomized controlled trials indicated that the potential benefits of propofol include a shorter recovery time, greater sedation, and improved patient cooperation (2). However, high dose of propofol may cause side effects and delay emergence. ***Study Design:*** This was a quality project which was retrospectively evaluating consecutive Gastroendoscopy cases at Parkland Hospital. Eligible subjects who received esophagogastroduodenoscopy (EGD) in 1 years' period between 2014 to 2015. All patients in the review received propofol as their primary anesthetic, while some received additional co-analgesics and sedatives (midazolam, fentanyl, etomidate, ketamine, diphenhydramine). Recovery and PACU discharge time were compared between the propofol only groups versus the propofol plus adjuvant drug based on the modified Aldrete scoring system. Data was electronically collected in encrypted and password protected Excel file. At the end of the data collection, this Excel file was de-identified for the data analysis. Data was stored in secure encrypted research computer or secure research server and only research team will have access to electronic files. Retrospective analysis of consecutive patients undergoing esophagogastroduodenoscopy (EGD) at Parkland Hospital. The consecutive cases were evaluated for the Postoperative recovery time. The sample size of the project is the expected number of patients underwent EGD during 2014 to 2015.

**Keywords:** Retrospective data analysis, recovery time, postoperative care, sample size, anesthetic medication, propofol, versed, fentanyl, Aldrete scoring system, discharge criteria.



## BACKGROUND AND AIM

Decrease in length of Post-Anesthesia Care Unit (PACU) recovery time has been linked to both patient satisfaction and reduced healthcare cost.[1-4] The aim of this retrospective chart review is to assess whether administration of co-analgesics and sedatives in combination with propofol prolong GI recovery time.

### Study Design and Setting

This was a retrospective chart review of 1,216 who underwent an esophagogastroduodenoscopy (EGD) from November 2018 through April 2019 at a single-center, tertiary referral county hospital. Patients included in this study underwent EGD only, were ASA I, II and III, and between the ages of 18 and 90. Clinical criteria for patient exclusion included patients less than 20 years of age, pregnancy, patients undergoing multiple GI procedures, patients requiring

endotracheal intubation, and patients undergoing emergency procedures. All patients in the review received propofol as their primary anesthetic, while some received additional co-analgesics and sedatives (midazolam, fentanyl, etomidate, ketamine, diphenhydramine). Recovery and PACU discharge time were compared between the propofol only group versus the propofol plus adjuvant drugs based on the modified Aldrete scoring system.

**Outcomes and Measures**

The primary outcome was PACU recovery and discharge time using the modified Aldrete scoring system. Aldrete scoring system is based on patient activity, respiration, circulation, consciousness, color or oxygen saturation, pain, surgical bleeding, nausea and vomiting. The secondary outcome was total procedure duration.

## RESULTS

Of the 1,216 reviewed, 1,022 met our study criteria and were included in our analysis. Of this sample, 591 received propofol only while 431 received propofol and one or more adjuvant drug. A one-tailed independent sample t-test was utilized to compare differences in the two groups. The propofol-only group had quicker recovery and discharge times [(mean time = 56.8 minutes; [SD=41.56]] compared to propofol plus adjuvant drug group [(mean time = 60.84; [SD=49.39])]. However, there was not a statistically significant difference between the two groups [p= 0.176].

## CONCLUSION

Due the relatively short half-life of propofol, it was anticipated that patients receiving propofol as the only anesthetic would demonstrate more rapid recovery and discharge times than those receiving supplemental adjuvants in conjunction with propofol. Compared to the propofol-plus-adjuvant group, our review found no significant difference between PACU recovery and discharge times for patients undergoing EGDs who received propofol as their only anesthetic. Other identifiable causes for delays irrespective of group included patient transportation issues, delayed or no bed availability, patient co-morbidities requiring consult services, and improper or missing physician orders needed for discharge.

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