



MASTER OF SCIENCE IN PEDIATRIC DENTISTRY

STUDY PLAN

2019



جامعة محمد بن راشد
للطب والعلوم الصحية
MOHAMMED BIN RASHID UNIVERSITY
OF MEDICINE AND HEALTH SCIENCES

Introduction

This manual reviews the Hamdan Bin Mohammed College of Dental Medicine Master of Science in Pediatric Dentistry and includes policies and procedures of the Pediatric dentistry program. The faculty and staff have prepared this manual as a guide for the students at the Hamdan Bin Mohammed College of Dental Medicine. It is supplemented by the Student Handbook distributed by the Office of the Dean at orientation.

The clinical program and requirements demand a high level of responsibility and self-discipline. Effective patient management will help you achieve your academic and clinical goals. Early familiarity with program requirements and clinical procedures will maximize your learning. Your patients rely on you for information, advice, and expert treatment. Your ability to respond to your patients' needs in an accurate and confident manner will depend on your complete familiarity with clinical procedures, program requirements and the patient record systems.

It is your responsibility to acquaint yourself thoroughly with the information in this Program Manual.

Year 1		
Semester 1	21 credits	Course code
Introduction to Pediatric Dentistry	2	PD441
Clinical Governance, Legislation and Ethics	1	CC 503
Restorative Techniques	1	PD442
Advanced Clinical Science I	2	CC500
Scientific Literature	1	PD421
Research Methodology and Biostatistics	2	CC502
Specialty Clinical training	9*	PD431
Research Dissertation	2	PD411
Orthodontic Diagnosis and Treatment Planning	1	OR643
Semester 2		
Orthodontics for the Pediatric Dentists	2	PD444
Scientific Literature	1	PD422
Behavioral Science and Management	1	PD446
Specialty Clinical Training	12 *	PD432
Research Dissertation	2	PD412
Advanced Clinical Science II	1	CC501
Health Education and Promotion and Epidemiology	1	CC 505
Clinical Imaging	1	CC506

* includes clinical term

Year 2		
Semester 1	20 credits	Course code
Research Dissertation	3	PD413
General Pediatrics	2	PD445
Scientific Literature	1	PD423
Specialty Clinical Training	12 *	PD433
Basic Sciences in Pediatric Dentistry	1	PD450
Pediatric Oral Pathology and Medicine	1	PD443
Semester 2		
Dental Traumatology	1	PD451
Prevention of Oral Disease	1	PD448
Research Dissertation	4	PD414
Scientific Literature	1	PD424
Specialty Clinical Training	12*	PD434
Molecular Biology	1	CC504

* includes clinical term

Year 3		
Semester 1	19 credits	Course code
Research Dissertation	4 credits*	PD415
Examination Preparation	2 credit	PD452
Scientific Literature	1 credit	PD425
Specialty Clinical Training	12 credits*	PD435
Semester 2		
Research Dissertation	4 credits*	PD416
Scientific Literature	1 credit	PD426
Examination Preparation	2 credit	PD453
Specialty Clinical Training	12 credits*	PD436

* includes clinical term

Pediatric Dentistry Course Descriptions

Didactic: Introduction to Pediatric Dentistry

Introduction to Pediatric Dentistry is an intensive lecture series given to incoming students that covers the fundamental concepts of the practice of pediatric dentistry. The course is intended to familiarize the new student with concepts they will encounter in the various clinical settings.

The primary goal is to familiarize the student with the scope of the specialty of pediatric dentistry and ensure that each student has the basic knowledge and technical skills to proceed with the required didactic and clinical aspects of the program

Didactic: Basic Sciences in Pediatric Dentistry

This course will provide the students with the required knowledge in normal development and potential abnormalities in growth of the craniofacial and dentoalveolar complex in specific and somatic growth in general. The course will also provide relevant information about the principles of genetically determined conditions especially these with significant orofacial and dental features. The role of cell biology in health and disease will also be presented in this course.

Didactic:

Clinical Governance and Legislation and Ethics

This course will provide the student with the required knowledge and understanding of Clinical Governance, general approach to ethical conduct and reasoning in the delivery of dental treatment. The course will discuss local and international ethic laws in healthcare delivery. Personal and professional development as part of the delivery of proper dental services will be emphasized.

Didactic: Health Education and Promotion and Epidemiology

This course will emphasize on key health education and promotion policies and expert guidance and will identify the role of the Pediatric dentist in establishing and maintaining these policies. The course will also introduce the design and conduction of oral epidemiological surveys and studies especially those performed in relation to UAE children.

Didactic: General Pediatrics

This course will provide the student with an in-depth knowledge of the key conditions that may complicate the delivery of oral healthcare and their oral/dental management. The student will learn the principles of diagnosis, treatment planning and providing safe and effective treatment for these patients. The student will also be introduced to ways of effective communication with other healthcare providers involved in the treatment of these patients.

Didactic: Behavioral Science and Management

This course is intended for giving the student an in-depth knowledge about the principles of child cognitive development and behavioral psychology. Non-pharmacologic behavior management techniques will be presented. The course will present the proper guidelines for conduction of inhalation sedation including facility, personnel and equipment. The techniques of safe and effective delivery of inhalation sedation along with management of complications and emergencies will be discussed in depth. Other sedation techniques will be discussed. The course will also describe the facilities for the delivery of general anesthesia and the delivery of comprehensive restorative care and exodontias for children and adolescents under general anesthesia. During this course, the residents will receive simulation sessions for normal and abnormal pediatric physiological parameters as well as simulation sessions for general anesthesia. These sessions will be conducted in the high fidelity simulation lab of the Mohammed Bin Rashid Academic Medical Centre.

Didactic: Orthodontics for the Pediatric Dentists

This course will provide a sufficient background on diagnosis and treatment planning of orthodontic problems. The course will provide knowledge about the use of appliances in

interceptive pediatric dentistry and space maintenance. The course will also identify the role of the Pediatric dentist as part of the multidisciplinary team in the management of cleft lip and palate. The diagnosis and the provision of effective dental treatment for children with cleft lip and palate will be discussed. The basic principles for the care of children with craniofacial anomalies including the surgical pediatric dentistry and restorative management will be also discussed.

Didactic: Orthodontic diagnosis and treatment planning

This course will provide the Student with the required knowledge about need and demand for orthodontic treatment. It would also provide basics on psychological assessment for understanding patient's motivation, cooperation and expectations from orthodontic treatment. The course will also discuss conventional radiographic techniques including an introduction to the principles of cephalometric radiography. The health and safety issues around specialist orthodontic practice are described including those relating to radiography in the young patient. Current technology available to assist with image analysis is described.

Didactic: Restorative Techniques

This course will give in-depth didactic training about the selection, application and delivery of intracoronal, extracoronal restorations and endodontic procedures. The course will also provide the appropriate knowledge regarding the selection and application of therapies appropriate to the management of periodontal conditions.

Didactic: Prevention of Oral Disease

This course will provide an in-depth education about the prevention and management of dental caries in the primary and immature permanent dentition. The course will discuss the complexity of the caries process and its etiology with emphasis on the role of prevention in the management of dental caries. The course will also discuss non carious tooth loss etiology and management. The prevention, diagnosis and management of periodontal disease in childhood and adolescence will be discussed along with the recognition and prevention of harmful recreational habits and addictions.

Didactic: Pediatric oral Pathology and medicine

This course will provide the student with the required knowledge both on theory and principles in general and in particular the basic oral medicine topics relevant to pediatric dentistry. The course will discuss hard and soft tissue pathologies peculiar to the pediatric population as well as the different syndrome often associated with these pathologies. The course will also provide an in depth review of oral surgical procedures performed in the pediatric population.

Didactic: Dental Traumatology

This is an in-depth course providing knowledge in the etiology, presentation, investigation and management of dentoalveolar, intraoral and perioral soft tissue injuries in children and adolescents. The course will also discuss maxillofacial injuries in the same age group. Emphasis will be placed on the multidisciplinary approach to the management of these conditions.

Didactic: Examination Preparation

This course which is given in two parts over the last two semesters is intended to present a final revision for the students to prepare them to sit for the UK Membership Examination in Pediatric Dentistry. The examination of the Diploma of Membership in Pediatric Dentistry includes Applied Sciences relevant to Pediatric Dentistry and the Principles and Practice of Pediatric Dentistry. The aims of the examination are to test the range of knowledge of Pediatric Dentistry at a level expected of a specialist practitioner and to test the attainment of competence in the planning and execution of Pediatric Dentistry requisite for specialist practice.

Clinic: Specialty Clinical Training/ Clinic

This course is an ongoing course throughout the 3-year program. The students will have clinical experience in all aspects of patient care for Pediatric dental patients at the Dubai Dental Hospital . During this ongoing course, the students will be take part in the treatment of some interceptive orthodontic pediatric dentistry cases. Treatment of

Pediatric patients under general anesthesia will be carried out at same Day surgical centers and at Mediclinic City Hospital in Dubai Healthcare City.

The students will be required to complete a clinical rotation in Pediatric at Al Jalila Children's Hospital. This is a 2-week rotation during which Pediatric medicine is the principle activity of the student. The primary goal is to acquire knowledge and skills to function as health care providers within the hospital setting.

At the conclusion of the 3-year clinical training, each student will be expected to have undertaken a sufficient number of the different Pediatric Dentistry procedures that will allow him/her to demonstrate proficiency in the specialist level comprehensive treatment of children and adolescents. These procedures and skills will be documented in a clinical log book for each of the residents.

Didactic: Advanced Clinical Science I

This is a general basic science course intended to provide the student with the appropriate level of knowledge in core basic sciences required for the study of the specialty of Pediatric Dentistry. The topics include anatomy, growth and development, physiology, control of pain and anxiety, radiation protection, human diseases, medical emergency management, cross infection control, use of antibiotics in dentistry, medical photography, presentation skills, consent and confidentiality, clinical governance, communication skills.

Didactic: Advanced Clinical Science II

This foundational course provides students with the opportunity to participate in the evaluation and management of patients. This course is comprised of lectures designed to aid the student to expand their knowledge in the oral physiology and oral histology with areas of clinical importance. Knowledge gained by the student will contribute to achieving competency in rendering dental treatment.

Didactic: Clinical Imaging

A series of lectures intended to expose the student to the core concepts and current information necessary for a thorough knowledge of clinical imaging. This course will describe the relevant biology and anatomy of the oro-facial region necessary for the interpretation of radiographic images; The principles of radiographic quality assurance and the practice of applied quality control; Interpretation radiographic images with an accurate radiographic report; The relevance of clinical photographs in treatment planning; The medico-legal importance of photographic records; and the relevance of minimizing the radiation dose for each patient when undertaking a radiological examination.

Didactic: Molecular Biology

This course introduces the residents to the basic fundamentals of modern molecular biology as it relate to dentistry. Special emphasis will be placed on molecular mechanisms that relate to DNA replication and repair, transposition, microRNAs, molecular mechanisms for regulating processes in a cell, the application of molecular biology as a tool to understand embryonic development, reprogramming, cancer, stem cells, germ cells and using molecular biology as a laboratory tool will be presented. Common chromosomal disorders, such as Down syndrome is also highlighted. At the end of this course, students should have an understanding of DNA, RNA and protein and be capable of interpreting experimental data and highly controversial issues of stem cells research and genetically modified.

Didactic: Research Methodology and Biostatistics

This course is intended to give the students an in-depth knowledge about the research methodology that will afford a good basis for the conduction of a successful Masters project. The course will also provide the student with a clear basic knowledge in biostatistics. Evidence based practice will be introduced as a basic concept for decision making in clinical practice.

Didactic: Scientific Literature

The Scientific Literature in Pediatric Dentistry is a three year literature review course that meets on a weekly basis. Students are assigned journals/articles/chapters/guidelines to abstract and present to the group. These presentations are followed by an in-depth group discussion on that particular topic in Pediatric dentistry.

During the literature review series, students read and discuss classic and current literature that is recommended for appropriate preparation for the Membership Examination of the Royal Colleges.

Research: Research Dissertation

This course involves an approved investigative effort to satisfy requirements for the MSc degree. Research may involve preclinical and clinical subjects related to Pediatric dentistry or epidemiology. Students must complete a research project, thesis, and thesis defence to fulfil the requirements of this course by the end of the second semester of the third year.

Research Format

The MSc programs are combined clinical and research programs. The MSc degree entails a research project and thesis and is an integral component of the 36-month program. The topics for a thesis will be chosen by the candidate in conjunction with the faculty advisor. Students must initiate and complete a research project using the elements of scientific method, including research design, accurate reporting, critical thinking and the formulation of conclusions based on scientific data rather than opinion. Collaboration with other hospitals, medical institutions and other health-orientated organizations is encouraged to foster collaborative research.

Research formats for thesis may include:

- Clinical study,
- Systemic review of literature

- Epidemiological studies
- Laboratory-based studies
- Case series

The research protocol will be developed within the first year of the program. Implementation and data collection will commence after Institutional Review Board approval (where appropriate) and other regulatory approvals. It is anticipated that data collection will be completed by the end of the second year to allow for data analysis, thesis preparation and defense of the thesis.

Guidelines for Thesis Submission are provided in the Student Handbook.