

Alarm fatigue was identified as a major safety issue, and the goal is to minimize nuisance alarms.

**Methodology:** This study was conducted in four Kaiser-Permanente hospitals. Standard data for RVM (ExSpiron 1Xi, Waltham, MA), oximetry (Philips IntelliVue MP 50), capnography and oximetry (Philips SureSigns VM8) were collected post-operatively, either in post anesthesia care unite (PACU) or general hospital floor (GHF). Device-specific alarms were recorded electronically and later categorized into physiological (actionable) and technical (nuisance) alarms. Alarm rates were calculated and compared across devices. A total of 247 patients were monitored by RVM from a broad population (104 males)

**Result:** In one site, bedside monitor reported continuous EtCO<sub>2</sub> and SpO<sub>2</sub> for 7 patients with an average of 12.9 alarm/hr, 72.8% of which were technical alarms. The RVM only had 0.25 alarm/hr (4% technical) for the same group. Furthermore, simultaneous EtCO<sub>2</sub>/SpO<sub>2</sub> monitoring were conducted for only 51 of 127 available hours due to fear of nuisance alarms, whereas RVM completed all 127 hours. Among 7 patients that received only SpO<sub>2</sub> and RVM monitoring, RVM had lower alarm rates (1.5 vs 0.36 alarm/hr, 67% vs 8% technical). At another site 15 patients were monitored with SpO<sub>2</sub> telemetry, with an average of 3.31 alarm/hr (19% technical), compared to 0.25 alarm/hr (4% technical) for RVM.

**Conclusion:** Alarm fatigue due to nuisance alarms is a challenge in perioperative settings regardless of the potential clinical value of monitoring. Among the three respiratory monitoring technologies, RVM had the highest rate of compliance (100%) and the lowest rate of technical alarms. In contrast, EtCO<sub>2</sub>/SpO<sub>2</sub> combination monitoring was not used for >50% of available time, raising questions on overall patient safety.

### I AM LISTENING: IMPROVING DISCHARGE INSTRUCTIONS AMONG SAME DAY SURGERY PATIENTS IN UCLA SANTA MONICA PTU/PACU



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**Introduction:** Research has shown that insufficient discharge instructions affect patients' adherence to treatment plans, delays postoperative recovery, causes inadequate pain control, and is related to an increase in hospital readmissions and emergency room visits (Horstman et al., 2017).

**Identification of the problem:** Anecdotal reports and complaints obtained from routine post-operative phone calls done by PACU nurses revealed that some patients did not receive adequate discharge instructions, or in some instances received no discharge instructions at all.

**QI question/Purpose of the study:** The purpose of the study is to achieve the following goals: 1. Ensure that UCLA Santa Monica PTU/PACU's ranking on the Press Ganey Ambulatory Surgery Report, Written Discharge Instructions category will consistently be in the 50th percentile and above by January

2019. 2. Ensure that written discharge instructions are provided by PACU nurses 100% of the time by January 2019. 3. Ensure that Discharge instructions (written and verbal) are provided by PACU nurses 95% of the time or greater by January 2019.

**Methods:** PTU/PACU UPC introduced a yellow discharge envelope to keep the discharge instructions organized. PTU/PCU UPC supplemented the yellow discharge folder by developing the "Partnering with U" flyer. PTU/ PACU UPC conducted a post-intervention phone calls and collected data from a sample of 50 patients.

**Outcomes/Results:** Press Ganey Ambulatory Surgery Report results showed an increase in the percentile ranking of UCLA Santa Monica PTU/PACU in the Written Discharge Instructions category from Results from the post intervention phone calls conducted revealed that 68% of patients received the yellow discharge folder and 92% of patients received verbal discharge instructions.

**Discussion:** The results provide initial evidence that use of the yellow discharge folder has significantly affected UCLA Santa Monica's Press Ganey Standing and increased the frequency that patients receive verbal discharge instructions from their health care providers.

**Conclusion:** The current study demonstrates that the use of researched discharge techniques that has the ability to improve patients' experiences and ensure proper recovery.

**Implications for perianesthesia nurses and future research:** PTU/ PACU UPC recommends further monitoring of the Press Ganey percentile rank. Moreover, it is recommended that staff education regarding the new discharge process continue.

### PROTOCOL FOR USE OF RESPIRATORY VOLUME MONITORING IN THE PACU OF A TERTIARY CARE MEDICAL CENTER



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**Introduction:** The Joint Commission recognizes opioid-induced respiratory depression as a safety target and recommends additional monitoring for patients receiving opioids. Respiratory volume monitors (RVM) provide objective measurements of respiratory status and help detect respiratory compromise.

**Identification of the problem:** The most vulnerable time for patients is the first 24 hours post-operatively when the effects of general anesthesia, opioids, antiemetics, and sleep deprivation compound together. While the RVM accurately monitors patients' respiratory status, no PACU protocol for RVM use exists in our facility.

**QI question/Purpose of the study:** We describe previously reported results of our study that identified patients at risk for respiratory compromise in the PACU and on the general hospital floor (GHF). Our goal was to develop a nursing protocol for RVM use in the PACU to confirm clinical assessments and triage patients.

**Methods:** 119 patients were monitored using a RVM in both the PACU and GHF. The monitor reported minute ventilation, which was used to identify patients with low minute ventilation events (LMVe). Patients were separated into two groups: those

with LMVe within 30 minutes of PACU discharge (Group B) and those without (Group A).

**Outcomes/Results:** Group B had a significantly higher rate of LMVe compared to Group A in the PACU ( $1.3 \pm 1.44/\text{hr}$  vs  $0.20 \pm 0.46/\text{hr}$ ) and on the GHF ( $1.57 \pm 1.46/\text{hr}$  vs  $0.24 \pm 0.49/\text{hr}$ ). There were no differences in opioid dosages between groups.

**Discussion:** Patients with LMVe in the PACU continued to experience it on the GHE. We therefore propose a PACU RVM use protocol that allows nurses to objectively monitor patients whom they identify as at risk of respiratory compromise. Patients with RVM alarms should be stimulated, repositioned and have their sedating agent dosage adjusted. Recurring alarms should trigger consultation with a physician. Patients with one or more LMVe within 30 minutes of anticipated PACU discharge should continue RVM monitoring on GHE.

**Conclusion:** Patients at risk for respiratory compromise on the GHF can be identified in the PACU using the RVM. Our protocol can help nurses identify and triage patients with respiratory compromise prior to PACU discharge.

**Implications for perianesthesia nurses and future research:** The implementation of RVM will allow nurses to objectively identify patients at risk for respiratory compromise. Proper protocols should be further developed and clinically tested.

**Results:** Final results are pending. Preliminary data after the first 60 patients revealed mean postoperative “highest pain” scores were significantly lower in the IV group (3.2) compared to the po group (4.83); opioid use was higher in the po group, but not yet significant ( $p = 0.06$ ); PACU length of stay was slightly higher in the po group; neither negative opioid effects nor patient satisfaction were associated with the route of administration.

**Discussion:** An extensive literature search revealed no studies comparing the IV and po routes of acetaminophen in surgical patients; in fact, experts in the field have called for studies that compare which route is more effective. This study proposes to fill this gap in the literature to determine if there is a significant difference in clinical outcomes related to the administration route of preoperative acetaminophen.

**Conclusion:** This study was completed on February 14, 2019. At the time of this abstract, final data analysis was pending.

**Implications for perianesthesia nurses and future research:** When faced with surgery, pain management is one of the primary concerns voiced by patients. Ultimately, results from this study will be used to advocate for patients and best practice in preoperative care.

**PREOPERATIVE ACETAMINOPHEN IN SURGICAL PATIENTS: DOES THE ADMINISTRATION ROUTE (INTRAVENOUS VERSUS ORAL) AFFECT POSTOPERATIVE OUTCOMES?**



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**Introduction:** The administration of acetaminophen is part of a multimodal approach to surgical pain management in the peri-anesthesia setting. For a time prior to the fall of 2016, our institution’s standard anesthesia orders included a preoperative dose of IV acetaminophen. A system-wide change occurred, and oral (po) acetaminophen became the standard of care.

**Identification of the problem:** Anecdotally, perianesthesia nurses noticed that the route of medication administration impacted symptoms experienced by patients in the post anesthetic recovery period.

**Purpose of the Study:** This direct care, nurse-led, interdisciplinary research study compares the following outcomes in surgical patients receiving IV acetaminophen versus oral acetaminophen: Patient reports of pain, postoperative opioid consumption, negative opioid effects, PACU length of stay, and patient satisfaction with pain control.

**Methodology:** This was a double-blind study. 120 participants were recruited preoperatively from the surgical unit at a hospital in the mid-western US. Eligible, consenting adult patients scheduled for outpatient surgery under general anesthesia were randomly assigned to receive IV or po acetaminophen preoperatively.

**IMPLEMENTING ENHANCED SURGICAL RECOVERY ACROSS SERVICE LINES: THE FUTURE IS YESTERDAY**



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**Introduction:** Variability in care leads to decreased quality and poor surgical outcomes. As the landscape of healthcare shifts from fee-for-service to value-based care, patient outcomes have come under the microscope in effort to provide better quality of care for the patients we serve. Enhanced Recovery After Surgery (ERAS) pathways are shown to decrease variability and improve outcomes by delivering quality care.

**Identification of the problem:** A lack of standardization was noted amongst surgical and anesthesia providers. This was not only confusing to perioperative staff, it also lent to delayed case starts and negative impacts on surgical outcomes and length of stay.

**QI Question:** Can the implementation of an evidence-based, quality improvement program across specific surgical lines decrease variations in care, length of stay (LOS), and cost in a community hospital?

**Methods:** Through retrospective chart review of colorectal and bariatric surgical Cases, significant variations in care were noted amongst providers within the same groups and also individual providers performing like procedures. In effort to improve care and outcomes, an ERAS pathway was implemented in colorectal and bariatric surgery. May 2016 through October 2018, 1,674 total patients were included in the ERAS group with matched retrospective controls.

**Results:** Reductions in LOS: colorectal 4.5 to 2.05 days and bariatric 2.15 to .95 days, cost per case: decreased by 20% and 10% in colorectal and bariatric respectively. In addition, both groups showed significant reductions in postoperative opioid.

*Note: All abstracts are printed as received from the authors.*