The Journal of Education in Perioperative Medicine

Letter to Editors

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Follow-up to the article published in The Journal of Education in Perioperative Medicine 2018: *A Program Director Survey of the Clinical Base Year in Anesthesiology Residency Programs*

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This original article[1] provided the results of a survey completed by US anesthesia residency training programs regarding the structure and curriculum of the clinical base year. Many responses to this survey have inspired new initiatives, some of which have already been implemented in our own residency program as part of the 2014 restructuring initiated at our institution. This follow-up letter is intended to describe the implementation of these initiatives as well as the feedback from trainees impacted by these changes.

One example of a newly implemented change is a handbook containing goals and objectives, along with relevant content provided to interns at the start of their anesthesia rotation. The handbook is divided into chapters based on core anesthesiology content, and each section details a summary of expectations that includes keywords and content akin to the American Board of Anesthesiology (ABA) content outline as well as milestones based on the Accreditation Council for Graduate Medical Education core competencies. In conjunction with each keyword and milestone, room is provided for notes and performance assessment to be completed by the intern and faculty mentor. Content chapters correspond to chapters in the *Basics of Anesthesia*[2] textbook, with content supplemented by intern attendance to all anesthesia residency didactics over the course of their month. Many of our interns later used this handbook as a component of their preparation for the in-training and ABA BASIC examination.

We also implemented preceptorship for interns consisting of both faculty and senior residents. Clinical supervision has been proven to improve junior trainees' preparedness and patients' safety.[3] Some programs reported pairing interns with faculty during their anesthesia rotation while others paired them with senior residents. We opted for a hybrid: pairing interns with a faculty preceptor each day in the operating room in a 1-to-1 manner, while pairings with senior residents serve as a buddy system, providing interns with a contact who can provide advice and guidance from a resident point of view.

All interns provide feedback about their experiences through both a mid-rotation and end-of-rotation evaluation form as well as during meetings every 3 to 4 months for all interns and the program leadership. Much of this is facilitated by 2 clinical anesthesia (CA)-1 members of our *intern year improvement committee* who work with the residency program director and the faculty director of the categorical intern year, acting as a resource and liaison for the intern class. These resident representatives establish a meeting agenda based on collected survey feedback regarding all intern rotations and other relevant topics. These meetings lead to appropriate responses by program leadership that are often incorporated into the following academic year. This approach allows for collaboration between house staff and leadership, building trust between interns and the department. Creating a sustainable structure is key to making this committee effective. Each year, interns interested in the committee are asked to serve as representatives for their class and often go on to serve as the CA-1 leaders of the intern year improvement committee for the following year, helping with orientation, scheduling meetings, and administering anonymous online surveys to collect feedback. Our residency training program uses a modified Delphi technique for developing improvement plans. Through this methodology, resident feedback leads to proposed changes developed by residency program leadership and resident leaders, which are then reevaluated by house staff prior to and after implementation. These mechanisms have led to many changes including standardization of the rotation distribution among interns, the creation of mechanisms for communication with leadership of departments through which our interns rotate, the creation of intern electives relevant to anesthesia practice, the creation of a How to Succeed in Residency orientation session at the start of the intern year, which includes two intern-specific simulation sessions and the creation of a buddy system, encouraging interns to meet confidentially with a mentor or peer in the department.

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To obtain feedback of the changes made since 2014 and make further improvements, we conducted a survey of the class of 2017, whose intern training preceded the changes, and the class of 2021, who experienced the most recent intern year restructuration following many changes as cited above. This anonymous survey included the following 5 questions:

1. How prepared did you feel for starting your CA-1 year on a scale from *0-5* (*not at all prepared* to *extremely prepared*)?
2. Which of the following were concerns when starting your CA-1 year?
   - IV placement
   - Intubation
   - Creating anesthetic plans
   - Lack of anesthesia knowledge
   - No concerns for starting anesthesia and others
3. Which of the following departmental interventions alleviated your concerns? If more than one, specify the most effective.
   - CA-1 boot camp
   - Attending mentorship
   - Upperclassmen advice
   - None
4. How do you feel the department could better prepare future CA-0 residents for starting CA-1 year (free text)?
5. What year did you/will you graduate residency?

We received a 100% response rate (25 out of 25) with 13 coming from the class of 2017 and 12 from the class of 2021 (1 resident from the class of 2021 involved in this study did not participate). Zero percent of residents felt they were extremely well prepared (*5/5* rating) while 40% felt they were unprepared (*0-2*), 31% in the class of 2017, and 50% in the class of 2021. The average preparedness score was 2.7 for the 2017 class and 2.4 for the 2021 class. Because the average scores are close for both classes, with a higher percentage of residents feeling unprepared in the 2021 class, it also implies that there was a higher number of residents in that class who felt well prepared! Six residents out of the 12 (50% of the 2021 class) scored their level of readiness as a *3* or a *4* (1 resident chose *3*; 5 residents chose *4*).

The main concerns about the start of CA-1 year included *creating anesthetic plans* and a *lack of anesthesia knowledge* for 64% of residents altogether. Lack of anesthesia knowledge was a concern for 77% of residents in the class of 2017 class compared with 50% in the class of 2021. Formulating an anesthetic management plan was a consideration cited by 69% residents in the class of 2017 compared with 58% in the class of 2021. Of note, regarding technical skills addressed in the two simulation sessions created for interns, 62% of the residents in the 2017 class listed *IV placement* and *intubation* (always selected together if selected) compared with 25% in the 2021 class. *Attending mentorship* (which preceded and continued through all changes made) was listed as beneficial by 72% of respondents (77% in the 2017 class and 67% in the 2021 class). *Upperclassmen advice* (formalized over this period) was listed by 68% of respondents (62% in the 2017 class and 75% in the 2021 class). The *CA-1 boot camp* was offered throughout this period and was selected by 40% of the 2021 class respondents (it did not exist for the 2017 class). In response to the question *How do you feel the department could better prepare future CA-0 residents for starting CA-1 year?,* class of 2017 residents offered: *Provide a basic, easy to read (intern year is quite busy) manual during CA-0 year* and *More shadowing with upperclassmen and more exposure to anesthesia*. A class of 2021 graduate offered: *More events throughout the year where the CA-0s can feel like they have a home and being able to come to lecture or journal club.*

The changes implemented over the last 5 years in our program have led to a shift in our interns' sense of readiness as they embark on their clinical anesthesia training. While a greater share of interns who benefited from the initiatives expressed feeling unprepared overall compared with those who did not, they actually expressed less concern across all of the leading sources of concern for preparedness compared with their senior peers. This could be the result of the implementation of both the sim session created at the beginning of the intern year and the 1-to-1 mentorship during the anesthesia month. The consistency of giving interns the same 2 mentors throughout the month allowed for both mentors and mentees to feel comfortable with each other, giving mentees more opportunity to work on their technical skills. We were happy to see that the suggestions made by the 2017 class to improve the intern year were addressed by the restructuration we created, and the suggestions made by the 2021 class are currently being worked on.

This Letter to Editors was meant to emphasize the importance of feedback and leadership to improve curriculum and training. A continued effort to look at what we can do better and what is viewed as useful by trainees is key to creating efficient curriculum, leading to optimized residency programs.

References

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In Reply

We appreciate this update from our authors on their work featured in *JEPM* in 2018. The spirit of continuous improvement demonstrated in this letter is the sign of healthy residency program leadership and no doubt contributes toward the successful clinical careers of many graduates of the author's training program. Regarding the higher percentage of residents feeling unprepared following implementation of the handbook, the improved preceptorship and the described buddy system, some of this increasing sense of being unprepared may represent the *Unskilled and Unaware of It* phenomenon. In their 1999 article, Kruger and Dunning[1] describe how, in 4 studies on undergraduate students, participants scoring in the bottom quartile on tests of grammar, logic, and humor had overestimated their performance on those tests to a large degree. The authors' analysis linked this miscalibration to a lack of metacognitive skill, which they define in

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part as the ability to distinguish accuracy from error. Paradoxically, improving a learner's skill can help them to better recognize the limitations of their abilities. This phenomenon may have contributed to the increase in respondents feeling unprepared in the latter survey as described in this letter.

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The Journal of Education in Perioperative Medicine

Reference

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