



**NDHCB • BNCHD**

**National Dental Hygiene  
Certification Board**

**BLUEPRINT FOR THE  
NATIONAL DENTAL HYGIENE  
CERTIFICATION EXAMINATION**

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## Table of Contents

I.	INTRODUCTION.....	4
II.	TECHNICAL SPECIFICATIONS.....	6
A.	COMPETENCY FRAMEWORK.....	6
	THE NDHCB LIST OF COMPETENCIES.....	6
	DENTAL HYGIENE IN CANADA.....	6
	a) Description of the Practice of Dental Hygiene:.....	6
	b) Definition of a Dental Hygienist:.....	7
	ASSUMPTIONS.....	7
	An Entry-Level Dental Hygienist:.....	7
	Clients of an Entry-Level Dental Hygienist:.....	7
	Practice Environments of an Entry-Level Dental Hygienist:.....	7
	COMPETENCY PROFILE.....	8
	COMPETENCY GROUPS AND WEIGHTINGS.....	8
	COMPETENCY SAMPLING.....	8
B.	EXAMINATION DEVELOPMENT GUIDELINES.....	9
	STRUCTURAL VARIABLES.....	9
	Examination Length and Format:.....	9
	Item Presentation:.....	9
	Cognitive Domains:.....	9
	CONTEXTUAL VARIABLES.....	10
	a) Client Age and Gender:.....	10
	b) Client Culture:.....	10
	c) Health Care Environment:.....	10
C.	PERFORMANCE PROFILE: FEEDBACK CATEGORIES.....	11
III.	CONCLUSION.....	11
IV.	SUMMARY CHART.....	12
	APPENDIX A.....	13
	APPENDIX B.....	16
	APPENDIX C.....	20

# I. INTRODUCTION

In 1982, in response to a priority concern of its members, the Canadian Dental Hygienists Association (CDHA) decided to explore the possibility of a certification program for Canadian dental hygienists. The goals of the program were to create a nationally recognized standard, enhance the ability of dental hygienists to become licensed in all Canadian jurisdictions and ensure quality assurance in the provision of dental hygiene services in Canada. In 1984, the CDHA Board of Directors endorsed the concept of a single national dental hygiene standard for entry to practice. An Ad Hoc Committee began the investigation and development of an arm's length organization that would administer a national certification program and as a result, the National Dental Hygiene Certification Board (NDHCB) was established as a separate incorporated entity in 1995.

The NDHCB began the development work to create a national certification process. The services of testing professionals were contracted to assist in the development of the certification program and the resulting national written examination. In 1995, the first competency Blueprint was established and in 1996, the first National Dental Hygiene Certification Examination (Examination) was administered. Since then, the Examination has been administered a minimum of twice a year in both official languages to as many as 2,000 examinees per year across Canada.

Licensure/certification examinations have a well-defined purpose: to protect the public by ensuring that those who are certified possess sufficient knowledge and skills to perform important occupational activities safely and effectively. Tests used in credentialing are designed to determine whether the essential knowledge and skills have been mastered by the candidate; for identifying practitioners who have met particular standards. (AERE, APA & NCME, 2014)<sup>1</sup>. In the case of the NDHCB Examination, the purpose is to determine whether or not examinees are prepared to practice dental hygiene without risk to their clients. The registering/licensing authorities impose additional eligibility criteria (e.g., completion of an approved program of dental hygiene education, clinical examination, etc.) that provide the added information required to decide on an individual's readiness to practice dental hygiene.

The primary function of the *Blueprint for the National Dental Hygiene Certification Examination* (Blueprint) is to describe how the Examination is to be developed. Specifically, this Blueprint provides explicit instructions and guidelines on how the competencies (e.g., knowledge, skills, attitudes, judgment) are to be expressed within the Examination in order for accurate decisions to be made on the examinees' competence in dental hygiene.

In order to establish a valid Examination, the Blueprint must be based on the competencies that are currently required to practice dental hygiene safely and effectively in Canada. In 1995, a group of content experts reflecting regional representation, all dental hygiene practice roles and both official languages drafted the original list of competencies required of an entry-level dental hygienist. This list of competencies was further validated by over 100 dental hygienists and representatives of all provincial dental hygiene regulatory authorities. In 1999, this list was reviewed by the NDHCB Examination Committee (EC) and a new list of competencies was produced and then validated by means of a nationwide survey of practicing dental hygienists. In 2004, the EC again performed a thorough review of the list of competencies followed by focus group validation in Eastern (Nova Scotia), Central (Ontario) and Western (Alberta) regions. The focus group input was reviewed by the EC and integrated into a nationwide validation survey of practicing dental hygienists, the results of which were used by the EC to produce the 2005

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<sup>1</sup> American Educational Research Association, American Psychological Association, and National Council on Measurement in Education (2014). *Standards for Educational and Psychological Testing*. American Educational Research Association, Washington, DC.

National dental hygiene certification examination (NDHCE) Blueprint. In 2011, the EC again performed a thorough review of the competencies that were based on the *Entry to Practice Competencies and Standards for Canadian Dental Hygienists* document developed in 2010 through a collaborative project involving the Canadian dental hygienists association (CDHA), the Federation of Dental Hygiene Regulatory Authorities, the Commission on Dental Accreditation of Canada (CDAC), the NDHCB, and dental hygiene educators from across Canada. The new list of competencies was then reviewed by every provincial Dental Hygiene Regulatory Authority (DHRA), all levels of dental hygiene professional associations and dental hygiene programs throughout Canada, and other appropriate stakeholders. The NDHCB developed a nationwide validation survey that was sent to all above stakeholders and the result were used by the EC to produce the 2011 NDHCE Blueprint.

The competencies contained in the 2016 NDHCB Examination Blueprint are once again based on a thorough review of dental hygiene practice in Canada. This process involved multiple EC meetings held throughout 2015 and early 2016 as well as several stages of stakeholder input. The new list of competencies was also validated through an online survey that was distributed to all provincial DHRAs, all accredited dental hygiene programs, and all provincial dental hygiene associations (with the exception of Quebec's); as well as the CDAC and the CDHA. Following the survey, the EC reviewed the results and made the final determination of the weightings and the categorization of each competency.

The current Blueprint reflects the most current measurable requirements for competent and safe dental hygiene practice in Canada. It will continue to be updated on a regular cycle to ensure requirements for competent and safe dental hygiene practice remain current.

The Blueprint has two major components: 1) the national dental hygiene entry-level competencies to be measured and, 2) the explicit guidelines on how these competencies will be measured. The guidelines are expressed as structural and contextual variables. The Blueprint also includes a **summary chart** (p. 13) that summarizes the Examination guidelines. In order to remain valid, the examination blueprint must continue to be based on the competencies that are currently required to practice safely and effectively in Canada.

Given that the primary purpose of the Blueprint is to guide test development activities, caution should be exercised when considering its use for other applications.

The NDHCB wishes to thank everyone who contributed to the creation of this 2016 Blueprint. In particular, thanks are extended to the National Dental Hygiene Certification Examination Committee and to everyone who participated in the validation survey.

# II. TECHNICAL SPECIFICATIONS

## A. COMPETENCY FRAMEWORK

This chapter, divided into two sections, presents the technical specifications that guide the development of the Examination. In the first section, issues related to the competencies are addressed. The second section describes the guidelines regarding the representation of the structural and contextual variables in the Examination.

A fundamental component of a criterion-referenced approach to testing is the comprehensive description of the content domain being measured. In the case of the Examination, the content domain of interest consists of the **competencies** of a competent practicing entry-level dental hygienist. These competencies form the basis of the Examination.

This section describes the competencies that were obtained as a result of the validation process, the way they have been grouped together, the manner in which they are to be sampled for creating versions of the Examination, and how the results will be reported to the candidate.

## THE NDHCB LIST OF COMPETENCIES

The 2016 NDHCB Competency profile comprises of 82 competencies classified under different domains, and according to their relative order of importance.

## DENTAL HYGIENE IN CANADA

For the purpose of developing the NDHCB Competency profile, a number of assumptions were made and a specific definition of dental hygiene was used. Below are the definitions and the assumptions onto which the competencies are based:

### a) Description of the Practice of Dental Hygiene:

**Dental hygiene** is a health service profession encompassing the theory and practice of preventive, therapeutic, and educational services/interventions/programs in order for clients to achieve better oral and overall health.

**Dental hygiene practice** is a collaborative relationship in which the dental hygienist works with the client, dental and other health professionals to achieve and maintain optimal oral health as an integral part of well-being. Dental hygienists work in a wide variety of practice settings, including in their own practice or independently within a dental health team.

In Canada, there are six dental hygiene practice key responsibility areas:

Administration: Refers to management processes and policy and protocol development.

Change Agent: Refers to taking a leadership role in managing the process of change. This can involve getting things started (catalyst); offering ideas for solving a problem (solution giver); helping individuals find and make the best use of resources (resource link); or understanding the change process (process helper). Acting as a change agent may also involve advocacy and promoting and supporting clients' rights and well-being.

Clinical Therapy: Refers to the primary interceptive, therapeutic, preventive, and ongoing care procedures that help to enable individuals to achieve optimal oral health that contribute to overall health.

Education: Refers to the application of teaching and learning principles to facilitate the development of specific attitudes, knowledge, skills and behaviours.

Health Promotion: Refers to the process of enabling individuals and communities to improve their health through the development of awareness, self-responsibility and control over internal and external factors.

Research (scientific inquiry): Refers to the strategies for systematic inquiry and reporting that supplements, revises and validates dental hygiene practice and may contribute to the knowledge base of other disciplines.

The **dental hygiene process of care** utilizes a system approach that includes the assessment and diagnosis of the clients' needs, formulation of a dental hygiene care plan, implementation of the dental hygiene services/interventions/programs outlined in the care plan and the subsequent evaluation of dental hygiene services/interventions/ programs.

#### **b) Definition of a Dental Hygienist:**

A dental hygienist is a primary oral health care provider who specializes in services related to:

- clinical therapy;
- oral health education; and
- health promotion.

The dental hygienist provides culturally sensitive oral health services for diverse clients throughout their lifespan and works collaboratively with clients, parents/guardians, health professionals, and other stakeholders to enhance the oral and overall health of these clients.

### **ASSUMPTIONS**

#### **An Entry-Level Dental Hygienist:**

- meets the criteria for licensure/registration within the Canadian jurisdiction in which he/she intends to practice;
- practices dental hygiene autonomously;
- has the knowledge, skills, and ability to practice as a primary oral health care provider;
- is familiar with the Canadian healthcare system;
- uses a dental hygiene process of care model to deliver client-centered, safe and competent dental hygiene services;
- practices with a foundation of evidence-based knowledge and theory;
- practices collaboratively with clients, colleagues and other health care professionals; and
- is legally, ethically and professionally accountable for his/her practice and must be able to recognize personal limitations.

#### **Clients of an Entry-Level Dental Hygienist:**

- may be individuals, families, groups, organizations, or communities;
- include individuals across the lifespan;
- are unique and diverse in needs, motivations, resources, and determinants of health;
- are active participants who make informed decisions about their dental hygiene care and services;
- are consumers who expect effective dental hygiene care and services; and
- have a right to recourse in the event of unsatisfactory dental hygiene care.

#### **Practice Environments of an Entry-Level Dental Hygienist:**

- include a variety of practice settings (e.g., general practice, specialty practice, community settings, teaching institutions, hospitals, etc.);

- are influenced by physical, social, economic and cultural factors; and
- are dynamic.

## COMPETENCY PROFILE

The NDHCB Competency Profile comprises 82 competencies under 8 different categories. The categories are as follows: Responsibility and Accountability, Client and Professional Relationships, Health & Safety and Practice Management, Foundational Knowledge, Assessment and Diagnosis, Planning, Implementation, and Evaluation. See Appendix A for the complete competency profile.

## COMPETENCY GROUPS AND WEIGHTINGS

The survey results were used not only to validate the list of competencies but also to determine their relative importance in the Examination. Respondents to the survey were asked to rate each competency according to two parameters: degree of criticality and frequency of application of the competency in practice. Based on the ratings obtained in the survey and on the expert opinion of the EC, the competencies were placed into four groups according to their relative criticality and frequency of application (See Table 1). These groups determine the relative weights to be given to the each of the competencies in the Examination. The Examination List of Competencies (by Group) is presented in Appendix B.

**TABLE 1: COMPETENCY GROUPING**

	<b>1. Very Critical</b>	<b>2. Less Critical</b>
<b>A. Higher Frequency</b>	Group 1-A	Group 2-A
<b>B. Lower Frequency</b>	Group 1-B	Group 2-B

***The National Dental Hygiene Certification Examination Competencies are grouped on the basis of the ratings obtained in the national validation survey and finalized by the Examination Committee.***

## COMPETENCY SAMPLING

Each version of the Examination will consist of 200 items from which 170 items will be selected for each Examination according to the distribution sampling presented in Table 2 and 30 items will be considered experimental items that will not count towards the candidate final score (see "Examination Length and Format" section).

**TABLE 2: COMPETENCY SAMPLING (N = 170 items)**

<b>Group 1-A: 25 competencies</b>	<b>40-50% of the Examination</b>
<b>Group 1-B: 19 competencies</b>	<b>25-35% of the Examination</b>
<b>Group 2-A: 19 competencies</b>	<b>15-25% of the Examination</b>
<b>Group 2-B: 19 competencies</b>	<b>5-10% of the Examination</b>

## B. EXAMINATION DEVELOPMENT GUIDELINES

In addition to the specifications related to the competencies, other variables are considered during the development of the Examination. This section presents the guidelines for the following two types of variables:

**Structural Variables:** Structural variables include those characteristics that determine the general appearance and design of the Examination. They define the length of the Examination, the format/presentation of the examination items (e.g., multiple-choice format, item presentation), and special functions of examination items (e.g., to measure a competency within the cognitive domain).

**Contextual Variables:** Contextual variables qualify the content domain by specifying the contexts in which the examination items will be set (i.e., age and gender of the client, and health care environment).

### STRUCTURAL VARIABLES

#### **Examination Length and Format:**

The Examination is a fully computer-based examination and is administered over a period of 4 hours. The Examination consists of a total of 200 multiple-choice items from which 170 items are scored and count towards the candidate's results and the remaining 30 items are experimental questions included for statistical gathering purposes only and do not count towards the candidate's overall results.

#### **Item Presentation:**

The multiple-choice items are presented in one of two formats; independent and case-based items. Case-based items are a set of approximately five to six items associated with a brief case scenario (e.g., a description of the client's age, gender, general and oral health issues, etc.) Items presented on the Examination will also reflect current dental hygiene practices including dental radiographs, intraoral photographs, and clients' dental chart.

The scored portion of the Examination, which includes 170 items, represents 70-80% of independent items and 20-30% of case-based items.

#### **Cognitive Domains:**

To ensure that competencies are measured at different levels of cognitive ability, each item on the Examination is classified into one of three levels: Knowledge/Comprehension; Application; or Critical Thinking. These cognitive domains are adapted from the *Taxonomy of Educational Objectives, the classification of educational goals – Handbook I: Cognitive Domains* from B.S. Bloom et al (1956).

##### *1) Knowledge/Comprehension*

This domain combines the ability to recall previously learned material and to understand its meaning. It includes mental abilities such as knowing and understanding definitions, facts, and principles.

##### *2) Application*

This domain refers to the ability to apply knowledge and learning to new or practical situations. It includes applying rules, methods, principles, and dental hygiene theories in providing care to clients.

### 3) *Critical Thinking*

This domain deals with higher-level thinking processes. It includes the ability to judge the relevance of data, to analyse and synthesize information and to solve problems (e.g., identifying priorities of care, evaluating the effectiveness of interventions provided). The dental hygienist should be able to identify cause-and-effect relationships, distinguish between relevant and irrelevant data, formulate valid conclusions, and make judgments concerning the needs of clients. (See Table 3 for the distribution of items for each cognitive domain)

**TABLE 3: TARGET PERCENTAGES OF ITEMS FOR EACH COGNITIVE LEVEL**

<b>Cognitive Domains</b>	<b>Percentage of Items</b>
Knowledge/Comprehension	18-23%
Application	55-60%
Critical Thinking	20-25%

## **CONTEXTUAL VARIABLES**

### **a) Client Age and Gender:**

Two of the contextual variables specified for the Examination are the **age** and **gender** of the clients. To ensure that the clients described in the Examination reflect the demographic characteristics of the population encountered by the dental hygienist, the Examination will include a mix of items representing both male and female clients (approximately 50% of each gender). Specifications for client age groups, listed in Table 4 as percentage ranges, will also serve as guidelines for test development.

**TABLE 4: TARGET PERCENTAGES FOR CLIENT AGE**

<b>Age Group</b>	<b>Percentage of Items</b>
Child & Adolescent (0-18 years)	10-25%
Adult (19-64 years)	40-60%
Older Adult (65+ years)	20-35%

### **b) Client Culture:**

The Examination is designed to include items representing the variety of cultural backgrounds encountered while providing dental hygiene care in Canada. While the Examination does not test candidates' knowledge of specific values, beliefs, and practices linked to individual cultures, it is intended to measure awareness, sensitivity, and respect for diverse cultural values, beliefs, and practices. Cultural issues are integrated within the Examination without introducing cultural stereotypes or biases.

### **c) Health Care Environment:**

Since the profession of dental hygiene can be practiced in a variety of settings and most of the competencies are not setting dependent, the health care environment is only specified when required.

***The National Dental Hygiene Certification Examination represents the demographic and cultural realities of the Canadian population that requires dental hygiene care in a variety of practice settings.***

## C. PERFORMANCE PROFILE: FEEDBACK CATEGORIES

After writing the NDHCB Examination, each candidate will receive feedback on their performance. The NDHCB Performance Profile provides feedback on the four (4) competency sampling groups (p.9), the eight (8) content categories (p.11), and the three (3) cognitive domains (p.10). See Table 5 for the content category breakdown including the number of competencies that fall under each category and its relative percentage:

**TABLE 5: CONTENT CATEGORIES FOR THE DEVELOPMENT OF THE PERFORMANCE PROFILE**

<b>CATEGORIES</b>	<b>Total Number of Competencies</b>	<b>Percentage of Items</b>
1. RESPONSIBILITY & ACCOUNTABILITY	8	6-14%
2. CLIENT & PROFESSIONAL RELATIONSHIPS	4	2-9%
3. HEALTH & SAFETY AND PRACTICE MANAGEMENT	5	4-11%
4. FOUNDATIONAL KNOWLEDGE	14	12-19%
5. ASSESSMENT AND DIAGNOSIS	19	20-28%
6. PLANNING	7	6-13%
7. IMPLEMENTATION	18	17-24%
8. EVALUATION	7	3-10%

## III. CONCLUSION

The *Blueprint for the National Dental Hygiene Certification Board Examination (2016)* is the outcome of the combined efforts of the National Dental Hygiene Certification Board, the Canadian Dental Hygiene Regulatory Authorities, the Commission on Dental Accreditation of Canada, the Canadian Dental Hygienists Association, the provincial dental hygiene associations, the accredited dental hygiene educational institutions, Canadian dental hygienists, and Yardstick. The compilation and validation of the competencies required of a practicing dental hygienist in Canada and the production of guidelines for the measurement of these competencies were made possible through a collaborative process.

It is recognized that the dental hygiene profession will continue to evolve. As this occurs, the Blueprint (i.e., the competencies and the test development guidelines) may require revision so that it accurately continues to reflect the most current scope of practice, roles, and responsibilities of the practicing entry-level dental hygienist in Canada.

# IV. SUMMARY CHART

## NATIONAL DENTAL HYGIENE CERTIFICATION EXAMINATION DEVELOPMENT GUIDELINES

<b>COMPETENCIES</b>			
<b>Group 1-A:</b> 40-50% of items	<b>Group 1-B:</b> 25-35% of items	<b>Group 2-A:</b> 15-25% of items	<b>Group 2-B:</b> 5-10% of items
<b>STRUCTURAL VARIABLES</b>			
Examination Length and Format	<p>It is a computer-administered examination.</p> <p>The examinee will have 4 hours to complete the examination.</p> <p>The examination consists of 200 objective items (i.e., multiple-choice questions), from which 170 will be scored for each examinee. The other 30 items are experimental and will be tested for statistics gathering only (these items will not count towards the final score).</p>		
Item Presentation	<p>70-80% independent items</p> <p>20-30% case-based items</p>		
Cognitive Ability Levels	<p>Knowledge/Comprehension: 18-23% of items</p> <p>Application: 55-60% of items</p> <p>Critical Thinking: 20-25% of items</p>		
Competency Categories	<ol style="list-style-type: none"> <li>1. Responsibility and Accountability</li> <li>2. Client Professional Relationships</li> <li>3. Health &amp; Safety and Practice Management</li> <li>4. Foundational Knowledge</li> <li>5. Assessment and Diagnosis</li> <li>6. Implementation</li> <li>7. Planning</li> <li>8. Evaluation</li> </ol>		
<b>CONTEXTUAL VARIABLES</b>			
Client Age	<p>Child &amp; Adolescent (0-18 years): 10-25% of items</p> <p>Adult (19-64 years): 40-60% of items</p> <p>Older Adult (64+ years): 20-35% of items</p>		
Client Gender	Approximately 50% male and 50% female		
Client Culture	Items are included that measure awareness, sensitivity, and respect for different cultural values, beliefs, and practices, without introducing stereotypes or biases.		
Health Care Environment	Since dental hygiene can be practiced in a variety of settings and most of the competencies are not setting dependent, the health care environment is only specified when required.		

# APPENDIX A

## THE NATIONAL DENTAL HYGIENE CERTIFICATION EXAMINATION LIST OF COMPETENCIES (BY CATEGORY)

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### 1. RESPONSIBILITY AND ACCOUNTABILITY

#### The Dental Hygienist:

- 1.01 Applies ethical principles.
- 1.02 Complies with current national [jurisprudence](#) requirements and relevant legislation, standards, and codes.
- 1.03 Works within scope of practice and own level of competence, both independently and as part of an interprofessional team.
- 1.04 Maintains privacy and confidentiality in accordance with relevant legislation.
- 1.05 Maintains documentation and records consistent with relevant legislation.
- 1.06 Recognizes incompetent or unsafe practice of self and others, and responds appropriately.
- 1.07 Implements [quality improvement](#) activities based on self-assessment of own professional learning needs.
- 1.08 Incorporates new evidence from research, clinical expertise, and other relevant resources to support dental hygiene practice.

### 2. CLIENT AND PROFESSIONAL RELATIONSHIPS

#### The Dental Hygienist:

- 2.01 Demonstrates sensitivity to client [diversity](#).
- 2.02 Implements communication approaches (e.g., verbal, nonverbal, visual, written and electronic forms of communication) for [clients](#) and [stakeholders](#) based on their characteristics, needs, linguistic level, and health literacy.
- 2.03 Collaborates with communities, interprofessional teams, and stakeholders to improve oral health outcomes.
- 2.04 Acts as a client [advocate](#).

### 3. HEALTH & SAFETY AND [PRACTICE MANAGEMENT](#)

#### The Dental Hygienist:

- 3.01 Applies principles of infection prevention and control.
- 3.02 Applies principles of risk reduction for client, colleague, and practitioner safety, health and well-being.
- 3.03 Takes responsibility for the use, maintenance, and disposal of equipment and materials involved in the delivery of [dental hygiene services](#).
- 3.04 Uses information systems (e.g., health records, online pharmacology database, financial records, etc.) for the collection, retrieval, and storage of data to support dental hygiene practice.
- 3.05 Manages time, resources (e.g., financial, materials, personnel, etc.), and priorities to ensure effective dental hygiene practice.

### 4. FOUNDATIONAL KNOWLEDGE

#### The Dental Hygienist:

- 4.01 Uses knowledge of basic principles of research methods and statistics in dental hygiene practice.
- 4.02 Uses knowledge of the behavioural sciences (e.g., psychology, sociology, etc.) in dental hygiene practice.
- 4.03 Uses knowledge of anatomy, biology, histology, pathology, and physiology in dental hygiene practice.
- 4.04 Uses knowledge of biochemistry and nutrition in dental hygiene practice.

- 4.05 Uses knowledge of immunology and microbiology in dental hygiene practice.
- 4.06 Uses knowledge of pharmacology in dental hygiene practice.
- 4.07 Uses knowledge of periodontology in dental hygiene practice.
- 4.08 Uses knowledge of head/neck anatomy and physiology in dental hygiene practice.
- 4.09 Uses knowledge of oral/dental anatomy and physiology in dental hygiene practice.
- 4.10 Uses knowledge of oral/dental embryology and histology in dental hygiene practice.
- 4.11 Uses knowledge of oral pathology in dental hygiene practice.
- 4.12 Uses knowledge of dental radiography in dental hygiene practice.
- 4.13 Uses knowledge of orthodontics in dental hygiene practice.
- 4.14 Uses knowledge of restorative dentistry, endodontics, prosthodontics, and oral surgery in dental hygiene practice.

## 5. ASSESSMENT AND DIAGNOSIS

### The Dental Hygienist:

- 5.01 Assesses [epidemiological data](#) (e.g., [demographic data](#), [determinants of health](#), etc.).
- 5.02 Assesses health history including prescribed and non-prescribed pharmaceuticals, herbs, and supplements.
- 5.03 Assesses vital signs.
- 5.04 Identifies clients for whom the initiation or continuation of treatment is contraindicated.
- 5.05 Identifies clients at risk for medical emergencies.
- 5.06 Assesses the head and neck region.
- 5.07 Assesses intraoral soft tissues other than the periodontium.
- 5.08 Assesses intraoral hard tissues.
- 5.09 Assesses the periodontium.
- 5.10 Assesses hard and soft deposits.
- 5.11 Identifies [risk factors](#) for diseases including dental, oral, and periodontal pathologies.
- 5.12 Determines the need for radiographs.
- 5.13 Uses additional diagnostic modalities (e.g., photographs, study models, pulpal testing, microbiological testing, caries and oral cancer screening tests, etc.), as needed.
- 5.14 Assesses dietary practices.
- 5.15 Uses oral health indices.
- 5.16 Assesses and [interprets radiographs](#).
- 5.17 Assesses clients' oral health knowledge, beliefs, attitudes, motivation, skills, and barriers to learning as part of the educational process.
- 5.18 Determines the need for consultation with other [professionals](#).
- 5.19 Formulates a [dental hygiene diagnosis](#) using problem solving and decision-making skills.

## 6. PLANNING

### The Dental Hygienist:

- 6.01 Prioritizes clients' needs through a collaborative process involving clients, family, care providers, and others, as needed.
- 6.02 Identifies strategies to minimize the risk of a medical emergency.
- 6.03 Adapts strategies and interventions for clients with diverse needs.
- 6.04 Develops [dental hygiene care plans](#) based on assessment data and [a client-centred approach](#).
- 6.05 Supports clients' autonomy by assisting them in making [informed decisions](#) about dental hygiene services.
- 6.06 Determines the need for client referral to other health professionals.
- 6.07 Develops educational interventions, health promotion strategies, and community oral health programs based on assessment data and a client-centred approach.

## **7. IMPLEMENTATION**

### **The Dental Hygienist:**

- 7.01 Applies principles of instrumentation.
- 7.02 Exposes and processes intraoral and extraoral radiographs.
- 7.03 Teaches clients oral self-assessment techniques.
- 7.04 Provides coaching/advice to clients regarding oral self-care.
- 7.05 Counsels clients regarding tobacco cessation strategies.
- 7.06 Provides clients with information regarding dietary practices.
- 7.07 Implements strategies to manage client pain, anxiety and discomfort, including local anesthesia.
- 7.08 Provides non-surgical periodontal therapy using hand instrumentation.
- 7.09 Provides non-surgical periodontal therapy using powered instrumentation.
- 7.10 Applies anticariogenic agents and therapies.
- 7.11 Applies appropriate chemotherapeutics/pharmacotherapeutics excluding anticariogenic agents.
- 7.12 Takes impressions and fabricates study models, tooth whitening trays, and sports mouthguards.
- 7.13 Provides tooth whitening services.
- 7.14 Takes intraoral and extraoral photographs.
- 7.15 Applies and removes periodontal dressings and removes sutures.
- 7.16 Places temporary restorations.
- 7.17 Responds to medical emergencies.
- 7.18 Implements educational interventions, health promotion strategies, and community oral health programs that meet clients' learning needs.

## **8. EVALUATION**

### **The Dental Hygienist:**

- 8.01 Uses measurable criteria to evaluate outcomes.
- 8.02 Revises dental hygiene care plans, educational interventions, health promotion strategies, and community oral health programs, as needed.
- 8.03 Evaluates the effectiveness of clinical dental hygiene care.
- 8.04 Evaluates the need for client referral to other health professionals.
- 8.05 Provides recommendations to clients regarding their ongoing care.
- 8.06 Evaluates the effectiveness of educational interventions, health promotion strategies, and community oral health programs.
- 8.07 Communicates evaluation outcomes to clients, family, care providers, stakeholders, and others.

# APPENDIX B

## COMPETENCIES - BY LEVEL OF CRITICALITY & FREQUENCY

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### GROUP 1A

40-50% of the Examination

#### The Dental Hygienist:

- 1.02 Complies with current national jurisprudence requirements and relevant legislation, standards, and codes.
- 1.04 Maintains privacy and confidentiality in accordance with relevant legislation.
- 1.05 Maintains documentation and records consistent with relevant legislation.
- 2.02 Implements communication approaches (e.g., verbal, nonverbal, visual, written and electronic forms of communication) for clients and stakeholders based on their characteristics, needs, linguistic level, and health literacy.
- 3.01 Applies principles of infection prevention and control.
- 3.02 Applies principles of risk reduction for client, colleague, and practitioner safety, health and well-being.
- 4.06 Uses knowledge of pharmacology in dental hygiene practice.
- 4.07 Uses knowledge of periodontology in dental hygiene practice.
- 5.02 Assesses health history including prescribed and non-prescribed pharmaceuticals, herbs, and supplements.
- 5.05 Identifies clients at risk for medical emergencies.
- 5.07 Assesses intraoral soft tissues other than the periodontium.
- 5.09 Assesses the periodontium.
- 5.10 Assesses hard and soft deposits.
- 5.11 Identifies risk factors for diseases including dental, oral, and periodontal pathologies.
- 5.12 Determines the need for radiographs.
- 5.16 Assesses and interprets radiographs.
- 5.17 Assesses clients' oral health knowledge, beliefs, attitudes, motivation, skills, and barriers to learning as part of the educational process.
- 5.19 Formulates a dental hygiene diagnosis using problem solving and decision-making skills.
- 6.04 Develops dental hygiene care plans based on assessment data and a client-centred approach.
- 6.05 Supports clients' autonomy by assisting them in making informed decisions about dental hygiene services.
- 7.01 Applies principles of instrumentation.
- 7.08 Provides non-surgical periodontal therapy using hand instrumentation.
- 7.09 Provides non-surgical periodontal therapy using powered instrumentation.
- 8.03 Evaluates the effectiveness of clinical dental hygiene care.
- 8.05 Provides recommendations to clients regarding their ongoing care.

## GROUP 1B

**25-35% of the Examination**

### **The Dental Hygienist:**

- 1.01 Applies ethical principles.
- 1.03 Works within scope of practice and own level of competence, both independently and as part of an interprofessional team.
- 1.06 Recognizes incompetent or unsafe practice of self and others, and responds appropriately.
- 1.08 Incorporates new evidence from research, clinical expertise, and other relevant resources to support dental hygiene practice.
- 4.11 Uses knowledge of oral pathology in dental hygiene practice.
- 5.04 Identifies clients for whom the initiation or continuation of treatment is contraindicated.
- 5.14 Assesses dietary practices.
- 5.18 Determines the need for consultation with other professionals.
- 6.01 Prioritizes clients' needs through a collaborative process involving clients, family, care providers, and others, as needed.
- 6.02 Identifies strategies to minimize the risk of a medical emergency.
- 6.06 Determines the need for client referral to other health professionals.
- 6.07 Develops educational interventions, health promotion strategies, and community oral health programs based on assessment data and a client-centred approach.
- 7.05 Counsels clients regarding tobacco cessation strategies.
- 7.06 Provides clients with information regarding dietary practices.
- 7.07 Implements strategies to manage client pain, anxiety and discomfort, including local anesthesia.
- 7.17 Responds to medical emergencies.
- 7.18 Implements educational interventions, health promotion strategies, and community oral health programs that meet clients' learning needs.
- 8.02 Revises dental hygiene care plans, educational interventions, health promotion strategies, and community oral health programs, as needed.
- 8.04 Evaluates the need for client referral to other health professionals.

## GROUP 2A

15-25% of the Examination

### The Dental Hygienist:

- 2.01 Demonstrates sensitivity to client diversity.
- 3.03 Takes responsibility for the use, maintenance, and disposal of equipment and materials involved in the delivery of dental hygiene services.
- 3.04 Uses information systems (e.g., health records, online pharmacology database, financial records, etc.) for the collection, retrieval, and storage of data to support dental hygiene practice.
- 4.02 Uses knowledge of the behavioural sciences (e.g., psychology, sociology, etc.) in dental hygiene practice.
- 4.03 Uses knowledge of anatomy, biology, histology, pathology, and physiology in dental hygiene practice.
- 4.05 Uses knowledge of immunology and microbiology in dental hygiene practice.
- 4.08 Uses knowledge of head/neck anatomy and physiology in dental hygiene practice.
- 4.09 Uses knowledge of oral/dental anatomy and physiology in dental hygiene practice.
- 4.12 Uses knowledge of dental radiography in dental hygiene practice.
- 5.03 Assesses vital signs.
- 5.06 Assesses the head and neck region.
- 5.08 Assesses intraoral hard tissues.
- 5.15 Uses oral health indices.
- 6.03 Adapts strategies and interventions for clients with diverse needs.
- 7.02 Exposes and processes intraoral and extraoral radiographs.
- 7.04 Provides coaching/advice to clients regarding oral self-care.
- 7.10 Applies anticariogenic agents and therapies.
- 8.01 Uses measurable criteria to evaluate outcomes.
- 8.06 Evaluates the effectiveness of educational interventions, health promotion strategies, and community oral health programs.

## GROUP 2B

5-10% of the Examination

### The Dental Hygienist:

- 1.07 Implements quality improvement activities based on self-assessment of own professional learning needs.
- 2.03 Collaborates with communities, interprofessional teams, and stakeholders to improve oral health outcomes.
- 2.04 Acts as a client advocate.
- 3.05 Manages time, resources (e.g., financial, materials, personnel, etc.), and priorities to ensure effective dental hygiene practice.
- 4.01 Uses knowledge of basic principles of research methods and statistics in dental hygiene practice.
- 4.04 Uses knowledge of biochemistry and nutrition in dental hygiene practice.
- 4.10 Uses knowledge of oral/dental embryology and histology in dental hygiene practice.
- 4.13 Uses knowledge of orthodontics in dental hygiene practice.
- 4.14 Uses knowledge of restorative dentistry, endodontics, prosthodontics, and oral surgery in dental hygiene practice.
- 5.01 Assesses epidemiological data (e.g., demographic data, determinants of health, etc.).
- 5.13 Uses additional diagnostic modalities (e.g., photographs, study models, pulpal testing, microbiological testing, caries and oral cancer screening tests, etc.), as needed.
- 7.03 Teaches clients oral self-assessment techniques.
- 7.11 Applies appropriate chemotherapeutics/pharmacotherapeutics excluding anticariogenic agents.
- 7.12 Takes impressions and fabricates study models, tooth whitening trays, and sports mouthguards.
- 7.13 Provides tooth whitening services.
- 7.14 Takes intraoral and extraoral photographs.
- 7.15 Applies and removes periodontal dressings and removes sutures.
- 7.16 Places temporary restorations.
- 8.07 Communicates evaluation outcomes to clients, family, care providers, stakeholders, and others.

# APPENDIX C

## GLOSSARY

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### **Advocate**

One who supports a client by taking action to promote the rights of the client in health care and other issues. Advocacy is the act of intervening such as speaking or writing in favour of a particular issue, cause, or policy for an individual or group of people. It aims to enhance the oral health of disadvantaged clients or groups and improve access to oral health services.

### **Client(s)**

An individual, family, group, organization or community accessing the professional services of a dental hygienist.

### **Client-Centred Approach/Client-Centered Care**

A service approach from the perspective that the client is the main focus of attention, interest, and activity; the client's values, beliefs and needs are of utmost importance in the selection and provision of dental hygiene services.

### **Demographic Data**

Information related to the statistics of groups of people, their environment and geographic distribution (e.g., age, gender, births, deaths and diseases), and determinants of health.

### **Dental Hygiene Care Plan**

A written document specifying dental hygiene services for a client based on the assessment findings, dental hygiene diagnosis, and the client's needs. The goal of the care plan is to improve the client's oral health.

### **Dental Hygiene Diagnosis**

The conclusion reached by a dental hygienist, using critical decision-making skills, based on all available assessment data.

### **Dental Hygiene Services**

All therapeutic, preventive and educational actions that a dental hygienist, by law, can provide to a client to assist them in achieving optimal oral health, and well-being.

### **Determinants of Health**

The range of personal, social, economic, and environmental factors that determine the health status of individuals or populations (Health Canada, 2011).

### **Diversity**

Individual differences in race, ethnicity, culture, language, gender, sexual orientation, socioeconomic status, age, physical abilities, religious beliefs, and others.

### **Epidemiological Data**

Information related to the incidence, distribution, and prevalence of health issues or diseases in a specific population or geographic area.

### **Informed Decision-Making**

Occurs when the client has been provided with relevant information, is provided the opportunity to discuss this information, understands this information, and is able to make a suitable decision.

**Interprets Radiographs**

Interpretation refers to an explanation of what is viewed on a dental image. When interpreting an image, the starting points are a systematic analysis of the quality of the image and a thorough understanding of the appearances of normal anatomic structures and their variances. The dental hygienist must be competent in identifying and recognizing features such as: normal anatomy; dental restorations, dental materials, and foreign objects; dental caries; periodontal disease; trauma, pulpal lesions, and periapical lesions, etc.

**Jurisprudence**

The system of laws that govern the practice of a profession. National jurisprudence includes federal legislation such as: Safety Code 30 (Radiation Protection), Freedom of Information Act, WHIMIS, etc.

**Practice Management/Management of the Dental Hygiene Practice**

Involves decisions, actions, and resource allocation to enable the provision of professional dental hygiene services to meet the objectives of the practice. Includes planning, budgeting, technology application, information systems management, and personnel.

**Professionals**

Includes dental and health professionals, and others (e.g., psychologists, social workers, insurance providers, etc.).

**Quality Improvement/Quality Assurance**

A mechanism for systematically assessing the quality of care, and implementing and evaluating changes in the client care delivery system to maintain or improve the quality of care.

**Risk Factors**

Attributes, characteristics, or exposures that have been shown to have an association, or a direct cause-effect relationship, with a disease or condition (e.g., relationship between smoking and periodontal disease).

**Stakeholders**

A person, group or organization that has interest or concern in the provision of dental hygiene care and services. Stakeholders can affect or be affected by the actions, objectives, and policies set by the dental hygiene profession or the dental hygienist.