

Curriculum and Evaluation for the First Month of Anesthesiology Training

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Learner Audience: Incoming clinical anesthesia residents (CA-1's) at the University of Miami/Jackson Memorial Hospital (UM/JMH).

Background: The first month of anesthesiology training should provide the foundation for the safe management of any anesthetized patient. A curriculum that does not address core competencies at the onset of training can affect the trainee, the faculty, the hospital staff, the health care facility, and most importantly, the patient.

Needs Assessment: Table 1 lists the methods used in the needs assessment of targeted learners.

Hypothesis: Incorporating instruction and assessment of the ACGME core competencies into the curriculum at the onset of training may enhance residents' learning, smooth their transition to the perioperative setting, and prime them for all other phases of training.

Curriculum Design: A systems approach (the empirical/analytic tradition) was selected to revise the orientation curriculum for incoming anesthesiology residents at UM/JMH. A deliberative curriculum inquiry was used to complement the systems approach by engaging all key stakeholders in a deliberative processes (nominal group technique) that served as the basis for making decisions about goals, objectives, instructional strategies, trainee assessment, and program evaluation. The educational strategies to achieve the curriculum's objectives included use of artificial models, high-fidelity simulations, operating room experiences, debriefing sessions, lectures, demonstrations, and small group discussions. Learner assessment methods included the Anesthesia Knowledge Tests (AKT-1 Pre and Post), direct observations of the resident in the operating room and simulation environments (checklists and rating forms), and input from multiple observers including nurses and hospital staff (multisource assessments.) Program evaluation also included an anonymous survey (Litzelman's abbreviated Stanford Faculty Development Program instrument) completed by all residents after the first month of training.

Outcome: Although the mean score of correct answers on the AKT-1 exam prior to training was lower than the national mean (72.9 vs. 74.4), it was higher after the first month of training (118.5 vs. 103.3) (Figure 1). In addition, 91% of the residents scored above the national mean (as compared to only 64-69% in the prior two years). The percentile rank our trainees with respect to all participating programs in the AKT-1 was 82% (as compared to 68-69% in prior two years). The evaluation survey indicated that most of our trainees believe that the curriculum for the first month of anesthesiology training satisfied their learner needs (Table 2).

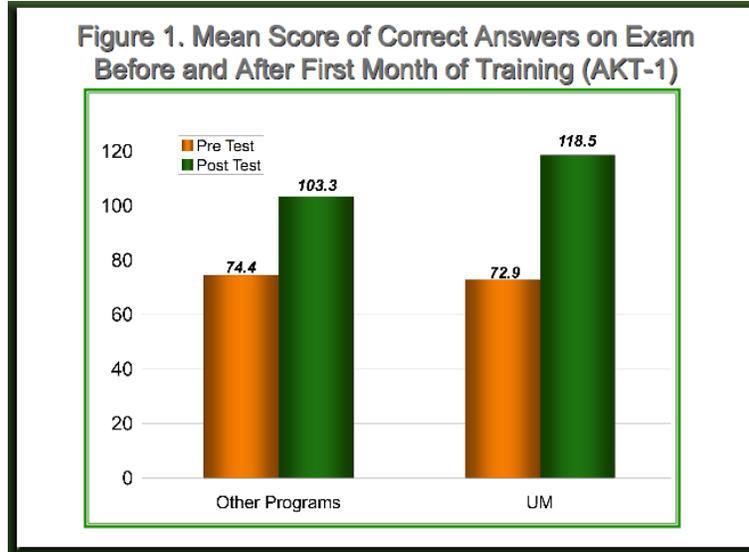


Table 1. Methods Used in the Needs Assessment of Targeted Learners

Gathering Information Methods	
Cognitive Domains (MK)*	<ul style="list-style-type: none"> Review areas in past AKT-1 formative evaluation reports where items were answered incorrectly by >50% of our residents
Noncognitive Domains (PC, PF, ICS, SBP)*	<p>Strategic planning sessions for the curriculum</p> <ul style="list-style-type: none"> Deliberative processes using the nominal group technique to achieve input, buy-in for solutions, and educate all in the process Working group included: <ul style="list-style-type: none"> Targeted learners: all incoming and outgoing chief residents (5) Key faculty: vice chair for education, program director, and internship director Administrators: residency coordinators Staff: advanced registered nurse practitioner Activities: <ul style="list-style-type: none"> Brainstorming <ul style="list-style-type: none"> CA-1 resident needs Current program strengths and weaknesses Prioritization and generation of needs Identification of goals, objectives, and responsibilities Consideration of the role of the "hidden curriculum"

*ACGME Competencies: MK= Medical Knowledge, PC= Patient Care, PF= Professionalism, ICS= Interpersonal and Communication Skills; SBP= Systems-Based Practice, PBLI= Problem-Based Learning and Improvement

Table 2. Resident Survey Summary after 1st Month of Training

Survey Item Area	Agree/Strongly Agree N=33 (%)
Learning climate*	32 (97%)
Control of Sessions*	32 (97%)
Communication of Goals*	33 (100%)
Promoting Understanding and Retention*	31 (94%)
Evaluation*	32 (97%)
Feedback*	29 (88%)
Promoting self-directed learning*	32 (97%)
Competency to perform basic anesthesia psychomotor skills	31 (94%)
Belief that patients and HCO's want physicians that are proficient in the ACGME core competencies	32 (97%)
Overall learner satisfaction	33 (100%)

*Modified from Litzelman DK, et al. Acad Med. 1998;73:688-95.