

The Advanced Dental Admission Test (ADAT) Program

ADA Department of
Testing Services

April 29, 2016

ADA American Dental Association®

Overview

- ADAT Purpose
- Impetus for Development
- Program Oversight
- Test Content, Design, and Construction
- Test Administration Schedule
- Administration, Eligibility, and Retest Policy
- Scoring, Reporting, and Results Interpretation
- Resources and Communication
- ADAT and NBDE: A Key Comparison

Purpose

- The Advanced Dental Admission Test (ADAT) is a computer based examination designed to provide advanced dental education programs with insight into applicants' potential for success in their program.
- The ADAT is a professionally developed, content valid examination containing questions written by dental subject matter experts.
- The ADAT enables programs to quantitatively compare applicants using a nationally standardized and objective test.
- The ADAT can be used in conjunction with other assessment tools to help inform program admission decisions.

Why Develop an Advanced Dental Admission Test?

- The Joint Commission on National Dental Examinations no longer reports candidate scores for those who pass NBDE Part I and NBDE Part II (January 2012).
- Advanced dental education programs had been using NBDE results to inform admission decisions.
- A number of dental schools have moved away from GPA and are reporting grades as pass/fail.
- Advanced dental education programs are seeking other ways to compare program applicants.
- Both program directors and students have expressed concern about how qualifications will be assessed in the admission process.

Why Develop an Advanced Dental Admission Test?

- Fagin, Howell, Da Silva, and Park (2014) conducted a survey of US dental students.
- Students were “members of either the last class to take the NBDE Part I for a numerical score, or the first class to take the NBDE Part I without a numerical score.”
- 1,843 students responded (18.5% of the target population)

Why Develop an Advanced Dental Admission Test?

“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.”

Fagin, Howell, Da Silva, and Park (2014, p.820)

Why Develop an Advanced Dental Admission Test?

- Fagin, Howell, and Park (2015) conducted a survey of directors of postgraduate programs participating in ADEA PASS.
- 326 of 598 surveyed directors responded (54.5% response rate).
- 71% of directors indicated it was more difficult to select interview candidates.
- 76% indicated a desire for a standardized, numerically scored examination to aid in the admission process.

Why Develop an Advanced Dental Admission Test?

The study authors further noted that applicants from dental schools that do not report GPA or class rank are particularly at a disadvantage.

“These applicants are now missing all three of the most important aspects of their pre-interview application (class rank, GPA, and NBDE Part I score). According to the results of our study, the most important part of these students’ applications has now become letters of recommendation.”

Fagin, Howell, and Park (2015, p.366-367)

The ADA's Response

- ADA's Council on Dental Education and Licensure (CDEL) endorsed creation of a business plan to develop the ADAT (May 2014).
- CDEL distributed a survey to 739 directors of advanced dental education programs to assess demand for the ADAT (October 2014).
 - Survey response rate: 63% (464/739)
 - 294 program directors (63% of respondents) indicated they were likely or extremely likely to require program applicants to take the ADAT.

The ADA's Response

- 150 program directors (32% of respondents) voiced interest in participating in ADAT administrations beginning in 2016, and would require all applicants take the exam.
- CDEL reviewed survey results and the ADAT business plan, and recommended that the ADA pursue development of the ADAT (November 2014).
- ADA Board of Trustees approved development of the examination (December 2014).

ADAT Program Oversight

- The ADA's Council on Dental Education and Licensure (CDEL) oversees ADAT policies.
- CDEL's Committee on Dental Admission Testing (CDAT) monitors the program and makes recommendations to CDEL concerning policies.
- The ADA's Department of Testing Services (DTS) implements the ADAT program under the direction of CDEL and its CDAT.

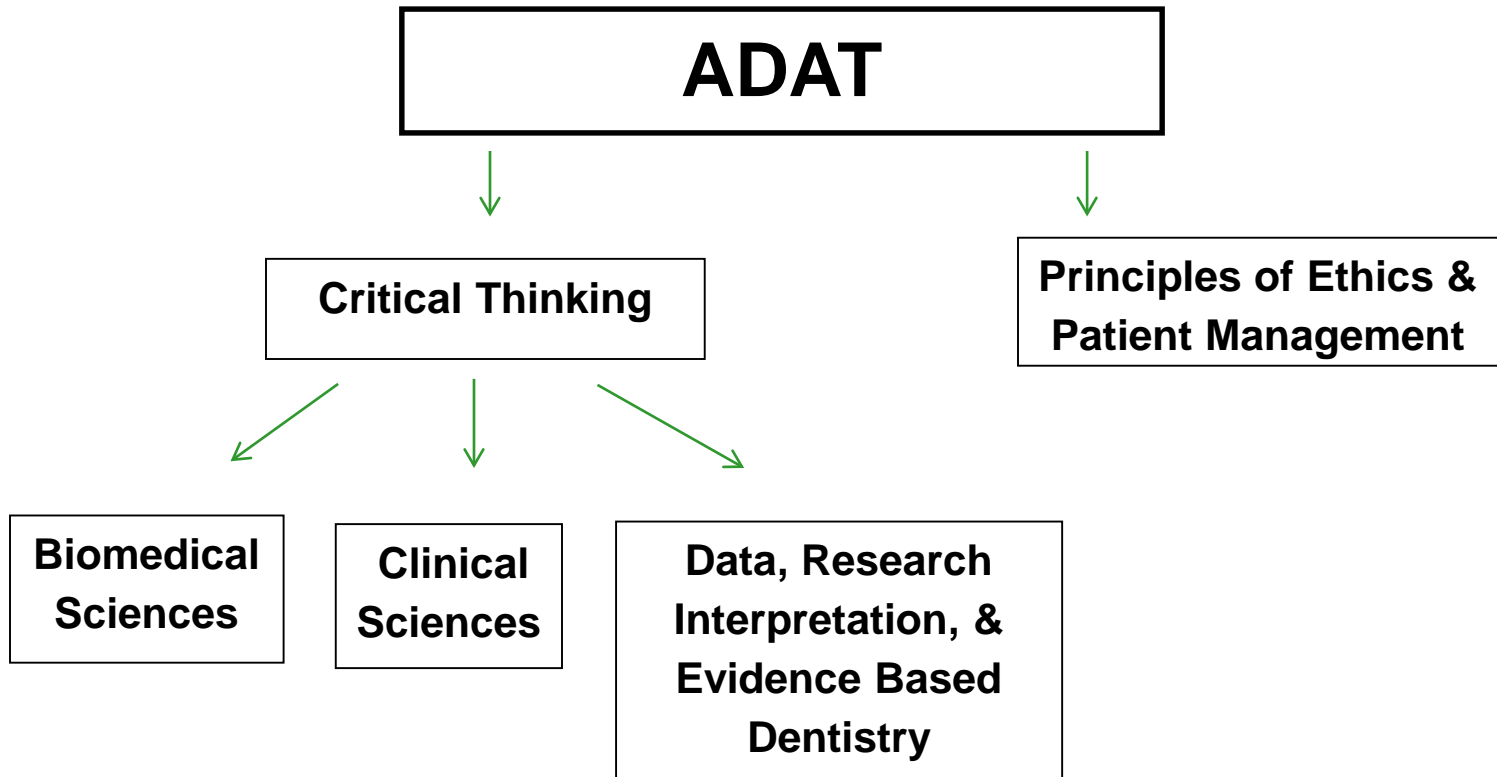
Candidates

The ADAT is designed for administration to individuals seeking admission to advanced dental education programs:

- 3rd and 4th year dental students
- U.S. dentists interested in post-graduate training or degrees
- International dental students/graduates applying to advanced dental education programs or advanced standing in pre-doctoral programs.

Test Content

ADAT content is structured as follows:



Test Specifications

- ADAT content areas were identified through analysis of findings of an ADA Advanced Dental Admission Test Task Force Report and ADEA/FADEA project.
- ADAT test specifications for the biomedical and clinical sciences mirror NBDE Part I and NBDE Part II test specifications, respectively.
- The ADAT has far fewer items than the NBDE, so item development requirements have been proportionally reduced.
- ADAT item development and NBDE item development occurs independently.

Test Specifications Overview

Number of Items per Subject		
Critical Thinking	Biomedical Sciences	80
	Clinical Sciences	60
	Data, Research Interpretation, and Evidence Based Dentistry	30
Principles of Ethics and Patient Management		30
TOTAL		200

Test Specifications

Biomedical Sciences (80)

Anatomic Sciences

Biochemistry-Physiology

Microbiology-Pathology

Dental Anatomy-Occlusion

Clinical Sciences (60)

Endodontics

Operative Dentistry

Oral and Maxillofacial Surgery / Pain Control

Oral Diagnosis

Orthodontics / Pediatric Dentistry

Periodontics

Pharmacology

Prosthodontics

Case-based items

Data, Research Interpretation, and Evidence Based Dentistry (30)

Study Design

Data Analysis

Result Interpretation

Inference and Implication

Principles of Ethics and Patient Management (30)

Professional Ethics

Communication & Interpersonal Skills

Anxiety & Pain Control

Health Behavior Change

Disabled & Medically Compromised

Epidemiology

Prevention of Oral Diseases

Infection Control

Materials & Equipment Safety

Professional Responsibility/Liability

Test Construction Committees

- Test Construction Committee (TCC) meetings were convened for each section of the ADAT.
- TCCs relied on existing DTS Item Writing Guidelines, and also incorporated a new method of presenting patient information (the Patient Box).
- The call for TCC members is made on an annual basis by the ADA's Department of Testing Services.
- Test specification changes will occur over time, and will be made based on recommendations from the TCCs, with final approval by CDEL.
- A 100-item practice test was also created to help familiarize examinees with the ADAT.

Practice Test Sample Items

3. Which stratum layer of the epidermis contains stem cells undergoing mitosis?
- A. Basale
 - B. Corneum
 - C. Granulosum
 - D. Lucidum
 - E. Spinosum

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- A. **Basale**
 - B. Corneum
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Practice Test Sample Items

4. What inflammatory cell would predominate in chronic sialadenitis if a biopsy is performed?
- A. Eosinophils
 - B. Lymphocytes
 - C. Macrophages
 - D. Neutrophils

Practice Test Sample Items

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 - B. Lymphocytes**
 - C. Macrophages
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The Patient Box

- The ADAT utilizes a new item presentation format known as the Patient Box.
- The Patient Box was developed with the Committee for an Integrated Examination, in conjunction with development of the Integrated National Board Dental Examination (INBDE).

Patient History Chart

SAMPLE TESTLET		SCENARIO
Age	65 YRS	<p>The patient presents for replacement of a filling in tooth 19. He reports that he lost the filling over a year ago, but he delayed seeking care because the tooth has not been sensitive. Upon examination, tooth 19 has a missing occlusal restoration and a fractured ML cusp.</p> <p>Extraoral examination revealed mild actinic damage of his lower lip vermilion border.</p>
Sex	<input checked="" type="checkbox"/> Male <input type="checkbox"/> Female	
Height	5' 09"	
Weight	240 LBS	
B/P	170/100	
Chief Complaint	"I lost the filling in my back tooth."	
Medical History	last saw his physician 2 years ago father died of heart attack at age 52	
Current Medications	diuretic for hypertension statin for hypercholesteremia low dose aspirin	
Social History	married, grown children retired construction foreman has smoked a pipe daily for 25 years	

The Patient Box

Patient
Female, 28 years old.
Chief Complaint
“I haven’t been able to open my mouth for two days.”
Background and/or Patient History
Three days prior, left mandibular third molar extraction.
Current Findings
Maximum opening is 10 mm

Practice Test Sample Items

Patient
Male, 20 years old
Chief Complaint
"My gums bleed every time I brush my teeth."
Background and/or Patient History
Uncontrolled type 1 diabetes Recent hospitalization after automobile accident
Current Findings
Aggressive periodontitis Elevated HbA1c Radiographic evidence of alveolar bone loss

9. How might the stress of the automobile accident have impacted glucose control?
- A. Decreased glucose control due to cortisol release
 - B. Decreased glucose control due to glucagon release
 - C. Increased glucose control due to epinephrine release
 - D. Increased glucose control due to norepinephrine release

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Practice Test Sample Items

Patient

Female, 85 years old

Chief Complaint

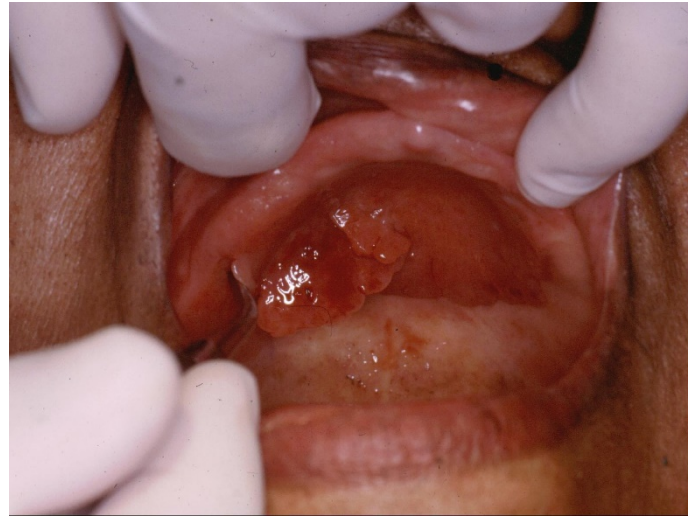
"I don't like the way my dentures look."

Background and/or Patient History

Osteoarthritis
Right hip replacement 10 years ago
Moderate hypertension controlled with a calcium channel blocker
Patient reports well-fitting dentures

Current Findings

Lesion as shown in associated image
Patient unaware lesion bleeds when manipulated, denies pain
Lesion is attached to the palatal tissue through a 10mm pedunculated base



45. What is the first step in management of this patient?
- A. Perform an excisional biopsy
 - B. Perform an incisional biopsy
 - C. Perform a soft acrylic relines of the existing denture
 - D. Request the patient remove the denture for two weeks and re-evaluate

Practice Test Sample Items

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Female, 85 years old

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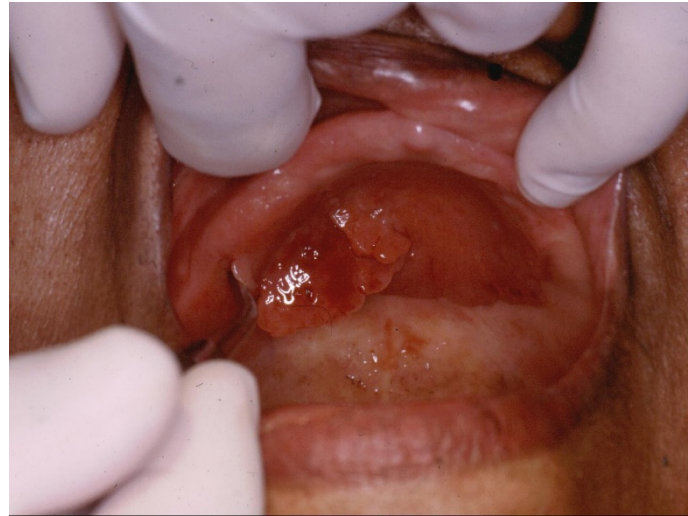
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Patient Box: Patient Section

Patient
Female, 28 years old.
Chief Complaint
"I haven't been able to open my mouth for two days."
Background and/or Patient History
Three days prior, left mandibular third molar extraction.
Current Findings
Maximum opening is 10 mm



Section	Patient
Description	<ul style="list-style-type: none"> This section presents patient demographic characteristics (gender, age, and potentially ethnicity).
Presentation Format	<ul style="list-style-type: none"> Male or Female, x years old. Ethnicity may be included if relevant.
Example	<ul style="list-style-type: none"> Female, 28 years old.

Patient Box: Chief Complaint Section

Patient
Female, 28 years old.
Chief Complaint
"I haven't been able to open my mouth for two days."
Background and/or Patient History
Three days prior, left mandibular third molar extraction.
Current Findings
Maximum opening is 10 mm



Section	Chief Complaint
Description	<ul style="list-style-type: none"> This section presents the chief complaint as described by the patient or a guardian.
Presentation Format	<ul style="list-style-type: none"> If quoted directly from the patient, enclose the statement in quotation marks and voice the statement in the first person.
Example	<ul style="list-style-type: none"> "I've been unable to open my mouth for two days."

Patient Box: Background/Patient History

Patient
Female, 28 years old.
Chief Complaint
"I haven't been able to open my mouth for two days."
Background and/or Patient History
Three days prior, left mandibular third molar extraction.
Current Findings
Maximum opening is 10 mm

Section	Background/Patient History
Description	<ul style="list-style-type: none"> This section presents background information such as history of dental diagnosis and treatment, medical conditions, allergies, social history, etc.
Presentation Format	<ul style="list-style-type: none"> The information is assumed to be factual and provided by the treating dentist.
Example	<ul style="list-style-type: none"> Three days prior, left mandibular third molar extraction.



Patient Box: Current Findings Section

Patient
Female, 28 years old.
Chief Complaint
"I haven't been able to open my mouth for two days."
Background and/or Patient History
Three days prior, left mandibular third molar extraction.
Current Findings
Maximum opening is 10 mm



Section	Current Findings
Description	<ul style="list-style-type: none"> This section presents information collected by dental professionals during the current visit.
Presentation Format	<ul style="list-style-type: none"> Can include information such as height and weight, vital signs, results of diagnostic tests, and a general assessment of the patient condition.
Example	<ul style="list-style-type: none"> Facial edema Lymphadenopathy Extensive apical radiolucency associated with tooth 6 Temp. 100.3° Blood glucose 240 mg/dL BP 150/93

Administration

- Administration dates (3 ½ month testing window):
 - May 16 through August 31 of 2016 (first year)
 - April through July in subsequent years
 - Testing windows lessen the possibility and implications of test content security breaches, thereby protecting the validity of the examination.
- Retesting policy
 - Candidates may test two times per calendar year, and are limited to two testing attempts separated by a minimum of 45 days.
 - After two testing attempts, candidates must provide DTS with proof they are actively applying to advanced dental education programs.
- Program Participation
 - A list of participating advanced dental education programs is posted on the ADAT website.

Eligibility for ADAT Administration

ADAT eligibility criteria closely resemble criteria for the National Board Dental Examinations. Eligibility is based on the candidate's current status.

Training	Status	Action Required
CODA Accredited Dental School	Student	School is responsible for approving the candidate's eligibility.
	Graduate	Candidate must send proof of graduation to DTS. Eligibility approved after receipt of reasonable proof.
Non-Accredited Dental School	Student	Candidate requests an Educational Credential Evaluators (ECE) electronic report to certify status as a current dental student.
	Graduate	Candidate request an ECE electronic report to confirm dental degree.

Fees

- 2016 ADAT fees:
 - Examination fee*: \$250
 - Additional ADAT score reports**: \$35
 - Non-accredited candidate processing fee: \$125

* Rate for first year, recently reduced from \$350.

** This Score Report fee covers score report requests made after the time of application. Score report requested at the time of application are processed at no additional charge.

Test Administration Schedule

Content	Minutes
<i>Tutorial</i>	15
Biomedical Sciences	90
<i>Break</i>	10
Data, Research Interpretation, and Evidence Based Dentistry	30
<i>Break</i>	10
Clinical Sciences	70
<i>Break</i>	10
Principles of Ethics and Patient Management	30
<i>Post-exam Survey</i>	5
Total	4 hours 30 minutes

Scoring

- ADAT scores will ultimately be reported as scale scores ranging from 200 and 800, with a target mean of 500 and a target standard deviation of 100. Scores will be reported in increments of 10.
- Scores will be reported for the following six scales:
 1. ADAT Score: an overall score that is computed based on performance on all ADAT items
 2. Critical Thinking
 3. Principles of Ethics and Patient Management
 4. Biomedical Sciences
 5. Clinical Sciences
 6. Data and Research Interpretation.
- The number of correct responses will NOT be reported. Examinees will NOT receive immediate feedback concerning their test results.
- Scores will be reported to the programs selected by the candidate at the time of application. Additionally, if a candidate requests their results be sent to any advanced dental education program, their results will also be made available to ADEA PASS and distributed to all programs that participate in ADEA PASS.

Reporting

- ADAT scores will be made available through ADEA PASS, and an online score reporting portal (DTS Hub) developed by the ADA. The following timetable applies.


PRELIMINARY SCORE RESULTS		
Test Administration Period	Results posted in ADAT Candidate's "My Account"	Results available to Advanced Dental Education Program Directors
May 16, 2016 to June 30, 2016	July 15, 2016	July 15, 2016
July 1, 2016 to July 31, 2016	August 12, 2016	August 12, 2016
August 1, 2016 to August 31, 2016	September 9, 2016	September 9, 2016

OFFICIAL SCORE RESULTS		
Test Administration Period	Results posted in ADAT Candidate "My Account"	Results Available for Advanced Dental Education Program Directors and Dental School Deans
May 16, 2016 to August 31, 2016	September 15, 2016	September 15, 2016


- Preliminary score results will be reported as percentiles (not scale scores). **THESE PERCENTILES WILL CHANGE WITH EACH TEST ADMINISTRATION PERIOD, AS THE TOTAL NORM GROUP INCREASES.** Reported candidate percentiles will thus change at each reporting interval (July, August, and September). Final scale scores will be reported on September 15, 2016.

Results Interpretation

- A User's Guide is available to assist programs with results interpretation. It includes information such as the following:
 - Utilization of ADAT Results in Admission Decisions
 - Evidence Supporting Use of the ADAT
 - ADAT Content and Scales
 - Interpretation of ADAT Results
 - Guidelines for Interpreting and Applying ADAT Results
- Norms will be available at the conclusion of the testing window.



Using the Advanced Dental Admission Test (ADAT) for Admission Purposes: **A Guide for Advanced Dental Education Programs**



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America's leading advocate for oral health

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Use of ADAT Results in Admission Decisions

- With respect to ADAT participation in 2016, programs may require, accept, or not accept ADAT results at their own discretion.
- Programs make their own decisions as to the use of ADAT results in admission decisions.
 - For example, those who “require” ADAT results can simply “collect and evaluate” those results.
- Admission decisions should consider available validity evidence that supports current admission tools, as well as evidence supporting use of the ADAT.
- Programs should base their decisions on the tools that have the greatest validity in supporting admission decisions.

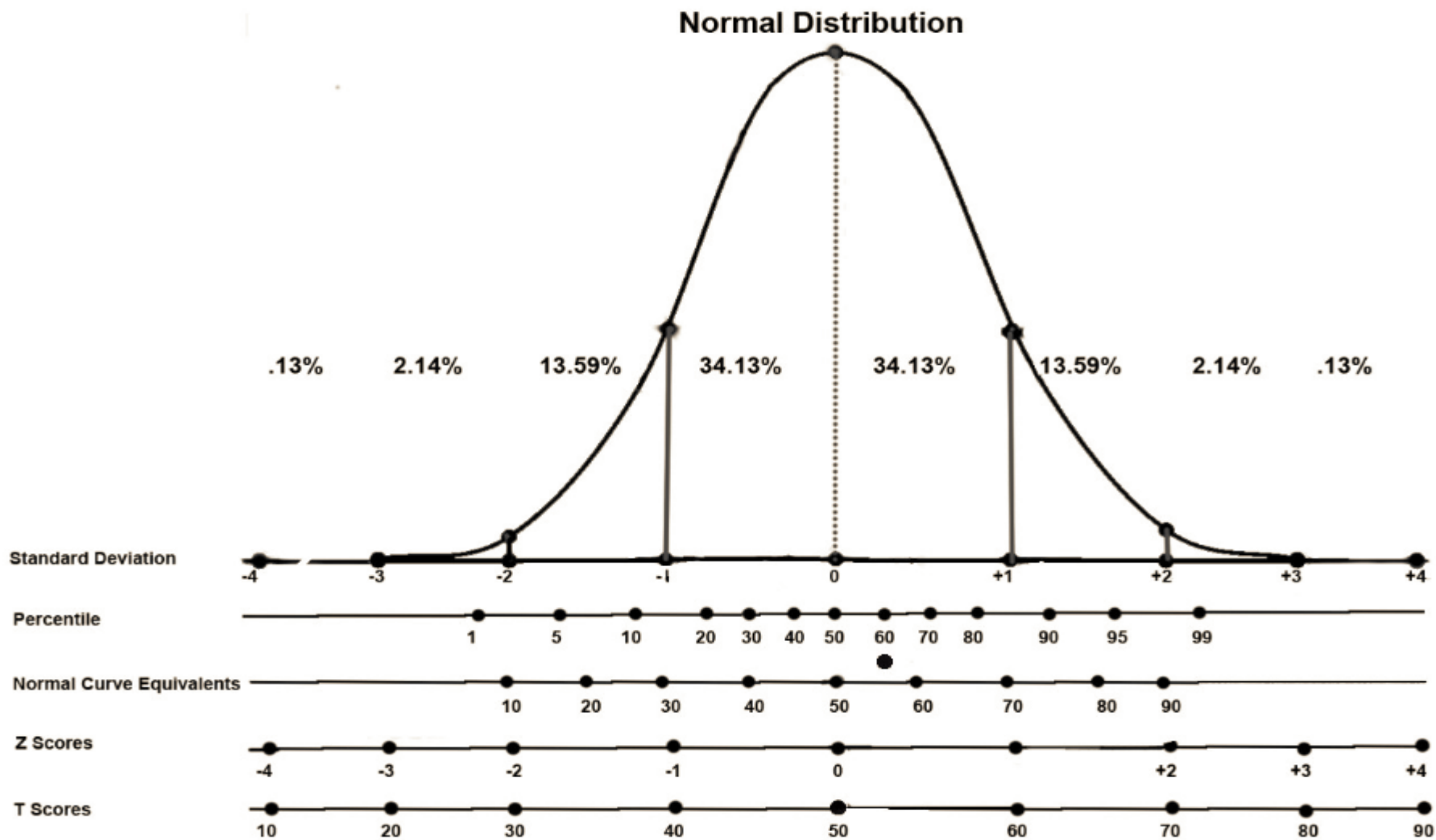
ADAT Content Validity Evidence

- The ADAT relies on content validity evidence (appropriateness and relevance of content). Current evidence includes the following:
 - Overall test specification content areas based on findings from an ADA Task Force and ADEA/FADEA survey on advanced dental education.
 - Clinical science test specifications were based on the practice analysis that supports National Board Dental Examination (NBDE) Part II.
 - Biomedical science test specifications similarly based on NBDE Part I.
 - CDEL reviewed and approved the test specifications and TCC members.
 - TCC members are dental & biomedical subject matter experts who receive extensive item writing training; many have years of experience writing National Board items.
 - The ADAT is administered under controlled, standardized testing conditions.
 - Window testing and delayed scoring is employed; any non-performing items will be eliminated prior to final scoring.
 - Test development, administration, scoring, and reporting occurs by a professionally trained staff, many of whom hold advanced degrees in testing.
 - DTS staff have years of experience in high stakes testing (e.g., NBDE, NBDHE)

ADAT and the NBDEs: A Key Comparison

- The ADAT is designed for admission purposes, to help advanced dental education programs identify the most qualified, strongest candidates for selection into advanced dental education programs.
 - Applicants are compared and results are interpreted normatively (norm-referenced).
- The NBDE Parts I and II are designed for use by state dental boards, to help boards understand whether a candidate for licensure has the required cognitive skills to safely practice dentistry (minimum competency).
 - Results are interpreted relative to a performance criterion (criterion-referenced).

Normal Curve



ADAT Communications

- **Website** www.ada.org/adat
Examination Guide, User's Guide, Practice Test, FAQs, past presentations, program tracker spreadsheet, test specifications, reference texts, link to ADA/ADEA PASS video, Test Construction Committee (TCC) application, etc.
- **Presentations**
American Dental Education Association (ADEA)(3/15); ADEA Council of Hospitals and Advanced Education Programs (COHAEP)(3/15); American Academy of Pediatric Dentistry (AAPD); (10/15); American Student Dental Association (ASDA) (1/16); ADEA Council of Students Residents and Fellows (3/16); ADEA (3/16); American College of Prosthodontics (4/16); American Association of Orthodontists (4/16); AAPD (5/16), etc.
- **Email** adat@ada.org

Two-way Communication: Listening to Students and Programs

The ADA has listened to feedback from students and advanced educational programs, and taken steps to facilitate the transition to the ADAT Program.

- Reduced exam fees in 2016 (from \$350 to \$250)
- Widened the test administration window to make it easier for candidates to test
- Provided a 100-item practice test booklet online, free of charge
- Posted an online, updated “program tracker” sheet that shows which advanced dental education programs will “require,” “accept,” or “not accept” ADAT results
- Provided preliminary results reporting to candidates and programs, to help inform decision making
- Provided programs with a user’s guide to help inform interpretation of the ADAT
- Collaborated with ADEA PASS to develop an online video involving the ADAT (http://www.adea.org/PASSapp/2017_ADEA_PASS.aspx)

Additional Resources

- As soon as is feasible, the ADAT Program will provide additional resource materials:
 - Technical Report
 - Normative Reports
 - Examination Information Report
 - Periodic Program Performance Reporting

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Questions?



Thank You