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Evaluating Use of a Novel SOAP Note Format for Medical Student Education in Anesthesiology

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Learner Audience: Medical students rotating through the department of anesthesiology.

Background: SOAP is an acronym for Subjective Objective Assessment and Plan. SOAP notes were developed as a clinical evaluation tool of a patient that give a comprehensive analysis of clinical problems and the develpment of differential diagnoses, culminating in a treatment plan. This Subjective Objective Assessment and Plan (SOAP) method is familiar to students in their clinical years of medical school. A modified SOAP note format has been used to teach medical physiology and the hidden curriculum.1

Needs Assessment: It is a challenge to train and evaluate learning of anesthesiology in medical students in the operating room setting. The lack of didactic teaching in anesthesiology in the preclinical years and the stressful pace of the perioperative environment often relegate the medical student to the role of observation. Learning then becomes a matter of quality time, or lack thereof, spent in teaching with the anesthesia resident and attending staff assigned to the same case. We sought a method to engage the medical student in the process of perioperative care. Medical students learn the Subjective Objective Assessment and Plan (SOAP) note format to summarize their patient care plans in their clinical years. We suggest a method to adapt this format to the context of a rotation in anesthesia.

Hypothesis: We believed that adapting a modified SOAP note format for the learning of anethesiology in a medical student curriculum would improve the students' performance on a test at the end of the rotation.

Method Designs: The Subjective section in the anesthesia setting was modified to document the preoperative diagnosis, prior medical and surgical histories, review of systems, specific prior anesthetic history, and the proposed surgical procedure. The Objective section with anesthesia modification also included a specific airway examination and more advanced testing when available. The conventional Assessment portion asked students to assess the specific anesthetic considerations for the planned procedure. Specific discussion included patient positioning, surgical duration, anticipated blood loss, surgical site and potential complications specific to the procedure. The last section, the Plan, included use of the mnenomic "PIMP-Back." The students were asked to detail the Premedication, Induction, Maintenance and monitoring, Postoperative planning, and Back-up plan. In this manner, medical students went from merely watching the perioperative events to understanding that every move was accompanied by subjective and objective backgrounds, assessment and implementation of these formulations.
Learners advanced through the cognitive levels from listing patient facts to comprehending the importance of an airway examination. The students applied, analyzed and judged anesthetic techniques through the teaching with residents which were then evaluated by senior staff.

Outcome: We found that the medical students who used the modified SOAP note format were better prepared for their final evaluation.

It was a challenge to find medical students interested in participating in the study. It was a challenge to get the patient assignments consistently done before the day of surgery in order to allow the students time for preparation.

The learning process became more of a problem based learning discussion and not merely observational for the medical students. The senior staff which evaluated the medical students at the end of the rotation found that the students that used this new learning method performed better than their peers in an evaluation similiar to the anesthesiology oral board examination.

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We plan to adapt this method to the first months of anesthesiology training for the incoming residents into the program this upcoming June and July. These subjects will be motivated to learn. They will consistently be assigned to an operating room and its patients. Therefore, the limitations to this medical student study will be overcome. We anticipate that their patient evaluations will be more thoughtful. This learning method will better prepare them for case discussion with senior staff and their new roles as anesthetists.

The resident author of this study has used this technique to prepare for and answer mock oral board examination questions with success.