

Is the Advanced Dental Admission Test (ADAT) the Metric Needed to Assist with Postgraduate Admissions? Two Viewpoints

Viewpoint 1: The ADAT Provides a Viable Solution to Help Postgraduate Programs Differentiate Applicants

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Viewpoint 2: The ADAT Has Questionable Utility and Value for Postgraduate Admissions

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Abstract: In 2012, when the National Board Dental Examination (NBDE) was changed from a numerical scoring system to pass/fail, advanced dental education programs lost a metric widely used for differentiating applicants to those programs. The American Dental Association (ADA) has developed the Advanced Dental Admission Test (ADAT) to address this issue. Implementation of the ADAT began in 2016 with a pilot program, which has not yet been widely accepted in the overall admissions process. This Point/Counterpoint explores the benefits and challenges of using the ADAT for postgraduate admissions. Viewpoint 1 supports use of the ADAT, arguing that the test provides a viable, long-term solution to this immediate need. In contrast, Viewpoint 2 questions the need for and appropriateness of this additional academic measure for postgraduate admissions.

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In 2012, when the National Board Dental Examination (NBDE) was changed from a numerical scoring system to pass/fail, advanced dental education programs lost a metric widely used for differentiating applicants to those programs.¹ The American Dental Association (ADA) developed the Advanced Dental Admission Test (ADAT) to address this issue.² The ADAT began its pilot program for participating dental schools and applicants in 2016. In this Point/Counterpoint, Viewpoint 1 supports the ADA's development of the ADAT, arguing that the test provides a viable, long-term solution to this immediate need, while Viewpoint 2 questions the need for and appropriateness of this additional academic measure for postgraduate admissions (Table 1).

Viewpoint 1: The ADAT Provides a Viable Solution to Help Postgraduate Programs Differentiate Applicants

The admissions process for an educational institution at any level requires that applicants be impartially measured and fairly differentiated from other qualified candidates. Aside from meeting the needs of these programs, dental students who are graduating from accredited programs and applying

Table 1. Summary of main points in Viewpoint 1 and Viewpoint 2

Viewpoint 1 For ADAT Implementation	Viewpoint 2 Against ADAT Implementation
<p>ADAT will address the following challenges for postgraduate admissions:</p> <ul style="list-style-type: none">• All dental schools grade differently (GPA, letter grades, pass/fail)• Boards only demonstrate competence for general dentistry requirements• Objective instrument needed to distinguish candidates among >50,000 applications• Unlike NBDE, the ADAT will selectively test only interested postgraduate candidates <p>Well-designed implementation:</p> <ul style="list-style-type: none">• Pilot infrastructure allows for proper implementation and validation• Inexpensive compared to NBDE Parts I and II and total cost of dental education	<p>ADAT is a less comprehensive exam:</p> <ul style="list-style-type: none">• 800 items (NBDE Parts I and II) vs. 200 items (ADAT)• Redundant material from NBDE Parts I and II• Not specific to a given specialty <p>Research supporting the ADAT is inadequate:</p> <ul style="list-style-type: none">• Inaccurately describes interest in ADAT• Recall and selection bias may be present <p>Does not capture qualities most preferred by program directors:</p> <ul style="list-style-type: none">• Academic talent was least desired measure <p>Potential challenges:</p> <ul style="list-style-type: none">• Lack of consideration for alternative testing and methodology• The ADAT will not be a universally accepted measure

to advanced dental education programs are particularly concerned with benefiting from an objective measure. The American Dental Education Association (ADEA) reported that, in 2015-16, over 50,000 applications were submitted to all U.S. specialty and residency programs.³ The applicants who submitted these applications included practicing dentists, foreign-educated dentists, and graduates of other postgraduate programs; but the majority were recent dental school graduates. After persevering through the rigorous curriculum of dental school, applicants deserve a fair and objective admissions process if they decide to pursue advanced dental education.

The NBDE, taken in two parts during the pursuit of a DMD/DDS degree, requires students to demonstrate their competence in didactic and clinical skills. The purpose of dental school is to prepare graduates to practice as general dentists, and this viewpoint argues that this mission is validated in the current pass/fail assessment of the NBDE that allows students to focus on their current education, rather than seeking extraordinary grades on the NBDE to support their applications for advanced dental education. In 2007, prior to the change to pass/fail, educators associated with the NBDE emphasized that “National Board exam results are not intended to compare individuals or groups of candidates . . . or to show gradients of achievement or ability.”⁴ The change to pass/fail is not exclusive to the NBDE; the ADA noted in 2015 that “A number of dental schools have moved away from GPA and are reporting grades as pass/fail” (p. 5).² The NBDE previously doubled as a requirement

for prospective general dentists to enter the profession and as a metric to differentiate candidates for postgraduate programs of study. The recent change to pass/fail focuses Parts I and II of the NBDE solely as a requirement for entrance into the dental profession. When that change was announced, some began to call for a new national examination to fill the second purpose.¹ The ADAT is the solution to this problem.

The viability of the ADAT is supported by the development and oversight measures surrounding implementation of the new exam. The Joint Commission on National Dental Examinations (JCNDE) oversees all dental board examinations, whereas the ADA’s Council on Dental Education and Licensure (CDEL) oversees admission tests such as the Dental Admission Test (DAT) and now the ADAT. The ADA’s Department of Testing Services (DTS) selects members for each Test Construction Committee (TCC) to develop board examination and admission test questions for the JCNDE and CDEL. The DTS is concerned with ensuring validation of the ADAT, and with the support of TCCs, the DTS can adapt the ADAT over the course of time. The ADAT consists of 200 standardized questions; the overall test is scored from 200 to 800. This test is designed to “identify the most qualified, strongest candidates.”² After the pilot program in 2016, the ADAT will become the standard of testing for postgraduate applicants into the future.

The pilot year of the ADAT will allow for modifications to be incorporated into the subsequent postgraduate admissions cycles. All prospective applicants to advanced dental education programs have

completed the same prerequisites, and the ADAT will objectively test the material from these prerequisites as a national standard. The ADAT will provide a validated measure to select qualified candidates for postgraduate programs.² This objective method of examination will provide insight into the test-takers' abilities and critical thinking skills, rather than their ability to demonstrate specialty-specific knowledge. This approach emphasizes a test-taker's ability to apply knowledge in a critical setting rather than measuring his or her prior knowledge or experience with a specialty.

The ADAT will also lift an unnecessary burden from dental students, allowing those who do not plan to pursue advanced education to focus on demonstrating their abilities to become a competent general dentist (through the NBDE) and relieving them of the need to differentiate themselves from their peers. In 2015-16, only 34% of graduating dental students intended to pursue postgraduate education, so the majority may not take the ADAT.³ When the NBDE was graded numerically and standardized, applicants were differentiated from all dental students rather than only prospective candidates interested in pursuing specialties or postgraduate studies. The purpose of the ADAT is to apply concepts from the basic sciences, clinical sciences, and patient management in an objective setting.² Applicants may take this test whenever they feel prepared. The nominal cost (\$250 pilot program, \$350 subsequent years) of the test to cover administrative costs in developing, scoring, and ensuring its quality over time is not an overly burdensome expense for a prospective candidate, especially in light of the candidate's career choice. This new testing process will better reflect the quality of an applicant, and the ADAT will give admissions committees a vital metric in the complex process of selecting candidates for postgraduate education.

When the NBDE was changed to pass/fail, Fagin et al. found that most advanced dental education program directors desired an instrument to supplement applications for postgraduate studies.⁵ While some dental students may not welcome the prospect of another high-stakes standardized test that is scored from 200 to 800, as is the Scholastic Aptitude Test (SAT), this viewpoint argues that, with the infrastructure in place regarding validation and adaptation, the ADAT will limit the subjective measures currently used in admissions processes. With the loss of grades on the NBDE, students, specialty programs, admissions officers, and our profession will benefit from implementation of the ADAT.

Viewpoint 2: The ADAT Has Questionable Utility and Value for Postgraduate Admissions

A presentation released by the ADA in 2015 to promote the ADAT argues that both prospective candidates and directors of advanced dental education programs desire a numerically scored exam such as the ADAT to differentiate candidates.² To support the point that an exam such as the ADAT is preferred by prospective candidates, the ADA presentation cites a 2014 study by Fagin et al. in which 1,800 dental students were surveyed to assess the impact of the NBDE changing from a numeric score to pass/fail. The ADA included the following quotation from the Fagin et al. study: "Eighty percent of our respondents wanted some form of a scored exam regardless of their school's grading practices, whether that is a scored NBDE Part I, an additional entrance exam common to all specialties, or additional specialty-specific entrance exams. The students clearly perceived that entering their application into an extremely competitive and growing applicant pool without a standardized measure could potentially hurt their chances of getting an interview."⁶ However, using that study's results in that way is misleading. The question asked of students in the survey was "What do you feel would be the best way to differentiate yourself to residency programs?" When responses to the first three responses are totaled, it is correct to state that 82% of the respondents wanted "some form of a scored exam." However, of the four response options to that question, only 11.2% of the respondents chose the response "separate exam common to all specialty programs"—which is the concept of the ADAT. The remaining 88.8% did not prefer an ADAT type of exam because they selected a different response (Table 2).

Another problem with using the results of that study in that way is that a study designed to assess the interest of students to participate in the ADAT should assess the opinions and attitudes of only those individuals who would be affected. Also by design, the use of the ADAT for candidate selection will only affect those individuals who are interested in pursuing an advanced dental education program. Interestingly, this study by Fagin et al. also breaks down the responses of the above question by students

Table 2. Dental students' preferred way to differentiate themselves from other applicants to residency programs, by percentage and number of total respondents (N=1,825)

Way to Differentiate Oneself	Percentage (Number)
NBDE Part I with numerical score	40.3% (735)
Pass/fail NBDE Part I with separate, specialty-specific exams	30.5% (556)
Pass/fail NBDE Part I with separate exam common to all specialty programs	11.2% (205)
Pass/fail NBDE Part I without additional exam	18.0% (329)

Note: The question was worded as follows: "What do you feel would be the best way to differentiate yourself to residency programs?"

Source: Fagin AP, Howell TH, Da Silva J, Park SE. The impact on dental students of changes to the national board dental examination grading system. *J Dent Educ* 2014;78(6):813-22.

who were interested in specializing versus students who were neutral or not interested in specializing.⁶ (It appears that fellowships, GPR, or AEGD residencies were not considered in the study design.) In total, 1,192 dental students were interested in pursuing a specialty (550+642), of which 118 (46+72) preferred the option of an "exam common to all specialty programs." Reanalysis of this study's findings shows that, when considering only the responses of the dental students interested in pursuing a specialty, only 9.9% preferred the option of an "exam common to all specialty programs" such as the ADAT. Consequently, the results of that study best described a situation in which 90% of potential candidates did not prefer the concept of the ADAT in contrast to the characterization that 80% of students would embrace a graded examination such as the ADAT.

Although that study by Fagin et al. provided valuable insight into the impact of the NBDE changes on students, its study design was not specific to an inquiry about the ADAT. In fact, the study may not have been intended to validate the concept of the

ADAT; however, it has inadvertently contributed to the implementation of the ADAT since the ADA cited it to promote development of the new exam. Although the sample size of that study was substantial, the relatively low response rate (18.5%) of all potentially eligible U.S. dental students should be taken into consideration.⁶ In addition, the study sample did not accurately capture the target population of prospective candidates for advanced dental education programs since not all students will pursue postgraduate studies. Consequently, selection bias may have inadvertently influenced the study results, and the authors acknowledged that respondents' information from 18 months prior introduced the possibility of recall bias.

A study, also by Fagin et al., to analyze the perceptions of postgraduate program directors found that only 13% of 261 responding directors preferred an entrance exam that would be common to all specialties, such as the ADAT.⁵ In contrast, it could be said that 87% of these directors did not prefer the concept of the ADAT by selecting a response other than an "entrance exam common to all specialties." These findings are comparable to those in the similar study of dental students, thus showing a consensus that the vast majority of students and postgraduate program directors do not prefer the concept of the ADAT.

Nevertheless, the ADA has promoted the ADAT with the claim that program directors want such an exam, citing a 2014 survey in which 63% of directors of advanced dental education programs "indicated they are likely or extremely likely to require program applicants to take the ADAT."²² However, in an ADEA report published in 2010, prior to the NBDE Part I becoming pass/fail, directors of advanced dental education programs were asked to rank their most important qualities in selecting a postgraduate candidate.⁷ Of the ten qualities, academic talent was in last place (Table 3). Academic talent typically

Table 3. Most important qualities in applicants according to advanced dental education program directors

Most Important Quality
1. Team player
2. Assumes responsibility
3. Integrity
4. Interpersonal/communication skills
5. Reliability
6. Critical thinking skills
7. Clinical skills
8. Initiative
9. Maturity
10. Academic talent

Source: Anderson EL. Findings from survey of advanced dental education program directors. Washington, DC: American Dental Education Association, 2010.

refers to a candidate's performance in terms of educational record or transcript, but the NBDE Parts I and II already provide a national, objective standard to confirm one's academic talent. The ADAT will be a new test that will again demonstrate academic talent, a skill that program directors rank at the bottom among their desired qualities of applicants. This measure of academic talent is met by simply passing NBDE Parts I and II. According to Neumann and MacNeil, speaking for the JCNDE, while "there will be a substantial overlap between the content of dental curricula and the National Board exams . . . not all topics deemed appropriate for each school's mission and curriculum will be important for the purposes of demonstrating competence for safe, entry-level dental practice"—the objective of the NBDE.⁴ Nevertheless, the NBDE Parts I and II, four years of dental school, and now the ADAT examine dental students on essentially the same information, raising the question: how many times must a student demonstrate knowledge of the same material?

The ADAT focuses almost entirely on academic talent by assessing areas such as "Biomedical Sciences, Clinical Sciences, Data and Research Interpretation, Professional Ethics, and Patient Management."⁸ In addition, the vast majority of item sections on the NBDE Parts I and II are copied and pasted into the item sections of the ADAT.⁸⁻¹⁰ Given the ADEA report of program directors' applicant preferences, an advanced admissions test should address more of those qualities and less from the NBDE. NBDE Parts I and II are comprised of a total of 800 questions, whereas the ADAT is comprised of 200 questions on essentially the same information. In other words, the question topics from NBDE Parts I and II are condensed into fewer questions on the ADAT. For example, the section "orthodontics/pediatric dentistry" is on both the NBDE Part II and the ADAT. This section has 52 questions on the NBDE Part II, whereas the same section has an average of seven questions on the ADAT.^{8,10} Yet, the ADAT, which is a far less comprehensive measure, is the exam that will be used to select candidates for advanced dental education programs.

Advanced dental education program directors have reported that applicants must demonstrate a broad range of qualities and are looking for this range to be represented in an application.⁷ Those programs currently rely on personal statements and letters of recommendation to assess some of these qualities, but those methods are not reliable, objective, or comparable. Designing an all-encompassing examination

for these considerations may be a difficult though not impossible undertaking. Nevertheless, research to understand how to appropriately test for these qualities should be conducted for the sake of prospective candidates and advanced dental education programs.

The ADA's CDEL analyzed the prospect of an ADAT by questioning program directors' willingness to accept this new examination.² That study's dispersal, retrieval, analysis, recommendation, and approval occurred over a timespan of two months. The ADA's briefing for the ADAT did not describe analysis of any alternative measure by CDEL over this period. The research cited by the ADA briefing for the ADAT does not indicate that the ADAT is the long-term solution for this immediate problem. As of May 15, 2016, 204 programs have responded on how they will interpret the ADAT pilot program: 49 (24.0%) will "require" the ADAT for prospective students, while 93 (45.6%) will "accept" and 62 (30.4%) will "not accept" it as part of their application.¹¹ Although participation may increase over time, those numbers suggest the ADAT will not be a universally accepted measure.

The ADAT is not the only new examination being introduced around this time. The JCNDE will be implementing the Integrated National Board Dental Examination (INBDE) in 2020 and phasing out Parts I and II of the NBDE. The INBDE will be scored pass/fail. As more details become public on the design and quality of the INBDE, this information may impact the development and adaptation of the ADAT. A further discussion of the INBDE's influence on the implementation of the ADAT may be warranted.

Foreign-educated dentists applying to U.S. postgraduate programs pose another question regarding the ADAT. Additional measures are required in their application through the ADEA Centralized Application Advanced Placement for International Dentists (CAAPID), such as the Test of English as a Foreign Language (TOEFL). Depending on these applicants' educational background and dental school attended, resources such as Educational Credential Evaluators (ECE) or World Education Services (WES) are needed to translate transcripts into English and evaluate courses on an individual basis. This step can determine eligibility for testing and admissions of foreign-educated dentists. It is unclear what impact the ADAT will have on their applications to postgraduate programs. Interestingly, a 2004 study of these applicants concluded that the graded NBDE II and dexterity measures were significant predictors

of academic performance and clinical competence in U.S. programs, with the NBDE I, TOEFL, and faculty interviews adding no significant help in predicting academic performance.¹²

The ADA briefing cited the need for an objective measure of postgraduate applicants.² However, the test must reflect its purpose. The limited research has shown that students and directors desire a broader examination that encompasses the range of skills needed to excel in an advanced dental education program. Instead of critical thinking and academic talent, which are heavily concentrated in the ADAT, alternative solutions should be considered and researched along with the pilot ADAT. A standardized test to examine all the qualities desired by program directors would be difficult to design and implement. Regardless of the field of study, the admissions process for any institution is challenging to manage. Alternative measures such as clinical exams, patient case presentations, and psychological tests may provide better evidence of the qualities sought in candidates. After completing undergraduate and graduate programs, passing board exams, incurring an enormous financial burden, practicing in patient care, and investing vast amounts of time, applicants deserve a better measure of their skills and experiences than will be provided with the ADAT.

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