Updates on the Examinations of the American Dental Association

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ADEA Fall Meetings
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The Dental Licensure Objective
Structured Clinical Examination
(DLOSCE)
What is an Objective Structured Clinical Examination (OSCE)?

• Assesses clinical competence and skills
• Widely used in health sciences
• Candidates rotate through short, standardized stations
• Measures clinical skills such as communication, clinical examination, knowledge of procedures, prescriptions, etc.
• Success requires critical thinking
Why conduct an OSCE?

• Benefits include:
  • Assesses broad range of skills
  • Standardized (stations, competencies, tasks)
  • Clinical and theoretical knowledge
  • Strong validity evidence
  • Reliable
  • Fair

Harden, Lilley, and Patricio, 2016
Who serves on the DLOSCE Steering Committee?

In 2016, the ADA Board of Trustees authorized DLOSCE development and formed an eight-member Steering Committee to oversee development. Current membership is as follows:

<table>
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<tr>
<th>Role</th>
<th>Members</th>
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<tbody>
<tr>
<td>ADA Board of Trustees members</td>
<td>Dr. Roy Thompson, Chair (TN)</td>
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<td></td>
<td>Dr. Craig Armstrong (TX)</td>
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<tr>
<td>General dentist members (formerly on CDEL)</td>
<td>Dr. Edward J. Hebert (LA)</td>
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<td>Dr. Prabu Raman (MO)</td>
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<td>Educators with experience teaching</td>
<td>Dr. Michael Kanellis (IA)</td>
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<td>comprehensive clinical dentistry</td>
<td>Dr. Frank Licari (UT)</td>
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<td>State dental board members</td>
<td>Dr. David Carsten (WA)</td>
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<td>Dr. Mark R. Stetzel (IN)</td>
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What is the Committee’s charge?

- Identify governance structure for DLOSCE administration.
- Identify and establish examination content areas and test specifications.
- Establish general structure for the examination and permissible item formats.
- Identify and establish test construction team (TCT) structure, and issue a call for test constructors.
- Identify and contract key vendors (e.g., technology, testing vendors) to support examination administration.
- Identify state(s)/region(s) for the DLOSCE field test(s).
- Develop a DLOSCE candidate guide, and prepare DTS’ systems (Aptify) for DLOSCE candidates and test users.
What will the DLOSCE cover?

• Focal topic areas:
  • Restorative Dentistry
  • Prosthodontics
  • Oral Pathology, Pain, and TMD
  • Periodontics
  • Oral Surgery
  • Endodontics
  • Orthodontics
  • Medical Emergencies
  • Prescriptions

• Areas covered across topic areas include Diagnosis, Treatment Planning, and Occlusion

• Each form of the DLOSCE must include at least one item involving each of the following patient types: 1) pediatric, 2) geriatric, 3) special needs, 4) medically complex
How will the DLOSCE and INBDE differ?

• The DLOSCE and Integrated National Board Dental Examination (INBDE) both assess clinical skills (e.g., diagnosis and treatment planning, oral health management). However, key differences also exist:
  – The DLOSCE is focused exclusively on the clinical tasks a dentist performs while providing direct, chair-side treatment to patients.
    • Micro-judgments, errors and knowledge of success criteria, narrow focus
  – The INBDE focuses on cognitive skills:
    • the biomedical underpinnings of clinical decisions, broader focus that includes the “why”
    • practice and profession considerations, evidence based dentistry, being good consumers of research, patient oral health care education
How will the DLOSCE and INBDE differ?

Examples of how the INBDE and DLOSCE might differ:

<table>
<thead>
<tr>
<th>INBDE Example</th>
<th>Corresponding DLOSCE Example</th>
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<tbody>
<tr>
<td>Understand basic principles of pharmacokinetics and pharmacodynamics for</td>
<td>Review patient information and write an appropriate prescription.</td>
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<td>major classes of drugs and over-the-counter products to guide safe and</td>
<td></td>
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<tr>
<td>effective treatment.</td>
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<tr>
<td>Understand local and central mechanisms of pain modulation.</td>
<td>Identify the final needle position (point of insertion, angulation, and depth) immediately</td>
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<td></td>
<td>prior to injection that will best accomplish complete local anesthesia for a given</td>
</tr>
<tr>
<td></td>
<td>procedure.</td>
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<tr>
<td>Understand dental material properties, biocompatibility, and performance,</td>
<td>Identify one or more flaws present in a metal-ceramic restoration.</td>
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<tr>
<td>and the interaction among these in working with oral structures in health</td>
<td></td>
</tr>
<tr>
<td>and disease.</td>
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<tr>
<td>Understand the principles and logic of epidemiology and the analysis of</td>
<td>No corresponding DLOSCE example. Epidemiology and statistics are not covered on the</td>
</tr>
<tr>
<td>statistical data in the evaluation of oral disease risk, etiology, and</td>
<td>DLOSCE.</td>
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<td>prognosis.</td>
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What information is available concerning the pilot?

- The precise dates of the DLOSCE pilot will be announced by the end of the year.
- The first administrations for licensure purposes will occur subsequent to a successful pilot, shortly after the pilot concludes and results have been reviewed.

## DLOSCE Pilot Details (preliminary)

<table>
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<tr>
<th><strong>Time:</strong></th>
<th>5 ½ hours administration time</th>
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<tr>
<td><strong>Method:</strong></td>
<td>Computer administration at professional testing centers</td>
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<td><strong>Programs:</strong></td>
<td>Available to all US CODA accredited dental programs (includes an in-depth focus on 3 or 4 programs)</td>
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<tr>
<td><strong>Participants:</strong></td>
<td>US dental students who are eligible to take NBDE Part II.</td>
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<td><strong>Incentive:</strong></td>
<td>$200 to $400 (based on performance)</td>
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What is the status of DLOSCE development?

• Since its first meeting in July 2017, the Steering Committee has made significant progress toward fulfilling its charge.

• DLOSCE Test Construction Teams have been formed, item templates are in place, and DTS is now ramping up item development and 3D models.

• The DLOSCE Steering Committee will continue to keep communities of interest updated on the status of the DLOSCE.

For more information and updates, please visit ada.org/DLOSCE.
The Dental
Admission Test
(DAT)
Potential Update to DAT Scoring

• The Council on Dental Education and Licensure (CDEL) is investigating a change to the DAT’s scoring model.
• CDEL and its DAT Committee compared DAT performance under two different scoring models (1-PL and 3-PL)
• The 3-PL Model displayed:
  – Greater precision in estimating examinee skills.
  – A smoother scale score distribution.
  – A strong correlation with the original, 1-PL skill estimates
• If the scoring model was changed, the DAT score scale would also need to change (e.g., 1 - 30 → 200 - 800)
1-PL and 3-PL Scoring Models

• All models are designed to precisely estimate candidate skills

• The models estimate the probability that candidates of varying ability levels will answer each question correctly

• 1 Parameter - Logistic Model (1-PL)
  – relies solely on the known difficulty level of the question (i.e., item difficulty is the single parameter)

• 3 Parameter - Logistic Model (3-PL) relies on the:
  – difficulty level of the question (Item difficulty)
  – quality of the item (Item discrimination)
  – item’s susceptibility to guessing (pseudo guessing)
1PL Scoring Model (Biology)
Thoughts or Questions?
The Advanced Dental Admission Test (ADAT)
The ADAT is a valid and reliable test.

ADAT Overall Scale Frequency Distribution (2016-2019); N= 1,688
The Dental Clinical Image Repository Program (DCIRP)
Examination Images

- High quality images are vital to the assessment of candidates for numerous examinations important to the dental education community. For example:
  - Integrated National Board Dental Examination (INBDE)
  - Dental Licensure Objective Structured Clinical Examination (DLOSCE)
  - Advanced Dental Admission Test (ADAT)
- Images that are of diagnostic quality:
  - provide candidates the opportunity to demonstrate their skills and abilities
  - help to accurately, fairly, and reliably assess candidate skills
  - ultimately help protect the public
- Images that are of questionable quality:
  - confuse candidates and obscure skill measurement
- We need your help in collecting strong images for use in examinations
Introducing the Dental Clinical Image Repository Program (DCIRP)

- The DTS will provide each school with a list of images needed across examination programs
- We’d like to receive 15 or more images from each school, on an annual basis. We would provide reminders every 4 months
  - March 1, July 1, November 1
- Schools would need to give up their rights to use these images
- Images would be submitted through DTS’ Image Portal
- Collected images could be used by any examination program
- DTS will send out a survey by December 2\textsuperscript{nd}, requesting your participation and asking who should serve as contact within your school
- We’d like to ask each of you for your commitment to this program
Thoughts and Questions?
Thank You!