



**MINISTRY OF HEALTH**

**KINGDOM OF CAMBODIA  
NATION RELIGION KING**

**PRAKAS  
ON  
CORE COMPETENCY FRAMEWORK FOR  
DENTISTS IN THE KINGDOM OF CAMBODIA**

**August 2012, Ministry of Health, Department of Human Resource Development**



**KINGDOM OF CAMBODIA**

**NATION RELIGION KING**



**MINISTRY OF HEALTH**

No.: 639 **ABS.AThM**

Phnom Penh, 20 August 2012

**PRAKAS**

**ON**

**CORE COMPETENCY FRAMEWORK**

**FOR DENTISTS IN THE KINGDOM OF CAMBODIA**

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**Minister of Health**

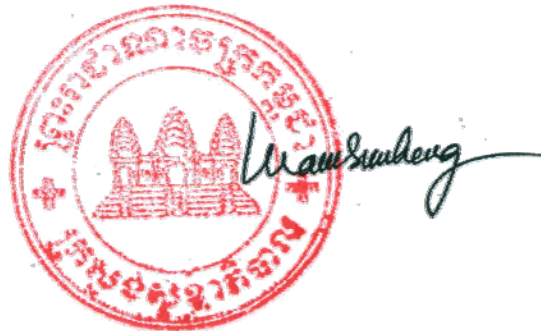
- Having seen the Constitution of the Kingdom of Cambodia;
- Having seen Royal Decree No. NS-RKT/0908/1055, dated 25 September 2008, on the Appointment of the Royal Government of the Kingdom of Cambodia;
- Having seen Royal Kram No. 02/NS/94, dated 20 July 1994, promulgating the Law on Organization and Functioning of the Council of Ministers;
- Having seen Royal Kram No. NS/RKM/0196/06, dated 24 January 1996, promulgating the Law on the Establishment of the Ministry of Health;
- Having seen Sub Decree No. 67 ANKr-BK, dated 22 October 1997, on the Organization and Functioning of the Ministry of Health;
- Having seen Sub Decree No. 21 ANKr-BK, dated 13 March 2007, on Health Training;
- Having seen Sub Decree No. 43 ANKr-BK, dated 25 February 2009, on the Amendment of Article 6 of Sub Decree No. 21 ANKr-BK, dated 13 March 2007, on Health Training;
- Having seen Decision of the Royal Government No. 20 SSR, dated 12 April 2007, on the Appointment of the Composition of National Exam Committee for Health Training;
- Having seen work order No. 05/11 NEC, dated 02 September 2011, on the Appointment of Monitoring and Coordinating Committee for Preparation of National Examination; and
- Pursuant to the request of the Ministry of Health

**HEREBY DECIDE**

- Article 1: Dentists must have a core competence to ensure the effectiveness and safety in providing health care service.
- Article 2: Core competency framework of dentists includes knowledge, skills, behaviour related to the Scientific foundations for dental practice, provision of dental service, as well as professional and personal behaviours.
- Article 3: Core competency framework of dentists have been detailed in attached annex developed by one committee with representatives from the Ministry of Health, Ministry of Education, Youth and Sport, Accreditation Committee in Cambodia, relevant professional board, as well as public and private Health Training Institutes.
- Article 4: Core competency framework of dentists has been used for improving curriculum, development of exam protocol or as a reference for improving professional dental quality.
- Article 5: Core competency framework of dentists can be improved based on the approval of the minister of health.
- Article 6: Exam protocol of national examination for dental graduates shall respond to the core competency framework defined by the minister of health.
- Article 7: Any provisions which are contrary to this Prakas, shall be null and void.
- Article 8: Directorate General for Health, Directorate General for Administration and Finance, Relevant Professional Board and all Health Training Institutes, shall execute this Prakas effectively from the date of its signature. *(initialed)*

**CC:**

- Office of the Council of Ministers
- National Exam Committee for Health Training
- As stated in Article 3 and 8
- Archives-Chronicles



**MAM Bun Heng**

**Annex**

**On**

**Core Competency Framework of New Dental Graduates in in  
the Kingdom of Cambodia**

**August 2012**

# Table of Content

<b>Introduction</b> .....	2
Purposes of the Framework .....	3
Development of the Framework .....	4
Structure of the Framework .....	5
<b>Domain I-Scientific Foundations for Dental Practice</b> .....	5
1. Biomedical Sciences .....	5
2. Behavioral Sciences .....	6
3. Public Health .....	6
4. Information and Communication .....	7
5. Organization, Management and Research .....	7
<b>Domain II. Provision of Oral Care</b> .....	8
A. General Principles of Diagnostic and Therapeutic Procedures .....	8
B. Diagnostic of Oral Disease and Conditions .....	8
C-Patient Management of Diseases and Conditions .....	10
<b>Domain III-Professional and Personal Behaviors</b> .....	13
A-Professional and legal/ethical practice .....	13
B-Maintaining and Improving Professional Competence .....	14
C-Critical analysis, Research and Education .....	15
D-Communication .....	15
<b>Appendix 1: List of Working Group Participants</b> .....	16
<b>Appendix 2: List of Steering Committee Members</b> .....	17
<b>Appendix 3: Scientific Foundation for Dental Practice</b> .....	18
<b>Appendix 4- Patient Management</b> .....	21
<b>Reviewed Documents</b> .....	29

# **Core Competency Framework of New Dental Graduates in in the Kingdom of Cambodia**

## **Introduction**

In Cambodia, dentists (dental practitioners and secondary dental practitioners) provide general dental care services to patients within the limit of their competence, and otherwise refer them to other health-care professionals and facilities. They provide services of a high standard to patients, with due respect to their confidentiality, dignity, and integrity, regardless of their socio-economic status and political affiliation.

Dentists have the competence to perform a systematic and comprehensive oral health assessment, to diagnose oral/dental conditions, and to treat and manage these in an appropriate and acceptable way.

Dentists order, carry out and interpret radiographic and other diagnostic tests, perform procedures and prescribe medications in accordance with legislation, policies and guidelines stipulated by the MoH and the Cambodian Dental Council.

Dentists provide oral health education and counseling to patients on oral health matters, including disease prevention and treatment, as appropriate.

Dentists participate in the surveillance of oral diseases and conditions as required by the MoH, and contribute to health promotion and disease prevention. They carry personnel responsibility and accountability for good dental practice, and enhance their skills and knowledge through continuing dental education, research and development.

Dentists should possess and apply a specialized body of knowledge to appropriately fulfil their role, and to train dental students and others. They should also undertake research activities and continue professional development in order to maintain and improve their competence and practice.

## ***Purposes of the Framework***

**Core competency framework** in this document refers to the knowledge, skills, attitudes and behaviors that an individual develops through education, training and work experience. The Core Competency Framework for general dental practitioners (DPs) is a collection of essential competencies that every DPs must possess to perform their daily practice.

This Framework had been developed primarily for the national exit examination (NEE) of new dental graduates from both public and private dental schools in Cambodia. It could also be used to develop curriculum for courses leading to graduation as general dental doctor and/or to establish gaps in current course of studies/curriculums being implemented at universities and schools of dentistry; to provide a platform for the development of advanced training or specialty education within dentistry; and to issue licensure for dental practice in Cambodia.

### ***Development of the Core Competency Framework***

The Core Competency Framework for DPs in Cambodia had been developed through a series of consultative meetings of a Working Group (WG) at the beginning of the development of national exit examination (NEE) that began in mid-2011. The WG is created by the National Examination Committee (NEC) and is composed of dental doctors representing both public and private universities in Cambodia chaired by a representative of the MoH (See [Appendix 1](#): List of WG Participants).

The Framework had been approved by a Steering Committee (SC), created by the NEC and chaired by a MoH State Secretary (See [Appendix 2](#): List of SC members whose roles are to coordinate and provide advice to above working group).

The development of the Framework is based on the followings:

- Reviewing of competency frameworks for dental practitioners in several countries and regions including Africa, Australia, Europe, Canada, the United Kingdoms, and the United States;
- WG participants' knowledge and practical experience; and
- MoH standard curriculum for dental doctor.

An initial document was drafted in October 2011, and was subsequently reviewed and modified by the Dental WG after consultation with the Cambodian Dental Council and Health Development Partners. The Core Competency Framework for DPs was streamlined with that of nursing practitioners, medical practitioners and pharmacists that were concomitantly developed for the same purposes and also shared a common format.

This document outlines core competencies required of DPs at the completion of a dental doctor degree program (entry-level dental doctor) in providing safe and effective dental care to patients in hospitals and clinics.

## ***Structure of the Framework***

The Core Competency Framework defines what knowledge DPs working in hospitals and clinics in Cambodia need to master, what skills they must possess and what behaviours they have to adopt in their daily practice.

The Framework in this document is composed of three main domains namely (1) scientific foundations for dental practice, (2) provision/ management of patient care, and (3) professional and personal behaviours.

The document should be considered as a living-document and therefore expected to evolve over time. Accordingly, it should be reviewed and updated periodically to effectively solve any problem arising during implementation, preferably after every three years, so as to be in line the development of dental practice and professional standards in the country.

All the domains and competency standards indicated above are proposed to constitute the requirements for Bachelor degree in Dentistry graduates who are preparing for national exit examination to ensure quality of training across Cambodia.

## **I. Domain I: Scientific Foundations for Dental Practice**

A dentist shall possess a specialized body of knowledge in order to provide competent oral health care with effectiveness and safety.

### ***A. Biomedical Sciences***

A dentist applies biomedical sciences including anatomical sciences, dental anatomy, occlusion, biochemistry and physiology, microbiology and pathology and pharmacology.

Dentists apply biomedical sciences in order to:

1. Explain normal human structure and functions;
2. Explain the scientific bases for common oral disease presentations;



3. Justify the selection of appropriate investigations for common clinical cases by depending on prevalent of curable, possible and accessible treatment and emergency in treatment.
4. Explain the fundamental principles underlying such investigative techniques;
5. Select appropriate forms of management for common oral diseases, and ways of preventing common oral diseases, and explain their modes of action and their risks from first principles;
6. Demonstrate knowledge of drug actions: therapeutics and pharmacokinetics; drug side effects and interactions, including multiple treatments, long term conditions and non-prescribed medication; and also including effects on the population, such as the spread of antibiotic resistance; and
7. Make accurate observations of clinical phenomena and appropriate critical analysis of clinical data.

### ***B. Behavioral Sciences***

A dentist applies behavioral sciences including psychological and social principles, methods and knowledge to:

1. Explain normal human behavior at an individual and societal level;
2. Discuss psychological and sociological concepts of health, illness and disease;
3. Apply theoretical Frameworks of psychology and sociology to explain the varied responses of individuals, groups and societies to disease;
4. Explain psychological and sociological factors that contribute to illness, the course of the disease and the success of treatment; and
5. Discuss psychological and sociological aspects of behavioral change and treatment compliance.

### ***C. Public Health***

A dentist applies principles, knowledge and methods of Dental Public Health including epidemiology, biostatistics, primary health care, health promotion and prevention, planning and managing oral health programs, and the determinants of health to:

1. Educate patients on oral diseases determinants, health promotion and disease prevention, and help patients to modify behavior;
2. Participate in dental public health research as directed by the MoH;

3. Undertake primary, secondary and tertiary prevention of disease;
4. Manage oral health care for the individual and the community;
5. Implement effective interventions and risk reduction strategies for individual patients and the community;
6. Prevent and control cross infection in hospital/clinic and community settings;  
and
7. Record and report relevant diseases and conditions using the surveillance system required by the Ministry of Health.

#### ***D. Information and Communication***

A dentist applies knowledge in computing, information and communication to:

- (1) Make effective use of computers and other information systems, including storing and retrieving information;
- (2) Access information sources and use the information in relation to patient care, health promotion, giving advice and information to patients, research and education;  
and
- (3) Undertake clinical and public health research and disseminate research findings.

#### ***E. Organization, Management and Research***

A dentist shall possess primary knowledge about principles and research methodologies to:

- (1) Organize and manage the oral health care team;
- (2) Interpret the results of relevant diagnostic, prognostic and treatment trials and other qualitative and quantitative studies as reported in the dental and scientific literature;
- (3) Formulate simple relevant research questions in oral health research and design appropriate studies to address the questions;
- (4) Apply findings from the literature to answer questions raised by specific clinical and oral public health problems; and
- (5) Understand the ethical and governance issues involved in dental research.

**Competency Contents** on Scientific Foundations for Dental Practice are listed in Appendix 3.

## **II. Domain II: Provision and Management of Dental Care**

This domain is related to the role of dentist who provides general management of dental care. Any description of competencies in this domain has been compiled into big three domain such as (A) General Principles of Diagnostic and Therapeutic in Dentistry, (B) Diagnostic and (C) Treatment and other dental problem.

### ***A. General Principles of Diagnostic and Therapeutic Procedures in Dentistry***

1. Appropriate choice and use of investigations and treatments;
2. Carrying out or requesting/suggesting investigations according to local protocols/ guidelines;
3. Obtaining informed consent for investigations and treatment procedures;
4. Ensuring proper patient identification; preparing patients for investigations and treatment practically and with adequate information;
5. Communicating the results of investigations and treatments to patients/relatives;
6. Interpreting reports/results of investigations;
7. Providing all necessary demographic and clinical information on request forms;
8. Hand washing;
9. Personal protective equipment use;
10. Infection control when performing diagnostic and treatment procedures; and
11. Safe disposal of clinical waste, needles and others.

### ***B. Diagnostic of Oral Disease and Conditions***

A dentist applies the following procedures to diagnose oral diseases and conditions, namely (1) history taking, (2) physical examination, (3) patient investigation, (4) diagnosis and (5) management plan.

#### **1: History Taking:**

A dentist takes and records a patient's dental, medical history, family and social history, talking to relatives or other care takers where appropriate, in a sensitive, structured and thorough manner.

#### **2. Physical Examination:**

A dentist undertakes a physical examination of the head and neck in a thorough, sensitive, efficient and systematic manner.

### **3. Patient Investigation:**

A dentist performs a range of patient investigations and diagnostic procedures safely and effectively, and measures and records the findings.

#### ***3.1 Laboratory-based investigation:***

A dentist shall:

- Identify the conditions/circumstances of disease in which laboratory-based investigations is required; and
- Perform oral cavity clinical investigations as needed.

#### ***3.2. Radiological investigations***

A GP is able to identify conditions of disease which require radiological investigation such as selecting and taking appropriate radiographs, including panoramic, periapical, occlusal, bitewing, cephalometric and other extra-oral radiographs

#### ***3.3 Clinical investigations***

A GP is able to identify the circumstances in which clinical investigations are indicated and to perform oral cavity clinical investigations such as study models, percussion test, vitality tests, biopsy, blood tests, caries risk assessment, body temperature measure, pulse rate, and blood pressure measure.

### **4. Diagnosis:**

A dentist:

4.1 Interprets findings from the history and physical examination by appreciating the importance of clinical, epidemic, psychological, religious, social, and cultural factors;

4.2 Makes an initial assessment of a patient's problems and identify appropriate diagnosis by depending on prevalence of disease, emergency of treatment and effectiveness of available treatment;

4.3 Undertakes further investigations when necessary to support diagnosis and treatment; and

4.4 Synthesizes a full assessment of the patient's problems and defines the likely diagnoses.

## 5. Management Plan:

A dentist:

- 5.1 Makes clinical judgments and decisions based on the available evidence with colleagues' consultation and as appropriate for the dentist's level of training and experience;
- 5.2 Formulates a plan for treatment, management and recall, according to established principles and best evidence, in partnership with the patient, their care takers, and other health professionals as appropriate;
- 5.3 Identifies cases needing referral to a specialist, and arranges for proper referral of patient including timely referral after stabilization of patient, informing the receiving hospital before referral, arranging for a health care provider to accompany the patient, availability of life-saving drugs and equipment for the transport, and a patient record card with thorough documentation of history and treatments.
- 5.4 Responds to patients' concerns and preferences, obtain informed consent, and respect the rights of patients to reach decisions about their treatment and care; and
- 5.5 Records and documents client care and its ongoing evaluation in a clear/legible, accurate, complete and timely manner.

## *C-Patient Management*

### 1. General Patient Management

1.1 A dentist **provides immediate care in dental and medical emergencies:**

- Assess and recognize the severity of a clinical presentation and a need for immediate emergency care;
- Diagnose and manage acute dental and medical emergencies;
- Provide basic first aid; and
- Provide immediate life support.

1.2 A dentist **prescribes drugs** safely, effectively and economically;

- Establish an accurate drug history, covering both prescribed and other medications;
- Plan appropriate drug therapy for common oral conditions, including pain and infection;
- Provide a safe and legal prescription;
- Calculate appropriate drug doses and record the outcome accurately;
- Provide patients with appropriate information about their medicines;

- Access reliable information about medicines;
- Detect and report adverse drug reactions; and
- Demonstrate awareness that many patients use complementary and alternative therapies (such as traditional medicine) and understand the present and type of treatment why it is used and how this treatment affects the patients.

1.3 A dentist uses every contact with patients to provide education for **oral health promotion** and disease prevention.

1.4 A dentist properly fills out dental and patient records.

## **2. Specific Patient Management**

### **2.1 Oral Medicine**

Given a clinical condition in oral medicine, a dentist identifies common oral medicine problems and complications and remedies, and provides appropriate case management

### **2.2 Oral Surgery**

Given a clinical condition in oral surgery, a dentist recognizes indications for intervention and available oral surgical interventions, identifies common oral surgical problems and complications and remedies, and provides appropriate case management and pre-, peri- and post-operative care.

### **2.3 Pediatric Dentistry**

Given a clinical condition in pediatric dentistry, a dentist identifies common pediatric oral health problems and complications and remedies, and provides appropriate case management.

### **2.4 Orthodontics**

Given a clinical condition in orthodontics, a dentist identifies common orthodontic problems and complications and remedies, and provides appropriate case management.

### **2.5 Endodontics**

Given a clinical condition in endodontics, a dentist identifies common endodontic problems and complications and remedies, and provides appropriate case management.

## **2.6 Restorative Dentistry**

Given a clinical condition in restorative dentistry, a dentist identifies common restorative dentistry problems and complications and remedies, and provides appropriate case management.

## **2.7 Prosthodontics – fixed and removable**

Given a clinical condition in prosthodontics, a dentist identifies common prosthodontic problems and complications and remedies, and provides appropriate case management.

## **2.8 Periodontics**

Given a clinical condition in periodontics, a dentist identifies common periodontal problems and complications and remedies, and provides appropriate case management.

## **2.9 Preventive Dentistry**

Given a clinical condition in dentistry, a dentist identifies causes and risk factors, and provides appropriate preventive case management.

## **2.10 Special Care Patients**

Given a patient with physical, developmental, mental or medical problems or disabilities, a dentist identifies common problems and complications and remedies and provides appropriate case management.

**Competency Contents** on patient management in oral medicine, oral surgery, pediatric dentistry, orthodontics, endodontics, restorative dentistry, prosthodontics, periodontics, preventive dentistry and special care patients are listed in **Appendix 4**.

# **Domain III : Professional and Personal Behaviors**

## ***A-Professional and legal/ethical practice***

This part covers standards that underpin dentists' responsibilities, among others, to uphold legal, ethical and professional responsibilities of the dental practice.

### **1-Legal and ethical practice**

A Dentist:

- Is familiar with all aspects of Cambodian dental law and its related Krams and Prakas, etc and their amendments;
- Practices in a manner that is consistent with applicable national codes/ethical standards and guidelines that are part of the national legal requirement covering the dental practice; and
- Complies with the statutory Code of Conduct for Dentists and ethical concepts related to dental practice e.g. patient confidentiality, privacy, and consent.

### **2- Good Standing and Reputation of the Profession**

A Dentist:

- Demonstrates personal and professional integrity;
- Contributes to enhanced quality of dental services; and
- Maintains and enhances the quality of dental service.

### **3- Safe Dental Practice**

A Dentist:

- Accepts responsibility for identifying and responding to personal circumstances that could impair professional performance;
- Acts promptly in the event of a therapeutic incident to minimize harm and/or prevent recurrence;
- Understands the responsibility to inform patient of the therapeutic incidents are likely to impact on their health or well-being; and
- Documents therapeutic errors including actions taken to minimize the impact on patients and/or prevention of recurrence.



## **4-Collaboration and Team Working**

A Dentist:

- Uses effective verbal, non-verbal, listening and written communication skills to communicate clearly, precisely and appropriately with patients and their care takers, with other healthcare professionals, other support staff, and other relevant third parties;
- Demonstrates the ability to build positive relationships with patients, care takers, colleagues and other healthcare professionals;
- Participates, collaborates and advises on therapeutic decision-making and uses appropriate referral in a multi-disciplinary team; and
- Collaborates with other healthcare professionals to manage the care of a patient

### ***B-Maintaining and Improving Professional Competence***

A Dentist understands and accepts the responsibility of continuous (life-long) learning for the purpose of improving their skills or competencies as a means of advancing their practice and professional roles in the community. It is expected that in the future this requirement will be mandatory for all dental practitioners in Cambodia.

Curriculum and measures for continuous education will be maintained and executed by the Dental Council of Cambodia. Every registered dentist will be required to comply with this requirement and must be able to provide, to the Council evidence of continuous education credits in order to maintain their names in the list of registered dentists in Cambodia, periodically as shall be decided by the Dental Council of Cambodia.

A Dentist:

- Commits to life-long learning;
- Identify learning and development needs and knowledge development;
- Engages in Continuing Professional Development;
- Undertakes appropriate learning activities to meet identified learning needs; and
- Updates knowledge and skills.

## ***C-Critical analysis, Research and Education***

Competencies under this part seek to underpin dentists' competency in (a) analysing and synthesizing information from medical literature; (b) conducting relevant research in the area of dentistry and to serve as an educator of others.

### **1-Access, Aanalysis and Synthesis of Information**

A Dentist:

- Accesses, analyses, interprets and synthesizes clinical and health information; and
- Applies insights gained to develop sound objectives and balanced written and/or verbal responses to inquiries/requests for information received either on a daily basis during normal practice or formally and/or to support research activities

### **2-Research and Education**

A Dentist:

- Undertakes research activities;
- Applies principles of scientific enquiry to investigate dental practice related issues;
- Understands and adheres to ethical research principles;
- Applies and communicates research findings; and
- Educates and train dental students and health care colleagues.

## ***D-Communication***

A Dentist communicates effectively with:

### **1. Patients (and relatives) by:**

- Giving explicit explanations and/or instructions, and obtaining informed consent;
- Dealing effectively with complaints and other difficult circumstance including breaking bad news, discussing sensitive issues, and discussing with difficult/ violent patients; and
- Counselling patients in different health matters and disease prevention

### **2. Colleagues by:**

- Passing on and sharing information orally, in writing and electronically;
- Writing a good discharge summary and patient referral;
- Providing all necessary clinical information on request forms to laboratory-based colleagues

## Appendix 1: List of Working Group Participants

1. Prof. TUY Thell	UHSC	Chairman
2. Ms MAK Nang	NEC Secretariat	Co-Chairman
3. Mr PHENG Visoth	HRD Dept., MoH	Member
4. Mr. MEAS Vanna	NEC secretariat	Secretary
5. Prof. IM Puthavy	UHSC	Member
6. Prof. LAY Vuthy	UHSC	Member
7. Prof. VORN Vatha	UHSC	Member
8. Assoc. Prof. YEM Sophal	UHSC	Member
9. Prof. Callum DURWARD	IU	Member
10. Prof. TAING Bun Lim	IU	Member
11. Assoc. Prof. SOM Vichetr	IU	Member
12. Dr. (Den) TUON Hak	IU	Member

## Appendix 2: List of Steering Committee Members

1. H.E Prof THIR Kruey,	State Secretary, MoH	Chairman
2. H.E Prof. YIT Sunnara,	Under-State Secretary, MoH	Vice-Chairman
3. H.E LY Somuny,	Under-State Secretary, Min. Education YS	Vice-Chairman
4. H.E MAO Bun Nin,	Vice General Secretary, ACC	Member
5. Prof. KEAT Phuong,	Head of NEC Secretariat	Member
6. Ms. MAK Nang,	Vice Head of NEC Secretariat	Member
7. Dr PHUM Sam Song,	Vice Head of NEC Secretariat	Member
8. Dr. TOUCH Sok Neang	NEC Secretariat	Member
9. Dr. VENG Chhay	NEC Secretariat	Member
10. Ms CHHENG Chanary	NEC Secretariat	Member
11. Mr. UNG Chhay Por	NEC Secretariat	Member
12. Mr. KAK Rachna	NEC Secretariat	Member
13. Mr. MEAS Vantha	NEC Secretariat	Member
14. Dr BUN Sriv	NEC Secretariat	Member
15. Ms. LIM Rath Neary	NEC Secretariat	Member
16. Prof. YOUK Sophana	Rector, UHSC	Member
17. Prof. SAPHON Vathanak	Vice Rector, UHSC	Member
18. Dr SOEUN Sambath	International University	Member
19. Dr. TUN Sok Sambath	International University	Member
20. A/Prof. KEM Khatary	HIS, Min Natl Defense	Member
21. A/Prof. LUK Savang	HIS, Min Natl Defense	Member
22. Mr SRUN Chyvoan	Life University	Member
23. Mr. CHRIN Mak	Life University	Member

# **Appendix 3: Competency Contents on Scientific Foundation for Dental Practice**

## ***A-Biomedical Sciences***

### **1-Anatomy**

- Gross Anatomy: Bone; muscles; fascia, nerves (peripheral and autonomic); arteries, veins, and lymphatics; spaces and cavities; joints and ligaments; and endocrine and exocrine;
- Histology;
- Oral Histology; and
- Developmental Biology

### **2-Dental Anatomy and Occlusion**

- Tooth Morphology;
- Pulp Cavity Morphology;
- Principles of Occlusion and Function; and
- Clinical Considerations—Tooth Morphology and Anomalies

### **3-Biochemistry and Physiology**

- Biological Compounds;
- Metabolism;
- Molecular and Cellular Biology;
- Connective Tissues;
- Membranes;
- Nervous System;
- Muscle;
- Circulation;
- Respiration;
- Renal;
- Oral Physiology;
- Digestion; and
- Endocrines

## **4-Microbiology and Pathology**

- General Microbiology;
- Reactions of Tissue to Injury;
- Immunology and Immunopathology; and
- Microbiology, Immunology, and Pathology of Specific Infectious Diseases;

## **5-Pharmacology**

- Mechanism of action, kinetics, pharmacologic actions, dosage, adverse effects and contraindications of commonly used drugs;
- Pharmacologic agent that caused a given effect;
- Most appropriate drug considering safety, affordability, necessity and efficacy of a clinical condition; and
- Appropriate drug, its dosage, mode of administration and precautions to take for a specific clinical condition

## ***B- Behavioral Sciences***

- Normal human behaviour at an individual and societal level;
- Psychological and sociological concepts of health, illness and disease;
- Theoretical frameworks of psychology and sociology to explain the varied responses of individuals, groups and societies to disease;
- Psychological and sociological factors that contribute to illness, the course of the disease and the success of treatment; and
- Psychological and sociological aspects of behavioural change and treatment compliance

## ***C-Public health***

- Diseases determinants, health promotion and disease prevention;
- Disease surveillance and screening;
- Primary, secondary and tertiary prevention of disease;
- Management of healthcare for the individual and the community;
- Interventions and risk reduction strategies for individual patients and the community; and
- Methods for prevention and control of infection and communicable diseases in hospital/clinic and community settings

## ***D-Research and Communication***

- Methods for accessing, storing and retrieving information from the internet;
- Principles and methods of communication;
- Principles and methods of dental research;
- Ethical and governance issues involved in dental research; and
- Methods for critical appraisal of dental literature

## ***E-Professional Ethics***

- Different kinds of liabilities imposed upon a dentist in relation to the dental practice;
- Appropriate behaviours of dentists toward patients; and
- Roles of dentists to the different stakeholders

# Appendix 4-Providing oral treatment

## *A. Competency Contents in Oral Medicine:*

### **1. Principles of Oral Medicine**

- Diagnostic sieve;
- Examination of the head and neck; and
- Special investigations in the diagnosis of oro-facial diseases

### **2. Disorders of the Teeth**

- Molar and incisor hypo-mineralization;
- Chronological disturbances of enamel;
- Developmental defects of enamel
- Developmental disorders of dentine;
- Tooth discolouration – aetiology;
- Pre-eruptive intra-coronal resorptive defects;
- Disorders of eruption – neonatal teeth;
- Submerged primary molars;
- Dental wear – abrasion, attrition, erosion;
- Dental anomalies at different stages of dental development;
- Hypodontia;
- Supernumerary teeth (hyperdontia);
- Odontomes;
- Odontogenic tumours;
- Macrodontia;
- Microdontia;
- Double teeth – fusion and gemination;
- Dens evaginatus;
- Dens invaginatus;
- Talon cusp;
- Tauradontism;
- Cleidocranial dysplasia;
- Ectodermal dysplasia;
- Solitary central incisor syndrome; and



- Regional odontodysplasia

### **3. Oral Infections**

- Viral infections;
- Bacterial infections; and
- Fungal infections

### **4. Disorders of the Jaws and Oro-facial Soft Tissues**

- Ulcers;
- Vesiculo-bullous lesions;
- White patches;
- Pigmented lesions of the oral cavity;
- Premalignant lesions;
- Oral cancer;
- Facial cancer;
- Abnormalities of the lips and tongue;
- Lumps and swellings of the mouth;
- Bone disorders affecting the jaws- inherited, developmental, inflammatory, and metabolic;
- Disorders of the temporo-mandibular joint;
- Salivary gland diseases and dry mouth;
- Drug induced lesions of the mouth;
- Neurological diseases (including orofacial pain);
- Oral manifestations of skin disease;
- Oral manifestations of gastrointestinal disease;
- Oral manifestations of haematological disease;
- Oral manifestations of endocrine disease;
- Oral manifestations of neurological disease; and
- Oral manifestations of HIV infection and AIDS

### **5. Neck lumps**

- Cervico-facial lymphadenopathy; and
- Other problem

## **6. Forensic Dentistry**

- Definition;
- Identification of bodies;
- Criminal investigations; and
- Roles of dentists

### ***B. Competency Contents in Oral Surgery:***

#### **1. Oral Surgery**

- Principles of oral surgery;
- Asepsis and antisepsis;
- Armamentarium for oral surgery;
- The extraction of teeth;
- Peri-and post-operative complications of dental extractions and oral surgery;
- Types of dento-alveolar surgery – removal of roots, removal of unerupted teeth, removal of third molars, coronectomy, apicectomy, surgery to help the orthodontist;
- Dento-facial infections;
- Biopsy;
- Surgical management of non-tumour hard and soft lumps in the mouth;
- Jaw cysts;
- Benign tumours of the mouth;
- Maxillary antrum;
- Pre-prosthetic surgery; and
- Implantology

#### **2. Maxillofacial Surgery**

- Classification and management of maxillofacial trauma;
- Assessing head injuries;
- Mandibular fractures;
- Mid-face fractures;
- Nasal and molar fractures;
- Treatment of facial fractures;
- Facial soft tissue injuries;

- Clefts and craniofacial anomalies;
- Surgery and the TMJ;
- Orthognathic surgery;
- Salivary gland surgery;
- Oral and facial cancer;
- Neck lumps;
- Flaps and grafts; and
- Aesthetic facial surgery

### ***C. Competency Contents in Pediatric Dentistry:***

- Treatment planning for children;
- The anxious child;
- Communication;
- Behavioural management;
- Sedation and general anesthesia;
- The child with toothache;
- Abnormalities in the primary and permanent dentition;
- Restoration of primary teeth;
- Local anaesthesia for children;
- Early Childhood Caries;
- Primary tooth pulp therapy;
- Dental trauma;
- Non-accidental injury and neglect;
- Oral pathology, oral medicine and oral surgery for children;
- Interceptive orthodontics; and
- Management of dental anomalies

### ***D. Competency Contents in Orthodontics:***

- Orthodontic assessment;
- Classification of malocclusion;
- Cephalometrics;
- Treatment planning;
- Management of the developing dentition;
- Extractions in orthodontics;

- Tooth movement;
- Removable appliances – scope and limitations;
- Removable appliances – design;
- Functional appliances;
- Fixed appliances;
- Anchorage;
- Management of various types of malocclusion;
- Problems in orthodontic treatment; and
- Cleft lip and palate

### ***E. Competency Contents in Endodontics:***

- Root canal anatomy;
- Diagnosis of pulpal pathology;
- Principles and aims of root canal treatment;
- Armamentarium and materials for RCT;
- Steps in root canal treatment – isolation, access, cleaning and shaping, obturation, coronal seal, follow-up;
- Rotary instrumentation;
- Canal medications;
- Management of the immature tooth;
- Endodontic problems and their management – pain, sclerosed canals, pulp stones, -fracture of instruments, infection, removing old root fillings, perforations, ledge formation and abscess; and
- Cracked tooth syndrome

### ***F. Competency Contents in Restorative Dentistry:***

- Caries and dental pain;
- Caries risk assessment and control;
- Principles of operative dentistry;
- Treatment planning;
- Armamentarium;
- Minimum Intervention Dentistry and ART;
- Cavity preparations;
- Protecting the pulp;
- Isolation of teeth;

- Deep caries; and
- Occlusion

### ***G. Competency Contents in Prosthodontics:***

#### **1. Removable Partial Dentures**

- Treatment planning for removable prosthodontics;
- Principles of removable prosthodontics;
- Components of RPDs;
- RPD design; and
- Clinical stages for RPDs

#### **2. Complete Dentures**

- Principles of complete dentures;
- Clinical steps for complete dentures;
- Denture maintenance and cleaning;
- Denture problem solving;
- Immediate dentures; and
- Over-dentures

#### **3. Crown and Bridge**

- Principles of crown and bridge;
- Treatment planning for crowns and bridges;
- Types of crowns and bridges;
- Preparation of teeth;
- Post and Cores;
- Clinical stages for crown and bridge work;
- Temporary crowns and bridges; and
- Veneers

### ***H. Competency Contents in Periodontics:***

- The oral microbiology associated with periodontal disease;
- Plaque and calculus;
- Aetiology of periodontal disease;
- Pathogenesis of gingivitis and periodontitis;
- Epidemiology of periodontal disease;

- Classification and diagnosis of periodontal disease;
- Diagnostic tests and monitoring;
- Principles of treatment;
- Plaque control;
- Scaling and root debridement;
- -Use of antibiotics in periodontal therapy;
- Periodontal surgery;
- Regenerative techniques;
- Management of furcation problems;
- Mucogingival surgery;
- Occlusion and splinting; and
- Maintenance therapy

### ***I. Competency Contents in Preventive Dentistry:***

- Fluorides;
- Sealants;
- Diet and dental caries;
- Smoking and oral health;
- Oral hygiene;
- Oral health education and behavior change; and
- Other preventive agents eg chlorhexidine, CCP-ACP, xylitol gum

### ***J. Competency Contents in Special Care Patients:***

#### **1. Medically Compromised Patients**

- Blood disorders;
- Cardiovascular disease;
- Respiratory disease;
- Gastrointestinal disease;
- Hepatic disease;
- Renal disease;
- Endocrine disease;
- Bone disease;
- Diseases of CT, muscle and joints;
- Neurological disorders;

- Dermatology;
- Psychiatry;
- Developmental disabilities – CP, autism, Down syndrome, blind, deaf, epilepsy, etc;
- The immuno-compromised patient;
- Management of the patient who is taking steroids, anticoagulants, bisphosphonates, or who is having chemotherapy and/or radiotherapy; and
- Management of the hospitalized patient

## **2. Gerodontology**

- Problems in the elderly – communication, medical problems, oral hygiene, diet, medications, mobility;
- Age changes – general, oral, systemic;
- Restorative and prosthodontic problems; and
- Dental care and prevention for the elderly

## **3. Medical Emergencies in the Dental Clinic**

- Cardiopulmonary resuscitation;
- First aid measures;
- Basic life support; and
- Management of collapse

## Reviewed Documents

- Association for Dental Education in Europe: Profile and Competences for the Graduating European Dentist - update 2009  
([http://www.dent.uoa.gr/data/upload/File/misc/ADEE-competences-2009\\_en.pdf](http://www.dent.uoa.gr/data/upload/File/misc/ADEE-competences-2009_en.pdf))
- Australian Dental Council June 2010: Professional attributes and competencies of the newly qualified dentist  
([http://www.adc.org.au/Attributes\\_Competencies\\_Dentist.pdf](http://www.adc.org.au/Attributes_Competencies_Dentist.pdf))
- Jack D. Gerrow, H. Joseph Murphy, and Marcia A. Boyd (2006). Competencies for the Beginning Dental Practitioner in Canada: A Validity Survey. *Journal of Dental Education* Volume 70, Number 10
- Spielman AI, Fulmer T, Eisenberg ES, Alfano MC: Dentistry, nursing, and medicine: a comparison of core competencies. *J Dent Educ.* 2005 Nov;69(11):1257-71. (<http://www.ncbi.nlm.nih.gov/pubmed/16275689>)
- US NATIONAL BOARD DENTAL EXAM, 2012
- ([http://www.ada.org/sections/educationAndCareers/pdfs/nbde01\\_examinee\\_guide.pdf](http://www.ada.org/sections/educationAndCareers/pdfs/nbde01_examinee_guide.pdf)) WHO Consultative Meeting: New Approaches in Oral Health Training and Education in Africa – April 2002