

JCNDE Test Constructor Team Selection Criteria

JCNDE Test Construction Teams and Selection Criteria

November 2024

A publication of the Joint Commission on National Dental Examinations
American Dental Association Building

JCNDE TEST CONSTRUCTOR POOLS AND TEST CONSTRUCTOR PLACEMENT

The Joint Commission selects volunteer subject matter experts to serve in its Test Constructor Pools. To be considered, an individual must possess appropriate qualifications and must submit a completed application. An individual who has completed three years of service in a National Board Dental Hygiene Examination (NBDHE) Test Constructor Pool may reapply and be considered for reapproval as dictated by the needs of the NBDHE. An individual who has completed five years of service in the Integrated National Dental Examination (INBDE), Dental Licensure Objective Structured Clinical Examination (DLOSCE) and/or Dental Hygiene Objective Structured Clinical Examination (DHLOSCE) test Constructor Pools may reapply and be considered for reapproval as dictated by the needs of the indicated Joint Commission on National Dental Examination (JCNDE) program(s).

Department of Testing Services (DTS) staff place JCNDE approved test constructors onto specific Test Construction Teams (TCTs) based on the expertise of the individual and the needs of the TCT and examination program. A team is formed for each specific meeting and disbands at the end of that meeting. These teams are flexible and may or may not consist of the same test constructors each year. Individuals are invited to attend a given meeting. Should they accept, they are considered part of the team for that calendar year. Teams may be rearranged as needed in the event that a given volunteer is not able to attend. If a volunteer is invited but is unable to attend, an alternate volunteer may be identified and invited. Additionally, if a volunteer is invited to attend a meeting and does not respond in a timely manner, an alternative volunteer may be identified and invited to attend the meeting. This process helps ensure teams will always have a sufficient number of volunteers with the required expertise, so that meeting goals can be accomplished efficiently and effectively.

GENERAL DEFINITIONS

The following definitions apply across all examination programs of the JCNDE.

General dentist

- a) Graduate of a dental program accredited by either the Commission on Dental Accreditation (CODA) or the Commission on Dental Accreditation of Canada (CDAC).
- b) Full-time or part-time practitioner or clinician/scientist with at least five years of experience in the United States or Canada.
- c) Currently licensed as a dentist in the United States or Canada.

Dental hygienist

- a) Graduate of a dental hygiene program accredited by either the Commission on Dental Accreditation (CODA) or the Commission on Dental Accreditation of Canada (CDAC).
- b) Dental hygienist with a Baccalaureate degree in dental hygiene, education, or a biomedical science.
- c) Educator and/or practitioner with at least five years of experience in the U.S. or Canada.
- d) Currently licensed as a dental hygienist in the United States or Canada.

IMAGE REVIEW TEST CONSTRUCTION TEAM

The Image Review TCT is responsible for: 1) maintaining image implementation guidelines and acceptability standards in accordance with industry best practices, 2) evaluating and accepting high-quality images, and 3) categorizing and adjusting images as appropriate, to help ensure that images

appearing on National Board Examinations are of sufficient quality that entry-level candidates with the necessary knowledge and skills would be able to correctly answer questions involving these images.

The Image Review TCT consists of up to six members. The following are the criteria for test constructors on the Image Review TCT:

- a. General dentist, or
- b. Licensed dental hygienist with at least a baccalaureate degree from a CODA or CDAC accredited dental hygiene program.
- c. Formal training in dental radiology, including at least three years' experience teaching radiology.

CRITERIA FOR INBDE AND DLOSCE TEST CONSTRUCTORS

The following are the criteria for test constructors where expertise is required in Anatomic Sciences, Behavioral Science, Biomedical Science (Biochemistry, Biology, etc.), Data and Statistical Analysis, Dental Anatomy and Occlusion, Dental Materials, Ethics and Jurisprudence, Evidence-Based Dentistry, Microbiology, Pathology, Patient Management, Pharmacology, Physiology, and/or Research:

- a. General dentist with a master's degree or higher in the relevant area **or** a professional with a doctoral degree in the relevant area.
- b. Three years of experience within the last five years teaching or in research in the relevant area.

The following are the criteria for test constructors where expertise is required in Dental Public Health and Occupational Safety, Endodontics, Implants, Operative Dentistry, Oral Diagnosis, Oral and Maxillofacial Surgery, Oral Medicine, Oral Pathology, Orthodontics, Pain Control, Pediatric Dentistry, Periodontics, Restorative Dentistry, Prosthodontics (Removable), Prosthodontics (Fixed), and/or Temporomandibular Joint Disorders:

- a. General dentist, educator and/or practitioner.
- b. In the case of special areas of dentistry, graduation from either a Commission on Dental Accreditation (CODA) or Commission on Dental Accreditation of Canada (CDAC) accredited advanced education program in that specialty.

INTEGRATED NATIONAL BOARD DENTAL EXAMINATION TEST CONSTRUCTION TEAMS

INBDE test construction efforts involve the following TCTs:

- Case Development
- Item Writing and Review
- Clinical Relevance Review
- Form Review

Additional TCTs may also be created on an ad hoc basis to meet targeted needs for this examination program.

The following are considered highly desirable characteristics of INBDE Test Constructors (TCs):

- Ability to be flexible and adaptable.
- Range of knowledge and skills.
- Ability to work with different groups.
- Intellectual curiosity and openness.
- Writing and communication skills.
- Expressed interest and enthusiasm for the role.
- Receptive to feedback from peers and staff.

A focal role for all General Dentists in the INBDE development process is to help ensure that all INBDE items evaluate clinically relevant concepts encountered by practicing dentists, and concepts that MUST be correctly understood in order to practice dentistry safely.

The text that follows provides information concerning the focal tasks for each TCT, and corresponding TC requirements. The following summary of Foundation Knowledge areas is provided as a reference:

- FK1: Molecular, biochemical, cellular, and systems-level development, structure and function
- FK2: Physics and chemistry to explain normal biology and pathobiology
- FK3: Physics and chemistry to explain the characteristics and use of technologies and materials
- FK4: Principles of genetic, congenital and developmental diseases and conditions and their clinical features to understand patient risk
- FK5: Cellular and molecular bases of immune and non-immune host defense mechanism.
- FK6: General and disease-specific pathology to assess patient risk
- FK7: The biology of microorganisms in physiology and pathology
- FK8: Pharmacology
- FK9: Behavioral sciences, ethics, and jurisprudence
- FK10: Research methodology and analysis, and informatics tools

Item Writing and Review

At least sixteen (16) TCs participate in each Item Writing and Review TCT, and — depending upon JCNDE item development needs — multiple TCTs may be formed. Each TCT is responsible for item development and reviewing newly written items to ensure accuracy, currency, validity, adherence to the test specifications and item guidelines outlined by the Joint Commission. Each TCT is composed of experts associated with the Clinical Content Sections of the Joint Commission’s Domain of Dentistry.

Diagnosis and Treatment Planning (at least 5 TCs)

This includes all aspects of diagnosis, assessment, interpretation of laboratory results, physical evaluation of structure, appearance, and function, as well as background, characteristics, circumstances, underlying conditions and psychological, social or behavioral influences to derive an accurate diagnosis and treatment plan, as well as reasonable and safe treatment alternatives for any patient. Within the Joint Commission’s Domain of Dentistry, Diagnosis and Treatment Planning is represented by the tasks indicated below.

#	Diagnosis and Treatment Planning
1	Interpret patient information and medical data to assess and manage patients.
2	Identify the chief complaint and understand the contributing factors.
3	Perform head and neck and intraoral examinations, interpreting and evaluating the clinical findings.
4	Use clinical and epidemiological data to diagnose and establish a prognosis for dental abnormalities and pathology.
5	Recognize the normal range of clinical findings and distinguish significant deviations that require monitoring, treatment, or management.
6	Predict the most likely diagnostic result given available patient information.
7	Interpret diagnostic results to inform understanding of the patient's condition.
8	Recognize the manifestations of systemic disease and how the disease and its management may affect the delivery of dental care.
9	Recognize the interrelationship between oral health and systemic disease, and implement strategies for improving overall health.
10	Select the diagnostic tools most likely to establish or confirm the diagnosis.
11	Collect information from diverse sources (patient, guardian, patient records, allied staff, and other healthcare professionals) to make informed decisions.
12	Formulate a comprehensive diagnosis and treatment plan for patient management.
13	Discuss etiologies, treatment alternatives, and prognoses with patients so they are educated and can make informed decisions concerning the management of their care.
14	Understand how patient attributes (e.g., gender, age, race, ethnicity, and special needs), social background and values influence the provision of oral health care at all stages of life.
15	Interact and communicate with patients using psychological, social, and behavioral principles.

The Diagnosis and Treatment Planning item development working group consists of the following:

- (1) General Dentist
- (1) FK1 Subject Matter Expert
- (1) FK4 Subject Matter Expert
- (1) FK6 Subject Matter Expert
- (1) FK7 Subject Matter Expert

Additional preferred areas of expertise include: FK2, FK5, and FK8

Oral Health Management Section (at least 6 TCs)

This includes all aspects of patient care delivery, including provision and modification of treatment, handling of complications, intervention outcomes assessment, and all developments that arise in the course of managing a patient's oral health care. Within the Joint Commission's Domain of Dentistry, Oral Health Management is represented by the tasks indicated below.

#	Oral Health Management
16	Prevent, recognize, and manage medical emergencies (e.g., cardiac arrest).
17	Prevent, recognize, and manage dental emergencies.
18	Recognize and manage acute pain, hemorrhage, trauma, and infection of the orofacial complex.
19	Prevent, diagnose, and manage pain during treatment.
20	Prevent, diagnose, and manage pulpal and periradicular diseases.
21	Prevent, diagnose, and manage caries.
22	Prevent, diagnose, and manage periodontal diseases.
23	Prevent, diagnose, and manage oral mucosal and osseous diseases.
24	Recognize, manage, and report patient abuse and neglect.
25	Recognize and manage substance abuse.
26	Select and administer or prescribe pharmacological agents in the treatment of dental patients.
27	Anticipate, prevent, and manage complications arising from the use of therapeutic and pharmacological agents in patient care.
28	Diagnose endodontic conditions and perform endodontic procedures.
29	Diagnose and manage the restorative needs of edentulous and partially edentulous patients.
30	Restore tooth function, structure, and esthetics by replacing missing and defective tooth structure, while promoting soft and hard tissue health.
31	Perform prosthetic restorations (fixed or removable) and implant procedures for edentulous and partially edentulous patients.
32	Diagnose and manage oral surgical treatment needs.
33	Perform oral surgical procedures.
34	Prevent, diagnose, and manage developmental or acquired occlusal problems.
35	Prevent, diagnose, and manage temporomandibular disorders.
36	Diagnose and manage patients requiring modification of oral tissues to optimize form, function and esthetics.
37	Evaluate outcomes of comprehensive dental care.
38	Manage the oral esthetic needs of patients.

The Oral Health Management item development working group consists of the following:

- (1) General Dentist
- (1) FK1 Subject Matter Expert
- (1) FK2 Subject Matter Expert
- (1) FK3 Subject Matter Expert
- (1) FK5 Subject Matter Expert
- (1) FK8 Subject Matter Expert

Additional preferred areas of expertise include: FK4, FK6, and FK7

Practice and Profession Section (at least 5 TCs)

This includes the understanding, implementation, and monitoring of effective systems, procedures, and policies that support professional practice integrity, quality control, and self or organizational performance assessment. It also includes the systems, procedures, and policies that enable skillful integration of new knowledge, products, and technology, minimize risk, and enhance the quality of care provided or improve community oral health. Within the Joint Commission's Domain of Dentistry, Practice and Profession is represented by the tasks indicated below.

#	Practice and Profession
39	Evaluate and integrate emerging trends in health care.
40	Evaluate social and economic trends and adapt to accommodate their impact on oral health care.
41	Evaluate scientific literature and integrate new knowledge and best research outcomes with patient values and other sources of information to make decisions about treatment.
42	Practice within the general dentist's scope of competence and consult with or refer to professional colleagues when indicated.
43	Evaluate and utilize available and emerging resources (e.g., laboratory and clinical resources, information technology) to facilitate patient care, practice management, and professional development.
44	Conduct practice activities in a manner that manages risk and is consistent with jurisprudence and ethical requirements in dentistry and healthcare.
45	Recognize and respond to situations involving ethical and jurisprudence considerations.
46	Maintain patient records in accordance with jurisprudence and ethical requirements.
47	Conduct practice related business activities and financial operations in accordance with sound business practices and jurisprudence (e.g., OSHA and HIPAA).
48	Develop a catastrophe preparedness plan for the dental practice.
49	Manage, coordinate and supervise the activity of allied dental health personnel.
50	Assess one's personal level of skills and knowledge relative to dental practice.
51	Adhere to standard precautions for infection control for all clinical procedures.
52	Use prevention, intervention, and patient education strategies to maximize oral health.
53	Collaborate with dental team members and other health care professionals to promote health and manage disease in communities.
54	Evaluate and implement systems of oral health care management and delivery that will address the needs of patient populations served.
55	Apply quality assurance, assessment, and improvement concepts to improve outcomes.
56	Communicate case design to laboratory technicians and evaluate the resultant restoration or prosthesis.

The Practice and Profession item development working group consists of the following:

- (1) General Dentist
- (1) FK6 Subject Matter Expert
- (1) FK9 Subject Matter Expert

- (1) FK9 Subject Matter Expert
- (1) FK10 Subject Matter Expert

Additional preferred areas of expertise include: FK4 and FK7

Foundation Knowledge: Among the above 16 TCs, 10 need to have advanced training and/or expertise in at least one (1) of each of the following Foundation Knowledge (FK) areas: *

- FK1: Molecular, biochemical, cellular, and systems-level development, structure and function.
- FK2: Physics and chemistry to explain normal biology and pathobiology.
- FK3: Physics and chemistry to explain the characteristics and use of technologies and materials.
- FK4: Principles of genetic, congenital and developmental diseases and conditions and their clinical features to understand patient risk.
- FK5: Cellular and molecular bases of immune and non-immune host defense mechanisms. FK6: General and disease-specific pathology to assess patient risk. [Pathology]
- FK7: The biology of microorganisms in physiology and pathology. FK8: Pharmacology
- FK9: Behavioral sciences, ethics, and jurisprudence
- FK10: Research methodology and analysis, and informatics tools.

*Additional volunteers may be selected if they meet the criteria, so that a TCT can be formed and selected based on availability for each meeting.

Case Development (5)

This TCT is responsible for reviewing images and case materials to identify clinically relevant scenarios and concepts that could serve as the basis for item development. This TCT consists of the following:

- (5) General Dentist with expertise across the three clinical content areas

Clinical Relevance Review (5)

This TCT selects INBDE items that will be eligible to appear on INBDE forms and can help in making preliminary assignments of items to forms in accordance with test specifications approved by the Joint Commission. As a preliminary step, examination forms are psychometrically assembled by DTS staff, so they are in accordance with test specifications and provide a reasonable psychometric starting point for TCTs. This occurs before the TCT meets. This TCT confirms the appropriateness of examination items in accordance with clinical relevance and basic principles of test form construction (e.g., ensuring that items that evaluate identical concepts do not appear on the same examination form). This TCT is responsible for final categorization and tagging of items relative to the Joint Commission's Domain of Dentistry and test specifications, and in support of the general needs of the INBDE Program.

This TCT consists of the following:

- a) General Dentists, each of whom must have attended at least one of the following:
 - a. Item Writing and Review meeting
 - b. Case Development meeting

All members of this TCT must have previously served on a TCT. One individual on the Clinical Relevance Review TCT must also be a content expert.

Form Review (5)

This TCT provides a final review of INBDE items, images, and forms, with respect to clinical relevance and the activities of a practicing general dentist. The TCT also determines the order of item sets when appropriate. This TCT consists of the following:

- (1) General Dentist
- (1) Subject Matter Expert from Diagnosis and Treatment Planning TCT Section
- (1) Subject Matter Expert from Oral Health Management TCT Section
- (1) Subject Matter Expert from Practice and Profession TCT Section
- (1) Determined by staff, existing TC with experience on a TCT

Each of the five TCs in the Form Review TCT are selected from either a) an Item Writing and Review TCT, or b) the Case Development TCT.

DENTAL LICENSURE OBJECTIVE STRUCTURED CLINICAL EXAMINATION TEST CONSTRUCTION TEAMS

DLOSCE test construction efforts involve the following TCTs:

- Item Writing and Review
- General Dentist Review
- Form Review

The DLOSCE Item Writing and Review TCTs are constructed by teams of volunteers with subject matter expertise in the following areas:

- Endodontics (5)
- Oral Pathology, Pain Management, and Temporomandibular Dysfunction (7)
- Oral Surgery (5)
- Orthodontics (5)
- Periodontics (7)
- Prescriptions (3)
- Prosthodontics (5)
- Restorative Dentistry (7)

The DLOSCE General Dentist Review meeting consists of at least eight (8) General Dentists who review items written during the Item Writing and Review meetings. The General Dentists review content from the perspective of clinical relevance and the activities of a practicing general dentist.

The DLOSCE Form Review meeting consists of at least two (2) DLOSCE TCT members who have participated in Item Writing and Review meetings. During this meeting, test constructors provide a final review of DLOSCE items, images, models, and forms, with respect to clinical relevance and the activities of a practicing general dentist.

Additional TCTs may also be created on an ad hoc basis to meet targeted needs for this examination program.

CRITERIA FOR NATIONAL BOARD DENTAL HYGIENE EXAMINATION TEST CONSTRUCTORS

The National Board Dental Hygiene Examination (NBDHE) is constructed by teams of volunteers with subject matter expertise in the following nine areas.

Biomedical Sciences

The biomedical sciences include anatomy, histology, biochemistry and nutrition, physiology, microbiology and immunology, pathology, pharmacology, and oral biology. The following are the criteria for test constructors selected to volunteer on these teams.

- a. Doctoral degree in a biomedical science, or a general dentist or dental hygienist with advanced education in a related biomedical or related dental science beyond what was provided in entry level dental hygiene education.
- b. At least three years' experience within the last five years teaching a biomedical or dental science to dental hygiene students.

Radiology

- a. General dentist or dental hygienist
- b. An oral and maxillofacial radiologist or a dental hygienist with formal education in dental radiology beyond what was provided in the entry level dental hygiene program.
- c. At least three years' experience within the last five years teaching radiology.

Periodontics – Periodontist

- a. General dentist with advanced formal education in periodontics.
- b. At least three years' experience within the last five years teaching or practicing periodontics.

Periodontics – Dental Hygienist

- a. General dentist or dental hygienist with advanced clinical experience or education in periodontics.
- b. At least three years' experience within the last five years teaching periodontics.

Oral Medicine/Oral Diagnosis/Oral Pathology

- a. General dentist or dental hygienist with advanced education or experience.
- b. At least three years of experience within the last five years teaching oral medicine/oral diagnosis/oral pathology.

Special Needs Professional

- a. General dentist or dental hygienist with advanced clinical experience or education with special needs populations.
- b. At least three years of experience within the last five years teaching a relevant subject area.

Dental Hygiene Curriculum

- a. Dental hygienist.
- b. Advanced degree, preferably in dental hygiene.
- c. Experience in curriculum design as a dental hygiene program director, member of a dental hygiene curriculum committee, or accreditation consultant for dental hygiene.
- d. At least three years' experience within the last five years clinical teaching with a preference for experience practicing clinical dental hygiene full-time or part-time in private or faculty practice.

Clinical Dental Hygiene

- a. Dental hygienist.
- b. Baccalaureate degree in dental hygiene, education, or a biomedical science.
- c. At least three years' experience within the last five years teaching or practicing clinical dental hygiene; full-time or part-time in private practice or faculty practice.

Community Dental Health or Dental Public Health

- a. General dentist or dental hygienist.
- b. Advanced education in public health or related field; degree preferred.
- c. At least three years' experience within the last five years teaching public health or community dental health with a preference for public health experience.

NATIONAL BOARD DENTAL HYGIENE EXAMINATION TEST CONSTRUCTION TEAMS

Three dental hygiene Component A teams (total of at least 15 members) and the dental hygiene Component B team (at least 8 members) construct the National Board Dental Hygiene Examination.

Component A Teams Dental

Hygiene I

- a. Biomedical science experts (3)
- b. Dental hygiene curriculum expert (1)

Dental Hygiene II

- a. Periodontists (3), at least one must be a periodontist.
- b. Dental hygiene curriculum expert (1)
- c. Clinical dental hygiene experts (2)
- d. Oral and maxillofacial radiologist or dental hygienist with formal education in radiology (1)

Dental Hygiene III

- a. Dental hygiene curriculum expert (1)
- b. Clinical dental hygiene expert (1)
- c. Community dental health experts (2)

Component B Team

Component B

- a. Biomedical science expert (1)
- b. Dental hygiene curriculum expert (1)
- c. Clinical dental hygiene expert (1)
- d. Community dental health expert (1)
- e. Oral medicine/oral diagnosis expert (1)
- f. Periodontist (1)
- g. Oral and maxillofacial radiologist or dental hygienist with formal education in radiology (1)
- h. Special needs expert (1)

Case Selection

Individuals from various dental hygiene disciplines (4)

Form Review

Individuals from various dental hygiene disciplines, one of whom must be a general dentist (4)

Individuals serving on Component B, Case Selection, and/or Form Review teams should have already served on Dental Hygiene Component A.

CRITERIA FOR DENTAL HYGIENE LICENSURE OBJECTIVE STRUCTURED CLINICAL EXAMINATION TEST CONSTRUCTORS

Specialist (e.g., periodontists, oral pathologist, radiologist):

- a) Graduate of a dental program accredited by either the Commission on Dental Accreditation (CODA) or the Commission on Dental Accreditation of Canada (CDAC)
- b) Advanced formal education and/or experience within the specialty area.
- c) Educator and/or practitioner with at least 5 years of experience in the U.S. or Canada.
- d) Currently licensed as a general dentist or specialty dentist in the United States or Canada.

DENTAL HYGIENE LICENSURE OBJECTIVE STRUCTURED CLINICAL EXAMINATION TEST CONSTRUCTION TEAMS

The DHLOSCE consists of two main item writing teams:

1. Assessment, Interpretation, Evaluation, and Reevaluation

- a. Three to five dentists and specialists, including at least one oral pathologist or radiologist, one periodontist and one general dentist.
- b. Three to five dental hygienists.

2. Dental Hygiene Care Planning and Evidence-Based Treatment

- a. Two to four dentists and specialists, including at least one periodontist and at least one general dentist.
- b. Three to four dental hygienists.

In addition, the following three teams are involved in the development and review of the DHLOSCE:

Clinical Relevance Review – The primary function of the Clinical Relevance Review team is to confirm the appropriateness of examination items in terms of their relevance to day-to-day clinical practice.

- a. Two to four dentists and specialists, including at least one periodontist and at least one general dentist.
- b. Three to four dental hygienists.

Examination Form Review – The Examination Form Review team provides a final review of DHLOSCE items and images identified for placement on examination forms. This team ensures that the content being tested is comprehensive, meets the specifications, and that there is no unintended overlap among the items included on each form.

- a. One periodontist.
- b. Two to three dental hygienists.
- c. Two general dentists.

3D Model Development – The 3D Model Development team works with graphic artists from the 3D model development vendor to develop 3D models for the examination.

- a. Two periodontists.
- b. Three to four dental hygienists.
- c. One general dentist.
- d. One oral pathologist.

TEST CONSTRUCTOR CONTINUING CONTRIBUTORS

Individuals may no longer be eligible to serve as a test constructor for a number of reasons (e.g., retirement, reduced numbers of hours). In limited situations the JCNDE may choose to permit such an individual to continue to contribute to test construction where the individual has previously served as a JCNDE test constructor, where their contribution cannot be reasonably made by another individual, and where the loss of that contribution would represent a significant loss to a Joint Commission examination program. Continuing Contributor test constructors may be added to a TCT where appropriate to help supplement the TCT and its test construction activities. Such contributors typically do not take the place of another test constructor within a TCT unless no other reasonable alternatives exist. Continuing Contributors are approved and reapproved by the JCNDE on an annual basis.