Curriculum 1

# Residents as Teachers Workshop for Anesthesiology

Jeffrey S. Berger, M.D.; Marian Sherman, M.D.; Nancy Gaba, M.D.; Benjamin Blatt, M.D.; Jennifer Keller, M.D.
George Washington University

**Learner Audience:** The Residents as Teachers (RaT) Program was undertaken at a modest size anesthesiology residency training program in the Mid-Atlantic region. Seven Clinical Anesthesiology first-year residents participated in the RaT program as part of a two-month introductory lecture series at the outset of anesthesiology training.

**Background:** The clinical education of medical students is a formidable task. During the clinical years, students must complement experiential learning with formal instruction at great personal expense in order to become competent physicians. Unfortunately, there are an insufficient number of faculty educators to satisfy the annual clinical learning needs of American medical students. As a result, medical residents in all disciplines are often called upon to serve as clinician educators.

Anesthesiology residents are no exception as they frequently play a significant role in the clinical education of third and fourth year medical students. Additionally, senior residents supervise and teach junior residents in both didactic and clinical settings. Because anesthesiology residents carry this significant educator responsibility, we created the RaT program to formalize the process by which anesthesiology residents acquire and/or learn teaching skills.

Related research clearly suggests that residents who participate in formal RaT programs demonstrate improved teaching behaviors and improved teaching skills (1, 2, 3, 4, 5). Residents who participate in RaT programs develop a deeper knowledge and appreciation of educational principles. Furthermore, such residents report overall high satisfaction with RaT programs (1, 2, 3). The vast majority of studies that investigate resident teaching skills evaluate internal medicine residents and family medicine residents. We found no study that examined the usefulness of a RaT program in the field of Anesthesiology.

1 Hill, A. G., Yu, T., Barrow, M., & Hattie, J. (2009) A systematic review of resident-as-teacher programmes. Medical Eduation, 43 (12), 1129-1140.
2 Lacasse, M. & Ratnapalan, S. (2009). Teaching-skills training programs for family medicine residents: Systematic review of formats, content, and effects of existing programs. Canadian Family Physician, 55 (9).
3 Gaba, N. D., Blatt, B., Macri, C. J. & Greenberg, L. (2007). Improving teaching skills in obstetrics and gynecology residents: Evaluation of a residents-as-teachers program. American Journal of Obstetrics and Gynecology, 196 (1).
4 Post, R. E., Quattlebaum, R., G. & Benich, J. J. (2009) Residents-as-teachers curricula: A critical review. Academic Medicine, 84(3), 374-380.
5 Mann, K.V., Sutton, E. & Frank, B. (2007). Twelve tips for preparing residents as teachers. Medical Teacher, 29(4), 301-306.

**Needs Assessment:** No formal curriculum currently exists at our program for training anesthesiology residents how to teach effectively in a number of common settings. Further, our search yielded no studies in the anesthesiology literature that reported an intervention aimed at teaching anesthesiology residents how to teach.

**Hypothesis:** Implementation of a RaT program in the context of an anesthesiology residency program will formalize the competency in this important skill and improve the teaching abilities of anesthesiology residents. We project that medical students will rate students who participated in this program higher on evaluations than control residents.

**Curriculum Design:** In the spring of 2009, seven Clinical Anesthesiology first year residents participated in the RaT program as part of the intervention group. The control group consisted of 14 anesthesiology residents from

other training levels at the same institution. The intervention consisted of a 10.5 hour workshop-based program - 1.5 hour Introduction followed by a series of six 1.5 hour workshops. These workshops were presented during the July-August Introductory Lecture Series for first-year anesthesiology residents in three, three hour blocks and an additional 1.5 hour block of time. Over the next five months, core competency-based evaluations were collected from medical students, blinded to the groupings.

As an introduction to the workshops, the residents were given a primer on adult learning principles. Additionally, the Introduction presented our three-function model for clinical teaching: prepare for the learning exercise, perform the exercise, and process the results. We emphasized using this model within the context of a supportive, respectful learning environment.

The intervention served to enforce the following teaching concepts that were deemed by the faculty collaborators to be the most essential needs for our residents: (1) orienting a learner; (2) providing feedback; (3) delivering a mini-lecture; (4) teaching at the bedside; (5) teaching a skill. Interactive presentations included a discussion of the residents' previous experiences, presentation of a skills checklist, application of the checklist to a teaching sample in a commercial video, and role play or work with standardized students. The workshops were facilitated by three members of the investigative team in conjunction with two anesthesiology faculty.

**Outcome:** Comparison of means for the medical student evaluations will be tested by Wilcoxon rank sum test (continuity corrected for independent samples) and the Wilcoxon signed-rank test (for correlated samples). Scores for individual competencies will be averaged to provide an overall score while individual competencies will be evaluated as secondary. All tests will use two-sided P values conducted with SAS, version 9.1. Resident self-assessments and evaluation questionnaires for the individual workshops will be presented descriptively.

Results of medical student scoring of residents in the RaT and control groups are currently pending evaluation so as to include as many months of evaluation as possible into analysis.

This program tackles an important, yet all too often ignored concept that residents must receive minimal competency as educators with formal training. To be sure, the time commitment required of residents and faculty is steep, but the investment is manageable. We scheduled training workshops in the beginning of the academic year when Clinical Anesthesiology first year residents are not yet part of the evening and night work teams and do not take vacation time. Samples of workshop materials will be made available at the time of manuscript publication to assist with reproducibility at other institutions.