



Original contribution

# A peer-designed selective in anesthesiology, critical care, and perioperative medicine for first- and second-year medical students<sup>☆</sup>



Michael Tien BS (Medical Student)<sup>a</sup>, Christopher M. Aiudi PharmD (Medical Student)<sup>a</sup>,  
Hans P. Sviggum MD (Assistant Professor)<sup>b,\*</sup>,  
Timothy R. Long MD (Associate Professor)<sup>b</sup>

<sup>a</sup>Mayo Medical School, Mayo Clinic College of Medicine, Rochester, MN

<sup>b</sup>Department of Anesthesiology, Mayo Clinic, Rochester, MN

Received 14 December 2015; revised 27 January 2016; accepted 12 February 2016

## Keywords:

Anesthesiology;  
Critical care;  
Perioperative medicine;  
Peer-designed selective;  
Preclinical education

## Abstract

**Study objective:** The objective of this study was to design and implement a preclinical elective (termed *selective*) in anesthesiology, critical care, and perioperative medicine and to report survey results assessing the impact of the selective on first- and second-year medical students' understanding of basic concepts, comfort with procedural skills, and interest in the specialty.

**Design:** Preintervention and postintervention survey evaluation was used as the design of this study.

**Setting:** The study was conducted at Mayo Medical School and Mayo Clinic.

**Participants:** The participants in this study are first- and second-year medical students.

**Interventions:** A 1-week introductory anesthesiology curriculum was developed to include didactic sessions, shadowing experiences, lunch and dinner panels, mentorship and networking opportunities, and procedural workshops in airway management, ultrasound, and vascular access techniques.

**Measurements:** Preselective and postselective surveys using a 10-point scale (1, strongly disagree; 10, strongly agree) were administered 1 week before and after the selective.

**Main results:** A total of 8 students participated in the selective, with a 100% survey response rate. Students reported significant increases for all survey questions regarding basic concepts and skills. The largest increases were reported in comfort with airway management skills, understanding of the perioperative surgical home model, and vascular access skills. All participants indicated a higher likelihood of pursuing anesthesiology as a career and attributed their increased interest in anesthesiology to the selective.

**Conclusions:** This new selective was successful in giving first- and second-year medical students a comprehensive overview of anesthesiology and increasing medical student interest in the specialty. The success of this selective leads to promising belief that similar peer-designed educational experiences can be developed at other medical schools to improve education and interest in this area of medicine.

© 2016 Elsevier Inc. All rights reserved.

<sup>☆</sup> Disclosures: None.

\* Corresponding author at: 200 1st Street SW, Rochester, MN 55905, USA. Tel.: +1 507 266 2049; fax: +1 507 284 0120.  
E-mail address: [sviggum.hans@mayo.edu](mailto:sviggum.hans@mayo.edu) (H.P. Sviggum).

## 1. Introduction

Education in anesthesiology and critical care varies considerably between medical schools [1–3]. These specialties are not routinely included in preclinical curriculum, and clinical exposure is often limited to optional fourth-year electives. Thus, medical students do not receive early, structured experiences in these areas of medicine and have reported feeling uncomfortable with airway management and vascular access [4] and acute or critical care situations [3,5,6]. The lack of exposure may also negatively influence their perception of anesthesiologists [7]. With growing demands of an aging population [8], increasing surgical workload [9], and projections of physician shortages in these specialties [10,11], it is crucial to improve education and inspire interest in these areas of medicine.

Curricula relevant to anesthesiology and critical care (eg, cardiopulmonary life support, perioperative management, clinical pharmacology and physiology, pain management, and teamwork and communication skills) can benefit all medical students [12,13]. Thus, we developed a 1-week preclinical elective to fill this gap in education and to provide opportunities for career exploration, networking, and mentorship. In 2006, Mayo Medical School underwent curriculum reform to include “selectives” for first- and second-year medical students. These are defined as 1- to 2-week preclinical electives for self-directed learning spaced in between a formal block curriculum [14]. Students are required to complete 16 selective experiences within their first 2 years of medical school. Students use these selectives for a variety of reasons including clinical experiences, career exploration, research, learning or enhancing clinical skills, volunteer work, and other activities related to medical education.

Currently, there are very few accounts in the literature of early preclinical education in anesthesiology, critical care, and perioperative medicine for first- and second-year medical students. The purpose of this study was to design and implement a 1-week selective in these specialties and to report survey results assessing the impact of this selective on students’ self-perceived understanding of basic concepts, comfort with procedural skills, and interest in these fields of medicine.

## 2. Materials and methods

### 2.1. Selective curriculum

After obtaining “exempt” status by the Mayo Clinic Institutional Review Board, the selective curriculum was developed by a second-year medical student in conjunction with anesthesiology and critical care faculty advisors. The selective was offered during one of the designated selective weeks included in the Mayo Medical School curriculum, and any first- or second-year student could choose to participate.

The selective was designed to provide didactics and workshops early in the week for knowledge acquisition and hands-on skills training to allow for more meaningful shadowing and networking experiences later in the week. The curriculum is summarized in Table 1.

During the first 2 days, faculty members provided students with presentations about anesthesiology and perioperative medicine, pharmacology of general anesthetics, the perioperative surgical home, and pain management techniques. Students also participated in a resident-taught airway management workshop to learn and practice bag-mask ventilation, use of airway adjuncts, intubation and laryngoscopy, and fiberoptic intubation. Additionally, students participated in a vascular access workshop led by the critical care faculty to learn and practice central venous catheterization, intravenous line insertion, intraosseous cannulation, ultrasound image acquisition, and ultrasound-guided vascular access techniques.

Over the last 3 days, students completed 3 shadowing experiences in the operating rooms and various perioperative settings. They worked directly with patient care teams and subsequently had lunch with care team members and mid-level providers to learn more about teamwork and communication in the perioperative setting. Students also participated in a student-faculty mentorship dinner. The dinner provided an open forum for discussion of topics such as work-life balance, residency programs, research interests, and career and subspecialty opportunities. On the last day, the anesthesiology residency program director gave a presentation about the path to residency. Students concluded the week with an opportunity to have lunch with the anesthesiology residents.

### 2.2. Selective surveys

Preselective and postselective surveys utilizing a 10-point scale (1, strongly disagree; 10, strongly agree) were administered to the students 1 week before after the selective (Appendices A and B). All responses were voluntary and anonymized. No identifying information was retained, and consent was obtained for research and quality improvement purposes. The survey results were used to assess the impact of the selective on student understanding of basic concepts; comfort with airway management and vascular access skills; and interest in pursuing anesthesiology, critical care, or a related specialty as a career. Students were also asked in the preselective survey to disclose any prior experiences in anesthesiology or critical care. Free-response questions were included in the postselective survey to allow students to provide suggestions for improvement of future selectives.

### 2.3. Statistical analysis

For nonpaired data, descriptive statistics including mean and standard deviation were presented. A 2-tailed,

Download English Version:

<https://daneshyari.com/en/article/5884672>

Download Persian Version:

<https://daneshyari.com/article/5884672>

[Daneshyari.com](https://daneshyari.com)