

A903

TITLE: USE OF PULSE OXIMETRY AS A PREDICTOR OF POST-ANESTHESIA CARE UNIT DURATION IN SMOKERS AND NONSMOKERS

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Recent studies show smokers have a longer Post Anesthesia Care Unit (PACU) stay and relative light smokers are affected similarly to heavy smokers.(1,2) This study determined if pulse oximetry, a simple non-invasive test, could help predict which patients would be at risk for longer PACU stays. The approval of the Institutional Research Review Board was secured, and informed consent was obtained from 359 consecutive adult patients receiving general anesthesia during all surgical procedures excepting open-heart and obstetrical, regardless of time, patient age or complexity. Patients were ASA status 1 through 4. Pulse oximetry saturations were obtained prior to any medication administration, intraoperatively and upon admission to the PACU. Smoking history, sex, age, physical status, surgical procedure and anesthesia time were recorded. Data were analyzed using the Student's t test and ANOVA. The mean values (\pm SEM) before surgery, intraoperatively and upon admission to the PACU were:

PULSE OXIMETER SATURATION PERCENT (\pm SEM)				
A.	N	PREOPER	INTRAOPER	PACU
ALL SMOKERS	221	98.3 \pm .1	98.8 \pm .1	98.4 \pm .1
NONSMOKERS	138	98.1 \pm .2	98.6 \pm .1	98.4 \pm .2
B. PACKS/DAY				
0.5	21	98.7 \pm .2	98.6 \pm .3	98.9 \pm .3
1.0	25	98.5 \pm .3	98.7 \pm .3	98.6 \pm .3
1.5	60	97.9 \pm .2	98.5 \pm .2	98.4 \pm .2
2.0	17	97.6 \pm .5	98.7 \pm .3	97.5 \pm .7
2.5	15	98.4 \pm .4	98.7 \pm .3	98.5 \pm .3

While smokers had significantly greater PACU stays, the pulse oximetry saturations of smokers and nonsmokers were not significantly different; they were essentially the same. Data from the different groups among smokers also were not significantly different. Thus for smokers, pulse oximetry saturations cannot be used to predict longer durations in the PACU.

References

1. Handlin DS, Baker T, Woolwich J: Effect of smoking on duration in recovery room. *Anesthesiology* 73, Supplement: A1052, 1990.
2. Handlin DS, Baker T.: The effect of heavy and light smoking on patient duration in the post anesthesia care unit. *Anesth Analg* 70: S99, 1991.

A904

TITLE: IS THE ANESTHETIST'S KNOWLEDGE OF PREOPERATIVE PATIENT DATA DEPENDENT ON WHO PERFORMS THE PREANESTHETIC EVALUATION?

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Preanesthetic evaluations (PAEs) are often performed in outpatient clinics by someone other than the anesthetist who will perform the anesthetic. This study prospectively evaluates anesthesia residents for their knowledge of preoperative data in outpatients (OP) and postoperative admission (POA) patients when they performed both the PAE and anesthetic or when the PAE was performed by someone else.

Without the residents' knowledge, the PAEs of all OP and POA cases were searched for cases in which the PAE and the anesthetic were performed by the same resident ("matched"). In most cases, the PAE was performed by a resident other than the anesthetist ("unmatched"). No resident was questioned about more than 2 cases (1 matched, 1 unmatched). If 2 of a resident's cases were studied, at least 14 days elapsed between the first and second interviews (21.5 \pm 9.5). After residents transferred care of their patients to the recovery room (RR) nurse, they were questioned about 12 items that are clearly displayed on the PAE form (Table). Each item was assigned a point score to provide a relative weighting and to penalize inaccurate guessing (Table). Operating room (OR) and RR quality assurance (QA) reports were examined for all cases. Data were analyzed by an unpaired t-test or chi-squared analysis; p < 0.05 was considered significant.

The matched and unmatched groups (n = 13 each) were not significantly different with respect to patient age, number of pediatric patients, use of medications, ASA status, planned admission status, or duration of anesthesia. Of the 12 items studied (Table), only diastolic blood pressure was recalled significantly less accurately in the unmatched group (p = 0.036). No OR QA events were reported in the matched group, but 2 events (cardiac ischemia and pneumothorax) occurred in the unmatched group. Three QA events occurred in the RR in patients in the matched group; four in patients in the unmatched group (e.g., nausea and vomiting, prolonged sedation, prolonged subarachnoid anesthesia).

A statistically significant difference in QA events and in recall of specific preoperative data by the conclusion of care could not be demonstrated. Table. Summary of anesthetists' scores on test for knowledge of preoperative patient data

Item	Max. Score	Group	
		Matched	Unmatched
Surname	10	8.5 \pm 3.8	6.2 \pm 5.1
Age	8	7.4 \pm 2.2	6.5 \pm 3.0
Reflux hx	6	5.5 \pm 1.7	5.1 \pm 2.3
Medication hx	16	10.8 \pm 6.2	10.5 \pm 6.8
Allergy hx	10	9.6 \pm 1.4	9.6 \pm 1.4
Smoking hx	6	4.0 \pm 2.3	5.1 \pm 2.3
Weight	10	8.0 \pm 2.8	8.9 \pm 2.8
Systolic BP	5	2.8 \pm 2.2	2.6 \pm 2.0
Diastolic BP	5	3.9 \pm 1.8	1.1 \pm 1.5*
Hematocrit	10	8.4 \pm 2.2	7.7 \pm 3.5
Serum K ⁺	8	4.2 \pm 3.1	3.4 \pm 3.7
ASA status	6	6.0 \pm 0	6.0 \pm 0
Total	100	79.0 \pm 11.5	72.5 \pm 13.5†

* p = 0.0002; † p = 0.20; hx = history; BP = blood pressure; Values are means \pm SD