FELLOWSHIP APPLICATIONS SHOULD NOT REQUEST TEST SCORES-CON

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Learning objectives of this presentation:

1. Describe the core elements of the anesthesiology fellowship application
2. Review the challenges of overcoming the subjectivity inherent in applications
3. Identify relevant examinations that may be included in fellowship applications
4. Illustrate the advantages of utilizing objective data such as exam scores in assessing applicants to fellowship

Over the course of many years of preparation and training, physicians are required to take multiple standardized tests designed to objectively measure knowledge or aptitude. Beginning in high school, this might include Advanced Placement (AP) exams or college entrance exams like the ACT Exam or SAT (Scholastic Aptitude Test). In preparation for medical education, the large majority of schools require the Medical College Admissions Test (MCAT). In medical school, the United States Medical Licensing Examination (USMLE) or Comprehensive Osteopathic Medical Licensing Examination (COMLEX-USA) are taken in several parts as an assessment of an individual's ability to demonstrate fundamental knowledge of medicine and are needed to qualify physicians for medical licensure in the United States. During residency training, most specialties utilize standardized exams to assess progress in knowledge acquisition within the specialty. For anesthesiology, this includes a yearly in-training exam administered by the American Board of Anesthesiology (ABA) or other available exams such as the Anesthesia Knowledge Test (AKT), administered by the Inter-Hospital Study Group for Anesthesia Education (IHSGAE).

Each of these exams is designed for a specific purpose. For example, the MCAT is designed specifically to qualify for entrance to medical school and the USMLE or COMLEX exams are intended as standardized requirements for licensure. As physicians progress in their training, examinations are not necessarily designed as a specific measure of aptitude or qualification for future endeavors (e.g. fellowship). For instance, the ABA in-training exam is designed to assess whether a resident is progressing satisfactorily in anesthesiology training and is on-track to achieve board certification. It may not specifically predict success in fellowship training, although this is not well-studied to date.

For a variety of reasons, residency training has overall become increasingly competitive as the number of post graduate positions has failed to keep pace with the growing number of medical school graduates over the years. The number of applications that each student submits for residency has grown over time in this environment, often overwhelming residency training programs. At the same time, many medical schools have moved to pass-fail grading systems and do not rank their students, leaving very little objective information to assess residency applicants. As there are no exams specifically designed to

assess aptitude for each specific specialty, residency program directors have been increasingly utilizing the licensure exams (USMLE or COMLEX) as one of the only available objective measures to evaluate applicants. Screening of applications by setting a threshold score is often utilized as programs may receive 10-100 times the number of applications than they have positions. This reliance on licensure exams for determination of future post graduate training has led to an emphasis on standardized exam preparation by students (and in some cases, medical schools), perhaps to the detriment of their overall medical education.

Fellowship training is not immune to the phenomenon or reliance on standardized exam scores for assessment of applicants. Program directors in competitive subspecialties (including anesthesia fellowships) may receive many hundreds of applications for a small number of positions. Although fair-minded, residency program directors and faculty referees may seek to promote their trainees through recommendation letters rather than providing objective assessments. Standardized applications with open ended personal statements may prove unsatisfactory to fellowship directors who are seeking to distinguish applicants from one another. As such, fellowship programs face the daunting task of screening applications in the setting of very little objective data. Perhaps it should be no surprise that similar to residency programs, fellowships may tend to over-utilize exam scores in their assessment of applicants to their programs.

The reliance on exam scores for assessment has come under recent scrutiny and changes in the structure of exams has been proposed as a way to minimize the reliance on these exams for purposes other than those intended. The Association of American Medical Colleges (AAMC) recently convened a working group of stakeholders to look at the issue and has proposed further work that is still pending.

One question is, is there any value in reviewing standardized exam scores other than for screening applications? Although there is virtually no data for fellowship training, performance on the USMLE has been shown to correlate with specialty board exam results for core residencies in pediatrics, emergency medicine, pathology and neurosurgery. Since many subspecialties (including several within anesthesiology) have board certification exams that follow fellowship training, program directors may find a history of success on exams to be a useful piece of information, especially because the Accreditation Council for Graduate Medical Education (ACGME) has set absolute minimum board passage rates for fellowships as a way to assess the quality of those training programs. Some evidence also exists that higher scores on in-training exams during residency correlate with success in achieving subsequent board certification in that specialty, including anesthesiology.

That success on standardized exams in the past is a predictor of success on subsequent standardized exams should come as a surprise to no one. People who retain knowledge and are good at taking tests will probably maintain that ability. The unanswered question is, what difference does it make? Does doing well on tests make anyone a better doctor? Not entirely, although fundamental knowledge is important and if nothing else, exams are a motivation to learn. There is some evidence that outcomes in patient care may be improved when patients are cared for by physicians with higher licensing exam scores, although more study is needed to validate this notion.

Ultimately, there is a fundamental lack of objective data available to fellowship program directors in selecting applicants. There is no definitive “entrance exam” or aptitude test for fellowship training like the SAT or MCAT for college or medical school, respectively. As such, training programs rely on

surrogate exams that, although not intended to be used as screening tools for entrance into training programs, do provide a means of assessing knowledge and perhaps function as a predictor of success on subsequent board certification exams. Does that approach necessarily exclude applicants who would otherwise be excellent subspecialists but who are simply not very good at taking tests? Without more study, this is a difficult question to answer. Program directors must use their discretion and utilize all the information available to them, not simply test scores. This is likely what most programs do anyway. Test scores are simply one element among many that might be used to assess applicants.

Eliminating a program's access to test scores because they are being used for purposes other than that intended misses the big picture. This approach doesn't give credit to program directors who are generally fair-minded and are doing their best to find trainees who are a good fit for their programs. Fundamentally, it's important to recognize that all applicants are not identical, just as all programs are not the same. In deciding on the appropriate fit between an applicant and a program, more data is always better than less. Any objective data, used appropriately in context (and in combination with the available subjective data), makes any application more complete and should therefore not be excluded.

References

Blanchard J. Board scores and resident performance: is there a link? *Ann Emerg Med.* 2000;36:64-67

Brateanu A, Yu C, Kattan MW, et al. A nomogram to predict the probability of passing the American Board of Internal Medicine examination. *Med Educ Online* 2012, 17: 18810

Cheney MA, Dimeola MA, Nagy CJ. Predicting success: does performance on the anesthesia knowledge test – 6 (AKT-6) correlate with the American Board of Anesthesiology (ABA) licensing exam first-time pass rate? *Journal of Education Periop Medicine* 2014;16:67

Freidman RB. Fantasy Land. *N Engl J Med* 1983;308:651-653

Harmouche E, Goyal N, Pinawin A, et al. USMLE scores predict success in ABEM initial certification: A multicenter study. *West J Emerg Med*. 2017;18:544-549.

McClintock JC, Gravlee GP. Predicting success on the certification examinations of the American Board of Anesthesiology. *Anesth* 2010; 112:212–9

Nagasawa DT, Beckett JS, Lagman C, et al. United States medical licensing examination step 1 scores directly correlate with American Board of Neurological surgery scores: A single-institution experience. *World Neurosurg*. 2017;98:427-431.

Norcini JJ, Boulet JR, Opalek A, Dauphinee WD. The relationship between licensing examination performance and the outcomes of care by international medical school graduates. *Acad Med* 2014;89:1157–1162

Picarsic J, Raval JS, Macpherson T. United states medical licensing examination step 1 two-digit score. a correlation with the American Board of Pathology first-time test taker pass/fail rate at the University of Pittsburgh Medical Center. *Arch Pathol Lab Med* 2011;135:1349–1352

Roberts WL, Gross GA, Gimpel JR, et al. An investigation of the relationship between COMLEX-USA licensure examination performance and state licensing board disciplinary actions *Acad Med*: October 15, 2019, published ahead of print

Rollins LK, Martindale JR, Edmond M, et al. Predicting pass rates on the American Board of Internal medicine certifying examination. *J Gen Intern Med* 1998;13:414–416.

Welch TR, Olson BG, Nelsen E, et al. United states medical licensing examination and American Board of Pediatrics certification examination results: does the residency program contribute to trainee achievement. J *Pediatr.* 2017;188:270-274.