

# College of Dental Medicine Programmatic Student Learning Outcomes

## Competencies to be Acquired by Graduates of Roseman University of Health Sciences College of Dental Medicine

The educational mission of Roseman University of Health Sciences of Dental Medicine is to educate general dentists who can serve the oral health care needs of the public, advance the dental profession through service, scholarship and leadership, and enhance the oral health knowledge and capabilities of the communities in which our graduates practice.

### Competency-Based Education

The CODM-SJ curriculum is competency-based. The predoctoral dental education standards of the Commission on Dental Accreditation and the "Competencies for the New General Dentist" adopted by the ADEA House of Delegates in April 2008 both endorse competency-based education as the model for the predoctoral curriculum, and both identify a "general dental practitioner" as the expected educational outcome of dental school. In the competency-based curriculum at the CODM-SJ, what students learn is based on competencies that the faculty deems to be essential for successful, independent and unsupervised performance as an entry-level general dental practitioner.

### The CODM-SJ definition of competency is:

*The knowledge, values, and skills needed to make the transition from providing patient care under supervision of faculty to the independent practice of general dentistry.*

To demonstrate readiness for entry into professional practice, students at CODM-SJ must demonstrate that they can accomplish the competencies described in this document which indicate the knowledge, values and skills that new graduates need in order to begin their professional roles in society. It is recognized that these competencies represent only a starting point for the dentist's life-long professional journey - a journey which must include ongoing developmental activity to enhance, refine and maintain patient care skills, and to develop new capabilities needed to serve the evolving oral health needs of the public.

### Format for Competency Statements

CODM-SJ competencies are presented in the C-E-0 format which includes a broadly-stated competency domain (C) followed by specific educational outcomes (EO) that are formally assessed, during the curriculum. Each competency domain is a general description of an essential patient care skill or professional role that the entry-level general dentist must be able to perform unassisted and unsupervised. Educational outcomes are statements listed

below each competency that identify the knowledge, technical skills, patient management skills, communication skills and professional and ethical behaviors that students must perform to demonstrate competency. The educational outcomes are indicators of the student's capacity to attain the overall competency.

The competencies apply to the assessment, management and treatment of dental patients at all life-stages: infant, child, adolescent, adult and the elderly and also apply to individuals with special needs.

### **Glossary of Terms Used in the Competencies and Other Descriptions of the Curriculum**

**Critical thinking:** the process of assimilating and analyzing information; this encompasses an interest in finding new solutions, a curiosity with an ability to admit to a lack of understanding, a willingness to examine beliefs and assumptions and to search for evidence to support these beliefs and assumptions, and the ability to distinguish between fact and opinion.

**Domain:** a broad, critical category of activity for the general dentist.

**Emerging technologies:** current and future technologies used in patient care including technologies for biomedical information storage and retrieval, clinical care information, and technologies for use at the point of care.

**Evidence-based dentistry:** an approach to oral health care that requires the judicious integration of systematic assessments of clinically relevant scientific evidence relating to the patient's oral and medical condition and history integrated with the dentist's clinical expertise and the patient's treatment needs and preferences.

**Foundation knowledge and skills:** the basic and essential knowledge and skills linked to and necessary to support a given competency.

**General dentist:** the primary dental care provider for patients in all age groups who is responsible for the diagnosis, treatment, management, and overall coordination of services related to patients' oral health needs.

**Health promotion:** public health actions to protect or improve oral health and promote patients' wellbeing through behavioral, educational and enabling socio-economic, legal, fiscal, environmental, and social measures; it involves the process of enabling individuals and communities to increase control over the determinants of health and thereby improve their health; includes education of the public to prevent chronic oral disease.

**Informatics:** applications associated with information and technology used in health care delivery; the data and knowledge needed for problem solving and decision making and the administration and management of information and technology in support of patient care, education, and research.

**Interprofessional health care:** the delivery of health care by a variety of health care practitioners in a cooperative, collaborative, and integrative manner to ensure care is continuous and reliable.

**Management/manage:** the words "management" and "manage" include all actions

performed by a health care provider that are designed to alter the course of a patient's condition; such actions may include providing education, advice, treatment by the general dentist, treatment by the general dentist after consultation with another health care professional, referral of a patient to another health care professional, monitoring treatment provided, and may also include providing no treatment or observation.

**Patient-centered care:** the ability to identify, respect, and care about patients' differences, values, preferences, and expressed needs; relieve pain and suffering; coordinate continuous care; listen to, clearly inform, communicate with, and educate patients; share decision-making and management; and continuously advocate disease prevention, wellness, and promotion of healthy life styles, including a focus on population health.

**Problem-solving:** the process of answering a question or achieving a goal when the path or answer is not immediately obvious using an acceptable heuristic or strategy such as the scientific method.

**Special needs care:** an approach to oral health management tailored to the individual needs of people with a variety of medical conditions or physical and mental limitations that require more than routine delivery of oral care; special care encompasses preventive, diagnostic and treatment services.

**Use of the word “appropriate”:** the term “appropriate” is **not used** in these competency statements to eliminate repetition. It is assumed that knowledge, skills, and values will be used to perform procedures for appropriate reasons, in appropriate circumstances, and in a manner that adheres to contemporary standards of dental practice and professional demeanor.

**Working diagnosis:** refers to the most likely preoperative diagnosis, prior to confirmation by more advanced diagnostic studies or therapeutic outcomes, for a patient’s health care abnormalities. A working, or presumptive, diagnosis is determined by analysis of several potential diagnostic options (referred to as the differential diagnosis) based on diagnostic information and the dentist's assessment of symptoms and clinical presentation.

### **CODM-SJ Predoctoral Dental Education Competencies**

All competencies and educational outcomes apply to the management of the oral health care of the infant, child adolescent, and adult, as well as the unique needs of women geriatric and special needs patients.

#### **Domain 1: Ethical Reasoning and Professional Responsibility**

**Competency:** Graduates must use principles of ethical reasoning and professional behavior during their interactions with patients, other health care providers and the public.

#### **Educational Outcomes:**

- 1 Demonstrate the characteristics and responsibilities of a dental professional.

- 2 Demonstrate understanding of the ethical and professional responsibilities that dentists have to patients, employees, members of the community, and other health care providers.
- 3 Recognize and deal with ethical issues/dilemmas by applying the principles of ethical reasoning and professional responsibility.
- 4 Demonstrate professional behaviors when interacting with patients, employees, members of the community, and other health care providers.
- 5 Demonstrate understanding of ethical standards for conducting biomedical research.

### **Domain 2: Critical Appraisal**

**Competency:** Graduates must use critical appraisal during patient care.

#### **Educational Outcomes:**

- 1 Retrospectively and prospectively critique patient care in order to analyze and/or propose clinical decisions, describe rationale for treatment strategies, and evaluate a range of outcomes from optimal to undesirable.
- 2 Explore uncertainties in diagnostic and/or treatment approaches by identifying questions, locating and appraising best available evidence and implementing patient therapy based on this appraisal.
- 3 Apply a critical appraisal process to analyze diagnostic and therapeutic reports in literature, continuing education programs and advertisements.
- 4 Critically appraise and apply contemporary and emerging information including clinical and practice management technology resources.

### **Domain 3: Self-Assessment**

**Competency:** Graduates must be able to self-assess quality of patient care, identify learning needs and identify strategies for enhancement of professional performance.

#### **Educational Outcomes:**

- 1 Assess personal progress toward overall readiness for independent dental practice and individual competencies.
- 2 Identify personal learning needs and create objectives and plans to address these needs.
- 3 Self-assess the strengths and weaknesses of patient care provided and identify strategies for improvement.



- 4 Assess, diagnose and treat patients only within one's competence.

#### **Domain 4: Biomedical Sciences**

**Competency:** Graduates must be able to apply biomedical science knowledge and principles for the management of patients.

#### **Educational Outcomes:**

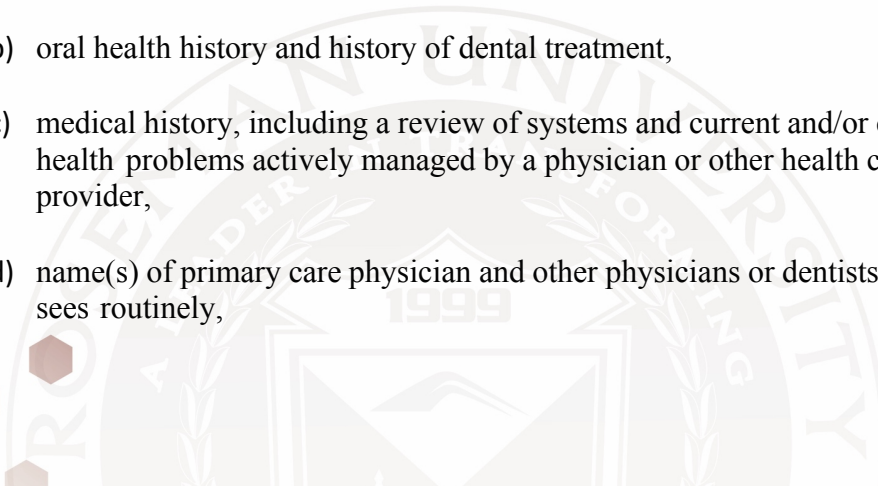
- 1 Demonstrate comprehension of the structure, function and pathology of cells, tissues, organs and organ systems, and apply this knowledge during management of patients.
- 2 Recognize diseases in the following categories, and explain clinical presentation, pathophysiology and implications for dental treatment:
  - a) diseases unique to the head, neck and oral cavity;
  - b) systemic diseases with oral manifestations; and,
  - c) systemic diseases without oral manifestations, but frequently present in dental patients.

#### **Domain 5: Patient Assessment and Diagnosis**

**Competency:** Graduates must be able to assess the health care status of patients across the age spectrum from child to elderly, including individuals with special needs, and develop a diagnosis for identified abnormalities and problems.

#### **Educational Outcomes:**

- 1 Establish and maintain rapport and communication with the patient.
- 2 Perform a complete patient interview consisting of:
  - a) description of patient's chief complaint I reason for current dental appointment,
  - b) oral health history and history of dental treatment,
  - c) medical history, including a review of systems and current and/or chronic health problems actively managed by a physician or other health care provider,
  - d) name(s) of primary care physician and other physicians or dentists the patient sees routinely,



e) medication history including inventory of current prescriptions, drug allergies and adverse drug reactions, and,

f) family and social history.

- 3 Identify the presence of systemic disease with oral manifestations or implications for dental care, and manage dental treatment of these patients.
- 4 Conduct head and neck examinations, including assessment for head and neck cancer.
- 5 Perform intraoral examinations of the hard and soft tissues of the mouth.
- 6 Prescribe or perform radiographic, clinical, laboratory and other diagnostic procedures and interpret their findings or reports.
- 7 Demonstrate awareness of the diagnostic benefits of radiographic procedures, the risks of radiation exposure, and patient selection criteria when prescribing radiographs.
- 8 Interpret findings from patient interview and examination and present them clearly to supervising dental faculty in a standardized format.
- 9 Recognize the normal range of clinical findings and establish a working diagnosis for findings that require treatment or represent a significant deviation from normal.
- 10 Initiate medical or dental consultation or referral when appropriate and revise the working diagnosis as indicated based on information derived from consultants.

\* Special needs patients are "those patients whose medical, physical, psychological, or social situations make it necessary to modify normal dental routines in order to provide dental treatment for that individual. These individuals include, but are not limited to, people with developmental disabilities, complex medical problems, and significant physical limitations. *Commission on Dental Accreditation. Accreditation Standards for Dental Education Programs.* Chicago: American Dental Association, 2007.

### **Domain 6: Treatment Planning and Outcomes Assessment**

**Competency:** Graduates must be able to develop treatment plans to address oral health care problems of patients across the age spectrum from infant to elderly including individuals with special needs, and assess the outcomes of treatment.

#### **Educational Outcomes:**

- 1 Plan oral health care for patients across the age spectrum: infant, child, adolescent,

adult, and the elderly, and for individuals with special needs.

- 2 Determine and consider patient's dental, medical and personal situation in evaluating the range of oral health care strategies appropriate for that individual
- 3 Develop an individualized, comprehensive and properly sequenced plan of treatment based on patient assessment, evaluation of diagnostic data, scientific evidence and patient preferences.
- 4 Discuss findings, diagnosis, treatment alternatives, and the risks and benefits of each therapeutic option with patients, their caregivers and/or their legal representative to insure a sufficient understanding for informed patient consent to treatment and obtain a written acceptance of the plan.
- 5 Evaluate outcomes of treatment on an ongoing basis, including use of a patient recall system, and modify treatment plans based on changing circumstances.

### **Domain 7: Promotion of Patients' Oral Health**

**Competency:** Graduates must be able to provide counseling and education to promote patients' oral health.

#### **Educational Outcomes:**

- 1 Counsel patients on lifestyle habits that affect oral health.
- 2 Provide behavioral counseling, anticipatory guidance and preventive therapies to reduce the extent and severity of oral diseases and risk factors.
- 3 Provide dietary counseling and nutritional education relevant to oral health and specific to each patient's dietary history and health habits.
- 4 Evaluate outcomes of preventive interventions.
- 5 Involve caregivers, guardians, and other health and social service professionals in managing the oral health of patients.
- 6 Recognize the roles and responsibilities of dentists and other health professionals in the prevention of oral diseases, and improvement of oral health in the community.

### **Domain 8: Psychosocial and Behavioral Principles of Patient Care**

**Competency:** Graduates must be able to apply psychosocial and behavioral principles for promoting, improving, and maintaining patients' oral health.



**Educational Outcomes:**

- 1 Demonstrate caring and respectful behaviors when interacting with patients and families.
- 2 Use interpersonal skills and communication strategies that result in effective information exchange with patients.
- 3 Involve patients in decision-making and respond to their preferences, needs, and values.
- 4 Incorporate cultural, social, and behavioral factors that influence oral health practices and beliefs when developing treatment plans in collaboration with patients.

**Domain 9: Patient's Anxiety and Pain**

**Competency:** Graduates must be able to manage patients' anxiety and pain

**Educational Outcomes:**

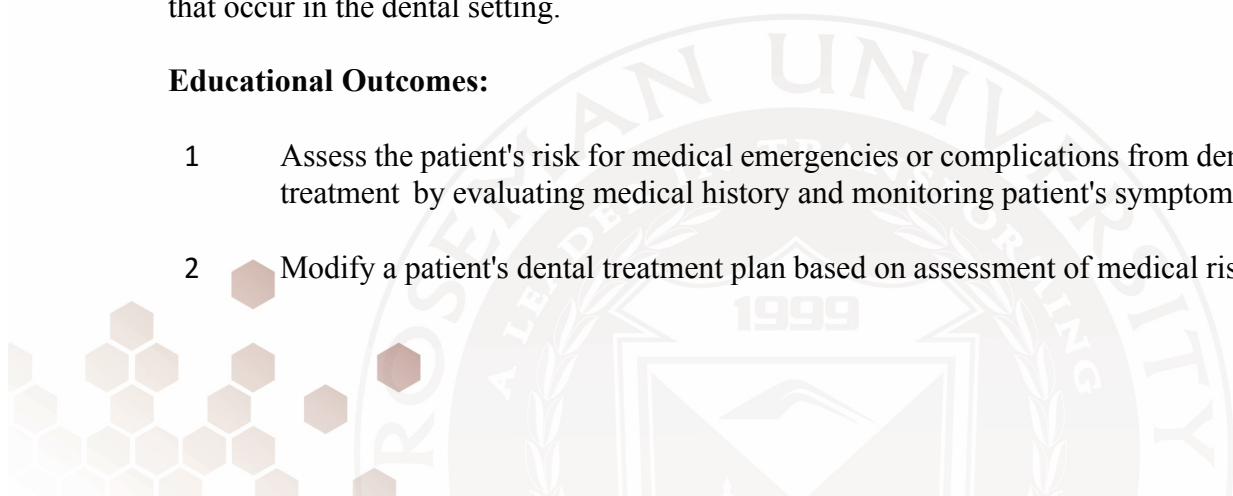
- 1 Apply behavioral and/or pharmacological methods in caring for patients with fear and anxiety, and refer those patients requiring special expertise.
- 2 Prescribe medications commonly used in dentistry and inform patients of reasons for use and possible side effects.
- 3 Provide safe and effective local anesthesia.
- 4 Provide safe and effective inhalation sedation.
- 5 Recognize pain and other complications related to use of analgesics, local anesthesia and inhalation sedation techniques and manage
- 6 Recognize pain associated with dental trauma and temporomandibular disorders

**Domain 10: Medical Emergencies**

**Competency:** Graduates must be able to prevent, recognize, and manage medical emergencies that occur in the dental setting.

**Educational Outcomes:**

- 1 Assess the patient's risk for medical emergencies or complications from dental treatment by evaluating medical history and monitoring patient's symptoms.
- 2 Modify a patient's dental treatment plan based on assessment of medical risks.





- 3 Recognize when a medical emergency is occurring and identify the nature of the problem.
- 4 Provide health care provider-level basic life support.
- 5 Manage the transfer of the patient to a higher level of care when indicated.
- 6 Maintain certification in CPR.

### **Domain 11: Dentofacial Growth and Development**

**Competency:** Graduates must be able to recognize and manage malalignment and malocclusion in the deciduous, mixed, and permanent dentition.

#### **Educational Outcomes:**

- 1 Evaluate the patient's dentofacial complex and occlusion, and develop a working diagnosis.
- 2 Recognize abnormal dentofacial growth and development that may create dental malalignment or malocclusion.
- 3 Recognize the need for space maintenance to retain interdental space and tooth positions.
- 4 Recognize and manage orthodontic therapy when needed to facilitate restorative treatment.
- 5 Evaluate the patient's scheme of occlusal contacts and diagnose malocclusion.
- 6 Perform a diagnostic mounting of casts of the patient's dentition.
- 7 Create a plan to treat malocclusion and provide or manage that care.

### **Domain 12: Periodontal and Peri-implant Disease**

**Competency:** Graduates must be able to manage periodontal and peri-implant disease.

#### **Educational Outcomes:**

- 1 Evaluate the patient's periodontium and peri-implant tissues, develop a diagnosis, identify treatment options and their prognoses, and formulate a treatment plan that best meets the needs and desires of the patient.
- 2 Perform initial periodontal therapy including dental prophylaxis and scaling and root planing.

- 3 Evaluate the outcomes of initial periodontal therapy, reassess the diagnosis and prognosis, determine the need for additional periodontal treatment, and manage follow-up treatment.
- 4 Recognize the need for periodontal and peri-implant surgery and manage surgical care.
- 5 Devise and manage programs to maintain patient's periodontal and peri-implant health.
- 6 Recognize and manage periodontal manifestations of systemic disease.

### **Domain 13: Treatment of Dental Caries**

**Competency:** Graduates must be able to diagnose and treat dental caries, including the restoration of defective teeth to re-establish form, function, and esthetics.

#### **Educational Outcomes:**

- 1 Evaluate the patient's teeth and supporting structures, develop a diagnosis, identify treatment options and their prognoses, and formulate a plan of treatment that best meets the needs and desires of the patient.
- 2 Provide non-surgical treatment (i.e., medical treatment) of non-cavitated carious lesions
- 3 When non-surgical treatment is not an option, restore teeth to re-establish form, function, and esthetics.
- 4 Communicate with dental laboratory technicians and evaluate laboratory products.
- 5 Evaluate and manage the outcomes of treatment

### **Domain 14: Replacement of Missing Teeth**

**Competency:** Graduates must be able to replace patients' missing teeth with fixed, removable, and implant supported prostheses to restore form, function and esthetics.

#### **Educational Outcomes:**

- 1 Evaluate the patient's edentulous areas, supporting and limiting anatomical structures, develop a diagnosis, identify treatment options and their prognoses, and formulate a treatment plan that best meets the needs and desires of the patient.
- 2 Treat patients who have missing teeth with fixed, removable, and implant-supported prostheses.

- 3 Communicate with dental laboratory technicians and evaluate laboratory outcomes.
- 4 Evaluate outcomes of treatment and manage the maintenance of dental prostheses.

### **Domain 15: Pulpal and Periapical Disorders**

**Competency:** Graduates must be able to manage pulpal and periapical diseases

**Educational Outcomes:**

- 1 Evaluate the patient's pulpal and periapical tissues, develop a diagnosis, identify treatment options and their prognoses, and formulate a treatment plan that best meets the needs and desires of the patient.
- 2 Prevent and manage pulpal inflammation and manage periapical disease.
- 3 Perform endodontic therapy on permanent teeth within scope of practice of general dentistry
- 4 Evaluate treatment outcomes and recognize need for re-treatment or endodontic surgery.

### **Domain 16: Oral Surgery**

**Competency:** Graduates must be able to perform oral surgical procedures within the scope of practice of a general dentist.

**Educational Outcomes:**

- 1 Assess the patient's oral hard and soft tissue, identify problems needing treatment, identify treatment options and their prognoses, develop a diagnosis, and formulate a treatment plan that meets patient's needs and desires.
- 2 Recognize and treat oral bony and oral mucosal abnormalities and refer complex disorders in both categories.
- 3 Perform oral surgical procedures and manage complications
- 4 Identify and manage patients requiring specialty care.

### **Domain 17: Dental Emergencies**

**Competency:** Graduates must be able to manage dental emergencies.

**Educational Outcomes:**

- 1 Diagnose and manage dental emergencies including pain, swelling, fever, suppuration, bleeding, trauma and loss of function.

- 2 Recognize intraoral dental emergencies requiring rapid referral for emergency medical treatment or referral to an oral surgeon such as extensive jaw or dentition trauma, extensive tissue laceration, uncontrollable bleeding, swelling of the throat that impairs breathing or swallowing.

### **Domain 18: Dental Practice and Oral Health Care Delivery**

**Competency:** Graduates must be able to prepare a business plan for a dental practice and demonstrate comprehension of models of oral health care delivery and financing.

#### **Educational Outcomes:**

- 1 Apply business, financial and human resource management principles in the development of a business plan for a dental practice.
- 2 Assess the impact of demographic, social, and economic trends on oral health status of the public and dental practice.
- 3 Demonstrate comprehension of the models of oral health care delivery and financing that are implemented in various environments to meet the needs of individual patients and the community.
- 4 Demonstrate comprehension of access to care, health care reform, health workforce issues, and mechanisms for financing health and oral health services.

### **Domain 19: Dental Practice Laws, Codes, Standards and Policies**

**Competency:** Graduates must be able to apply laws, codes, standards and policies that govern dental practice and the provision of oral health care.

#### **Educational Outcomes:**

- 1 Comply with federal, state and local laws and regulations that pertain to the practice of dentistry and provision of oral health services including OSHA and HIPAA.
- 2 Interpret and apply codes, standards, and procedures that pertain to the practice or business administration of dentistry.
- 3 Evaluate and apply evidence-based guidelines for the practice of dentistry that promotes, improves and maintains oral health.
- 4 Demonstrate comprehension of health policies that affect the oral and systemic health of individuals and communities.

**Domain 20: Health Care Team**

**Competency:** Graduates must be able to function as a leader of a primary care health team and collaborate with other health care providers.

**Educational Outcomes:**

- 1 Collaborate and communicate with oral health care team members in a multicultural work environment.
- 2 Demonstrate comprehension of the roles of other health care professionals and demonstrate the skills to interact with them in providing adequate consultations, referrals, and follow-up care.
- 3 Participate with oral health care team members and other health care professionals in the coordination of care and promotion of health with patients.
- 4 Demonstrate comprehension of the dentist's responsibility as a health professional, service provider, and member of the community.
- 5 Demonstrate capacity to function productively in collaborative teams for learning and delivery of patient care during dental school.

