DENTAL ASSISTING
DOMAIN DESCRIPTION

January 2017
Domain Description for Dental Assisting

The Domain Description for Dental Assisting represents the knowledge, skills, attitudes and behaviours the dental assistant should possess upon entry/re-entry into practice and is utilized for:

- Preparing candidates for the exam;
- Dental assisting education (curriculum development);
- Examination development and review.

The Domain Description reflects the national entry level standard established for dental assisting in Canada as agreed upon by stakeholders of the profession.

1. CONDUCT APPROPRIATE TO A PROFESSIONAL SETTING (5-10% of 200 item exam)

1.1 Apply the principles of the Provincial/National Code of Ethics including self-reflection as to personal competence to perform assigned, legal duties
1.2 Practice according to the principles of dental jurisprudence and Provincial regulatory legislation regarding legal scope of practice
1.3 Apply time management, problem solving and critical thinking techniques
1.4 Apply effective communication techniques with patients, care givers, service providers and dental health team members including written and electronic formats
1.5 Use professionally acceptable medical and dental terminology and abbreviations
1.6 Recognize signs of suspected physical, sexual and emotional abuse or neglect and report suspected cases to the appropriate authority
1.7 Explain treatment to patients and/or caregivers and respond to questions to help resolve concerns in accordance with the principles of obtaining informed consent
1.8 Apply privacy policies according to the Personal Information Protection and Electronic Documents Act (PIPEDA) and provincial privacy laws to all communications

2. DENTAL SCIENCES (7-12% of 200 item exam)

2.1 ORAL ANATOMY
2.1.1 Describe, locate and identify structures of the oral cavity
2.1.2 Describe, locate and identify soft tissue landmarks of the oral cavity
2.1.3 Describe, locate and identify tooth anatomical landmarks
2.1.4 Describe, locate and identify the tissues and supporting structures of the teeth
2.1.5 State the functions of teeth and their supporting structures

2.2 ANATOMY OF THE HEAD AND NECK
2.2.1 Identify and locate the bones of the head and describe their structure and function
2.2.2 Identify anatomical landmarks of the head
2.2.3 Identify and describe the parts of the temporomandibular joint (TMJ), its movements and disorders
2.2.4 Identify the muscles of the face and oral cavity and describe their function
2.2.5 Identify and locate the salivary glands and ducts and describe their function
2.2.6 Identify and locate the sinuses
2.2.7 Identify and describe the innervations of the teeth and surrounding tissue of mandibular and maxillary arches
2.2.8 Identify and locate the lymph nodes of the head and neck and describe their functions

2.3 TOOTH DEVELOPMENT AND ERUPTION
   2.3.1 Describe oral facial development including the teeth
   2.3.2 Describe tooth eruption and exfoliation patterns

2.4 ORAL PATHOLOGY
   2.4.1 Describe genetic, developmental and acquired anomalies/pathologies of the hard and soft tissues of the oral cavity
   2.4.2 Describe the etiology and progression of hard and soft tissue lesions

2.5 MICROBIOLOGY
   2.5.1 Describe and identify diseases related to micro-organisms including bacteria, spores, viruses, fungi, protozoa and prions
   2.5.2 Describe the routes of disease transmission

2.6 PHARMACOLOGY
   2.6.1 Describe the effects and interactions of non-prescription, prescription and controlled drugs on patient care and safety issues
   2.6.2 Explain the purpose and process of recording medications including dosages and frequency taken
   2.6.3 Explain the indications for pre-medication prior to dental treatment
   2.6.4 Interpret information regarding medications taken for medical conditions
   2.6.5 Explain the clinical indications for antibiotic prophylaxis prior to invasive procedures

3. CLINICAL SUPPORT PROCEDURES (5-10% of 200 item exam)

3.1 PRINCIPLES OF ASEPSIS
   3.1.1 Explain the rationale for infection prevention procedures in the dental office
   3.1.2 Explain approved methods for the prevention of disease transmission for patients and dental healthcare providers including:
      3.1.2.1 standard infection control procedures
      3.1.2.2 sanitation, disinfection, sterilization and storage
      3.1.2.3 quality assurance protocols for instrument processing equipment and procedures in accordance with manufacturers’ instructions
      3.1.2.4 personal protective equipment
      3.1.2.5 immunization
   3.1.3 Discuss the ethical and legal considerations of treating patients with infectious diseases
   3.1.4 Employ accepted safety standards for infection prevention and handling of hazardous materials and substances in the workplace according to Workplace Hazardous Materials Information System (WHMIS) and Occupational Health and Safety Regulations
3.1.5 Employ ethical protocols for injury prevention, exposure control, post-exposure first-aid and maintenance of employee health records
3.1.6 Explain protocols used to reduce biofilm within dental unit waterlines and evacuation systems

3.2 EQUIPMENT AND SUPPLIES
3.2.1 Identify, operate, and maintain dental instruments and equipment
3.2.2 Select and prepare supplies

3.3 TEAM ERGONOMICS
3.3.1 Apply principles of ergonomics in positioning the patient/operator/dental assistant throughout all procedures
3.3.2 Apply the principles of instrument and material transfer to support procedural efficiency and patient safety
3.3.3 Use appropriate instrumentation techniques to ensure procedural efficiency and patient safety

4. PATIENT RECORDS (5-10% of 200 item exam)

4.1 Apply protocols to comply with legal requirements for maintaining and transferring patient records/documents in both paper-based and electronic systems
4.2 Complete and update patient records/documents using paper-based and electronic systems to include:
   4.2.1 personal history
   4.2.2 health history
   4.2.3 intra-oral/extra-oral examination
   4.2.4 oral hygiene indices
   4.2.5 diagnostic study models and bite registration
   4.2.6 radiographs
   4.2.7 photographs
   4.2.8 vital signs
   4.2.9 consent forms
   4.2.10 care/treatment plan and progress notes/treatment records/medications administered
4.3 Relate patient health history information to treatment
4.4 Use professionally acceptable terminology, charting symbols, abbreviations and tooth numbering systems

5. PATIENT CARE PROCEDURES (40-50% of 200 item exam)

5.1. OBTAIN VITAL SIGNS
5.1.1 Explain the rationale for obtaining vital signs
5.1.2 Describe procedures for measuring pulse, temperature, blood pressure, and respiration with reference to “normal” ranges
5.1.3 Describe factors that affect vital signs
5.1.4 Obtain vital signs including blood pressure, pulse, respirations and temperature
5.2 COLLECT DIAGNOSTIC INFORMATION

5.2.1 Assist with diagnostic procedures

5.2.1.1 State the types of and provide the rationale for performing diagnostic procedures

5.2.1.2 Prepare and transfer equipment and supplies for diagnostic procedures

5.2.2 Obtain preliminary impressions for study models

5.2.2.1 State the rationale for obtaining preliminary impressions and bite registrations for the fabrication of study models

5.2.2.2 Select and prepare equipment and supplies specific to the patient’s dentition and anatomy

5.2.2.3 Manipulate preliminary impression material

5.2.2.4 Obtain mandibular and maxillary preliminary impressions following procedural steps

5.2.2.5 Evaluate impressions

5.2.2.6 Disinfect impressions

5.2.2.7 Prepare impressions for storage and pouring

5.2.2.8 Obtain, evaluate and disinfect simple bite registrations

5.2.2.9 Provide pre-operative, operative and post-operative information/instructions

5.2.3 Produce digital and conventional film based radiographic images

5.2.3.1 Describe components of x-ray machines and their functions

5.2.3.2 Describe factors that affect the quantity and quality of the x-ray beam

5.2.3.3 Describe composition of dental film and types of digital imaging receptors

5.2.3.4 Describe components of the dental film packet and their purposes

5.2.3.5 Describe care, storage and handling of dental films and digital imaging receptors

5.2.3.6 Describe the biological effects of radiation exposure

5.2.3.7 Describe personal radiation monitoring devices and procedures

5.2.3.8 Describe the types of radiographic images and the rationale for their use

5.2.3.9 Provide pre-exposure information and instructions to the patient

5.2.3.10 Apply principles of extra-oral and intra-oral radiographic techniques

5.2.3.11 Select and prepare equipment and supplies

5.2.3.12 Expose prescribed radiographic images in accordance to A.L.A.R.A. principles when using conventional film based or digital radiography

5.2.3.13 Apply quality assurance standards

5.2.3.14 Process exposed conventional films

5.2.3.15 Explain causes and corrective measures for radiographic image exposure, processing and handling errors
5.2.3.16 Describe radiographic image duplicating procedures
5.2.3.17 Evaluate radiographic images for technical quality, accuracy and diagnostic acceptability
5.2.3.18 Describe the difference between radiolucent and radiopaque
5.2.3.19 Identify and describe anatomical landmarks and dental anomalies on radiographic images
5.2.3.20 Mount, label and store/save radiographic images
5.2.3.21 Differentiate between direct and indirect digital imaging

5.3 EMERGENCY CARE
5.3.1 Assist with the assembly and maintenance of emergency supplies, drugs and equipment
5.3.2 Assist in the prevention and management of dental office emergencies
5.3.3 Identify and interpret signs and symptoms of medical conditions which may require emergency care
5.3.4 Assist in the management and treatment of dental emergencies

5.4 MANAGEMENT OF PATIENTS WITH SPECIAL NEEDS
5.4.1 Schedule appointments to accommodate patients with special needs
5.4.2 Adapt procedures according to patients’ physical needs and mobility limitations
5.4.3 Provide information and instructions to patients and caregivers with consideration of their cognitive level and communication ability

5.5 ANAESTHESIA AND PAIN MANAGEMENT
5.5.1 Assist with the administration of topical and local anaesthetic
5.5.1.1 Identify precautions during application of topical and administration of local anaesthetic
5.5.1.2 Describe injection techniques and locate injection sites
5.5.1.3 Describe signs and symptoms of adverse reactions to anaesthetic
5.5.1.4 Describe procedure for application of topical and administration of local anaesthetic
5.5.1.5 Prepare equipment and supplies for topical and local anaesthetic administration
5.5.1.6 Monitor patient for signs of anxiety and adverse reactions to anaesthetic
5.5.1.7 Apply techniques for the safe handling of needles
5.5.1.8 Manage needlestick injuries according to protocols
5.5.1.9 Provide pre-operative, operative and post operative information/instructions for administration of topical and local anaesthetic
5.5.2 Apply topical anaesthetic agents as prescribed
5.5.2.1 Select and prepare equipment and supplies for treatment
5.5.2.2 Prepare injection site and apply the topical anaesthetic according to manufacturer’s instructions
5.5.2.3 Assess tissue for adverse reactions and apply corrective measures
5.5.3 Assist with sedation and general anaesthesia
   5.5.3.1 Differentiate between levels of sedation and general anaesthesia
   5.5.3.2 Identify contra-indications for the administration of sedation and anaesthesia and monitor patient for adverse reactions to each
   5.5.3.3 Describe signs and symptoms of adverse reactions to anaesthesia and sedation
   5.5.3.4 Prepare equipment and supplies and monitor patient for signs of adverse reactions related to sedation and anaesthesia
   5.5.3.5 Record and monitor vital signs before, during and after sedation and anaesthesia
   5.5.3.6 Provide verbal/written, pre-operative, operative, post-operative and home care information/instructions

5.6 MOISTURE CONTROL TECHNIQUES
   5.6.1 State indications and contra-indications for various moisture control techniques
   5.6.2 Select equipment and supplies, prepare for and assist with moisture control
   5.6.3 Place and remove moisture control equipment and supplies
   5.6.4 Apply and remove dental dam
      5.6.4.1 Select and prepare equipment and supplies considering the patient’s dentition and prescribed procedure
      5.6.4.2 Assist with the application and removal of dental dam
      5.6.4.3 Apply and remove dental dam following procedural steps
      5.6.4.4 Evaluate dental dam placement and isolation effectiveness
      5.6.4.5 Identify and correct dental dam positioning and isolation errors
      5.6.4.6 Provide pre-operative, operative and post-operative information/instructions
   5.6.5 Position oral evacuation to maintain a dry operating field and patient comfort

5.7 OPERATIVE DENTISTRY PROCEDURES
   5.7.1 Identify cavity/restoration classifications
   5.7.2 Use terminology associated with cavity preparation and restorations
   5.7.3 Assist with the application of treatment liners
      5.7.3.1 Describe the functions and benefits of liners, bases, varnishes, cements and bonding materials and the indications and contra-indications for their use
      5.7.3.2 Describe the components of bonding systems, their uses, effects and precautions
      5.7.3.3 List the order of placement and location for treatment liners
      5.7.3.4 Prepare, manipulate and transfer treatment liner, acid etchant and bonding materials according to manufacturer’s instructions
5.7.4 Apply treatment liners (no pulpal involvement), acid etch and bonding materials
   5.7.4.1 Select and prepare equipment and supplies
   5.7.4.2 Apply treatment liners, acid etchant and bonding materials following procedural steps
   5.7.4.3 Evaluate placement according to criteria and make modifications as necessary

5.7.5 Assist with the application and removal of matrix systems and wedges
   5.7.5.1 State the rationale for using matrix systems and wedges
   5.7.5.2 Select and assemble matrix system and wedge(s) for prescribed restorative procedures
   5.7.5.3 Assist with placement and removal of matrix system and wedge(s)

5.7.6 Apply and remove matrix system and wedge(s)
   5.7.6.1 Select and prepare equipment and supplies
   5.7.6.2 Apply matrix system and wedge(s) following procedural steps
   5.7.6.3 Evaluate placement according to criteria
   5.7.6.4 Correct application errors
   5.7.6.5 Remove matrix system and wedge(s) following procedural steps
   5.7.6.6 Evaluate removal according to criteria

5.7.7 Assist with preparation and placement of permanent restorative materials
   5.7.7.1 Describe the properties and explain the rationale for the use of amalgam and tooth-coloured restorative materials
   5.7.7.2 Prepare equipment and supplies and assist with amalgam placement and finishing procedures, observing mercury hygiene practice
   5.7.7.3 Describe tooth-coloured restorative materials and their polymerization
   5.7.7.4 Prepare equipment and supplies and assist with placement and finishing of tooth-coloured restorative materials
   5.7.7.5 Provide verbal/written, pre-operative, operative, post-operative and home care information/instructions

5.7.8 Dispense and/or mix temporary restorative materials
   5.7.8.1 Explain the rationale for using various types of temporary restorative materials
   5.7.8.2 Prepare equipment and supplies and assist with placement of temporary restorative materials
   5.7.8.3 Provide verbal/written, pre-operative, operative, post-operative and home care information/instructions

5.7.9 Assist with tooth whitening techniques
   5.7.9.1 State indications and contra-indications for whitening of vital and non-vital teeth
   5.7.9.2 Describe tooth whitening materials and techniques
   5.7.9.3 Describe the complications which may result from tooth whitening
5.7.9.4 Prepare equipment and supplies and assist with tooth whitening
5.7.9.5 Provide verbal/written, pre-operative, operative, post-operative and home care information/instructions
5.7.10 Assist with placement of dental implants
   5.7.10.1 State indications and contra-indications for the placement of the various types of dental implants
   5.7.10.2 Describe the diagnostic tests and information necessary to prepare for dental implant placement
   5.7.10.3 Prepare equipment and supplies and assist with the placement of dental implants
   5.7.10.4 Describe complications that may arise from the placement of dental implants
   5.7.10.5 Provide verbal/written, pre-operative, operative, post-operative and home care instructions

5.8 ORAL AND MAXILLOFACIAL SURGICAL PROCEDURES
   5.8.1 State indications and contra-indications for surgical procedures
   5.8.2 Prepare equipment and supplies and assist with surgical procedure
   5.8.3 Monitor patient’s condition prior to, during and after surgical procedures
   5.8.4 Describe complications which may arise from surgical procedures and their treatment
   5.8.5 Provide verbal/written, pre-operative, operative, post-operative and home care information/instruction
   5.8.6 Perform suture removal
      5.8.6.1 Identify various suture materials and techniques
      5.8.6.2 Assess soft tissue for signs of healing, infection or post-operative complications and record/report to dentist
      5.8.6.3 Evaluate site to determine where to cut suture
      5.8.6.4 Cut and remove suture
      5.8.6.5 Provide patient with post-operative care instructions following suture removal
      5.8.6.6 Provide verbal/written, pre-operative, operative, post-operative and home care information/instructions

5.9 ENDODONTIC PROCEDURES
   5.9.1 State indications and contra-indications for endodontic procedures
   5.9.2 Describe diagnostic tests to determine tooth vitality
   5.9.3 Prepare equipment and supplies and assist with endodontic procedures in both primary and permanent dentitions
   5.9.4 Describe complications which may arise from endodontic procedures and their treatment
   5.9.5 Provide verbal/written, pre-operative, operative, post-operative and home care information/instructions
5.10 PERIODONTAL PROCEDURES
5.10.1 State indications and contra-indications for periodontic procedures
5.10.2 Describe periodontal screening and recording
5.10.3 Prepare equipment and supplies and assist with periodontic procedures
5.10.4 Describe complications which may arise from periodontic procedures and their treatment
5.10.5 Provide verbal/written, pre-operative, operative, post-operative and home care information/instructions

5.11 PROSTHODONTIC PROCEDURES
5.11.1 Differentiate between fixed and removable prostheses
5.11.2 State indications and contra-indications for fixed and removable prostheses
5.11.3 Prepare equipment and supplies and assist with prosthodontic procedures
5.11.4 Describe the dental assistant’s role in coordinating the preparation, packaging, delivery and reception of lab cases
5.11.5 Describe complications which may arise from prosthodontic procedures and their treatment
5.11.6 Provide verbal/written, pre-operative, operative, post-operative and home care information/instructions

5.12 ORTHODONTIC PROCEDURES
5.12.1 Describe and classify occlusion and malocclusion according to Angle’s Classification
5.12.2 Use terminology associated with malaligned teeth and arches
5.12.3 Identify and describe factors affecting occlusion
5.12.4 Differentiate between fixed and removable orthodontic appliances
5.12.5 State indications and contra-indications for orthodontic treatment
5.12.6 Prepare equipment and supplies and assist with orthodontic procedures
5.12.7 Describe the dental assistant’s role in written and verbal communication with the dental lab
5.12.8 Coordinate the preparation, packaging, delivery and reception of lab cases
5.12.9 Describe complications which may arise from orthodontic procedures and their treatment
5.12.10 Provide verbal/written, pre-operative, operative, post-operative and home care information/instructions

6. PRACTICE MANAGEMENT PROCEDURES (5-10% of 200 item exam)
6.1 Manage and maintain filing, recall and inventory systems in both paper-based and electronic systems
6.2 Manage patient appointments, referrals and consultations
6.3 Manage and maintain financial records in both paper-based and electronic systems

7. LABORATORY PROCEDURES (5-10% of 200 item exam)
7.1 Process impressions, trim and finish models
7.2 Fabricate appliances and trays
7.3 Maintain supplies and instruments, operate equipment and manipulate materials following protocols for safety and asepsis
8. PREVENTIVE PROCEDURES (15-20% of 200 item exam)

8.1 PROVIDE ORAL HYGIENE INSTRUCTION
   8.1.1 Describe the periodontal disease process and the factors affecting its development and progress
   8.1.2 Describe the caries process and the factors affecting its development and progress
   8.1.3 Describe the indications, contra-indications, types, purposes and methods of applying disclosing agents
   8.1.4 List and describe oral hygiene indices
   8.1.5 Apply the principles of instruction and learning to individuals and groups
   8.1.6 Collect data to assess patient needs using methods such as: plaque/biofilm indices, disclosing agents in addition to observation of tissue condition
   8.1.7 Develop oral hygiene goals using patient centered approach
   8.1.8 Select and demonstrate oral care aids specific to oral conditions to achieve goals
   8.1.9 Apply disclosing agents
   8.1.10 Evaluate outcomes of oral hygiene instruction, provide feedback and make necessary modifications

8.2 PROVIDE NUTRITIONAL COUNSELING RELATIVE TO ORAL HEALTH
   8.2.1 List nutrients, their sources, functions and effects
   8.2.2 Collect data to assess patient’s nutritional needs
   8.2.3 Develop dietary goals using patient centered approach
   8.2.4 Make dietary recommendations specific to oral health conditions utilizing “Canada’s Food Guide for Healthy Living”
   8.2.5 Evaluate nutritional counseling outcomes, provide feedback and make recommendations and/or modifications

8.3 PERFORM SELECTIVE CORONAL POLISHING
   8.3.1 State the rationale, indications and contra-indications for selective coronal polishing
   8.3.2 Differentiate between intrinsic and extrinsic stain
   8.3.3 Describe the etiology of stains
   8.3.4 Select and prepare equipment and supplies specific to the patient’s needs
   8.3.5 Remove stain according to procedural steps
   8.3.6 Evaluate selective coronal polishing outcomes and make any necessary modifications
   8.3.7 Provide verbal/written, pre-operative, operative, post-operative and home care information/instructions

8.4 APPLY ANTI-CARIOGENIC AGENTS
   8.4.1 State the rationale, indications and contra-indications for application
   8.4.2 Describe the effects of anti-cariogenic agents on tooth structure
   8.4.3 Describe methods for topical application of anti-cariogenic agents
   8.4.4 Assess patient needs for appropriate anti-cariogenic agents selection
   8.4.5 Select and prepare equipment and supplies for various types of anti-cariogenic agents specific to the patient’s needs
   8.4.6 Apply anti-cariogenic agents according to manufacturer’s instructions
8.4.7 Evaluate anti-cariogenic agent outcomes, provide feedback and make necessary recommendations and/or modifications
8.4.8 Provide verbal/written, pre-operative, operative, post-operative and home care information/instructions

8.5 APPLY PIT AND FISSURE SEALANTS
8.5.1 State the rationale, indications and contra-indications for application
8.5.2 Describe sealant materials and their polymerization
8.5.3 Select and prepare equipment and supplies for prescribed treatment
8.5.4 Evaluate the effectiveness of various moisture control techniques
8.5.5 Prepare prescribed surfaces and apply sealant material according to manufacturer’s instructions
8.5.6 Evaluate sealant placement according to criteria and make modifications if required
8.5.7 Provide verbal/written, pre-operative, operative, post-operative and home care information/instructions

8.6 APPLY DESENSITIZING AGENTS
8.6.1 State the rationale, indications and contra-indications for application
8.6.2 Describe desensitizing agents and their mode of action
8.6.3 Select and prepare equipment and supplies for prescribed treatment
8.6.4 Prepare prescribed surfaces and apply material according to manufacturer’s instructions
8.6.5 Evaluate the application of the desensitizing agent according to criteria and make modifications if required
8.6.6 Provide verbal/written, pre-operative, operative, and post-operative and home care information/instructions

8.7 PERFORM TOOTH WHITENING USING TRAYS
8.7.1 State the rationale, indications and contra-indications for patient use
8.7.2 Select and prepare equipment and supplies
8.7.3 Determine existing tooth shade prior to whitening
8.7.4 Demonstrate and deliver the product to the patient according to manufacturer’s instructions
8.7.5 Identify and explain effects of improper use of whitening products
8.7.6 Provide verbal/written, pre-operative, operative, post-operative and home care information/instructions
Terminology Used in the Domain Description

The following terms are used in the Domain Description:

1. **Patient(s)** – refers to: individuals, groups or community

2. **Special Needs** – refers to patients who require modifications in the approach to dental care including: children, geriatric patients, pregnant women and patients who are medically, mentally or physically compromised

3. **Dental Material/Biomaterials** – are addressed as they pertain to specific procedures

Notes:

1. **Digital Radiography** – The NDAEB recognizes that not all educational institutions have digital radiography facilities and therefore does not expect candidates to have clinical experience with digital equipment. Items (questions) appearing on the NDAEB exam pertaining to digital radiography will be based on entry level theoretical knowledge of process and equipment, referenced to the textbooks listed in the candidate handbook.

2. **Practice Management Procedures** – The NDAEB recognizes that not all educational institutions provide students with access to computerized dental office management systems/software. As a result, items (questions) appearing on the NDAEB exam related to dental practice management procedures will be based on entry level knowledge, referenced to the textbooks listed in the candidate handbook.