

The Dental Licensure Objective Structured Clinical Examination (DLOSCE)

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Why develop the DLOSCE?

- Eliminates undesirable situations and complications that can arise from the use of patients in the examination process (e.g., patient's more pressing needs not treated in lieu of pursuing the “perfect lesion”)
- Gives state boards the ability to identify the incompetent beginning practitioner with strong exam reliability and validity evidence (and thus protects the public)
- Creates potential to increase licensure portability once fully implemented and accepted

Why the JCNDE?

- The DLOSCE was originally overseen by the ADA Board of Trustees, which formed the DLOSCE Steering Committee in 2017.
- No other testing agencies expressed interest in moving this forward, and the ADA possessed the in-house expertise to develop the DLOSCE through its Department of Testing Services (DTS).
- Licensure examination programs involve a public trust that requires the examinations be administered, and decisions be made, in a consistent manner that permits due process and is as free from bias and conflict of interest as possible.
- The Joint Commission on National Dental Examinations (JCNDE) has a long and successful track record of delivering high quality, high stakes examinations for licensure purposes, that help protect the public.

Who serves on the DLOSCE Steering Committee?

The DLOSCE is currently governed by the Joint Commission on National Dental Examinations. The DLOSCE Steering Committee continues to pursue its charge, now as a Committee of the JCNDE with membership as follows:

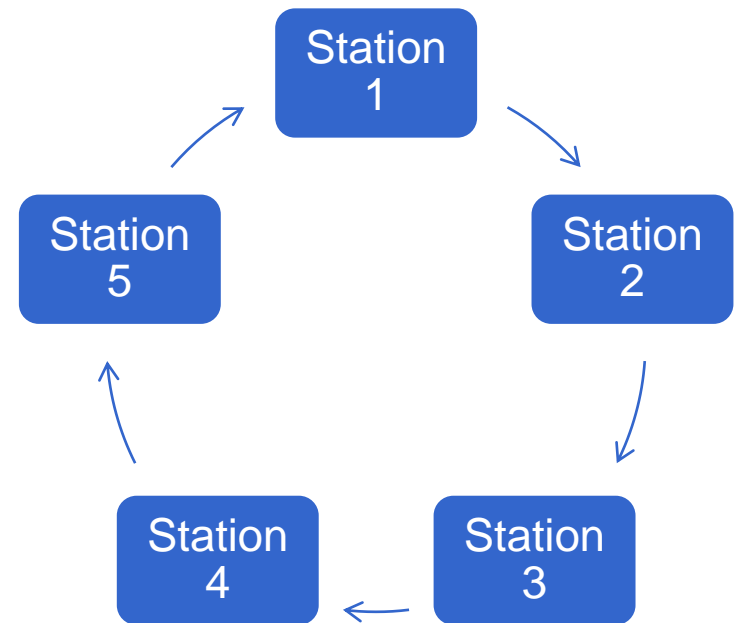
ADA Board of Trustees members	Dr. Roy Thompson, Chair (TN) Dr. Craig Armstrong (TX)
General dentist members (formerly on CDEL)	Dr. Edward J. Hebert (LA) Dr. Prabu Raman (MO)
Educators with experience teaching comprehensive clinical dentistry	Dr. Michael Kanellis (IA) Dr. Frank Licari (UT)
State dental board members	Dr. David Carsten (WA) Dr. Mark R. Stetzel (IN)
Joint Commission on National Dental Examinations (JCNDE) members	Dr. Cataldo Leone (MA) Dr. William Robinson (FL)

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 is an Objective Structured Clinical Examination (OSCE)?

- Method of measurement
- Candidates rotate through short, standardized stations
- Assesses clinical competence and skills, and is widely used in health sciences
- Measures clinical skills such as communication, clinical examination, knowledge of procedures, prescriptions, etc.
- Success requires critical thinking

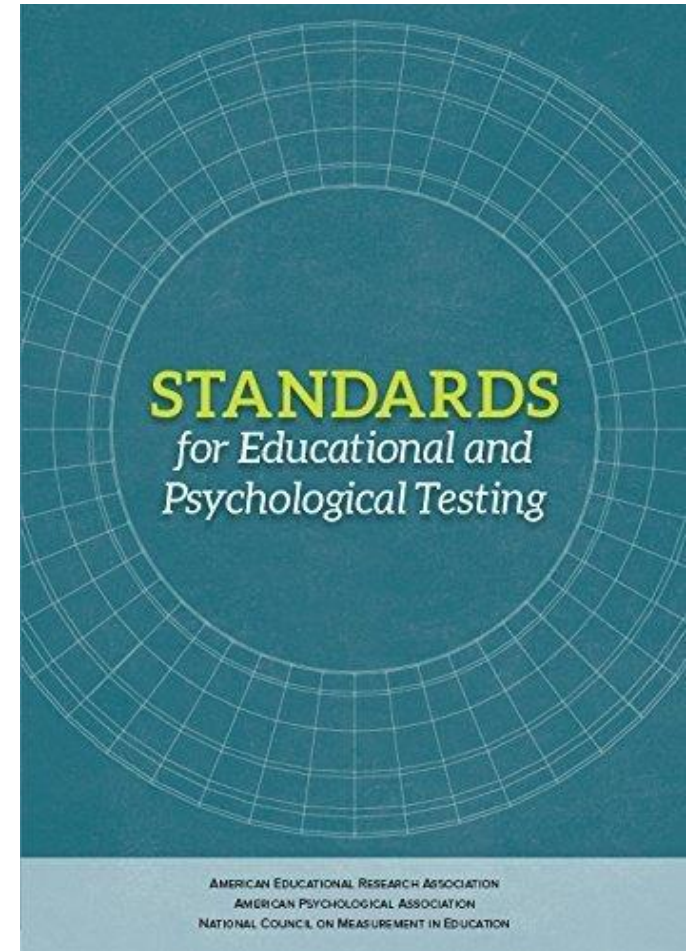


Why conduct an OSCE?

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

The Standards for Educational and Psychological Testing

- The *Standards* were developed by the American Educational Research Association (AERA), American Psychological Association (APA), and the National Council on Measurement in Education (NCME).
- The *Standards* provide considerations for developing, implementing, and evaluating tests.
- The *Standards* and industry best practices help guide DTS activities as examinations are designed, constructed, and implemented.
- DTS' primary focus is on validity, the evidence that supports the interpretation and use of examination results.



Twelve Steps for Test Development (Downing, 2006)

1. Planning	7. Test Administration
2. Content Definition	8. Test Scoring
3. Test Specifications	9. Standard Setting
4. Item Development	10. Reporting Test Results
5. Test Design and Assembly	11. Item Banking
6. Test Production	12. Technical Reports / Validation

Can OSCEs Currently be Found in Dental Licensure?

- The OSCE developed by the National Dental Examining Board (NDEB) of Canada provides an example of one possible approach.
 - Development is a critical activity undertaken by experts (mostly specialists)
 - Questions are selected by general practitioners to ensure clinical relevance
 - Examination content is kept up to date each year through annual meetings involving careful examination of practice trends
 - The OSCE is administered three (3) times per year (March, May, and November) in fixed testing windows
 - Administrations include 50 physical stations with two questions each, plus rest stations
 - Stations are focused and short (5-minutes), with a mix of station types/competencies evaluated
 - NDEB Canada will transition to a “Virtual OSCE” in the near future

How does NDEB of Canada present questions?

- NDEB OSCE characteristics:
 - Most questions have
 - a critical answer
 - a critical error
 - multiple distractors, and
 - ancillary correct answers
 - Questions require candidates to display depth and breadth of clinical judgment.

“Does the candidate think like a doctor?”
 - The focus rests on what the candidate can do, emphasizing cognitive skills involving application/synthesis as opposed to simple recall.

What evidence supports Canada's OSCE?

- Gerrow, Murphy, Boyd, and Scott (2003) conducted a study to evaluate the concurrent validity of the NDEB Canada Written Examination and Objective Structured Clinical Examination (OSCE)
- Examination performance was correlated with student performance in the final year of the D.D.S./D.M.D. program.
- Research participants included 2,317 students at nine Canadian dental schools who completed both NDEB examinations between 1995 and 2000.
- Positive correlations were found between students' examination scores and final year results
 - Written examination and final year results: ($r=0.43$, $p<.001$)
 - OSCE and final year results: ($r=0.46$, $p<.001$)
- Year-to-year and school-to-school variations were minimal.
- These findings supported the concurrent validity of both NDEB examinations.

Source: Gerrow, J.D., Murphy, H.J., Boyd, M.A., and Scott, D.A. (2003). Concurrent validity of written and OSCE components of the Canadian Dental Certification Examinations. *Journal of Dental Education*, 67 (8), 896-901.

What does the US DLOSCE cover?

- Focused exclusively on the clinical tasks a dentist performs while providing direct, chair-side treatment to patients.
- A “virtual OSCE”
- Use of a “traditional manikin” hand skill assessment is not included
- The DLOSCE is designed to reliably and accurately reflect the practice of clinical dentistry within the United States
- The DLOSCE Working Committee has been engaged in content development activities since the 4th quarter of 2018

What does 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

Example DLOSCE Question Format

Select **ONE OR MORE** correct answers.

Which describes the MO composite restoration on tooth 19?

Acceptable

Unacceptable interproximal contact

Over-contoured proximal surface

Under-contoured proximal surface

Overhang present

Cavosurface void present

Hyperocclusion

Exposed dentin present

3D Model

The candidate would be presented with a 3D model showing a MO composite restoration on tooth 19.

The candidate could manipulate the model (e.g., rotate, zoom) in order to view the restoration from multiple angles

How do 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 do the DLOSCE and INBDE differ?

- Examples of how the INBDE and DLOSCE conceptually differ:

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

Official Release

- In the coming year, the JCNDE and its DLOSCE Steering Committee will continue to provide updates to communities of interest
- Updates are made available through the DLOSCE website:
 - ada.org/dlosce

Thank You!