

## **THE COMPETENCY PROFILE FOR CANADIAN DENTAL TECHNICIANS/TECHNOLOGISTS**

### **GENERAL STATEMENT**

In order to meet the “entry to practice” requirements of the Canadian Alliance of Dental Technology Regulators, a dental technician/technologist must be able to demonstrate an understanding of the prescription of an authorized practitioner and competency in the following techniques and procedures:

- 1. The design\*, fabrication, modification and repair of removable prostheses.**
- 2. The design\*, fabrication, modification and repair of fixed prostheses.**
- 3. The design\*, fabrication, modification and repair of appliances used in orthodontics, oral and maxillo-facial surgery and other dental treatments.**

Further, a dental technician/technologist must be able to describe and, where appropriate, to apply competently the following related theoretical and practical components of dental technique/technology practice:

- 4. General knowledge of laboratory procedures, physics and chemistry principles, associated with the fabrication of oral appliances and dental restorations.**
- 5. Characteristics and properties of dental materials associated with the fabrication of oral appliances and dental restorations.**
- 6. Characteristics and operation of equipment and special instrumentation associated with the fabrication of oral appliances and dental restorations.**
- 7. Fundamental elements of dental anatomy, dental physiology and dental morphology, as well as basic elements of pathological conditions relevant to dental technique/technology practice.**
- 8. Health and safety in the workplace, dental laboratory asepsis, and infection control**
- 9. Essential elements of behavioural sciences and communications, as well as elements of business management, principles of professional ethics, and legal obligations.**

**\* NOTE: Where the word “design” appears in this document, it is understood to mean in accordance with a prescription, and in consultation with the authorized prescribing practitioner as required.**

## **REQUIRED COMPETENCIES BY CLUSTER**

**CC:** Cognitive Competency; **PTC:** Procedural and Technical Competency; **BC:** Behavioural Competency)

<p><b>1. The dental technician/technologist must be competent in the design, fabrication, modification and repair of removable prostheses. Competence must be demonstrated in the following knowledge, skills, and abilities:</b></p>
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**1.1 (CC)** *To describe reasons for the provision* of removable complete, partial, and cast-partial denture prostheses, their, limitations and contraindications;

**1.2 (CC)** *To describe* how various denture prostheses are designed and fabricated;

**1.3 (CC)** *To identify* the components of a removable partial denture prostheses;

**1.4 (PTC)** *To design* removable complete, partial and cast-partial denture prostheses;

**1.5 (PTC)** *To fabricate* removable complete, partial, and cast-partial denture prostheses;

**1.6 (PTC)** *To modify and to repair* metal components of removable denture prostheses utilizing appropriate soldering and welding techniques;

**1.7 (PTC)** *To modify and to repair* acrylic components of removable denture prostheses utilizing appropriate techniques;

**1.8 (PTC)** *To design* removable implant-retained denture prostheses;

**1.9 (PTC)** *To fabricate or to modify or to repair* removable implant-retained denture prostheses;

<p><b>2. The dental technician/technologist must be competent in the design, fabrication, modification and repair of fixed prostheses. Competence must be demonstrated in the following knowledge, skills, and abilities:</b></p>
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**2.1 (CC)** *To describe* the reasons for the provision of fixed prostheses, their limitations and contraindications;

**2.2 (CC)** *To describe* how various types of fixed prostheses are designed and fabricated, including all-metal, metal-ceramic, metal-polymer, and all ceramic restorations;

**2.3 (CC)** *To identify* tooth preparation requirements for various types of fixed prostheses, including various margin designs;

**2.4 (CC)** *To describe* how the design of the occlusal morphology of fixed restorations is related to occlusal forces;

**2.5 (PTC)** *To design* various types of provisional and permanent fixed prostheses;

**2.6 (PTC)** *To fabricate* various types of provisional and permanent fixed prostheses;

**2.7 (PTC)** *To modify and to repair* various types of provisional and permanent fixed prostheses;

2.8 (PTC) *To design* various types of implant-retained fixed prostheses;

2.9 (PTC) *To fabricate or to modify or to repair* various types of implant-retained fixed prostheses;

**3. The dental technician/technologist must be competent in the design, fabrication, modification and repair of appliances used in orthodontics, oral and maxillo-facial surgery and other dental treatments. Competence must be demonstrated in the following knowledge, skills and abilities:**

3.1 (CC) *To describe reasons for the provision* of orthodontic and occlusal appliances and of appliances used in oral and maxillo-facial surgery and other dental treatments, their limitations and contraindications;

3.2 (CC) *To identify* the components of fixed and removable orthodontic appliances;

3.3 (CC) *To describe* how various simple fixed and removable orthodontic appliances are designed and fabricated;

3.4 (CC) *To describe* the basic causes and classifications of malocclusion and the records required for orthodontic treatment;

3.5 (PTC) *To design* various types of fixed and removable orthodontic appliances and to adapt those techniques and materials to the construction of appliances used in oral and maxillo-facial surgery and other dental treatments;

3.6 (PTC) *To fabricate* various types of fixed and removable orthodontic appliances and adapt those techniques to the fabrication of appliances used in oral and maxillo-facial surgery and other dental treatments;

3.7 (PTC) *To modify or to repair* various types of fixed and removable orthodontic appliances and appliances used in oral and maxillo-facial surgery and other dental treatments;

**4. The dental technician/technologist must be competent in general laboratory procedures and the principles of physics and chemistry related to the practice of dental technique/technology. Competence must be demonstrated in the following knowledge, skills and abilities:**

4.1 (CC) *To describe* the general laboratory procedures, techniques and processes related to the fabrication of various types of dental prostheses;

4.2 (CC) *To describe* the basic principles of physics and chemistry as they relate to the practice of dental technique/technology;

4.3. (CC) *To describe* how force, heat, electricity, light, sound, chemical elements, and other mechanical principles relate to the practice of dental technique/technology;

4.4 (PTC) *To adapt and apply* general laboratory procedures to the fabrication, modification or repair of dental prostheses and appliances;

**5. The dental technician/technologist must be competent in the characteristics and properties of dental materials associated with the fabrication of oral appliances and dental restorations. Competence must be demonstrated in the following knowledge, skills and abilities:**

**5.1 (CC)** *To describe* the characteristics, physical and mechanical properties, and classification of materials used in the practice of dental technique/technology;

**5.2 (CC)** *To describe* the handling and application of materials used in the practice of dental technique/technology;

**5.3 (PTC)** *To select and utilize* dental materials in the most appropriate fashion by taking into account the effects of different manipulation on different types of materials and to recognize and be able to remedy possible material defects;

**6. The dental technician/technologist must be competent in describing characteristics and operation of equipment and special instrumentation associated with the fabrication of oral appliances and dental restorations. Competence must be demonstrated in the following knowledge, skills, and abilities:**

**6.1 (CC)** *To describe* the principles of operation of the equipment used in dental technique/technology;

**6.2 (PTC)** *To select and to utilize* equipment appropriate to the specified procedures, safely and efficiently;

**7. The dental technician/technologist must be competent in describing and applying the fundamental elements of dental anatomy, dental physiology, and dental morphology to the fabrication of oral appliances and dental restorations. The dental technician/technologist must also be competent in describing and demonstrating an awareness of basic pathological conditions relevant to dental technique/technology practice. Competence must be demonstrated in the following knowledge, skills and abilities:**

**7.1 (CC)** *To demonstrate* an understanding of the application of dental anatomy, physiology and tooth morphology to the fabrication of oral appliances and dental restorations;

**7.2 (CC)** *To demonstrate* an awareness of anatomical variations, disorders and basic pathological conditions and diseases affecting the oral cavity;

**7.3 (CC)** *To identify and describe* the basic elements of skeletal anatomy and musculature, physiology, and tooth morphology relevant to dental technology;

**8. The dental technician/technologist must be competent in health and safety in the workplace, dental laboratory asepsis and infection control. Competence must be demonstrated in the following knowledge, skills, and abilities:**

**8.1 (CC)** *To describe* the potential dangers in laboratory associated the use of dental materials, laboratory equipment, and other potentially bio-hazardous materials;

**8.2 (CC)** *To describe* the basic procedures for proper handling and control of hazardous materials;

**8.3 (CC)** *To describe* principles of infection, cross-infection, and general laboratory hygiene relevant to the practice of dental technique/technology;

**8.4 (PTC)** *To apply* the appropriate laboratory asepsis and infection control procedures in accordance with any provincial or federal regulations or requirements;

**9. The dental technician/technologist must be competent in describing and applying essential elements of behavioural sciences and communications, as well as elements of business management, principles of professional ethics, and legal obligations. Competence must be demonstrated in the following knowledge, skills and abilities:**

**9.1 (CC)** *To describe* principles of behavioural and communication sciences in order to establish harmonious and effective relationships with practitioners, patients, employees, business contacts and the public;

**9.2 (CC)** *To describe* the legal obligations and ethics of the profession related to the public, regulatory authorities and professional bodies;

**9.3 (CC)** *To describe* the fundamentals of legislation that affects the practice of dental technique/technology;

**9.4 (CC)** *To describe* the basic elements of practical business management and the legal obligations related to establishing and managing a dental laboratory;

**9.5 (BC)** *Demonstrating* the ability to communicate and work well with others in teams or in groups;

**9.6 (BC)** *Demonstrating* the ability to maintain legally required professional records of dental technique/technology services provided;

**ANNEX B**  
**GLOSSARY**

## GLOSSARY

- ❖ **Cognitive Competency** : For any individual, cognitive competencies depend on its knowledge and its ability to manipulate information
- ❖ **Procedural/Technical Competency**: includes aptitudes and the know-how to prepare and fabricate products in a real working situation
- ❖ **Behavioural Competency**: which describes how people do their job, how they think, feel and act on the job. Behavioural competencies complement functional competencies in that they describe how people with the appropriate skills and knowledge should behave with respect to their job, their clients, colleagues and superiors (ref.: Perron-Croteau, L., CCI, # 36, 2005)
- ❖ **Levels of competency (A,B,C,D)** (source: Webster's Dictionary)
  - **To understand and to utilize**: to have thorough or technical acquaintance with or expertness in the practice of a profession
  - **To apply with self-sufficiency**: to put to use for some practical purpose by being able to maintain oneself without outside help
  - **To adapt/to enrich**: to enhance or to increase of some desirable quality, attribute or ingredient
  - **To develop and to innovate**: to make some changes; to do something in a new way
- ❖ **To describe**: discourse intended to give a mental image of something experienced
- ❖ **To identify**: to establish the sameness in all that constitutes the objective reality of a thing
- ❖ **To conceive**: the capacity, function, or process of forming or understanding ideas or abstractions or their symbols
- ❖ **To fabricate**: to construct from diverse and standardized parts
- ❖ **To modify**: to make basic or fundamental changes in often to give a new orientation to
- ❖ **To repair**: to restore by replacing a part or putting together what is torn or broken.
- ❖ **To manufacture**: something made from raw materials by hand or by machinery.